



# Lighting Program 2012/2013

SEE THE WORLD IN A NEW LIGHT





# Lighting Program 2012/2013

SEE THE WORLD IN A NEW LIGHT



Any manipulation of our products or packaging, including but not limited to modification, reworking or restamping, is prohibited and infringes our registered trademark rights. Such modifications may impair the technical properties of our products, destroy them or cause consequential damage or injury, for which OSRAM cannot under any circumstances be held responsible.

For more information on our products go to:

**[www.osram.de](http://www.osram.de)**  
**[www.osram.com](http://www.osram.com)**



Printed on paper treated with  
chlorine-free bleach.

Printed in Germany.

Subject to change without notice. Errors and omission excepted. The pictures in the catalog are for illustration purposes only.

LED lamps	1.00–1.17
LED systems	2.00–2.63
Halogen lamps	3.00–3.39
Compact fluorescent lamps	4.00–4.49
Fluorescent lamps	5.00–5.57
Discharge lamps	6.00–6.55
Display and signal lamps	7.00–7.15
General lighting service lamps	8.00–8.13
Electronic control gear	9.00–9.123
Light management systems	10.00–10.63
Energy labeling	11.00–11.21
Index and general information	12.00–12.37



THE COMPANY

# Creating the future of light with OSRAM



The lighting market is going through a period of technological change, with semiconductor-based technologies such as LEDs and OLEDs presenting customers with new possibilities in terms of efficiency, quality of light and flexibility. As a premium supplier, OSRAM is playing a leading role here.

For more than 100 years the trademark OSRAM stands for innovative and sustainable developments in the global lighting market. Today, OSRAM is one of the world's largest suppliers of products and solutions for a wide range of customer requirements – from lamps and modules to luminaires and high-efficiency Light management systems.

OSRAM focuses all its resources on the subject of light, actively supporting its customers in making the best choices to meet their individual requirements. With more than 40,000 employees in around 150 countries, OSRAM develops tailor-made solutions to cover the specific needs of its customers.

Passion for light, solutions for life



LED technology is already a crucial factor here. LED-based products now account for around 25 percent of OSRAM's total sales. OSRAM covers the entire LED value added chain, from components to light management solutions. And with around 8000 LED patents OSRAM has a considerable influence on the further development of LED technologies.

As a "pure light player", OSRAM is a strong global brand, and as a leading innovator in all application and technology sectors it is shaping the digital future of the lighting industry.

# A world fit to live in – today and tomorrow

The consequences of global warming are already evident. The polar ice caps and glaciers are melting, sea levels are rising and deserts are expanding. The problem lies with increasing CO<sub>2</sub> emissions throughout the world. As a globally active company we are aware of our enormous responsibility towards people and their environment. This is why sustainability is the basic principle behind all OSRAM's actions. We are careful with natural resources, avoid waste wherever possible, and help reduce the greenhouse effect by developing energy-saving lamps and systems.



As a globally active company we act responsibly towards society and the environment, meet global challenges with sustainable products and pioneering processes and therefore make a contribution to maintaining the environment for the benefit of future generations. That is the guiding principle of our “Global Care” program – our commitment to sustainability. Our efficient products are the most important expression of this commitment.

Our energy-efficient products are helping to restore the balance. OSRAM LED lamps, for example, last up to 25 times as long as conventional incandescent lamps. Our LED lamps therefore not only lead to a considerable reduction in CO<sub>2</sub> emissions they help avoid waste and cut down on maintenance costs and electricity costs. But OSRAM is focusing not only on LED technology. With our energy-saving lamps, for example, you can reduce your power consumption for lighting by as much as 80 %. At the same time, because of its long life a single compact fluorescent lamp replaces up to 20 ordinary light bulbs. Innovative IRC technology is providing impressive savings in halogen lamps. And OSRAM HALOGEN ECO lamps are simple direct replacements for conventional incandescent lamps.

## **Economical systems**

To make lighting even more efficient we are focusing more and more on developing perfectly matched systems comprising lamps, electronic control gear and light management systems. Electronic operation not only ensures long life but also interference-free energy-saving operation and high-quality light. In this way, the enormous potential of our innovative lamps can be fully exploited.



**Extensive recycling – real sustainability**

Even when they come to the end of their lives, the almost completely recyclable OSRAM lamps provide valuable raw materials. We make use of eco-friendly waste disposal systems and closed material cycles for many of our products; the recycled materials are then used as far as possible for manufacturing new products. Our packaging is generally made of recycled paper, and in the OEM sector we mainly use multi-use packaging. We are constantly developing and improving our production processes as part of an environment management system.

**Clear labeling, clear statement**

We label products that are particularly energy-efficient with the symbol of a green tree. These climate-protection products are part of our Environmental Portfolio. With products from the OSRAM Environmental Portfolio you too can make a significant contribution to climate protection and boost your reputation for eco-friendliness.

For more information go to [www.osram.com/environmentalportfolio](http://www.osram.com/environmentalportfolio)

**Sustainable projects**

In addition to “Clean Development Mechanism“ (CDM) projects for reducing CO<sub>2</sub> emissions in developing and emerging countries, OSRAM continues to monitor its unique project on Lake Victoria in Kenya for producing light away from a permanent power supply. At a specially constructed solar station the local inhabitants and fishermen can recharge batteries for energy-saving lamps, fixtures and other electrical appliances at low cost and without damaging the environment.

In India, OSRAM has joined forces with RWE Power on CDM energy-efficiency projects in which high-quality OSRAM energy-saving lamps have been distributed to around 1,500,000 households in three regions of the country. This will lead to potential energy savings of around 1,000,000 tons of CO<sub>2</sub> over 10 years.

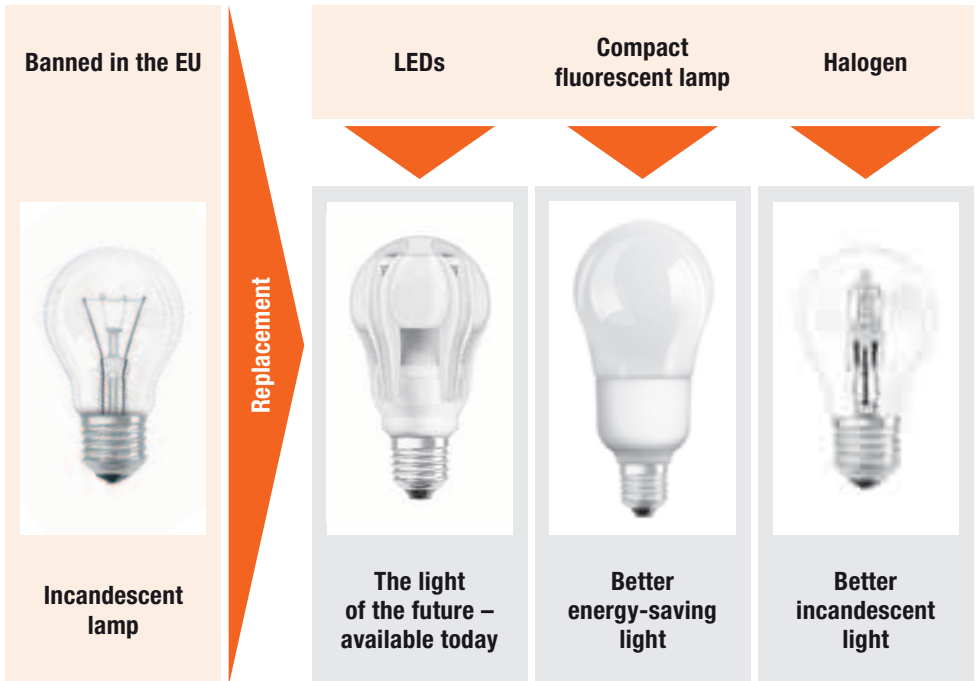


# Alternatives to standard products












With Directive 2009/125/EC the EU set the framework for defining requirements for energy-related products. Up to now, there are two implementation measures for the lighting sector.

Regulation EC 244/2009 (amended by regulation EC 859/2009) defines requirements relating to the eco-design of non-directional household lamps. This EC 244/2009 regulation covers the technologies that are generally used in the residential sector, namely incandescent lamps, halogen lamps, compact fluorescent lamps and LED retrofits with integrated control gear. By

contrast, regulation EC 245/2009 (amended by regulation EC 347/2010) defines requirements for fluorescent lamps, compact fluorescent lamps with plug bases, high-intensity discharge lamps with E27, E40 and PGZ12 bases, and control gear and fixtures for fluorescent lamps and high-intensity discharge lamps used mainly in the professional sector.





## Implementation measure for non-directional household lighting

	Sep. 2011	Sep. 2012	Sep. 2013	Sep. 2014	Sep. 2015	Sep. 2016	
 Incandescent lamp, clear	15 W 25 W 40 W 60 W 75 W 100 W	Ban on all clear incandescent lamps Alternatives: HALOGEN ECO, compact fluorescent lamps, LED retrofit lamps					
 LINESTRA frosted	35 W 60 W 120 W	Alternatives: LED retrofit lamps (LEDinestra)					
 HALOGEN ECO PRO CLASSIC clear	20 W 30 W 46 W 57 W 77 W 116 W						
 HALOLUX CERAM ECO clear							
 HALOSTAR clear							
 HALOPIN clear	25 W 40 W 60 W 75 W	25 W 40 W 60 W 75 W					
 HALOPIN ECO clear						Exception: in Energy Class C	
 HALOLINE Standard clear	≥ 750 W						
 HALOLINE ECO clear						Exception: R7s in Energy Class C	
 Special	Further information at <a href="http://www.elcfd.org/documents/Special%20Purpose%20Lamps_090515.pdf">www.elcfd.org/documents/Special%20Purpose%20Lamps_090515.pdf</a>						
 Directional household lamps	The implementation measure for directional light sources is likely to be issued in 2012						

Not affected by the ban under EC 244/2009: HALOSTAR ECO clear, HALOGEN special lamps

Banned since 2011: frosted lamps worse than Energy Efficiency Class A: HALOLUX BT clear, HALOLINE clear, among others

## Implementation measure for non-directional professional lighting

	Apr. 2011	Apr. 2012	Apr. 2013	Apr. 2014	Apr. 2015	Apr. 2016
 Mercury vapor lamps	HQL					
 High-pressure sodium vapor lamps	NAV-E/I 50 W					
	NAV-E/I 70 W					
	NAV-E, NAV-E/I		> 70 W			
	NAV-T, NAV-T/I Standard		≤ 605 W			
	NAV-E Plug-in					
NAV-E 4Y	> 70 W					
NAV-T 4Y						110 W - 350 W

 In range

 Not in range

Review by the EU Commission

SERVICE ON THE INTERNET

# See the world in a new light – [www.osram.com](http://www.osram.com)

On the OSRAM website you can find more than just the fascinating world of light and lighting, the latest information and interesting links, you can also download various practical tools and service offerings for commercial customers and consumers.



**OSRAM on the internet:** This is where you can find out about outstanding lighting – information on the latest products, tips, tools, services and support for planning your lighting system.

[www.osram.com](http://www.osram.com)



**OSRAM vehicle lamp replacement guide:**

Quickly find the right replacement lamps for your vehicle from a list of more than 400 products. Also available as an app for smartphones.

[www.osram.com/applicationguide](http://www.osram.com/applicationguide)

**OSRAM light house:**

Calculate how much energy you can save in your own home. Energy-efficient light sources will reduce your electricity costs and CO<sub>2</sub> emissions.

[www.osram.com/light-a-home](http://www.osram.com/light-a-home)

**OSRAM lighting planning with DIALux and RELUX:**

The latest lamp and fixture data plus plug-ins for DIALux and RELUX planning software can be downloaded here.

[www.osram.com/dialux-plugin](http://www.osram.com/dialux-plugin)

**OSRAM Case Studies:**

The OSRAM Case Studies Tool presents a selection of special lighting projects involving OSRAM products.

[www.osram.com/casestudies](http://www.osram.com/casestudies)

**OSRAM LED deSIGNer:**

Our online program works out the necessary components for the LED modules used for backlighting, and lists the relevant order data.

[www.osram.com/led-designer](http://www.osram.com/led-designer)

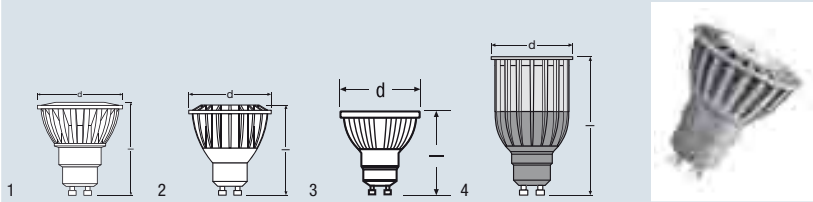


# LED lamps

---

PARATHOM® PAR16	1.02
PARATHOM® MR16/MR11 - 12V	1.04
PARATHOM® PRO LEDspot 111	1.06
PARATHOM® CLASSIC A	1.07
PARATHOM® CLASSIC B	1.08
PARATHOM® CLASSIC P	1.09
LEDinestra®	1.10
PARATHOM® LED PIN G4	1.11
SubstiTUBE® Advanced, 2nd Generation	1.12
SubstiTUBE® Advanced	1.14
SubstiTUBE® Basic	1.15
SubstiTUBE® EXT Advanced	1.16
Bases IEC/EN 60061-1	1.17

---









Product reference	Product number	W	V	lm	cd	K
PAR16 20 35° 828 <sup>1)</sup>	4008321973108	5	220-240	170	450	2800
PAR16 20 35° 830 <sup>1)</sup>	4008321980502	5	220-240	170	450	3000
PAR16 20 35° 740 <sup>1)</sup>	4008321973634	5	220-240	230	600	4000
PAR16 35 35° 828 <sup>1)</sup>	4008321973061	5	220-240	200	600	2800
PAR16 35 35° 830 <sup>1)</sup>	4008321980489	5	220-240	200	600	3000
PAR16 35 35° 830 adv <sup>1)</sup>	4008321975379	5.5	220-240	200	600	3000
PRO PAR16 35 25° 927 adv <sup>1)</sup>	4008321973375	5.2	220-240	190	800	2700
PRO PAR16 35 25° 930 adv <sup>1)</sup>	4008321973399	5.2	220-240	220	850	3000
PRO PAR16 35 25° 840 adv <sup>1)</sup>	4008321973412	5.2	220-240	300	1100	4000
PRO PAR16 35 35° 927 adv <sup>1)</sup>	4008321972255	5.2	220-240	190	500	2700
PRO PAR16 35 35° 930 adv <sup>1)</sup>	4008321972279	5.2	220-240	220	600	3000
PRO PAR16 35 35° 840 adv <sup>1)</sup>	4008321972293	5.2	220-240	300	900	4000
PRO PAR16 50 25° 927 adv <sup>1)</sup>	4008321973436	9.5	220-240	315	950	2700
PRO PAR16 50 25° 930 adv <sup>1)</sup>	4008321973450	9.5	220-240	350	1050	3000
PRO PAR16 50 25° 840 adv <sup>1)</sup>	4008321973474	9.5	220-240	435	1300	4000
PRO PAR16 50 35° 927 adv <sup>1)</sup>	4008321972366	9.5	220-240	315	800	2700
PRO PAR16 50 35° 830 adv <sup>1)</sup>	4008321973771	9.5	220-240	350	950	3000
PRO PAR16 50 35° 840 adv <sup>1)</sup>	4008321973795	9.5	220-240	435	1100	4000
PRO PAR16 75 25° 827 adv <sup>1)</sup>	4008321972873	10.5	220-240	450	1350	2700
PRO PAR16 75 25° 830 adv <sup>1)</sup>	4008321972897	10.5	220-240	500	1500	3000
PRO PAR16 75 25° 765 adv <sup>1)</sup>	4008321972910	10.5	220-240	620	1900	6500
PRO PAR16 75 35° 827 adv <sup>1)</sup>	4008321972330	10.5	220-240	450	1100	2700
PRO PAR16 75 35° 830 adv <sup>1)</sup>	4008321972354	10.5	220-240	500	1200	3000
PRO PAR16 75 35° 765 adv <sup>1)</sup>	4008321972378	10.5	220-240	620	1500	6500
PRO PAR16 50 35° LEDOTRON <sup>2)</sup>	4008321988560	9	220-240	<sup>3)</sup>	840	3000



Product reference	R <sub>a</sub>		d [mm]	L [mm]			No.
PAR16 20 35° 828 <sup>1)</sup>	80	GU10	50	57	No	10	1
PAR16 20 35° 830 <sup>1)</sup>	80	GU10	50	57	No	10	1
PAR16 20 35° 740 <sup>1)</sup>	75	GU10	50	57	No	10	1
PAR16 35 35° 828 <sup>1)</sup>	80	GU10	50	57	No	10	1
PAR16 35 35° 830 <sup>1)</sup>	80	GU10	50	57	No	10	1
PAR16 35 35° 830 adv <sup>1)</sup>	80	GU10	50	58	Yes	10	2
PRO PAR16 35 25° 927 adv <sup>1)</sup>	90	GU10	50	58	Yes	10	3
PRO PAR16 35 25° 930 adv <sup>1)</sup>	90	GU10	50	58	Yes	10	3
PRO PAR16 35 25° 840 adv <sup>1)</sup>	80	GU10	50	58	Yes	10	3
PRO PAR16 35 35° 927 adv <sup>1)</sup>	90	GU10	50	58	Yes	10	3
PRO PAR16 35 35° 930 adv <sup>1)</sup>	90	GU10	50	58	Yes	10	3
PRO PAR16 35 35° 840 adv <sup>1)</sup>	80	GU10	50	58	Yes	10	3
PRO PAR16 50 25° 927 adv <sup>1)</sup>	90	GU10	50	85	Yes	10	4
PRO PAR16 50 25° 930 adv <sup>1)</sup>	90	GU10	50	85	Yes	10	4
PRO PAR16 50 25° 840 adv <sup>1)</sup>	80	GU10	50	85	Yes	10	4
PRO PAR16 50 35° 927 adv <sup>1)</sup>	90	GU10	50	85	Yes	10	4
PRO PAR16 50 35° 830 adv <sup>1)</sup>	90	GU10	50	85	Yes	10	4
PRO PAR16 50 35° 840 adv <sup>1)</sup>	80	GU10	50	85	Yes	10	4
PRO PAR16 75 25° 827 adv <sup>1)</sup>	80	GU10	50	86	Yes	10	4
PRO PAR16 75 25° 830 adv <sup>1)</sup>	80	GU10	50	86	Yes	10	4





Product reference	R <sub>a</sub>						
PRO PAR16 75 25° 765 adv <sup>1)</sup>	70	GU10	50	86	Yes	10	4
PRO PAR16 75 35° 827 adv <sup>1)</sup>	80	GU10	50	86	Yes	10	4
PRO PAR16 75 35° 830 adv <sup>1)</sup>	80	GU10	50	86	Yes	10	4
PRO PAR16 75 35° 765 adv <sup>1)</sup>	70	GU10	50	86	Yes	10	4
PRO PAR16 50 35° LEDOTRON <sup>2)</sup>	90	GU10	50	85	Yes	10	4

<sup>1)</sup> All the technical parameters apply to the entire lamp | Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value  
<sup>2)</sup> All the technical parameters apply to the entire lamp | Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value | In preparation  
<sup>3)</sup> Under consideration

### Product characteristics

- Professional LED lamps for line voltage
- Dimmable (Advanced versions)
- Base: GU10
- Lifetime: up to 40,000 hours
- Mercury-free lamp
- High color consistency; SDCM: <5 (PARATHOM® PRO)

### Product benefits

- Very low energy consumption
- Extremely long life
- Shockproof and vibration-proof thanks to LED technology
- No UV or near-IR radiation in the light beam
- Professional thermal management
- Efficient generation of white light
- Alternatives to line voltage halogen lamps
- Ideal for economical spotlighting

### Applications

- Spotlighting for accents
- Display cabinets and shop windows
- Retail outlets and exhibition rooms
- Spotlighting heat-sensitive objects such as food, plants, etc.
- May be used outdoors only in outdoor fixtures (at least IP65)
- Directional light sources
- Hospitality
- Shops

### References

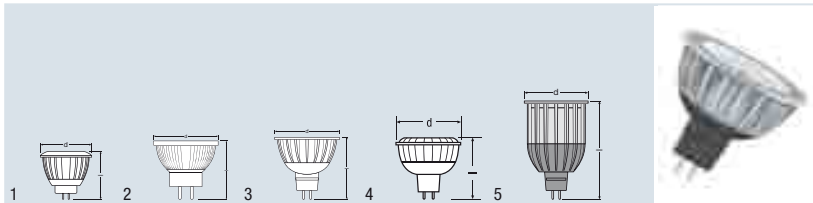
For dimming compliance go to [www.osram.com/DIM](http://www.osram.com/DIM)

For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)

For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)



# PARATHOM® MR16/MR11 - 12V



Product reference	Product number	W	V	lm	cd	K
MR 11 20 24° 830 <sup>1)</sup>	4008321975553	3	12	120	700	3000
MR 16 20 36° 828 adv <sup>1)</sup>	4008321682611	5	12	200	500	2800
MR 16 20 36° 830 adv <sup>1)</sup>	4008321682574	5	12	200	500	3000
PRO MR 16 20 36° 927 adv <sup>1)</sup>	4008321972217	5	12	200	500	2700
PRO MR 16 20 36° 930 adv <sup>1)</sup>	4008321972095	5	12	220	600	3000
PRO MR 16 20 36° 840 adv <sup>1)</sup>	4008321972118	5	12	300	650	4000
PRO MR 16 20 24° 927 adv <sup>1)</sup>	4008321973252	5	12	200	700	2700
PRO MR 16 20 24° 930 adv <sup>1)</sup>	4008321973276	5	12	220	900	3000
PRO MR 16 20 24° 840 adv <sup>1)</sup>	4008321973290	5	12	300	1100	4000
PRO MR 16 35 24° 827 adv <sup>1)</sup>	4008321973313	7	12	315	1100	2700
PRO MR 16 35 24° 830 adv <sup>1)</sup>	4008321973337	7	12	350	1300	3000
PRO MR 16 35 24° 840 adv <sup>1)</sup>	4008321973351	7	12	430	1300	4000
PRO MR 16 35 36° 827 adv <sup>1)</sup>	4008321972231	7	12	315	900	2700
PRO MR 16 35 36° 830 adv <sup>1)</sup>	4008321972132	7	12	350	1100	3000
PRO MR 16 35 36° 840 adv <sup>1)</sup>	4008321972156	7	12	430	1100	4000
PRO MR 16 50 24° 827 adv <sup>1)</sup>	4008321972934	11	12	450	1350	2700
PRO MR 16 50 24° 830 adv <sup>1)</sup>	4008321972958	11	12	500	1500	3000
PRO MR 16 50 24° 765 adv <sup>1)</sup>	4008321972972	11	12	620	1900	6500
PRO MR 16 50 36° 827 adv <sup>1)</sup>	4008321972316	11	12	450	1100	2700
PRO MR 16 50 36° 830 adv <sup>1)</sup>	4008321972170	11	12	500	1200	3000
PRO MR 16 50 36° 765 adv <sup>1)</sup>	4008321972194	11	12	620	1500	6500



Product reference	Ra		d [mm]	l [mm]			No.
MR 11 20 24° 830 <sup>1)</sup>	80	GU4	35	40	No	10	1
MR 16 20 36° 828 adv <sup>1)</sup>	80	GU5.3	50	48	Yes	6	2
MR 16 20 36° 830 adv <sup>1)</sup>	80	GU5.3	50	48	Yes	6	2
PRO MR 16 20 36° 927 adv <sup>1)</sup>	90	GU5.3	50	46	Yes	10	3
PRO MR 16 20 36° 930 adv <sup>1)</sup>	90	GU5.3	50	46	Yes	10	3
PRO MR 16 20 36° 840 adv <sup>1)</sup>	80	GU5.3	50	46	Yes	10	3
PRO MR 16 20 24° 927 adv <sup>1)</sup>	90	GU5.3	50	46	Yes	10	3
PRO MR 16 20 24° 930 adv <sup>1)</sup>	90	GU5.3	50	46	Yes	10	3
PRO MR 16 20 24° 840 adv <sup>1)</sup>	80	GU5.3	50	46	Yes	10	3
PRO MR 16 35 24° 827 adv <sup>1)</sup>	80	GU5.3	50	50	Yes	10	4
PRO MR 16 35 24° 830 adv <sup>1)</sup>	80	GU5.3	50	50	Yes	10	4
PRO MR 16 35 24° 840 adv <sup>1)</sup>	80	GU5.3	50	50	Yes	10	4
PRO MR 16 35 36° 827 adv <sup>1)</sup>	80	GU5.3	50	50	Yes	10	4
PRO MR 16 35 36° 830 adv <sup>1)</sup>	80	GU5.3	50	50	Yes	10	4
PRO MR 16 35 36° 840 adv <sup>1)</sup>	80	GU5.3	50	50	Yes	10	4
PRO MR 16 50 24° 827 adv <sup>1)</sup>	80	GU5.3	50	78	Yes	10	5
PRO MR 16 50 24° 830 adv <sup>1)</sup>	80	GU5.3	50	78	Yes	10	5
PRO MR 16 50 24° 765 adv <sup>1)</sup>	70	GU5.3	50	78	Yes	10	5
PRO MR 16 50 36° 827 adv <sup>1)</sup>	80	GU5.3	50	78	Yes	10	5
PRO MR 16 50 36° 830 adv <sup>1)</sup>	80	GU5.3	50	78	Yes	10	5
PRO MR 16 50 36° 765 adv <sup>1)</sup>	70	GU5.3	50	78	Yes	10	5

<sup>1)</sup> All the technical parameters apply to the entire lamp! In view of the complex manufacturing process for light emitting diodes, the values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values



### Product characteristics

- Professional LED lamp
- Dimmable (Advanced versions)
- Base: GU5.3
- Base: GU4
- Lifetime: up to 40,000 hours
- Mercury-free lamp
- High color consistency

### Product benefits

- Very low energy consumption
- Extremely long life
- Shockproof and vibration-proof
- No UV or near-IR radiation in the light beam
- Efficient generation of white light

### Applications

- As a downlight for marking walkways, doors, stairs, etc.
- Exhibitions, department stores
- May be used outdoors only in outdoor fixtures (at least IP65)
- Directional light sources
- Museums
- Hospitality
- Shops

### Technical equipment

- Equipped with high-power LEDs
- Operated with conventional or electronic transformers

### References

For dimming compliance go to [www.osram.com/DIM](http://www.osram.com/DIM)

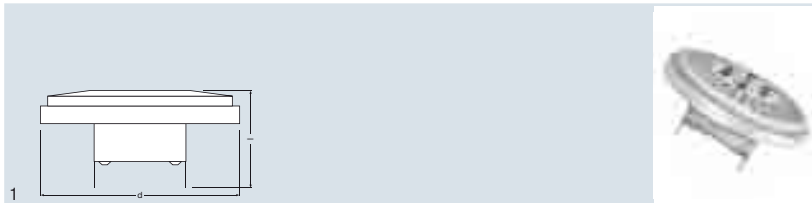
For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)

For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)

For more information go to [www.osram.com/low-voltage-ledlamps](http://www.osram.com/low-voltage-ledlamps)



# PARATHOM® PRO LEDspot 111



Product reference	Product number	W	V	lm	cd	K
PRO LEDspot 111 50 24° adv <sup>1)</sup>	4008321972392	12	12	500	3600	2700
PRO LEDspot 111 50 24° adv <sup>1)</sup>	4008321972415	12	12	550	4000	3000

Product reference	Ra	d (mm)	G	l (mm)	Dimmable	Shocks	No.
PRO LEDspot 111 50 24° adv <sup>1)</sup>	85	111	G53	58.5	Yes	6	1
PRO LEDspot 111 50 24° adv <sup>1)</sup>	85	111	G53	58.5	Yes	6	1

1) All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

NEW  
NEW

## Product characteristics

- Professional LED lamp
- Dimmable
- Lifetime: up to 45,000 hours
- Mercury-free lamp
- High color consistency

## Product benefits

- Very low energy consumption
- Extremely long life
- Shockproof and vibration-proof
- No UV or near-IR radiation in the light beam
- Efficient generation of white light

## Applications

- Shops
- Exhibitions, department stores
- Museums
- Hospitality
- Directional light sources

## Technical equipment

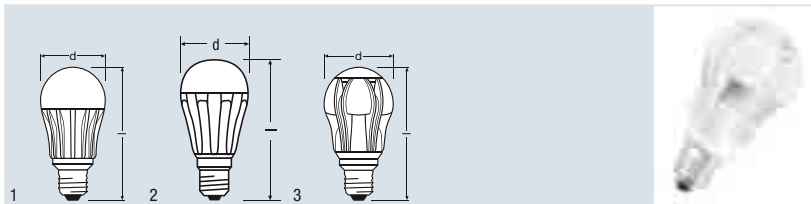
- Equipped with high-power LEDs
- Operated with conventional or electronic transformers

## References

For dimming compliance go to [www.osram.com/DIM](http://www.osram.com/DIM)

For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)

For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)



NEW  
NEW  
NEW  
NEW

Product reference	Product number	W	V	lm	K	R <sub>a</sub>
CL A 40 adv FR WW <sup>1)</sup>	4008321960610	8.5	220-240	470	2700	80
CL A 60 adv FR WW <sup>1)</sup>	4008321960658	12	220-240	810	2700	90
CL A 40 340° adv FR WW <sup>1)</sup>	4008321979124	8	220-240	470	2700	80
CL A 60 340° adv FR WW <sup>2)</sup>	4008321973498	12	220-240	810	2700	80
CL A 75 340° adv FR WW <sup>2)</sup>	4008321973511	14.5	220-240	1055	2700	80
CL A 60 adv FR WW LEDOTRON <sup>2)</sup>	4008321988553	12	220-240	<sup>3)</sup>	2700	80

Product reference						
CL A 40 adv FR WW <sup>1)</sup>	E27	57	115	Yes	10	1
CL A 60 adv FR WW <sup>1)</sup>	E27	62	126	Yes	10	2
CL A 40 340° adv FR WW <sup>1)</sup>	E27	62	116	Yes	10	3
CL A 60 340° adv FR WW <sup>2)</sup>	E27	62	116	Yes	10	3
CL A 75 340° adv FR WW <sup>2)</sup>	E27	62	116	Yes	10	3
CL A 60 adv FR WW LEDOTRON <sup>2)</sup>	E27	62	126	Yes	10	2

<sup>1)</sup> All the technical parameters apply to the entire lamp | Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value  
<sup>2)</sup> All the technical parameters apply to the entire lamp | Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value | In preparation  
<sup>3)</sup> Under consideration

**Product characteristics**

- Professional LED lamps for line voltage
- Dimmable
- Base: E27
- Lifetime: up to 30,000 hours
- Mercury-free lamp

**Product benefits**

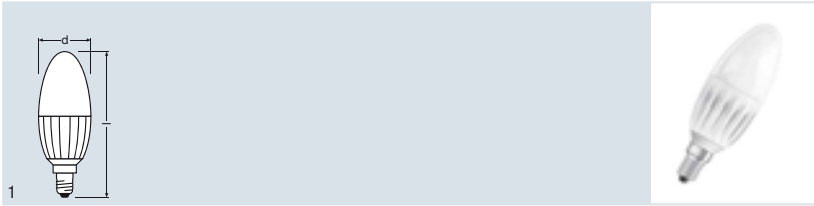
- Very low energy consumption
- Extremely long life
- Shockproof and vibration-proof thanks to LED technology
- No UV or near-IR radiation in the light beam
- Instant 100 % light, no warm-up time
- Simple replacement for standard incandescent lamps
- Lower thermal output (compared with the standard reference product)
- Correct operation even at low temperatures

**Applications**

- Domestic applications
- General illumination
- May be used outdoors only in outdoor fixtures (at least IP65)

**References**

For dimming compliance go to [www.osram.com/DIM](http://www.osram.com/DIM)  
 For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)  
 For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)



Product reference	Product number	W	V	lm	K	Ra
CLASSIC B 25 FR WW <sup>1)</sup>	4008321984128	4.5	220-240	250	2700	90

Product reference						
CLASSIC B 25 FR WW <sup>1)</sup>	E14	40	117	No	10	1

<sup>1)</sup> All the technical parameters apply to the entire lamp! Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value

**Product characteristics**

- Professional LED lamps for line voltage
- Not suitable for use with dimmers
- Base: E14
- Lifetime: up to 25,000 hours
- Mercury-free lamp
- Very high color rendering (Ra: 90)

**Product benefits**

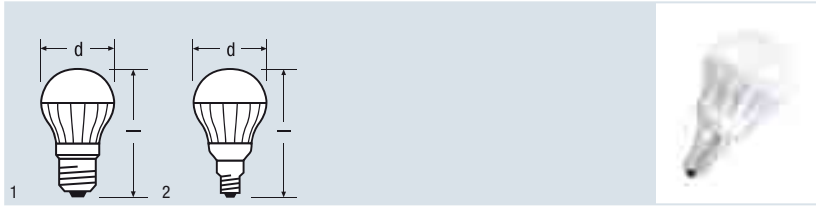
- Very low energy consumption
- Extremely long life
- Shockproof and vibration-proof thanks to LED technology
- No UV or near-IR radiation in the light beam
- Instant 100 % light, no warm-up time
- Simple replacement for conventional incandescent lamps
- Lower thermal output (compared with the standard reference product)

**Applications**

- General illumination
- Domestic applications

**References**

For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)  
 For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)



NEW  
NEW

Product reference	Product number	W	V	lm	K	Ra
CL P 25 adv FR WW <sup>1)</sup>	4008321994073	4.5	220-240	250	2700	80
CL P 25 adv FR WW <sup>1)</sup>	4008321994172	4.5	220-240	250	2700	80

Product reference						
CL P 25 adv FR WW <sup>1)</sup>	E27	45	78	Yes	10	1
CL P 25 adv FR WW <sup>1)</sup>	E14	45	78	Yes	10	2

1) All the technical parameters apply to the entire lamp! Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value! In preparation

### Product characteristics

- Professional LED lamps for line voltage
- Dimmable (Advanced versions)
- Available with E14 and E27 bases
- Lifetime: up to 25,000 hours
- Mercury-free lamp

### Product benefits

- Very low energy consumption
- Extremely long life
- Shockproof and vibration-proof thanks to LED technology
- No UV or near-IR radiation in the light beam
- Instant 100 % light, no warm-up time
- Simple replacement for conventional incandescent lamps
- Lower thermal output (compared with the standard reference product)
- Correct operation even at low temperatures

### Applications

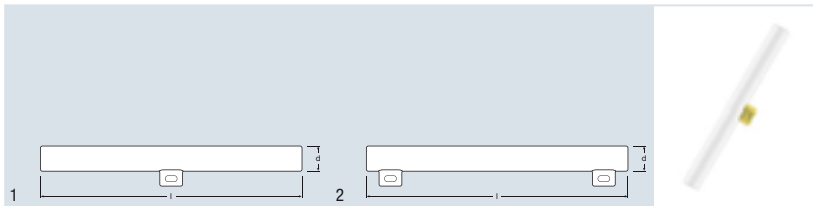
- General illumination
- Domestic applications

### References

For dimming compliance go to [www.osram.com/DIM](http://www.osram.com/DIM)

For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)

For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)



Product reference	Product number	W	V	lm	K	R <sub>a</sub>
LEDinestra WW FR S14d <sup>1)</sup>	4008321975331	6	230	250	2700	88
LEDinestra WW FR S14s <sup>1)</sup>	4008321975317	6	230	250	2700	88

Product reference						
	S14d	d [mm]	l [mm]	No	5	No.
LEDinestra WW FR S14d <sup>1)</sup>	S14d	30	298	No	5	1
LEDinestra WW FR S14s <sup>1)</sup>	S14s	30	298	No	5	2

<sup>1)</sup> All the technical parameters apply to the entire lamp. Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value.

NEW  
NEW**Product characteristics**

- Professional LED lamps for line voltage
- Not dimmable
- Lifetime: up to 12,000 hours
- Mercury-free lamp
- Color temperature: 2700 K

**Product benefits**

- Low energy consumption
- Longer lamp life and service life compared with the standard reference product
- No UV or near-IR radiation in the light beam
- Instant 100 % light, no warm-up time
- Excellent color rendering
- Simple replacement for conventional incandescent lamps
- Lower thermal output (compared with the standard reference product)
- 3-year guarantee

**Applications**

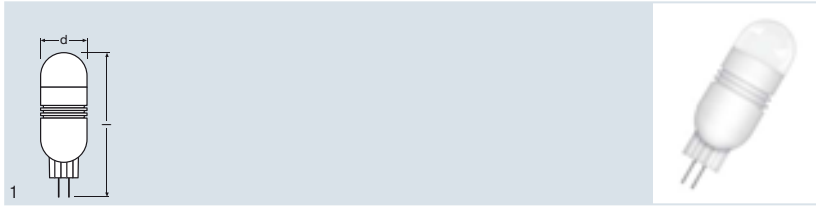
- Ideal for mirror lighting
- Hotels, restaurants
- Domestic applications

**References**

For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)  
For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)



# PARATHOM® LED PIN G4



NEW

Product reference	Product number	W	V	lm	K	R <sub>a</sub>
PARATHOM LED PIN G4 <sup>1)</sup>	4008321977281	1.5	12	80	3000	70
Product reference						
PARATHOM LED PIN G4 <sup>1)</sup>	G4	d (mm) 19	l (mm) 55	No	20	No. 1

<sup>1)</sup> All the technical parameters apply to the entire lamp. Due to the complex production process for light-emitting diodes, the typical values shown for the technical LED parameters are purely statistical values that do not necessarily match the actual technical parameters of each individual product, which can vary from the typical value.

## Product characteristics

- Not dimmable
- Base: G4
- Lifetime: up to 15,000 hours
- Mercury-free lamp
- Color temperature: 3000 K

## Product benefits

- Very low energy consumption
- Much longer relamping intervals compared with the standard reference product
- No UV or near-IR radiation in the light beam
- Instant 100 % light, no warm-up time
- Ideal for decorative and free-burning applications
- Lower thermal output (compared with the standard reference product)

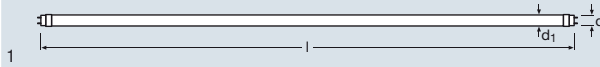
## Applications

- For atmospheric accent lighting throughout the home
- Shops, hotels and restaurants
- Foyers, offices

## References

For more products and the latest information on LED lamps go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)  
For guarantees go to [www.osram.com/guarantee](http://www.osram.com/guarantee)

# SubstiTUBE® Advanced, 2nd Generation



Product reference	Product number	V	W	lm	K	
ST8-HA2-120-830 <sup>1)</sup>	4008321 <b>993410</b>	230	12 <sup>2)</sup>	1200	3000	Warm White
ST8-HA2-120-840 <sup>1)</sup>	4008321 <b>993434</b>	230	12 <sup>2)</sup>	1200	4000	Cool White
ST8-HA2-120-850 <sup>1)</sup>	4008321 <b>993458</b>	230	12 <sup>2)</sup>	1200	5000	Daylight
ST8-HA4-240-830 <sup>1)</sup>	4008321 <b>993472</b>	230	24 <sup>2)</sup>	2400	3000	Warm White
ST8-HA4-240-840 <sup>1)</sup>	4008321 <b>993496</b>	230	24 <sup>2)</sup>	2400	4000	Cool White
ST8-HA4-240-850 <sup>1)</sup>	4008321 <b>993519</b>	230	24 <sup>2)</sup>	2400	5000	Daylight
ST8-HA5-300-830 <sup>1)</sup>	4008321 <b>993533</b>	230	30 <sup>2)</sup>	3000	3000	Warm White
ST8-HA5-300-840 <sup>1)</sup>	4008321 <b>993557</b>	230	30 <sup>2)</sup>	3000	4000	Cool White
ST8-HA5-300-850 <sup>1)</sup>	4008321 <b>993571</b>	230	30 <sup>2)</sup>	3000	5000	Daylight

NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW

Product reference		R <sub>a</sub>	$\frac{l}{d}$ (mm)	$\frac{d}{d_1}$ (mm)	$\frac{d_1}{d}$ (mm)		
ST8-HA2-120-830 <sup>1)</sup>	120°	>80	590	28	27	25	1
ST8-HA2-120-840 <sup>1)</sup>	120°	>80	590	28	27	25	1
ST8-HA2-120-850 <sup>1)</sup>	120°	>80	590	28	27	25	1
ST8-HA4-240-830 <sup>1)</sup>	120°	>80	1200	28	27	25	1
ST8-HA4-240-840 <sup>1)</sup>	120°	>80	1200	28	27	25	1
ST8-HA4-240-850 <sup>1)</sup>	120°	>80	1200	28	27	25	1
ST8-HA5-300-830 <sup>1)</sup>	120°	>80	1500	28	27	25	1
ST8-HA5-300-840 <sup>1)</sup>	120°	>80	1500	28	27	25	1
ST8-HA5-300-850 <sup>1)</sup>	120°	>80	1500	28	27	25	1

<sup>1)</sup> All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.  
<sup>2)</sup> Provisional values



### Product characteristics

- LED alternative to classic T8 fluorescent lamps in CCG luminaires
- High-efficiency LEDs
- Short end caps for continuous light band
- Up to 50 % brighter than previous SubstiTUBE® Advanced (p. 1.14)
- Uniform illumination
- Wide beam angle of 120°
- VDE-certified safety (in preparation)
- Integrated ECG with high power factor
- Mercury-free and RoHS compliant
- Type of protection: IP20

### Product benefits

- Quick, simple and safe replacement without rewiring
- Up to 5 times longer lifetime\* than standard fluorescent lamps and therefore lower maintenance costs
- Energy savings of up to 55 %
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Maximum resistance to switching loads
- Ideally suitable even at low temperatures

### Applications

- Basic office illumination
- Factory lighting
- Utility rooms and stockrooms
- Logistics areas, transport facilities and corridors
- Indirect lighting and cove lighting in shops and restaurants

### References

For the latest information go to [www.osram.com/substitube](http://www.osram.com/substitube)

\* Depending on the type of lamp and control gear





Product reference	Product number	V	W	lm	K	
ST8-HA2-67-830 <sup>1)</sup>	4008321 <b>980861</b>	230	11	670	3000	Warm White
ST8-HA2-67-840 <sup>1)</sup>	4008321 <b>980854</b>	230	11	670	4000	Cool White
ST8-HA2-83-750 <sup>1)</sup>	4008321 <b>980847</b>	230	11	830	5000	Daylight
ST8-HA4-135-830 <sup>1)</sup>	4008321 <b>980892</b>	230	21	1350	3000	Warm White
ST8-HA4-135-840 <sup>1)</sup>	4008321 <b>980885</b>	230	21	1350	4000	Cool White
ST8-HA4-165-750 <sup>1)</sup>	4008321 <b>980878</b>	230	21	1650	5000	Daylight
ST8-HA5-165-830 <sup>1)</sup>	4008321 <b>980922</b>	230	25.5	1650	3000	Warm White
ST8-HA5-165-840 <sup>1)</sup>	4008321 <b>980915</b>	230	25.5	1650	4000	Cool White
ST8-HA5-205-750 <sup>1)</sup>	4008321 <b>980908</b>	230	25.5	2050	5000	Daylight



Product reference		R <sub>a</sub>	$\frac{l}{d}$ (mm)	$\frac{d}{d_1}$ (mm)	$\frac{d_1}{d}$ (mm)		
ST8-HA2-67-830 <sup>1)</sup>	120°	>80	590	28	26	10	1
ST8-HA2-67-840 <sup>1)</sup>	120°	>80	590	28	26	10	1
ST8-HA2-83-750 <sup>1)</sup>	120°	>70	590	28	26	10	1
ST8-HA4-135-830 <sup>1)</sup>	120°	>80	1200	28	26	10	1
ST8-HA4-135-840 <sup>1)</sup>	120°	>80	1200	28	26	10	1
ST8-HA4-165-750 <sup>1)</sup>	120°	>70	1200	28	26	10	1
ST8-HA5-165-830 <sup>1)</sup>	120°	>80	1500	28	26	10	1
ST8-HA5-165-840 <sup>1)</sup>	120°	>80	1500	28	26	10	1
ST8-HA5-205-750 <sup>1)</sup>	120°	>70	1500	28	26	10	1

<sup>1)</sup> All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- LED alternative to classic T8 fluorescent lamps in CCG luminaires
- Bright, robust and durable
- Uniform illumination
- Wide beam angle of 120°
- VDE-certified safety (VDE Reg. No.: 40033714)
- Integrated ECG with high power factor
- Mercury-free and RoHS compliant
- Type of protection: IP20

## Product benefits

- Quick, simple and safe replacement without rewiring
- Up to 5 times longer lifetime\* than standard fluorescent lamps and therefore lower maintenance costs
- Energy savings of up to 60%
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Maximum resistance to switching loads
- Ideally suitable even at low temperatures

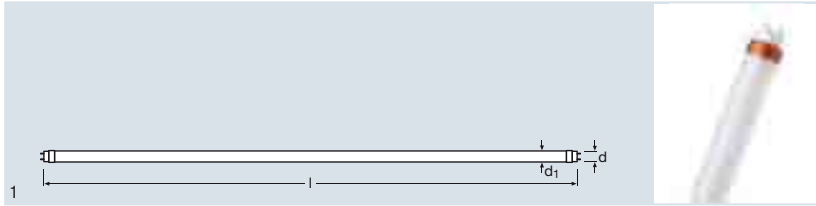
## Applications

- General illumination within ambient temperatures from -25°C to 50°C
- Illumination of production areas
- Traffic zones and corridors
- Indirect lighting and cove lighting in shops and restaurants

## References

For the latest information go to [www.osram.com/substitube](http://www.osram.com/substitube)

\* Depending on the type of lamp and control gear



NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW

Product reference	Product number	V	W	lm	K	
ST8-HB2-830 <sup>1)</sup>	4008321972538	230	10	675	3000	Warm White
ST8-HB2-840 <sup>1)</sup>	4008321972545	230	10	750	4000	Cool White
ST8-HB2-865 <sup>1)</sup>	4008321972569	230	10	750	6500	Daylight
ST8-HB4-830 <sup>1)</sup>	4008321972576	230	20	1350	3000	Warm White
ST8-HB4-840 <sup>1)</sup>	4008321972583	230	20	1500	4000	Cool White
ST8-HB4-865 <sup>1)</sup>	4008321972606	230	20	1500	6500	Daylight
ST8-HB5-830 <sup>1)</sup>	4008321972613	230	24 <sup>2)</sup>	1650 <sup>2)</sup>	3000	Warm White
ST8-HB5-840 <sup>1)</sup>	4008321972620	230	24 <sup>2)</sup>	1850 <sup>2)</sup>	4000	Cool White
ST8-HB5-865 <sup>1)</sup>	4008321972644	230	24 <sup>2)</sup>	1850 <sup>2)</sup>	6500	Daylight

Product reference		Ra	$\frac{l}{d}$ (mm)	$\varnothing$ d (mm)	$\varnothing$ d1 (mm)		
ST8-HB2-830 <sup>1)</sup>	120°	>80	590	28	27	25	1
ST8-HB2-840 <sup>1)</sup>	120°	>80	590	28	27	25	1
ST8-HB2-865 <sup>1)</sup>	120°	>80	590	28	27	25	1
ST8-HB4-830 <sup>1)</sup>	120°	>80	1200	28	27	25	1
ST8-HB4-840 <sup>1)</sup>	120°	>80	1200	28	27	25	1
ST8-HB4-865 <sup>1)</sup>	120°	>80	1200	28	27	25	1
ST8-HB5-830 <sup>1)</sup>	120°	>80	1500	28	27	25	1
ST8-HB5-840 <sup>1)</sup>	120°	>80	1500	28	27	25	1
ST8-HB5-865 <sup>1)</sup>	120°	>80	1500	28	27	25	1

<sup>1)</sup> All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.  
<sup>2)</sup> Provisional values

### Product characteristics

- LED alternative to classic T8 fluorescent lamps in CCG luminaires
- Ideal for simple lighting tasks
- Uniform illumination
- Wide beam angle of 120°
- VDE-certified safety (in preparation)
- Integrated ECG with high power factor
- Mercury-free and RoHS compliant
- Type of protection: IP20

### Product benefits

- Quick, simple and safe replacement without rewiring
- Low maintenance costs thanks to long lifetime
- Energy savings of up to 55 %
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Extremely low weight of 205 g\*
- Maximum resistance to switching loads
- Ideally suitable even at low temperatures

### Applications

- General illumination for open luminaires within ambient temperatures from -25 °C to 40 °C
- Cooling and storage rooms
- Corridores, stairways, parking garages
- Beverage vending machines

### References

For the latest information go to [www.osram.com/substitube](http://www.osram.com/substitube)

\* for a length of 1200 mm



Product reference	Product number	I [mA]	W	lm	K	
ST8-EA2-104-830 <sup>1)</sup>	4008321 <b>984593</b>	350	11.5	1035	3000	Warm White
ST8-EA2-115-840 <sup>1)</sup>	4008321 <b>984616</b>	350	11.5	1150	4000	Cool White
ST8-EA2-115-850 <sup>1)</sup>	4008321 <b>984630</b>	350	11.5	1150	5000	Daylight
ST8-EA4-230-830 <sup>1)</sup>	4008321 <b>984678</b>	700	25.5	2300	3000	Warm White
ST8-EA4-256-840 <sup>1)</sup>	4008321 <b>984692</b>	700	25.5	2560	4000	Cool White
ST8-EA4-256-850 <sup>1)</sup>	4008321 <b>984715</b>	700	25.5	2560	5000	Daylight
ST8-EA5-288-830 <sup>1)</sup>	4008321 <b>984753</b>	700	32	2880	3000	Warm White
ST8-EA5-320-840 <sup>1)</sup>	4008321 <b>984777</b>	700	32	3200	4000	Cool White
ST8-EA5-320-850 <sup>1)</sup>	4008321 <b>984791</b>	700	32	3200	5000	Daylight

NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW  
NEW

Product reference		R <sub>a</sub>	$\frac{l}{d}$ [mm]	$\frac{d}{d_1}$ [mm]	$\frac{d_1}{d}$ [mm]		
ST8-EA2-104-830 <sup>1)</sup>	120	>80	590	27	28	25	1
ST8-EA2-115-840 <sup>1)</sup>	120	>80	590	27	28	25	1
ST8-EA2-115-850 <sup>1)</sup>	120	>80	590	27	28	25	1
ST8-EA4-230-830 <sup>1)</sup>	120	>80	1200	27	28	25	1
ST8-EA4-256-840 <sup>1)</sup>	120	>80	1200	27	28	25	1
ST8-EA4-256-850 <sup>1)</sup>	120	>80	1200	27	28	25	1
ST8-EA5-288-830 <sup>1)</sup>	120	>80	1500	27	28	25	1
ST8-EA5-320-840 <sup>1)</sup>	120	>80	1500	27	28	25	1
ST8-EA5-320-850 <sup>1)</sup>	120	>80	1500	27	28	25	1

<sup>1)</sup> All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- LED lamp for usage in luminaires with external ECG
- For professional LED luminaires, no need for expensive redesigns
- Uniform illumination
- 2-stage dimming in combination with the OTe family
- Wide beam angle of 120°
- VDE-certified safety (in preparation)
- Mercury-free and RoHS compliant
- Type of protection IP20

## Product benefits

- Greater flexibility and lower development costs as there is no need to redesign the luminaire
- OPTOTRONIC® control gear complies with relevant standards, which simplifies luminaire certification: OTe 13/220-240/350 SD, OTe 25/220-240/2x350 SD (p. 9.62) plus OTe 35/220-240/700 SD and OTe 70/220-240/2x700 SD (p. 9.65)
- Ideal for applications with long operating times and difficult access for maintenance
- Maximum resistance to switching loads
- Ideally suitable even at low temperatures
- Instant-on light, therefore ideally suitable in combination with sensor technology

## Applications

- Sophisticated illumination within ambient temperatures from -25 °C to 60 °C
- Basic office illumination
- Illumination of production areas
- Storage rooms
- Logistics areas, transport facilities and corridors
- Indirect lighting and cove lighting in shops and restaurants

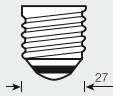
## References

For the latest information go to [www.osram.com/substitute](http://www.osram.com/substitute)

## Bases IEC/EN 60061-1



E14  
Sheet 7004-23



E27  
Sheet 7004-21



GU5.3  
Sheet 7004-109



GU10  
Sheet 7004-121



GU4  
Sheet 7004-108



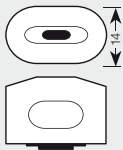
G4  
Sheet 7004-72



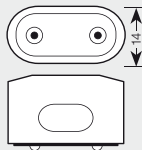
G13  
Sheet 7004-51



G53  
Sheet 7004-134



S14s  
Sheet 7004-112



S14d  
Sheet 7004-112



For more information see the LED brochure (1A4W001GB)  
or go to [www.osram.com/ledlamps](http://www.osram.com/ledlamps)



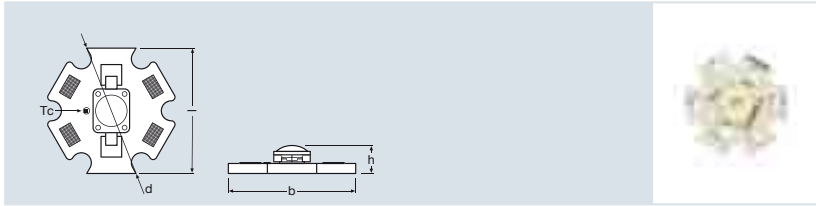
## LED systems

DRAGON-X® Plus	2.02
DRAGONpuck®	2.03
COINlight® Pro	2.04
COINlight® AR111	2.05
DRAGONeye®	2.06
LINEARlight POWER Flex Protect	2.07
LINEARlight Flex® Protect ADVANCED	2.08
LINEARlight Flex® Protect ECO	2.09
LINEARlight Flex® Value IP	2.10
LINEARlight POWER Flex Generation II	2.11
LINEARlight Flex® ShortPitch	2.12
LINEARlight Flex® ADVANCED Generation II	2.13
LINEARlight Flex® ECO	2.14
DRAGONchain® Tunable White	2.15
LINEARlight Flex® SIDELED®	2.16
LINEARlight 10 V	2.17



LINEARlight-DRAGON® PCB	2.18
LINEARlight-DRAGON® complete module	2.19
LINEARlight-DRAGON® Slim	2.20
LINEARlight POWER (PCB)	2.21
LINEARlight POWER (complete module)	2.22
LINEARlight ADVANCED (PCB)	2.23
LINEARlight ADVANCED (complete module)	2.24
LINEARlight ECO (PCB)	2.25
LINEARlight ECO (complete module)	2.26
LINEARlight Colormix Flex Protect	2.27
LINEARlight Colormix Flex	2.28
DRAGONchain® Colormix RGBW	2.29
LINEARlight Colormix (PCB)	2.30
LINEARlight Colormix (complete module)	2.31
Heat sink for DRAGONchain DC24	2.32
Heat sink for DRAGONpuck DP35, DP51, COINlight Pro CP51	2.32
CONNECTsystem for LINEARlight (POWER) Flex Protect	2.33
CONNECTsystem for LINEARlight Colormix Flex Protect	2.33
CONNECTsystem for LINEARlight (POWER) Flex	2.34
CONNECTsystem for LINEARlight Flex® SIDELED®	2.34
CONNECTsystem for LINEARlight Colormix Flex	2.35
CONNECTsystem for LINEARlight	2.35
CONNECTsystem for LINEARlight-DRAGON®	2.36
Optics for LINEARlight	2.37
Optics for LINEARlight-DRAGON®	2.37
LINEARlight Track	2.38
Mounting bracket, LINEARlight-DRAGON®, LINEARlight LR... (24 V)	2.38
BoxLED® Side	2.39
BoxLED® Back	2.40
BackLED L	2.41
BackLED M	2.42
BackLED S	2.43
Mounting profile for BoxLED® and BackLED	2.44
STREETlight Protect	2.45
HPML® Core	2.46
HPML® Advance	2.47
STREETlight Advanced	2.48
The PrevaLED® light engine concept	2.49
PrevaLED® Core – CRI >90	2.50
PrevaLED® Core – CRI 80	2.52
OPTOTRONIC® control gear for PrevaLED® Core	2.54
Accessories for PrevaLED® Core	2.55
PrevaLED® Linear	2.56
PrevaLED® Linear Slim	2.57
OPTOTRONIC® control gear for PrevaLED® Linear and PrevaLED® Linear Slim	2.58
Accessories for PrevaLED® Linear	2.58
PrevaLED® Compact	2.59
OPTOTRONIC® control gear for PrevaLED® Compact	2.59
Four letters that signify the evolution of light	2.60
OLED components	2.62
OLED module	2.63

# DRAGON-X® Plus



Product reference	Product number	COLOR		A	W	
DX01-W4F-830 <sup>1)</sup>	4008321960023	White	1	0.350	1.2	170
DX01-W4F-854 <sup>1)</sup>	4008321960047	White	1	0.350	1.2	170

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{d}{[mm]}$	
DX01-W4F-830 <sup>1)</sup>	3000	80	20	20	4.5	21.4	60
DX01-W4F-854 <sup>1)</sup>	5400	92	20	20	4.5	21.4	60

<sup>1)</sup> Modules perfectly matched to 350 mA OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

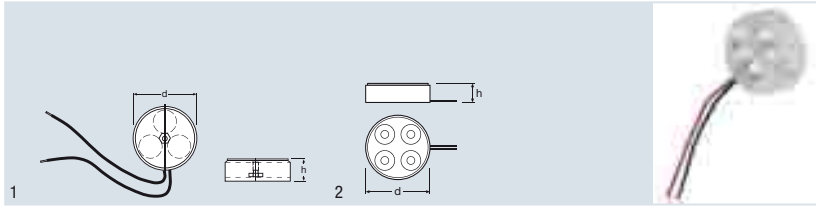
- Hexagonal metal core board equipped with one high-power LED
- Efficiency up to 76 lm/W
- Dimmable

## Product benefits

- Optimum heat removal
- Enormous freedom of design thanks to compact dimensions
- At an operating current of 700 mA the luminous flux increases to 150 lm (DX01-W4F-854) or 130 lm (DX01-W4F-830)
- Low maintenance costs thanks to a lifetime of up to 70,000 hours

## Applications

- For portable fixtures and spotlights
- Safety lighting and signal lights
- Architecture, shop or indoor fixtures



Product reference	Product number	COLOR		A	W	
DP35-W4F-3-827 <sup>1)</sup>	4008321976123	White	3	0.350	3.2	36
DP35-W4F-3-857 <sup>1)</sup>	4008321976147	White	3	0.350	3.2	36
DP35-W4F-7-827 <sup>1)</sup>	4008321976161	White	3	0.700	6.9	36
DP35-W4F-7-857 <sup>1)</sup>	4008321976185	White	3	0.700	6.9	36
DP35-W4F-9-827 <sup>1)</sup>	4008321976208	White	4	0.700	8.9	36
DP35-W4F-9-857 <sup>1)</sup>	4008321976222	White	4	0.700	8.9	36
DP51-W4F-3-827 <sup>1)</sup>	4008321976123	White	3	0.350	3.2	36
DP51-W4F-3-857 <sup>1)</sup>	4008321976246	White	3	0.350	3.2	36
DP51-W4F-7-827 <sup>1)</sup>	4008321976284	White	3	0.700	6.9	36
DP51-W4F-7-857 <sup>1)</sup>	4008321976307	White	3	0.700	6.9	36
DP51-W4F-9-827 <sup>1)</sup>	4008321976321	White	4	0.700	8.9	36
DP51-W4F-9-857 <sup>1)</sup>	4008321976345	White	4	0.700	8.9	36

Product reference	K	cd	lm	h [mm]	d [mm]		No.
DP35-W4F-3-827 <sup>1)</sup>	2700	540	270	12	35	16	1
DP35-W4F-3-857 <sup>1)</sup>	5700	648	320	12	35	16	1
DP35-W4F-7-827 <sup>1)</sup>	2700	998	500	12	35	16	1
DP35-W4F-7-857 <sup>1)</sup>	5700	1198	600	12	35	16	1
DP35-W4F-9-827 <sup>1)</sup>	2700	1332	670	12	35	16	2
DP35-W4F-9-857 <sup>1)</sup>	5700	1598	800	12	35	16	2
DP51-W4F-3-827 <sup>1)</sup>	2700	540	270	12	51	16	1
DP51-W4F-3-857 <sup>1)</sup>	5700	648	320	12	51	16	1
DP51-W4F-7-827 <sup>1)</sup>	2700	998	500	12	51	16	1
DP51-W4F-7-857 <sup>1)</sup>	5700	1198	600	12	51	16	1
DP51-W4F-9-827 <sup>1)</sup>	2700	1332	670	12	51	16	2
DP51-W4F-9-857 <sup>1)</sup>	5700	1598	800	12	51	16	2

<sup>1)</sup> Modules perfectly matched to 350 mA and 700 mA OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Luminous intensity comparable to that of halogen lamps MR11 and MR16 (20 W, 35 W, 50 W)
- Integrated optics with a 36° beam angle
- For series connection
- Two-core connecting cable with a length of 200 mm
- Simple fixing with M3 screw
- Dimmable
- FineWhite

## Product benefits

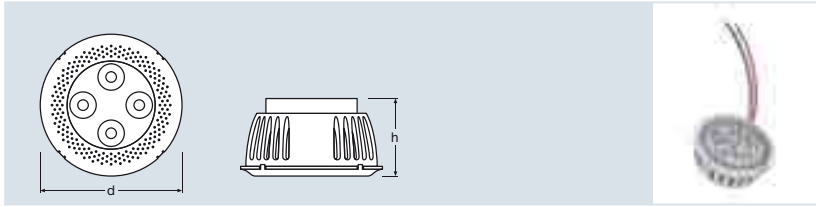
- Module efficiency of up to 100 lm/W, up to 5 times greater than that of halogen lamps
- System\* Guarantee in connection with OSRAM OPTOTRONIC® control gear
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

## Applications

- Shop and furniture fixtures
- Hotels
- Restaurants

## Accessories

- Heat sink CPDPHS



Product reference	Product number	COLOR		V	W	
CP51-W4F-4-827 <sup>1)</sup>	4008321975843	White	3	24	4	36
CP51-W4F-4-857 <sup>1)</sup>	4008321975867	White	3	24	4	36
CP51-W4F-8-827 <sup>1)</sup>	4008321975881	White	3	24	8	36
CP51-W4F-8-857 <sup>1)</sup>	4008321975904	White	3	24	8	36
CP51-W4F-10-827 <sup>1)</sup>	4008321975928	White	4	24	10	36
CP51-W4F-10-857 <sup>1)</sup>	4008321975942	White	4	24	10	36

Product reference	K	cd	lm	Cable length [mm]	d [mm]	h [mm]	
CP51-W4F-4-827 <sup>1)</sup>	2700	540	270	500	50	23	20
CP51-W4F-4-857 <sup>1)</sup>	5700	650	320	500	50	23	20
CP51-W4F-8-827 <sup>1)</sup>	2700	1000	500	500	50	23	20
CP51-W4F-8-857 <sup>1)</sup>	5700	1200	600	500	50	23	20
CP51-W4F-10-827 <sup>1)</sup>	2700	1330	670	500	50	23	20
CP51-W4F-10-857 <sup>1)</sup>	5700	1600	800	500	50	23	20

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Luminous intensity comparable to that of halogen lamps MR16 (20 W, 35 W, 50 W)
- Integrated optics with a 36° beam angle
- High-quality aluminum casing
- For parallel connection
- Three-core connecting cable with a length of 500 mm
- Dimmable
- FineWhite

## Product benefits

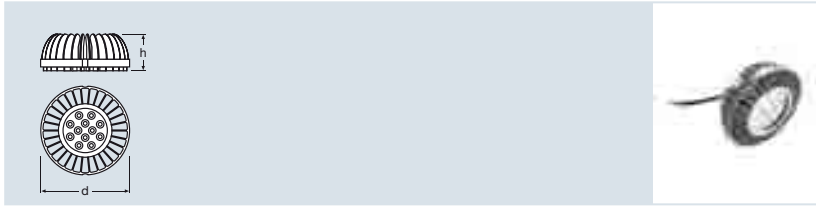
- Suitable for MR16 luminaires
- Module efficiency up to 86 lm/W
- System\* Guarantee in connection with OSRAM OPTOTRONIC® control gear
- Low maintenance costs thanks to a lifetime of up to 50,000 hours
- CP51-W4F-4 can be operated without an additional heat sink
- CP51-W4F-8 can be operated without an additional heat sink (Reduction of lifetime of up to 25,000 h)

## Applications

- Shop and furniture fixtures
- Hotels
- Restaurants

## Accessories

- Heat sink CPDPHS



Product reference	Product number	COLOR		A	W	
CT5B-W4F-827-L24 <sup>1)</sup>	4008321989420	White	5	0.700	12	24
CT5B-W4F-830-L24 <sup>1)</sup>	4008321989444	White	5	0.700	12	24
CT7B-W4F-827-L24 <sup>1)</sup>	4008321989468	White	7	0.700	16	24
CT7B-W4F-830-L24 <sup>1)</sup>	4008321989482	White	7	0.700	16	24
CT11B-W4F-827-L24 <sup>1)</sup>	4008321989505	White	11	0.700	25	24
CT11B-W4F-830-L24 <sup>1)</sup>	4008321989529	White	11	0.700	25	24

Product reference	K	cd	lm	h (mm)	d (mm)	
CT5B-W4F-827-L24 <sup>1)</sup>	2700	3500	740	46	111	12
CT5B-W4F-830-L24 <sup>1)</sup>	3000	4000	820	46	111	12
CT7B-W4F-827-L24 <sup>1)</sup>	2700	5000	1040	46	111	12
CT7B-W4F-830-L24 <sup>1)</sup>	3000	5500	1140	46	111	12
CT11B-W4F-827-L24 <sup>1)</sup>	2700	7780	1620	46	111	12
CT11B-W4F-830-L24 <sup>1)</sup>	3000	8500	1780	46	111	12

<sup>1)</sup> Modules perfectly matched to constant-current OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

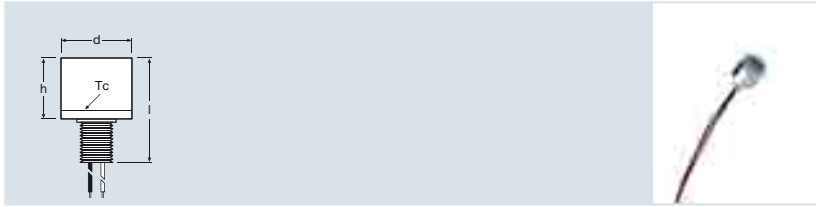
- Luminous intensity comparable to that of halogen lamps AR111 (50 W, 75 W, 100 W)
- Integrated optics and heat sink
- For series connection
- Two-core connecting cable
- Dimmable
- FineWhite

### Product benefits

- Suitable for AR111 luminaires
- Module efficiency up to 71 lm/W
- No additional heat sink required
- System\* Guarantee in connection with OSRAM OPTOTRONIC® control gear
- Low maintenance costs thanks to a lifetime of up to 30,000 hours

### Applications

- Hotels
- Offices
- Shop
- Museums, art galleries



Product reference	Product number	COLOR		A	W	
DE1-W3F-830 <sup>1)</sup>	4008321365361	White	1	0.35	1.2	15
DE1-W4F-854 <sup>1)</sup>	4008321364999	White	1	0.35	1.2	15

Product reference	K	cd	Cable length [mm]	h [mm]	d [mm]	
DE1-W3F-830 <sup>1)</sup>	3000	485	500	33	23	264
DE1-W4F-854 <sup>1)</sup>	5400	650	500	33	23	264

<sup>1)</sup> Modules perfectly matched to 350 mA OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- Metal casing with M10x1.5 thread for simple mounting
- No additional heat sink required
- Type of protection IP65 according to DIN EN 60529
- For series connection
- Two-core connecting cable with a length of 500 mm
- For series connection
- Dimmable
- FineWhite

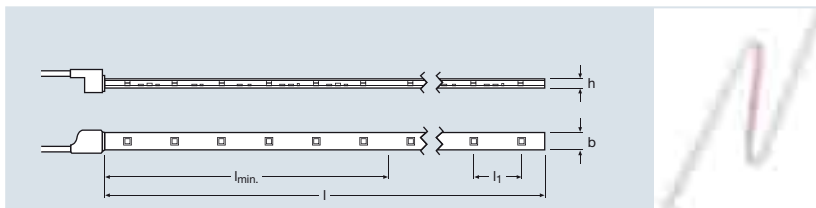
### Product benefits

- Narrow beam angle for use as a spotlight
- Perfect centering thanks to flange on the floor of the casing (diameter 12 mm)
- Low maintenance costs thanks to a lifetime of up to 70,000 hours

### Applications

- For accent, orientation or route lighting indoors and outdoors
- Lighting in furniture and shelving

# LINEARlight POWER Flex Protect



Product reference	Product number	COLOR		V	W	
LF06P-W4F-827-P <sup>1)</sup>	4008321621894	White	120	24	72	120
LF06P-W4F-830-P <sup>1)</sup>	4008321621870	White	120	24	72	120
LF06P-W4F-840-P <sup>1)</sup>	4008321621856	White	120	24	72	120
LF06P-W4F-854-P <sup>1)</sup>	4008321621917	White	120	24	72	120

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF06P-W4F-827-P <sup>1)</sup>	2700	2880	3000	150	25	11	4.5	8
LF06P-W4F-830-P <sup>1)</sup>	3000	2880	3000	150	25	11	4.5	8
LF06P-W4F-840-P <sup>1)</sup>	4000	3650	3000	150	25	11	4.5	8
LF06P-W4F-854-P <sup>1)</sup>	5400	3650	3000	150	25	11	4.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- IP67 protected flexible and cuttable LED strip
- Luminous flux of up to 1200 lm/m
- With pre-assembled feeder for simple connection
- Dimmable
- FineWhite

## Product benefits

- High-performance silicon for extremely long life and flexibility
- Stylish design
- Highly UV-resistant
- Salt mist proof

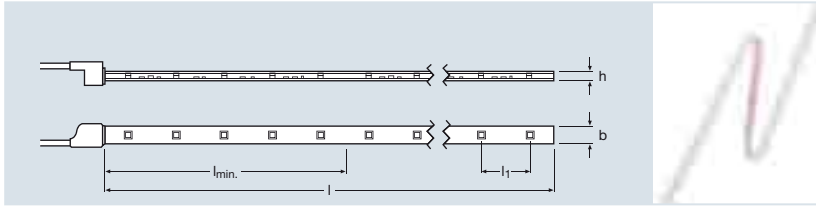
## Applications

- Facade accent lighting
- Ceiling integration, wall integration
- Cove lighting
- Machine lighting
- Path lighting, signage

## Accessories

- IP67 protected CONNECTsystem LF-PROTECT for simple installation without soldering
- LINEARlight Track LT

# LINEARlight Flex® Protect ADVANCED



Product reference	Product number	COLOR		V	W		$\lambda$
LF05A-W3F-830-P <sup>1)</sup>	4008321617217	White	495	24	72	120	–
LF05A-W3F-840-P <sup>1)</sup>	4008321619266	White	495	24	72	120	–
LF05A-W3F-860-P <sup>1)</sup>	4008321617392	White	495	24	72	120	–
LF05A-B3-P <sup>1)</sup>	4008321617804	Blue	495	24	72	120	467

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF05A-W3F-830-P <sup>1)</sup>	3000	2100	9900	100	20	11	4.5	8
LF05A-W3F-840-P <sup>1)</sup>	4000	2700	9900	100	20	11	4.5	8
LF05A-W3F-860-P <sup>1)</sup>	6000	2100	9900	100	20	11	4.5	8
LF05A-B3-P <sup>1)</sup>	–	840	9900	100	20	11	4.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. l For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). l All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- IP67 protected flexible and cuttable LED strip
- Extremely long for seamless light, with small pitches
- With pre-assembled feeder for simple connection
- Dimmable
- FineWhite

## Product benefits

- High-performance silicon for extremely long life and flexibility
- Simple mounting and connection
- Stylish design
- Highly UV-resistant
- Salt mist proof

## Applications

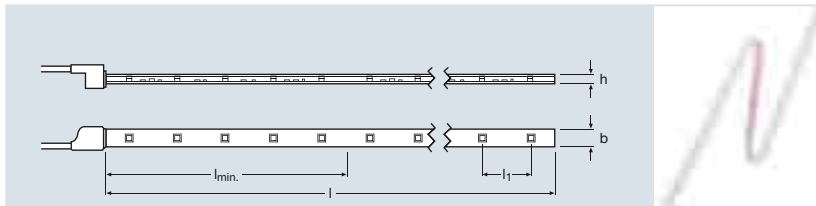
- Cove lighting
- Wall integration
- Hand rails, corridors
- Machine lighting
- Path lighting, signage

## Accessories

- IP67 protected CONNECTsystem LF-PROTECT for simple installation without soldering
- LINEARlight Track LT



# LINEARlight Flex® Protect ECO



Product reference	Product number	COLOR		V	W		$\lambda$
LF05E-W2F-830-P <sup>1)</sup>	4008321616432	White	200	24	24.5	120	–
LF05E-W2F-840-P <sup>1)</sup>	4008321621184	White	200	24	24.5	120	–
LF05E-W2F-860-P <sup>1)</sup>	4008321616777	White	200	24	24.5	120	–
LF05E-B2-P <sup>1)</sup>	4008321616913	Blue	200	24	24.5	120	467
LF05E-R1-P <sup>1)</sup>	4008321616937	Red	200	24	36	120	625
LF05E-T2-P <sup>1)</sup>	4008321616951	Green	200	24	24.5	120	522
LF05E-Y1-P <sup>1)</sup>	4008321616975	Yellow	200	24	36	120	587

Product reference	K	Im	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF05E-W2F-830-P <sup>1)</sup>	3000	765	6000	150	30	11	4.5	8
LF05E-W2F-840-P <sup>1)</sup>	4000	940	6000	150	30	11	4.5	8
LF05E-W2F-860-P <sup>1)</sup>	6000	765	6000	150	30	11	4.5	8
LF05E-B2-P <sup>1)</sup>	–	290	6000	150	30	11	4.5	8
LF05E-R1-P <sup>1)</sup>	–	840	6000	150	30	11	4.5	8
LF05E-T2-P <sup>1)</sup>	–	940	6000	150	30	11	4.5	8
LF05E-Y1-P <sup>1)</sup>	–	840	6000	150	30	11	4.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. <sup>1)</sup> For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). <sup>1)</sup> All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- IP67 protected flexible and cuttable LED strip
- With pre-assembled feeder for simple connection
- Dimmable
- FineWhite

## Product benefits

- High-performance silicon for extremely long life and flexibility
- Stylish design
- Highly UV-resistant
- Salt mist proof

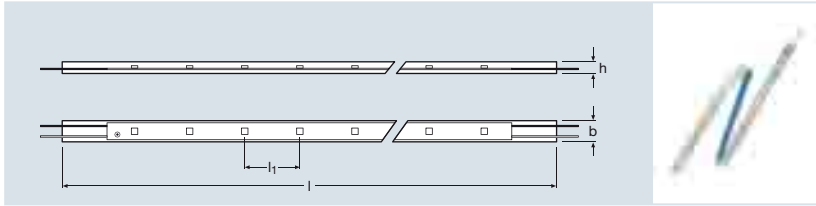
## Applications

- Decorative applications
- Wall integration
- Backlighting of complex structures
- Path lighting, signage

## Accessories

- IP67 protected CONNECTsystem LF-PROTECT for simple installation without soldering
- LINEARlight Track LT

# LINEARlight Flex® Value IP



Product reference	Product number	COLOR		V	W			
VI05A-W3-730 <sup>1)</sup>	4008321 <b>643933</b>	White	300	24	25	120		
VI05A-W3-760 <sup>1)</sup>	4008321 <b>643957</b>	White	300	24	25	120		
Product reference	K	Im	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{h}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
VI05A-W3-730 <sup>1)</sup>	3000	1250	6000	100	20	11	6	8
VI05A-W3-760 <sup>1)</sup>	6000	1300	6000	100	20	11	6	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. l For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- IP66 protected flexible LED strip
- Simple connection thanks to integrated cables on both sides
- Dimmable

## Product benefits

- Low profile
- Salt mist proof

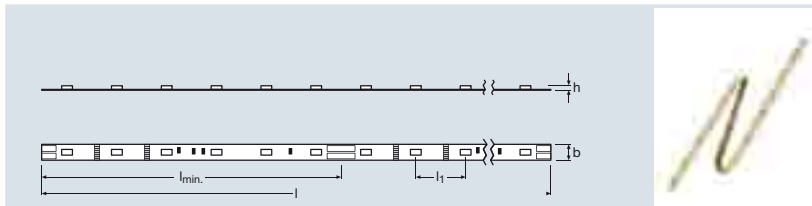
## Applications

- Signage/illuminated lettering
- Architecture lighting
- Wall integration

## Accessories

- Included: clips, end caps, IP65 connector
- LINEARlight Track LT

# LINEARlight POWER Flex Generation II



Product reference	Product number	COLOR		V	W	
LF06P2-W5F-827 <sup>1)</sup>	4008321971272	White	120	24	68	120
LF06P2-W5F-830 <sup>1)</sup>	4008321971296	White	120	24	68	120
LF06P2-W5F-840 <sup>1)</sup>	4008321971319	White	120	24	68	120
LF06P2-W5F-854 <sup>1)</sup>	4008321971791	White	120	24	68	120
LF06P2-W5F-865 <sup>1)</sup>	4008321971340	White	120	24	68	120

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF06P2-W5F-827 <sup>1)</sup>	2700	4792	3000	150	25	8	2.5	8
LF06P2-W5F-830 <sup>1)</sup>	3000	5168	3000	150	25	8	2.5	8
LF06P2-W5F-840 <sup>1)</sup>	4000	5544	3000	150	25	8	2.5	8
LF06P2-W5F-854 <sup>1)</sup>	5400	5544	3000	150	25	8	2.5	8
LF06P2-W5F-865 <sup>1)</sup>	6500	5544	3000	150	25	8	2.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Flexible cuttable LED strip
- Luminous flux of up to 1800 lm/m
- Large selection of light colors
- Dimmable
- Powerful LED light source
- FineWhite

## Product benefits

- Module efficiency up to 80 lm/W
- Low profile

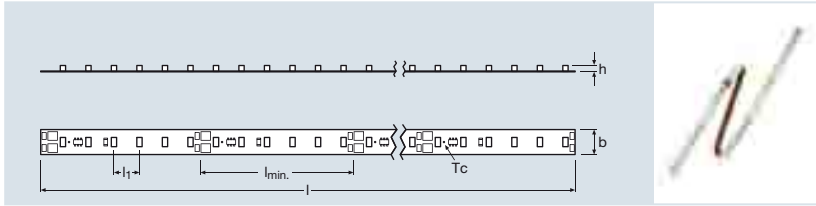
## Applications

- Cove lighting
- Signage (advertising and lettering)

## Accessories

- CONNECTsystem LF for simple installation without soldering
- LINEARlight Track LT

# LINEARlight Flex® ShortPitch



Product reference	Product number	COLOR		V	A	W	
LF06S-W3F-827 <sup>1)</sup>	4008321973887	White	720	24	2.4	58	120
LF06S-W3F-830 <sup>1)</sup>	4008321973894	White	720	24	2.4	58	120
LF06S-W3F-840 <sup>1)</sup>	4008321973900	White	720	24	2.4	58	120
LF06S-W3F-854 <sup>1)</sup>	4008321973917	White	720	24	2.4	58	120
LF06S-W3F-865 <sup>1)</sup>	4008321973924	White	720	24	2.4	58	120

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF06S-W3F-827 <sup>1)</sup>	2700	4680	6000	50	8.33	8	2	8
LF06S-W3F-830 <sup>1)</sup>	3000	4680	6000	50	8.33	8	2	8
LF06S-W3F-840 <sup>1)</sup>	4000	5076	6000	50	8.33	8	2	8
LF06S-W3F-854 <sup>1)</sup>	5400	5076	6000	50	8.33	8	2	8
LF06S-W3F-865 <sup>1)</sup>	6500	5076	6000	50	8.33	8	2	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. <sup>1)</sup> For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). <sup>1)</sup> All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Flexible LED strip
- Very small LED spacing
- Luminous flux of up to 840 lm/m
- FineWhite

## Product benefits

- Suitable for low-profile enclosed fittings
- Module efficiency up to 88 lm/W

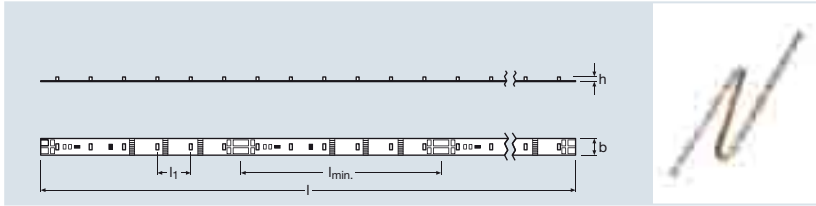
## Applications

- Edge injection
- Small coving
- Path lighting, contour accent lighting
- Signage (advertising and lettering)

## Accessories

- CONNECTsystem LF for simple installation without soldering
- LINEARlight Track LT

# LINEARlight Flex® ADVANCED Generation II



Product reference	Product number	COLOR		V	W		$\lambda$
LF06A-W3F-827 <sup>1)</sup>	4008321973986	White	600	24	48	120	–
LF06A-W3F-830 <sup>1)</sup>	4008321973993	White	600	24	48	120	–
LF06A-W3F-840 <sup>1)</sup>	4008321974006	White	600	24	48	120	–
LF06A-W3F-854 <sup>1)</sup>	4008321974013	White	600	24	48	120	–
LF06A-W3F-865 <sup>1)</sup>	4008321974020	White	600	24	48	120	–

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l_l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF06A-W3F-827 <sup>1)</sup>	2700	3900	10000	100	16.7	8	2.1	8
LF06A-W3F-830 <sup>1)</sup>	3000	3900	10000	100	16.7	8	2.1	8
LF06A-W3F-840 <sup>1)</sup>	4000	4230	10000	100	16.7	8	2.1	8
LF06A-W3F-854 <sup>1)</sup>	5400	4230	10000	100	16.7	8	2.1	8
LF06A-W3F-865 <sup>1)</sup>	6500	4230	10000	100	16.7	8	2.1	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. l For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). l All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Flexible cuttable LED strip
- Very long for seamless bands of light, yet cuttable into small units
- Large selection of light colors
- Dimmable
- FineWhite

## Product benefits

- Module efficiency up to 88 lm/W
- Low profile

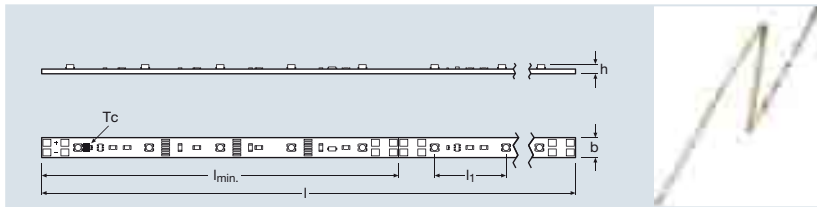
## Applications

- Cove lighting
- Signage (advertising and lettering)

## Accessories

- CONNECTsystem LF for simple installation without soldering
- LINEARlight Track LT

# LINEARlight Flex® ECO



Product reference	Product number	COLOR		V	W		$\lambda$
LF05E2-W2F-827 <sup>1)</sup>	4008321971357	White	500	24	36	120	–
LF05E2-W2F-730 <sup>1)</sup>	4008321971371	White	500	24	36	120	–
LF05E2-W2F-740 <sup>1)</sup>	4008321971395	White	500	24	36	120	–
LF05E2-W2F-865 <sup>1)</sup>	4008321971418	White	500	24	36	120	–
LF05E-B2 <sup>1)</sup>	4008321955425	Blue	200	24	24.5	120	470
LF05E-R1 <sup>1)</sup>	4008321955418	Red	200	24	36	120	625
LF05E-T2 <sup>1)</sup>	4008321955449	Green	200	24	24.5	120	525
LF05E-Y1 <sup>1)</sup>	4008321955432	Yellow	200	24	36	120	587

Product reference	K	l <sub>m</sub>	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LF05E2-W2F-827 <sup>1)</sup>	2700	2200	10000	100	20	8	2.5	8
LF05E2-W2F-730 <sup>1)</sup>	3000	2200	10000	100	20	8	2.5	8
LF05E2-W2F-740 <sup>1)</sup>	4000	2400	10000	100	20	8	2.5	8
LF05E2-W2F-865 <sup>1)</sup>	6500	2200	10000	100	20	8	2.5	8
LF05E-B2 <sup>1)</sup>	–	290	6000	150	30	8	2.5	8
LF05E-R1 <sup>1)</sup>	–	840	6000	150	30	8	2.5	8
LF05E-T2 <sup>1)</sup>	–	940	6000	150	30	8	2.5	8
LF05E-Y1 <sup>1)</sup>	–	840	6000	150	30	8	2.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Flexible cuttable LED strip
- Very long for seamless bands of light
- Dimmable
- FineWhite

## Product benefits

- Low profile

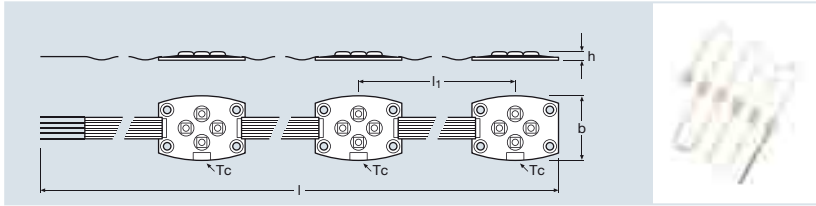
## Applications

- Decorative applications
- Signage
- Orientation lighting

## Accessories

- CONNECTsystem LF for simple installation without soldering
- LINEARlight Track LT

# DRAGONchain® Tunable White



Product reference	Product number	COLOR		V	W		
DC24B-TW <sup>1) 3)</sup>	4008321709233	Tunable White	24	24	24	135	
Product reference	K	lm	l [mm]	l1 [mm]	b [mm]	h [mm]	
DC24B-TW <sup>1) 3)</sup>	2700...6500	1770 <sup>2)</sup>	3000	500	39	6.2	6

1) Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.  
2) Depending on color temperature. Specified maximum value.  
3) The power supply must be short-circuit-proof.

### Product characteristics

- Flexible chain consisting of six LED modules each with 4 LEDs (2x 2700 K, 2x 6500 K)
- With protective coating (IPX5) for outdoor and high-humidity applications
- Electrically insulated back
- Simple fixing with M3 screws

### Product benefits

- Dynamic white light from 2700 K to 6500 K
- Flexible programmable lighting moods in connection with light management systems
- Extremely wide-angle optics for uniform backlighting of large surfaces
- Low maintenance costs thanks to a lifetime of up to 40,000 hours

### Applications

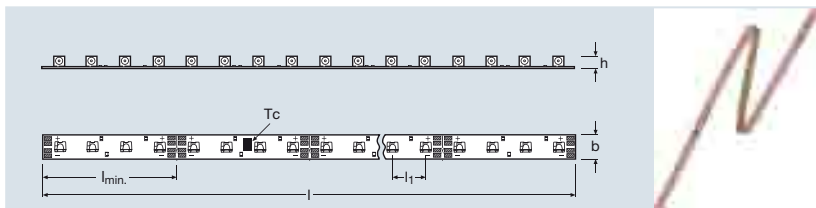
- Daylight simulation
- Spa
- Shop: targeted product presentation thanks to variable color temperature
- Offices
- Museums, art galleries: UV and IR-free light preserves exhibits

### Accessories

- Heat sink DC24HS



# LINEARlight Flex® SIDELED®



Product reference	Product number	COLOR		V	W	
LM11A-W3-847 <sup>1)</sup>	4008321 <b>187161</b>	White	300	10	30	120
LM11A-W3-854 <sup>1)</sup>	4008321 <b>187185</b>	White	300	10	30	120
LM11A-W3-865 <sup>1)</sup>	4008321 <b>187208</b>	White	300	10	30	120

Product reference	K	l <sub>m</sub>	l [mm]	l <sub>min</sub> [mm]	l <sub>1</sub> [mm]	b [mm]	h [mm]	
LM11A-W3-847 <sup>1)</sup>	4700	1000	4200	56	14	10.4	4.5	8
LM11A-W3-854 <sup>1)</sup>	5400	1000	4200	56	14	10.4	4.5	8
LM11A-W3-865 <sup>1)</sup>	6500	1000	4200	56	14	10.4	4.5	8

<sup>1)</sup> Modules perfectly matched to 10V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Flexible cuttable LED strip
- Light emission parallel to the mounting surface
- LEDs with short pitch

## Applications

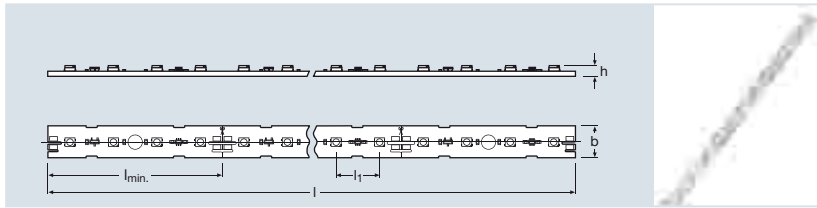
- Path lighting, contour accent lighting
- Signage (corona effect)

## Accessories

- CONNECTsystem LM for simple installation without soldering



# LINEARlight 10 V



Product reference	Product number	COLOR		V	W		$\lambda$
LM01A-W3F-827 <sup>1)</sup>	4008321 <b>372390</b>	White	32	10	4	120	–
LM01A-W3F-830 <sup>1)</sup>	4008321 <b>342997</b>	White	32	10	4	120	–
LM01A-W3F-840 <sup>1)</sup>	4008321 <b>343413</b>	White	32	10	4	120	–
LM01A-W3F-854 <sup>1)</sup>	4008321 <b>387950</b>	White	32	10	4	120	–
LM01A-B2 <sup>1)</sup>	4008321 <b>313652</b>	Blue	32	10	4	120	470
LM01A-A1 <sup>1)</sup>	4050300 <b>887128</b>	Red	32	10	4	120	617
LM01A-O1 <sup>1)</sup>	4050300 <b>888040</b>	Orange	32	10	4	120	606
LM01A-T2 <sup>1)</sup>	4050300 <b>887845</b>	Green	32	10	4	120	525
LM01A-Y1 <sup>1)</sup>	4008321 <b>015969</b>	Yellow	32	10	4	120	587

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_{min.}}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LM01A-W3F-827 <sup>1)</sup>	2700	88	448	56	14	10	4	10
LM01A-W3F-830 <sup>1)</sup>	3000	111	448	56	14	10	4	10
LM01A-W3F-840 <sup>1)</sup>	4000	111	448	56	14	10	4	10
LM01A-W3F-854 <sup>1)</sup>	5400	111	448	56	14	10	4	10
LM01A-B2 <sup>1)</sup>	–	34	448	56	14	10	4	10
LM01A-A1 <sup>1)</sup>	–	78	448	56	14	10	4	10
LM01A-O1 <sup>1)</sup>	–	98	448	56	14	10	4	10
LM01A-T2 <sup>1)</sup>	–	57	448	56	14	10	4	10
LM01A-Y1 <sup>1)</sup>	–	69	448	56	14	10	4	10

<sup>1)</sup> Modules perfectly matched to 10V OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Splittable LED board (smallest unit: 4 LEDs with a length of 56 mm)
- Mounting holes for secure fixing
- Dimmable

## Product benefits

- Very low thermal output despite low profile
- Serial connection of up to 3 modules
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

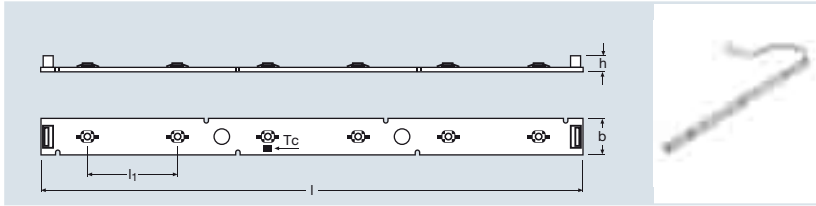
## Applications

- Edge coupling
- Path lighting, contour accent lighting
- Orientation and safety lighting

## Accessories

- CONNECTsystem LM
- LINEARlight Track LT-H
- OP4x1 optics

# LINEARlight-DRAGON® PCB



Product reference	Product number	COLOR		V	W	
LD06B-W4F-830 <sup>1)</sup>	4008321 <b>395757</b>	White	6	24	12	170
LD06B-W4F-840 <sup>1)</sup>	4008321 <b>395870</b>	White	6	24	12	170
LD06B-W4F-854 <sup>1)</sup>	4008321 <b>395993</b>	White	6	24	12	170

Product reference	K	lm	l [mm]	l1 [mm]	b [mm]	h [mm]	
LD06B-W4F-830 <sup>1)</sup>	3000	630	300	50	20	8.5	6
LD06B-W4F-840 <sup>1)</sup>	4000	630	300	50	20	8.5	6
LD06B-W4F-854 <sup>1)</sup>	5400	630	300	50	20	8.5	6

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Metal core board with six high-power LEDs
- Mounting holes for secure fixing
- Dimmable

## Product benefits

- With mid-feed up to six modules can be operated on one control gear unit
- Low maintenance costs thanks to a lifetime of up to 70,000 hours

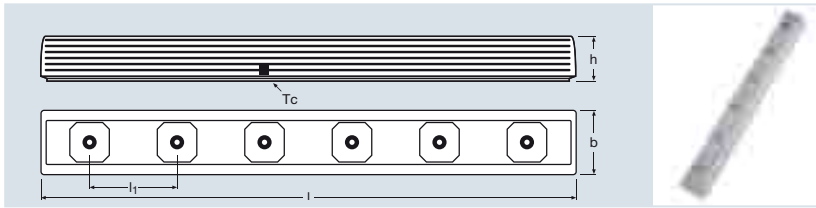
## Applications

- Cove lighting
- Shelf lighting, cupboard lighting

## Accessories

- CONNECTsystem LD
- OP1x1 optics

# LINEARlight-DRAGON® complete module



Product reference	Product number	COLOR		V	W	
LD06B-W4F-830-L30 <sup>1)</sup>	4008321 <b>394491</b>	White	6	24	12	30
LD06B-W4F-840-L30 <sup>1)</sup>	4008321 <b>394613</b>	White	6	24	12	30
LD06B-W4F-854-L30 <sup>1)</sup>	4008321 <b>395290</b>	White	6	24	12	30

Product reference		cd					
LD06B-W4F-830-L30 <sup>1)</sup>	3000	1350	307	50	36	25.8	6
LD06B-W4F-840-L30 <sup>1)</sup>	4000	1350	307	50	36	25.8	6
LD06B-W4F-854-L30 <sup>1)</sup>	5400	1350	307	50	36	25.8	6

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- High-quality batten fixture with 6 high-power LEDs
- Aluminum housing for adequate heat removal
- Mounting with M3 screws or brackets
- Dimmable

## Product benefits

- With mid-feed up to six modules can be operated on one control gear unit
- Ready for connection with premounted feeder as a connection to the control gear
- Low maintenance costs thanks to a lifetime of up to 70,000 hours

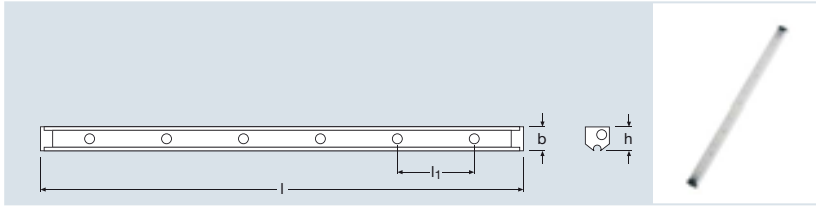
## Applications

- Cove lighting
- Shelf lighting, cupboard lighting

## Accessories

- CONNECTsystem LD
- Mounting brackets LD-MB

# LINEARlight-DRAGON® Slim



Product reference	Product number	COLOR		V	W		
LD06S-W4F-830 <sup>1)</sup>	4008321953308	White	6	24	6.8	120	
LD06S-W4F-840 <sup>1)</sup>	4008321953322	White	6	24	6.8	120	
Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LD06S-W4F-830 <sup>1)</sup>	3000	240	305	50	16	16.2	6
LD06S-W4F-840 <sup>1)</sup>	4000	240	305	50	16	16.2	6

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current, photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Slim attractive batten fixture with six LEDs
- Aluminum housing for adequate heat removal
- Diffused cover
- Adjustable
- Dimmable

## Product benefits

- Serial operation of up to 5 modules on one control gear unit (can be connected in series with supplied adapter and connecting cable)
- Robust: coated board to protect against condensate
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

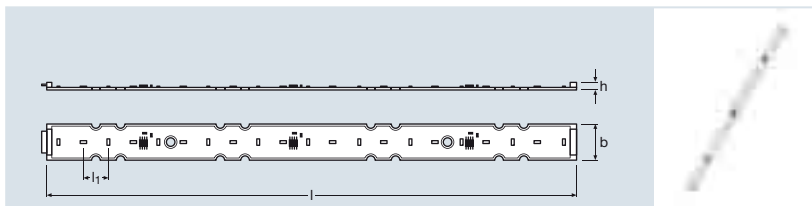
## Applications



- Shelf/furniture lighting
- Display lighting
- Small coving

## Accessories


- Mounting and connection systems included

## LINEARlight POWER (PCB)



Product reference	Product number	COLOR		V	W	
LR21P-W2F-830 <sup>1)</sup>	4008321971470	White	21	24	8	120
LR21P-W2F-840 <sup>1)</sup>	4008321971494	White	21	24	8	120

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LR21P-W2F-830 <sup>1)</sup>	3000	630	280	13	20	3	8
LR21P-W2F-840 <sup>1)</sup>	4000	630	280	13	20	3	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- Metal core board equipped with 21 LEDs
- Luminous flux comparable with that of T5 HE fluorescent lamps
- Luminous flux of up to 2250 lm/m
- Integrated SMD plug connector (male/female) on both sides of the PCB
- Color rendering  $R_a$  typ. 85
- Mounting holes for simple fixing
- Dimmable

### Product benefits

- Modules can be joined together to make seamless strip lighting, without any further accessories
- Up to six modules connected in series on one control gear unit
- Module efficiency up to 88 lm/W
- Compatible with LINEARlight LR14A, LR14E
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

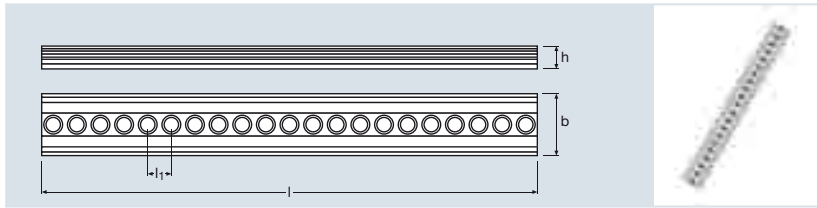
### Applications

- Coving
- Shelf lighting, cupboard lighting

### Accessories

- Can be expanded with optional accessories to create an individual complete module
- CONNECTsystem LR
- LINEARlight Track LT
- OPLR optics
- OTR optics tray

## LINEARlight POWER (complete module)



Product reference	Product number	COLOR		V	W	
LR21P-W2F-830-L30 <sup>1)</sup>	4008321971630	White	21	24	8	30
LR21P-W2F-840-L30 <sup>1)</sup>	4008321971654	White	21	24	8	30
LR21P-W2F-830-L80 <sup>1)</sup>	4008321978707	White	21	24	8	80
LR21P-W2F-840-L80 <sup>1)</sup>	4008321978721	White	21	24	8	80

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LR21P-W2F-830-L30 <sup>1)</sup>	3000	574	280	13	36	13	8
LR21P-W2F-840-L30 <sup>1)</sup>	4000	574	280	13	36	13	8
LR21P-W2F-830-L80 <sup>1)</sup>	3000	574	280	13	36	13	8
LR21P-W2F-840-L80 <sup>1)</sup>	4000	574	280	13	36	13	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. | For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). | All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- High-quality designer batten fixture equipped with 21 LEDs
- Aluminum housing for adequate heat removal
- Luminous flux comparable with that of T5 HE fluorescent lamps
- Luminous flux of up to 2050 lm/m
- Integrated optics
- Simple mounting with M3 screws or brackets
- Color rendering  $R_a$  typ. 85
- Dimmable

### Product benefits

- Modules can be joined together to make seamless strip lighting, without any further accessories
- Up to six modules connected in series on one control gear unit
- Overall module efficiency up to 76 lm/W
- Compatible with LINEARlight LR14A, LR14E
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

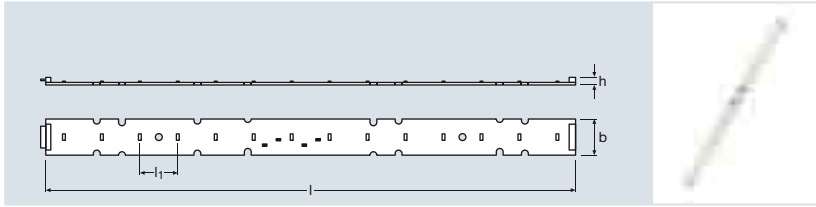
### Applications



- Cove lighting
- Shelf lighting, cupboard lighting

### Accessories


- CONNECTsystem LR
- Mounting brackets LD-MB

## LINEARlight ADVANCED (PCB)



Product reference	Product number	COLOR		V	W	
LR14A-W2F-830 <sup>1)</sup>	4008321978400	White	14	24	4.7	120
LR14A-W2F-840 <sup>1)</sup>	4008321971531	White	14	24	4.7	120

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LR14A-W2F-830 <sup>1)</sup>	3000	400	280	20	20	3	8
LR14A-W2F-840 <sup>1)</sup>	4000	400	280	20	20	3	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current, photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- Metal core board equipped with 14 LEDs
- Luminous flux comparable with that of T5 fluorescent lamps (8 W, 13 W)
- Luminous flux 1400 lm/m
- Integrated SMD plug connector (male/female) on both sides of the PCB
- Color rendering  $R_a$  typ. 85
- Mounting holes for simple fixing
- Dimmable

### Product benefits

- Modules can be joined together to make seamless strip lighting, without any further accessories
- Up to ten modules connected in series on one control gear unit
- Module efficiency up to 88 lm/W
- Compatible with LINEARlight LR21P, LR14E
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

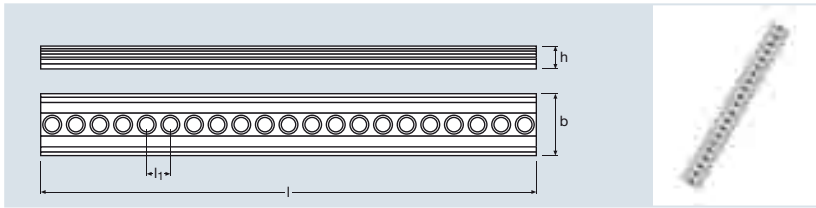
### Applications

- Coving
- Shelf lighting, cupboard lighting

### Accessories

- Can be expanded with optional accessories to create an individual complete module
- CONNECTsystem LR
- LINEARlight Track LT
- OPLR optics
- OTR optics tray

## LINEARlight ADVANCED (complete module)



Product reference	Product number	COLOR		V	W	
LR14A-W2F-830-L30 <sup>1)</sup>	4008321971678	White	14	24	4.7	30
LR14A-W2F-840-L30 <sup>1)</sup>	4008321971692	White	14	24	4.7	30
LR14A-W2F-830-L80 <sup>1)</sup>	4008321978424	White	14	24	4.7	80
LR14A-W2F-840-L80 <sup>1)</sup>	4008321978448	White	14	24	4.7	80

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LR14A-W2F-830-L30 <sup>1)</sup>	3000	350	280	20	36	13	8
LR14A-W2F-840-L30 <sup>1)</sup>	4000	350	280	20	36	13	8
LR14A-W2F-830-L80 <sup>1)</sup>	3000	350	280	20	36	13	8
LR14A-W2F-840-L80 <sup>1)</sup>	4000	350	280	20	36	13	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- High-quality designer batten fixture equipped with 14 LEDs
- Aluminum housing for adequate heat removal
- Luminous flux comparable with that of T5 fluorescent lamps (8 W, 13 W)
- Luminous flux of up to 1250 lm/m
- Integrated optics
- Simple mounting with M3 screws or brackets
- Color rendering  $R_a$  typ. 85
- Dimmable

### Product benefits

- Modules can be joined together to make seamless strip lighting, without any further accessories
- Up to six modules connected in series on one control gear unit
- Overall module efficiency up to 76 lm/W
- Compatible with LINEARlight LR21P, LR14E
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

### Applications

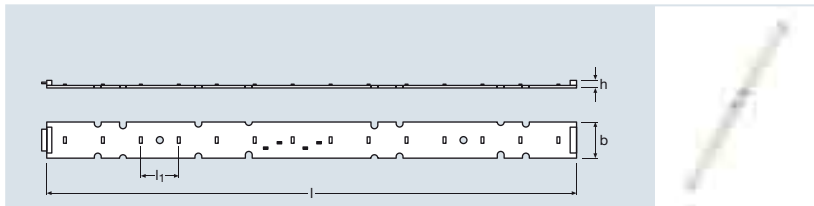
- Cove lighting
- Shelf lighting, cupboard lighting

### Accessories

- CONNECTsystem LR
- Mounting brackets LD-MB



# LINEARlight ECO (PCB)



Product reference	Product number	COLOR		V	W		
LR14E-W2F-830 <sup>1)</sup>	4008321971555	White	14	24	2.3	120	
LR14E-W2F-840 <sup>1)</sup>	4008321971579	White	14	24	2.3	120	
Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{h}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LR14E-W2F-830 <sup>1)</sup>	3000	200	280	20	20	3	8
LR14E-W2F-840 <sup>1)</sup>	4000	200	280	20	20	3	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Metal core board equipped with 14 LEDs
- Luminous flux 700 lm/m
- Integrated SMD-4 plug connector (male/female) on both sides of the PCB
- Color rendering  $R_a$  typ. 85
- Mounting holes for simple fixing
- Dimmable

## Product benefits

- Modules can be joined together in series to make seamless strip lighting, without any further accessories
- Module efficiency up to 96 lm/W
- Compatible with LINEARlight LR21P, LR14A
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

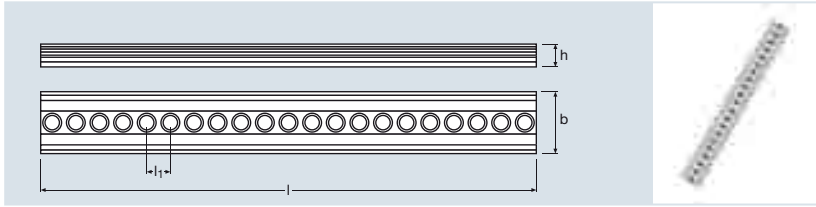
## Applications

- Shelf lighting, cupboard lighting
- Background lighting

## Accessories

- Can be expanded with optional accessories to create an individual complete module
- CONNECTsystem LR
- LINEARlight Track LT
- OPLR optics
- OTR optics tray

## LINEARlight ECO (complete module)



Product reference	Product number	COLOR		V	W	
LR14E-W2F-830-L30 <sup>1)</sup>	4008321971715	White	14	24	2.3	30
LR14E-W2F-840-L30 <sup>1)</sup>	4008321971739	White	14	24	2.3	30
LR14E-W2F-830-L80 <sup>1)</sup>	4008321978585	White	14	24	2.3	80
LR14E-W2F-840-L80 <sup>1)</sup>	4008321978608	White	14	24	2.3	80

Product reference	K	lm	$\frac{l}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LR14E-W2F-830-L30 <sup>1)</sup>	3000	170	280	20	36	13	8
LR14E-W2F-840-L30 <sup>1)</sup>	4000	170	280	20	36	13	8
LR14E-W2F-830-L80 <sup>1)</sup>	3000	170	280	20	36	13	8
LR14E-W2F-840-L80 <sup>1)</sup>	4000	170	280	20	36	13	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. l For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- High-quality designer batten fixture equipped with 14 LEDs
- Aluminum housing for adequate heat removal
- Luminous flux of up to 610 lm/m
- Integrated optics
- Simple mounting with M3 screws or brackets
- Color rendering  $R_a$  typ. 85
- Dimmable

### Product benefits

- Modules can be joined together in series to make seamless strip lighting, without any further accessories
- Overall module efficiency up to 87 lm/W
- Compatible with LINEARlight LR21P, LR14A
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

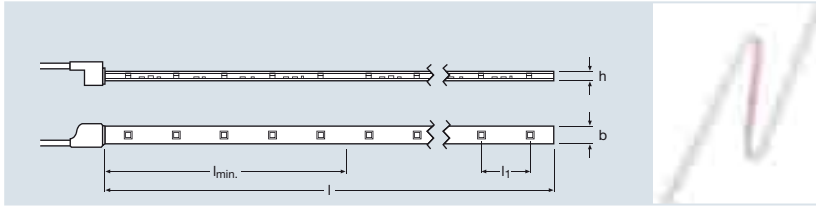
### Applications

- Shelf lighting, cupboard lighting
- Background lighting

### Accessories

- CONNECTsystem LR
- Mounting brackets LD-MB

# LINEARlight Colormix Flex Protect



Product reference	Product number	COLOR		V	W		$\lambda$
LF05CA-RGB3-P <sup>1)</sup>	4008321977205	RGB	200	24	72	120	625/525/467
LF05CE-RGB1-P <sup>1)</sup>	4008321977182	RGB	200	24	39	120	625/525/467

Product reference	K	Im	$l$ [mm]	$l_{min}$ [mm]	$h$ [mm]	$b$ [mm]	$h$ [mm]	
LF05CA-RGB3-P <sup>1)</sup>	5500	1740	4000	100	20	11	4.5	8
LF05CE-RGB1-P <sup>1)</sup>	5500	1075	6000	150	30	11	4.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. <sup>l</sup> For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). <sup>l</sup> All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- IP6 protected flexible and cuttable LED strip with inline multichip RGB LEDs
- With pre-assembled feeder for simple connection

## Product benefits

- High-performance silicon for extremely long life and flexibility
- Stylish design
- Highly UV-resistant
- Salt mist proof
- Uniform color changing

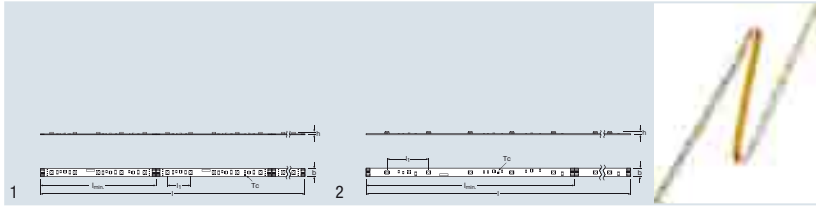
## Applications

- Facade accent lighting
- Effect lighting in architecture
- Edge coupling
- Path lighting

## Accessories

- IP67 protected CONNECTsystem LF-PROTECT for simple installation without soldering
- LINEARlight Track LT

# LINEARlight Colormix Flex



Product reference	Product number	COLOR		V	W		$\lambda$
LF05CA-RGB3 <sup>1)</sup>	4008321 <b>592644</b>	RGB	200	24	72	120	625/525/467
LF05CE-RGB1 <sup>1)</sup>	4008321 <b>593375</b>	RGB	200	24	39	120	625/525/467

Product reference	lm	$\frac{l}{[mm]}$	$\frac{l_{min}}{[mm]}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$		
LF05CA-RGB3 <sup>1)</sup>	1700	4000	100	20	8	2.2	8	1
LF05CE-RGB1 <sup>1)</sup>	1075	6000	150	30	8	2.2	8	2

<sup>1)</sup> Modules perfectly matched to 24 V OSRAM OPTOTRONIC® electronic control gear. l For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Flexible and splittable LED strip with inline multichip RGB LEDs

## Product benefits

- Uniform color changing with 3 chips in one package
- Toolless connection with the optional CONNECTsystem

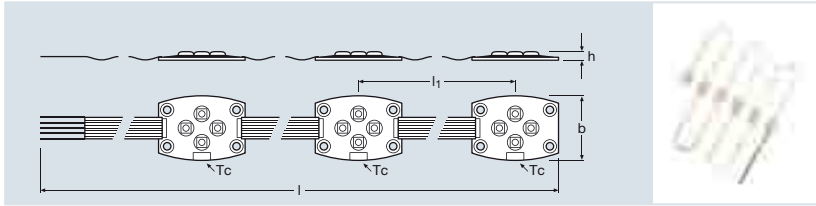
## Applications

- Effect lighting in architecture
- For injecting light into transparent and dispersing materials
- Dynamic effects in public zones

## Accessories

- CONNECTsystem LF for simple installation without soldering
- LINEARlight Track LT

# DRAGONchain® Colormix RGBW



Product reference	Product number	COLOR		V	W	
DC24B-RGBW <sup>1)3)</sup>	4008321709219	RGB, White	24	24	27	135

Product reference		lm	$\frac{l}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DC24B-RGBW <sup>1)3)</sup>	625/525/467	1200 <sup>2)</sup>	3000	500	39	6.2	6

1) Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.  
 2) Depending on color temperature. Specified maximum value.  
 3) The power supply used must be short-circuit-proof.

## Product characteristics

- Flexible chain consisting of six LED modules each with four LEDs (red, green, blue, cold white)
- With protective coating (IPX5) for outdoor and high-humidity applications
- Electrically insulated back
- Simple fixing with M3 screws

## Product benefits

- Dynamic color backlighting
- Broad color mixing palette, including pastel shades (in connection with light management systems)
- Extremely wide-angle optics for uniform backlighting of large surfaces
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

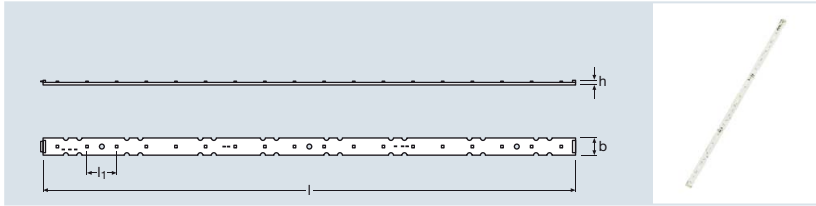
## Applications

- Dynamic mood lighting
- Spa
- Shops, restaurants
- Trade fair lighting
- Alternative to colored fluorescent lamps

## Accessories

- Heat sink DC24HS

# LINEARlight Colormix (PCB)



Product reference	Product number	COLOR		V	W
LR18CP <sup>1)</sup>	4008321971593	RGB	18	24	28
LR28CA <sup>1)</sup>	4008321978547	RGB	28	24	15
LR18CE <sup>1)</sup>	4008321971616	RGB	18	24	3

Product reference		lm	$\frac{l}{\text{mm}}$	$\frac{l_r}{\text{mm}}$	$\frac{b}{\text{mm}}$	$\frac{h}{\text{mm}}$	
LR18CP <sup>1)</sup>	120	670	560	31	20	3.5	8
LR28CA <sup>1)</sup>	120	360	560	20	20	3.5	8
LR18CE <sup>1)</sup>	120	140	560	31	20	3.5	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Metal core board equipped with 18 LEDs (LR18CP, LR18CE) or 28 LEDs (LR28CA)
- LR28CA, LR18CE: with multichip RGB LEDs
- LR18CP: with individual R-G-B LEDs
- Integrated SMD plug connector (male/female) on both sides of the PCB
- Mounting holes for simple fixing

## Product benefits

- Modules can be joined together in series to make seamless strip lighting, without any further accessories
- The modules are compatible with each other
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

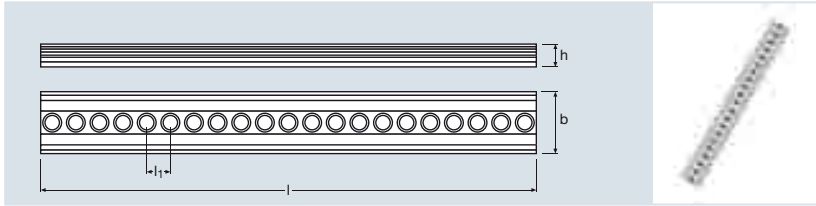
## Applications


- Restaurants
- Architainment
- Shops
- LR18CP: Mood lighting and wallwashers
- LR28CA: Effect lighting
- LR18CE: Background lighting

## Accessories



- Can be expanded with optional accessories to create an individual complete module
- CONNECTsystem LR
- LINEARlight Track LT
- OPLR optics
- OTR optics tray

## LINEARlight Colormix (complete module)



Product reference	Product number	COLOR		V	W
LR18CP-560 <sup>1)</sup>	4008321971753	RGB	18	24	28
LR28CA-560 <sup>1)</sup>	4008321978561	RGB	28	24	15
LR18CE-560 <sup>1)</sup>	4008321971777	RGB	18	24	3

Product reference		lm	$\frac{l}{l}$ [mm]	$\frac{l}{l}$ [mm]	$\frac{b}{b}$ [mm]	$\frac{h}{h}$ [mm]	
LR18CP-560 <sup>1)</sup>	20x50	<sup>2)</sup>	560	31	36	13	8
LR28CA-560 <sup>1)</sup>	20x50	<sup>2)</sup>	560	20	36	13	8
LR18CE-560 <sup>1)</sup>	20x50	<sup>2)</sup>	560	31	36	13	8

<sup>1)</sup> Modules perfectly matched to 24V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/led-modules](http://www.osram.com/led-modules). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

<sup>2)</sup> Print data not available

### Product characteristics

- High-quality designer batten fixture
- Aluminum housing for adequate heat removal
- LR28CA, LR18CE: with multichip RGB LEDs
- LR18CP: with individual R-G-B LEDs
- Integrated SMD 4-pin plug connector (male/female) on both sides of the PCB
- Integrated optics
- Simple mounting with M3 screws or brackets

### Product benefits

- Modules can be joined together in series to make seamless strip lighting, without any further accessories
- The modules are compatible with each other
- Low maintenance costs thanks to a lifetime of up to 50,000 hours

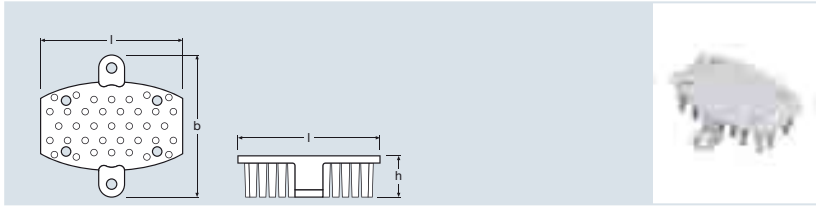
### Applications

- Restaurants
- Architainment
- Shops
- LR18CP: Mood lighting and wallwashers
- LR28CA: Effect lighting
- LR18CE: Background lighting

### Accessories

- CONNECTsystem LR
- Mounting brackets LD-MD

## Heat sink for DRAGONchain DC24



Product reference	Product number	$l$ [mm]	$b$ [mm]	$h$ [mm]	
DC24HS <sup>1)</sup>	4008321 <b>657992</b>	67	64	18.5	300

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product characteristics

- Fixing with screws

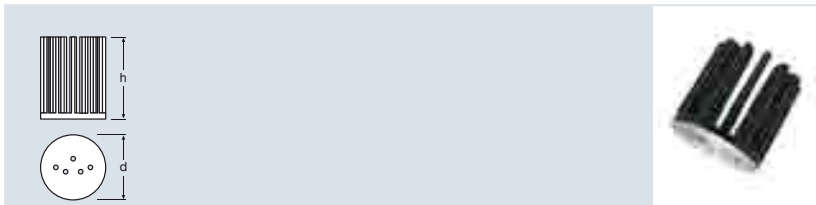
### Product benefits

- Low profile

### Applications

- For DRAGONchain Tunable White and DRAGONchain Colormix

## Heat sink for DRAGONpuck DP35, DP51, COINlight Pro CP51



Product reference	Product number	$d$ [mm]	$h$ [mm]	
CPDPHS-51 <sup>1)</sup>	4008321 <b>975829</b>	44.5	45	16

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product characteristics

- Fixing with M3 screws

### Product benefits

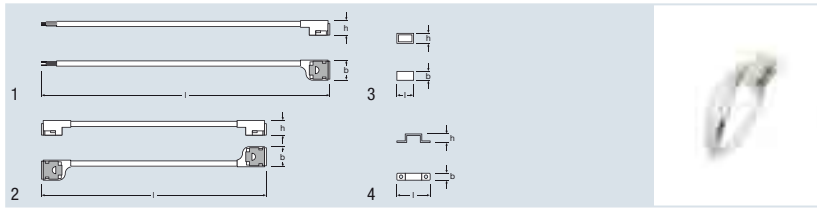
- Low profile



### Applications

- For DRAGONpuck DP35, DP51 and COINlight Pro CP51 (8 W, 10 W)



## CONNECTsystem for LINEARlight (POWER) Flex Protect



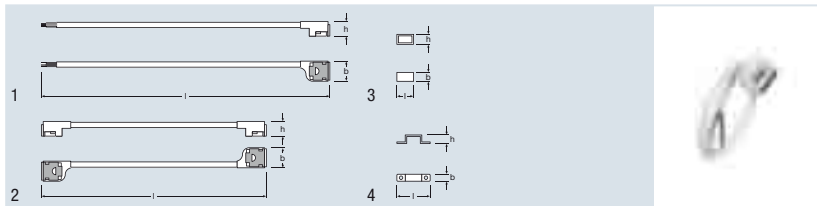
Product reference	Product number	Cable cross-section / AWG	Cable length [mm]	l [mm]	b [mm]	h [mm]		 No.
LF-2PIN PROTECT <sup>1)</sup>	4008321977069	1.4	500	30	19.8	13.4	50	1
LF-2CONN PROTECT <sup>1)</sup>	4008321977083	1.4	120	30	19.8	13.4	50	2
LF-ENDCAP PROTECT <sup>1)</sup>	4008321977106	–	–	15	8.4	9.5	100	3
LF-CLIP FIXTURE PROTECT <sup>1)</sup>	4008321644749	–	–	27	6	5.7	500	4



<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product benefits

- IP67 protected plug system for simple fixing without tools and without soldering
- Short installation time

## CONNECTsystem for LINEARlight Colormix Flex Protect



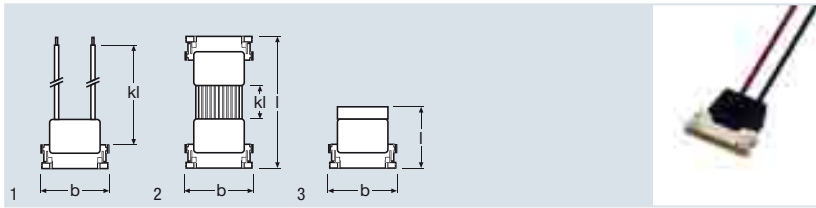
Product reference	Product number	Cable cross-section / AWG	Cable length [mm]	l [mm]	b [mm]	h [mm]		 No.
LF-4PIN PROTECT <sup>1)</sup>	4008321977076	1.4	500	30	19.8	13.4	50	1
LF-4CONN PROTECT <sup>1)</sup>	4008321977090	1.4	120	30	19.8	13.4	50	2
LF-ENDCAP PROTECT <sup>1)</sup>	4008321977106	–	–	15	8.4	9.5	100	3
LF-CLIP FIXTURE PROTECT <sup>1)</sup>	4008321644749	–	–	27	6	5.7	500	4



<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product benefits

- IP67 protected plug system for simple fixing without tools and without soldering
- Short installation time

## CONNECTsystem for LINEARlight (POWER) Flex



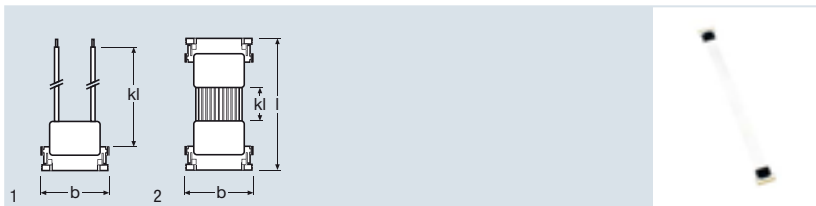
Product reference	Product number	Cable cross-section / AWG	Cable length (mm)	l (mm)	b (mm)		 No.
LF-2PIN FLEX <sup>1)</sup>	4008321955326	0.14	500	13	14.5	100	1
LF-CONN-10 FLEX <sup>1)</sup>	4008321955333	0.057	10	13	13.2	200	2
LF-CONN-150 FLEX <sup>1)</sup>	4008321955340	0.057	150	13	13.2	100	2
LF-2TERM FLEX <sup>1)</sup>	4008321955357	–	–	16	14.5	200	3



<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product benefits

- Simple installation, no tools or soldering required
- Reduced installation time
- Low profile
- Extremely vibration-proof
- Permissible operating temperature perfectly matched to the module
- Can be connected to the front of the module or at the division points

## CONNECTsystem for LINEARlight Flex® SIDELED®



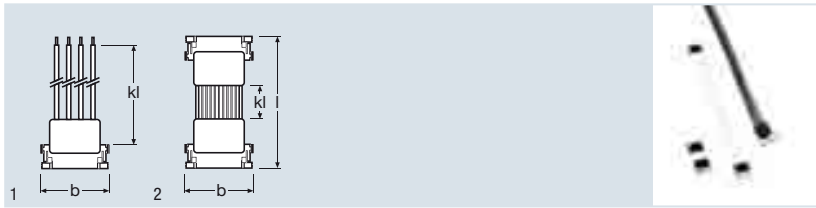
Product reference	Product number	Cable cross-section / AWG	Cable length (mm)	l (mm)	b (mm)		 No.
LM-2PIN FLEX <sup>1)</sup>	4008321916211	0.14	500	13.1	16.3	100	1
LM-CONN-150 FLEX <sup>1)</sup>	4008321931375	0.057	150	13.1	16.3	100	2
LM-CONN-10 FLEX <sup>1)</sup>	4008321916259	0.057	10	13.1	16.3	200	2

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product benefits

- Simple installation, no tools or soldering required
- Reduced installation time
- Low profile
- Extremely vibration-proof
- Permissible operating temperature perfectly matched to the module
- Can be connected to the front of the module or at the division points

## CONNECTsystem for LINEARlight Colormix Flex



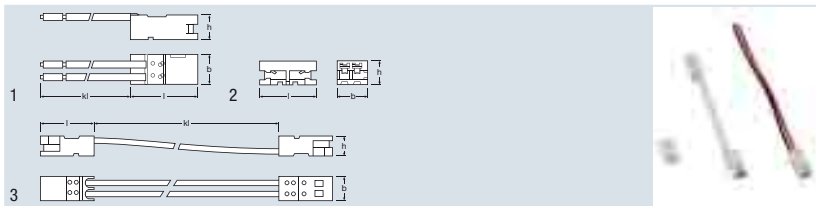
Product reference	Product number	Cable cross-section / AWG	Cable length [mm]	l [mm]	b [mm]	h [mm]	No.
LF-4PIN <sup>1)</sup>	4008321514585	—	500	13	13.2	100	1
LF-CONN-10 FLEX <sup>1)</sup>	4008321955333	0.057	10	13	13.2	200	2
LF-CONN-150 FLEX <sup>1)</sup>	4008321955340	0.057	150	13	13.2	100	2

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product benefits

- Simple installation, no tools or soldering required
- Reduced installation time
- Low profile
- Extremely vibration-proof
- Permissible operating temperature perfectly matched to the module
- Can be connected to the front of the module or at the division points

## CONNECTsystem for LINEARlight



Product reference	Product number	Cable cross-section / AWG	Cable length [mm]	l [mm]	b [mm]	h [mm]	No.
LM-2PIN <sup>1)</sup>	4008321908629	0.31	500	14	6.1	5.0	1
LM-2CONN <sup>1)</sup>	4008321908643	—	—	11	6.1	4.6	2
LM-2CONN-50 <sup>1)</sup>	4008321908667	0.31	48	14	6.1	5.0	3
LR-4PIN-500 <sup>1)</sup>	4008321971852	<sup>2)</sup>	500	<sup>2)</sup>	<sup>2)</sup>	<sup>2)</sup>	<sup>2)</sup>
LR-4CONN-45 <sup>1)</sup>	4008321971890	<sup>2)</sup>	45	<sup>2)</sup>	<sup>2)</sup>	<sup>2)</sup>	12 x 5
LR-4CONN-250 <sup>1)</sup>	4008321971814	<sup>2)</sup>	250	<sup>2)</sup>	<sup>2)</sup>	<sup>2)</sup>	12 x 5

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).  
<sup>2)</sup> Print data not available

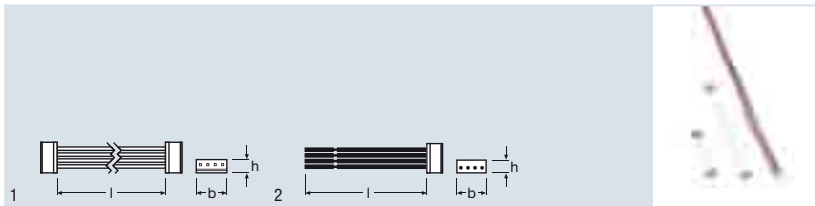
### Product benefits



- Simple fixing without tools and without soldering
- Short installation time
- Low profile
- Vibration-proof

### Applications

- LM... for LINEARlight 10 V
- LR... for LINEARlight 24 V

# CONNECTsystem for LINEARlight-DRAGON®



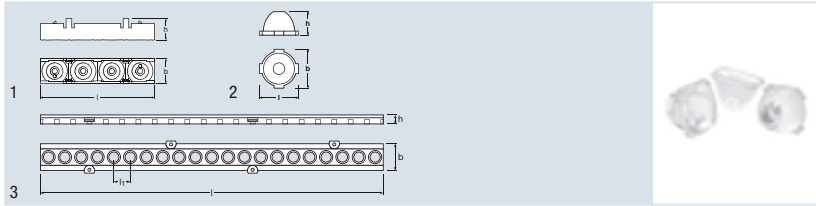
Product reference	Product number	Cable cross-section AWG	Cable length (mm)	l (mm)	b (mm)	h (mm)		 No.
LD-2CONN-100 <sup>1)</sup>	4008321 <b>182883</b>	0.13	100	5	10.0	4.3	500	1
LD-2CONN-40 <sup>1)</sup>	4008321 <b>182869</b>	0.13	40	5	10.0	4.3	500	1
LD-2PIN <sup>1)</sup>	4008321 <b>182845</b>	0.2	500	6	9.7	4.5	500	2




<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

## Product benefits

- Simple fixing without tools and without soldering
- Short installation time
- Low profile
- Vibration-proof

## Optics for LINEARlight



Product reference	Product number		$\frac{l}{\text{[mm]}}$	$\frac{b}{\text{[mm]}}$	$\frac{h}{\text{[mm]}}$		 No.
OP4x1 <sup>1)</sup>	4008321 <b>908704</b>	20   26 <sup>2)</sup>	56	12	11	80	1
OPLR1x1-30 <sup>1)</sup>	4008321 <b>976000</b>	30	10	10	6	140	2
OPLR1x1-80 <sup>1)</sup>	4008321 <b>976024</b>	80	10	10	6	140	2
OPLR1x1-20x50 <sup>1)</sup>	4008321 <b>976048</b>	20x50	10	10	6	140	2
OTR-280-LR21P <sup>1)</sup>	4008321 <b>976062</b>	–	280	26.5	7.5	8	3
OTR-280-LR18CE/CP <sup>1)</sup>	4008321 <b>976086</b>	–	280	26.5	7.5	8	3
OTR-280-LR14A/E/LR28CA <sup>1)</sup>	4008321 <b>994448</b>	–	280	26.5	7.5	8	3

<sup>1)</sup> For current photometric data and important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).  
<sup>2)</sup> White 26°

### Product characteristics

- OP...: Optics
- OTR: Optics tray

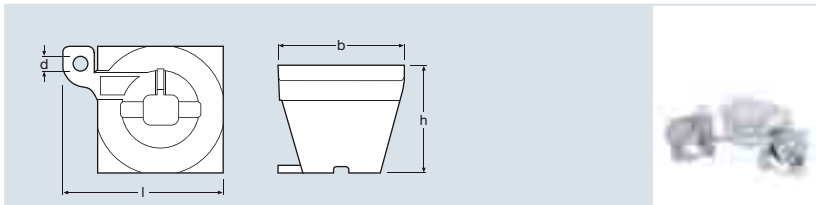
### Product benefits



- High optical efficiency

### Applications

- OP 4x1 for mounting on LINEARlight 10 V (PCB)
- OPLR for mounting on optics carrier
- OTR (LINEARlight 24 V)

## Optics for LINEARlight-DRAGON®



Product reference	Product number		$\frac{l}{\text{[mm]}}$	$\frac{b}{\text{[mm]}}$	$\frac{h}{\text{[mm]}}$	
OP1x1-10 <sup>1)</sup>	4008321 <b>909893</b>	10	25	25.0	22.0	150
OP1x1-30 <sup>1)</sup>	4008321 <b>909770</b>	30	25	25.0	22.0	150
OP1x1-14x22 <sup>1)</sup>	4008321 <b>909787</b>	14 x22	25	25.0	22.0	150

<sup>1)</sup> For current photometric data and important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product characteristics

- Simple fixing with screw

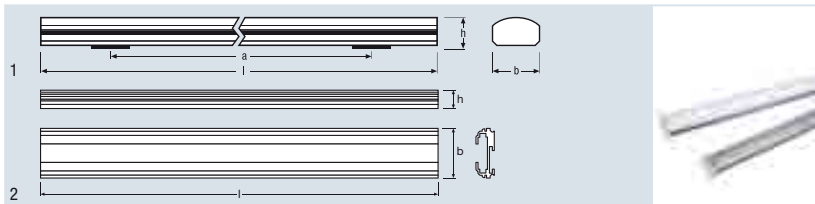
### Product benefits



- High optical efficiency

### Applications

- LINEARlight-DRAGON® (PCB)

## LINEARlight Track



Product reference	Product number	l [mm]	b [mm]	h [mm]		 No.
LT-H047-S <sup>1)</sup>	4008321256805	464 <sup>2)</sup>	35.5 <sup>2)</sup>	37.5 <sup>2)</sup>	10	1
LT-H143-S <sup>1)</sup>	4008321256829	1424 <sup>2)</sup>	35.5 <sup>2)</sup>	37.5 <sup>2)</sup>	6	1
LT-H047-P <sup>1)</sup>	4008321239563	464	35.5	26.5	10	1
LT-H143-P <sup>1)</sup>	4008321239587	1424	35.5	26.5	6	1
LT-280 <sup>1)</sup>	4008321975973	280	<sup>3)</sup>	<sup>3)</sup>	8	2
LT-560 <sup>1)</sup>	4008321975997	560	<sup>3)</sup>	<sup>3)</sup>	8	2
LT-ENDCAP <sup>1)</sup>	4008321976116	<sup>3)</sup>	<sup>3)</sup>	<sup>3)</sup>	16	<sup>3)</sup>

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

<sup>2)</sup> Without end cap

<sup>3)</sup> Print data not available

### Product characteristics

- Lightweight universal aluminum track casing
- LT-H047-S, LT-H143-S: Diffused version for direct uniform illumination
- LT-H047-P, LT-H143-P: Prismatic version for indirect illumination

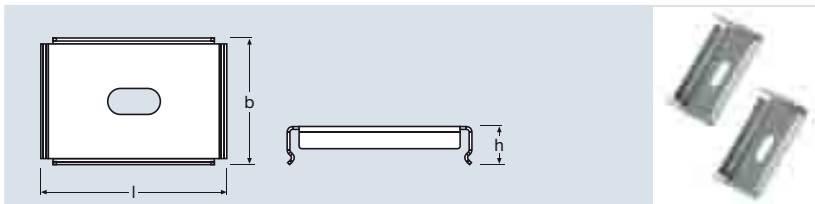
### Applications


- LT-H047..., LT-H143... for OSRAM LINEARlight LM... 10 V and LINEARlight...Flex...LF 24 V
- LT-280, LT-560, LT-ENDCAP for LINEARlight LR...24 V

### Accessories

- Optiks OPLR... and optics carrier OTR... for LINEARlight LR...24 V

## Mounting bracket, LINEARlight-DRAGON®, LINEARlight LR... (24 V)



Product reference	Product number	l [mm]	b [mm]	h [mm]	
LD-MB <sup>1)</sup>	4008321225672	32	22.0	6.6	12 x 5 x 5

<sup>1)</sup> For important safety, installation and application information see [www.osram.com/led-modules](http://www.osram.com/led-modules).

### Product characteristics

- Fixing with M3 screw

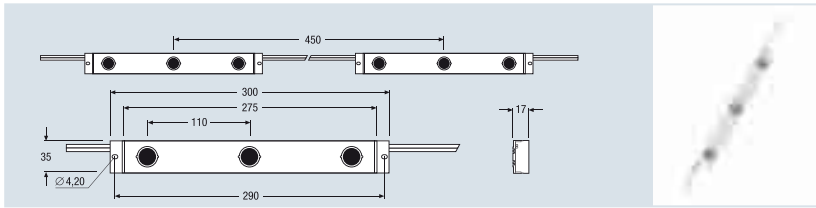
### Product benefits



- Allows linear adjustment of the batten fixture

### Applications

- LINEARlight-DRAGON® (complete module)
- LINEARlight LR...24 V (complete module)

## BoxLED® Side



Product reference	Product number	COLOR	V	W CHAIN	W MODULE
BX03SA-W4F-765 <sup>1)</sup>	4008321641427	White	12	60.0	7.5
BX03SA-W4F-840 <sup>1)</sup>	4008321693365	White	12	60.0	7.5
BX03SA-W4F-830 <sup>1)</sup>	4008321693204	White	12	60.0	7.5
Product reference		K	lm CHAIN	lm MODULE	
BX03SA-W4F-765 <sup>1)</sup>	12 x65	6500	3932	491.5	1
BX03SA-W4F-840 <sup>1)</sup>	12 x65	4000	3276	409.5	1
BX03SA-W4F-830 <sup>1)</sup>	12 x65	3000	3108	388.5	1

<sup>1)</sup> Modules perfectly matched to 12V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/signage](http://www.osram.com/signage). In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- Chain of 8 linear LED modules with 3 LEDs each, connected with flexible cable
- The maximum length of a chain is 3.60 m
- The modules are compatible with the BoxLED® mounting profile
- IP66 protection for the LED modules
- Four different OPTOTRONIC® 12 V units available

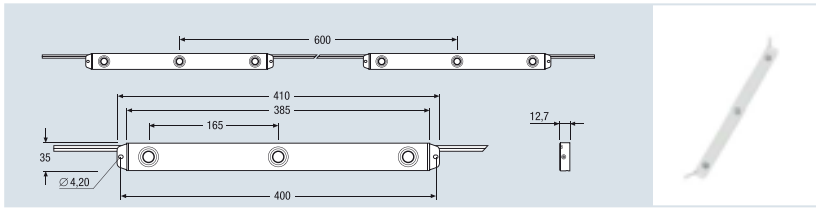
### Product benefits

- Optimized elliptical lenses ensure uniform illumination through diffused reflection
- Several options for quick and simple mounting: bolting, adhesion, snap-in
- Special robust encapsulation for permanent outdoor use in enclosed light boxes
- Outstanding module efficiency
- Fully integrated heat sink
- Extremely long lifetime



### Applications

- Signage (advertising and lettering)
- Backlighting of single-sided and double-sided light boxes (illumination from the side)
- Wallwashing and backlighting in general and architectural lighting

## BoxLED® Back



Product reference	Product number	COLOR	V	W CHAIN	W MODULE
BX03BA-W4F-765 <sup>1)</sup>	4008321641519	White	12	60.0	3.75

Product reference		K	lm CHAIN	lm MODULE	
BX03BA-W4F-765 <sup>1)</sup>	155	6500	4680	292.5	1

<sup>1)</sup> Modules perfectly matched to 12 V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/signage](http://www.osram.com/signage). In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- Chain of 16 linear LED modules with 3 LEDs each, connected with flexible cable
- The maximum length of a chain is 9.60 m
- The modules are compatible with the BoxLED® mounting profile
- IP66 protection for the LED modules
- Four different OPTOTRONIC® 12 V units available

### Product benefits

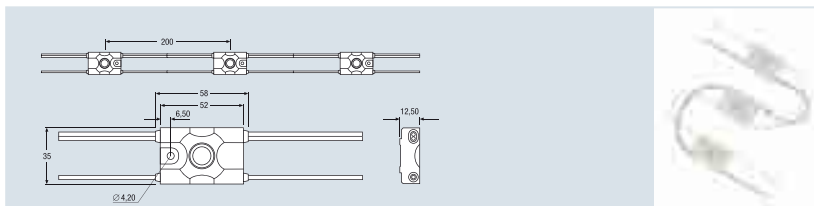
- Flat Ray technology ensures uniform illumination for large LED spacing
- Much better application efficiency compared with systems without lenses
- Several options for quick and simple mounting: bolting, adhesion, snap-in
- Special robust encapsulation for permanent outdoor use in enclosed light boxes
- Outstanding module efficiency
- Fully integrated heat sink
- Extremely long lifetime

### Applications

- Signage (advertising and lettering)
- Backlighting of single-sided and double-sided light boxes (illumination from the back)





# BackLED L



Product reference	Product number	COLOR	V	W CHAIN	W MODULE
BA01LA-W4F-765 <sup>1)</sup>	4008321641182	White	12	60.0	1.25
BA01LA-W4F-840 <sup>1)</sup>	4008321693808	White	12	60.0	1.25
BA01LA-W4F-830 <sup>1)</sup>	4008321641267	White	12	60.0	1.25

Product reference		K	lm CHAIN	lm MODULE	
BA01LA-W4F-765 <sup>1)</sup>	155	6500	4680	97.5	1
BA01LA-W4F-840 <sup>1)</sup>	155	4000	3960	82.5	1
BA01LA-W4F-830 <sup>1)</sup>	155	3000	3600	75.0	1

<sup>1)</sup> Modules perfectly matched to 12V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/signage](http://www.osram.com/signage). In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Chain of 48 LED modules with 1 LED each, connected with flexible cable
- The maximum length of a chain is 9.60 m
- The modules are compatible with the BoxLED® mounting profile
- IP66 protection for the LED modules
- Four different OPTOTRONIC® 12 V units available

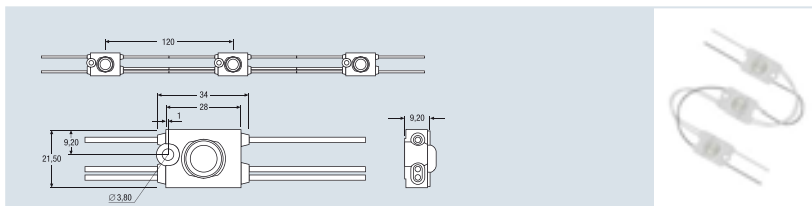
## Product benefits


- Flat Ray technology ensures uniform illumination for large LED spacing
- Much better application efficiency compared with systems without lenses
- Several options for quick and simple mounting: bolting, adhesion, snap-in
- Special robust encapsulation for permanent outdoor use in enclosed light boxes or profile lettering
- Outstanding module efficiency
- Fully integrated heat sink
- Extremely long lifetime

## Applications



- Signage (advertising and lettering)
- Backlighting of single-sided and double-sided light boxes (illumination from the back)
- Backlighting of large and/or deep profile lettering
- Indirect lighting and backlighting in general and architectural lighting

# BackLED M



Product reference	Product number	COLOR	V	W CHAIN	W MODULE	
BA01MA-W4F-765 <sup>1)</sup>	4008321640901	White	12	30.0	0.5	155
BA01MA-W4F-830 <sup>1)</sup>	4008321641021	White	12	30.0	0.5	155
BA01MA-R2 <sup>1)</sup>	4008321641144	Red	12	30.0	0.5	155
BA01MA-B2 <sup>1)</sup>	4008321641168	Blue	12	30.0	0.5	155

Product reference		K	Im CHAIN	Im MODULE	
BA01MA-W4F-765 <sup>1)</sup>	–	6500	1866	31.1	1
BA01MA-W4F-830 <sup>1)</sup>	–	3000	1386	23.1	1
BA01MA-R2 <sup>1)</sup>	623	–	972	16.2	1
BA01MA-B2 <sup>1)</sup>	468	–	414	6.9	1

<sup>1)</sup> Modules perfectly matched to 12 V OSRAM OPTOTRONIC® electronic control gear. For current photometric data and important safety, installation and application information go to [www.osram.com/signage](http://www.osram.com/signage). In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Chain of 60 LED modules with 1 LED each, connected with flexible cable
- The maximum length of a chain is 7.20 m
- IP66 protection for the LED modules
- Four different OPTOTRONIC® 12 V units available

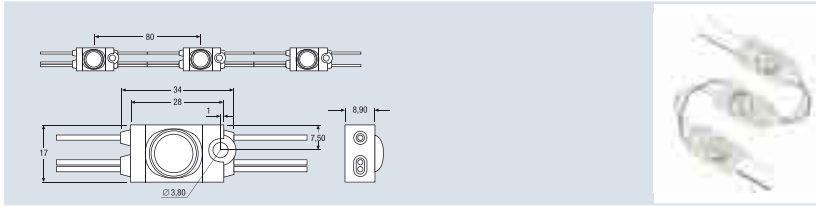
## Product benefits


- Flat Ray technology ensures uniform illumination for large LED spacing
- Much better application efficiency compared with systems without lenses
- Quick and easy mounting with screws or adhesive
- Special robust encapsulation for permanent outdoor use in enclosed profile lettering
- Outstanding module efficiency
- Fully integrated heat sink
- Extremely long lifetime

## Applications


- Signage (advertising and lettering)
- Backlighting of medium-size profile lettering
- Indirect lighting and backlighting in general and architectural lighting

# BackLED S



Product reference	Product number	COLOR	V	W CHAIN	W MODULE	
BA01SA-W4F-765 <sup>1)</sup>	4008321640666	White	12	15.0	0.17	155
BA01SA-W4F-830 <sup>1)</sup>	4008321640741	White	12	15.0	0.17	155
BA01SA-R2 <sup>1)</sup>	4008321640826	Red	12	15.0	0.17	155
BA01SA-O2 <sup>1)</sup>	4008321640840	Orange	12	15.0	0.17	155
BA01SA-G2 <sup>1)</sup>	4008321640864	Green	12	15.0	0.17	155
BA01SA-B2 <sup>1)</sup>	4008321640888	Blue	12	15.0	0.17	155

Product reference	$\lambda$	K	Im CHAIN	Im MODULE	
BA01SA-W4F-765 <sup>1)</sup>	–	6500	1341	14.9	1
BA01SA-W4F-830 <sup>1)</sup>	–	3000	1134	12.6	1
BA01SA-R2 <sup>1)</sup>	625	–	432	4.8	1
BA01SA-O2 <sup>1)</sup>	603	–	513	5.7	1
BA01SA-G2 <sup>1)</sup>	522	–	549	6.1	1
BA01SA-B2 <sup>1)</sup>	467	–	162	1.8	1

<sup>1)</sup> Modules perfectly matched to 12V OSRAM OPTOTRONIC® electronic control gear. I For current photometric data and important safety, installation and application information go to [www.osram.com/signage](http://www.osram.com/signage). In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Chain of 90 LED modules with 1 LED each, connected with flexible cable
- The maximum length of a chain is 7.20 m
- IP66 protection for the LED modules
- Four different OPTOTRONIC® 12 V units available

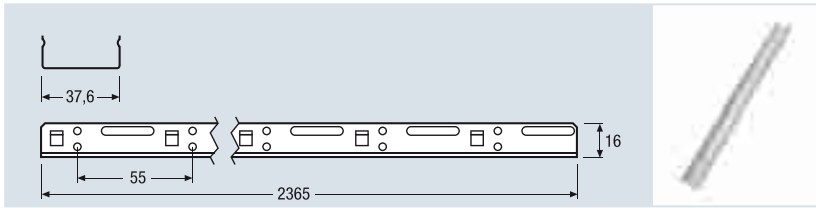
## Product benefits

- Flat Ray technology ensures uniform illumination for maximum LED spacing
- Much better application efficiency compared with systems without lenses
- Quick and easy mounting with screws or adhesive
- Special robust encapsulation for permanent outdoor use in enclosed profile lettering
- Outstanding module efficiency
- Fully integrated heat sink
- Extremely long lifetime

## Applications

- Signage (advertising and lettering)
- Backlighting of small and/or low-profile lettering
- Indirect lighting and backlighting in general and architectural lighting

## Mounting profile for BoxLED® and BackLED



### Product reference

BX-MP <sup>1)</sup>

### Product number

4008321981110



24

<sup>1)</sup> For current data and important safety, installation and application information see [www.osram.com/signage](http://www.osram.com/signage).

### Product characteristics

- Universal mounting profile for single-sided and double-sided light boxes
- Suitable for BoxLED® Side, BoxLED® Back and BackLED L
- Overall length 2365 mm – can be easily shortened to any length

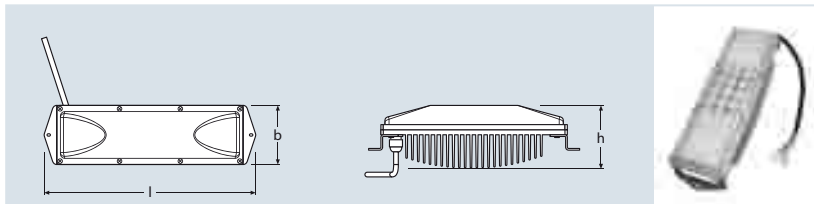
### Product benefits

- Quick and simple mounting of the profile using self-tapping screws or blind rivets
- Click & Play Quick and simple snap-in fixing of the LED modules – no tools required
- Anodized aluminum profile: robust and corrosion-proof
- Integrated 55 mm mounting grid for simple positioning of the LED modules
- Integrated fixing option for cables

### Applications

- Signage (advertising and lettering)
- Backlighting of single-sided and double-sided light boxes

# STREETlight Protect



Product reference	Product number	V	W	$\triangle$	K
SLP1-W4F-830-L75x130 <sup>1)</sup>	4008321 <b>964724</b>	24	23.0	75 x130	3000
SLP1-W4F-840-L75x130 <sup>1)</sup>	4008321 <b>964731</b>	24	23.0	75 x130	4000
SLP1-W4F-854-L75x130 <sup>1)</sup>	4008321 <b>964748</b>	24	23.0	75 x130	5400
SLP1-W4F-765-L75x130 <sup>1)</sup>	4008321 <b>964755</b>	24	23.0	75 x130	6500

Product reference	lm	Cable length (mm)	l (mm)	b (mm)	h (mm)	
SLP1-W4F-830-L75x130 <sup>1)</sup>	1050	600	250	70.0	73.7	4
SLP1-W4F-840-L75x130 <sup>1)</sup>	1050	600	250	70.0	73.7	4
SLP1-W4F-854-L75x130 <sup>1)</sup>	1050	600	250	70.0	73.7	4
SLP1-W4F-765-L75x130 <sup>1)</sup>	1430	650	250	70.0	73.7	4

<sup>1)</sup> For current photometric data and important safety, installation and application information see [www.osram.com/streetlight](http://www.osram.com/streetlight). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- Integrated lens/reflector system with a 75°x130° beam angle
- Choice of four color temperatures
- Type of protection IP66 to IEC 60529

## Product benefits

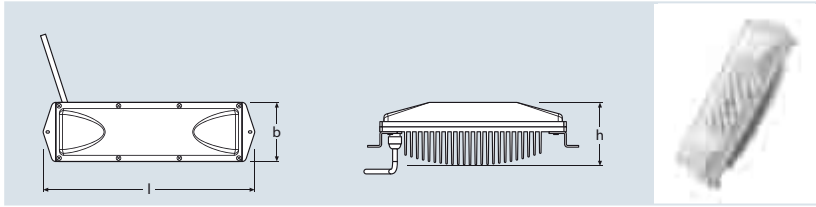
- Rapid design-in as optics and heat sinks are included or completely encapsulated
- Simple replacement of the LED module by means of M3 screws

## Applications


- LED module for technical and decorative street lighting



# HPML® Core



Product reference	Product number	A	W	$\alpha^\circ$	K
HPML CC-W4-765 L75X130 <sup>1)</sup>	4008321660893	0.4	18	75x130	6500
HPML CC-W4F-840 L75X130 <sup>1)</sup>	4008321579485	0.4	18	75x130	4000
HPML CC-W4F-830 L75X130 <sup>1)</sup>	4008321579362	0.4	18	75x130	3000
HPML CC-W4-765 L60X60 <sup>1)</sup>	4008321660831	0.4	18	60x60	6500
HPML CC-W4F-840 L60X60 <sup>1)</sup>	4008321630629	0.4	18	60x60	4000
HPML CC-W4F-830 L60X60 <sup>1)</sup>	4008321630506	0.4	18	60x60	3000
HPML CC-W4-765 L30X30 <sup>1)</sup>	4008321660763	0.4	18	30x30	6500
HPML CC-W4F-840 L30X30 <sup>1)</sup>	4008321630261	0.4	18	30x30	4000
HPML CC-W4F-830 L30X30 <sup>1)</sup>	4008321630148	0.4	18	30x30	3000

Product reference	lm	Cable length (mm)	l (mm)	b (mm)	h (mm)	
HPML CC-W4-765 L75X130 <sup>1)</sup>	1500	500	220	70	74	4
HPML CC-W4F-840 L75X130 <sup>1)</sup>	1010	500	220	70	74	4
HPML CC-W4F-830 L75X130 <sup>1)</sup>	1010	500	220	70	74	4
HPML CC-W4-765 L60X60 <sup>1)</sup>	1500	500	220	70	74	4
HPML CC-W4F-840 L60X60 <sup>1)</sup>	1010	500	220	70	74	4
HPML CC-W4F-830 L60X60 <sup>1)</sup>	1010	500	220	70	74	4
HPML CC-W4-765 L30X30 <sup>1)</sup>	1500	500	220	70	74	4
HPML CC-W4F-840 L30X30 <sup>1)</sup>	1010	500	220	70	74	4
HPML CC-W4F-830 L30X30 <sup>1)</sup>	1010	500	220	70	74	4

<sup>1)</sup> For current photometric data and important safety, installation and application information see [www.osram.com/streetlight](http://www.osram.com/streetlight). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

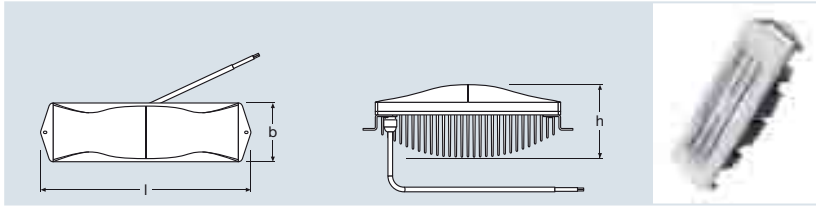
- High optical efficiency of 92 %
- Integrated lens/reflector system with beam angles of 75° x 130°, 60° x 60° or 30° x 30°
- Choice of three color temperatures
- Type of protection IP66 to IEC 60529

## Product benefits

- Rapid design-in because optics and heat sinks are included or completely encapsulated
- Constant-current control maximizes system efficiency
- Permissible input current 350-700 mA enables a balance to be made between system efficiency and costs
- Module design enables space-saving arrangement of multiple modules
- Simple replacement of the LED module by means of two M3 screws

## Applications

- Technical and decorative street lighting
- Flood lighting
- High and low-bay lighting



Product reference	Product number	A	W		K
HPML AD-W4F-830 L60X60 46V <sup>1)</sup>	4008321642875	0.4	36	60x60	3000
HPML AD-W4F-740 L60X60 46V <sup>1)</sup>	4008321643308	0.4	36	60x60	4000
HPML AD-W4F-765 L60X60 46V <sup>1)</sup>	4008321643124	0.4	36	60x60	6500
HPML AD-W4-765 L130X50 46V <sup>1)</sup>	4008321643063	0.4	36	130x50	6500

Product reference	lm	Cable length (mm)	l (mm)	b (mm)	h (mm)	
HPML AD-W4F-830 L60X60 46V <sup>1)</sup>	1860	500	220	70	87	4
HPML AD-W4F-740 L60X60 46V <sup>1)</sup>	1860	500	220	70	87	4
HPML AD-W4F-765 L60X60 46V <sup>1)</sup>	2500	500	220	70	87	4
HPML AD-W4-765 L130X50 46V <sup>1)</sup>	2500	500	220	70	87	4

<sup>1)</sup> For current photometric data and important safety, installation and application information see [www.osram.com/streetlight](http://www.osram.com/streetlight). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

### Product characteristics

- High optical efficiency of 92 %
- Integrated lens/reflector system with a beam angle of 60° x 60° (50° x 130° in preparation)
- Choice of three color temperatures
- Type of protection IP66 to IEC 60529

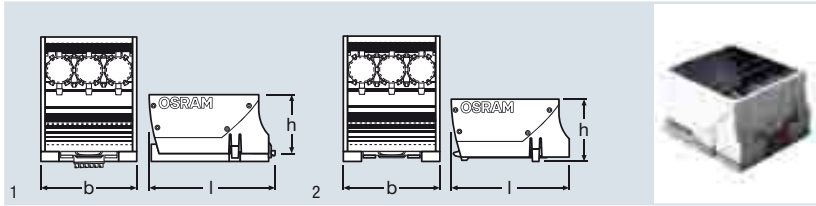
### Product benefits

- Rapid design-in because optics and heat sinks are included or completely encapsulated
- Constant-current control maximizes system efficiency
- Permissible input current 350-700 mA enables a balance to be made between system efficiency and costs
- Module design enables space-saving arrangement of multiple modules
- Simple replacement of the LED module by means of two M3 screws

### Applications

- Flood lighting
- High and low-bay lighting
- (Street lighting in preparation)

# STREETlight Advanced



Product reference	Product number	V	W		K
SLA1-SL-105-830-L80x140 <sup>1)</sup>	4008321960085	24	29.0	80 x 140	3000
SLA1-SL-123-742-L80x140 <sup>1)</sup>	4008321965981	24	29.0	80 x 140	4200
SLA1-SL-143-760-L80x140 <sup>1)</sup>	4008321960061	24	29.0	80 x 140	6000
SLA1-L-105-830-L80x140 <sup>2)</sup>	4008321958877	24	29.0	80 x 140	3000
SLA1-L-123-742-L80x140 <sup>2)</sup>	4008321965967	24	29.0	80 x 140	4200
SLA1-L-143-760-L80x140 <sup>2)</sup>	4008321958853	24	29.0	80 x 140	6000

Product reference	lm	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$		
SLA1-SL-105-830-L80x140 <sup>1)</sup>	1050	98	72.0	50.8	20	1
SLA1-SL-123-742-L80x140 <sup>1)</sup>	1230	98	72.0	50.8	20	1
SLA1-SL-143-760-L80x140 <sup>1)</sup>	1430	98	72.0	50.8	20	1
SLA1-L-105-830-L80x140 <sup>2)</sup>	1050	98	72.0	44.8	20	2
SLA1-L-123-742-L80x140 <sup>2)</sup>	1230	98	72.0	44.8	20	2
SLA1-L-143-760-L80x140 <sup>2)</sup>	1430	98	72.0	44.8	20	2

<sup>1)</sup> For current photometric data and important safety, installation and application information see [www.osram.com/streetlight](http://www.osram.com/streetlight). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.  
<sup>2)</sup> L version without base (spare part)

## Product characteristics

- Integrated lens/reflector system with an 80° x 140° beam angle
- Choice of three color temperatures

## Product benefits

- Rapid design-in as streetlighting optics are included
- Extremely simple replacement of the LED module – no tools required
- Uniform appropriately limited street lighting with no scattered light, in compliance with EN 13201
- Extremely compact dimensions – also fits in existing fixtures

## Applications

- LED module for technical and decorative street lighting



# The PrevaLED® light engine concept

## What is the difference between a light engine and an LED module?

Compared to a normal LED module the light engine concept aims to keep certain parameters constant across several product generations. The most important parameters are as follows:

- Mechanical: The geometry and fixing points of the module remain constant
- Optical: The lumen packages and beam characteristics remain constant

The PrevaLED® light engine concept from OSRAM also includes the development of perfectly matched components. For each LED module there are dedicated control gear and connecting cables available.



### PrevaLED® LED modules

PrevaLED® LED modules are available in different versions for different lumen outputs and color rendering.



### OPTOTRONIC® control gear

OPTOTRONIC® units provide the basis for the optimum use of PrevaLED® LED modules.



### Connecting cable

Used for correct polarity connection of the individual PrevaLED® LED modules with the control gear.

## What are the benefits?

Light engines are powerful and highly efficient and offer enormous freedom for fixture designers. Thanks to defined interfaces they are the ideal platform for future-proof developments. On the one hand they reduce the complexity of the LED luminaires thanks to their constant parameters, and on the other hand their perfectly matched components ensure faultfree operation.

The geometry and luminous flux of the individual light engines remain constant, and advances in LED technology lead to improvements in the efficiency of the system or to cost reductions. A luminaire that has been designed on the basis of a particular light engine therefore automatically benefits from development progress without the need for any costly modifications to the basic design.

## Background information: Standardization of LED light engines

The Zhaga consortium is an international cooperation of luminaire manufacturers, lamp manufacturers, producers of LED modules and suppliers in the lighting industry. The Zhaga consortium was set up to standardize LED light sources (LED light engines).



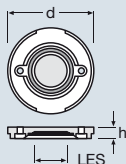
Interchangeability of LED light engines is achieved by defining the important parameters for the interfaces, while retaining freedom for further innovations in LED and driver technology. The Zhaga interface specifications cover the physical dimensions as well as the photometric, electrical and thermal properties of the different LED light engines.

The Zhaga consortium was established in February 2010 and now includes more than 160 companies. OSRAM AG is a full member. The members meet regularly in different regions of the world. Large parts of the new PrevaLED® Core portfolio cover the Zhaga Specification Book 3 for "Spot LED Light Engine with Separate Electronic Control Gear".

For more information go to [www.zhagastandard.org](http://www.zhagastandard.org)

[www.osram.com/prevaled](http://www.osram.com/prevaled)

# PrevaLED® Core – CRI >90







LES - Light Emitting Surface



Product reference	Product number	W	lm	lm/W	W SYSTEM	lm/W SYSTEM
LEP-3000-930-HD-C <sup>1)</sup>	4008321 <b>966070</b>	39	3000	77	43	70
LEP-3000-840-HD-C <sup>1)</sup>	4008321 <b>966094</b>	39	3000	77	43	70
LEP-2100-930-HD-C <sup>1)</sup>	4008321 <b>963352</b>	25	2100	84	28	75
LEP-2100-840-HD-C <sup>1)</sup>	4008321 <b>963369</b>	25	2100	84	28	75
LEP-1500-930-HD-C <sup>1)</sup>	4008321 <b>644466</b>	19	1500	84	16	75
LEP-1500-840-HD-C <sup>1)</sup>	4008321 <b>644480</b>	19	1500	84	16	75
LEP-800-930-HD-C <sup>1)</sup>	4008321 <b>963390</b>	9	800	88	11	75
LEP-800-840-HD-C <sup>1)</sup>	4008321 <b>963406</b>	9	800	88	11	75
LEP-3000-927-C-Z2 <sup>1)</sup>	4008321 <b>993861</b>	36	3000	84	41	72
LEP-3000-930-C-Z2 <sup>1)</sup>	4008321 <b>993885</b>	33	3000	90	38	79
LEP-3000-935-C-Z2 <sup>1)</sup>	4008321 <b>993908</b>	33	3000	90	37	82
LEP-3000-940-C-Z2 <sup>1)</sup>	4008321 <b>990273</b>	32	3000	93	37	82
LEP-2000-927-C-Z2 <sup>1)</sup>	4008321 <b>990297</b>	22	2000	90	26	78
LEP-2000-930-C-Z2 <sup>1)</sup>	4008321 <b>990310</b>	21	2000	97	24	84
LEP-2000-935-C-Z2 <sup>1)</sup>	4008321 <b>990334</b>	20	2000	100	23	87
LEP-2000-940-C-Z2 <sup>1)</sup>	4008321 <b>990358</b>	20	2000	101	23	88
LEP-1500-927-C-Z2 <sup>1)</sup>	4008321 <b>990372</b>	21	1500	72	24	62
LEP-1500-930-C-Z2 <sup>1)</sup>	4008321 <b>990396</b>	19	1500	80	23	65
LEP-1500-935-C-Z2 <sup>1)</sup>	4008321 <b>990419</b>	19	1500	80	22	68
LEP-1500-940-C-Z2 <sup>1)</sup>	4008321 <b>990433</b>	19	1500	80	22	68
LEP-800-927-C-Z2 <sup>1)</sup>	4008321 <b>990457</b>	11	800	73	13	61
LEP-800-930-C-Z2 <sup>1)</sup>	4008321 <b>990471</b>	11	800	73	13	61
LEP-800-935-C-Z2 <sup>1)</sup>	4008321 <b>990495</b>	11	800	73	13	61
LEP-800-940-C-Z2 <sup>1)</sup>	4008321 <b>990518</b>	11	800	73	13	61

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). † For current photometric data and important safety, installation and application information go to [www.osram.com/prevalled](http://www.osram.com/prevalled). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

Product reference	K	Ra		Initial SDCM	 d [mm]	 h [mm]	
LEP-3000-930-HD-C <sup>1)</sup>	3000	>90	>130	<3	50	8,6	20
LEP-3000-840-HD-C <sup>1)</sup>	4000	>85	>130	<3	50	8,6	20
LEP-2100-930-HD-C <sup>1)</sup>	3000	>90	>130	<3	50	8,6	20
LEP-2100-840-HD-C <sup>1)</sup>	4000	>85	>130	<3	50	8,6	20
LEP-1500-930-HD-C <sup>1)</sup>	3000	>90	>130	<3	50	8,6	20
LEP-1500-840-HD-C <sup>1)</sup>	4000	>85	>130	<3	50	8,6	20
LEP-800-930-HD-C <sup>1)</sup>	3000	>90	>130	<3	50	8,6	20
LEP-800-840-HD-C <sup>1)</sup>	4000	>85	>130	<3	50	8,6	20
LEP-3000-927-C-Z2 <sup>1)</sup>	2700	>90	120	<3	50	7,2	20
LEP-3000-930-C-Z2 <sup>1)</sup>	3000	>90	120	<3	50	7,2	20
LEP-3000-935-C-Z2 <sup>1)</sup>	3500	>90	120	<3	50	7,2	20
LEP-3000-940-C-Z2 <sup>1)</sup>	4000	>90	120	<3	50	7,2	20
LEP-2000-927-C-Z2 <sup>1)</sup>	2700	>90	120	<3	50	7,2	20
LEP-2000-930-C-Z2 <sup>1)</sup>	3000	>90	120	<3	50	7,2	20
LEP-2000-935-C-Z2 <sup>1)</sup>	3500	>90	120	<3	50	7,2	20
LEP-2000-940-C-Z2 <sup>1)</sup>	4000	>90	120	<3	50	7,2	20
LEP-1500-927-C-Z2 <sup>1)</sup>	2700	>90	120	<3	50	7,2	20
LEP-1500-930-C-Z2 <sup>1)</sup>	3000	>90	120	<3	50	7,2	20
LEP-1500-935-C-Z2 <sup>1)</sup>	3500	>90	120	<3	50	7,2	20
LEP-1500-940-C-Z2 <sup>1)</sup>	4000	>90	120	<3	50	7,2	20
LEP-800-927-C-Z2 <sup>1)</sup>	2700	>90	120	<3	50	7,2	20
LEP-800-930-C-Z2 <sup>1)</sup>	3000	>90	120	<3	50	7,2	20
LEP-800-935-C-Z2 <sup>1)</sup>	3500	>90	120	<3	50	7,2	20
LEP-800-940-C-Z2 <sup>1)</sup>	4000	>90	120	<3	50	7,2	20

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). | For current photometric data and important safety, installation and application information go to [www.osram.com/prevaled](http://www.osram.com/prevaled). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



PrevaLED® Core light engines are offered as a system comprising perfectly matched standardized LED modules, ECGs and connecting cables.

### Product characteristics

- Z2 types comply with the standards of the Zhaga consortium for spotlight modules with a diameter of 50 mm
- Z2 types have an extremely uniform luminance distribution (Zhaga Uniformity U > 0.9)
- Light-emitting surface as per Zhaga Book 3: LES 9 for LEP-800, LES 19 for LEP-1500 and LEP-2000 and LES 23 for LEP-3000
- Available with lumen packages of 800 lm to 3000 lm in light colors from 2700 K to 4000 K
- Module efficiency of up to 101 lm/W, system efficiency incl. ECG and temperature losses up to 88 lm/W
- CRI > 90 for Z2 types
- Same dimensions for the light engine irrespective of the lumen package
- Use with OPTOTRONIC® OTp ECG
- Connection with prepared cable
- No UV radiation
- No heat (IR) emitted in the direction of the light
- Life of up to 50,000 hours (L70/B50) and 5-year system guarantee



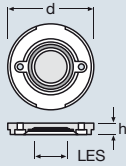
### Product benefits

- Fixed interfaces and dimensions provide the basis for future-proof designs with reduced fixture development costs
- Platform with fixed lumen packages enable the modules to be replaced at a later date
- Great freedom of design thanks to maximum optical performance and flexibility
- High quality of light with high CRI (>90 for Z2 types) at full system efficiency
- Optimized uniformity of light thanks to PreMix accessory (for HD types only)
- Reduction in UV-related and IR-related deterioration
- Enhanced safety thanks to hot restrike (the LED module is automatically switched back on by the ECG after a power outage)
- Reduced maintenance costs thanks to long life and system guarantee

### Applications

- Ideal for spotlight applications in retail outlets
- Downlights in corridors and offices

# PrevaLED® Core – CRI 80







LES - Light Emitting Surface



Product reference	Product number	W	lm	lm/W	W SYSTEM	lm/W SYSTEM
LEP-5000-830-C-Z2 <sup>1)</sup>	4008321 <b>993649</b>	58	5000	86	67	75
LEP-5000-835-C-Z2 <sup>1)</sup>	4008321 <b>993663</b>	57	5000	87	66	76
LEP-5000-840-C-Z2 <sup>1)</sup>	4008321 <b>993687</b>	56	5000	89	65	77
LEP-4000-827-C-Z2 <sup>1)</sup>	4008321 <b>993700</b>	46	4000	87	54	74
LEP-4000-830-C-Z2 <sup>1)</sup>	4008321 <b>993724</b>	42	4000	96	49	82
LEP-4000-835-C-Z2 <sup>1)</sup>	4008321 <b>993748</b>	41	4000	97	48	83
LEP-4000-840-C-Z2 <sup>1)</sup>	4008321 <b>993762</b>	40	4000	99	48	84
LEP-3000-827-C-Z2 <sup>1)</sup>	4008321 <b>993786</b>	31	3000	97	36	84
LEP-3000-830-C-Z2 <sup>1)</sup>	4008321 <b>993809</b>	29	3000	104	33	90
LEP-3000-835-C-Z2 <sup>1)</sup>	4008321 <b>993823</b>	29	3000	107	32	93
LEP-3000-840-C-Z2 <sup>1)</sup>	4008321 <b>993847</b>	28	3000	108	32	94
LEP-2000-827-C-Z2 <sup>1)</sup>	4008321 <b>745422</b>	28	2000	72	32	62
LEP-2000-830-C-Z2 <sup>1)</sup>	4008321 <b>745361</b>	25	2000	79	29	68
LEP-2000-835-C-Z2 <sup>1)</sup>	4008321 <b>745446</b>	25	2000	81	29	70
LEP-2000-840-C-Z2 <sup>1)</sup>	4008321 <b>745408</b>	24	2000	82	28	71
LEP-1500-827-C-Z2 <sup>1)</sup>	4008321 <b>745545</b>	19	1500	80	22	67
LEP-1500-830-C-Z2 <sup>1)</sup>	4008321 <b>745569</b>	17	1500	87	21	73
LEP-1500-835-C-Z2 <sup>1)</sup>	4008321 <b>745583</b>	17	1500	89	20	74
LEP-1500-840-C-Z2 <sup>1)</sup>	4008321 <b>745606</b>	17	1500	90	20	75
LEP-800-827-C-Z2 <sup>1)</sup>	4008321 <b>745460</b>	10	800	79	12	65
LEP-800-830-C-Z2 <sup>1)</sup>	4008321 <b>745484</b>	10	800	79	12	65
LEP-800-835-C-Z2 <sup>1)</sup>	4008321 <b>745507</b>	10	800	79	12	65
LEP-800-840-C-Z2 <sup>1)</sup>	4008321 <b>745521</b>	10	800	84	12	69

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). | For current photometric data and important safety, installation and application information go to [www.osram.com/prevaled](http://www.osram.com/prevaled). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

Product reference	K	Ra		Initial SDCM	 d [mm]	 h [mm]	
LEP-5000-830-C-Z2 <sup>1)</sup>	3000	83	120	<3	50	7.2	20
LEP-5000-835-C-Z2 <sup>1)</sup>	3500	83	120	<3	50	7.2	20
LEP-5000-840-C-Z2 <sup>1)</sup>	4000	83	120	<3	50	7.2	20
LEP-4000-827-C-Z2 <sup>1)</sup>	2700	83	120	<3	50	7.2	20
LEP-4000-830-C-Z2 <sup>1)</sup>	3000	83	120	<3	50	7.2	20
LEP-4000-835-C-Z2 <sup>1)</sup>	3500	83	120	<3	50	7.2	20
LEP-4000-840-C-Z2 <sup>1)</sup>	4000	83	120	<3	50	7.2	20
LEP-3000-827-C-Z2 <sup>1)</sup>	2700	83	120	<3	50	7.2	20
LEP-3000-830-C-Z2 <sup>1)</sup>	3000	83	120	<3	50	7.2	20
LEP-3000-835-C-Z2 <sup>1)</sup>	3500	83	120	<3	50	7.2	20
LEP-3000-840-C-Z2 <sup>1)</sup>	4000	83	120	<3	50	7.2	20
LEP-2000-827-C-Z2 <sup>1)</sup>	2700	83	120	<3	50	7.2	20
LEP-2000-830-C-Z2 <sup>1)</sup>	3000	83	120	<3	50	7.2	20
LEP-2000-835-C-Z2 <sup>1)</sup>	3500	83	120	<3	50	7.2	20
LEP-2000-840-C-Z2 <sup>1)</sup>	4000	83	120	<3	50	7.2	20
LEP-1500-827-C-Z2 <sup>1)</sup>	2700	83	120	<3	50	7.2	20
LEP-1500-830-C-Z2 <sup>1)</sup>	3000	83	120	<3	50	7.2	20
LEP-1500-835-C-Z2 <sup>1)</sup>	3500	83	120	<3	50	7.2	20
LEP-1500-840-C-Z2 <sup>1)</sup>	4000	83	120	<3	50	7.2	20
LEP-800-827-C-Z2 <sup>1)</sup>	2700	83	120	<3	50	7.2	20
LEP-800-830-C-Z2 <sup>1)</sup>	3000	83	120	<3	50	7.2	20
LEP-800-835-C-Z2 <sup>1)</sup>	3500	83	120	<3	50	7.2	20
LEP-800-840-C-Z2 <sup>1)</sup>	4000	83	120	<3	50	7.2	20

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). <sup>1</sup> For current photometric data and important safety, installation and application information go to [www.osram.com/prevaled](http://www.osram.com/prevaled). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

PrevaLED® Core light engines are offered as a system comprising perfectly matched standardized LED modules, ECGs and connecting cables.

### Product characteristics

- Z2 types comply with the standards of the Zhaga consortium for spotlight modules with a diameter of 50 mm
- Z2 types have an extremely uniform luminance distribution (Zhaga Uniformity U > 0.9)
- Light-emitting surface as per Zhaga Book 3: LES 9 for LEP-800, LES 19 for LEP-1500 and LEP-2000 and LES 23 for LEP-3000, LEP-4000 and LEP-5000
- Available with lumen packages of 800 lm to 5000 lm in light colors from 2700 K to 4000 K
- Module efficiency of 72-108 lm/W, system efficiency incl. ECG and temperature losses up to 94 lm/W
- Use with OPTOTRONIC® OTp ECG
- Connection with prepared cable
- No UV radiation
- No heat (IR) emitted in the direction of the light
- Life of up to 50,000 hours (L70/B50) and 5-year system guarantee



### Product benefits

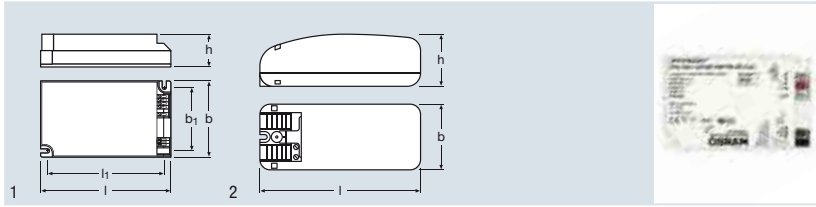
- Even more efficient fixtures can be developed for additional energy savings
- Simple interchangeability thanks to the same dimensions and constant lumen packages
- Wide variety of fixture designs thanks to a broad portfolio
- Smaller light emission surface and positioning close to the reflector enables better optical handling
- Level light emission surface and excellent uniformity thanks to CoB (Chip on Board) technology
- No diffuser (e.g. LEP PreMix) necessary
- Reduction in UV-related and IR-related deterioration
- Enhanced safety thanks to hot restrike (the LED module is automatically switched back on by the ECG after a power outage)
- Reduced maintenance costs thanks to long life and system guarantee

### Applications

- Ideal for spotlight applications in retail outlets
- Downlights in corridors and offices



# OPTOTRONIC® control gear for PrevaLED® Core



Product reference	Product number	W	CONTROL	V/W AUXILIARY OUTPUT
OTp 60/220-240/2000 FAN	4008321990532	60	–	12/1
OTp DALI 45/220-240/700 HD FAN	4008321659880	45	DALI	5/1
OTp 45/220-240/700 HD FAN	4008321633705	45	–	5/1
OTp 45/220-240/700 HD	4008321966117	45	–	–
OTp DALI 35/220-240/700 HD	4008321963413	35	DALI	–
OTp 35/220-240/700 HD	4008321963420	35	–	–
OTp 35/220-240/700	4008321962218	35	–	–
OTp 15/220-240/700 HD	4008321962225	15	–	–

Product reference	T <sub>a</sub>	l [mm]	b [mm]	h [mm]		No.
OTp 60/220-240/2000 FAN	-20...50	148	60	35	20	–
OTp DALI 45/220-240/700 HD FAN	-20...50	123	79	33	20	1
OTp 45/220-240/700 HD FAN	-20...50	123	79	33	20	1
OTp 45/220-240/700 HD	-20...50	123	79	33	20	1
OTp DALI 35/220-240/700 HD	-20...50	123	79	33	20	1
OTp 35/220-240/700 HD	-20...50	123	79	33	20	1
OTp 35/220-240/700	-20...50	123	79	33	20	1
OTp 15/220-240/700 HD	-20...50	109	50	35	20	2

## Product characteristics

- DALI versions available
- Auxiliary supply for active cooling, 5 V for OTp 45 FAN and 12 V for OTp 60
- Optional cable clamp for strain relief

## Product benefits

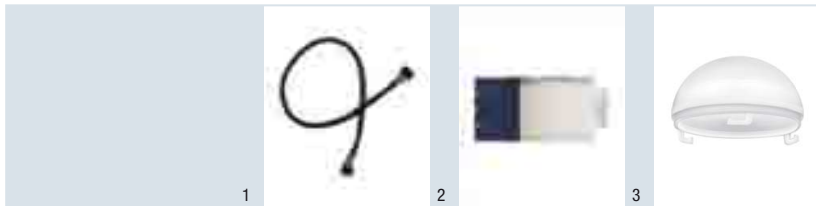
- Dedicated ECG for PrevaLED® Core light engine



Light engine / control gear combination for PrevaLED® Core	OTp 60 FAN	OTp DALI 45 HD Fan	OTp 45 HD Fan	OTp 45 HD	OTp DALI 35 HD	OTp 35 HD	OTp 35	OTp 15 HD
PrevaLED® Core – CRI >90								
LEP-3000-xxx-HD-C	×	●	●	●	×	×	×	×
LEP-3000-xxx-C-Z2	×	●	●	●	×	×	×	×
LEP-2100-xxx-HD-C	×	○	○	○	●	●	×	×
LEP-2000-xxx-C-Z2	×	●	●	●	●	●	●	×
LEP-1500-xxx-HD-C	×	○	○	○	●	●	×	×
LEP-1500-xxx-C-Z2	×	●	●	●	●	●	●	×
LEP-800-xxx-HD-C	×	○	○	○	○	○	×	●
LEP-800-xxx-C-Z2	×	○	○	○	●	●	×	○
PrevaLED® Core – CRI 80								
LEP-5000-8xx-C-Z2	●	×	×	×	×	×	×	×
LEP-4000-8xx-C-Z2	●	×	×	×	×	×	×	×
LEP-3000-8xx-C-Z2	×	●	●	●	×	×	×	×
LEP-2000-8xx-C-Z2	×	●	●	●	●	●	●	×
LEP-1500-8xx-C-Z2	×	●	●	●	●	●	●	×
LEP-800-8xx-C-Z2	×	○	○	○	●	●	×	○

- Recommended combination
- Possible combination
- × Not possible

ECG and light engine function 1:1

# Accessories for PrevaLED® Core



Product reference	Product number		
OTp cable 400mm <sup>1)</sup>	4008321966131	20	1
OTp cable 800mm <sup>1)</sup>	4008321590565	20	1
OTp cable Z2 400mm <sup>1)</sup>	4008321679543	20	1
OTp cable Z2 800mm <sup>1)</sup>	4008321679512	20	1
OTp cable Z2 OW 800mm	4008321991676	20	1
Cable clamp OTp 45, OTp 35 <sup>1)</sup>	4008321966155	10	2
LEP PreMix <sup>1)</sup>	4008321674982	10	3

<sup>1)</sup> For current data and important safety, installation and application information see [www.osram.com/prevaled](http://www.osram.com/prevaled).

Light engine/accessory combination for PrevaLED® Core	OTp cable 400mm	OTp cable 800mm	OTp cable Z2 400mm	OTp cable Z2 800mm	OTp cable Z2 OW 800mm	LEP PreMix	Cable clamp
OTp types							
OTp 60 <sup>1)</sup>	×	×	×	×	●	×	×
OTp 45 HD types <sup>1)</sup>	●	●	●	●	×	×	optional
OTp 35 HD types <sup>1)</sup>	●	●	●	●	×	×	optional
OTp 35 <sup>1)</sup>	●	●	●	●	×	×	optional
OTp 15 HD <sup>1)</sup>	●	●	●	●	×	×	×
PrevaLED Core® – CRI >90							
LEP-xxxx-xxx-HD-C <sup>1)</sup>	●	●	×	×	×	optional	×
LEP-800-3000-xxx-C-Z2 <sup>1)</sup>	×	×	×	●	●	×	×
PrevaLED Core® – CRI 80							
LEP-800-3000-xxx-C-Z2 <sup>1)</sup>	×	×	●	●	●	×	×

● Recommended combination  
 × Not possible

<sup>1)</sup> For current data and important safety, installation and application information see [www.osram.com/prevaled](http://www.osram.com/prevaled).

## Cables

- In two lengths according to the fixture design
- Protected against reverse voltage
- Connects the individual PrevaLED® Core light engine to the power supply

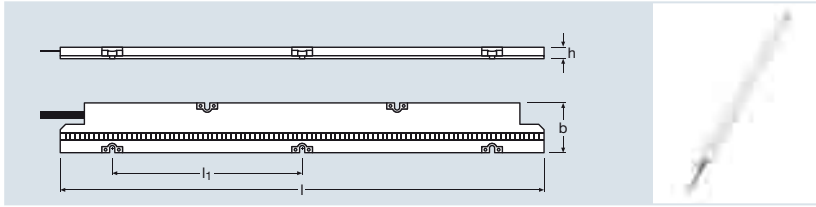
## Cable clamp (optional)

- No need for external strain relief
- ECG with strain relief suitable for separate installation
- ECG is clicked in

## LEP PreMix

- Tailored for HD types
- Diffuse interior and structured outer surface
- Durable glass construction
- No impact on module lifetime
- Optimized light homogeneity for reflector-based applications
- Reduces color fringes and multiple shadows
- Snap mounting in module locking ring
- Additional protection for the module against touching

# PrevaLED® Linear



Product reference	Product number	W	Im	lm/W	W <sub>SYSTEM</sub>	lm/W <sub>SYSTEM</sub>	K
LEP-1000-830-L <sup>1)</sup>	4008321975638	9 <sup>2)</sup>	1000 <sup>2)</sup>	118 <sup>2)</sup>	10 <sup>2)</sup>	100 <sup>2)</sup>	3000
LEP-1000-840-L <sup>1)</sup>	4008321971944	9 <sup>2)</sup>	1000 <sup>2)</sup>	118 <sup>2)</sup>	10 <sup>2)</sup>	100 <sup>2)</sup>	4000
LEP-1000-850-L <sup>1)</sup>	4008321975652	9 <sup>2)</sup>	1000 <sup>2)</sup>	118 <sup>2)</sup>	10 <sup>2)</sup>	100 <sup>2)</sup>	5000
LEP-2000-830-L <sup>1)</sup>	4008321975690	18 <sup>2)</sup>	2000 <sup>2)</sup>	118 <sup>2)</sup>	20 <sup>2)</sup>	100 <sup>2)</sup>	3000
LEP-2000-840-L <sup>1)</sup>	4008321975676	18 <sup>2)</sup>	2000 <sup>2)</sup>	118 <sup>2)</sup>	20 <sup>2)</sup>	100 <sup>2)</sup>	4000
LEP-2000-850-L <sup>1)</sup>	4008321975713	18 <sup>2)</sup>	2000 <sup>2)</sup>	118 <sup>2)</sup>	20 <sup>2)</sup>	100 <sup>2)</sup>	5000

Product reference	R <sub>a</sub>	∠°	Initial SDCM	l [mm]	h [mm]	b [mm]	h [mm]	
LEP-1000-830-L <sup>1)</sup>	>80	120	<3	280	110	28	6.6	12
LEP-1000-840-L <sup>1)</sup>	>80	120	<3	280	110	28	6.6	12
LEP-1000-850-L <sup>1)</sup>	>80	120	<3	280	110	28	6.6	12
LEP-2000-830-L <sup>1)</sup>	>80	120	<3	280	110	28	6.6	12
LEP-2000-840-L <sup>1)</sup>	>80	120	<3	280	110	28	6.6	12
LEP-2000-850-L <sup>1)</sup>	>80	120	<3	280	110	28	6.6	12

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). | For current photometric data and important safety, installation and application information go to [www.osram.com/prevald-linear](http://www.osram.com/prevald-linear). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

<sup>2)</sup> Tolerance due to LED bin

## Product characteristics

- SELV system
- Automatic detection of the number of LED modules
- OTp 40 L compatible with 2 x 2000 lm or 4 x 1000 lm modules
- Module cover with integrated reflector
- T<sub>c</sub> = 65°C
- Lifetime (L80 B50): 50,000 h
- Accessories included (end cap, flexible bridge)

## Product benefits

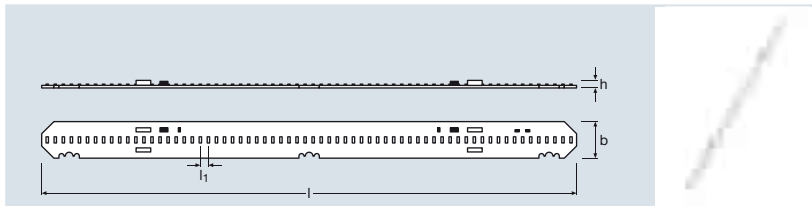
- Efficiency: up to 100 lm/W (system), up to 118 lm/W (module)
- Uniform distribution of light thanks to 3.7 mm LED pitches
- Consistent white light < 3 SDCM
- Seamless: no shadows between the modules
- Different mounting options for good thermal dissipation
- SELV concept for luminaires with high safety requests

## Applications

- Industry (warehouses, stockrooms, retail outlets, etc.)
- Offices (corridors etc.)



# PrevaLED® Linear Slim



Product reference	Product number	W	Im	lm/W	W <sub>SYSTEM</sub>	lm/W <sub>SYSTEM</sub>	K
LEP-630-830-LS <sup>1)</sup>	4008321978844	5.6 <sup>2)</sup>	630 <sup>2)</sup>	112 <sup>2)</sup>	6.3 <sup>2)</sup>	100 <sup>2)</sup>	3000
LEP-630-840-LS <sup>1)</sup>	4008321978820	5.4 <sup>2)</sup>	630 <sup>2)</sup>	117 <sup>2)</sup>	6.1 <sup>2)</sup>	103 <sup>2)</sup>	4000
LEP-1000-830-LS <sup>1)</sup>	4008321978882	10.5 <sup>2)</sup>	1000 <sup>2)</sup>	95 <sup>2)</sup>	11.9 <sup>2)</sup>	84 <sup>2)</sup>	3000
LEP-1000-840-LS <sup>1)</sup>	4008321978868	8.9 <sup>2)</sup>	1000 <sup>2)</sup>	112 <sup>2)</sup>	10 <sup>2)</sup>	100 <sup>2)</sup>	4000
LEP-2000-830-LS <sup>1)</sup>	4008321978929	17.7 <sup>2)</sup>	2000 <sup>2)</sup>	113 <sup>2)</sup>	20 <sup>2)</sup>	100 <sup>2)</sup>	3000
LEP-2000-840-LS <sup>1)</sup>	4008321978905	17.4 <sup>2)</sup>	2000 <sup>2)</sup>	115 <sup>2)</sup>	19.8 <sup>2)</sup>	101 <sup>2)</sup>	4000

Product reference	R <sub>a</sub>	∠	Initial SDCM	l [mm]	h [mm]	b [mm]	h [mm]	
LEP-630-840-LS <sup>1)</sup>	>80	120	< 3	279.4	125	20	5.7	16
LEP-630-830-LS <sup>1)</sup>	>80	120	< 3	279.4	125	20	5.7	16
LEP-1000-840-LS <sup>1)</sup>	>80	120	< 3	279.4	125	20	5.7	16
LEP-1000-830-LS <sup>1)</sup>	>80	120	< 3	279.4	125	20	5.7	16
LEP-2000-840-LS <sup>1)</sup>	>80	120	< 3	279.4	125	20	5.7	16
LEP-2000-830-LS <sup>1)</sup>	>80	120	< 3	279.4	125	20	5.7	16

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). | For current photometric data and important safety, installation and application information go to [www.osram.com/prevald-linear](http://www.osram.com/prevald-linear). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

<sup>2)</sup> Tolerance due to LED bin

## Product characteristics

- Minimized geometry of the control gear thanks to non-SELV concept
- Automatic detection of the number of LED modules
- OTP 45 DALI LS compatible with 2x2000 lm, 5x1000 lm or 8x630 lm modules
- Module cover with integrated reflector
- T<sub>c</sub> = 65°C
- Lifetime (L80 B50): 50,000 h
- AWG 20 IDC connectors for automatic wiring

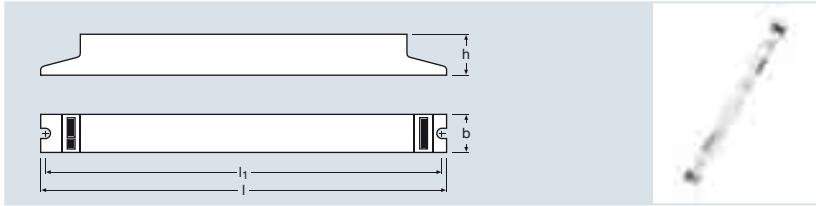
## Benefits

- Efficiency: up to 100 lm/W (system), up to 118 lm/W (module)
- Uniform distribution of light thanks to 4.2 mm LED pitches
- Consistent white light < 3 SDCM
- Seamless: no shadows between the modules
- Compact control gear thanks to non-SELV system

## Applications

- Offices (workplace lighting, corridors etc.)
- Industry (warehouses, stockrooms, retail outlets, etc.)

## OPTOTRONIC® control gear for PrevaLED® Linear and PrevaLED® Linear Slim



Product reference	Product number	W	CONTROL	T <sub>a</sub>
OTp 40/220-240/700 L	4008321975737	40	-	-20...50
OTp DALI 45/220-240/400 LS <sup>1)</sup>	4008321975751	45	DALI	-20...50

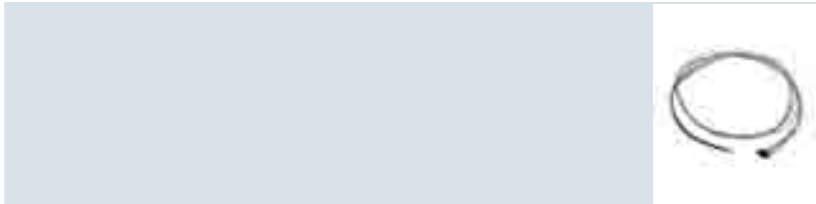
Product reference	l [mm]	b [mm]	h [mm]	
OTp 40/220-240/700 L	360	30	21	20
OTp DALI 45/220-240/400 LS <sup>1)</sup>	360	30	21	20

<sup>1)</sup> PrevaLED® Linear Slim

### Product characteristics

- OTp 40 L compatible with up to 2x2000 lm or 4x1000 lm
- OTp 45 DALI LS compatible with up to 2x2000 lm, 5x1000 lm or 8x630 lm modules
- Power factor 0.9
- Minimized geometry of the control gear

## Accessories for PrevaLED® Linear



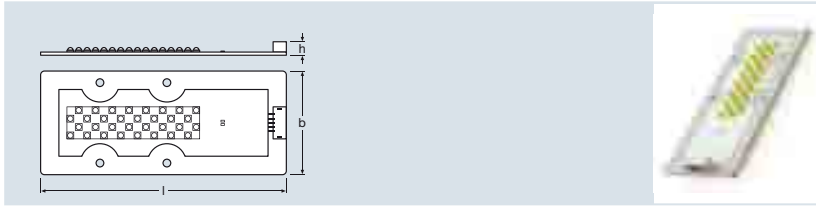
Product reference	Product number	Cable length [mm]	
OTp cable L 800mm <sup>1)</sup>	4008321978967	800	20

<sup>1)</sup> For current data and important safety, installation and application information see [www.osram.com/prevaled-linear](http://www.osram.com/prevaled-linear).

### Product characteristics

- Protected against reverse voltage
- Connects the individual PrevaLED® Linear module to the power supply

# PrevaLED® Compact



Product reference	Product number	W	lm	lm/W	K
LEP-2500-740-CT <sup>1) 2)</sup>	4008321989017	22	2500	112	4000
LEP-4000-740-CT <sup>1) 2)</sup>	4008321989093	32	4000	124	4000
LEP-4000-657-CT <sup>1) 2)</sup>	4008321989109	31	4000	127	5700
LEP-6000-740-CT <sup>1) 2)</sup>	4008321989116	56	6000	107	4000
LEP-6000-657-CT <sup>1) 2)</sup>	4008321989123	50	6000	120	5700

Product reference	R <sub>a</sub>	l [mm]	b [mm]	h [mm]	
LEP-2500-740-CT <sup>1) 2)</sup>	70	95	39	8	20
LEP-4000-740-CT <sup>1) 2)</sup>	70	110	46	8	20
LEP-4000-657-CT <sup>1) 2)</sup>	65	110	46	8	20
LEP-6000-740-CT <sup>1) 2)</sup>	70	110	46	8	20
LEP-6000-657-CT <sup>1) 2)</sup>	65	110	46	8	20

1) 1100 (even more compact dimensions), 8000 and 10,000 lm, 3000 K and color rendering > 80 in preparation or on request  
 2) Modules perfectly matched to OSRAM OPTOTRONIC® electronic control gear (see relevant table). For current photometric data and important safety, installation and application information go to [www.osram.com/prevaled](http://www.osram.com/prevaled). All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the specified typical values for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

## Product characteristics

- OSRAM is committed to comply with the Zhaga standard for the LED module above
- High lumen packages
- Highly efficient: up to 127 lm/W
- Extremely compact module with Lambertian distribution of light

## Product benefits

- Lower update costs and shorter development times thanks to standardization
- Compact module design for a wide range of applications in a wide variety of luminaire concepts
- Small light emission surface and positioning close to the reflector enables better optical handling
- Enhanced safety thanks to hot restrike (the LED module is automatically switched back on by the ECG after a power outage)
- Dimmable, full instant light, hot restrike and long life open up new applications and reduce lifecycle costs
- No overheating when operated on an appropriate OSRAM ECG thanks to a temperature sensor in the module

## Applications

- Outdoor lighting (streets, spotlights, etc.)
- Industrial lighting
- Uplighters

## OPTOTRONIC® control gear for PrevaLED® Compact

Light engine / control gear combination for PrevaLED® Compact	OT 50/220-240/700	OT 50/220-240/700	OT 90/220-240/700	OT 90/220-240/700	OT 150/220-240/700	OT 150/220-240/700	OT 45/220-240/700	OT 35/220-240/700
	3DIMLT E	LT E	3DIMLT E	LT E	3DIMLT E	LT E	LTCS	LTCS
LEP-2500-740-CT	●	●	●	●	1)	1)	●	●
LEP-4000-740-CT	●	●	●	●	1)	1)	●	●
LEP-4000-657-CT	●	●	●	●	1)	1)	×	●
LEP-6000-740-CT	×	×	●	●	1)	1)	×	×
LEP-6000-657-CT	×	×	●	●	1)	1)	×	×

● Recommended combination  
 × Not possible

1) In preparation

For technical data on the OPTOTRONIC® units go to pages 9.69 and 9.72

## Four letters that signify the evolution of light



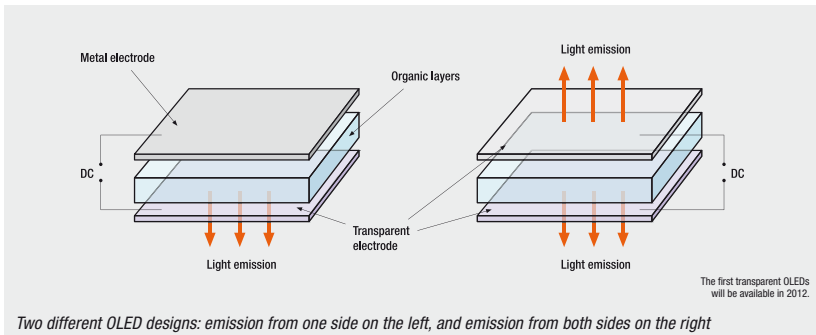
CDW-031, the first OLED series product on the market

The organic light-emitting diode (OLED) is an innovation that will reshape the future of lighting. This is the opinion of experts and users alike. Thanks to this new technology, additional heat sinks, reflectors, lenses and prisms for interior lighting design will be elements of the past.

OLED components are only around 2 mm thick so they will give designers enormous freedom to create new design objects, high-end luminaires and high-quality furniture. Whether in diffuse or reflective versions, OLED light modules will provide the basis for unique aesthetic applications.

### Structure of an OLED

An organic light-emitting diode consists of several organic semiconductor layers between two electrodes, at least one of which is transparent. The diagram shows two different types of OLEDs: a component emitting on one side only (left) and a transparent component emitting light both upwards and downwards (right). The manufacture of an OLED involves placing organic layers one after the other on a conducting substrate, followed by a conducting electrode. A widely used structure is based on a glass substrate coated with indium tin oxide (ITO) as the transparent anode and a thin non-translucent metal layer as the cathode. The organic stack including the electrodes is generally less than 1  $\mu\text{m}$  thick.



### Outstanding properties of OLED technology

Because of its special properties, OLED technology offers many product benefits that have never before been possible in this combination. They include the following:

- They are glare-free uniform area light sources that have either a mirror-like or milky appearance when they are switched off.
- They are very thin and therefore extremely lightweight.
- They offer good color rendering and high-quality instant-on light.
- Their warm white light color creates a very pleasant atmosphere.
- They have the potential to match and even surpass the efficiency and lifetime of fluorescent lamps, and are completely mercury-free and RoHS compliant.
- They do not emit any UV or IR radiation and are therefore ideal for illuminating particularly sensitive objects.
- Future products based on OLED technology could be malleable or flexible.

### Applications of OLED technology

Thanks to their aesthetic appearance and high-quality light, OLEDs are now being used above all in applications where design and atmosphere are the major factors. OLED light modules have already been used successfully in designer luminaires and in shop lighting. The technology is also perfect for all kinds of decorative and mood lighting, and for applications that call for embedded light in furniture and in the office, hospitality and museum lighting sectors.

With ORBEOS, OSRAM has launched the world's first serialproduction OLED light source. As a leader in lighting innovation, and continuing to build on this technological success, the company's unique pilot production line and substantial investments in research and development will assure the advancement of OLED technology. OLED modules from OSRAM are a compelling way to provide light and will become a lasting element in lighting design for future generations.

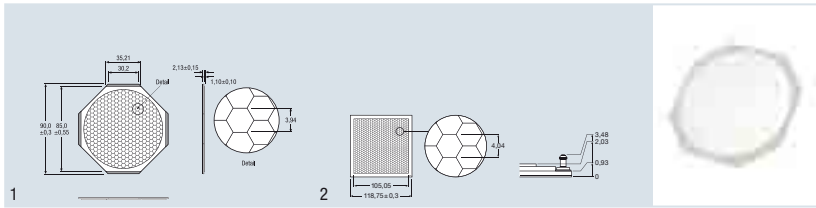


*OSRAM OLED Airabesc design luminaire, awarded with the reddot Product Design Award 2011 as well as the GOOD Design Award 2011 and the Interior Innovation Award 2012.*

[www.osram.com/oled](http://www.osram.com/oled)



# OLED components



Product reference	Product number	BIN	V	A	cd/cm <sup>2</sup>
ORBEOS CDW-030 <sup>1)</sup>	2)	41-43	6.3	0.11	2000
ORBEOS SDW-058 <sup>1)</sup>	2)	41-43	6.3	0.26	2000

Product reference	Im	R <sub>a</sub>	K	COLOR	lm/W	No.
ORBEOS CDW-030 <sup>1)</sup>	28	80	3300	warm	40	1
ORBEOS SDW-058 <sup>1)</sup>	67	80	3300	warm	40	2

<sup>1)</sup> All the technical parameters apply to the entire component. In view of the complex manufacturing process for organic light emitting diodes, the specified typical values for the technical OLED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values. For more information please refer to [www.osram.com/oled](http://www.osram.com/oled).

<sup>2)</sup> Data not available at time of going to press

## Product characteristics

- Diffuse, glare-free area light source
- High luminous efficacy
- Low DC voltage
- Mercury-free and RoHS compliant

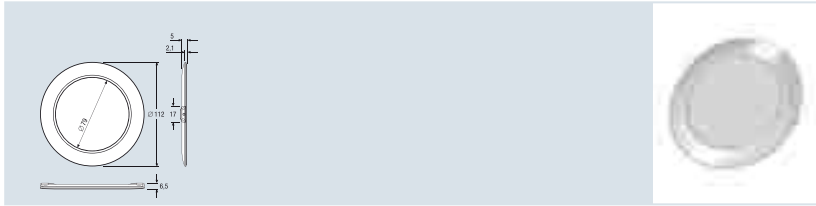
## Product benefits

- High-quality warm white light for high-end applications
- Thin, lightweight and aesthetic design
- Ideal for filigree lighting applications as additional thermal management is not required

## Applications

- Object illumination and integration in furniture
- Mood lighting
- Shop lighting
- Architainment

## OLED module



<b>Product reference</b>	<b>Product number</b>	<b>BIN</b>	<b>V</b>	<b>A</b>	<b>cd/cm<sup>2</sup></b>
ORBEOS DANCE <sup>1)</sup>	4008321981097	25-33	3.7	0.27	900
<b>Product reference</b>	<b>lm</b>	<b>R<sub>a</sub></b>	<b>K</b>	<b>COLOR</b>	<b>lm/W</b>
ORBEOS DANCE <sup>1)</sup>	13	85	2900	Warm white	14

<sup>1)</sup> All the technical parameters apply to the entire component. In view of the complex manufacturing process for organic light emitting diodes, the specified typical values for the technical OLED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values. For more information please refer to [www.sram.com/oled](http://www.sram.com/oled).

### Product characteristics

- Glare-free warm white area light source with a reflective surface
- Stylish low-profile design in a round form with high-quality synthetic ring with metallic look
- Mercury-free and RoHS compliant

### Product benefits

- Plug-&-play installation and easy replacement possible
- Rotatable installation enables complex designs
- High-quality ambient lighting thanks to high-quality light and good color rendering
- No UV or IR radiation, therefore ideal for illuminating sensitive items

### Applications

- Home applications in designer luminaires, furniture and home accessories
- Eye catcher, design element and mood light for shops
- Can be used in the office sector as desk lights, for reception counters and as desktop accessories

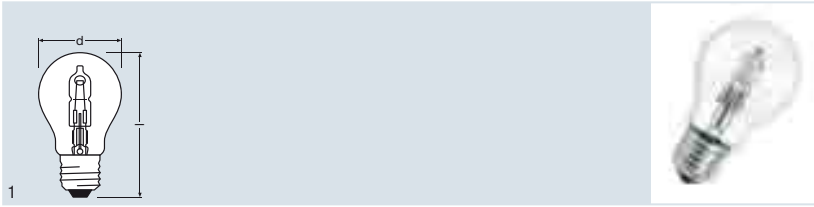




# Halogen lamps

HALOGEN ECO PRO CLASSIC A	3.02
HALOGEN ECO PRO CLASSIC B	3.03
HALOGEN ECO PRO CLASSIC BW	3.04
HALOGEN ECO PRO CLASSIC P	3.05
HALOGEN ECO PRO CLASSIC R50	3.06
HALOGEN ECO PRO CLASSIC R63	3.07
OSRAM HALOPAR® ECO	3.08
OSRAM HALOPAR® 16 - GU10/GZ10	3.09
OSRAM HALOPAR® 16 - E14	3.10
OSRAM HALOPAR® 20 - GU10	3.11
OSRAM HALOPAR® 20 - E27	3.12
OSRAM HALOPAR® 30	3.13
OSRAM HALOPAR® 38	3.14
HALOLUX CERAM® ECO	3.15
HALOPIN® ECO	3.16
HALOPIN®	3.17
DECOPIN®	3.18
HALOLINE® ECO	3.19
HALOLINE®	3.20
HALOSTAR® ECO	3.21
HALOSTAR STARLITE®	3.22
HALOSTAR® Standard	3.23
HALOSTAR® 24 V	3.24
HALOSPOT® 111 ECO	3.25
HALOSPOT® 111	3.26
HALOSPOT® 70	3.27
HALOSPOT® 48	3.28
DECOSTAR® 51 ECO	3.29
DECOSTAR® 51 TITAN	3.30
DECOSTAR® 35 TITAN	3.31
DECOSTAR® 51 ALU	3.32
DECOSTAR® 51 COOL BLUE®	3.33
DECOSTAR® 51S STANDARD	3.34
DECOSTAR® 51 STANDARD	3.35
DECOSTAR® 35	3.36
HALOLUX® T ECO	3.37
HALOPIN® oven lighting	3.38
HALOSTAR® oven lighting	3.38
Bases IEC/EN 60061-1	3.39

# HALOGEN ECO PRO CLASSIC A



Product reference	Product number	W	V	lm	t[h]						
64541 A PRO <sup>1)</sup>	4008321998026	20	230	235	2000	E27	55	96	73	20	1
64542 A PRO <sup>1)</sup>	4008321998040	30	230	405	2000	E27	55	96	73	20	1
64543 A PRO <sup>1)</sup>	4008321998064	46	230	700	2000	E27	55	96	73	20	1
64544 A PRO <sup>1)</sup>	4008321998088	57	230	915	2000	E27	55	96	73	20	1
64547 A PRO <sup>1)</sup>	4008321998101	77	230	1320	2000	E27	55	96	73	20	1
64548 A PRO <sup>1)</sup>	4008321998125	116	230	2135	2000	E27	55	96	73	20	1

<sup>1)</sup> Planned to be available from June 2012



The permitted incandescent lamp with natural pleasant halogen light – It looks like a classic light bulb, and with its screw base is just as easy to use. HALOGEN ECO PRO CLASSIC A lamps are direct replacements for traditional light bulb wattages; for example a 46W HALOGEN ECO PRO CLASSIC A replaces a 60W incandescent lamp.

## Product characteristics

- 100 % dimmable
- Perfect color rendering (R<sub>a</sub>: 100)
- Average life: 2,000 h

## Product benefits

- Simple direct replacement for conventional incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- Instant 100 % light, no warm-up time
- Contains no mercury, can be thrown away with normal household waste
- UV filter

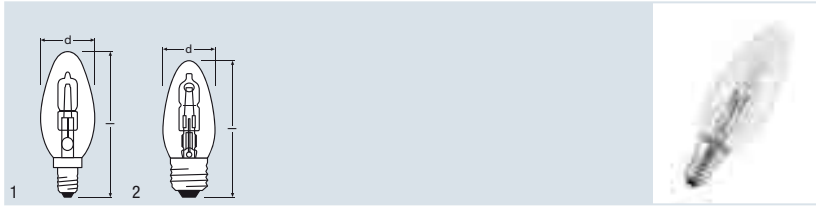
## Applications






- General illumination
- Mood lighting
- Entrance lighting
- Restaurants, hotels and similar prestige applications

## References

For an extended range for non-EU countries go to [www.osram.com](http://www.osram.com)

# HALOGEN ECO PRO CLASSIC B



Product reference	Product number	W	V	lm	t [h]					
NEW 64541 B PRO <sup>1)</sup>	4008321998149	20	230	235	2000	E14	35	104	20	1
NEW 64542 B PRO <sup>1)</sup>	4008321998163	30	230	405	2000	E14	35	104	20	1
NEW 64543 B PRO <sup>1)</sup>	4008321998187	46	230	700	2000	E14	35	104	20	1
NEW 64542 B PRO <sup>1)</sup>	4008321998460	30	230	405	2000	E27	35	98.5	20	2
NEW 64543 B PRO <sup>1)</sup>	4008321998484	46	230	700	2000	E27	35	98.5	20	2

<sup>1)</sup> Planned to be available from June 2012

The permitted incandescent lamp in candle form with natural pleasant halogen light – In addition to halogen lamps with the classic light bulb shape, OSRAM offers the HALOGEN ECO PRO CLASSIC B, a lamp with an elegant candle shape that instantly give homes a touch of style. HALOGEN ECO PRO CLASSIC B lamps are direct replacements for traditional light bulb wattages; for example a 30W HALOGEN ECO PRO CLASSIC B replaces a 40W candle-shape incandescent lamp.

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering (R<sub>a</sub>: 100)

## Product benefits

- Simple direct replacement for conventional incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- Instant 100 % light, no warm-up time
- Contains no mercury, can be thrown away with normal household waste
- UV filter

## Applications

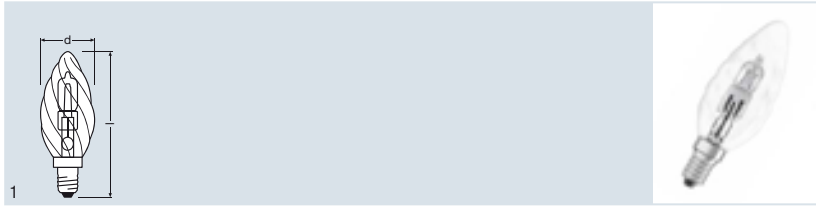
- General illumination
- Dining table lighting
- Entrance lighting
- Restaurants, hotels and similar prestige applications






## References

For an extended range for non-EU countries go to [www.osram.com](http://www.osram.com)



# HALOGEN ECO PRO CLASSIC BW



Product reference	Product number	W	lm	t(h)					
64542 BW PRO <sup>1)</sup>	4008321998200	30	405	2000	E14	35	104	20	1
64543 BW PRO <sup>1)</sup>	4008321998507	46	700	2000	E14	35	104	20	1

NEW  
NEW

<sup>1)</sup> Planned to be available from June 2012

The permitted incandescent lamp in candle form with natural pleasant halogen light – In addition to halogen lamps with the classic light bulb and candle shapes, OSRAM offers a lamp with a twisted candle shape, the HALOGEN ECO PRO CLASSIC BW. Its special shape makes many light fittings really decorative. HALOGEN ECO PRO CLASSIC BW lamps are direct replacements for traditional light bulb wattages; for example a 30W HALOGEN ECO PRO CLASSIC BW replaces a 40W candle-shape incandescent lamp.

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering ( $R_a$ : 100)

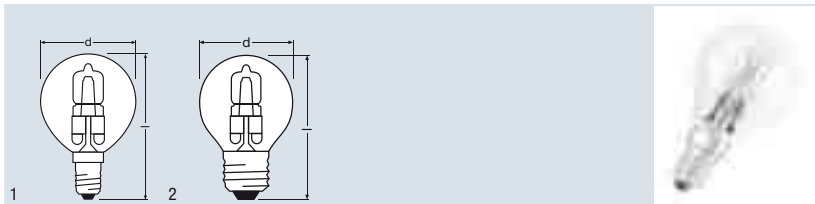
## Product benefits

- Simple direct replacement for conventional incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- Instant 100 % light, no warm-up time
- Contains no mercury, can be thrown away with normal household waste
- UV filter

## Applications

- General illumination
- Dining table lighting
- Entrance lighting
- Mood lighting
- Restaurants, hotels and similar prestige applications

# HALOGEN ECO PRO CLASSIC P



NEW  
NEW  
NEW  
NEW  
NEW

Product reference	Product number	W	lm	t [h]			$\varnothing$ [mm]	l [mm]			No.
64541 P PRO <sup>1)</sup>	4008321998224	20	235	2000	E14		45	80	20	1	1
64542 P PRO <sup>1)</sup>	4008321998262	30	405	2000	E14		45	80	20	1	1
64543 P PRO <sup>1)</sup>	4008321998309	46	700	2000	E14		45	80	20	1	1
64541 P PRO <sup>1)</sup>	4008321998248	20	235	2000	E27		45	74	20	2	2
64542 P PRO <sup>1)</sup>	4008321998286	30	405	2000	E27		45	74	20	2	2
64543 P PRO <sup>1)</sup>	4008321998323	46	700	2000	E27		45	74	20	2	2

<sup>1)</sup> Planned to be available from June 2012

The permitted incandescent lamp in round bulb form with natural pleasant halogen light – In addition to halogen lamps with the classic light bulb and candle shapes, OSRAM offers a lamp with the round shape HALOGEN ECO PRO CLASSIC P. This brilliant direct halogen alternative to incandescent lamps rounds off the OSRAM HALOGEN ECO PRO CLASSIC range. HALOGEN ECO PRO CLASSIC P lamps are direct replacements for traditional light bulb wattages; for example a 30W HALOGEN ECO PRO CLASSIC P replaces a 40W round-shape incandescent lamp.

## Product characteristics

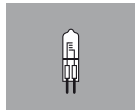
- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering ( $R_a$ : 100)

## Product benefits

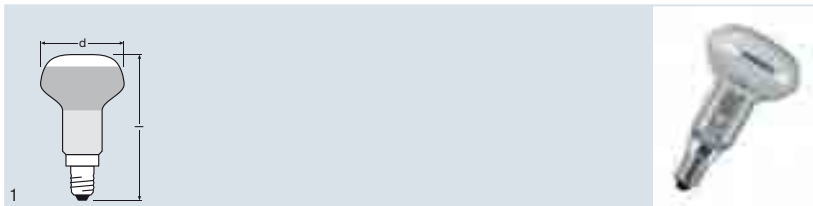
- Simple direct replacement for conventional incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- Instant 100 % light, no warm-up time
- Contains no mercury, can be thrown away with normal household waste
- UV filter

## Applications

- General illumination
- Mood lighting
- Entrance lighting
- Mirror lighting



# HALOGEN ECO PRO CLASSIC R50



Product reference	Product number	W	V	cd		t [h]		d [mm]	l [mm]		No.
64541 R50 PRO <sup>1)</sup>	4008321998521	20	230	210	30	2000	E14	50	85	20	1
64542 R50 PRO <sup>1)</sup>	4008321998347	30	230	410	30	2000	E14	50	85	20	1
64543 R50 PRO <sup>1)</sup>	4008321998545	46	230	490	30	2000	E14	50	85	20	1

NEW  
NEW  
NEW

<sup>1)</sup> Planned to be available from June 2012

The alternative to the incandescent lamp in spotlight form with natural pleasant halogen light – There is of course an outstanding direct halogen alternative to the R50 incandescent spotlight, namely the HALOGEN ECO PRO CLASSIC R50 reflector lamp with a standard screw base. HALOGEN ECO PRO CLASSIC R50 lamps are direct replacements for traditional light bulb wattages; for example a 30W HALOGEN ECO PRO CLASSIC R50 replaces a 40W incandescent reflector lamp.

### Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering (R<sub>a</sub>: 100)

### Product benefits

- Simple direct replacement for conventional incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- Instant 100 % light, no warm-up time
- Contains no mercury, can be thrown away with normal household waste
- UV filter

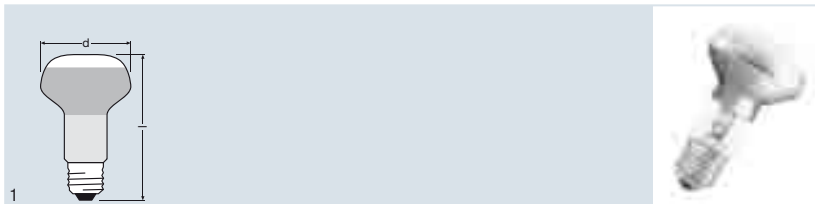
### Applications







- General illumination
- Accent lighting
- Mood lighting
- Entrance lighting
- Restaurants, hotels and similar prestige applications

### References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# HALOGEN ECO PRO CLASSIC R63



Product reference	Product number	W	V	cd		t[h]					
64542 R63 PRO <sup>1)</sup>	4008321998569	30	230	430	30	2000	E27	63	105	20	1
64543 R63 PRO <sup>1)</sup>	4008321998361	46	230	765	30	2000	E27	63	105	20	1

<sup>1)</sup> Planned to be available from June 2012

NEW  
NEW

The alternative to the incandescent lamp in spotlight form with natural pleasant halogen light – There is of course an outstanding direct halogen alternative to the R63 incandescent spotlight, namely the HALOGEN ECO PRO CLASSIC R63 reflector lamp with a standard screw base. HALOGEN ECO PRO CLASSIC R63 lamps are direct replacements for traditional light bulb wattages; for example a 46W HALOGEN ECO PRO CLASSIC R63 replaces a 60W incandescent reflector lamp.

### Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering ( $R_a$ : 100)

### Product benefits

- Simple direct replacement for conventional incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- Instant 100 % light, no warm-up time
- Contains no mercury, can be thrown away with normal household waste
- UV filter

### Applications

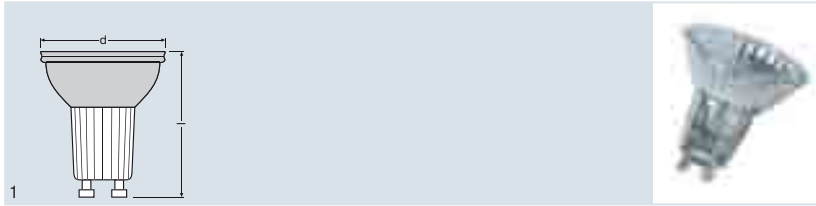
- General illumination
- Accent lighting
- Mood lighting
- Entrance lighting
- Restaurants, hotels and similar prestige applications

### References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# OSRAM HALOPAR® ECO



Product reference	Product number	W	V	cd			d [mm]	l [mm]	K		
64819 ECO FL <sup>1)</sup>	4008321 <b>927767</b>	28	230	570	30	GU10	50.7	55	2700	20	1
64823 ECO FL <sup>1)</sup>	4008321 <b>208767</b>	40	230	900	30	GU10	50.7	55	2800	20	1

<sup>1)</sup> Do not use outdoors or in humid conditions.

Energy-saving halogen light without a transformer – HALOPAR® 16 ECO lamps from OSRAM are innovative halogen reflector lamps for line voltage. These lamps are ideal for modern small and stylish halogen fixtures and are the counterparts of DECOSTAR® low-voltage reflector lamps.

## Product characteristics

- Average life: 2,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU10

## Product benefits

- The same light as conventional HALOGEN reflector lamps but with up to 20% lower power consumption
- Brilliant ECO accent lighting
- With whole glass reflector for brilliant lighting effects
- Approved for use in open fixtures to IEC 60598-1
- Robust filament design thanks to innovative, unique bulb pinch technology
- No transformer required
- UV filter
- Drastically reduced thermal load in the fixture thanks to an aluminum-coated reflector
- Complies with IEC 60432-2 thanks to integrated fuse function
- Contains no mercury, can be thrown away with normal household waste

## Applications

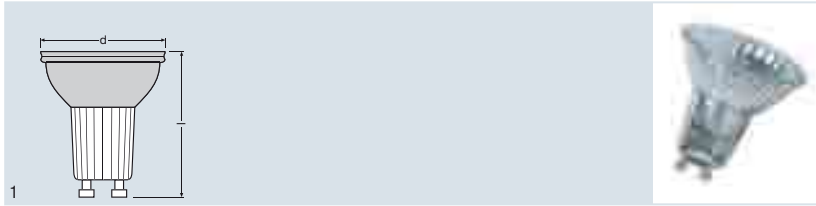
- General illumination
- Kitchen lighting
- Dining table lighting
- Mirror lighting
- Object lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# OSRAM HALOPAR® 16 - GU10/GZ10



Product reference	Product number	W	V	cd			d [mm]	l [mm]	K		
64831 FL <sup>1)</sup>	4008321279057	20	230	230	35	GU10	50.7	55	2700	20	1
64820 FL <sup>1)</sup>	4050300727165	35	230	570	35	GU10	50.7	55	2700	20	1
64824 FL <sup>1)</sup>	4050300580111	50	230	900	35	GU10	50.7	55	2800	20	1
64826 FL <sup>1)</sup>	4050300501857	50	230	900	35	GZ10	50.7	55	3000	20	1

<sup>1)</sup> Do not use outdoors or in humid conditions.

Halogen light without a transformer – HALOPAR® 16 from OSRAM gives fixture manufacturers a lamp that drastically reduces construction costs for dichroic reflector fixtures.

### Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU10, GZ10

### Product benefits

- Brilliant accent light
- With whole glass reflector for brilliant lighting effects
- Approved for use in open fixtures to IEC 60598-1
- No transformer required
- UV filter
- Innovative bulb pinch technology for the burner
- Complies with IEC 60432-2 thanks to integrated fuse function
- Contains no mercury, can be thrown away with normal household waste

### Applications

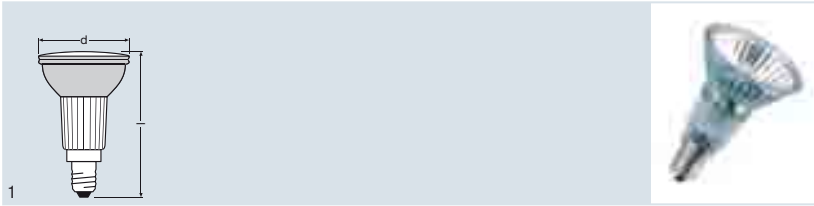
- General illumination
- Shops
- Restaurants, hotels and similar prestige applications






### References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# OSRAM HALOPAR® 16 - E14



Product reference	Product number	W	V	cd		t [h]				
64822 FL <sup>1)</sup>	4050300938479	40	230	650	35	2000	E14	50.7	20	1
<small>1) Do not use outdoors or in humid conditions.</small>										

Halogen in an instant – With HALOPAR® 16 from OSRAM, halogen light is easy to install. Simply screw the lamp as a 35° flood reflector lamp in a conventional E14 holder – and that's it!

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering (R<sub>a</sub>: 100)
- Color temperature: 2.700 K

## Product benefits

- Brilliant accent light
- With whole glass reflector for brilliant lighting effects
- Instant 100 % light, no warm-up time
- Approved for use in open fixtures to IEC 60598-1
- Contains no mercury, can be thrown away with normal household waste
- UV filter

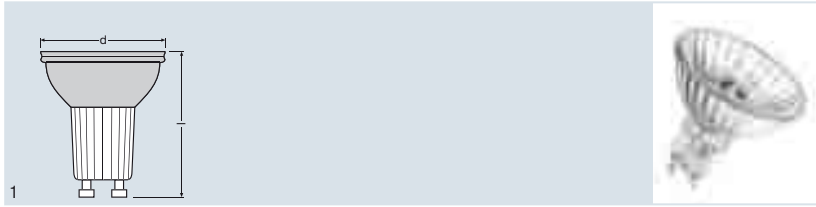
## Applications

- General illumination
- Dining table lighting
- Object lighting
- Accent lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# OSRAM HALOPAR® 20 - GU10



Product reference	Product number	W	V	cd		t [h]					
64830 FL <sup>1)</sup>	4050300856971	75	230	1900	30	2000	GU10	64	66	20	1

<sup>1)</sup> Do not use outdoors or in humid conditions.

Halogen accent lighting directly from the power supply – For the same wattage, HALOPAR® 20 lamps from OSRAM provide up to 100 % higher luminous intensities than conventional HALOGEN reflector lamps. They are real powerhouses.

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Color temperature: 2,800 K
- Base: GU10

## Product benefits

- Brilliant accent light
- With whole glass reflector for brilliant lighting effects
- Approved for use in open fixtures to IEC 60598-1
- No transformer required
- UV filter
- Robust filament design thanks to innovative, unique bulb pinch technology
- Complies with IEC 60432-2 thanks to integrated fuse function
- Contains no mercury, can be thrown away with normal household waste

## Applications

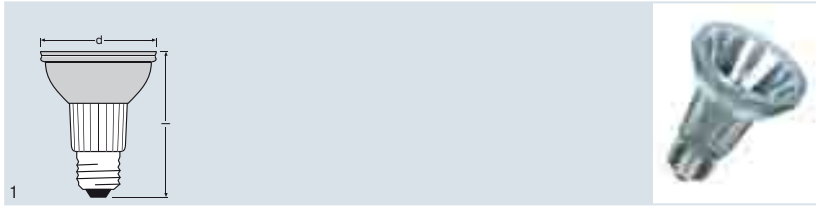
- General illumination
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# OSRAM HALOPAR® 20 - E27



Product reference	Product number	W	V	cd						
64832 SP <sup>1)</sup>	4050300406800	50	230	3000	10	E27	64.5	91	15	1
64832 FL <sup>1)</sup>	4050300406824	50	230	1000	30	E27	64.5	91	15	1
64836 SP <sup>1)</sup>	4050300406848	50	230	3200	10	E27	64.5	91	15	1
64836 FL <sup>1)</sup>	4050300406862	50	230	1100	30	E27	64.5	91	15	1

<sup>1)</sup> Do not use outdoors or in humid conditions.

Halogen in an instant – With HALOPAR® 20 from OSRAM, halogen light is easy to install. The lamps can be screwed into any conventional E27 holder as 10° spot or 30° flood reflector lamps. And that's it!

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering (R<sub>a</sub>: 100)
- Color temperature: 2.800 K

## Product benefits

- Brilliant accent light
- With whole glass reflector for brilliant lighting effects
- Instant 100 % light, no warm-up time
- Approved for use in open fixtures to IEC 60598-1
- Contains no mercury, can be thrown away with normal household waste
- UV filter

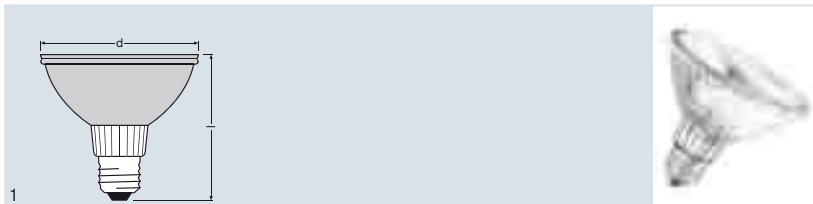
## Applications

- General illumination
- Kitchen lighting
- Dining table lighting
- Object lighting
- Accent lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# OSRAM HALOPAR® 30



Product reference	Product number	W	V	cd						
64841 SP <sup>1)</sup>	4050300338460	75	230	6900	10	E27	97	90	15	1
64841 FL <sup>1)</sup>	4050300338484	75	230	2200	30	E27	97	90	15	1
64845 SP <sup>1)</sup>	4050300338521	75	230	7500	10	E27	97	90	15	1
64845 FL <sup>1)</sup>	4050300338507	75	230	2400	30	E27	97	90	15	1

<sup>1)</sup> Do not use outdoors or in humid conditions.

Halogen in an instant – With HALOPAR® 30 from OSRAM, halogen light is easy to install. The lamps can be screwed into any conventional E27 holder as 10° spot or 30° flood reflector lamps. And that's it!

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering (R<sub>a</sub>: 100)
- Color temperature: 2.900 K

## Product benefits

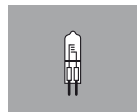
- Brilliant accent light
- With whole glass reflector for brilliant lighting effects
- Instant 100 % light, no warm-up time
- Approved for use in open fixtures to IEC 60598-1
- Contains no mercury, can be thrown away with normal household waste
- UV filter

## Applications

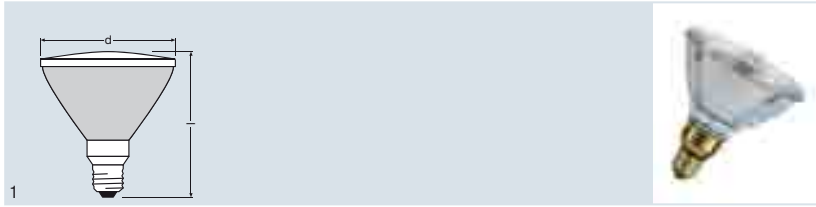
- General illumination
- Workplace lighting
- Kitchen lighting
- Object lighting
- Accent lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# OSRAM HALOPAR® 38



Product reference	Product number	W	V	cd		K					
								d (mm)	l (mm)		No.
64837 FL	4008321 <b>380364</b>	50	220-240	1200	30	2700	E27	123	139	12	1
64838 FL	4008321 <b>380340</b>	75	220-240	2400	30	2800	E27	123	139	12	1
64838 SP	4008321 <b>380401</b>	75	220-240	7200	12	2800	E27	123	139	12	1
64839 FL	4008321 <b>372062</b>	100	220-240	3100	30	2900	E27	123	139	12	1

Wide-coverage halogen power light – Thanks to HALOPAR® 38 from OSRAM brilliant accent light is finally possible for large areas. This lamp gives you much more light than a standard incandescent reflector lamp, and at a lower energy consumption!

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Perfect color rendering ( $R_a$ : 100)

## Product benefits

- With whole glass reflector for brilliant lighting effects
- Instant 100 % light, no warm-up time
- Up to 20 % more light than conventional reflector-type incandescent lamps
- Approved for use in open fixtures to IEC 60598-1
- Suitable for outdoor applications in approved fixtures
- Contains no mercury, can be thrown away with normal household waste
- UV filter

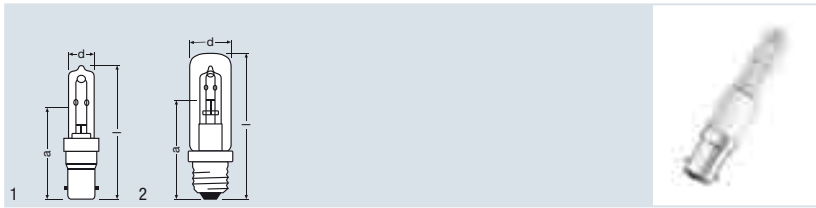
## Applications






- General illumination
- Object lighting
- Accent lighting

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# HALOLUX CERAM® ECO



Product reference	Product number	W	V	lm	t[h]				LCL a [mm]		
64491	4008321 <b>393319</b>	40	230	590	2000	B15d	13	67	39	12	1
64492	4008321 <b>393708</b>	60	230	980	2000	B15d	13	67	39	12	1
64406	4008321 <b>393722</b>	60	230	980	2000	B15d	13	86	55	12	1
64494	4008321 <b>393746</b>	70	230	1180	2000	B15d	13	86	55	12	1
64496	4008321 <b>393760</b>	100	230	1800	2000	B15d	13	86	55	12	1
64498	4008321 <b>393784</b>	150	230	2870	2000	B15d	13	86	55	12	1
64499	4008321 <b>393807</b>	205	230	4200	2000	B15d	15	98	67	12	1
64400	4008321 <b>393821</b>	70	230	1180	2000	E27	32	105	75	12	2
64401	4008321 <b>393845</b>	100	230	1800	2000	E27	32	105	75	12	2
64402	4008321 <b>393869</b>	150	230	2870	2000	E27	32	105	75	12	2
64404	4008321 <b>393883</b>	205	230	4200	2000	E27	32	105	75	12	2

The slim lamp for small fixtures – The HALOLUX CERAM® ECO lamp with an E27 base or a B15d base has been designed specifically for small fixtures. This brilliant alternative to standard incandescent lamps is suitable for small narrow fixtures thanks to its compact cylindrical shape.

## Product characteristics

- 100 % dimmable
- Average life: 2,000 h

## Product benefits

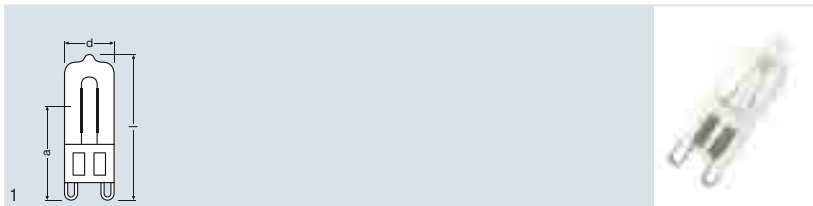
- More compact than standard incandescent lamps
- The same pleasant quality of light as that of an incandescent lamp
- No transformer required
- UV filter
- Contains no mercury, can be thrown away with normal household waste

## Applications

- General illumination
- Mood lighting
- Dining table lighting
- Light for reading
- Restaurants, hotels and similar prestige applications



# HALOPIN® ECO



Product reference	Product number	W	V	lm					K		
66720 ECO <sup>1)</sup>	4008321945273	20	230	235	G9	14.0	43	22	2700	20	1
66733 ECO	4008321208668	33	230	460	G9	14.0	43	22	2700	20	1
66748 ECO	4008321945334	48	230	740	G9	14.0	43	22	2800	20	1
66760 ECO	4008321945372	60	230	980	G9	14.0	51	24	2800	20	1

<sup>1)</sup> Available in Energy Label C from June 2012

NEW

Our tiny ECO-warrior for line voltage – HALOPIN® from OSRAM has heralded a new modern generation of fixtures in terms of miniaturization and therefore set a standard that lamp and fixture manufacturers throughout the world are still using.

## Product characteristics

- Average life: 2,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Design: two lengths 43 mm (short), 51 mm (long)
- Base: G9

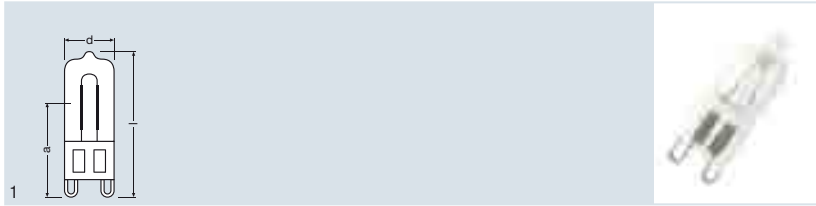
## Product benefits






- Brilliant ECO accent lighting
- Incredibly small dimensions for revolutionary new fixture designs
- Robust filament design thanks to innovative, unique bulb pinch technology
- Approved for use in open fixtures to IEC 60598-1
- Simple handling thanks to G9 plug-in base/holder system
- No transformer required
- UV filter
- Complies with IEC 60432-2 thanks to integrated fuse function
- Lower thermal output (compared with the standard reference product) opens up new design options
- The lamp shuts down reliably
- Contains no mercury, can be thrown away with normal household waste

## Applications

- General illumination
- Workplace lighting
- Light for reading
- Dining table lighting
- Mirror lighting
- Accent lighting
- Mood lighting





Product reference	Product number	W	V	lm	t[h]				LCL a [mm]		
66725 <sup>1)</sup>	4050300791777	25	230	260	2000	G9	14	43	22	20	1
66740 <sup>1)</sup>	4050300791791	40	230	450	2000	G9	14	43	22	20	1

1) Banned from 1.9.2012 as per EU phase-out plan

Our small lamps for line voltage – OSRAM HALOPIN® lamps are ideal for tiny compact halogen fixtures. Because they are so small and because there is no transformer to incorporate in the fixture, they give designers greater freedom.

### Product characteristics

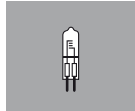
- Average life: 2,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Design: two lengths 43 mm (short), 51 mm (long)
- Base: G9
- Color temperature: 2,700 K

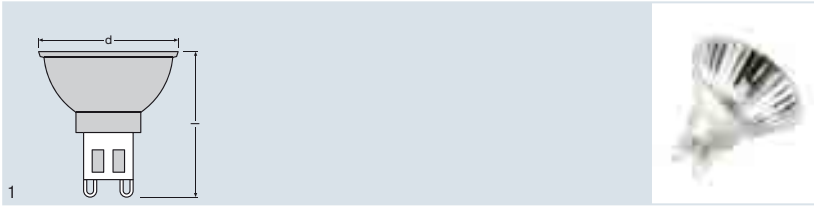
### Product benefits

- Brilliant accent light
- Incredibly small dimensions for revolutionary new fixture designs
- Robust filament design thanks to innovative, unique bulb pinch technology
- Approved for use in open fixtures to IEC 60598-1
- Simple handling thanks to G9 plug-in base/holder system
- No transformer required
- UV filter
- Complies with IEC 60432-2 thanks to integrated fuse function
- The lamp shuts down reliably
- Contains no mercury, can be thrown away with normal household waste

### Applications

- General illumination
- Workplace lighting
- Light for reading
- Dining table lighting
- Mirror lighting
- Accent lighting
- Mood lighting





Product reference	Product number	W	V	cd		t [h]					No.
60040 FL	4008321907189	40	230	550	40	2000	G9	41	43	20	1



For new exciting fixture solutions – Great benefits, minimal size – that is DECOPIN® from OSRAM. The world's smallest and lightest line voltage halogen reflector lamp offers new design freedom thanks to its tiny dimensions.

**Product characteristics**

- Average life: 2,000 h
- 100 % dimmable
- Color temperature: 2,700 K
- Base: G9

**Product benefits**

- Brilliant accent light
- Incredibly small dimensions for revolutionary new fixture designs
- Elegant aluminum reflector with optimized faceting
- Robust filament design thanks to innovative, unique bulb pinch technology
- Approved for use in open fixtures to IEC 60598-1
- Simple handling thanks to G9 plug-in base/holder system
- No transformer required
- UV filter
- Complies with IEC 60432-2 thanks to integrated fuse function
- The lamp shuts down reliably
- Contains no mercury, can be thrown away with normal household waste

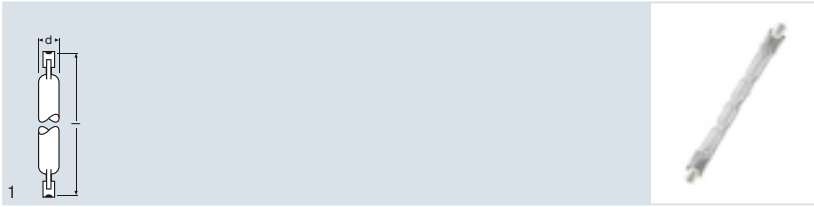
**Applications**





- General illumination
- Workplace lighting
- Light for reading
- Mirror lighting
- Accent lighting

**References**

For light distribution curves go to [www.osram.com](http://www.osram.com)

# HALOLINE® ECO



Product reference	Product number	W	V	lm		$\frac{l}{[mm]}$	$\frac{d}{[mm]}$	K			
64684 ECO <sup>1)</sup>	4008321977595	48	230	750	R7s	74.9	12	2900	2.0	20	1
64690 ECO <sup>1)</sup>	4008321928078	80	230	1400	R7s	74.9	12	2900	2.0	20	1
64695 ECO <sup>1)</sup>	4008321928092	120	230	2250	R7s	74.9	12	2900	2.0	20	1
64696 ECO <sup>1)</sup>	4008321977670	120	230	2250	R7s	114.2	12	2950	2.0	20	1
64698 ECO <sup>1)</sup>	4008321977755	160	230	3100	R7s	114.2	12	2950	2.0	20	1
64701 ECO <sup>1)</sup>	4008321207692	230	230	5000	R7s	114.2	12	2950	2.0	20	1
64702 ECO <sup>1)</sup>	4008321207715	400	230	9000	R7s	114.2	12	2950	2.0	20	1

<sup>1)</sup> Fuse protection with the indicated values is recommended on the fixture side (as per IEC 60357, EN 60357) | Enclosed fixtures must be used for both indoor and outdoor applications.

HALOLINE® ECO from OSRAM is the classic lamp for small outdoor systems for floodlighting buildings and sports arenas and for security lighting. It is also experiencing a renaissance in the home.

## Product characteristics

- Average life: 2,000 h
- Dimmable
- Color rendering index  $R_a$ : 100
- Base: R7s

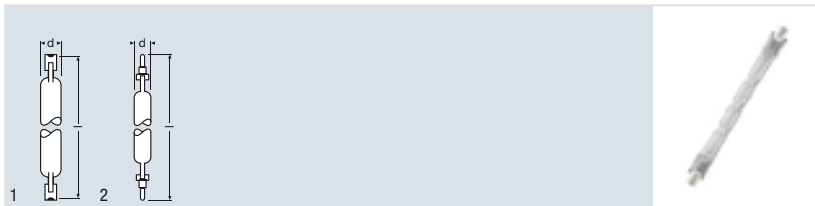
## Product benefits

- Brilliant ECO accent lighting
- Direct replacement for standard halogen lamps
- Significantly lower CO<sub>2</sub> emissions
- Lower thermal output (compared with the standard reference product)
- Ideal for emphasizing and accentuating the structure of a room
- No transformer required
- Contains no mercury, can be thrown away with normal household waste

## Applications

- General illumination
- Entrance lighting
- Path lighting
- Garden lighting
- Drive-over applications
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings





Product reference	Product number	W	V	lm	t [h]						
64560 <sup>1)</sup>	4050300004167	750	230	16100	2000	R7s	12	horizontal	6.3	12	1
64740 <sup>1)</sup>	4050300004174	1000	230	22000	2000	R7s	12	horizontal	6.3	12	1
64760 <sup>1)</sup>	4050300004181	1500	230	33000	2000	R7s	12	horizontal	10.0	12	1
64783 <sup>1)</sup>	4050300004198	2000	230	44000	2000	Fa4	12	horizontal	10.0	12	2
64784 <sup>1)</sup>	4050300004204	2000	230	44000	2000	R7s	12	horizontal	10.0	12	1

1) Fuse protection with the indicated values is recommended on the fixture side (as per IEC 60357, EN 60357) | Enclosed fixtures must be used for both indoor and outdoor applications.

A shining example of versatility – HALOLINE® from OSRAM is a double-ended halogen lamp for line voltage. This extensive range is ideal for outdoor lighting, indoor shop lighting and shop windows.

### Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Color temperature: 3,000 K

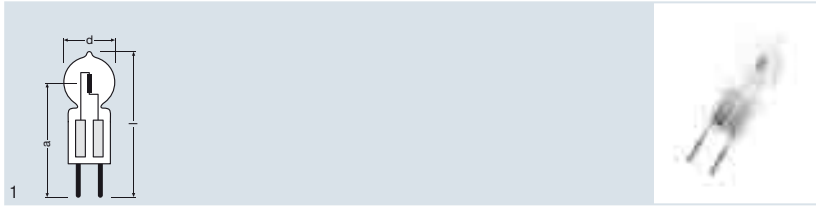
### Product benefits

- Brilliant accent light
- Ideal for emphasizing and accentuating buildings
- No transformer required
- Contains no mercury, can be thrown away with normal household waste

### Applications

- General illumination
- Entrance lighting
- Path lighting
- Garden lighting
- Drive-over applications
- Shops
- Restaurants, hotels and similar prestige applications

# HALOSTAR® ECO



Product reference	Product number	W	V	lm					K		
64417 ECO	4008321 <b>963192</b>	7	12	105	G4	10	33	22	2800	40	1
64423 ECO	4008321 <b>317964</b>	14	12	240	G4	10	33	22	2800	40	1
64429 ECO	4050300 <b>987262</b>	25	12	500	GY6.35	12	44	30	2800	40	1
64432 ECO	4050300 <b>615905</b>	35	12	860	GY6.35	12	44	30	2900	40	1
64440 ECO	4050300 <b>615936</b>	50	12	1200	GY6.35	12	44	30	3000	40	1
64447 ECO	4050300 <b>785400</b>	60	12	1650	GY6.35	12	44	30	3000	40	1

The mini among the ECOs – HALOSTAR® ECO is the smallest of the OSRAM ECO lamps. This pin-base lamp is perfect for “starlight ceilings”, furniture lighting and chandeliers.

## Product characteristics

- Average life: 4,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: G4, GY6.35

## Product benefits

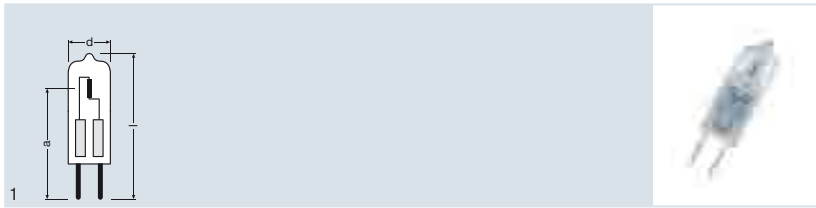
- Brilliant ECO accent lighting
- Significantly lower CO<sub>2</sub> emissions due to energy savings
- High luminous efficacy compared with standard lamps
- Incredibly small dimensions for revolutionary new fixture designs
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste







## Applications

- General illumination
- Kitchen lighting
- Light for reading
- Entrance lighting
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings



# HALOSTAR STARLITE®



Product reference	Product number	W	V	lm		 d [mm]	 h [mm]	 LCL a [mm]	K		 No.
64405 S	4050300335032	5	12	55	G4	10	33	22	2700	40	1
64410 S	4050300335131	10	6	110	G4	10	33	22	2700	40	1
64415 S	4050300335087	10	12	130	G4	10	33	22	2800	40	1
64425 S	4050300335162	20	12	300	G4	10	33	22	2800	40	1
64427 S	4050300328171	20	12	290	GY6.35	12	44	30	2800	40	1
64432 S	4050300017426	35	12	580	GY6.35	12	44	30	2900	40	1
64440 S	4050300328201	50	12	900	GY6.35	12	44	30	3000	40	1
64450 S	4050300490151	75	12	1450	GY6.35	12	44	30	3000	40	1
64458 S	4050300490182	90	12	1800	GY6.35	12	44	30	3000	40	1

A lighting design star – Paving the way for new fixture designs: HALOSTAR STARLITE® from OSRAM. With free-burning halogen lamps and their bright pools of light it is possible to provide accent lighting for entire rooms.

## Product characteristics

- Average life: 4,000 h
- 100 % dimmable
- Base: G4, GY6.35
- Color rendering index  $R_a$ : 100

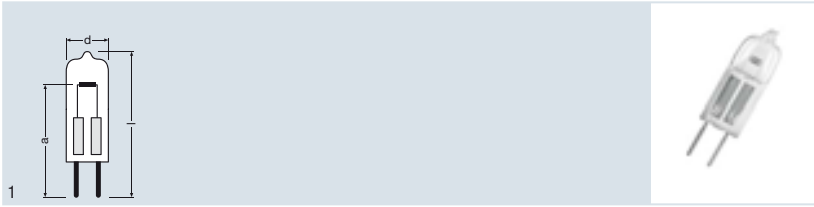
## Product benefits







- Brilliant accent light
- Incredibly small dimensions for revolutionary new fixture designs
- Approved for use in open fixtures to IEC 60598-1
- Axial filament for optimum directional light
- Special pins for corrosion protection
- UV filter
- Contains no mercury, can be thrown away with normal household waste

## Applications

- General illumination
- Entrance lighting
- Accent lighting
- Light for reading
- Garden lighting
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings

# HALOSTAR® Standard



Product reference	Product number	W	V	lm		 d (mm)	 l (mm)	 LCL a (mm)	K		 No.
64415	4050300010717	10	12	140	G4	10	33	22	2800	40	1
64425	4050300003924	20	12	320	G4	10	33	22	2800	40	1
64432	4050300364629	35	12	600	GY6.35	12	44	30	2900	40	1
64440	4050300324432	50	12	910	GY6.35	12	44	30	3000	40	1

Lighting design in glorious detail – Lighting solutions that are unlike anything else – that's HALOSTAR® from OSRAM, for open halogen lighting systems and fixtures without protective covers.

## Product characteristics

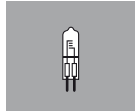
- Average life: 2,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: G4, GY6.35

## Product benefits

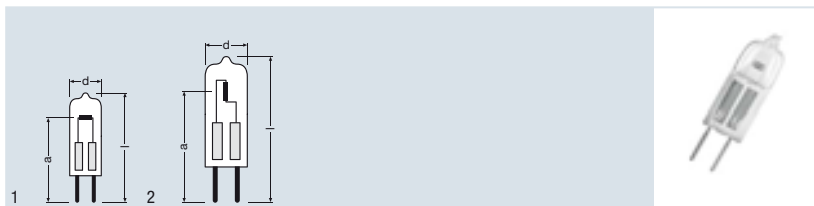
- Brilliant accent light
- Incredibly small dimensions for revolutionary new fixture designs
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste




## Applications

- General illumination
- Kitchen lighting
- Mirror lighting
- Light for reading
- Entrance lighting
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings



# HALOSTAR® 24 V



Product reference	Product number	W	V	lm	t [h]		$\varnothing$ [mm]	l [mm]		 No.
64435 U <sup>1)</sup>	4050300335513	20	24	320	1000	G4	10	33	40	1
64445 U <sup>1)</sup>	4050300335544	50	24	900	2000	GY6.35	12	44	40	2
64460 U <sup>1)</sup>	4050300335667	100	24	2200	2000	GY6.35	12	44	40	2
64465 U <sup>1)</sup>	4050300335698	150	24	3200	2000	GY6.35	12	44	40	2

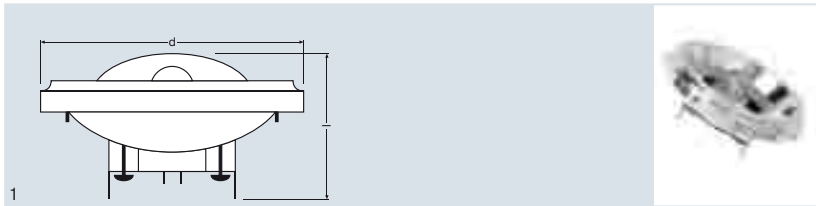
<sup>1)</sup> A quick-acting cutout must be used according to EN 60432-2 | The lamp should be operated only in enclosed fixtures

## Product benefits

- The base pins are tempered to protect against corrosion
- Axial filament ensures optimum directional light
- High illuminance level
- Contains no mercury, can be thrown away with normal household waste



# HALOSPOT® 111 ECO



Product reference	Product number	W	V	cd	°	G53	d (mm)	l (mm)	K	Light bulb icon	No.
48832 ECO SP <sup>1)</sup>	4050300656823	35	12	22500	6	G53	111	67	2900	6	1
48832 ECO FL <sup>1)</sup>	4050300656847	35	12	4200	24	G53	111	67	2900	6	1
48835 ECO SP <sup>1)</sup>	4050300656861	50	12	33000	6	G53	111	67	3000	6	1
48835 ECO FL <sup>1)</sup>	4050300656885	50	12	5500	24	G53	111	67	3000	6	1
48835 ECO WFL <sup>1)</sup>	4008321909237	50	12	2000	40	G53	111	67	3000	6	1
48837 ECO SP <sup>1)</sup>	4050300786070	60	12	42000	6	G53	111	67	3000	6	1
48837 ECO FL <sup>1)</sup>	4050300786094	60	12	7000	24	G53	111	67	3000	6	1
48837 ECO WFL <sup>1)</sup>	4008321909251	60	12	2800	40	G53	111	67	3000	6	1

<sup>1)</sup> If plug connections are used additional support is needed on the edge of the reflector.

The power pack among the HALOGEN ECO reflector lamps – Beauty is there to be seen and admired. The HALOSPOT® 111 ECO halogen lamp produces more light than conventional HALOGEN lamps. Its precision-engineered shape and high-reflectance synthetic reflector illuminate objects and entire rooms and with powerful light.

## Product characteristics

- Average life: 4,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: G53

## Product benefits

- Up to 30 % energy savings through IRC technology compared with conventional HALOGEN lamps
- Brilliant ECO accent lighting
- Significantly lower CO<sub>2</sub> emissions due to energy savings
- Cap for reduced glare and ease of handling
- New high-tech reflector for optimum illumination and reduced scatter
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Drastically reduced thermal load in the fixture thanks to an aluminum-coated reflector
- Contains no mercury, can be thrown away with normal household waste

## Applications

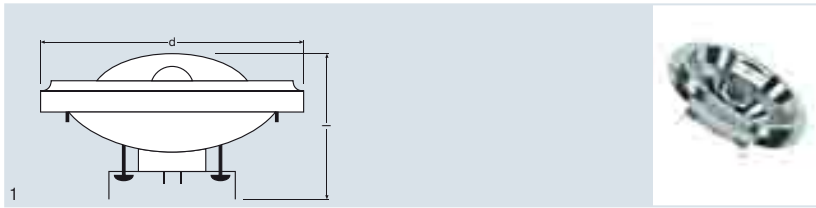
- General illumination
- Entrance lighting
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# HALOSPOT® 111



Product reference	Product number	W	V	cd					K		
41830 SSP <sup>1)</sup>	4050300011141	35	6	30000	4	G53	111	67	2800	6	1
41832 SSP <sup>1)</sup>	4050300335728	35	12	30000	4	G53	111	67	2800	6	1
41832 FL <sup>1)</sup>	4050300335766	35	12	2500	24	G53	111	67	2800	6	1
41835 SSP <sup>1)</sup>	4050300011165	50	12	40000	4	G53	111	67	2900	6	1
41835 SP <sup>1)</sup>	4050300011752	50	12	17000	6	G53	111	67	2900	6	1
41835 FL <sup>1)</sup>	4050300011769	50	12	4000	24	G53	111	67	2900	6	1
41835 WFL <sup>1)</sup>	4008321909213	50	12	1400	40	G53	111	67	2900	6	1
41840 SP <sup>1)</sup>	4050300011776	75	12	30000	6	G53	111	67	3000	6	1
41840 FL <sup>1)</sup>	4050300011783	75	12	5300	24	G53	111	67	3000	6	1
41840 WFL <sup>1)</sup>	4050300011790	75	12	2000	40	G53	111	67	3000	6	1
41850 SP <sup>1)</sup>	4050300358604	100	12	48000	6	G53	111	67	3000	6	1
41850 FL <sup>1)</sup>	4050300358628	100	12	8500	24	G53	111	67	3000	6	1
41850 WFL <sup>1)</sup>	4050300358642	100	12	2800	40	G53	111	67	3000	6	1

<sup>1)</sup> If plug connections are used additional support is needed on the edge of the reflector.

For strong accent lighting – Are you looking to highlight objects even in very bright surroundings? With HALOSPOT® 111 from OSRAM that's not a problem. This halogen lamp with its large aluminum reflector provides optimum illumination and very little scattered light.

## Product characteristics

- Average life: 3,000 h
- 100 % dimmable
- Base: G53
- Color rendering index R<sub>a</sub>: 100

## Product benefits

- Brilliant accent light
- Cap for reduced glare and ease of handling
- Burner with axial filament for optimum distribution of light
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Drastically reduced thermal load in the fixture thanks to an aluminum-coated reflector
- Contains no mercury, can be thrown away with normal household waste

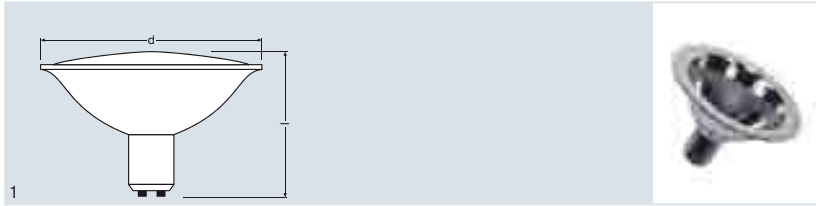
## Applications

- General illumination
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings
- Entrance lighting

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# HALOSPOT® 70



Product reference	Product number	W	V	cd					K		
							d [mm]	l [mm]			No.
41970 SP	4050300010656	20	12	7700	8	BA15d	70.5	50	2900	10	1
41970 FL	4050300011110	20	12	900	24	BA15d	70.5	50	2900	10	1
41990 SP	4050300011158	50	12	12500	8	BA15d	70.5	50	2900	10	1
41990 FL	4050300004020	50	12	2600	24	BA15d	70.5	50	2900	10	1

For uniform light distribution – Presenting things in a better light. Thanks to their excellent spotlighting and extremely high luminous intensity HALOSPOT® 70 lamps from OSRAM are real professionals when it comes to presenting rooms and objects in their best light.

## Product characteristics

- Average life: 3,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: BA15d

## Product benefits

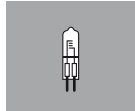
- Brilliant accent light
- Cap for reduced glare and ease of handling
- Excellent distribution of light thanks to faceted reflector
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Drastically reduced thermal load in the fixture thanks to an aluminum-coated reflector
- Contains no mercury, can be thrown away with normal household waste

## Applications

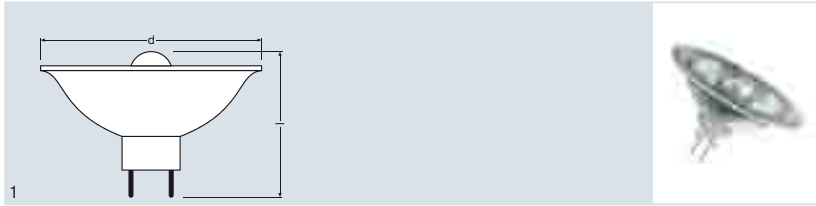
- General illumination
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# HALOSPOT® 48



Product reference	Product number	W	V	cd							
		W	V	cd	°	[h]		d [mm]	l [mm]		No.
41900 SP	4050300003962	20	12	3100	8	2000	GY4	48	38	10	1
41930 SP <sup>1)</sup>	4050300003979	20	24	3100	8	1000	GY4	48	38	10	1

1) A quick-acting cutout must be used according to EN 60432-2 | The lamp should be operated in enclosed fixtures

For uniform light distribution – Presenting things in a better light. Thanks to their excellent spotlighting and extremely high luminous intensity HALOSPOT® 48 lamps from OSRAM are real professionals when it comes to presenting rooms and objects in their best light.

## Product characteristics

- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Color temperature: 2,800 K
- Base: GY4

## Product benefits

- Brilliant accent light
- Cap for reduced glare and ease of handling
- Excellent distribution of light thanks to faceted reflector
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Drastically reduced thermal load in the fixture thanks to an aluminum-coated reflector
- Contains no mercury, can be thrown away with normal household waste

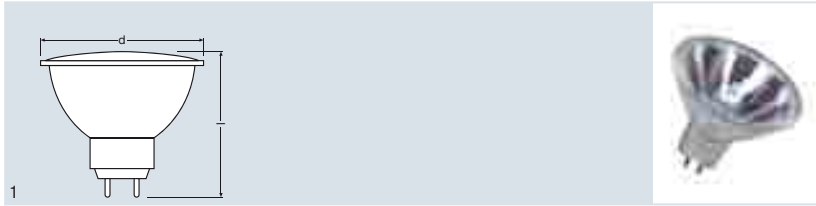
## Applications

- General illumination
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings
- Marine lighting

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# DECOSTAR® 51 ECO



Product reference	Product number	W	V	cd			$\varnothing$ [mm]	l [mm]	K			No.
48855 ECO SP	4008321 <b>945020</b>	14	12	2800	10	GU5.3	50.7	46	3000	20	1	
48855 ECO WFL	4008321 <b>945044</b>	14	12	480	36	GU5.3	50.7	46	3000	20	1	
48860 ECO SP	4050300 <b>620169</b>	20	12	5500	10	GU5.3	50.7	46	3000	20	1	
48860 ECO FL	4050300 <b>620183</b>	20	12	2000	24	GU5.3	50.7	46	3000	20	1	
48860 ECO WFL	4050300 <b>620206</b>	20	12	1000	36	GU5.3	50.7	46	3000	20	1	
48860 ECO WWFL	4050300 <b>620220</b>	20	12	450	60	GU5.3	50.7	46	3000	20	1	
48865 ECO SP	4050300 <b>516592</b>	35	12	11000	10	GU5.3	50.7	46	3000	20	1	
48865 ECO FL	4050300 <b>516615</b>	35	12	4100	24	GU5.3	50.7	46	3000	20	1	
48865 ECO WFL	4050300 <b>516639</b>	35	12	2200	36	GU5.3	50.7	46	3000	20	1	
48865 ECO WWFL	4050300 <b>516653</b>	35	12	1050	60	GU5.3	50.7	46	3000	20	1	
48870 ECO SP	4050300 <b>516677</b>	50	12	15000	10	GU5.3	50.7	46	3100	20	1	
48870 ECO FL	4050300 <b>516691</b>	50	12	5300	24	GU5.3	50.7	46	3100	20	1	
48870 ECO WFL	4050300 <b>516714</b>	50	12	2850	36	GU5.3	50.7	46	3100	20	1	
48870 ECO WWFL	4050300 <b>516738</b>	50	12	1450	60	GU5.3	50.7	46	3100	20	1	

High-quality light with impressive energy savings – The DECOSTAR® 51 ECO halogen lamp combines economy and brightness with superb quality.

## Product characteristics

- Average life: 5,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU5.3

## Product benefits

- Up to 30 % energy savings through IRC technology compared with conventional HALOGEN lamps
- Brilliant ECO accent lighting
- Significantly lower CO<sub>2</sub> emissions due to energy savings
- Constant luminous intensity and constant color location throughout their life
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste

## Applications

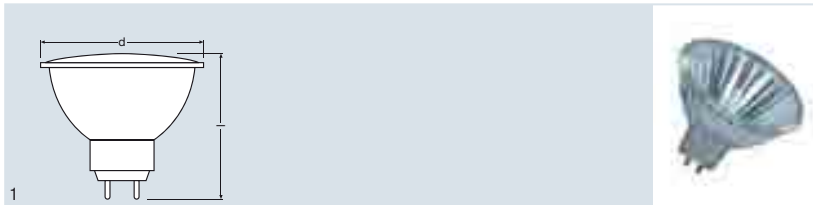
- General illumination
- Kitchen lighting
- Dining table lighting
- Mirror lighting
- Workplace lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# DECOSTAR® 51 TITAN



Product reference	Product number	W	V	cd					K		
46860 SP	4050300428635	20	12	5000	10	GU5.3	50.7	46	2900	20	1
46860 WFL	4050300428659	20	12	780	36	GU5.3	50.7	46	2900	20	1
46860 WWFL	4050300428673	20	12	350	60	GU5.3	50.7	46	2900	20	1
46865 SP	4050300428697	35	12	9500	10	GU5.3	50.7	46	3000	20	1
46865 FL	4050300476414	35	12	3100	24	GU5.3	50.7	46	3000	20	1
46865 WFL	4050300428710	35	12	1500	36	GU5.3	50.7	46	3000	20	1
46865 WWFL	4050300428734	35	12	700	60	GU5.3	50.7	46	3000	20	1
46870 SP	4050300428758	50	12	12500	10	GU5.3	50.7	46	3050	20	1
46870 FL	4050300465708	50	12	4400	24	GU5.3	50.7	46	3050	20	1
46870 WFL	4050300428772	50	12	2200	36	GU5.3	50.7	46	3050	20	1
46870 WWFL	4050300428796	50	12	1100	60	GU5.3	50.7	46	3050	20	1

A reliable constant – DECOSTAR® 51 TITAN offers excellent lumen maintenance, making it ideal for professional applications.

## Product characteristics

- Average life: 4,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU5.3

## Product benefits

- Brilliant accent light
- Constant bluish appearance of the light escaping at the back of the reflector
- Dichroic reflector reduces the heat in the light beam by up to 66 %
- Constant luminous intensity and constant color location throughout their life
- Flat clear shield
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste

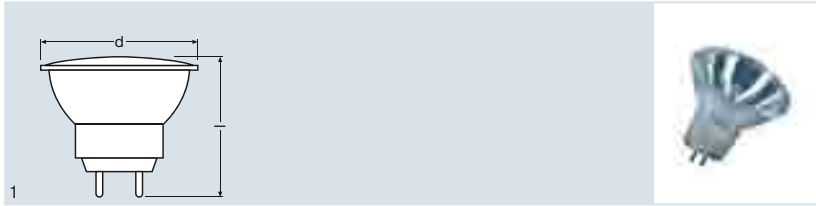
## Applications

- General illumination
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# DECOSTAR® 35 TITAN



Product reference	Product number	W	V	cd		t [h]					
46890 SP	4050300529301	20	12	3500	10	4000	GU4	35.3	40	10	1
46890 WFL	4050300529325	20	12	700	36	4000	GU4	35.3	40	10	1
46892 SP	4050300529349	35	12	6200	10	4000	GU4	35.3	40	10	1
46892 WFL	4050300529363	35	12	1400	36	4000	GU4	35.3	40	10	1

A reliable constant – DECOSTAR® 35 TITAN offers excellent lumen maintenance, making it ideal for professional applications.

## Product characteristics

- Average life: 4,000 h
- Dimmable
- Color rendering index  $R_a$ : 100
- Color temperature: 3,000 K
- Base: GU4

## Product benefits

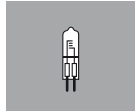
- Brilliant accent light
- Uniform bluish appearance of the light emitted at the back of the reflector
- Dichroic reflector reduces the heat in the light beam by up to 66 %
- Constant luminous intensity and constant color location throughout their life
- Flat clear shield
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste

## Applications

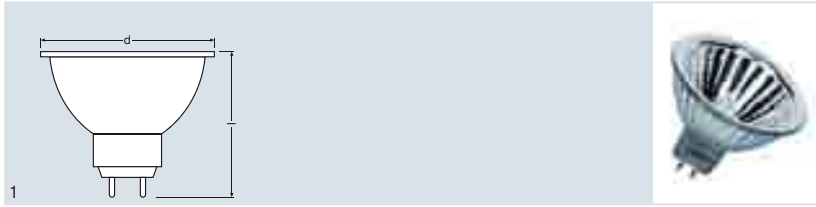
- General illumination
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# DECOSTAR® 51 ALU



Product reference	Product number	W	V	cd			d (mm)	l (mm)	K		
41861 WFL	4050300428819	20	12	510	36	GU5.3	50.7	46	2800	20	1
41866 WFL	4050300428833	35	12	1100	36	GU5.3	50.7	46	2900	20	1
41871 WFL	4050300428857	50	12	1800	36	GU5.3	50.7	46	3000	20	1

The problem solver for heat build-up – The “classic” dichroic reflector lamp is patently unsuitable in a recessed ceiling fixture because 2/3 of the heat it radiates is directed backwards. High temperatures can jeopardize the reliability of the entire lighting system. The solution is the DECOSTAR® 51 ALU from OSRAM.

## Product characteristics

- Average life: 2,000 h
- Dimmable
- Base: GU5.3
- Color rendering index R<sub>a</sub>: 100

## Product benefits

- Brilliant accent light
- No light can escape at the back of the reflector
- 100% constant quality of light throughout the life of the lamp
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- The aluminum-coated reflector without a shield reduces the thermal load in the fixture
- Reduced thermal load: ~60% compared with aluminum-coated reflectors with a shield
- Reduced thermal load: ~80% compared with dichroic reflectors with a shield
- Contains no mercury, can be thrown away with normal household waste

## Applications

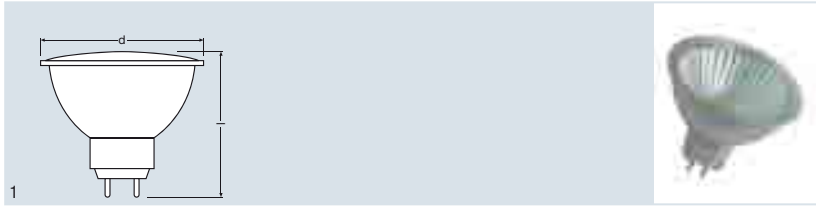
- General illumination
- Shops
- Restaurants, hotels and similar prestige applications
- Offices, public buildings








## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# DECOSTAR® 51 COOL BLUE®



Product reference	Product number	W	V	cd		 t [h]		 d [mm]	 l [mm]		 No.
46871 WFL	4050300816661	50	12	1200	36	4000	GU5.3	50.7	46	20	1

When cool light is needed – In shops selling jewellery, glassware or ceramic goods or in art galleries – in fact wherever cold light colors are needed – DECOSTAR® 51 COOL BLUE® from OSRAM is the right choice. This innovative dichroic reflector lamp is also perfect for rooms with a minimalist look or objects with metallic flair.

## Product characteristics

- Average life: 4,000 h
- 100 % dimmable
- Color rendering index  $R_a$ : 95
- Color temperature: 4,500 K
- Base: GU5.3

## Product benefits

- Brilliant accent light
- Dichroic reflector reduces the heat in the light beam by up to 66 %
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste

## Applications

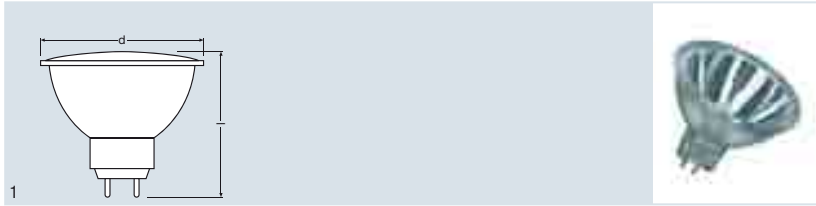
- General illumination
- Shops
- Hotels, restaurants, facility management
- Offices, public buildings

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)



# DECOSTAR® 51S STANDARD



Product reference	Product number	W	V	cd			d (mm)	l (mm)	K		
44860 SP	4050300272474	20	12	3000	10	GU5.3	50.7	46	2800	20	1
44860 WFL	4050300272511	20	12	480	36	GU5.3	50.7	46	2800	20	1
44865 SP	4050300272559	35	12	6200	10	GU5.3	50.7	46	2900	20	1
44865 WFL	4050300272634	35	12	1000	36	GU5.3	50.7	46	2900	20	1
44870 SP	4050300272672	50	12	9000	10	GU5.3	50.7	46	2950	20	1
44870 FL	4050300272719	50	12	2600	24	GU5.3	50.7	46	2950	20	1
44870 WFL	4050300272795	50	12	1450	36	GU5.3	50.7	46	2950	20	1
44870 VWFL	4050300272832	50	12	800	60	GU5.3	50.7	46	2950	20	1

Light is not always the same – When it comes to illuminating heat-sensitive objects the DECOSTAR® 51S dichroic reflector lamp is the right choice because most of the heat produced by the lamp is emitted through the rear of the reflector. This reduces the heat in the light beam by up to 66%. Present sensitive objects in the right light is therefore no problem at all.

## Product characteristics

- Average life: 2,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU5.3

## Product benefits

- Brilliant accent light
- Dichroic reflector reduces the heat in the light beam by up to 66 %
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste

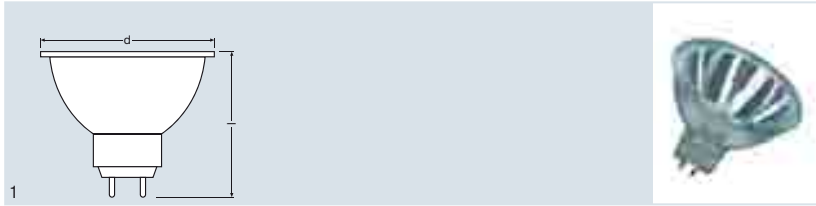
## Applications

- General illumination
- Entrance lighting
- Workplace lighting
- Kitchen lighting
- Mirror lighting
- Object lighting

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# DECOSTAR® 51 STANDARD



Product reference	Product number	W	V	cd			d [mm]	l [mm]	K		
41860 SP	4050300012612	20	12	3150	10	GU5.3	50.7	46	2800	20	1
41860 WFL	4050300012629	20	12	510	36	GU5.3	50.7	46	2800	20	1
41865 SP	4050300026527	35	12	6500	10	GU5.3	50.7	46	2900	20	1
41865 WFL	4050300026541	35	12	1050	36	GU5.3	50.7	46	2900	20	1
41870 SP	4050300012636	50	12	10000	10	GU5.3	50.7	46	3000	20	1
41870 FL	4050300012551	50	12	3200	24	GU5.3	50.7	46	3000	20	1
41870 WFL	4050300012575	50	12	1500	36	GU5.3	50.7	46	3000	20	1
41870 VWFL	4050300020112	50	12	800	60	GU5.3	50.7	46	3000	20	1

The lamp that stays cool – Every professional knows that light is not always the same when it comes to illuminating heat-sensitive objects. In this case the shieldless DECOSTAR® 51 dichroic reflector lamp is the right choice because most of the heat produced by the lamp is emitted through the rear of the reflector.

## Product characteristics

- Average life: 2,000 h
- Dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU5.3

## Product benefits

- Brilliant accent light
- Dichroic reflector reduces the heat in the light beam by up to 66 %
- Low-pressure burner for use in open fixtures to IEC 60432-3
- UV filter
- Contains no mercury, can be thrown away with normal household waste

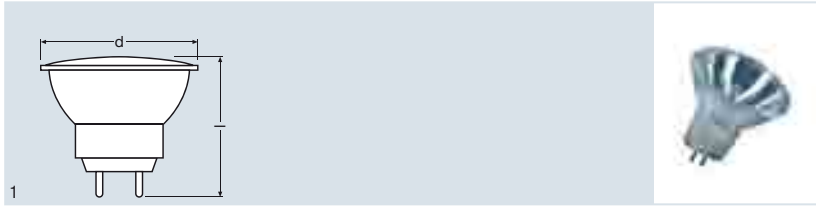
## Applications

- General illumination
- Workplace lighting
- Kitchen lighting
- Mirror lighting
- Object lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# DECOSTAR® 35



Product reference	Product number	W	V	cd					K		
							d [mm]	l [mm]			No.
44888 WFL	4050300443935	10	12	300	36	GU4	35.3	40	2900	10	1
44890 SP	4050300346090	20	12	2500	10	GU4	35.3	40	3000	10	1
44890 WFL	4050300346168	20	12	580	36	GU4	35.3	40	3000	10	1
44892 SP	4050300346182	35	12	5000	10	GU4	35.3	40	3000	10	1
44892 WFL	4050300346229	35	12	1000	36	GU4	35.3	40	3000	10	1

The lamp that stays cool – Every professional knows that light is not always the same when it comes to illuminating heat-sensitive objects. In this case the DECOSTAR® 35 dichroic reflector lamp is the right choice because most of the heat produced by the lamp is emitted through the rear of the reflector.

## Product characteristics

- Average life: 2,000 h
- 100 % dimmable
- Color rendering index R<sub>a</sub>: 100
- Base: GU4

## Product benefits

- Brilliant accent light
- Dichroic reflector reduces the heat in the light beam by up to 66 %
- Approved for use in open fixtures to IEC 60598-1
- UV filter
- Contains no mercury, can be thrown away with normal household waste

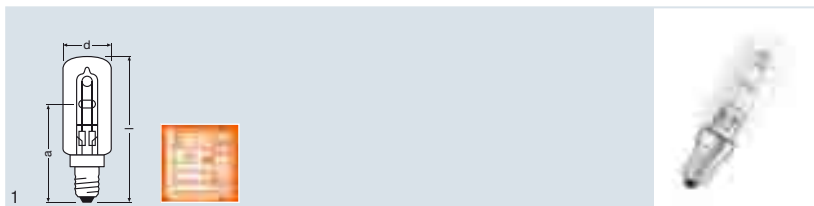
## Applications







- General illumination
- Workplace lighting
- Kitchen lighting
- Mirror lighting
- Object lighting
- Shops
- Restaurants, hotels and similar prestige applications

## References

For light distribution curves go to [www.osram.com](http://www.osram.com)

# HALOLUX® T ECO



Product reference	Product number	W	V	lm	K						
64860 T ECO	4050300500942	25	230	260	2700	E14	26	80	55	15	1
64861 T ECO	4050300363707	40	230	490	2700	E14	26	80	55	15	1
64862 T ECO	4050300331638	60	230	820	2800	E14	26	80	55	15	1

The complete package – The special HALOLUX® T ECO lamp with its clear and simple cylindrical shape is the compact halogen alternative to conventional incandescent lamps for special applications.

### Product characteristics

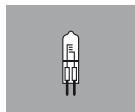
- Average life: 2,000 h
- 100 % dimmable

### Product benefits

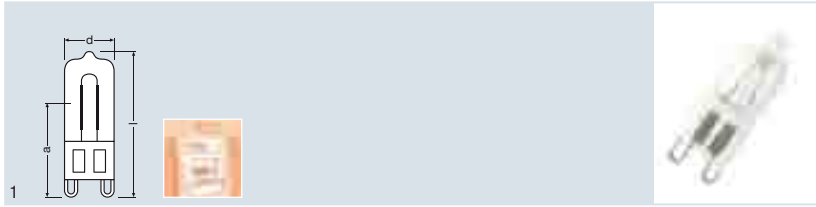
- Compact dimensions
- UV filter
- Contains no mercury, can be thrown away with normal household waste

### Applications

- Domestic refrigerators



## HALOPIN® oven lighting



Product reference	Product number	W	V	lm	t [h]						
66725 OVEN	4008321 <b>703552</b>	25	230	260	2000 <sup>1)</sup>	G9	14	43	22	20	1
66740 OVEN	4008321 <b>703576</b>	40	230	490	2000 <sup>1)</sup>	G9	14	43	22	20	1

<sup>1)</sup> Average life at room temperature, higher temperatures may shorten the average life

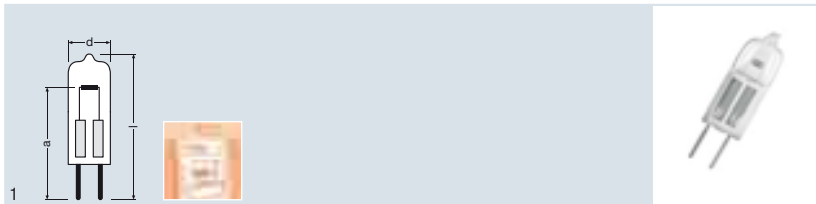
### Product benefits

- Optimum halogen content for high temperatures
- Contains no mercury, can be thrown away with normal household waste

### Applications

- Ovens

## HALOSTAR® oven lighting



Product reference	Product number	W	V	lm	t [h]						
64408 <sup>1)</sup>	4050300 <b>308029</b>	5	12	60	1000 <sup>2)</sup>	G4	10	33	22	40	1
64418 <sup>1)</sup>	4050300 <b>308081</b>	10	12	140	2000 <sup>2)</sup>	G4	10	33	22	40	1
64428 <sup>1)</sup>	4050300 <b>308050</b>	20	12	320	2000 <sup>2)</sup>	G4	12	33	22	40	1

<sup>1)</sup> Lamps are suitable for pyrolysis (lamps must be switched off. Max. ambient temperature 450 °C) | Use only in enclosed fixtures.

<sup>2)</sup> Average life at room temperature, higher temperatures may shorten the average life

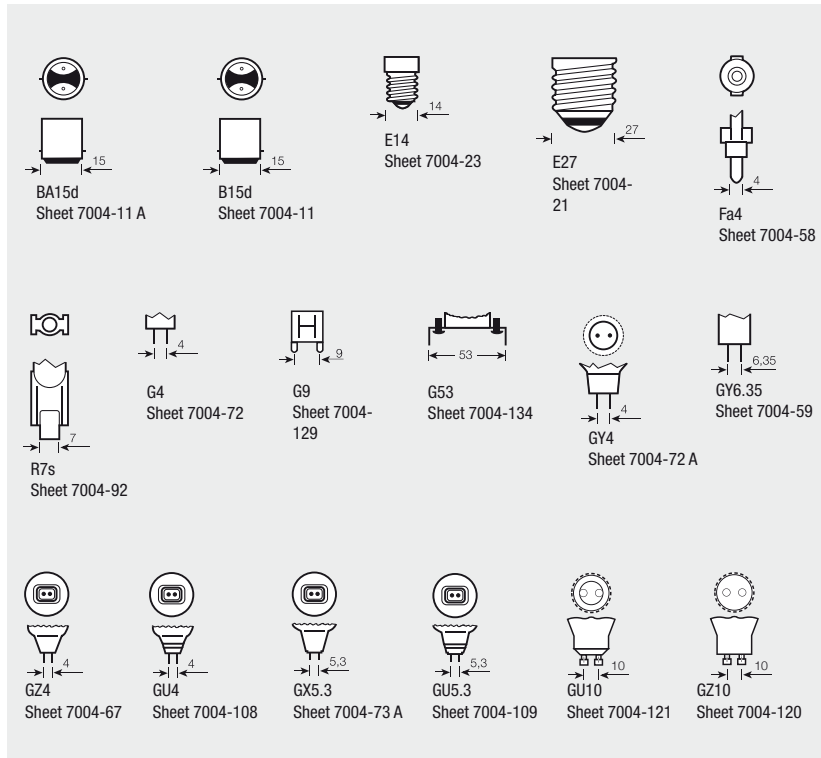
### Product benefits

- Two to three times the luminous efficacy of conventional oven lighting
- Optimum halogen content for high temperatures
- Tempered pins for reliable contact at high temperatures
- Suitable for pyrolysis (permissible ambient temperature 450 °C)
- Contains no mercury, can be thrown away with normal household waste

### Applications

- Ovens

## Bases IEC/EN 60061-1



### Note:

Operate halogen lamps for outdoor applications and damp locations only in fixtures approved for the purpose.

All the line voltage halogen lamps shown are rated for the European line voltage of 230 V. Other types are available on request

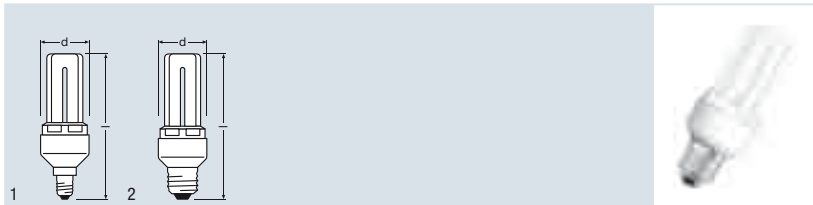
For an extended range for non-EU countries go to [www.osram.com](http://www.osram.com)





# Compact fluorescent lamps

OSRAM DULUX® INTELLIGENT FACILITY	4.02
OSRAM DULUX® INTELLIGENT LONGLIFE	4.03
OSRAM DULUX® INTELLIGENT LEDOTRON	4.04
OSRAM DULUX® INTELLIGENT DIM	4.05
OSRAM DULUX® INTELLIGENT HIGH EFFICIENCY	4.06
OSRAM DULUX® INTELLIGENT SENSOR	4.07
OSRAM DULUX® PRO STICK	4.08
OSRAM DULUX® PRO MICRO TWIST	4.09
OSRAM DULUX® PRO MINI TWIST	4.10
OSRAM DULUX® PRO CIRCOLUX	4.11
OSRAM DULUX® PRO MINI BALL	4.12
OSRAM DULUX® PRO MINI CANDLE	4.13
OSRAM DULUX® PRO MINI BULLET	4.14
OSRAM DULUX® PRO GLOBE	4.15
OSRAM DULUX® T PLUS	4.16
OSRAM DULUX® T/E PLUS	4.17
OSRAM DULUX® T/E CONSTANT	4.19
OSRAM DULUX® T/E HE HIGH EFFICIENCY	4.20
OSRAM DULUX® T/E XT	4.21
OSRAM DULUX® D	4.22
OSRAM DULUX® D/E	4.24
OSRAM DULUX® D/E XT	4.26
OSRAM DULUX® S	4.27
OSRAM DULUX® S/E	4.29
OSRAM DULUX® L LUMILUX®	4.30
OSRAM DULUX® L CONSTANT	4.32
OSRAM DULUX® L LUMILUX® DE LUXE	4.33
OSRAM DULUX® L SP	4.35
OSRAM DULUX® L HE HIGH EFFICIENCY	4.36
OSRAM DULUX® L XT	4.38
OSRAM DULUX® F	4.40
OSRAM CFL SQUARE® 2-Pin	4.41
OSRAM CFL SQUARE® 4-Pin	4.42
OSRAM ENDURA® The electrodeless fluorescent lamp	4.43
Technical data	4.44
Spectral power distribution of OSRAM DULUX® lamps with integrated control gear	4.46
Spectral power distribution of OSRAM DULUX® pin-base lamps	4.46
Light colors and color rendering properties to DIN 5035 for OSRAM DULUX® lamps with integrated control gear	4.47
Light colors and color rendering properties to DIN 5035 for OSRAM DULUX® pin-base lamps	4.47
Circuit diagrams for conventional control gear	4.48
Bases IEC/EN 60061-1	4.49



Product reference	Product number	W	V	lm	
DINT FCY 10W/825 E14 <sup>1)</sup>	4008321126276	10	220-240	580	Warm Comfort Light
DINT FCY 10W/825 E27 <sup>1)</sup>	4008321126290	10	220-240	580	Warm Comfort Light
DINT FCY 14W/825 E27 <sup>2)</sup>	4050300631905	14	220-240	800	Warm Comfort Light
DINT FCY 18W/825 E27 <sup>1)</sup>	4008321118356	18	220-240	1050	Warm Comfort Light
DINT FCY 22W/825 E27 <sup>1)</sup>	4008321948519	22	220-240	1360	Warm Comfort Light

Product reference							
DINT FCY 10W/825 E14 <sup>1)</sup>	20000 h	>1000000	E14	45	129	10	1
DINT FCY 10W/825 E27 <sup>1)</sup>	20000 h	>1000000	E27	45	120	10	2
DINT FCY 14W/825 E27 <sup>2)</sup>	20000 h	>1000000	E27	45	126	10	2
DINT FCY 18W/825 E27 <sup>1)</sup>	20000 h	>1000000	E27	45	140	10	2
DINT FCY 22W/825 E27 <sup>1)</sup>	20000 h	>1000000	E27	52	171	10	2

<sup>1)</sup> Also available in LUMILUX® Warm White (827) and Cool White (840) on request | Already complies with Stage 5 of the eco-design requirements of directive (EC) 244/2009  
<sup>2)</sup> Also available in LUMILUX® Warm White (827) and Cool White (840) on request | Also available with a B22d base on request | Already complies with Stage 5 of the eco-design requirements of directive (EC) 244/2009

OSRAM DULUX® INTELLIGENT FACILITY – Heavy duty lamp for demanding customers

### Product characteristics

- Extremely high number of switching cycles: > 1,000,000
- Extremely long average life: 20,000 h (20 years at 2.7 h per day)
- Quick Light: 60% luminous flux in ≤20 s
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Can be used in Direct Current systems: 176...310 V DC
- Very broad ambient temperature range: -30 to +50 °C
- Already complies to ecodesign requirements of EC 244/2009 regulation stage 5

### Product benefits

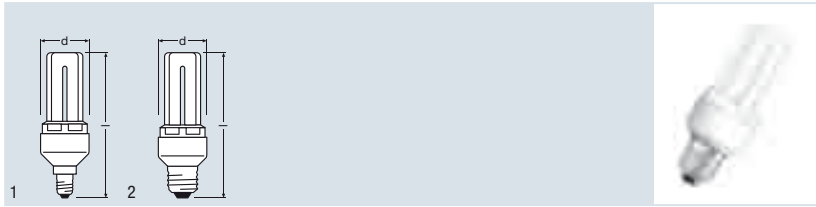
- Extremely durable due to extremely high switching resistance
- Much longer relamping intervals
- Variable use at Direct Current and Alternating Current
- Extremely fast lumen ramp-up thanks to Quick Light Technology

### Applications

- Where the lamps need to last a long time or have to withstand frequent on/off switching
- Installations with automatic switch-off (e.g. in stairwells)
- Emergency lighting
- Hard-to-reach holders
- Wherever light is required quickly
- Hotels, restaurants, facility management
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.



Product reference	Product number	W	V	lm	
DINT LL 7W/825 E14 <sup>1)</sup>	4050300315157	7	220-240	380	Warm Comfort Light
DINT LL 7W/825 E27 <sup>2)</sup>	4050300288819	7	220-240	380	Warm Comfort Light
DINT LL 11W/825 E14 <sup>1)</sup>	4050300811451	11	220-240	640	Warm Comfort Light
DINT LL 11W/825 E27 <sup>2)</sup>	4050300811598	11	220-240	640	Warm Comfort Light
DINT LL 14W/825 E27 <sup>3)</sup>	4008321394965	14	220-240	820	Warm Comfort Light
DINT LL 18W/825 E27 <sup>3)</sup>	4008321394989	18	220-240	1140	Warm Comfort Light
DINT LL 22W/825 E27 <sup>4)</sup>	4008321953469	22	220-240	1440	Warm Comfort Light
DINT LL 30W/825 E27 <sup>4)</sup>	4008321935939	30	220-240	1940	Warm Comfort Light

Product reference	t[h]			d [mm]	l [mm]		No.
DINT LL 7W/825 E14 <sup>1)</sup>	20000 h	500000	E14	36	122	10	1
DINT LL 7W/825 E27 <sup>2)</sup>	20000 h	500000	E27	36	116	10	2
DINT LL 11W/825 E14 <sup>1)</sup>	20000 h	500000	E14	45	129	10	1
DINT LL 11W/825 E27 <sup>2)</sup>	20000 h	500000	E27	45	120	10	2
DINT LL 14W/825 E27 <sup>3)</sup>	20000 h	500000	E27	45	131	10	2
DINT LL 18W/825 E27 <sup>3)</sup>	20000 h	500000	E27	45	148	10	2
DINT LL 22W/825 E27 <sup>4)</sup>	20000 h	500000	E27	58	176	10	2
DINT LL 30W/825 E27 <sup>4)</sup>	20000 h	500000	E27	58	195	10	2

1) Also available in LUMILUX® Warm White (827) and Cool White (840) on request  
 2) Also available in LUMILUX® Warm White (827) and Cool White (840) on request | Also available with a B22d base on request  
 3) Also available in LUMILUX® Warm White (827) and Cool White (840) on request | Also available with a B22d base on request | Already complies with Stage 5 of the eco-design requirements of directive (EC) 244/2009  
 4) Also available in LUMILUX® Warm White (827) and Cool White (840) on request | Already complies with Stage 5 of the eco-design requirements of directive (EC) 244/2009

## OSRAM DULUX® INTELLIGENT LONGLIFE – Durable Lighting

### Product characteristics

- Extremely long average lifetime: 20,000 h (20 years at 2.7 h per day)
- Very high number of switching cycles: 500,000
- Quick Light: 60% light output in  $\leq 20$  s
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Very broad ambient temperature range: -30 to +50 °C (7 W: -20 to +50 °C)

### Product benefits

- Very durable, due to high switching resistance
- Much longer relamping intervals
- Flicker-free starting and flicker-free operation
- Extremely fast lumen ramp-up thanks to Quick Light Technology

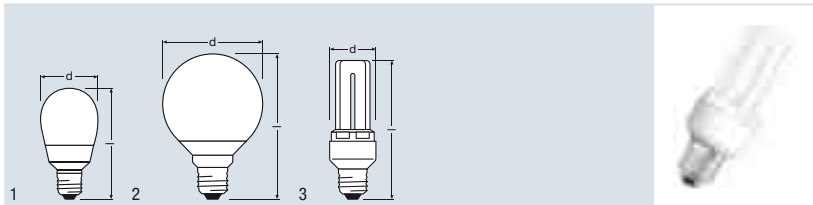
### Applications

- Hotels, restaurants, facility management
- Hard-to-reach holders
- General illumination
- Wherever light is required quickly
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm	
DINT LEDOTRON CLA14W/825 E27 <sup>1)</sup>	4008321988546	14	220-240	740	Warm Comfort Light
DINT LEDOTRON GL14W/825 E27 <sup>2)</sup>	4008321694652	14	220-240	820	Warm Comfort Light
DINT LEDOTRON STICK 18W/825 E27 <sup>2)</sup>	4008321671059	18	220-240	1140	Warm Comfort Light

Product reference							
DINT LEDOTRON CLA14W/825 E27 <sup>1)</sup>	10000 h	30000	E27	61 <sup>3)</sup>	128 <sup>3)</sup>	10	1
DINT LEDOTRON GL14W/825 E27 <sup>2)</sup>	20000 h	>1000000	E27	119	170	10	2
DINT LEDOTRON STICK 18W/825 E27 <sup>2)</sup>	20000 h	>1000000	E27	45	148	10	3

<sup>1)</sup> LEDOTRON classic shape planned to be available from fall 2012  
<sup>2)</sup> Already complies with Stage 5 of the eco-design requirements of directive (EC) 244/2009  
<sup>3)</sup> Photometric data subject to change without notice

NEW  
NEW  
NEW



OSRAM DULUX® INTELLIGENT LEDOTRON – The next generation of dimming

### Product characteristics

- LEDOTRON chip
- Quick Light: 60% light output in ≤20 s (LEDOTRON Stick version)
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a \geq 80$ ; constant chromaticity

### Product benefits

- Comfortable, digital dimming with LEDOTRON technology
- Creation of the preferred light ambience
- Switching possible at every dimming level
- Energy savings and dimming at the same time

### Applications

- Rooms in which different light levels are to be created
- Outdoor use in enclosed and ventilated luminaires only
- Wherever light is required quickly
- Hard-to-reach holders
- General illumination

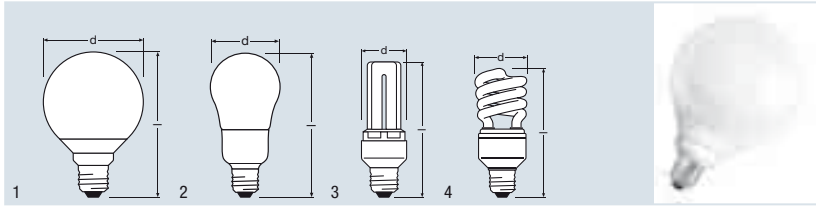
### Technical equipment

- Suitable for dimming with LEDOTRON control devices only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)





Product reference	Product number	W	V	lm	
DINT DIM GL 15W/825 E27 <sup>1)</sup>	4008321924209	15	220-240	840	Warm Comfort Light
<b>NEW</b> DINT DIM CLA 16W/825 E27 <sup>2)</sup>	4008321953544	16	220-240	880	Warm Comfort Light
DINT DIM STICK 18W/825 E27 <sup>1)</sup>	4008321953445	18	220-240	1140	Warm Comfort Light
<b>NEW</b> DINT DIM TWIST 20W/825 E27 <sup>3)</sup>	4008321953605	20	220-240	1300	Warm Comfort Light

Product reference							
DINT DIM GL 15W/825 E27 <sup>1)</sup>	20000 h	>1000000	E27	120	170	10	1
DINT DIM CLA 16W/825 E27 <sup>2)</sup>	10000 h	30000	E27	78	163	10	2
DINT DIM STICK 18W/825 E27 <sup>1)</sup>	20000 h	>1000000	E27	52	161	10	3
DINT DIM TWIST 20W/825 E27 <sup>3)</sup>	10000 h	15000	E27	56	138	10	4

<sup>1)</sup> Already complies with Stage 5 of the eco-design requirements of directive (EC) 244/2009  
<sup>2)</sup> Also available in LUMILUX® Warm White (827) and Cool White (840) on request | Also available with a B22d base on request  
<sup>3)</sup> Also available in LUMILUX® Warm White (827) on request

OSRAM DULUX® INTELLIGENT DIM – Turn it on, and dim it down

### Product characteristics

- Infinitely variable dimming (from 100 to 7%) with leading edge phase dimmers
- Dimmable compact fluorescent lamps in Stick, Twist, Globe and Classic shapes
- Quick Light: 60% light output in ≤20 s (DIM Globe, DIM Stick and DIM Twist)
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a$ : ≥80; constant chromaticity

### Product benefits

- Creation of the preferred light ambiance
- Greatest light color variation among energy-saving products
- Energy savings and dimming at the same time
- Various lamp shapes available to fit all luminaires

### Applications

- Rooms in which different light levels are to be created
- Dimmable installations
- General illumination
- For indoor lighting only

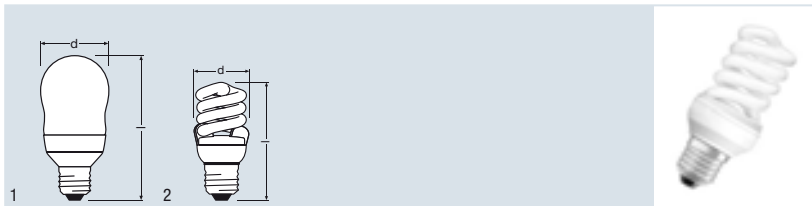
### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

For dimming compliance go to [www.osram.com/DIM](http://www.osram.com/DIM)





Product reference	Product number	W	V	lm	
DINT HE CL A 11W/825 E27	4008321587947	11	220-240	770 lm	Warm Comfort Light
DINT HE CL A 14W/825 E27	4008321587985	14	220-240	980 lm	Warm Comfort Light
DINT HE MICRTW 11W/825 E27	4008321965905	11	220-240	825 lm <sup>2)</sup>	Warm Comfort Light
DINT HE MICRTW 14W/825 E27	4008321965912	14	220-240	1050 lm <sup>2)</sup>	Warm Comfort Light
DINT HE MICRTW 20W/825 E27 <sup>1)</sup>	4008321965929	20	220-240	1500 lm <sup>2)</sup>	Warm Comfort Light



Product reference							
DINT HE CL A 11W/825 E27	15000 h	50000	E27	61	117	10	1
DINT HE CL A 14W/825 E27	15000 h	50000	E27	61	128	10	1
DINT HE MICRTW 11W/825 E27	15000 h	50000 <sup>2)</sup>	E27	42	101	10	2
DINT HE MICRTW 14W/825 E27	15000 h	50000 <sup>2)</sup>	E27	42	104	10	2
DINT HE MICRTW 20W/825 E27 <sup>1)</sup>	15000 h	50000 <sup>2)</sup>	E27	42	116	10	2

<sup>1)</sup> Planned to be available from the end of 2012  
<sup>2)</sup> Photometric data subject to change without notice

OSRAM DULUX® INTELLIGENT HIGH EFFICIENCY – Efficiency which will impress

### Product characteristics

- Luminous efficacy:  $\geq 70$  lm/W
- Available in 3 light colors: 825, 827 and 840
- Quick Light: 60% light output in  $\leq 30$  s (Twist version)
- Warm Comfort Light – warm energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a$ :  $\geq 80$ ; constant chromaticity

### Product benefits

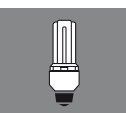
- Excellent price/performance ratio
- Improved efficiency: More light for the same wattage
- Fast return on investment
- Various lamp shapes available to fit all luminaires

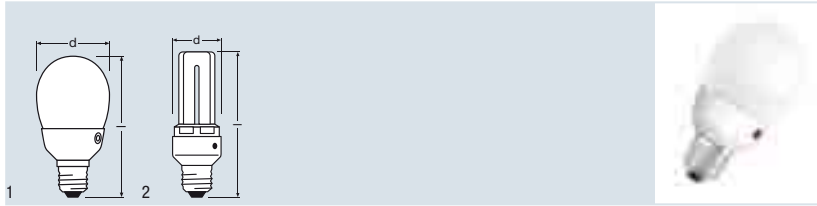
### Applications

- General illumination
- Hospitality
- Hotels, restaurants
- Wherever compact, efficient lamps are needed
- Hard-to-reach holders

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm	
DINT SENSOR MIBA 11W/825 E27	4008321377722	11	220-240	630	Warm Comfort Light
DINT SENSOR STICK 11W/827 E27	4008321986955	11	220-240	600	Warm White
DINT SENSOR STICK 15W/827 E27 <sup>1)</sup>	4008321987082	15	220-240	850	Warm White

Product reference							
	[h]	[h]	[mm]	[mm]	[mm]		No.
DINT SENSOR MIBA 11W/825 E27	10000 h	10000	E27	60	114	10	1
DINT SENSOR STICK 11W/827 E27	20000 h	500000	E27	45	126	10	2
DINT SENSOR STICK 15W/827 E27 <sup>1)</sup>	20000 h	500000	E27	45	132	10	2

<sup>1)</sup> Also available with a B22d base on request

OSRAM DULUX® INTELLIGENT SENSOR – Welcome the night with light

### Product characteristics

- Warm Comfort Light - energy-saving light similar to that of an incandescent lamp
- Available in tubular and classic designs
- Available in 2 light colors: 825 and 827
- Good quality of light; color rendering index  $R_a$ :  $\geq 80$ ; constant chromaticity

### Product benefits

- Energy-saving lighting solution because of automatic switch-off at day-light
- Automatically switches on at dusk and off again at dawn
- Intelligent microprocessor technology
- Unaffected by interference light
- Low maintenance effort
- Light sensors detect daylight on the basis of the spectral distribution

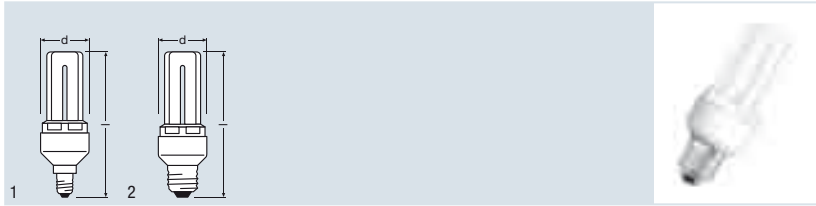
### Applications

- Wherever constant lighting is necessary at night
- Outdoor applications only
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm	
DPRO STICK 8W/825 E14 <sup>1)</sup>	4008321 <b>986948</b>	8	220-240	440	Warm Comfort Light
DPRO STICK 8W/825 E27 <sup>1)</sup>	4008321 <b>987075</b>	8	220-240	440	Warm Comfort Light
DPRO STICK 14W/825 E27 <sup>1)</sup>	4008321 <b>987013</b>	14	220-240	770	Warm Comfort Light
DPRO STICK 20W/825 E27 <sup>1)</sup>	4008321 <b>986825</b>	20	220-240	1300	Warm Comfort Light
DPRO STICK 30W/825 E27 <sup>2)</sup>	4008321 <b>987099</b>	30	220-240	1940	Warm Comfort Light

Product reference	t [h]			d [mm]	h [mm]		No.
DPRO STICK 8W/825 E14 <sup>1)</sup>	10000 h	10000	E14	43	115	10	1
DPRO STICK 8W/825 E27 <sup>1)</sup>	10000 h	10000	E27	43	112	10	2
DPRO STICK 14W/825 E27 <sup>1)</sup>	10000 h	10000	E27	44	136	10	2
DPRO STICK 20W/825 E27 <sup>1)</sup>	10000 h	10000	E27	45	159	10	2
DPRO STICK 30W/825 E27 <sup>2)</sup>	10000 h	10000	E27	58	195	10	2

<sup>1)</sup> Also available in LUMILUX® Cool White (840) and Cool Daylight (865) on request | Also available with a B22d base on request  
<sup>2)</sup> Also available in LUMILUX® Cool White (840) on request

OSRAM DULUX® PRO STICK – Great performance for reasonable expense

### Product characteristics

- Quick Light: 60% light output in  $\leq 30$  s
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a \geq 80$ ; constant chromaticity

### Product benefits

- Excellent price/performance ratio
- Extremely fast lumen ramp-up thanks to Quick Light Technology
- Fast return on investment
- Great variety of light colors

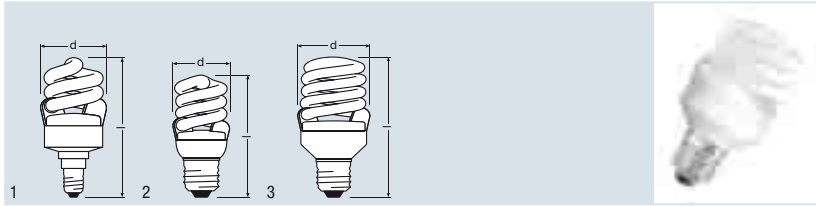
### Applications

- High-quality domestic and professional environments
- Wherever light is required quickly
- General illumination
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm			
DPRO MCTW 7W/825 E14 <sup>1)</sup>	4008321986030	7	220-240	430	Warm Comfort Light		
DPRO MCTW 7W/825 E27 <sup>2)</sup>	4008321986047	7	220-240	430	Warm Comfort Light		
DPRO MCTW 11W/825 E14 <sup>1)</sup>	4008321986085	11	220-240	650	Warm Comfort Light		
DPRO MCTW 11W/825 E27 <sup>2)</sup>	4008321986092	11	220-240	650	Warm Comfort Light		
DPRO MCTW 14W/825 E27 <sup>2)</sup>	4008321986139	14	220-240	860	Warm Comfort Light		
DPRO MCTW 17W/825 E27 <sup>2)</sup>	4008321986160	17	220-240	1200	Warm Comfort Light		
DPRO MCTW 23W/825 E27 <sup>2)</sup>	4008321986191	23	220-240	1600	Warm Comfort Light		

Product reference	t [h]			d [mm]	L [mm]		
DPRO MCTW 7W/825 E14 <sup>1)</sup>	10000 h	7000	E14	43	94	10	1
DPRO MCTW 7W/825 E27 <sup>2)</sup>	10000 h	7000	E27	43	91	10	2
DPRO MCTW 11W/825 E14 <sup>1)</sup>	12000 h	7000	E14	43	103	10	1
DPRO MCTW 11W/825 E27 <sup>2)</sup>	12000 h	7000	E27	43	96	10	2
DPRO MCTW 14W/825 E27 <sup>2)</sup>	12000 h	7000	E14	57	101	10	3
DPRO MCTW 17W/825 E27 <sup>2)</sup>	12000 h	7000	E27	57	112	10	3
DPRO MCTW 23W/825 E27 <sup>2)</sup>	12000 h	7000	E27	57	119	10	3

<sup>1)</sup> Also available in LUMILUX® Cool Daylight (865) on request  
<sup>2)</sup> Also available with a B22d base on request | Also available in LUMILUX® Cool Daylight (865) on request

OSRAM DULUX® PRO MICRO TWIST – A beautiful twist

### Product characteristics

- Quick Light: 60% light output in  $\leq 30$  s
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a: \geq 80$ ; constant chromaticity

### Product benefits

- Extremely small dimensions
- Very compact CFLi shape with high efficiency
- Extremely fast lumen ramp-up thanks to Quick Light Technology
- Low maintenance effort
- High efficiency: more light for the same wattage
- Higher luminous efficacy
- Fast return on investment

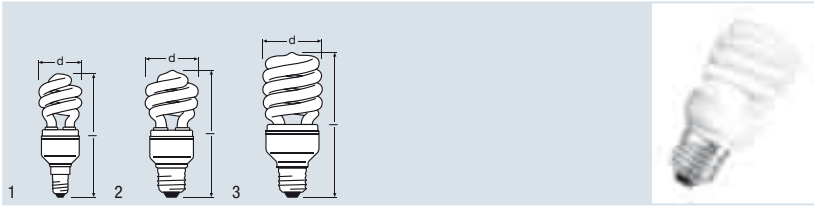
### Applications

- Wherever compact, efficient lamps are needed
- High-quality domestic and professional applications
- General illumination
- Wherever light is required quickly
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm	
DPRO MTW 11W/825 E14 <sup>1)</sup>	4008321 <b>986221</b>	11	220-240	660	Warm Comfort Light
DPRO MTW 11W/825 E27 <sup>2)</sup>	4008321 <b>986238</b>	11	220-240	660	Warm Comfort Light
DPRO MTW 13W/825 E27 <sup>2)</sup>	4008321 <b>986290</b>	13	220-240	835	Warm Comfort Light
DPRO MTW 18W/825 E27 <sup>2)</sup>	4008321 <b>986337</b>	18	220-240	1150	Warm Comfort Light
DPRO MTW 23W/825 E27 <sup>2)</sup>	4008321 <b>986375</b>	23	220-240	1520	Warm Comfort Light

Product reference							
DPRO MTW 11W/825 E14 <sup>1)</sup>	8000 h	10000	E14	43	109	10	1
DPRO MTW 11W/825 E27 <sup>2)</sup>	8000 h	10000	E27	48	93	10	2
DPRO MTW 13W/825 E27 <sup>2)</sup>	8000 h	10000	E27	52	119	10	2
DPRO MTW 18W/825 E27 <sup>2)</sup>	8000 h	10000	E27	56	126	10	3
DPRO MTW 23W/825 E27 <sup>2)</sup>	8000 h	10000	E27	56	135	10	3

<sup>1)</sup> Also available in LUMILUX® Cool White (840) and Cool Daylight (865) on request  
<sup>2)</sup> Also available in LUMILUX® Cool White (840) and Cool Daylight (865) on request ! Also available with a B22d base on request

OSRAM DULUX® PRO MINI TWIST – Known technique in an efficient design

#### Product characteristics

- Quick Light: 60% light output in  $\leq 20$  s
- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Available in 3 light colors: 825, 840 and 865
- Good quality of light; color rendering index  $R_a \geq 80$ ; constant chromaticity

#### Product benefits

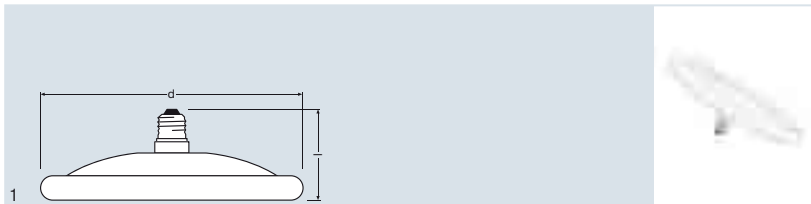
- Compact dimensions
- Higher luminous efficacy
- Great light color variation among energy-saving products
- Extremely fast lumen ramp-up thanks to Quick Light Technology
- Fast return on investment

#### Applications

- High-quality domestic and professional applications
- General illumination
- Wherever light is required quickly
- Outdoor use in enclosed and ventilated luminaires only

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.



Product reference	Product number	W	V	lm	Color		
DPRO CIRCOLUX 24W/827 E27 <sup>1)</sup>	4008321987112	24	220-240	1600	Warm White		
Product reference	t [h]	Icon	Base	d [mm]	l [mm]	Icon	No.
DPRO CIRCOLUX 24W/827 E27 <sup>1)</sup>	15000 h		E27	231	82		1

1) Also available in LUMILUX® Cool White (840) on request

OSRAM DULUX® PRO CIRCOLUX – The well-rounded solution

### Product characteristics

- Very long average lifetime: 15,000 h (15 years at 2.7 h per day)
- Quick Light: 60% light output in  $\leq 20$  s
- Good quality of light; color rendering index  $R_a: \geq 80$ ; constant chromaticity

### Product benefits

- Excellent luminous flux
- Ideal distribution of light for general illumination
- Low weight and low profile
- Attractive lamp appearance
- Extremely fast lumen ramp-up thanks to Quick Light Technology
- Fast return on investment

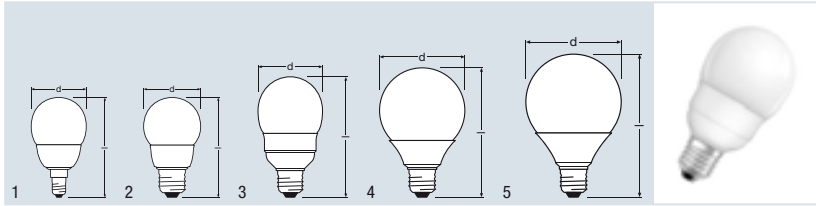
### Applications

- High-quality domestic and professional environments
- Large shaded and pendant luminaires
- Low-profile wall and ceiling luminaires
- Hard-to-reach holders
- General illumination
- Wherever light is required quickly
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm	
DPRO MIBA 7W/825 E14	4008321986580	7	220-240	300	Warm Comfort Light
DPRO MIBA 7W/825 E27	4008321986573	7	220-240	300	Warm Comfort Light
DPRO MIBA 11W/825 E27 <sup>1)</sup>	4008321986610	11	220-240	580	Warm Comfort Light
DPRO MIBA 15W/825 E27 <sup>1)</sup>	4008321986627	15	220-240	800	Warm Comfort Light
DPRO MIBA 20W/825 E27	4008321986634	20	220-240	1152	Warm Comfort Light

Product reference							
DPRO MIBA 7W/825 E14	10000 h	10000	E14	51	96	10	1
DPRO MIBA 7W/825 E27	10000 h	10000	E27	51	93	10	2
DPRO MIBA 11W/825 E27 <sup>1)</sup>	10000 h	10000	E27	61	117	10	3
DPRO MIBA 15W/825 E27 <sup>1)</sup>	10000 h	10000	E27	81	125	10	4
DPRO MIBA 20W/825 E27	10000 h	10000	E27	96	142	10	5

<sup>1)</sup> Also available with a B22d base on request

OSRAM DULUX® PRO MINI BALL – Beautiful efficiency

#### Product characteristics

- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a$ :  $\geq 80$ ; constant chromaticity
- Frosted outer bulb

#### Product benefits

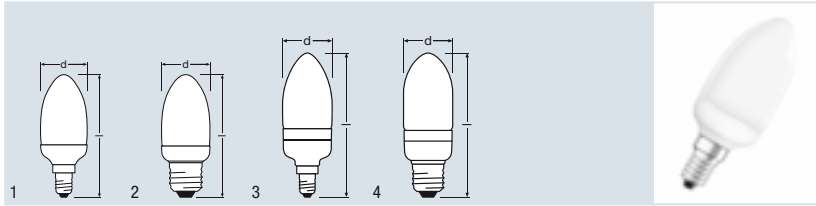
- Attractive lamp appearance
- Compact dimensions
- Ideal for decorative and free-burning applications
- Can be easily fitted instead of ordinary light bulbs

#### Applications

- Attractive CFLi shape, therefore also suitable for open luminaires
- General illumination
- High-quality domestic and professional environments
- Outdoor use in enclosed and ventilated luminaires only

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.



NEW  
NEW  
NEW  
NEW

Product reference	Product number	W	V	lm	
DPRO MICA 6W/825 E14	4008321 <b>986603</b>	6	220-240	230	Warm Comfort Light
DPRO MICA 6W/825 E27	4008321 <b>986597</b>	6	220-240	230	Warm Comfort Light
DPRO MICA 9W/825 E14	4008321 <b>986658</b>	9	220-240	430	Warm Comfort Light
DPRO MICA 9W/825 E27	4008321 <b>986641</b>	9	220-240	430	Warm Comfort Light

Product reference							
DPRO MICA 6W/825 E14	10000 h	30000	E14	37	98	10	1
DPRO MICA 6W/825 E27	10000 h	30000	E27	37	95	10	2
DPRO MICA 9W/825 E14	10000 h	30000	E14	43	110	10	3
DPRO MICA 9W/825 E27	10000 h	30000	E27	43	109	10	4



OSRAM DULUX® PRO MINI CANDLE – Classic and elegant

**Product characteristics**

- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index R<sub>a</sub>: ≥ 80; constant chromaticity
- Frosted outer bulb
- Already complies to ecodesign requirements of EC 244/2009 regulation stage 5

**Product benefits**

- Attractive lamp appearance
- Ideal for decorative and free-burning applications
- Can be easily fitted instead of ordinary light bulbs

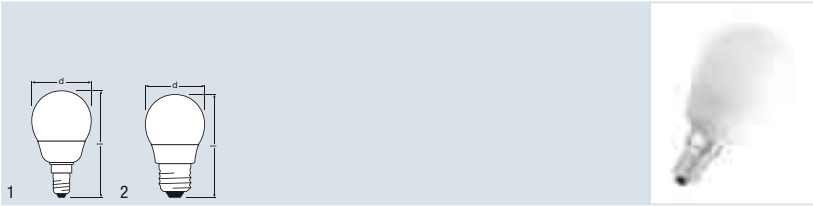
**Applications**

- Attractive CFLi shape, therefore also suitable for open luminaires
- General illumination
- Demanding private and professional environments
- Outdoor use in enclosed and ventilated luminaires only

**Safety information**

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	V	lm	
DPRO MIBU 6W/825 E14	4008321 <b>986696</b>	6	220-240	230	Warm Comfort Light
DPRO MIBU 6W/825 E27	4008321 <b>986689</b>	6	220-240	230	Warm Comfort Light
DPRO MIBU 9W/825 E14	4008321 <b>986733</b>	9	220-240	430	Warm Comfort Light
DPRO MIBU 9W/825 E27	4008321 <b>986726</b>	9	220-240	430	Warm Comfort Light



Product reference	t [h]			d [mm]	l [mm]		No.
DPRO MIBU 6W/825 E14	10000 h	30000	E14	46	85	10	1
DPRO MIBU 6W/825 E27	10000 h	30000	E27	46	82	10	2
DPRO MIBU 9W/825 E14	10000 h	30000	E14	56	100	10	1
DPRO MIBU 9W/825 E27	10000 h	30000	E27	56	98	10	2

OSRAM DULUX® PRO MINI BULLET – Tiny but lighty

### Product characteristics

- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Good quality of light; color rendering index  $R_a$ :  $\geq 80$ ; constant chromaticity
- Frosted outer bulb
- Already complies to ecodesign requirements of EC 244/2009 regulation stage 5

### Product benefits

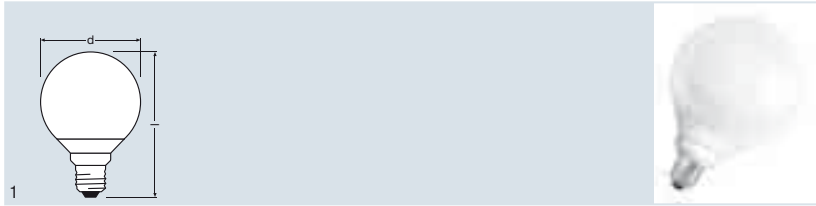
- Among the smallest energy-saving lamps
- Attractive lamp appearance
- Ideal for decorative and free-burning applications
- Extremely small dimensions
- Ideal in particular for small designer luminaires
- Can be easily fitted instead of ordinary light bulbs

### Applications

- Attractive CFLi shape, therefore also suitable for open luminaires
- General illumination
- High-quality domestic and professional environments
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.



Product reference	Product number	W	V	lm	
DPRO GL 14W/825 E27	4008321986665	14	220-240	860	Warm Comfort Light
DPRO GL 18W/825 E27	4008321986672	18	220-240	1060	Warm Comfort Light

Product reference	t [h]			d [mm]	l [mm]		No.
DPRO GL 14W/825 E27	15000 h	500000	E27	120	170	10	1
DPRO GL 18W/825 E27	15000 h	500000	E27	120	170	10	1

OSRAM DULUX® PRO GLOBE – Lighting Globe

### Product characteristics

- Warm Comfort Light – energy-saving light similar to that of an incandescent lamp
- Quick Light: 60% light output in  $\leq 40$  s
- Good quality of light; color rendering index  $R_a: \geq 80$ ; constant chromaticity
- Frosted outer bulb
- Already complies to ecodesign requirements of EC 244/2009 regulation stage 5

### Product benefits

- Attractive lamp appearance
- Ideal for decorative and free-burning applications
- Can be easily fitted instead of ordinary light bulbs

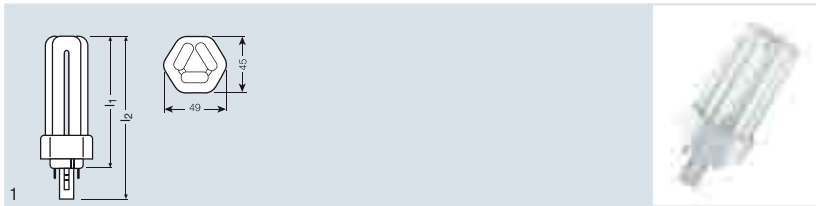
### Applications

- General illumination
- High-quality domestic and professional environments
- Outdoor use in enclosed and ventilated luminaires only

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)  
 Not suitable for use with external dimmers or electronic switches.





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX T 13 W/830 PLUS	4050300446929	13	900	80...89
DULUX T 13 W/840 PLUS	4050300446905	13	900	80...89
DULUX T 18 W/827 PLUS	4050300333502	18	1200	80...89
DULUX T 18 W/830 PLUS	4050300333489	18	1200	80...89
DULUX T 18 W/840 PLUS	4050300333465	18	1200	80...89
DULUX T 26 W/827 PLUS	4050300342085	26	1800	80...89
DULUX T 26 W/830 PLUS	4050300342061	26	1800	80...89
DULUX T 26 W/840 PLUS	4050300342047	26	1800	80...89

Product reference			h max. [mm]		No.
DULUX T 13 W/830 PLUS	LUMILUX Warm White	GX24d-1	90	10	1
DULUX T 13 W/840 PLUS	LUMILUX Cool White	GX24d-1	90	10	1
DULUX T 18 W/827 PLUS	LUMILUX INTERNA	GX24d-2	101	10	1
DULUX T 18 W/830 PLUS	LUMILUX Warm White	GX24d-2	101	10	1
DULUX T 18 W/840 PLUS	LUMILUX Cool White	GX24d-2	101	10	1
DULUX T 26 W/827 PLUS	LUMILUX INTERNA	GX24d-3	116	10	1
DULUX T 26 W/830 PLUS	LUMILUX Warm White	GX24d-3	116	10	1
DULUX T 26 W/840 PLUS	LUMILUX Cool White	GX24d-3	116	10	1

Thanks to its impressive properties and compact design, the OSRAM DULUX® T PLUS can be used in a wide range of traditional fixtures and downlights with small mounting depths (CCG operation).

#### Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux
- Long service life\*

#### Product characteristics

- Average life: 10,000 hours
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Good maintenance
- Short and compact pin-base lamps with triple-turn tubes
- Single-ended two-pin plug-in GX24d base
- Suitable for operation on conventional control gear
- OSRAM DULUX® T 18 W PLUS lamps are suitable only for operating with 0.22 A control gear

#### Applications

- Public buildings
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

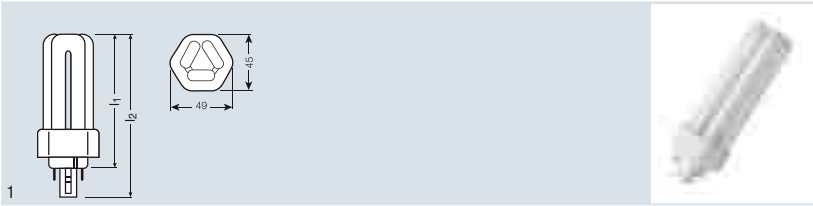
#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

- \* Service life is defined as the time when 70% of the system luminous flux is still available.





Product reference	Product number	W	lm	Ra
DULUX T/E 13 W/827 PLUS	4050300447001	13	900	80...89
DULUX T/E 13 W/830 PLUS	4050300446981	13	900	80...89
DULUX T/E 13 W/840 PLUS	4050300446967	13	900	80...89
DULUX T/E 18 W/827 PLUS	4050300342269	18	1200	80...89
DULUX T/E 18 W/830 PLUS	4050300342245	18	1200	80...89
DULUX T/E 18 W/840 PLUS	4050300342221	18	1200	80...89
DULUX T/E 26 W/827 PLUS	4050300342320	26	1800	80...89
DULUX T/E 26 W/830 PLUS	4050300342306	26	1800	80...89
DULUX T/E 26 W/840 PLUS	4050300342283	26	1800	80...89
DULUX T/E 32 W/827 PLUS	4050300348605	32	2400	80...89
DULUX T/E 32 W/830 PLUS	4050300348582	32	2400	80...89
DULUX T/E 32 W/840 PLUS	4050300348568	32	2400	80...89
DULUX T/E 42 W/827 PLUS	4050300425665	42	3200	80...89
DULUX T/E 42 W/830 PLUS	4050300425641	42	3200	80...89
DULUX T/E 42 W/840 PLUS	4050300425627	42	3200	80...89

Product reference			l max. [mm]		No.
DULUX T/E 13 W/827 PLUS	LUMILUX INTERNA	GX24q-1	90	10	1
DULUX T/E 13 W/830 PLUS	LUMILUX Warm White	GX24q-1	90	10	1
DULUX T/E 13 W/840 PLUS	LUMILUX Cool White	GX24q-1	90	10	1
DULUX T/E 18 W/827 PLUS	LUMILUX INTERNA	GX24q-2	101	10	1
DULUX T/E 18 W/830 PLUS	LUMILUX Warm White	GX24q-2	101	10	1
DULUX T/E 18 W/840 PLUS	LUMILUX Cool White	GX24q-2	101	10	1
DULUX T/E 26 W/827 PLUS	LUMILUX INTERNA	GX24q-3	116	10	1
DULUX T/E 26 W/830 PLUS	LUMILUX Warm White	GX24q-3	116	10	1
DULUX T/E 26 W/840 PLUS	LUMILUX Cool White	GX24q-3	116	10	1
DULUX T/E 32 W/827 PLUS	LUMILUX INTERNA	GX24q-3	132	10	1
DULUX T/E 32 W/830 PLUS	LUMILUX Warm White	GX24q-3	132	10	1
DULUX T/E 32 W/840 PLUS	LUMILUX Cool White	GX24q-3	132	10	1
DULUX T/E 42 W/827 PLUS	LUMILUX INTERNA	GX24q-4	153	10	1
DULUX T/E 42 W/830 PLUS	LUMILUX Warm White	GX24q-4	153	10	1
DULUX T/E 42 W/840 PLUS	LUMILUX Cool White	GX24q-4	153	10	1



OSRAM DULUX® T/E PLUS – an energy-saving compact fluorescent lamp that is at home both indoors and outdoors. It has been optimized for indoor lighting and is therefore ideal for small unconventional fixtures and downlights with small mounting depths and for new lighting systems.

#### Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux
- Long service life\*
- OSRAM System\* Guarantee in combination with OSRAM QUICKTRONIC® ECG

#### Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved maintenance
- Dimmable from 100% to 3%
- Short and compact pin-base lamps with triple-turn tubes
- Single-ended 4-pin plug-in GX24q base with shortened base casing
- Suitable for operation on electronic control gear

#### Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

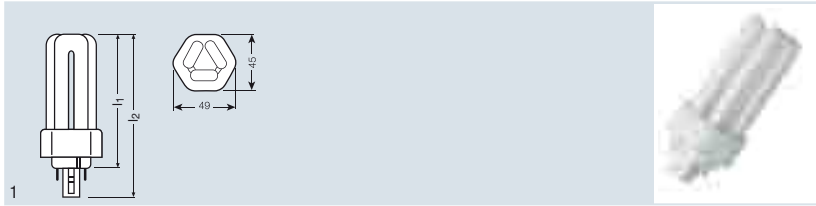
#### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX T/E 26 W/830 CONSTANT <sup>1)</sup>	4050300425467	26	1800	80...89
DULUX T/E 26 W/840 CONSTANT <sup>1)</sup>	4050300425443	26	1800	80...89
DULUX T/E 32 W/827 CONSTANT	4050300425542	32	2400	80...89
DULUX T/E 32 W/830 CONSTANT	4050300425528	32	2400	80...89
DULUX T/E 32 W/840 CONSTANT	4050300425504	32	2400	80...89
DULUX T/E 42 W/827 CONSTANT	4050300425603	42	3200	80...89
DULUX T/E 42 W/830 CONSTANT	4050300425580	42	3200	80...89
DULUX T/E 42 W/840 CONSTANT	4050300425566	42	3200	80...89

Product reference			H max. [mm]		No.
DULUX T/E 26 W/830 CONSTANT <sup>1)</sup>	LUMILUX Warm White	GX24q-3	112	10	1
DULUX T/E 26 W/840 CONSTANT <sup>1)</sup>	LUMILUX Cool White	GX24q-3	112	10	1
DULUX T/E 32 W/827 CONSTANT	LUMILUX INTERNA	GX24q-3	128	10	1
DULUX T/E 32 W/830 CONSTANT	LUMILUX Warm White	GX24q-3	128	10	1
DULUX T/E 32 W/840 CONSTANT	LUMILUX Cool White	GX24q-3	128	10	1
DULUX T/E 42 W/827 CONSTANT	LUMILUX INTERNA	GX24q-4	149	10	1
DULUX T/E 42 W/830 CONSTANT	LUMILUX Warm White	GX24q-4	149	10	1
DULUX T/E 42 W/840 CONSTANT	LUMILUX Cool White	GX24q-4	149	10	1

<sup>1)</sup> On request

OSRAM DULUX® T/E CONSTANT lamps offer constant high luminous flux over a wide range of temperatures.

#### Product benefits

- Extremely economical
- Excellent luminous flux at high and low ambient temperatures
- Good quality of light
- Long service life\*

#### Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Luminous flux greater than 90% at ambient temperatures between +10°C and +70°C
- Improved maintenance
- Dimmable from 100% to 3%
- Short and compact pin-base lamps with triple-turn tubes
- Single-ended 4-pin plug-in GX24q base with shortened base casing
- Suitable for operation on electronic control gear

#### Applications

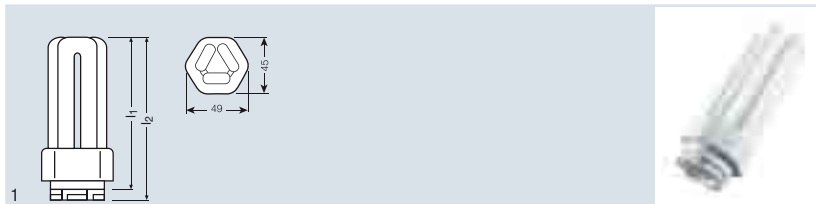
- Street and city lighting
- Industry
- Hot fixtures
- Locations with special thermal requirements

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



Product reference	Product number	W	R <sub>a</sub>	
DULUX T/E 11 W/830 HE	4008321359452	11	80...89	LUMILUX Warm White
DULUX T/E 11 W/840 HE	4008321359476	11	80...89	LUMILUX Cool White
DULUX T/E 14 W/830 HE	4008321290496	14	80...89	LUMILUX Warm White
DULUX T/E 14 W/840 HE	4008321290519	14	80...89	LUMILUX Cool White
DULUX T/E 17 W/830 HE	4008321290533	17	80...89	LUMILUX Warm White
DULUX T/E 17 W/840 HE	4008321290557	17	80...89	LUMILUX Cool White

Product reference		h max. [mm]	l <sub>m</sub> 35°C		
DULUX T/E 11 W/830 HE	GR14q-1	106	900	10	1
DULUX T/E 11 W/840 HE	GR14q-1	106	900	10	1
DULUX T/E 14 W/830 HE	GR14q-1	123	1200	10	1
DULUX T/E 14 W/840 HE	GR14q-1	123	1200	10	1
DULUX T/E 17 W/830 HE	GR14q-1	140	1500	10	1
DULUX T/E 17 W/840 HE	GR14q-1	140	1500	10	1

Compact, versatile and powerful – OSRAM DULUX® T/E HE lamps offer highly efficient and comfortable light for a very wide range of applications.

#### Product benefits

- Very economical and efficient
- Very good luminous flux
- Outstanding quality of light
- Long service life\*

#### Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Impressive light output at an ambient temperature of 35°C
- Improved maintenance
- Dimmable from 100% to 3%, except D-T/E 11 W HE
- Short and compact pin-base lamps with triple-turn tubes
- GR14q-1 base system
- Suitable for operation on electronic control gear

#### Applications

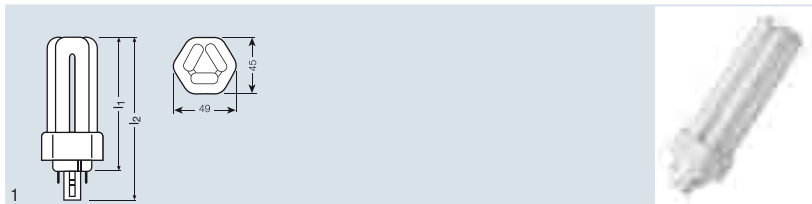
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



Product reference	Product number	W	lm	R <sub>a</sub>
DULUX T/E 32 W/830 XT	4008321511911	32	2400	80...89
DULUX T/E 32 W/840 XT	4008321511935	32	2400	80...89
DULUX T/E 42 W/830 XT <sup>1)</sup>	4008321511959	42	3200	80...89
DULUX T/E 42 W/840 XT <sup>1)</sup>	4008321511973	42	3200	80...89

Product reference			l max. [mm]		No.
DULUX T/E 32 W/830 XT	LUMILUX Warm White	GX24q-3	132	10	1
DULUX T/E 32 W/840 XT	LUMILUX Cool White	GX24q-3	132	10	1
DULUX T/E 42 W/830 XT <sup>1)</sup>	LUMILUX Warm White	GX24q-4	153	10	1
DULUX T/E 42 W/840 XT <sup>1)</sup>	LUMILUX Cool White	GX24q-4	153	10	1

<sup>1)</sup> Planned to be available from June 2012

OSRAM DULUX® XT lamps offer long life and outstanding reliability.

#### Product benefits

- Extremely economical
- Much lower total cost of ownership\*
- Outstanding quality of light
- Very good luminous flux
- OSRAM System\* Guarantee in combination with OSRAM QUICKTRONIC® ECG

#### Product characteristics

- Long average life: up to 36,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved maintenance
- Dimmable from 100% to 3%
- Short and compact pin-base lamps with triple-turn tubes
- Single-ended 4-pin plug-in GX24q base with shortened base casing
- Suitable for operation on electronic control gear

#### Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry
- Street and city lighting

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

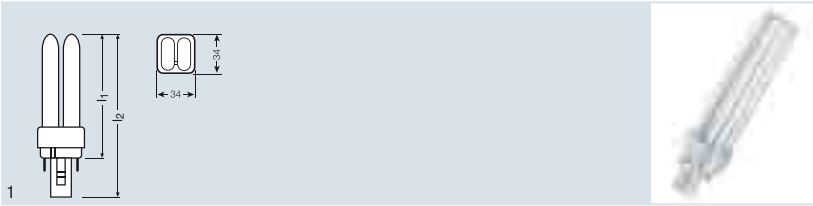
#### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \*Total cost of ownership: comprising investment, maintenance and relamping costs





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX D 10 W/827	4050300008110	10	600	80...89
DULUX D 10 W/830	4050300025681	10	600	80...89
DULUX D 10 W/840	4050300010595	10	600	80...89
DULUX D 13 W/827	4050300008127	13	900	80...89
DULUX D 13 W/830	4050300025698	13	900	80...89
DULUX D 13 W/840	4050300010625	13	900	80...89
DULUX D 13 W/865	40503000487106	13	855	80...89
DULUX D 18 W/827 <sup>1)</sup>	4050300011462	18	1200	80...89
DULUX D 18 W/830 <sup>1)</sup>	4050300025704	18	1200	80...89
DULUX D 18 W/835 <sup>1)</sup>	4050300028873	18	1200	80...89
DULUX D 18 W/840 <sup>1)</sup>	4050300012056	18	1200	80...89
DULUX D 18 W/865 <sup>1)</sup>	40503000487120	18	1140	80...89
DULUX D 26 W/827	4050300011912	26	1800	80...89
DULUX D 26 W/830	4050300025711	26	1800	80...89
DULUX D 26 W/835	4050300028897	26	1800	80...89
DULUX D 26 W/840	4050300012049	26	1800	80...89
DULUX D 26 W/865	40503000486987	26	1710	80...89

Product reference					
DULUX D 10 W/827	LUMILUX INTERNA	G24d-1	87	10	1
DULUX D 10 W/830	LUMILUX Warm White	G24d-1	87	10	1
DULUX D 10 W/840	LUMILUX Cool White	G24d-1	87	10	1
DULUX D 13 W/827	LUMILUX INTERNA	G24d-1	115	10	1
DULUX D 13 W/830	LUMILUX Warm White	G24d-1	115	10	1
DULUX D 13 W/840	LUMILUX Cool White	G24d-1	115	10	1
DULUX D 13 W/865	LUMILUX Cool Daylight	G24d-1	115	10	1
DULUX D 18 W/827 <sup>1)</sup>	LUMILUX INTERNA	G24d-2	130	10	1
DULUX D 18 W/830 <sup>1)</sup>	LUMILUX Warm White	G24d-2	130	10	1
DULUX D 18 W/835 <sup>1)</sup>	LUMILUX White	G24d-2	130	10	1
DULUX D 18 W/840 <sup>1)</sup>	LUMILUX Cool White	G24d-2	130	10	1
DULUX D 18 W/865 <sup>1)</sup>	LUMILUX Cool Daylight	G24d-2	130	10	1
DULUX D 26 W/827	LUMILUX INTERNA	G24d-3	149	10	1
DULUX D 26 W/830	LUMILUX Warm White	G24d-3	149	10	1
DULUX D 26 W/835	LUMILUX White	G24d-3	149	10	1
DULUX D 26 W/840	LUMILUX Cool White	G24d-3	149	10	1
DULUX D 26 W/865	LUMILUX Cool Daylight	G24d-3	149	10	1

<sup>1)</sup> Only for operation with 0.22 A control gear

OSRAM DULUX® D lamps are impressive for their compactness, performance and versatility in small traditional fixtures and downlights with small mounting depths (CCG operation).

**Product benefits**

- Extremely economical
- Good quality of light
- Excellent luminous flux
- Long service life\*

**Product characteristics**

- Average life: 10,000 hours
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Good maintenance
- Short and compact pin-base lamps with double-turn tubes
- Single-ended two-pin plug-in G24d base
- Suitable for operation on conventional control gear

**Applications**

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

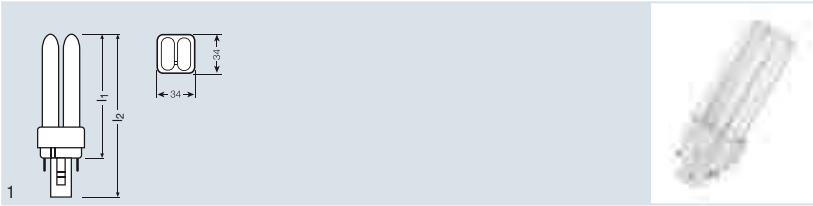
**Safety information**

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

**References**

- \* Service life is defined as the time when 70% of the system luminous flux is still available.





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX D/E 10 W/827	4050300012124	10	600	80...89
DULUX D/E 10 W/830	4050300419435	10	600	80...89
DULUX D/E 10 W/840	4050300017587	10	600	80...89
DULUX D/E 13 W/827	4050300012131	13	900	80...89
DULUX D/E 13 W/830	4050300389059	13	900	80...89
DULUX D/E 13 W/835	4050300450957	13	900	80...89
DULUX D/E 13 W/840	4050300017594	13	900	80...89
DULUX D/E 18 W/827	4050300012148	18	1200	80...89
DULUX D/E 18 W/830	4050300327211	18	1200	80...89
DULUX D/E 18 W/835	4050300450971	18	1200	80...89
DULUX D/E 18 W/840	4050300017617	18	1200	80...89
DULUX D/E 18 W/865	4050300564944	18	1140	80...89
DULUX D/E 26 W/827	4050300012230	26	1800	80...89
DULUX D/E 26 W/830	4050300327235	26	1800	80...89
DULUX D/E 26 W/835	4050300450995	26	1800	80...89
DULUX D/E 26 W/840	4050300020303	26	1800	80...89
DULUX D/E 26 W/865	4008321185877	26	1710	80...89

Product reference					
DULUX D/E 10 W/827	LUMILUX INTERNA	G24q-1	87	10	1
DULUX D/E 10 W/830	LUMILUX Warm White	G24q-1	87	10	1
DULUX D/E 10 W/840	LUMILUX Cool White	G24q-1	87	10	1
DULUX D/E 13 W/827	LUMILUX INTERNA	G24q-1	115	10	1
DULUX D/E 13 W/830	LUMILUX Warm White	G24q-1	115	10	1
DULUX D/E 13 W/835	LUMILUX White	G24q-1	115	10	1
DULUX D/E 13 W/840	LUMILUX Cool White	G24q-1	115	10	1
DULUX D/E 18 W/827	LUMILUX INTERNA	G24q-2	130	10	1
DULUX D/E 18 W/830	LUMILUX Warm White	G24q-2	130	10	1
DULUX D/E 18 W/835	LUMILUX White	G24q-2	130	10	1
DULUX D/E 18 W/840	LUMILUX Cool White	G24q-2	130	10	1
DULUX D/E 18 W/865	LUMILUX Cool Daylight	G24q-2	130	10	1
DULUX D/E 26 W/827	LUMILUX INTERNA	G24q-3	149	10	1
DULUX D/E 26 W/830	LUMILUX Warm White	G24q-3	149	10	1
DULUX D/E 26 W/835	LUMILUX White	G24q-3	149	10	1
DULUX D/E 26 W/840	LUMILUX Cool White	G24q-3	149	10	1
DULUX D/E 26 W/865	LUMILUX Cool Daylight	G24q-3	149	10	1



OSRAM DULUX® D/E energy-saving compact fluorescent lamps produce high-quality light, making them ideal for creating a pleasant atmosphere indoors. Also suitable for emergency lighting systems.

#### Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux
- Long service life\*
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC® ECG

#### Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved maintenance
- Dimmable from 100% to 3%
- Short and compact pin-base lamps with double-turn tubes
- Single-ended four-pin plug-in G24q base
- Suitable for operation on electronic control gear
- Can be operated on battery, solar and AC power in conjunction with suitable ECGs

#### Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

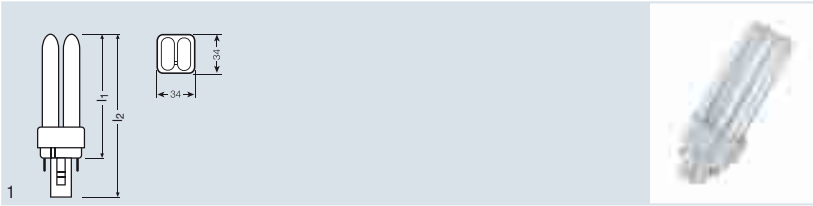
#### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX D/E 18 W/830 XT	4008321507532	18	1200	80...89
DULUX D/E 18 W/840 XT	4008321507556	18	1200	80...89
DULUX D/E 26 W/830 XT	4008321508782	26	1800	80...89
DULUX D/E 26 W/840 XT	4008321508829	26	1800	80...89

Product reference			l max. [mm]		No.
DULUX D/E 18 W/830 XT	LUMILUX Warm White	G24q-2	130	10	1
DULUX D/E 18 W/840 XT	LUMILUX Cool White	G24q-2	130	10	1
DULUX D/E 26 W/830 XT	LUMILUX Warm White	G24q-3	149	10	1
DULUX D/E 26 W/840 XT	LUMILUX Cool White	G24q-3	149	10	1

OSRAM DULUX® XT lamps offer long life and outstanding reliability.

#### Product benefits

- Very economical and efficient
- Much lower total cost of ownership\*
- Excellent luminous flux
- Good quality of light
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC® ECG

#### Product characteristics

- Long average life: up to 36,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved maintenance
- Dimmable from 100% to 3%
- Short and compact pin-base lamps with double-turn tubes
- Single-ended four-pin plug-in G24q base
- Suitable for operation on electronic control gear
- Can be operated on battery, solar and AC power in conjunction with suitable ECGs

#### Applications

- Shops
- Supermarkets and department stores
- Public buildings
- Offices
- Hotels and restaurants
- Industry
- Street and city lighting

#### Safety information

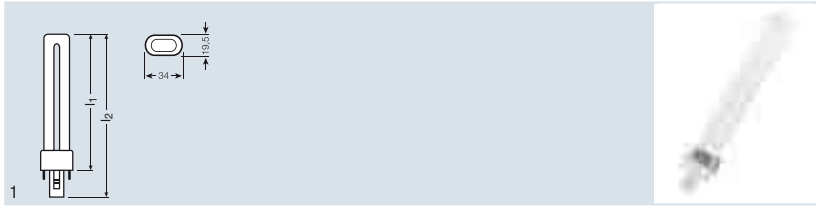
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \*Total cost of ownership: comprising investment, maintenance and relamping costs



Product reference	Product number	W	lm	Ra
DULUX S 5 W/827	4050300006130	5	250	80...89
DULUX S 5 W/840	4050300010564	5	250	80...89
DULUX S 7 W/827	4050300005997	7	400	80...89
DULUX S 7 W/830	4050300025735	7	400	80...89
DULUX S 7 W/840	4050300010571	7	400	80...89
DULUX S 9 W/827	4050300006000	9	600	80...89
DULUX S 9 W/830	4050300025742	9	600	80...89
DULUX S 9 W/835	40503000451053	9	600	80...89
DULUX S 9 W/840	4050300010588	9	600	80...89
DULUX S 9 W/865	40503000355320	9	570	80...89
DULUX S 11W/827	4050300006017	11	900	80...89
DULUX S 11 W/830	4050300025759	11	900	80...89
DULUX S 11 W/840	4050300010618	11	900	80...89
Colored				
DULUX S 9 W/60	4050300015927	9	400	-
DULUX S 9 W/66	4050300015934	9	800	-
DULUX S 9 W/67	4050300015941	9	200	-

Product reference			l max. (mm)		 No.
DULUX S 5 W/827	LUMILUX INTERNA	G23	85	10	1
DULUX S 5 W/840	LUMILUX Cool White	G23	85	10	1
DULUX S 7 W/827	LUMILUX INTERNA	G23	114	10	1
DULUX S 7 W/830	LUMILUX Warm White	G23	114	10	1
DULUX S 7 W/840	LUMILUX Cool White	G23	114	10	1
DULUX S 9 W/827	LUMILUX INTERNA	G23	144	10	1
DULUX S 9 W/830	LUMILUX Warm White	G23	144	10	1
DULUX S 9 W/835	LUMILUX White	G23	144	50	1
DULUX S 9 W/840	LUMILUX Cool White	G23	144	10	1
DULUX S 9 W/865	LUMILUX Cool Daylight	G23	144	50	1
DULUX S 11W/827	LUMILUX INTERNA	G23	214	10	1
DULUX S 11 W/830	LUMILUX Warm White	G23	214	10	1
DULUX S 11 W/840	LUMILUX Cool White	G23	214	10	1
Colored					
DULUX S 9 W/60	Red	G23	144	10	1
DULUX S 9 W/66	Green	G23	144	10	1
DULUX S 9 W/67	Blue	G23	144	10	1



Compact slimline OSRAM DULUX® S lamps offer creative freedom and high-quality light.

**Product benefits**

- Extremely economical
- Good quality of light
- Ideal for cost-effective creative illumination and decoration
- Long service life\*

**Product characteristics**

- Average life: 10,000 hours
- Extremely low profile
- Good maintenance
- Also available in red/green/blue
- Short and compact pin-base lamps with single-turn tubes
- Single-ended two-pin plug-in G23 base
- Suitable for operation on conventional control gear

**Applications**

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants

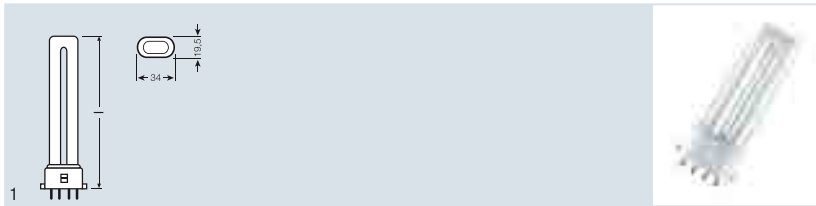
**Safety information**

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

**References**

- \* Service life is defined as the time when 70% of the system luminous flux is still available.





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX S/E 7 W/827	4050300017648	7	400	80...89
DULUX S/E 7 W/830	4050300591988	7	400	80...89
DULUX S/E 7 W/840	4050300020167	7	400	80...89
DULUX S/E 9 W/827	4050300017655	9	600	80...89
DULUX S/E 9 W/830	4050300589398	9	600	80...89
DULUX S/E 9 W/840	4050300020174	9	600	80...89
DULUX S/E 11 W/827	4050300017662	11	900	80...89
DULUX S/E 11 W/830	4050300589374	11	900	80...89
DULUX S/E 11 W/840	4050300020181	11	900	80...89

Product reference					
DULUX S/E 7 W/827	LUMILUX INTERNA	2G7	114	10	1
DULUX S/E 7 W/830	LUMILUX Warm White	2G7	114	10	1
DULUX S/E 7 W/840	LUMILUX Cool White	2G7	114	10	1
DULUX S/E 9 W/827	LUMILUX INTERNA	2G7	144	10	1
DULUX S/E 9 W/830	LUMILUX Warm White	2G7	144	10	1
DULUX S/E 9 W/840	LUMILUX Cool White	2G7	144	10	1
DULUX S/E 11 W/827	LUMILUX INTERNA	2G7	214	10	1
DULUX S/E 11 W/830	LUMILUX Warm White	2G7	214	10	1
DULUX S/E 11 W/840	LUMILUX Cool White	2G7	214	10	1

OSRAM DULUX® S/E compact fluorescent lamps are characterized by their slim design, making them extremely versatile for almost universal use.

#### Product benefits

- Extremely economical
- Outstanding quality of light
- Low power consumption (7 W, 9 W, 11 W)
- Long service life\*

#### Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Extremely low profile
- Improved maintenance
- Dimmable from 100% to 3%
- Short and compact pin-base lamps with single-turn tubes
- Single-ended four-pin plug-in 2G7 base
- Suitable for operation on electronic control gear
- Can be operated on battery, solar and AC power in conjunction with suitable ECGs

#### Applications

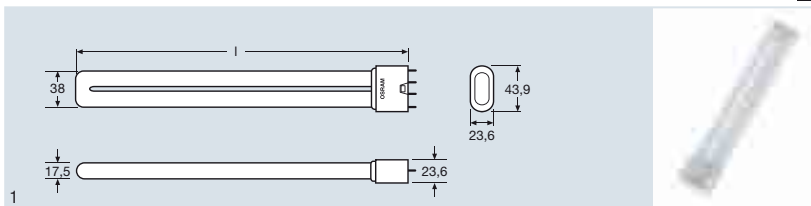
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



Product reference	Product number	W	lm	R <sub>a</sub>
DULUX L 18 W/827 <sup>1)</sup>	4050300010748	18	1200	80...89
DULUX L 18 W/830 <sup>1)</sup>	4050300010731	18	1200	80...89
DULUX L 18 W/835 <sup>1)</sup>	4050300295893	18	1200	80...89
DULUX L 18 W/840 <sup>1)</sup>	4050300010724	18	1200	80...89
DULUX L 24 W/827 <sup>1)</sup>	4050300010779	24	1800	80...89
DULUX L 24 W/830 <sup>1)</sup>	4050300010762	24	1800	80...89
DULUX L 24 W/835 <sup>1)</sup>	4050300295916	24	1800	80...89
DULUX L 24 W/840 <sup>1)</sup>	4050300010755	24	1800	80...89
DULUX L 36 W/827 <sup>1)</sup>	4050300010809	36	2900	80...89
DULUX L 36 W/830 <sup>1)</sup>	4050300010793	36	2900	80...89
DULUX L 36 W/835 <sup>1)</sup>	4050300295930	36	2900	80...89
DULUX L 36 W/840 <sup>1)</sup>	4050300010786	36	2900	80...89
DULUX L 36 W/865 <sup>1)</sup>	4050300328263	36	2750	80...89
DULUX L 36 W/880 <sup>1)</sup>	4008321185891	36	2600	80...89
DULUX L 40 W/827 <sup>2)</sup>	4050300322285	40	3500	80...89
DULUX L 40 W/830 <sup>2)</sup>	4050300298884	40	3500	80...89
DULUX L 40 W/835 <sup>2)</sup>	4050300295954	40	3500	80...89
DULUX L 40 W/840 <sup>2)</sup>	4050300279909	40	3500	80...89
DULUX L 40 W/865 <sup>2)</sup>	4050300592008	40	3325	80...89
DULUX L 40 W/880 <sup>2)</sup>	4008321185914	40	3150	80...89
DULUX L 55 W/827 <sup>2)</sup>	4050300315881	55	4800	80...89
DULUX L 55 W/830 <sup>2)</sup>	4050300298917	55	4800	80...89
DULUX L 55 W/835 <sup>2)</sup>	4050300295978	55	4800	80...89
DULUX L 55 W/840 <sup>2)</sup>	4050300295879	55	4800	80...89
DULUX L 55 W/865 <sup>2)</sup>	4050300553900	55	4550	80...89
DULUX L 55 W/880 <sup>2)</sup>	4008321185938	55	4300	80...89
DULUX L 80 W/830 <sup>2)</sup>	4050300665467	80	6500	80...89
DULUX L 80 W/840 <sup>2)</sup>	4050300665481	80	6500	80...89
DULUX L 80 W/880 <sup>2)</sup>	4008321185952	80	5850	80...89






## Colored

DULUX L 24 W/67	4050300354033	24	550	–
-----------------	---------------	----	-----	---

## Product reference



DULUX L 18 W/827 <sup>1)</sup>	LUMILUX INTERNA	G21	217	10	1
DULUX L 18 W/830 <sup>1)</sup>	LUMILUX Warm White	G21	217	10	1
DULUX L 18 W/835 <sup>1)</sup>	LUMILUX White	G21	217	10	1
DULUX L 18 W/840 <sup>1)</sup>	LUMILUX Cool White	G21	217	10	1
DULUX L 24 W/827 <sup>1)</sup>	LUMILUX INTERNA	G21	317	10	1
DULUX L 24 W/830 <sup>1)</sup>	LUMILUX Warm White	G21	317	10	1
DULUX L 24 W/835 <sup>1)</sup>	LUMILUX White	G21	317	10	1
DULUX L 24 W/840 <sup>1)</sup>	LUMILUX Cool White	G21	317	10	1
DULUX L 36 W/827 <sup>1)</sup>	LUMILUX INTERNA	G21	411	10	1
DULUX L 36 W/830 <sup>1)</sup>	LUMILUX Warm White	G21	411	10	1
DULUX L 36 W/835 <sup>1)</sup>	LUMILUX White	G21	411	10	1
DULUX L 36 W/840 <sup>1)</sup>	LUMILUX Cool White	G21	411	10	1
DULUX L 36 W/865 <sup>1)</sup>	LUMILUX Cool Daylight	G21	411	10	1
DULUX L 36 W/880 <sup>1)</sup>	LUMILUX SKYWHITE	G21	411	10	1

Product reference					
			[mm]		No.
DULUX L 40 W/827 <sup>2)</sup>	LUMILUX INTERNA	2G11	533	10	1
DULUX L 40 W/830 <sup>2)</sup>	LUMILUX Warm White	2G11	533	10	1
DULUX L 40 W/835 <sup>2)</sup>	LUMILUX White	2G11	533	10	1
DULUX L 40 W/840 <sup>2)</sup>	LUMILUX Cool White	2G11	533	10	1
DULUX L 40 W/865 <sup>2)</sup>	LUMILUX Cool Daylight	2G11	533	10	1
DULUX L 40 W/880 <sup>2)</sup>	LUMILUX SKYWHITE	2G11	533	10	1
DULUX L 55 W/827 <sup>2)</sup>	LUMILUX INTERNA	2G11	533	10	1
DULUX L 55 W/830 <sup>2)</sup>	LUMILUX Warm White	2G11	533	10	1
DULUX L 55 W/835 <sup>2)</sup>	LUMILUX White	2G11	533	10	1
DULUX L 55 W/840 <sup>2)</sup>	LUMILUX Cool White	2G11	533	10	1
DULUX L 55 W/865 <sup>2)</sup>	LUMILUX Cool Daylight	2G11	533	10	1
DULUX L 55 W/880 <sup>2)</sup>	LUMILUX SKYWHITE	2G11	533	10	1
DULUX L 80 W/830 <sup>2)</sup>	LUMILUX Warm White	2G11	565	10	1
DULUX L 80 W/840 <sup>2)</sup>	LUMILUX Cool White	2G11	565	10	1
DULUX L 80 W/880 <sup>2)</sup>	LUMILUX SKYWHITE	2G11	565	10	1
<b>Colored</b>					
DULUX L 24 W/67 <sup>1)</sup>	Blue	2G11	317	10	1

1) ECG and CCG operation  
2) ECG operation

OSRAM DULUX® L compact fluorescent lamps together with appropriate OSRAM QUICKTRONIC® control gear provide the basis for individual energy-saving lighting solutions.

#### Product benefits

- Extremely economical
- Excellent luminous efficacy
- Excellent luminous flux
- Long service life\*
- OSRAM System\* Guarantee in combination with OSRAM QUICKTRONIC® ECG

#### Product characteristics

- Less than half as long as a tubular fluorescent lamp
- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QT<sub>i</sub> DALI/DIM)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended 4-pin plug-in 2G11 base
- Suitable for operation on electronic and conventional control gear, see footnotes 1), 2)
- Operation with standard starters
- Also available in blue

#### Applications

- Floor-standing lights
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### System guarantee

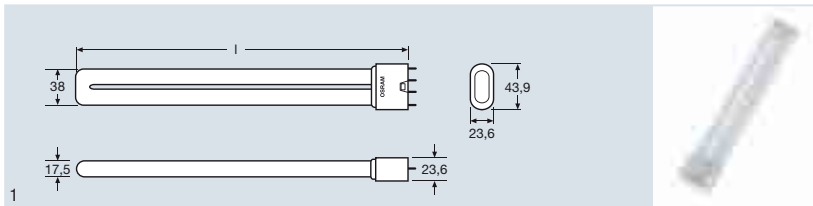
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



# OSRAM DULUX® L CONSTANT



Product reference	Product number	W	lm	R <sub>a</sub>
DULUX L 40 W/840 CONSTANT	4008321104823	40	3500	80...89
DULUX L 55 W/840 CONSTANT	4008321104847	55	4800	80...89
DULUX L 80 W/840 CONSTANT	4008321104861	80	6500	80...89

Product reference					
			[mm]		No.
DULUX L 40 W/840 CONSTANT	LUMILUX Cool White	2G11	533	10	1
DULUX L 55 W/840 CONSTANT	LUMILUX Cool White	2G11	533	10	1
DULUX L 80 W/840 CONSTANT	LUMILUX Cool White	2G11	565	10	1

OSRAM LUMILUX® CONSTANT lamps offer constant high luminous flux over a wide range of temperatures.

## Product benefits

- Extremely economical
- Excellent luminous flux at high and low ambient temperatures
- Good quality of light
- Long service life\*

## Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Luminous flux greater than 90% at ambient temperatures between +5°C and +70°C
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QT<sub>i</sub> DALI/DIM)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended four-pin plug-in 2G11 base
- Suitable for operation on electronic control gear
- Narrow fixtures with high temperatures

## Applications

- Floor-standing lights
- Street and city lighting
- Industry
- Applications with special thermal requirements

## Safety information

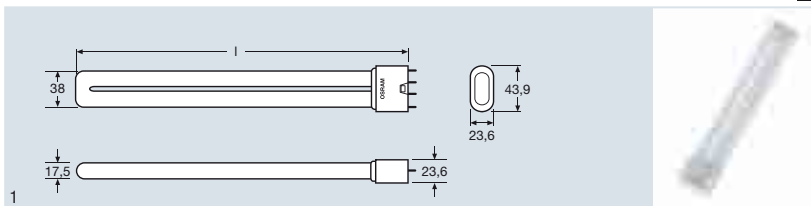
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



# OSRAM DULUX® L LUMILUX® DE LUXE



Product reference	Product number	W	lm	Ra
DULUX L 18 W/930 <sup>1)</sup>	4050300018324	18	950	≥ 90
DULUX L 18 W/940 <sup>1)</sup>	4050300018560	18	950	≥ 90
DULUX L 18 W/954 <sup>1)</sup>	4050300018423	18	950	≥ 90
DULUX L 24 W/930 <sup>1)</sup>	4050300018386	24	1500	≥ 90
DULUX L 24 W/940 <sup>1)</sup>	4050300018584	24	1500	≥ 90
DULUX L 24 W/954 <sup>1)</sup>	4050300018447	24	1500	≥ 90
DULUX L 36 W/930 <sup>1)</sup>	4050300018393	36	2350	≥ 90
DULUX L 36 W/940 <sup>1)</sup>	4050300018607	36	2350	≥ 90
DULUX L 36 W/954 <sup>1)</sup>	4050300018461	36	2350	≥ 90
DULUX L 40 W/954 <sup>2)</sup>	4050300315799	40	2950	≥ 90
DULUX L 55 W/930 <sup>2)</sup>	4050300370705	55	4000	≥ 90
DULUX L 55 W/940 <sup>2)</sup>	4050300197999	55	4000	≥ 90
DULUX L 55 W/954 <sup>2)</sup>	4050300321400	55	4000	≥ 90

Product reference					
			[mm]		No.
DULUX L 18 W/930 <sup>1)</sup>	LUMILUX DE LUXE Warm White	2G11	217	10	1
DULUX L 18 W/940 <sup>1)</sup>	LUMILUX DE LUXE Cool White	2G11	217	10	1
DULUX L 18 W/954 <sup>1)</sup>	LUMILUX DE LUXE Daylight	2G11	217	10	1
DULUX L 24 W/930 <sup>1)</sup>	LUMILUX DE LUXE Warm White	2G11	317	10	1
DULUX L 24 W/940 <sup>1)</sup>	LUMILUX DE LUXE Cool White	2G11	317	10	1
DULUX L 24 W/954 <sup>1)</sup>	LUMILUX DE LUXE Daylight	2G11	317	10	1
DULUX L 36 W/930 <sup>1)</sup>	LUMILUX DE LUXE Warm White	2G11	411	10	1
DULUX L 36 W/940 <sup>1)</sup>	LUMILUX DE LUXE Cool White	2G11	411	10	1
DULUX L 36 W/954 <sup>1)</sup>	LUMILUX DE LUXE Daylight	2G11	411	10	1
DULUX L 40 W/954 <sup>2)</sup>	LUMILUX DE LUXE Daylight	2G11	533	10	1
DULUX L 55 W/930 <sup>2)</sup>	LUMILUX DE LUXE Warm White	2G11	533	10	1
DULUX L 55 W/940 <sup>2)</sup>	LUMILUX DE LUXE Cool White	2G11	533	10	1
DULUX L 55 W/954 <sup>2)</sup>	LUMILUX DE LUXE Daylight	2G11	533	10	1

1) ECG and CCG operation  
2) ECG operation



OSRAM LUMILUX® DE LUXE lamps meet high demands in terms of color rendering.

#### Product benefits

- Very economical and efficient
- Excellent luminous efficacy
- Good quality of light
- Long service life\*

#### Product characteristics

- Very good color rendering index 1A ( $R_a \geq 90$ )
- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QTi DALI/DIM)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended 4-pin plug-in 2G11 base
- Suitable for operation on electronic and conventional control gear, see footnotes 1), 2)

#### Applications

- Shops
- Supermarkets and department stores
- Public buildings
- Offices
- Industry
- Hotels and restaurants
- Industry

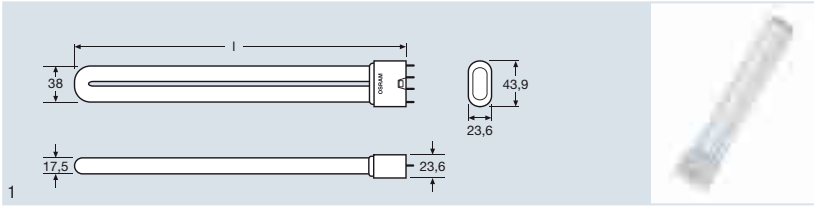


#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



Product reference	Product number	W	lm	R <sub>a</sub>
DULUX L 18 W/830 SP	4050300 <b>300276</b>	18	1200 <sup>1)</sup>	80...89
DULUX L 18 W/840 SP	4008321 <b>280497</b>	18	1200 <sup>1)</sup>	80...89
DULUX L 24 W/830 SP	4050300 <b>300238</b>	24	1800 <sup>1)</sup>	80...89
DULUX L 24 W/840 SP	4008321 <b>280510</b>	24	1800 <sup>1)</sup>	80...89
DULUX L 36 W/830 SP	4008321 <b>283757</b>	36	2900 <sup>1)</sup>	80...89
DULUX L 36 W/840 SP	4008321 <b>283771</b>	36	2900 <sup>1)</sup>	80...89

Product reference			$l$ [mm]		 No.
DULUX L 18 W/830 SP	LUMILUX Warm White	2G11	209	10	1
DULUX L 18 W/840 SP	LUMILUX Cool White	2G11	209	10	1
DULUX L 24 W/830 SP	LUMILUX Warm White	2G11	309	10	1
DULUX L 24 W/840 SP	LUMILUX Cool White	2G11	309	10	1
DULUX L 36 W/830 SP	LUMILUX Warm White	2G11	403	10	1
DULUX L 36 W/840 SP	LUMILUX Cool White	2G11	403	10	1

<sup>1)</sup> At an ambient temperature of 5°C

OSRAM DULUX® L SP lamps in conjunction with the appropriate OSRAM QUICKTRONIC® ECGs are ideal for low ambient temperatures thanks to their robust construction.

### Product benefits

- Extremely economical
- Excellent luminous flux at low ambient temperatures
- Good quality of light
- Long service life\*

### Product characteristics

- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Optimum luminous flux at low ambient temperatures (+5°C)
- Dimmable (from 100 to 1% with QUICKTRONIC® QT<sub>i</sub> DALI/DIM)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended 4-pin plug-in 2G11 base
- Suitable for operation on electronic and conventional control gear

### Applications

- Street and city lighting
- Industry
- Applications with low ambient temperatures

### Safety information

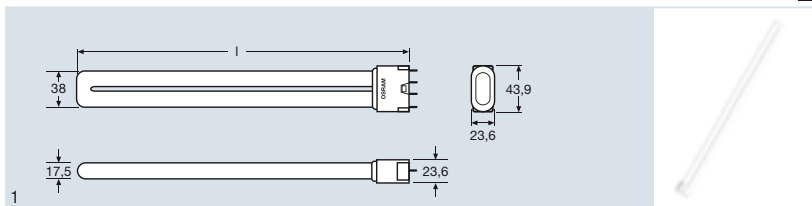
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



# OSRAM DULUX® L HE HIGH EFFICIENCY



Product reference	Product number	W	
DULUX L 16 W/830 HE	4008321 <b>507792</b>	16	LUMILUX Warm White
DULUX L 16 W/840 HE	4008321 <b>507815</b>	16	LUMILUX Cool White
DULUX L 22 W/830 HE	4008321 <b>507839</b>	22	LUMILUX Warm White
DULUX L 22 W/840 HE	4008321 <b>508638</b>	22	LUMILUX Cool White
DULUX L 26 W/830 HE	4008321 <b>508584</b>	26	LUMILUX Warm White
DULUX L 26 W/840 HE	4008321 <b>508713</b>	26	LUMILUX Cool White
DULUX L 28 W/830 HE	4008321 <b>296719</b>	28	LUMILUX Warm White
DULUX L 28 W/840 HE	4008321 <b>296757</b>	28	LUMILUX Cool White

Product reference		$l$ [mm]	$lm$ 25°C	$lm$ 35°C		No.
DULUX L 16 W/830 HE	2GX11	317	1500	1600	10	1
DULUX L 16 W/840 HE	2GX11	317	1500	1600	10	1
DULUX L 22 W/830 HE	2GX11	411	2055	2200	10	1
DULUX L 22 W/840 HE	2GX11	411	2055	2200	10	1
DULUX L 26 W/830 HE	2GX11	533	2470	2600	10	1
DULUX L 26 W/840 HE	2GX11	533	2470	2600	10	1
DULUX L 28 W/830 HE	2GX11	566	2700	2800	10	1
DULUX L 28 W/840 HE	2GX11	566	2700	2800	10	1



OSRAM DULUX® L HE, the first compact fluorescent lamp with 100 lm/W, is highly efficient in combination with the appropriate OSRAM QUICKTRONIC® ECG and makes a significant contribution to the design of energy-saving lighting systems and solutions.

#### Product benefits

- Very economical and efficient (100 lm/W)
- Excellent luminous efficacy
- Good quality of light
- Long service life\*
- OSRAM System\* Guarantee in combination with OSRAM QUICKTRONIC®

#### Product characteristics

- Improved average life: up to 20,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Impressive luminous efficacy at an ambient temperature of 35°C
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QT<sub>i</sub> DALI/DIM)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended 4-pin plug-in 2GX11 base
- Suitable for operation on electronic control gear

#### Applications

- Floor-standing lights
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

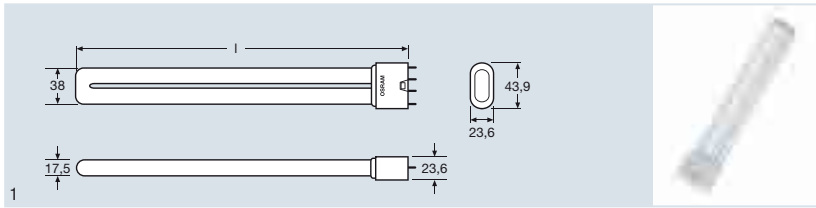
#### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX L 18 W/830 XT <sup>1)</sup>	4008321507570	18	1200	80...89
DULUX L 18 W/840 XT <sup>1)</sup>	4008321507594	18	1200	80...89
DULUX L 24 W/830 XT <sup>1)</sup>	4008321507617	24	1800	80...89
DULUX L 24 W/840 XT <sup>1)</sup>	4008321507631	24	1800	80...89
DULUX L 36 W/830 XT <sup>1)</sup>	4008321507655	36	2900	80...89
DULUX L 36 W/840 XT <sup>1)</sup>	4008321507679	36	2900	80...89
DULUX L 55 W/830 XT <sup>2)</sup>	4008321507693	55	4800	80...89
DULUX L 55 W/840 XT <sup>2)</sup>	4008321507716	55	4800	80...89

Product reference			$l$ [mm]		 No.
DULUX L 18 W/830 XT <sup>1)</sup>	LUMILUX Warm White	2G11	217	10	1
DULUX L 18 W/840 XT <sup>1)</sup>	LUMILUX Cool White	2G11	217	10	1
DULUX L 24 W/830 XT <sup>1)</sup>	LUMILUX Warm White	2G11	317	10	1
DULUX L 24 W/840 XT <sup>1)</sup>	LUMILUX Cool White	2G11	317	10	1
DULUX L 36 W/830 XT <sup>1)</sup>	LUMILUX Warm White	2G11	411	10	1
DULUX L 36 W/840 XT <sup>1)</sup>	LUMILUX Cool White	2G11	411	10	1
DULUX L 55 W/830 XT <sup>2)</sup>	LUMILUX Warm White	2G11	533	10	1
DULUX L 55 W/840 XT <sup>2)</sup>	LUMILUX Cool White	2G11	533	10	1

1) ECG and CCG operation  
2) ECG operation



OSRAM DULUX® L XT lamps offer long life and outstanding reliability.

#### Product benefits

- Extremely economical
- Much lower total cost of ownership\*
- Excellent luminous flux
- Good quality of light
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC®

#### Product characteristics

- Long average life: up to 36,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QT<sub>i</sub> DALI/DIM)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended 4-pin plug-in 2G11 base
- Suitable for operation on electronic and conventional control gear, see footnotes 1), 2)

#### Applications

- Street and city lighting
- Floor-standing lights
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

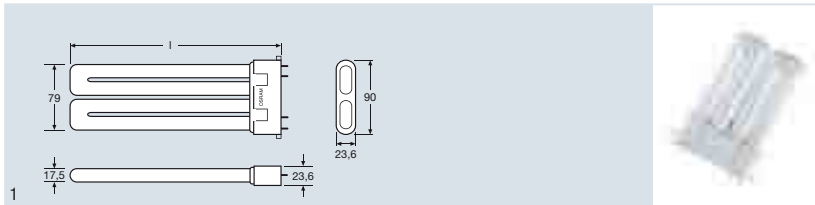
#### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \*Total cost of ownership: comprising investment, maintenance and relamping costs





Product reference	Product number	W	lm	R <sub>a</sub>
DULUX F 18 W/827	4050300333564	18	1100	80...89
DULUX F 18 W/830	4050300333540	18	1100	80...89
DULUX F 18 W/840	4050300333526	18	1100	80...89
DULUX F 24 W/827	4050300333625	24	1700	80...89
DULUX F 24 W/830	4050300333601	24	1700	80...89
DULUX F 24 W/840	4050300333588	24	1700	80...89
DULUX F 36 W/827	4050300312187	36	2800	80...89
DULUX F 36 W/830	4050300299051	36	2800	80...89
DULUX F 36 W/840	4050300299037	36	2800	80...89

Product reference					
DULUX F 18 W/827	LUMILUX INTERNA	2G10	122	10	1
DULUX F 18 W/830	LUMILUX Warm White	2G10	122	10	1
DULUX F 18 W/840	LUMILUX Cool White	2G10	122	10	1
DULUX F 24 W/827	LUMILUX INTERNA	2G10	165	10	1
DULUX F 24 W/830	LUMILUX Warm White	2G10	165	10	1
DULUX F 24 W/840	LUMILUX Cool White	2G10	165	10	1
DULUX F 36 W/827	LUMILUX INTERNA	2G10	217	10	1
DULUX F 36 W/830	LUMILUX Warm White	2G10	217	10	1
DULUX F 36 W/840	LUMILUX Cool White	2G10	217	10	1

OSRAM DULUX® F compact fluorescent lamps together with appropriate OSRAM QUICKTRONIC® control gear provide optimum area lighting and energy-saving solutions.

#### Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous efficacy
- Long service life\*
- Good maintenance

#### Product characteristics

- Extremely low profile
- Average life: 10,000 hours
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Short and compact pin-base lamps with double-turn tubes
- Single-ended four-pin plug-in 2G10 base
- Suitable for operation on electronic and conventional control gear

#### Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

#### Safety information

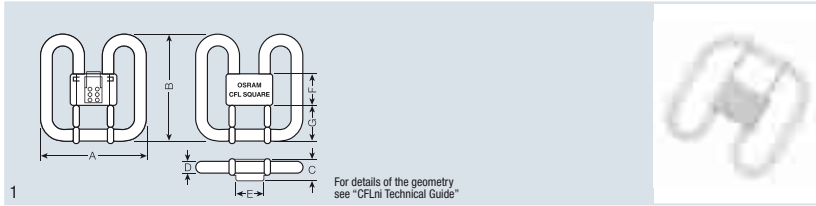
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



# OSRAM CFL SQUARE® 2-Pin



Product reference	Product number	W	lm
OSRAM CFL SQUARE® 2-pin for CCGs			
CFL SQUARE 16 W/827 2-PIN	4050300816852	16	1050
CFL SQUARE 16 W/835 2-PIN	4050300816838	16	1050
CFL SQUARE 28 W/827 2-PIN	4050300816913	28	2050
CFL SQUARE 28 W/835 2-PIN	4050300816937	28	2050

Product reference	R <sub>a</sub>				No.
OSRAM CFL SQUARE® 2-pin for CCGs					
CFL SQUARE 16 W/827 2-PIN	80...89	LUMILUX INTERNA	GR8	20	1
CFL SQUARE 16 W/835 2-PIN	80...89	LUMILUX White	GR8	20	1
CFL SQUARE 28 W/827 2-PIN	80...89	LUMILUX INTERNA	GR8	20	1
CFL SQUARE 28 W/835 2-PIN	80...89	LUMILUX White	GR8	20	1

OSRAM CFL SQUARE® lamps are slim compact fluorescent lamps. The square shape provides uniform distribution of light, with no shadows at either end and no dark patches. The lamps are ideal for low-profile wall and ceiling fixtures.

## Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous efficacy
- Long service life\*
- Good maintenance

## Product characteristics

- Extremely low profile
- Average life: 10,000 hours
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Short and compact pin-base lamps
- Single-ended two-pin plug-in GR8 base
- Suitable for operation on conventional control gear

## Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

## Safety information

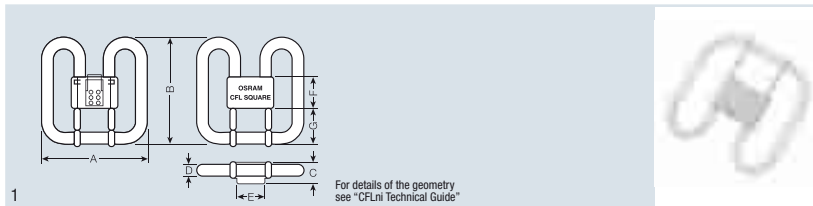
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

- \* Service life is defined as the time when 70% of the system luminous flux is still available.



# OSRAM CFL SQUARE® 4-Pin



Product reference	Product number	W	lm
OSRAM CFL SQUARE® 4-pin			
CFL SQUARE 16 W/835 4-PIN	4050300816876	16	1050
CFL SQUARE 16 W/827 4-PIN	4050300816890	16	1050
CFL SQUARE 28 W/827 4-PIN	4050300816951	28	2050
CFL SQUARE 28 W/835 4-PIN	4050300816982	28	2050
CFL SQUARE 38 W/827 4-PIN	4050300817002	38	2700
CFL SQUARE 38 W/835 4-PIN	4050300817026	38	2700

Product reference	R <sub>a</sub>				
OSRAM CFL SQUARE® 4-pin					
CFL SQUARE 16 W/835 4-PIN	80...89	LUMILUX White	GR10q	20	1
CFL SQUARE 16 W/827 4-PIN	80...89	LUMILUX INTERNA	GR10q	20	1
CFL SQUARE 28 W/827 4-PIN	80...89	LUMILUX INTERNA	GR10q	20	1
CFL SQUARE 28 W/835 4-PIN	80...89	LUMILUX White	GR10q	20	1
CFL SQUARE 38 W/827 4-PIN	80...89	LUMILUX INTERNA	GR10q	20	1
CFL SQUARE 38 W/835 4-PIN	80...89	LUMILUX White	GR10q	20	1

OSRAM CFL SQUARE® lamps are slim compact fluorescent lamps. The square shape provides uniform distribution of light, with no shadows at either end and no dark patches. With the appropriate OSRAM QUICKTRONIC® ECGs they are ideal for low-profile wall and ceiling fixtures.

## Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous efficacy
- Long service life\*
- Good maintenance

## Product characteristics

- Extremely low profile
- Average life: 10,000 hours
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Short and compact pin-base lamps
- Single-ended four-pin plug-in GR10q base
- Suitable for operation on electronic and conventional control gear

## Applications

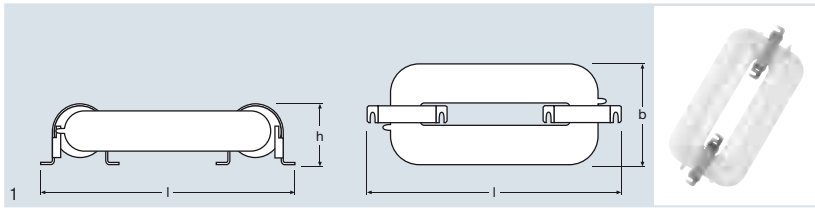
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants
- Industry

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



Product reference	Product number	W	lm	R <sub>a</sub>
ENDURA 70 W/830 2-pole <sup>1)</sup>	4050300817293	70	6500 <sup>2)</sup>	≥ 80
ENDURA 70 W/840 2-pole <sup>1)</sup>	4050300817286	70	6500 <sup>2)</sup>	≥ 80
ENDURA 100 W/830 2-pole <sup>1)</sup>	4050300668420	100	8000 <sup>2)</sup>	≥ 80
ENDURA 100 W/840 2-pole <sup>1)</sup>	4050300668437	100	8000 <sup>2)</sup>	≥ 80
ENDURA 100 W/840 Reflector <sup>1)</sup>	4008321368034	100	8000 <sup>2)</sup>	≥ 80
ENDURA 150 W/830 2-pole <sup>1)</sup>	4050300668444	150	12000 <sup>3)</sup>	≥ 80
ENDURA 150 W/840 2-pole <sup>1)</sup>	4050300668451	150	12000 <sup>3)</sup>	≥ 80

Product reference		$\frac{l}{[mm]}$	$\frac{h}{[mm]}$	$\frac{b}{[mm]}$		No.
ENDURA 70 W/830 2-pole <sup>1)</sup>	LUMILUX Warm White	315	75	139	1	1
ENDURA 70 W/840 2-pole <sup>1)</sup>	LUMILUX Cool White	315	75	139	1	1
ENDURA 100 W/830 2-pole <sup>1)</sup>	LUMILUX Warm White	315	75	139	1	1
ENDURA 100 W/840 2-pole <sup>1)</sup>	LUMILUX Cool White	315	75	139	1	1
ENDURA 100 W/840 Reflector <sup>1)</sup>	LUMILUX Cool White	315	75	139	1	1
ENDURA 150 W/830 2-pole <sup>1)</sup>	LUMILUX Warm White	415	75	139	1	1
ENDURA 150 W/840 2-pole <sup>1)</sup>	LUMILUX Cool White	415	75	139	1	1

<sup>1)</sup> With 2-pin connector

<sup>2)</sup> With OT ENDURA 70-100/120-240 S

<sup>3)</sup> With OT ENDURA 100-150/120-240 S

The discharge in this lamp has no starting point and no end. The closed “ring” enables a discharge to take place without electrodes. In the OSRAM ENDURA® lamps the energy is “injected” from the outside by magnetic fields, which leads to a long life.

### Product benefits

- Extremely economical
- Excellent luminous flux at high and low ambient temperatures
- Small loss of luminous flux
- Instant flickerfree starting
- Long service life\*
- Energy savings

### Product characteristics

- Extremely long average life: up to 60,000 h (with QUICKTRONIC® Endura)
- High system luminous efficacy: 80 lm/W
- Good color rendering index R<sub>a</sub> ≥ 80
- Optimum luminous flux over a wide temperature range
- Suitable for operation on QUICKTRONIC® Endura
- Can be used in DC systems
- Low ignition temperature, as low as -40 °C
- Low operating frequency of 250 kHz

### Applications

- Street and city lighting
- Industry
- Sports halls and outdoor facilities
- Marine lighting

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

- For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.
- \* Service life is defined as the time when 70% of the system luminous flux is still available.



## Technical data

Lamp OSRAM DULUX® Wattage	Lamp voltage		Lamp current		System wattage ECG mode* W	Luminance cd/cm <sup>2</sup>  LF 827, 830, 840	PF correction Parallel capacitor <sup>1)</sup> CCG mode 230V/50Hz µF	Series capacitor <sup>2)</sup> CCG mode µF
	at 50/60 Hz V	at HF mode V	at 50/60 Hz mA	at HF mode mA				
CFL SQUARE 16	103	84	195	180	–	–	–	–
CFL SQUARE 28	108	95	320	260	–	–	–	–
CFL SQUARE 38	110	97	430	355	–	–	–	–
DULUX S 5	35	–	180	–	–	2.5	2.2	–
DULUX S 7	47	–	175	–	–	2.6	2.1	–
DULUX S 9	60	–	170	–	–	2.8	2.0	–
DULUX S 11	91	–	155	–	–	2.7	1.7	–
DULUX D 10	64	–	190	–	–	4.0	2.2	–
DULUX D 13	91	–	175	–	–	4.0	1.8	–
DULUX D 18	100	–	220	–	–	4.5	2.2	1.7
DULUX D 26	105	–	325	–	–	5.5	3.2	2.5
DULUX T 13	91	–	175	–	–	4.2	1.8	1.4
DULUX T 18	100	–	225	–	–	4.7	2.3	1.7
DULUX T 26	105	–	325	–	–	6.0	3.3	2.5
DULUX S/E 7	–	37	–	175	9	2.6	–	–
DULUX S/E 9	–	48	–	170	12	2.8	–	–
DULUX S/E 11	–	75	–	150	14	2.7	–	–
DULUX D/E 10	–	51	–	190	12	4.0	–	–
DULUX D/E 13	–	77	–	165	14	4.0	–	–
DULUX D/E 18 <sup>3)</sup>	–	80	–	210	20	4.5	–	–
DULUX D/E 26 <sup>3)</sup>	–	80	–	300	28	5.5	–	–
DULUX T/E 13	–	77	–	165	14	4.2	–	–
DULUX T/E 18	–	80	–	210	20	4.7	–	–
DULUX T/E 26 <sup>4)</sup>	–	80	–	300	28	6.0	–	–
DULUX T/E 32 <sup>3,4)</sup>	–	100	–	320	35	6.5	–	–
DULUX T/E 42 <sup>3,4)</sup>	–	135	–	320	46	7.0	–	–
DULUX T/E HE 11 W	–	80	–	150	13.5	2.9	–	–
DULUX T/E HE 14 W	–	100	–	150	17.1	2.9	–	–
DULUX T/E HE 17 W	–	120	–	150	18.8	2.9	–	–
DULUX L 18 <sup>3,5)</sup>	58	50	375	320	19	2.1	4.2	2.7
DULUX L 24 <sup>3,5)</sup>	87	75	345	300	27	2.1	3.6	2.7
DULUX L 36 <sup>3,5)</sup>	106	90	435	360	39	2.8	4.4	3.4
DULUX L 40 <sup>4)</sup>	–	126	–	320	45	2.3	–	–
DULUX L 55 <sup>3,4)</sup>	–	101	–	550	61	3.2	–	–
DULUX L 80 <sup>4)</sup>	–	145	–	555	86	3.7	–	–
DULUX L DE LUXE 18 <sup>3,5)</sup>	58	50	375	320	19	1.7	4.2	2.7
DULUX L DE LUXE 24 <sup>3,5)</sup>	87	75	345	300	27	1.8	3.6	2.7
DULUX L DE LUXE 36 <sup>3,5)</sup>	106	90	435	360	39	2.3	4.4	3.4
DULUX L DE LUXE 40 <sup>4)</sup>	–	126	–	320	45	1.9	–	–
DULUX L DE LUXE 55 <sup>3,4)</sup>	–	101	–	550	61	2.7	–	–
DULUX L HE 16 W	–	94	–	170	18	u.c.	–	–
DULUX L HE 22 W	–	125	–	170	25	u.c.	–	–
DULUX L HE 26 W	–	157	–	170	30	u.c.	–	–
DULUX L HE 28 W	–	147	–	190	31	1.9	–	–
DULUX F 18	58	50	375	320	19	2.4	4.2	2.7
DULUX F 24	87	75	345	300	27	2.5	3.6	2.7
DULUX F 36	106	90	435	360	39	3.0	4.4	3.4

\* ECG also available in two-lamp version  
For QUICKTRONIC® electronic control gear see Section 9  
For detailed technical information see the "Technical Guides"

1) Design for cos phi=0.95, dielectric strength of the capacitors 250 Vac, capacitance tolerance ±10 %

2) To maintain the specified operating and preheating values, close-tolerance capacitors (± 2 %) and series reactors (± 1.5 %) are required for series compensation. Check the product ranges of leading manufacturers | Dielectric strength of the capacitors 450 V AC








3) Also applies to the XT version

4) Also applies to the CONSTANT version

5) Also applies to the SP version at +5 °C

For more system information see Section 9 (ECGs)

## Technical data

Lamp Wattage							
		Length I max.	Length to IEC I max.	Length l1 max.	Length l2 max.	Length to IEC l1 max.	
DULUX S 5	G23	–	–	85	108	85	1
DULUX S 7	G23	–	–	114	137	115	1
DULUX S 9	G23	–	–	144	167	145	1
DULUX S 11	G23	–	–	214	237	215	1
DULUX S/E 7	2G7	114	115	–	–	–	2
DULUX S/E 9	2G7	144	145	–	–	–	2
DULUX S/E 11	2G7	214	215	–	–	–	2
DULUX D 10	G24d-1	–	–	87	110	95	3
DULUX D 13	G24d-1	–	–	115	138	130	3
DULUX D 18	G24d-2	–	–	130	153	140	3
DULUX D 26	G24d-3	–	–	149	172	160	3
DULUX D/E 10	G24q-1	–	–	87	103	95	3
DULUX D/E 13	G24q-1	–	–	115	131	130	3
DULUX D/E 18 <sup>1)</sup>	G24q-2	–	–	130	146	140	3
DULUX D/E 26 <sup>1)</sup>	G24q-3	–	–	149	165	160	3
DULUX T PLUS 13	GX24d-1	–	–	90	113	90	4
DULUX T PLUS 18	GX24d-2	–	–	101	124	110	4
DULUX T PLUS 26	GX24d-3	–	–	116	139	130	4
DULUX T/E PLUS 13	GX24q-1	–	–	90	106	90	4
DULUX T/E PLUS 18	GX24q-2	–	–	101	117	110	4
DULUX T/E PLUS 26	GX24q-3	–	–	116	132	130	4
DULUX T/E PLUS 32 <sup>2)</sup>	GX24q-3	–	–	132	148	145	4
DULUX T/E PLUS 42 <sup>2)</sup>	GX24q-4	–	–	153	169	155	4
DULUX T/E CONSTANT 26	GX24q-3	–	–	112	128	130	4
DULUX T/E CONSTANT 32	GX24q-3	–	–	128	144	145	4
DULUX T/E CONSTANT 42	GX24q-4	–	–	149	165	155	4
DULUX T/E HE 11	GR14q-1	–	–	106	112	120	5
DULUX T/E HE 14	GR14q-1	–	–	123	129	140	5
DULUX T/E HE 17	GR14q-1	–	–	140	146	150	5
DULUX L 18 <sup>1)</sup>	2G11	217	225	–	–	–	6
DULUX L 24 <sup>1)</sup>	2G11	317	320	–	–	–	6
DULUX L 36 <sup>1)</sup>	2G11	411	415	–	–	–	6
DULUX L 40 <sup>3)</sup>	2G11	533	535	–	–	–	6
DULUX L 55 <sup>3)</sup>	2G11	533	535	–	–	–	6
DULUX L 80 <sup>3)</sup>	2G11	565	565	–	–	–	6
DULUX L SP 18	2G11	209	225	–	–	–	6
DULUX L SP 24	2G11	309	320	–	–	–	6
DULUX L SP 36	2G11	403	415	–	–	–	6
DULUX L HE 16	2GX11	317	u.c.	–	–	–	6
DULUX L HE 22	2GX11	411	u.c.	–	–	–	6
DULUX L HE 26	2GX11	533	u.c.	–	–	–	6
DULUX L HE 28	2GX11	565	565	–	–	–	6
DULUX F 18	2G10	122	122	–	–	–	7
DULUX F 24	2G10	165	165	–	–	–	7
DULUX F 36	2G10	217	217	–	–	–	7

	A in mm	B in mm	C in mm	D in mm	E in mm	F in mm	G in mm	Fig. no.
CFL SQUARE 16	max. 138.0	max. 141.0	max. 27.5	max. 15.0	max. 41.0	max. 40.0	49.0/51.0	8
CFL SQUARE 28	max. 205.0	max. 207.0	max. 33.0	max. 24.0	max. 41.0	max. 49.0	74.0/77.0	8
CFL SQUARE 38	max. 205.0	max. 207.0	max. 33.0	max. 24.0	max. 41.0	max. 49.0	74.0/77.0	8

For details of the geometry see "CFLni Technical Guide"

1) Also applies to the XT version

2) Also applies to T/E XT

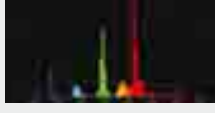
3) Also applies to the CONSTANT version

## Spectral power distribution of OSRAM DULUX® lamps with integrated control gear

Visible range from 380 to 780 nm, relative spectral emission per 5 nm.



Color 840 LUMILUX®  
Cool White



Color 827 LUMILUX®  
Warm White



Color 825 LUMILUX®  
Warm Comfort Light



Color 865 LUMILUX®  
Cool Daylight



## Spectral power distribution of OSRAM DULUX® pin-base lamps

Visible range from 380 to 780 nm, relative spectral emission per 5 nm.



Color 954 LUMILUX®  
DE LUXE Daylight



Color 940 LUMILUX®  
DE LUXE Cool White



Color 930 LUMILUX®  
DE LUXE Warm White



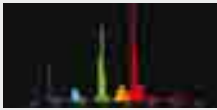
Color 865 LUMILUX®  
Cool Daylight



Color 840 LUMILUX®  
Cool White



Color 835 LUMILUX®  
White



Color 830 LUMILUX®  
Warm White







Color 827 LUMILUX®  
INTERNA®

Note: These chromaticity diagrams do not show the color distributions in great detail. The color printing process is not able to provide an accurate match between the colors shown and the colors defined for the individual color locations.




## Light colors and color rendering properties to DIN 5035 for OSRAM DULUX® lamps with integrated control gear

Light colors and color rendering properties to DIN 5035 for OSRAM DULUX® lamps with integrated control gear

					
Class 1	1 B	865 LUMILUX®	840 LUMILUX®	827 LUMILUX®	825 LUMILUX®
Very good	R <sub>a</sub> 80 ... 89	Cool Daylight	Cool White	Warm White	Warm Comfort Light
		6500 K	4000 K	2700 K	2500 K

## Light colors and color rendering properties to DIN 5035 for OSRAM DULUX® pin-base lamps

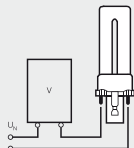
Light colors and color rendering properties to DIN 5035 for OSRAM DULUX® pin-base lamps

				
Class 1	1 A	954 LUMILUX® DE LUXE	940 LUMILUX® DE LUXE	930 LUMILUX® DE LUXE
Very good	R <sub>a</sub> 90 ... 99	Daylight	Cool White	Warm White
		5400 K	4000 K	3000 K
	1 B	865 LUMILUX®	840 LUMILUX®	835 LUMILUX®
	R <sub>a</sub> 80 ... 89	Cool Daylight	Cool White	White
		6500 K	4000 K	3500 K
				830 LUMILUX® Warm White
				3000 K
				827 LUMILUX INTERNA®
				2700 K

For an explanation of light colors see page 5.46 ff.



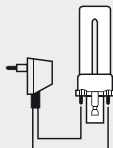
## Circuit diagrams for conventional control gear



1

Single lamp with control gear

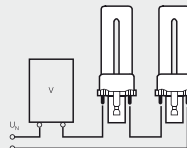
OSRAM DULUX® S 5 W, 7 W, 9 W, 11 W  
 OSRAM DULUX® D 10 W, 13 W, 18 W, 26 W  
 OSRAM DULUX® D ES 16 W, 23 W  
 OSRAM DULUX® T 13 W, 18 W, 26 W



2

Single lamp with plug-in control gear

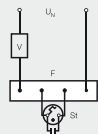
OSRAM DULUX® S 5 W, 7 W, 9 W, 11 W  
 OSRAM DULUX® D 10 W, 13 W  
 OSRAM DULUX® T 13 W



3

Series connection with control gear

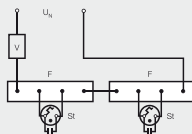
OSRAM DULUX® S 5 W, 7 W, 9 W



4

Single circuit, starter St 111  
 or DEOS® St 171

OSRAM DULUX® L 18 W, 24 W, 36 W  
 OSRAM DULUX® L 18 W SP, 24 W SP, 36 W SP  
 OSRAM DULUX® F 18 W, 24 W, 36 W



5

Series operation on 230 V only  
 with starter St 151

OSRAM DULUX® L 18 W  
 OSRAM DULUX® L 18 W SP  
 OSRAM DULUX® F 18 W

F = Four-pin holder  
 St = Starter  
 UN = Line voltage  
 V = Control gear

For circuit diagrams for HF operation see Section 9.

### Note for OSRAM DULUX® lamps with integrated control gear

All OSRAM DULUX® lamps with integrated control gear are designed for the European AC voltage of 220-240 V and are therefore not suitable for DC operation. Exceptions are indicated.



# Bases IEC/EN 60061-1

## For direct connection to AC supply



E14  
Sheet 7004-23



E27  
Sheet 7004-21



B22d  
Sheet 7004-10



G9  
Sheet 7004-129



GU10  
Sheet 7004-121

## For choke/starter operation



G23  
Sheet 7004-69



G24q-1  
Sheet 7004-78



G24q-2  
Sheet 7004-78



G24q-3  
Sheet 7004-78



GX24q-1  
Sheet 7004-78



GX24q-2  
Sheet 7004-78



GX24q-3  
Sheet 7004-78

## For HF operation



G24q-1  
Sheet 7004-78



G24q-2  
Sheet 7004-78



G24q-3  
Sheet 7004-78



GX24q-1  
Sheet 7004-78



GX24q-2  
Sheet 7004-78



GX24q-3  
Sheet 7004-78



GX24q-4  
Sheet 7004-78



GR14q-1  
Sheet 7004-156-1  
(Draft)

## For HF operation



2G7  
Sheet 7004-102



2G11<sup>1)</sup>  
Sheet 7004-82



2GX11  
Sheet 7004-82A-1  
(Draft)



2G10<sup>1)</sup>  
Sheet 7004-118



GR10q<sup>1)</sup>  
Sheet 7004-77

## For choke/starter operation



GR8  
Sheet 7004-68

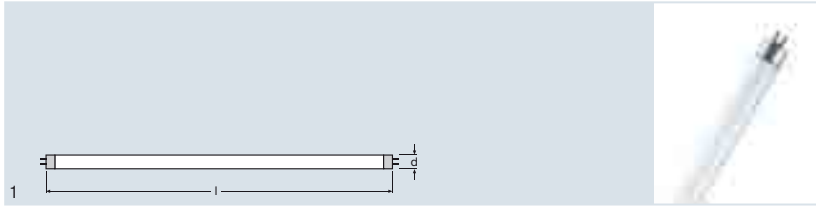
1) Also for choke/starter operation



# Fluorescent lamps

LUMILUX® T5 HE HIGH EFFICIENCY, tubular, G5 base	5.02
LUMILUX® T5 HO HIGH OUTPUT, tubular, G5 base	5.04
LUMILUX® T5 HE ES HIGH EFFICIENCY ENERGY SAVER, tubular, G5 base	5.06
LUMILUX® T5 HO ES HIGH OUTPUT ENERGY SAVER, tubular, G5 base	5.07
LUMILUX® T5 HO XT, tubular, G5 base	5.08
LUMILUX® T5 HO CONSTANT, tubular, G5 base	5.09
LUMILUX® DE LUXE T5 HO HIGH OUTPUT, tubular, G5 base	5.11
LUMILUX® T5 SEAMLESS, G5 base	5.12
Colored T5 HE HIGH EFFICIENCY, tubular, G5 base	5.13
Colored T5 HO HIGH OUTPUT, tubular, G5 base	5.14
OSRAM NATURA® T5, tubular, G5 base	5.15
LUMILUX® SPLIT control T5, tubular, G5 base	5.16
LUMILUX® CHIP control® T5, tubular, G5 base	5.17
LUMILUX® DE LUXE T5 short, tubular, G5 base	5.18
LUMILUX® T5 short, tubular, G5 base	5.19
Basic T5 short, tubular, G5 base	5.20
Emergency Lighting (LUMILUX®) T5 short, tubular, G5 base	5.21
Emergency Lighting (Basic) T5 short, tubular, G5 base	5.22
LUMILUX® T5 FC®, circular, 2Gx13 base	5.23
LUMILUX® T8, tubular, G13 base	5.24
LUMILUX® T8 ES ENERGY SAVER, tubular, G13 base	5.26
LUMILUX® XT T8, tubular, G13 base	5.27
LUMILUX® XXT T8, tubular, G13 base	5.28
LUMILUX® DE LUXE T8, tubular, G13 base	5.29
COLOR proof T8, tubular, G13 base	5.30
BIOLUX® T8, tubular, G13 base	5.31
FLUORA® T8, tubular, G13 base	5.32
Colored T8, tubular, G13 base	5.33
OSRAM NATURA® T8, tubular, G13 base	5.34
OSRAM NATURA® SPLIT control T8, tubular, G13 base	5.35
LUMILUX® SPLIT control T8, tubular, G13 base	5.36
LUMILUX® CHIP control® T8, tubular, G13 base	5.37
U-shaped T8, 2G13 base	5.38
LUMILUX® T9 C circular, G10Q base	5.39
LUMILUX® T2 FM, tubular W4.3 x 8.5d base	5.40
SA-type T12, tubular, G13 base	5.41
XL-type T12, tubular, Fa6 base	5.42
Starters for single circuits on 230 V <sub>AC</sub>	5.43
Starters for series circuits on 230 V <sub>AC</sub>	5.43
Starters	5.44
Fluorescent lamps – which light color for which application?	5.45
Light colors and color rendering properties of fluorescent lamps to EN 12464-1	5.46
Light colors	5.47
Technical data	5.48
Dimensions for tubular fluorescent lamps with tolerances	5.53
Dimensions for circular and U-shaped fluorescent lamps with tolerances	5.54
Circuit diagrams for fluorescent lamps – bases	5.55
Spectral power distribution of fluorescent lamps (white light)	5.56
Spectral power distribution of fluorescent lamps (COLOR proof)	5.57
Spectral power distribution of fluorescent lamps (other colors)	5.57

# LUMILUX® T5 HE HIGH EFFICIENCY, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		Ra	TUBE d [mm]	l [mm]		No.
HE 14 W/827 <sup>1)</sup>	4050300645933	14	1200	1350	LUMILUX INTERNA	80...89	16	549	40 <sup>2)</sup>	1
HE 14 W/830 <sup>1)</sup>	4050300464824	14	1200	1350	LUMILUX Warm White	80...89	16	549	40 <sup>2)</sup>	1
HE 14 W/835 <sup>1)</sup>	4050300771991	14	1200	1350	LUMILUX White	80...89	16	549	20 <sup>2)</sup>	1
HE 14 W/840 <sup>1)</sup>	4050300464688	14	1200	1350	LUMILUX Cool White	80...89	16	549	40 <sup>2)</sup>	1
HE 14 W/865 <sup>1)</sup>	4050300464848	14	1100	1300	LUMILUX Cool Daylight	80...89	16	549	40 <sup>2)</sup>	1
HE 14 W/880 <sup>1)</sup>	4008321225009	14	1080	1150	LUMILUX SKYWHITE	80...89	16	549	20 <sup>2)</sup>	1
HE 21 W/827 <sup>1)</sup>	4050300645971	21	1900	2100	LUMILUX INTERNA	80...89	16	849	40 <sup>2)</sup>	1
HE 21 W/830 <sup>1)</sup>	4050300464800	21	1900	2100	LUMILUX Warm White	80...89	16	849	40 <sup>2)</sup>	1
HE 21 W/835 <sup>1)</sup>	4050300776149	21	1900	2100	LUMILUX White	80...89	16	849	20 <sup>2)</sup>	1
HE 21 W/840 <sup>1)</sup>	4050300464701	21	1900	2100	LUMILUX Cool White	80...89	16	849	40 <sup>2)</sup>	1
HE 21 W/865 <sup>1)</sup>	4050300464626	21	1750	2000	LUMILUX Cool Daylight	80...89	16	849	40 <sup>2)</sup>	1
HE 21 W/880 <sup>1)</sup>	4008321224989	21	1700	1850	LUMILUX SKYWHITE	80...89	16	849	20 <sup>2)</sup>	1
HE 28 W/827 <sup>1)</sup>	4050300646015	28	2600	2900	LUMILUX INTERNA	80...89	16	1149	40 <sup>2)</sup>	1
HE 28 W/830 <sup>1)</sup>	4050300464787	28	2600	2900	LUMILUX Warm White	80...89	16	1149	40 <sup>2)</sup>	1
HE 28 W/835 <sup>1)</sup>	4050300776552	28	2600	2900	LUMILUX White	80...89	16	1149	40 <sup>2)</sup>	1
HE 28 W/840 <sup>1)</sup>	4050300464725	28	2600	2900	LUMILUX Cool White	80...89	16	1149	40 <sup>2)</sup>	1
HE 28 W/865 <sup>1)</sup>	4050300464640	28	2400	2750	LUMILUX Cool Daylight	80...89	16	1149	40 <sup>2)</sup>	1
HE 28 W/880 <sup>1)</sup>	4008321153517	28	2350	2690	LUMILUX SKYWHITE	80...89	16	1149	20 <sup>2)</sup>	1
HE 35 W/827 <sup>1)</sup>	4050300646053	35	3320	3650	LUMILUX INTERNA	80...89	16	1449	40 <sup>2)</sup>	1
HE 35 W/830 <sup>1)</sup>	4050300464763	35	3320	3650	LUMILUX Warm White	80...89	16	1449	40 <sup>2)</sup>	1
HE 35 W/835 <sup>1)</sup>	4050300776415	35	3320	3650	LUMILUX White	80...89	16	849	20 <sup>2)</sup>	1
HE 35 W/840 <sup>1)</sup>	4050300464749	35	3320	3650	LUMILUX Cool White	80...89	16	1449	40 <sup>2)</sup>	1
HE 35 W/865 <sup>1)</sup>	4050300464664	35	3050	3500	LUMILUX Cool Daylight	80...89	16	1449	40 <sup>2)</sup>	1
HE 35 W/880 <sup>1)</sup>	4008321153531	35	3000	3450	LUMILUX SKYWHITE	80...89	16	1449	20 <sup>2)</sup>	1

1) Suitable for ECG operation only. 1 The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.

2) Can also be supplied in boxes of 20 with sleeves. Industrial boxes of 40 available for all lamps except LUMILUX SKYWHITE and certain light colors.



HE (High Efficiency) systems offer excellent lumen maintenance, outstanding efficiency and impressive economy. With a tube diameter of only 16 mm, these lamps offer an extremely high luminous efficacy of up to 104 lm/W (at 35°C ambient temperature).

#### Product benefits

- Good economy and efficiency
- Up to 20% more economical than LUMILUX® T8
- Up to 50% smaller volume than comparable T8 lamps
- Natural colors
- OSRAM System\* Guarantee in combination with OSRAM ECGs

#### Product characteristics

- Up to 104 lm/W
- Very good lumen maintenance (>90%) throughout the life of the lamp
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Dimmable

#### Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Industry

#### Safety information

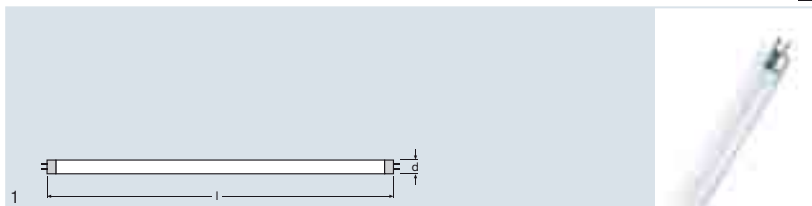
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® T5 HO HIGH OUTPUT, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		Ra	TUBE d [mm]	l [mm]		No.
HO 24 W/827 <sup>1)</sup>	4050300 <b>646077</b>	24	1750	2000	LUMILUX INTERNA	80...89	16	549	20 <sup>2)</sup>	1
HO 24 W/830 <sup>1)</sup>	4050300 <b>453491</b>	24	1750	2000	LUMILUX Warm White	80...89	16	549	40 <sup>2)</sup>	1
HO 24 W/835 <sup>1)</sup>	4050300 <b>776439</b>	24	1750	2000	LUMILUX White	80...89	16	549	20 <sup>2)</sup>	1
HO 24 W/840 <sup>1)</sup>	4050300 <b>453477</b>	24	1750	2000	LUMILUX Cool White	80...89	16	549	40 <sup>2)</sup>	1
HO 24 W/865 <sup>1)</sup>	4050300 <b>453453</b>	24	1600	1900	LUMILUX Cool Daylight	80...89	16	549	40 <sup>2)</sup>	1
HO 24 W/880 <sup>1)</sup>	400832 <b>1081469</b>	24	1550	1750	LUMILUX SKYWHITE	80...89	16	549	20 <sup>2)</sup>	1
HO 39 W/827 <sup>1)</sup>	4050300 <b>646138</b>	39	3100	3500	LUMILUX INTERNA	80...89	16	849	40 <sup>2)</sup>	1
HO 39 W/830 <sup>1)</sup>	4050300 <b>453552</b>	39	3100	3500	LUMILUX Warm White	80...89	16	849	40 <sup>2)</sup>	1
HO 39 W/840 <sup>1)</sup>	4050300 <b>453538</b>	39	3100	3500	LUMILUX Cool White	80...89	16	849	40 <sup>2)</sup>	1
HO 39 W/865 <sup>1)</sup>	4050300 <b>453514</b>	39	2850	3325	LUMILUX Cool Daylight	80...89	16	849	40 <sup>2)</sup>	1
HO 49 W/827 <sup>1)</sup>	4050300 <b>796772</b>	49	4310	4900	LUMILUX INTERNA	80...89	16	1449	20 <sup>2)</sup>	1
HO 49 W/830 <sup>1)</sup>	4050300 <b>657158</b>	49	4310	4900	LUMILUX Warm White	80...89	16	1449	40 <sup>2)</sup>	1
HO 49 W/840 <sup>1)</sup>	4050300 <b>657134</b>	49	4310	4900	LUMILUX Cool White	80...89	16	1449	40 <sup>2)</sup>	1
HO 49 W/865 <sup>1)</sup>	400832 <b>1110732</b>	49	4100	4600	LUMILUX Cool Daylight	80...89	16	1449	40 <sup>2)</sup>	1
HO 49 W/880 <sup>1)</sup>	400832 <b>1907486</b>	49	4050	4610	LUMILUX SKYWHITE	80...89	16	1449	20 <sup>2)</sup>	1
HO 54 W/827 <sup>1)</sup>	4050300 <b>646176</b>	54	4450	5000	LUMILUX INTERNA	80...89	16	1149	40 <sup>2)</sup>	1
HO 54 W/830 <sup>1)</sup>	4050300 <b>453415</b>	54	4450	5000	LUMILUX Warm White	80...89	16	1149	40 <sup>2)</sup>	1
HO 54 W/835 <sup>1)</sup>	4050300 <b>776477</b>	54	4450	5000	LUMILUX White	80...89	16	1149	20 <sup>2)</sup>	1
HO 54 W/840 <sup>1)</sup>	4050300 <b>453392</b>	54	4450	5000	LUMILUX Cool White	80...89	16	1149	40 <sup>2)</sup>	1
HO 54 W/865 <sup>1)</sup>	4050300 <b>453378</b>	54	4100	4750	LUMILUX Cool Daylight	80...89	16	1149	40 <sup>2)</sup>	1
HO 54 W/880 <sup>1)</sup>	400832 <b>1070425</b>	54	4000	4500	LUMILUX SKYWHITE	80...89	16	1149	20 <sup>2)</sup>	1
HO 80 W/827 <sup>1)</sup>	4050300 <b>646213</b>	80	6150	7000	LUMILUX INTERNA	80...89	16	1449	40 <sup>2)</sup>	1
HO 80 W/830 <sup>1)</sup>	4050300 <b>515137</b>	80	6150	7000	LUMILUX Warm White	80...89	16	1449	40 <sup>2)</sup>	1
HO 80 W/840 <sup>1)</sup>	4050300 <b>515151</b>	80	6150	7000	LUMILUX Cool White	80...89	16	1449	40 <sup>2)</sup>	1
HO 80 W/865 <sup>1)</sup>	4050300 <b>515113</b>	80	5700	6650	LUMILUX Cool Daylight	80...89	16	1449	40 <sup>2)</sup>	1
HO 80 W/880 <sup>1)</sup>	400832 <b>1070449</b>	80	5550	6400	LUMILUX SKYWHITE	80...89	16	1449	20 <sup>2)</sup>	1

<sup>1)</sup> Suitable for ECG operation only. <sup>1)</sup> The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.  
<sup>2)</sup> Can also be supplied in boxes of 20 with sleeves. Industrial boxes of 40 available for all lamps except LUMILUX SKYWHITE and certain light colors.



HO (High Output) lamp systems are particularly noted for their very high luminous flux, opening up new areas of application for the fluorescent lamp such as lighting for high-ceiling rooms.

#### **Product benefits**

- Excellent luminous flux
- Up to 20% more economical than LUMILUX® T8
- Up to 50% smaller volume than comparable T8 lamps
- Natural colors
- OSRAM System+ Guarantee in combination with OSRAM ECGs

#### **Product characteristics**

- High luminous flux
- Very good lumen maintenance (>90%) throughout the life of the lamp
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Dimmable

#### **Applications**

- Industry
- Public buildings
- Offices
- Tunnels, subways
- Car parks

#### **Safety information**

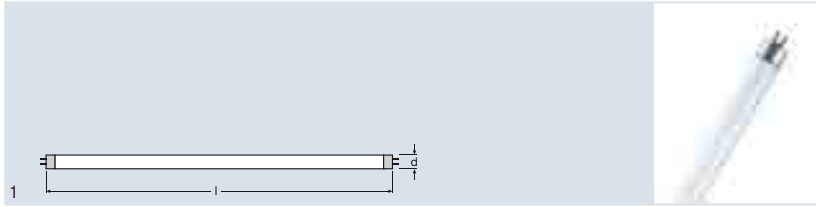
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### **References**

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® T5 HE ES HIGH EFFICIENCY ENERGY SAVER, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		R <sub>a</sub>				
							TUBE d (mm)	l (mm)		No.
HE 13W/830 ES <sup>1)</sup>	4008321733818	13	1150	1350	LUMILUX Warm White	80...89	16	549	40 <sup>2)</sup>	1
HE 13W/840 ES <sup>1)</sup>	4008321733832	13	1150	1350	LUMILUX Cool White	80...89	16	549	40 <sup>2)</sup>	1
HE 13W/865 ES <sup>1)</sup>	4008321733856	13	1050	1300	LUMILUX Cool Daylight	80...89	16	549	40 <sup>2)</sup>	1
HE 19W/830 ES <sup>1)</sup>	4008321733931	19	1800	2100	LUMILUX Warm White	80...89	16	849	40 <sup>2)</sup>	1
HE 19W/840 ES <sup>1)</sup>	4008321733955	19	1800	2100	LUMILUX Cool White	80...89	16	849	40 <sup>2)</sup>	1
HE 19W/865 ES <sup>1)</sup>	4008321733979	19	1750	2000	LUMILUX Cool Daylight	80...89	16	849	40 <sup>2)</sup>	1
HE 25 W/827 ES <sup>1)</sup>	4008321516909	25	2450	2900	LUMILUX INTERNA	80...89	16	1149	40 <sup>2)</sup>	1
HE 25 W/830 ES <sup>1)</sup>	4008321516923	25	2450	2900	LUMILUX Warm White	80...89	16	1149	40 <sup>2)</sup>	1
HE 25 W/840 ES <sup>1)</sup>	4008321516947	25	2450	2900	LUMILUX Cool White	80...89	16	1149	40 <sup>2)</sup>	1
HE 25 W/865 ES <sup>1)</sup>	4008321516961	25	2260	2750	LUMILUX Cool Daylight	80...89	16	1149	40 <sup>2)</sup>	1
HE 32 W/827 ES <sup>1)</sup>	4008321517067	32	3100	3650	LUMILUX INTERNA	80...89	16	1449	40 <sup>2)</sup>	1
HE 32 W/830 ES <sup>1)</sup>	4008321517111	32	3100	3650	LUMILUX Warm White	80...89	16	1449	40 <sup>2)</sup>	1
HE 32 W/840 ES <sup>1)</sup>	4008321517166	32	3100	3650	LUMILUX Cool White	80...89	16	1449	40 <sup>2)</sup>	1
HE 32 W/865 ES <sup>1)</sup>	4008321517210	32	2870	3500	LUMILUX Cool Daylight	80...89	16	1449	40 <sup>2)</sup>	1

<sup>1)</sup> Only for ECG operation | The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.  
<sup>2)</sup> Can also be supplied in boxes of 20 with sleeves.



Achieve energy savings of up to 10% in existing systems by a simple lamp replacement <sup>3)</sup>

## Product benefits

- Up to 10% energy savings compared to standard T5 HE LUMILUX® lamps
- Excellent economy and efficiency
- Payback time less than 1 year
- OSRAM System\* Guarantee in combination with OSRAM ECGs

## Product characteristics

- Up to 114 lm/W
- Very good lumen maintenance (>90%) throughout the life of the lamp
- High luminous efficacy
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Dimmable

## Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Industry

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

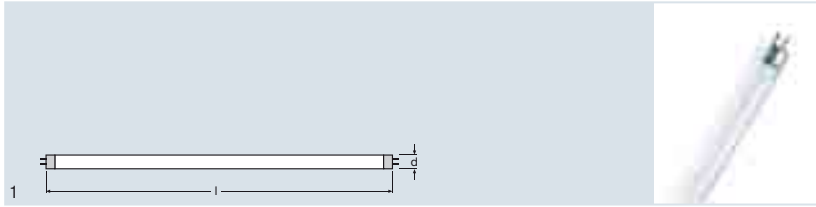
## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

<sup>3)</sup> If operated on current-controlled ECGs



# LUMILUX® T5 HO ES HIGH OUTPUT ENERGY SAVER, tubular, G5 base



NEW  
NEW  
NEW  
NEW  
NEW

Product reference	Product number	W	lm	lm <sub>35°C</sub>		R <sub>a</sub>				
							TUBE d [mm]	L [mm]		No.
HO 20 W/830 ES <sup>1)</sup>	4008321734068	20	1650	2000	LUMILUX Warm White	80...89	16	549	40 <sup>2)</sup>	1
HO 20 W/840 ES <sup>1)</sup>	4008321734082	20	1650	2000	LUMILUX Cool White	80...90	16	549	40 <sup>2)</sup>	1
HO 20 W/865 ES <sup>1)</sup>	4008321734105	20	1600	1900	LUMILUX Cool Daylight	80...91	16	549	40 <sup>2)</sup>	1
HO 34 W/830 ES <sup>1)</sup>	4008321734181	34	3250	3500	LUMILUX Warm White	80...92	16	849	40 <sup>2)</sup>	1
HO 34 W/840 ES <sup>1)</sup>	4008321734204	34	3250	3500	LUMILUX Cool White	80...93	16	849	40 <sup>2)</sup>	1
HO 34 W/865 ES <sup>1)</sup>	4008321734228	34	3050	3325	LUMILUX Cool Daylight	80...94	16	849	40 <sup>2)</sup>	1
HO 45 W/827 ES <sup>1)</sup>	4008321958129	45	4310	4900	LUMILUX INTERNA	80...89	16	1449	40 <sup>2)</sup>	1
HO 45 W/830 ES <sup>1)</sup>	4008321958136	45	4310	4900	LUMILUX Warm White	80...89	16	1449	40 <sup>2)</sup>	1
HO 45 W/840 ES <sup>1)</sup>	4008321958143	45	4310	4900	LUMILUX Cool White	80...89	16	1449	40 <sup>2)</sup>	1
HO 45 W/865 ES <sup>1)</sup>	4008321958150	45	4100	4600	LUMILUX Cool Daylight	80...89	16	1449	40 <sup>2)</sup>	1
HO 50 W/827 ES <sup>1)</sup>	4008321958167	50	4450	5000	LUMILUX INTERNA	80...89	16	1149	40 <sup>2)</sup>	1
HO 50 W/830 ES <sup>1)</sup>	4008321958174	50	4450	5000	LUMILUX Warm White	80...89	16	1149	40 <sup>2)</sup>	1
HO 50 W/840 ES <sup>1)</sup>	4008321958181	50	4450	5000	LUMILUX Cool White	80...89	16	1149	40 <sup>2)</sup>	1
HO 50 W/865 ES <sup>1)</sup>	4008321958198	50	4100	4750	LUMILUX Cool Daylight	80...89	16	1149	40 <sup>2)</sup>	1
HO 73 W/827 ES <sup>1)</sup>	4008321958204	73	6150	7000	LUMILUX INTERNA	80...89	16	1449	40 <sup>2)</sup>	1
HO 73 W/830 ES <sup>1)</sup>	4008321958211	73	6150	7000	LUMILUX Warm White	80...89	16	1449	40 <sup>2)</sup>	1
HO 73 W/840 ES <sup>1)</sup>	4008321958228	73	6150	7000	LUMILUX Cool White	80...89	16	1449	40 <sup>2)</sup>	1
HO 73 W/865 ES <sup>1)</sup>	4008321958235	73	5700	6650	LUMILUX Cool Daylight	80...89	16	1449	40 <sup>2)</sup>	1

<sup>1)</sup> Only for ECG operation <sup>1)</sup> The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.  
<sup>2)</sup> Can also be supplied in boxes of 20 with sleeves.

Achieve energy savings of up to 10% in existing systems by a simple lamp replacement <sup>3)</sup>

## Product benefits

- Up to 10% energy savings compared to standard T5 HO LUMILUX® lamps
- Good economy and efficiency
- Payback time less than 1 year
- OSRAM System\* Guarantee in combination with OSRAM ECGs

## Product characteristics

- Up to 96 lm/W
- Very good lumen maintenance (>90%) throughout the life of the lamp
- High luminous flux
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Dimmable

## Applications

- Industry
- Public buildings
- Offices
- Tunnels, subways

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

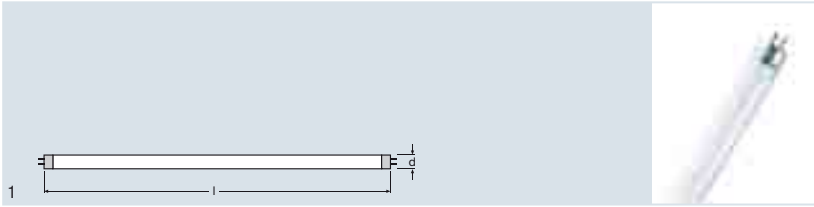
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

<sup>3)</sup> If operated on current-controlled ECGs

# LUMILUX® T5 HO XT, tubular, G5 base



Product reference	Product number	W	Im	Im 35°C		Ra	TUBE d [mm]	l [mm]		No.	
HO 49 W/827 XT <sup>1) 2)</sup>	4008321958488	49	4310	4900	LUMILUX INTERNA	80...89	16	1449	20	1	
HO 49 W/830 XT <sup>1) 2)</sup>	4008321958495	49	4310	4900	LUMILUX Warm White	80...89	16	1449	20	1	
HO 49 W/840 XT <sup>1) 2)</sup>	4008321958501	49	4310	4900	LUMILUX Cool White	80...89	16	1449	20	1	
HO 49 W/865 XT <sup>1) 2)</sup>	4008321958518	49	4100	4600	LUMILUX Cool Daylight	80...89	16	1449	20	1	
HO 54 W/827 XT <sup>1)</sup>	4008321958525	54	4450	5000	LUMILUX INTERNA	80...89	16	1149	20	1	
HO 54 W/830 XT <sup>1)</sup>	4008321958549	54	4450	5000	LUMILUX Warm White	80...89	16	1149	20	1	
HO 54 W/840 XT <sup>1)</sup>	4008321958556	54	4450	5000	LUMILUX Cool White	80...89	16	1149	20	1	
HO 54 W/865 XT <sup>1)</sup>	4008321958563	54	4100	4750	LUMILUX Cool Daylight	80...89	16	1149	20	1	
HO 80 W/827 XT <sup>1)</sup>	4008321958570	80	6150	7000	LUMILUX INTERNA	80...89	16	1449	20	1	
HO 80 W/830 XT <sup>1)</sup>	4008321958587	80	6150	7000	LUMILUX Warm White	80...89	16	1449	20	1	
HO 80 W/840 XT <sup>1)</sup>	4008321958594	80	6150	7000	LUMILUX Cool White	80...89	16	1449	20	1	
HO 80 W/865 XT <sup>1)</sup>	4008321958600	80	5700	6650	LUMILUX Cool Daylight	80...89	16	1449	20	1	

<sup>1)</sup> Only for ECG operation | The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.  
<sup>2)</sup> Planned to be available from spring 2012

OSRAM LUMILUX® XT lamps offer long life and outstanding reliability.

## Product benefits

- Much lower total cost of ownership, comprising investment, maintenance and relamping costs
- Lower maintenance costs thanks to longer replacement intervals
- Longer service life, so fewer lamps for waste disposal
- Compatible with and easily exchangeable with conventional T5 lamps

## Product characteristics

- Extremely reliable: long life, low premature failure rate, 90% luminous flux throughout their life
- Extremely long average life: up to 45,000 h (with QUICKTRONIC®)
- High luminous flux
- Good color rendering index 1B (Ra 80-89)
- Dimmable

## Applications

- Industry
- Tunnels, subways

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

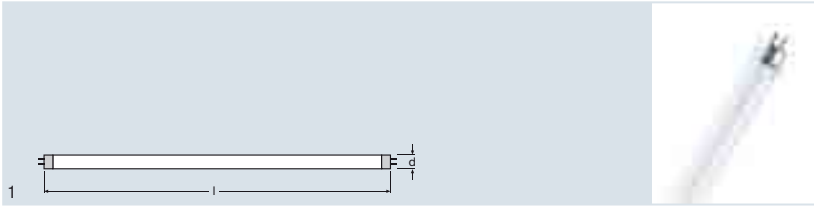
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

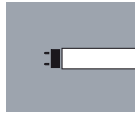
# LUMILUX® T5 HO CONSTANT, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		Ra	TUBE d [mm]	l [mm]		No.
HO 24 W/830 CONSTANT <sup>1) 2)</sup>	4008321 <b>074911</b>	24	1900	2000	LUMILUX Warm White	80...89	16	549	20	1
HO 24 W/840 CONSTANT <sup>1) 2)</sup>	4008321 <b>075451</b>	24	1900	2000	LUMILUX Cool White	80...89	16	549	20	1
HO 24 W/865 CONSTANT <sup>1) 2)</sup>	4008321 <b>075475</b>	24	1840	1900	LUMILUX Cool Daylight	80...89	16	549	20	1
HO 39 W/830 CONSTANT <sup>1) 2)</sup>	4008321 <b>075512</b>	39	3400	3500	LUMILUX Warm White	80...89	16	849	20	1
HO 39 W/840 CONSTANT <sup>1) 2)</sup>	4008321 <b>075550</b>	39	3400	3500	LUMILUX Cool White	80...89	16	849	20	1
HO 39 W/865 CONSTANT <sup>1) 2)</sup>	4008321 <b>075574</b>	39	3225	3325	LUMILUX Cool Daylight	80...89	16	849	20	1
HO 49 W/830 CONSTANT <sup>1) 2)</sup>	4008321 <b>958761</b>	49	4450	4900	LUMILUX Warm White	80...89	16	1449	20	1
HO 49 W/840 CONSTANT <sup>1) 2)</sup>	4008321 <b>958778</b>	49	4450	4900	LUMILUX Cool White	80...89	16	1449	20	1
HO 49 W/865 CONSTANT <sup>1) 2)</sup>	4008321 <b>958785</b>	49	4235	4600	LUMILUX Cool Daylight	80...89	16	1449	20	1
HO 54 W/830 CONSTANT <sup>1) 2)</sup>	4008321 <b>075611</b>	54	4850	5000	LUMILUX Warm White	80...89	16	1149	20	1
HO 54 W/840 CONSTANT <sup>1) 2)</sup>	4008321 <b>075659</b>	54	4850	5000	LUMILUX Cool White	80...89	16	1149	20	1
HO 54 W/865 CONSTANT <sup>1) 2)</sup>	4008321 <b>075673</b>	54	4610	4750	LUMILUX Cool Daylight	80...89	16	1149	20	1
HO 80 W/830 CONSTANT <sup>1) 2)</sup>	4008321 <b>075819</b>	80	6800	7000	LUMILUX Warm White	80...89	16	1449	20	1
HO 80 W/840 CONSTANT <sup>1) 2)</sup>	4008321 <b>080042</b>	80	6800	7000	LUMILUX Cool White	80...89	16	1449	20	1
HO 80 W/865 CONSTANT <sup>1) 2)</sup>	4008321 <b>080066</b>	80	6450	6650	LUMILUX Cool Daylight	80...89	16	1449	20	1

1) Suitable for ECG operation only.

2) Thanks to the technical superiority of the CONSTANT lamps, which enables them to operate efficiently within a very wide temperature range, the startup time of the CONSTANT lamps is longer until a stable operating condition is reached (between 3 and 5 minutes)





OSRAM T5 HO LUMILUX® CONSTANT lamps offer constant high luminous flux over a wide temperature range.

#### Product benefits

- Excellent luminous flux at high and low ambient temperatures
- Stable and suitable for outdoor lighting or fixtures with little thermal insulation
- Compatible with and easily exchangeable with conventional T5 lamps
- OSRAM System+ Guarantee in combination with OSRAM ECGs

#### Product characteristics

- Luminous flux greater than 90% at ambient temperatures between +5 °C and 70 °C (for 49 W: +20 °C to 80 °C)
- Very good lumen maintenance (>90%) throughout the life of the lamp
- High luminous efficacy
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Dimmable

#### Applications

- Industry
- Street lighting
- Applications with extreme temperature requirements

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### System guarantee

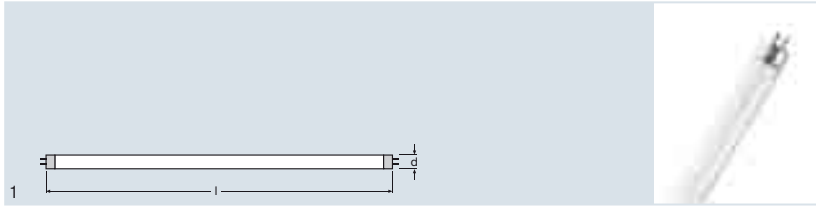
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® DE LUXE T5 HO HIGH OUTPUT, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		R <sub>a</sub>	 d (mm)	 l (mm)		 No.
HO 24 W/940 <sup>1)</sup>	4008321233028	24	1400	1570	LUMILUX DE LUXE Cool White	> 90	16	549	10	1
HO 24 W/965 <sup>1)</sup>	4008321233042	24	1400	1570	LUMILUX DE LUXE Cool Daylight	> 90	16	549	10	1
HO 49 W/940 <sup>1)</sup>	4008321234025	49	3500	3850	LUMILUX DE LUXE Cool White	> 90	16	1449	10	1
HO 49 W/965 <sup>1)</sup>	4008321233066	49	3450	3795	LUMILUX DE LUXE Cool Daylight	> 90	16	1449	10	1
HO 54 W/940 <sup>1)</sup>	4008321233929	54	3800	4250	LUMILUX DE LUXE Cool White	> 90	16	1149	10	1
HO 54 W/965 <sup>1)</sup>	4008321233943	54	3800	4250	LUMILUX DE LUXE Cool Daylight	> 90	16	1149	10	1

<sup>1)</sup> Suitable for ECG operation only. The lamps are designed for fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.

OSRAM LUMILUX® DE LUXE lamps meet high demands in terms of color rendering. Color rendering combined with advanced lamp design.

## Product benefits

- Excellent color rendering
- Natural colors
- Perfect color matching
- OSRAM System\* Guarantee in combination with OSRAM ECGs

## Product characteristics

- Very good color rendering index 1A (R<sub>a</sub> > 90)
- Very good lumen maintenance (> 90%) throughout the life of the lamp
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Dimmable

## Applications

- Industry
- Shops
- Supermarkets and department stores

## Safety information

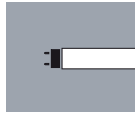
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

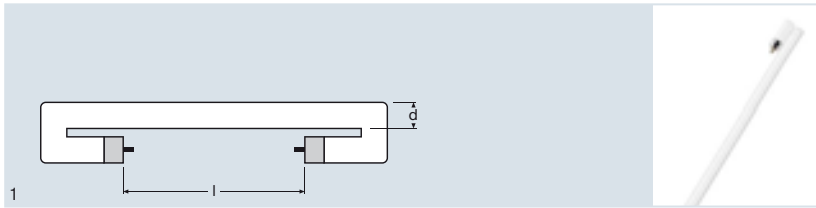
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.





Product reference	Product number	W	lm	lm <sub>35°C</sub>		R <sub>a</sub>		l <sub>1</sub> max. (mm)		
HE version										
HE 14W/830 SLS <sup>1)</sup>	4008321957719	14	1200	1350	LUMILUX Warm White	80...89	16	481 <sup>2)</sup>	25	1
HE 14W/840 SLS <sup>1)</sup>	4008321957733	14	1200	1350	LUMILUX Cool White	80...89	16	481 <sup>2)</sup>	25	1
HE 21W/830 SLS <sup>1)</sup>	4008321957771	21	1900	2100	LUMILUX Warm White	80...89	16	781 <sup>2)</sup>	25	1
HE 21W/840 SLS <sup>1)</sup>	4008321957795	21	1900	2100	LUMILUX Cool White	80...89	16	781 <sup>2)</sup>	25	1
HE 28W/830 SLS <sup>1)</sup>	4008321957832	28	2600	2900	LUMILUX Warm White	80...89	16	1081 <sup>2)</sup>	25	1
HE 28W/840 SLS <sup>1)</sup>	4008321957856	28	2600	2900	LUMILUX Cool White	80...89	16	1081 <sup>2)</sup>	25	1
HO version										
HO 24 W/830 SLS <sup>1)</sup>	4008321409959	24	1750	2000	LUMILUX Warm White	80...89	16	481 <sup>2)</sup>	25	1
HO 24 W/840 SLS <sup>1)</sup>	4008321357250	24	1750	2000	LUMILUX Cool White	80...89	16	481 <sup>2)</sup>	25	1
HO 24 W/865 SLS <sup>1)</sup>	4008321410016	24	1600	1900	LUMILUX Cool Daylight	80...89	16	481 <sup>2)</sup>	25	1
HO 39 W/830 SLS <sup>1)</sup>	4008321409973	39	3100	3500	LUMILUX Warm White	80...89	16	781 <sup>2)</sup>	25	1
HO 39 W/840 SLS <sup>1)</sup>	4008321357373	39	3100	3500	LUMILUX Cool White	80...89	16	781 <sup>2)</sup>	25	1
HO 39 W/865 SLS <sup>1)</sup>	4008321410030	39	2850	3325	LUMILUX Cool Daylight	80...89	16	781 <sup>2)</sup>	25	1
HO 54 W/830 SLS <sup>1)</sup>	4008321409997	54	4450	5000	LUMILUX Warm White	80...89	16	1081 <sup>2)</sup>	25	1
HO 54 W/840 SLS <sup>1)</sup>	4008321357434	54	4450	5000	LUMILUX Cool White	80...89	16	1081 <sup>2)</sup>	25	1
HO 54 W/865 SLS <sup>1)</sup>	4008321410054	54	4100	4750	LUMILUX Cool Daylight	80...89	16	1081 <sup>2)</sup>	25	1
<sup>1)</sup> Suitable for ECG operation only. <sup>2)</sup> Minimum										

## Light without shadow

Light with no dark areas, shadows or overlaps has not been possible until now. LUMILUX® T5 HO and HE SEAMLESS lamps have overcome the limitations of conventional fluorescent lamps and provide continuous light without annoying shadows. This is possible thanks to the minimal spacing between the end points of two lamps.

## Product benefits

- Up to 20% more economical than T8 Standard
- Ideal geometry for extremely narrow and modern fixtures
- SEAMLESS HE: the same luminance from all the lamps allows the use of different lamp lengths in the same installation
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC ECG

## Product characteristics

- Outstanding OSRAM quality: accurate chromaticity coordinate, stable light and electrical data and uniform coating
- Reduced loss of light over its life (only 10%)
- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Dimmable (for details see the Technical Guide)

## Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels
- Restaurants

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

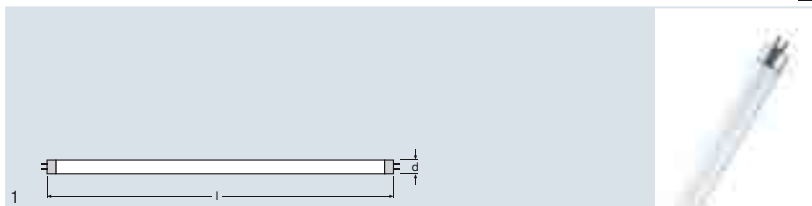
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# Colored T5 HE HIGH EFFICIENCY, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		TUBE d (mm)	l (mm)		No.
Colored T5 HE HIGH EFFICIENCY, tubular, G5 base									
HE 14 W/60 <sup>1)</sup>	4008321170705	14	930	970	Red	16	549	10	1
HE 14 W/66 <sup>2)</sup>	4008321170729	14	1550	1600	Green	16	549	10	1
HE 14 W/67 <sup>1)</sup>	4008321170781	14	300	330	Blue	16	549	10	1
HE 21 W/60 <sup>1)</sup>	4008321170682	21	1500	1550	Red	16	849	10	1
HE 21 W/66 <sup>1)</sup>	4008321170743	21	2500	2650	Green	16	849	10	1
HE 21 W/67 <sup>1)</sup>	4008321170804	21	500	540	Blue	16	849	10	1
HE 28 W/60 <sup>1)</sup>	4008321161840	28	2100	2200	Red	16	1149	10	1
HE 28 W/66 <sup>1)</sup>	4008321161864	28	3500	3700	Green	16	1149	10	1
HE 28 W/67 <sup>1)</sup>	4008321161888	28	700	750	Blue	16	1149	10	1
HE 35 W/60 <sup>1)</sup>	4008321133458	35	2650	2800	Red	16	1449	10	1
HE 35 W/66 <sup>1)</sup>	4008321161925	35	4450	4700	Green	16	1449	10	1
HE 35 W/67 <sup>1)</sup>	4008321161949	35	875	950	Blue	16	1449	10	1

<sup>1)</sup> Suitable for ECG operation only. <sup>l</sup> The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.  
<sup>2)</sup> Suitable for ECG operation only.

Colored LUMILUX® T5 HE lamps provide the basis for attractive and creative lighting designs.

## Product benefits

- Ideal for cost-effective creative illumination and decoration
- Uniform distribution of light over the entire length of the lamp
- Suitable for color mixes, including with white light (2700 K to 6500 K)
- OSRAM System+ Guarantee in combination with OSRAM ECGs

## Product characteristics

- High color saturation of red, green and blue
- Average life: up to 24,000 h (with QUICKTRONIC®)
- Dimmable

## Applications

- Shops
- Supermarkets and department stores
- Public buildings

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

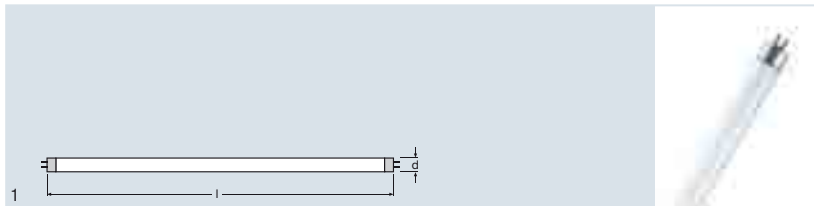
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



## Colored T5 HO HIGH OUTPUT, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		TUBE d (mm)	l (mm)		No.	
Colored T5 HO HIGH OUTPUT, tubular, G5 base										
HO 24 W/60 <sup>1)</sup>	4008321171009	24	1500	1650	Red	16	549	10	1	
HO 24 W/66 <sup>1)</sup>	4008321170941	24	2500	2750	Green	16	549	10	1	
HO 24 W/67 <sup>1)</sup>	4008321170880	24	525	670	Blue	16	549	10	1	
HO 39 W/60 <sup>1)</sup>	4008321170989	39	2450	2700	Red	16	849	10	1	
HO 39 W/66 <sup>1)</sup>	4008321170927	39	4100	4475	Green	16	849	10	1	
HO 39 W/67 <sup>1)</sup>	4008321170866	39	850	1075	Blue	16	849	10	1	
HO 54 W/60 <sup>1)</sup>	4008321170965	54	3300	3650	Red	16	1149	10	1	
HO 54 W/66 <sup>1)</sup>	4008321170903	54	5550	6050	Green	16	1149	10	1	
HO 54 W/67 <sup>1)</sup>	4008321170842	54	1150	1475	Blue	16	1149	10	1	
HO 80 W/60 <sup>1)</sup>	4008321161963	80	4525	5000	Red	16	1449	10	1	
HO 80 W/66 <sup>1)</sup>	4008321161987	80	7650	8300	Green	16	1449	10	1	
HO 80 W/67 <sup>1)</sup>	4008321162007	80	1550	2025	Blue	16	1449	10	1	

<sup>1)</sup> Suitable for ECG operation only. | The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.

Colored LUMILUX® T5 HO lamps provide the basis for attractive and creative lighting designs.

### Product benefits

- Ideal for cost-effective creative illumination and decoration
- Uniform distribution of light over the entire length of the lamp
- Suitable for color mixes, including with white light (2700 K to 6500 K)
- OSRAM System+ Guarantee in combination with OSRAM ECGs

### Product characteristics

- High color saturation of red, green and blue
- Average life: up to 24,000 h (with QUICKTRONIC®)
- Dimmable

### Applications

- Shops
- Supermarkets and department stores
- Public buildings

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### System guarantee

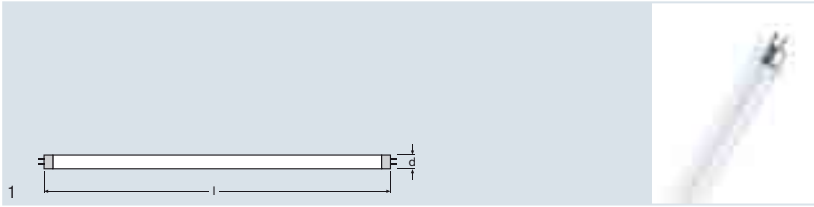
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# OSRAM NATURA® T5, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>					
HE 28 W/76 <sup>1)</sup>	4008321581716	28	1950	2150	NATURA	16	1149	10	1
HO 54 W/76 <sup>1)</sup>	4008321581693	54	3400	3800	NATURA	16	1149	10	1

1) Suitable for ECG operation only. | The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.

OSRAM NATURA® lamps have a specially tailored spectral distribution for professional presentation of food.

## Product benefits

- The specially tailored spectral distribution ensures that food looks fresh and appetizing, without unduly “beautifying” it
- Suitable for use in open and enclosed fixtures
- OSRAM System+ Guarantee in combination with OSRAM ECGs

## Product characteristics

- Color rendering R9 = 80 and R<sub>a</sub> = 85
- Long average life: up to 24,000 h (with QUICKTRONIC®)

## Applications

- Very good shop light for bakeries, meat processors, butchers and so on
- Shops
- Supermarkets and department stores

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

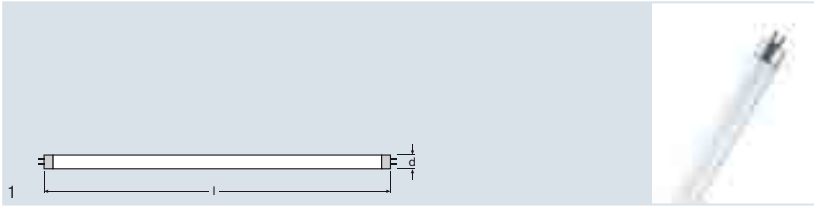
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® SPLIT control T5, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
HE 28 W/840 SPS <sup>1)</sup>	4008321 <b>233387</b>	28	2540	2830	Cool White	80...89	16	1149	10	1
HO 54 W/840 SPS <sup>1)</sup>	4008321 <b>233363</b>	54	4350	4890	Cool White	80...89	16	1149	10	1

1) Suitable for ECG operation only. | The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.

OSRAM LUMILUX® SPLIT control lamps stand for safety and offer protection against splinters.

## Product benefits

- Splinter protection
- Required to prevent contamination in sensitive production areas (e.g. in the food industry)
- The lamps support the implementation of the HACCP concepts from production through to presentation
- Suitable for enclosed fixtures
- OSRAM System+ Guarantee in combination with OSRAM ECGs

## Product characteristics

- Splinter protection
- The life of the sleeve is the same as the average lamp life
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Dimmable

## Applications

- Recommended for certified companies in accordance with the International Food Standard
- Industry
- Shops
- Supermarkets and department stores

## Safety information

- Lamps with plastic sleeves: maximum ambient temperature: 80 °C
- Lamps with plastic sleeves: minimum ambient temperature: - 10 °C
- Lamps with plastic sleeves: maximum storage time 5 years at 0 to 30 °C
- Lamps with plastic sleeves: lamps must be replaced after average life has been reached (B50)
- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

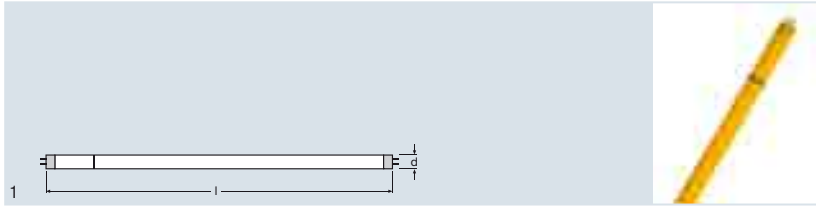
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# LUMILUX® CHIP control® T5, tubular, G5 base



Product reference	Product number	W	lm	lm <sub>35°C</sub>		TUBE d (mm)	l (mm)		No.
HE 28 W/62 CHIP CONTR <sup>1)</sup>	4008321 <b>233424</b>	28	1830	2040	Yellow	16	1149	10	1
HO 54 W/62 CHIP CONTR <sup>1)</sup>	4008321 <b>233400</b>	54	3140	3530	Yellow	16	1149	10	1

1) Suitable for ECG operation only. | The lamps are designed for internal fixture temperatures of 30 to 40 °C; the optimum luminous flux is achieved at 35 °C.

The LUMILUX® CHIP control® T5 lamp is the ideal solution for microchip fabrication plants.

## Product benefits

- Excellent UV filter
- Suitable for use in open and enclosed fixtures
- OSRAM System\* Guarantee in combination with OSRAM ECGs

## Product characteristics

- Excellent filter function under 500 nm
- The life of the sleeve is the same as the average lamp life
- Long average life: up to 24,000 h (with QUICKTRONIC®)
- Dimmable

## Applications

- Ideal for microchip fabrication plants and other areas where UV and blue components have to be reduced to the absolute minimum
- Industry
- Print shops

## Safety information

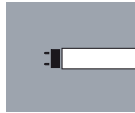
- Lamps with plastic sleeves: maximum ambient temperature: 80 °C
- Lamps with plastic sleeves: minimum ambient temperature: - 10 °C
- Lamps with plastic sleeves: maximum storage time 5 years at 0 to 30 °C
- Lamps with plastic sleeves: lamps must be replaced after average life has been reached (B50)
- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)
- An increase of the emitted radiation power < 500 nm has to be considered depending on the operation conditions. For detailed information please refer to the technical data sheets.

## System guarantee

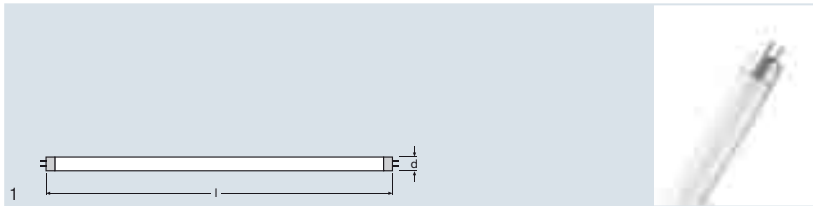
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® DE LUXE T5 short, tubular, G5 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		No.
LUMILUX® DE LUXE T5 short, tubular, G5 base									
L 6 W/930	40503000 <b>15880</b>	6	260	LUMILUX DE LUXE Warm White	>90	16	212	25	1
L 8 W/930	40503000 <b>15897</b>	8	380	LUMILUX DE LUXE Warm White	>90	16	288	25	1
L 8 W/954	40503000 <b>18232</b>	8	380	LUMILUX DE LUXE Daylight	>90	16	288	25	1
L 13 W/930	40503000 <b>15903</b>	13	680	LUMILUX DE LUXE Warm White	>90	16	517	25	1

OSRAM T5 short lamps are versatile solutions for applications where space is restricted.

## Product benefits

- Excellent color rendering
- Ideal for cost-effective creative illumination and decoration
- Very good lumen maintenance throughout the life of the lamp

## Product characteristics

- Slim and compact
- Average life: up to 10,000 h (with QUICKTRONIC®)
- Very good color rendering index 1A (R<sub>a</sub> >90)

## Applications

- Shops
- Supermarkets and department stores
- Public buildings

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

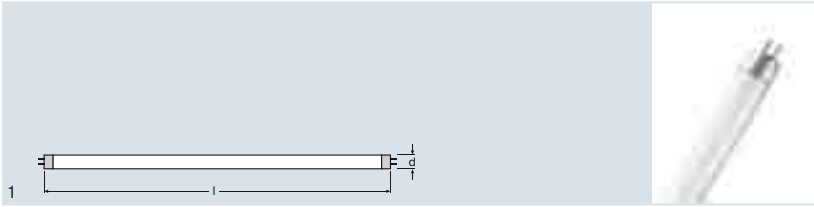
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# LUMILUX® T5 short, tubular, G5 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
LUMILUX® T5 short, tubular, G5 base									
L 6 W/830	4008321 <b>959874</b>	6	300	LUMILUX Warm White	80...89	16	212	25	1
L 8 W/827	4050300 <b>008943</b>	8	430	LUMILUX INTERNA	80...89	16	288	25	1
L 8 W/830	4008321 <b>959881</b>	8	430	LUMILUX Warm White	80...89	16	288	25	1
L 8 W/840	4050300 <b>241623</b>	8	430	LUMILUX Cool White	80...89	16	288	25	1
L 13 W/827	4050300 <b>008967</b>	13	950	LUMILUX INTERNA	80...89	16	517	25	1
L 13 W/830	4008321 <b>959898</b>	13	950	LUMILUX Warm White	80...89	16	517	25	1
L 13 W/840	4050300 <b>241647</b>	13	950	LUMILUX Cool White	80...89	16	517	25	1

OSRAM T5 short lamps are versatile solutions for applications where space is restricted.

## Product benefits

- Ideal for cost-effective creative illumination and decoration
- Very good lumen maintenance throughout the life of the lamp

## Product characteristics

- Slim and compact
- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Average life: up to 10,000 h (with QUICKTRONIC®)

## Applications

- Shops
- Supermarkets and department stores
- Public buildings

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

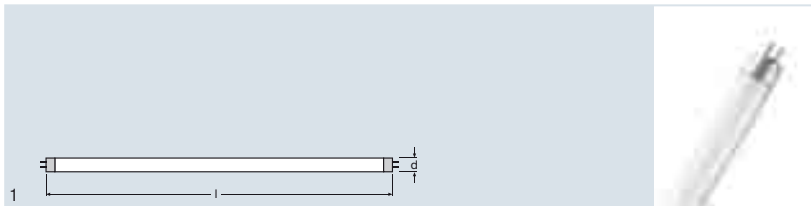
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



## Basic T5 short, tubular, G5 base



Product reference	Product number	W	lm		Ra				
Basic T5 short, tubular, G5 base									
L 4 W/640	4050300008875	4	140	Cool White	60...69	16	136	25	1
L 6 W/640	4050300008899	6	270	Cool White	60...69	16	212	25	1
L 8 W/640	4050300008912	8	385	Cool White	60...69	16	288	25	1
L 8 W/765	4050300035475	8	330	Cool Daylight	70...79	16	288	25	1
L 13 W/640	4050300008974	13	830	Cool White	60...69	16	517	25	1
L 13 W/765	4050300035536	13	720	Cool Daylight	70...79	16	517	25	1

OSRAM T5 short lamps are versatile solutions for applications where space is restricted.

### Product benefits

- Ideal for cost-effective creative illumination and decoration
- Very good lumen maintenance throughout the life of the lamp

### Product characteristics

- Slim and compact
- Average life: up to 10,000 h (with QUICKTRONIC®)

### Applications

- Shops
- Supermarkets and department stores
- Public buildings

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

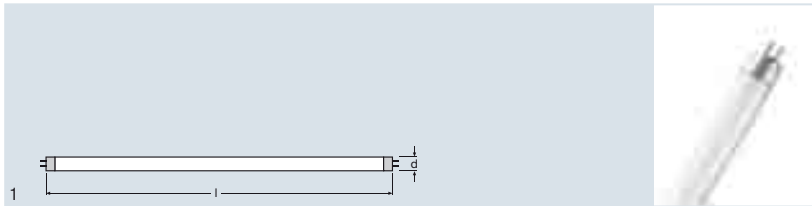
### System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# Emergency Lighting (LUMILUX®) T5 short, tubular, G5 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
L 6 W/840 EL	4008321 <b>325662</b>	6	320	LUMILUX Cool White	80...89	16	212	25	1
L 8 W/840 EL	4008321 <b>325846</b>	8	450	LUMILUX Cool White	80...89	16	288	25	1

OSRAM T5 short EL lamps are versatile solutions for emergency lighting applications.

## Product benefits

- Suitable for emergency power operation
- Very good lumen maintenance throughout the life of the lamp

## Product characteristics

- Emergency lighting lamps optimized for emergency power operation
- Slim and compact
- Good color rendering index 1B (R<sub>a</sub> 80-89)

## Applications

- Public buildings
- Industry
- Shops
- Supermarkets and department stores

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

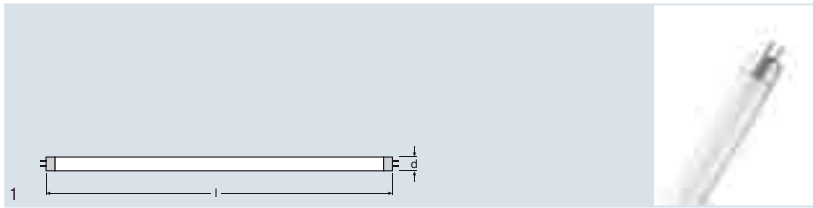
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# Emergency Lighting (Basic) T5 short, tubular, G5 base



Product reference	Product number	W	lm		Ra				
Emergency Lighting (BASIC) T5 short, tubular, G5 base									
L 6 W/640 EL	4008321152381	6	270	Cool White	60...69	16	212	25	1
L 8 W/640 EL	4050300606644	8	385	Cool White	60...69	16	288	25	1

OSRAM T5 short EL lamps are versatile solutions for emergency lighting applications.

## Product benefits

- Suitable for emergency power operation
- Very good lumen maintenance throughout the life of the lamp

## Product characteristics

- Emergency lighting lamps optimized for emergency power operation
- Slim and compact

## Applications

- Public buildings
- Industry
- Shops
- Supermarkets and department stores

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

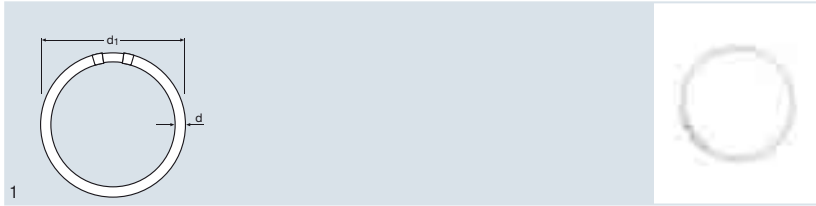
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® T5 FC®, circular, 2Gx13 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	φ d (mm)		No.
FC 22 W/827 <sup>1)</sup>	4050300646237	22	1900	LUMILUX INTERNA	80...89	16	225	12	1
FC 22 W/830 <sup>1)</sup>	4050300528489	22	1900	LUMILUX Warm White	80...89	16	225	12	1
FC 22 W/840 <sup>1)</sup>	4050300528465	22	1900	LUMILUX Cool White	80...89	16	225	12	1
FC 22 W/865 <sup>1)</sup>	4050300528441	22	1800	LUMILUX Cool Daylight	80...89	16	225	12	1
FC 40 W/827 <sup>1)</sup>	4050300646251	40	3400	LUMILUX INTERNA	80...89	16	300	12	1
FC 40 W/830 <sup>1)</sup>	4050300528540	40	3400	LUMILUX Warm White	80...89	16	300	12	1
FC 40 W/840 <sup>1)</sup>	4050300528526	40	3400	LUMILUX Cool White	80...89	16	300	12	1
FC 40 W/865 <sup>1)</sup>	4050300528502	40	3300	LUMILUX Cool Daylight	80...89	16	300	12	1
FC 55 W/827 <sup>1)</sup>	4050300646275	55	4200	LUMILUX INTERNA	80...89	16	300	12	1
FC 55 W/830 <sup>1)</sup>	4050300528601	55	4200	LUMILUX Warm White	80...89	16	300	12	1
FC 55 W/840 <sup>1)</sup>	4050300528588	55	4200	LUMILUX Cool White	80...89	16	300	12	1
FC 55 W/865 <sup>1)</sup>	4050300528564	55	3990	LUMILUX Cool Daylight	80...89	16	300	12	1

<sup>1)</sup> Suitable for ECG operation only.

The circular LUMILUX® T5 FC® is specially tailored to round or square low-profile fixtures with direction-neutral light. The round lighting solution from OSRAM together with the appropriate OSRAM QUICKTRONIC® control gear is an unusual option with high efficiency.

## Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux
- Excellent uniform illumination with no shadows

## Product characteristics

- Good color rendering index 1B (R<sub>a</sub> 80-89)
- Good average life (with OSRAM ECG)
- Dimmable (from 100 to 1% with QTi DALI/DIM)
- Single-ended round fluorescent lamp
- Tube diameter 16 mm
- Exclusively for operation on electronic control gear

## Applications

- Public buildings
- Offices
- Restaurants
- Industry
- Shops
- Supermarkets and department stores
- Hotels

## Safety information

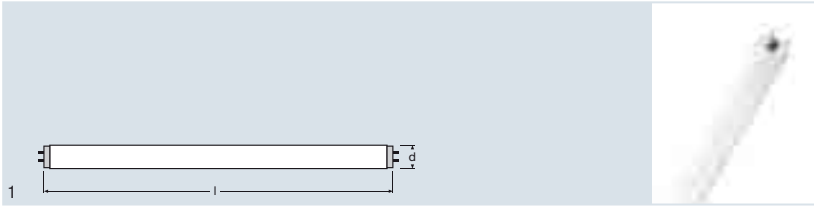
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
L 10 W/827	4050300446165	10	650	LUMILUX INTERNA	80...89	26	470	25	1
L 15 W/827	4050300446042	15	950	LUMILUX INTERNA	80...89	26	438	25	1
L 15 W/830	4050300446028	15	950	LUMILUX Warm White	80...89	26	438	25	1
L 15 W/840	4050300446004	15	950	LUMILUX Cool White	80...89	26	438	25	1
L 15 W/865	4050300446189	15	900	LUMILUX Cool Daylight	80...89	26	438	25	1
L 16 W/827	4050300446080	16	1250	LUMILUX INTERNA	80...89	26	720	25	1
L 16 W/830	4008321959065	16	1250	LUMILUX Warm White	80...89	26	720	25	1
L 16 W/840	4050300446004	16	1250	LUMILUX Cool White	80...89	26	720	25	1
L 18 W/827	4050300517834	18	1350	LUMILUX INTERNA	80...89	26	590	25	1
L 18 W/830	4050300517810	18	1350	LUMILUX Warm White	80...89	26	590	25 <sup>2)</sup>	1
L 18 W/835	4050300447964	18	1350	LUMILUX White	80...89	26	590	25	1
L 18 W/840	4050300517797	18	1350	LUMILUX Cool White	80...89	26	590	25 <sup>2)</sup>	1
L 18 W/865	4050300517773	18	1300	LUMILUX Cool Daylight	80...89	26	590	25	1
L 18 W/880	4008321027962	18	1300	LUMILUX SKYWHITE	80...89	26	590	25	1
L 23 W/830	4050300446264	23	1900	LUMILUX Warm White	80...89	26	970	25	1
L 23 W/840	4050300446240	23	1900	LUMILUX Cool White	80...89	26	970	25	1
L 30 W/827	4050300518077	30	2400	LUMILUX INTERNA	80...89	26	895	25	1
L 30 W/830	4050300518053	30	2400	LUMILUX Warm White	80...89	26	895	25	1
L 30 W/840	4050300518039	30	2400	LUMILUX Cool White	80...89	26	895	25	1
L 30 W/865	4050300518015	30	2350	LUMILUX Cool Daylight	80...89	26	895	25	1
L 30 W/880	4008321027986	30	2350	LUMILUX SKYWHITE	80...89	26	895	25	1
L 36 W/827	4050300517919	36	3350	LUMILUX INTERNA	80...89	26	1200	25	1
L 36 W/827-1 <sup>1)</sup>	4050300518114	36	3100	LUMILUX INTERNA	80...89	26	970	25	1
L 36 W/830	4050300517896	36	3350	LUMILUX Warm White	80...89	26	1200	25 <sup>2)</sup>	1
L 36 W/830-1 <sup>1)</sup>	4008321959058	36	3100	LUMILUX Warm White	80...89	26	970	25	1
L 36 W/835	4050300447988	36	3350	LUMILUX White	80...89	26	1200	25	1
L 36 W/840	4050300517872	36	3350	LUMILUX Cool White	80...89	26	1200	25 <sup>2)</sup>	1
L 36 W/840-1 <sup>1)</sup>	4050300518091	36	3100	LUMILUX Cool White	80...89	26	970	25	1
L 36 W/865	4050300517858	36	3250	LUMILUX Cool Daylight	80...89	26	1200	25	1
L 36 W/880	4008321002976	36	3000	LUMILUX SKYWHITE	80...89	26	1200	25	1
L 38 W/830	4050300518152	38	3300	LUMILUX Warm White	80...89	26	1047	25	1
L 38 W/840	4050300518138	38	3300	LUMILUX Cool White	80...89	26	1047	25	1
L 38 W/880	4008321072245	38	2975	LUMILUX SKYWHITE	80...89	26	1047	25	1
L 58 W/827	4050300603049	58	5200	LUMILUX INTERNA	80...89	26	1500	25	1
L 58 W/830	4050300517971	58	5200	LUMILUX Warm White	80...89	26	1500	25 <sup>2)</sup>	1
L 58 W/835	4050300448008	58	5200	LUMILUX White	80...89	26	1500	25	1
L 58W/840	4050300517957	58	5200	LUMILUX Cool White	80...89	26	1500	25 <sup>2)</sup>	1
L 58 W/865	4050300517933	58	5000	LUMILUX Cool Daylight	80...89	26	1500	25	1
L 58 W/880	4008321002990	58	4900	LUMILUX SKYWHITE	80...89	26	1500	25	1
L 70 W/835	4008321003911	70	6200	LUMILUX White	80...89	26	1800	25	1
L 70 W/840	4008321003959	70	6200	LUMILUX Cool White	80...89	26	1800	25	1

<sup>1)</sup> These lamps are not intended for general illumination. They are suitable for applications such as lighting for means of public transport.  
<sup>2)</sup> Also available in industrial packs (... WP) for bulk orders. Contains 30 lamps.



T8 LUMILUX® systems offer excellent lumen maintenance, high efficiency and impressive economy.

#### Product benefits

- Up to 18% higher luminous efficacy than conventional T8 BASIC lamps
- Good economy thanks to high efficiency
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC®

#### Product characteristics

- Very good lumen maintenance (>90%) throughout the life of the lamp
- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Dimmable
- Top-quality three-band phosphor: LUMILUX®
- Available in many different light colors (2700 K to 8000 K) for every application and preference

#### Applications

- Public buildings
- Office lighting
- Industry
- Shops
- Supermarkets and department stores
- Street lighting

#### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

#### System guarantee

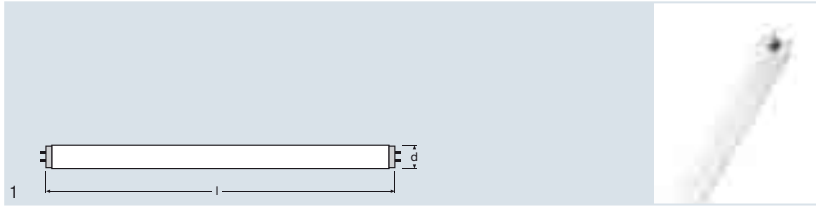
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

#### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® T8 ES ENERGY SAVER, tubular, G13 base



Product reference	Product number	W	lm		R <sub>a</sub>					No.
L 16 W/830 ES	4008321955791	16	1300 <sup>1)</sup>	LUMILUX Warm White	80...89	26	590	25	1	
L 16 W/840 ES	4008321955777	16	1300 <sup>1)</sup>	LUMILUX Cool White	80...89	26	590	25	1	
L 32 W/830 ES	4008321339652	32	3000 <sup>1)</sup>	LUMILUX Warm White	80...89	26	1200	25	1	
L 32 W/840 ES	4008321339676	32	3000 <sup>1)</sup>	LUMILUX Cool White	80...89	26	1200	25	1	
L 51 W/830 ES	4008321339713	51	4800 <sup>1)</sup>	LUMILUX Warm White	80...89	26	1500	25	1	
L 51 W/840 ES	4008321339690	51	4800 <sup>1)</sup>	LUMILUX Cool White	80...89	26	1500	25	1	

1) At an ambient temperature of 30 °C

Achieve energy savings of up to 10% in existing indoor systems (T8 Standard, CCG/LLG) by simply replacing the lamps.

## Product benefits

- Simple direct replacement in existing CCG/LLG systems
- Instant energy savings in existing CCG/LLG systems
- Up to 10% lower energy consumption on conventional control gear
- Reduction in CO<sub>2</sub> emissions (51 W) 14 kg per year, 70 kg over the life of the lamp – energy mix: 0.5 kg/kWh
- Payback less than 1 year
- Energy savings in combination with QTFIT8 in new systems

## Product characteristics

- Very good lumen maintenance (>90%) throughout the life of the lamp
- Not released for dim operation
- Good color rendering index 1B (R<sub>a</sub> 80-90)

## Applications

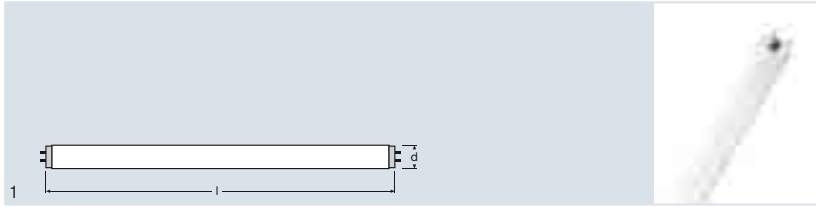
- Public buildings
- Office lighting
- Industry
- Shops
- Supermarkets and department stores

## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		
L 18 W/830 XT	4008321 <b>209085</b>	18	1350	LUMILUX Warm White	80...89	26	590	25	1
L 18 W/840 XT	4008321 <b>209108</b>	18	1350	LUMILUX Cool White	80...89	26	590	25	1
L 18 W/865 XT	4008321 <b>209122</b>	18	1250	LUMILUX Cool Daylight	80...89	26	590	25	1
L 36 W/830 XT	4008321 <b>209146</b>	36	3300	LUMILUX Warm White	80...89	26	1200	25	1
L 36 W/840 XT	4008321 <b>209160</b>	36	3300	LUMILUX Cool White	80...89	26	1200	25	1
L 36 W/865 XT	4008321 <b>209221</b>	36	3250	LUMILUX Cool Daylight	80...89	26	1200	25	1
L 58 W/830 XT	4008321 <b>209344</b>	58	5200	LUMILUX Warm White	80...89	26	1500	25	1
L 58 W/840 XT	4008321 <b>209320</b>	58	5200	LUMILUX Cool White	80...89	26	1500	25	1
L 58 W/865 XT	4008321 <b>923622</b>	58	5000	LUMILUX Cool Daylight	80...89	26	1500	25	1

OSRAM LUMILUX® XT lamps offer long life and outstanding reliability.

### Product benefits

- Much lower total cost of ownership (TCO) compared with T8 LUMILUX® lamps
- Service life 2.3 times higher than that of a standard LUMILUX® lamp
- Longer standard life, so fewer lamps for waste disposal
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC®

### Product characteristics

- Extremely reliable: long life, low premature failure rate, 90% luminous flux throughout their life
- Service life of up to 42,000 hours on preheat ECGs or up to 35,000 hours on CCGs
- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Dimmable (for details see the Technical Guide)
- Top-quality three-band LUMILUX® phosphor

### Applications

- For installations in which relamping can take place without disturbing normal operations
- Street lighting
- Public buildings
- Industry
- Shops
- Supermarkets and department stores

### Safety information

- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)
- Please note however that the fixture must be cleaned regularly to avoid loss of luminous flux

### System guarantee

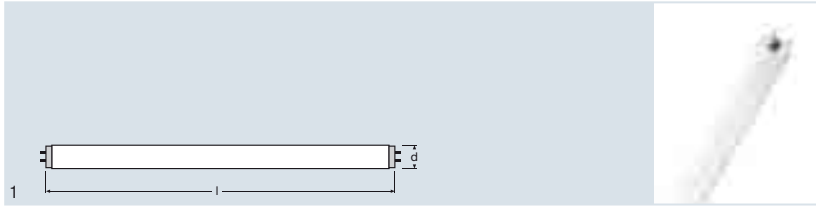
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® XXT T8, tubular, G13 base



Product reference	Product number	W	lm		R <sub>a</sub>				
						TUBE d [mm]	l [mm]		No.
L 18 W/830 XXT	4008321 <b>923646</b>	18	1350	LUMILUX Warm White	80...89	26	590	25	1
L 18 W/840 XXT	4008321 <b>923660</b>	18	1350	LUMILUX Cool White	80...89	26	590	25	1
L 18 W/865 XXT	4008321 <b>923684</b>	18	1250	LUMILUX Cool Daylight	80...89	26	590	25	1
L 36 W/830 XXT	4008321 <b>923707</b>	36	3300	LUMILUX Warm White	80...89	26	1200	25	1
L 36 W/840 XXT	4008321 <b>923721</b>	36	3300	LUMILUX Cool White	80...89	26	1200	25	1
L 36 W/865 XXT	4008321 <b>923745</b>	36	3250	LUMILUX Cool Daylight	80...89	26	1200	25	1
L 58 W/830 XXT	4008321 <b>923769</b>	58	5200	LUMILUX Warm White	80...89	26	1500	25	1
L 58 W/840 XXT	4008321 <b>923783</b>	58	5200	LUMILUX Cool White	80...89	26	1500	25	1
L 58 W/865 XXT	4008321 <b>923806</b>	58	5000	LUMILUX Cool Daylight	80...89	26	1500	25	1

OSRAM LUMILUX® XXT lamps offer extra long life and outstanding reliability.

## Product benefits

- Much lower total cost of ownership (TCO) compared with T8 LUMILUX® lamps
- Service life 4.1 times higher than that of a standard LUMILUX® lamp
- Longer standard life, so fewer lamps for waste disposal
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC®

## Product characteristics

- Extremely reliable: very long life, low premature failure rate, 90% luminous flux throughout their life
- Service life of up to 75,000 hours on ECGs or up to 58,000 hours on CCGs
- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Dimmable with suitable ECG (for details see the Technical Guide)
- Top-quality three-band LUMILUX® phosphor

## Applications

- For installations in which relamping cannot take place without disturbing normal operations
- Street lighting
- Public buildings
- Industry
- Shops
- Supermarkets and department stores

## Safety information

- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)
- Please note however that the fixture must be cleaned regularly to avoid loss of luminous flux

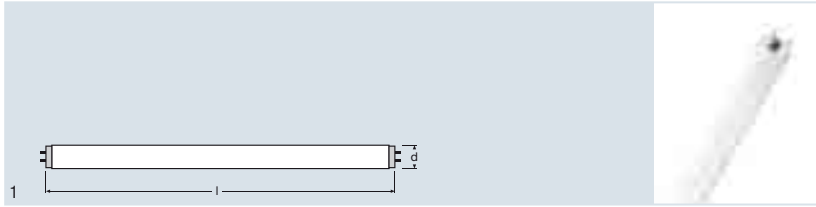
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# LUMILUX® DE LUXE T8, tubular, G13 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		No.
L 15 W/954	4050300018249	15	750		> 90	26	438	25	1
L 16 W/930	4050300242361	16	950		> 90	26	720	25	1
L 18 W/930	4050300011264	18	1100		> 90	26	590	25	1
L 18 W/940	4050300011257	18	1200		> 90	26	590	25	1
L 18 W/954	4050300018256	18	1150		> 90	26	590	25	1
L 18 W/965	4008321111371	18	1150		> 90	26	590	25	1
L 30 W/930	4050300014432	30	1920		> 90	26	895	25	1
L 36 W/930	4050300011318	36	2700		> 90	26	1200	25	1
L 36 W/940	4050300011301	36	2900		> 90	26	1200	25	1
L 36 W/954	4050300018263	36	2850		> 90	26	1200	25	1
L 36 W/954-1	4050300024196	36	2600		> 90	26	970	25	1
L 36 W/965	4008321111395	36	2850		> 90	26	1200	25	1
L 58 W/930	4050300011363	58	4350		> 90	26	1500	25	1
L 58 W/940	4050300011356	58	4600		> 90	26	1500	25	1
L 58 W/954	4050300018270	58	4550		> 90	26	1500	25	1
L 58 W/965	4008321090034	58	4550		> 90	26	1500	25	1

OSRAM LUMILUX® DE LUXE lamps meet high demands in terms of color rendering.

## Product benefits

- Excellent color rendering
- Natural colors
- Available in many different light colors (3000 K to 6500 K) for every application and preference

## Product characteristics

- Very good color rendering index 1A (Ra > 90)
- Long service life: up to 16,000 h (preheat ECG)
- Dimmable
- High luminous flux

## Applications

- Ideal for all applications in which color rendering is an important factor
- Public buildings
- Shops
- Supermarkets and department stores
- Industry

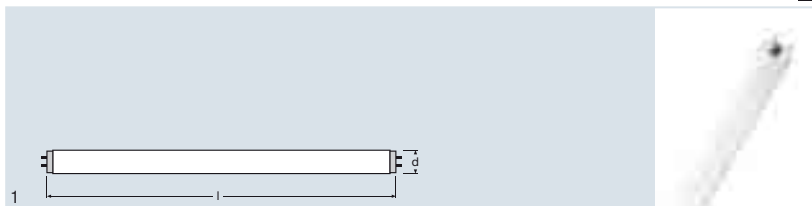
## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# COLOR proof T8, tubular, G13 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
L 18 W/950	4008321423023	18	900	Daylight	98	26	590	10	1
L 36 W/950	4008321423047	36	2150	Daylight	98	26	1200	10	1
L 58 W/950	4008321423061	58	3350	Daylight	98	26	1500	10	1

OSRAM LUMILUX® COLOR proof T8 meet the highest demands in terms of color rendering in daylight quality.

## Product characteristics

- When used in appropriate fixtures the lamp meets the application requirements of ISO 3664:2009
- Metamerism indices: MVIS ≤ 1.0 and MUV ≤ 1.5
- Outstanding OSRAM quality: accurate chromaticity coordinate, stable light and electrical data and uniform coating

## Applications

- Ideal for the print industry, graphic workshops, photographic laboratories and industrial inspection and color matching facilities
- Industry
- Shops
- Supermarkets and department stores

## Safety information

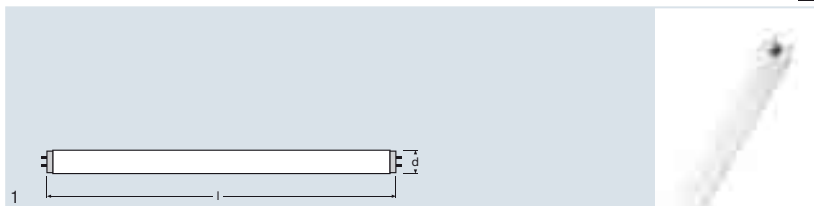
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# BIOLUX® T8, tubular, G13 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
L 18 W/965	4050300270807	18	1000	BIOLUX	> 90	26	590	10	1
L 30 W/965	4050300302461	30	1600	BIOLUX	> 90	26	895	10	1
L 36 W/965	4050300270821	36	2300	BIOLUX	> 90	26	1200	10	1
L 58 W/965	4050300370613	58	3700	BIOLUX	> 90	26	1500	10	1

BIOLUX® fluorescent lamps from OSRAM emit a daylight white light with very good color rendering

### Product benefits

- BIOLUX® fluorescent lamps from OSRAM emit a daylight white light that gives your animals a sense of natural sunlight

### Product characteristics

- Very good color rendering index 1A (R<sub>a</sub> > 90)

### Applications

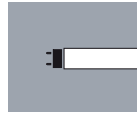
- Excellent for raising small animals

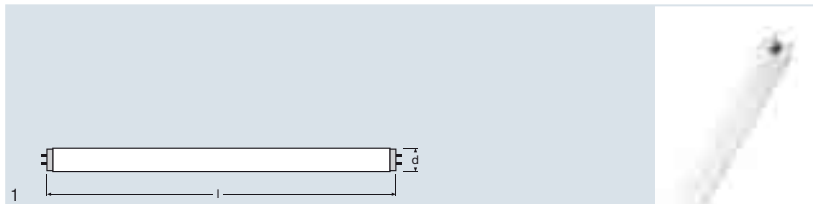
### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.





Product reference	Product number	W	lm		TUBE d (mm)	l (mm)		No.
L 15 W/77	4050300003214	15	400	FLUORA	26	438	10	1
L 18 W/77	4050300004235	18	550	FLUORA	26	590	10	1
L 30 W/77	4050300003238	30	1000	FLUORA	26	895	10	1
L 36 W/77	4050300003184	36	1400	FLUORA	26	1200	10	1
L 58 W/77	4050300004259	58	2250	FLUORA	26	1500	10	1

## FLUORA® - Light for growth of plants

The light from FLUORA® fluorescent lamps has an emphasis at the blue and red ends of the spectrum so it is ideal for promoting photo-biological processes in plants. The result is healthy growth of plants.

### Product benefits

- Promotes photobiological processes in plants
- Promotes plant growth

### Applications

- OSRAM FLUORA® lamps are used wherever there is not enough natural daylight for plants
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Restaurants

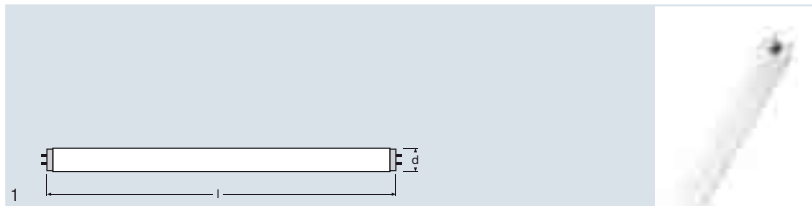
### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

## Colored T8, tubular, G13 base



Product reference	Product number	W	lm					
L 18 W/60	4050300024219	18	900	Red	26	590	10	1
L 18 W/62	4008321232700	18	970	Yellow	26	590	12	1
L 18 W/66	4050300024226	18	1800	Green	26	590	10	1
L 18 W/67	4050300024233	18	400	Blue	26	590	10	1
L 30 W/67	4050300366920	30	600	Blue	26	895	10	1
L 36 W/60	4050300024240	36	2400	Red	26	1200	10	1
L 36 W/62	4008321232724	36	2300	Yellow	26	1200	12	1
L 36 W/66	4050300024257	36	4400	Green	26	1200	10	1
L 36 W/67	4050300024264	36	900	Blue	26	1200	10	1
L 58 W/60	4050300024271	58	3800	Red	26	1500	10	1
L 58 W/62	4008321232748	58	3830	Yellow	26	1500	12	1
L 58 W/66	4050300024288	58	6700	Green	26	1500	10	1
L 58 W/67	4050300024295	58	1600	Blue	26	1500	10	1

Colored LUMILUX® T8 lamps provide the basis for attractive and creative lighting designs.

### Product benefits

- Ideal for cost-effective creative lighting
- Uniform light along the entire length of the lamp
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC®

### Product characteristics

- Average life: 20,000 h with preheat ECG
- Dimmable

### Applications

- Decorative applications
- Shops
- Supermarkets and department stores
- Restaurants
- Hotels
- Accent lighting

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### System guarantee

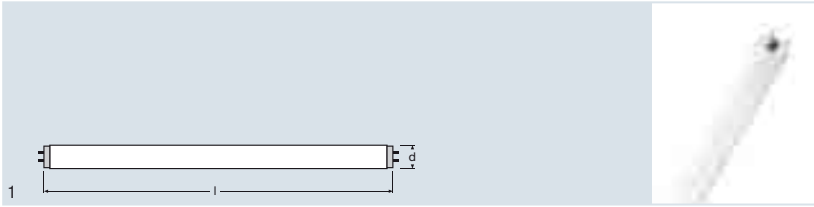
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# OSRAM NATURA® T8, tubular, G13 base



Product reference	Product number	W	lm					
OSRAM NATURA® T8, tubular, G13 base								
L 15 W/76	40503000 <b>18287</b>	15	500	NATURA	26	438	10	1
L 18 W/76	40503000 <b>10519</b>	18	750	NATURA	26	590	10	1
L 30 W/76	40503000 <b>10540</b>	30	1300	NATURA	26	895	10	1
L 36 W/76	40503000 <b>10526</b>	36	1800	NATURA	26	1200	10	1
L 36 W/76-1	40503000 <b>10557</b>	36	1600	NATURA	26	970	10	1
L 58 W/76	40503000 <b>10533</b>	58	2850	NATURA	26	1500	10	1

OSRAM NATURA® lamps have a specially tailored spectral distribution for professional presentation of food.

### Product benefits

- The specially tailored spectral distribution ensures that food looks fresh and appetizing, without unduly "beautifying" it

### Product characteristics

- Average life: up to 20,000 h (preheat ECG)

### Applications

- Very good shop light for bakeries, meat processors, butchers and further applications
- Shops
- Supermarkets and department stores
- Especially suitable for the food sector (DIN 10504)

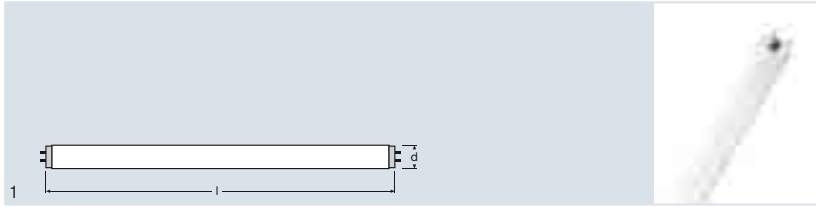
### Safety information

- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# OSRAM NATURA® SPLIT control T8, tubular, G13 base



Product reference	Product number	W	lm		TUBE d (mm)	l (mm)		No.
OSRAM NATURA® SPLIT control T8, tubular, G13 base								
L 18 W/76 SPS	4008321 <b>232762</b>	18	730	NATURA	26	590	12	1
L 30 W/76 SPS	4008321 <b>232786</b>	30	1260	NATURA	26	895	12	1
L 36 W/76 SPS	4008321 <b>232809</b>	36	1740	NATURA	26	1200	12	1
L 58 W/76 SPS	4008321 <b>232847</b>	58	2760	NATURA	26	1500	12	1

OSRAM NATURA® SPLIT control lamps have a specially tailored spectral distribution for professional presentation of food and also protect food in accordance with the International Food Standard.

## Product benefits

- The specially tailored spectral distribution ensures that food looks fresh and appetizing, without unduly "beautifying" it
- The SPS lamps support the implementation of the HACCP concepts from production through to presentation
- OSRAM NATURA® SPLIT control: food is ideally protected even if open fixtures are used

## Product characteristics

- OSRAM NATURA® SPLIT control lamps meet the requirements of the International Food Standard

## Applications

- Very good shop light for bakeries, meat processors, butchers and so on
- Shops
- Supermarkets and department stores
- Especially suitable for the food sector (DIN 10504)

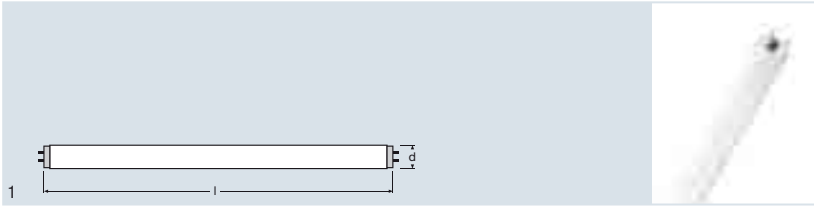
## Safety information

- Lamps with plastic sleeves: maximum ambient temperature: 80 °C
- Lamps with plastic sleeves: minimum ambient temperature: -10 °C
- Lamps with plastic sleeves: maximum storage time 5 years at 0 to 30 °C
- Lamps with plastic sleeves: lamps must be replaced after average life has been reached (B50)
- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# LUMILUX® SPLIT control T8, tubular, G13 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		
L 18 W/840 SPS	4008321 <b>232885</b>	18	1300	Cool White	80...89	26	590	12	1
L 36 W/840 SPS	4008321 <b>232823</b>	36	3250	Cool White	80...89	26	1200	12	1
L 58 W/840 SPS	4008321 <b>232922</b>	58	5100	Cool White	80...89	26	1500	12	1

OSRAM LUMILUX® SPLIT control lamps stand for extra safety and offer protection against splinters.

## Product benefits

- Required to prevent contamination in sensitive production areas (e.g. in the food industry)
- Splinter protection
- The lamps support the implementation of the HACCP concepts from production through to presentation
- Suitable also for enclosed fixtures

## Product characteristics

- Splinter protection
- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Very good lumen maintenance (>90%) throughout the life of the lamp
- The life of the sleeve is the same as the average lamp life
- Dimmable

## Applications

- Recommended for certified companies in accordance with the International Food Standard
- Industry
- Shops
- Supermarkets and department stores
- Street lighting

## Safety information

- Lamps with plastic sleeves: maximum ambient temperature: 80 °C
- Lamps with plastic sleeves: minimum ambient temperature: -10 °C
- Lamps with plastic sleeves: maximum storage time 5 years at 0 to 30 °C
- Lamps with plastic sleeves: lamps must be replaced after average life has been reached (B50)
- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

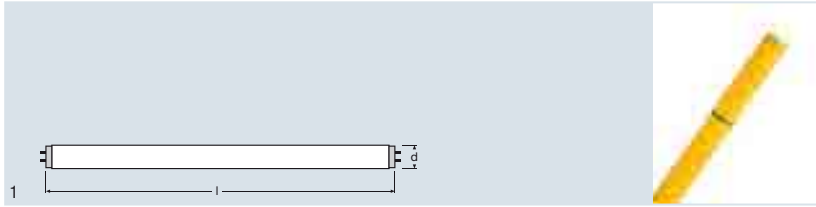
## System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# LUMILUX® CHIP control® T8, tubular, G13 base



Product reference	Product number	W	lm					
L 18 W/62	4008321 <b>232700</b>	18	970	Yellow	26	590	12	1
L 36 W/62	4008321 <b>232724</b>	36	2300	Yellow	26	1200	12	1
L 58 W/62	4008321 <b>232748</b>	58	3830	Yellow	26	1500	12	1

The LUMILUX® CHIP control® T8 lamp is the ideal solution for microchip fabrication plants.

### Product benefits

- Excellent UV filter
- Suitable for use in open and enclosed fixtures
- OSRAM System\* Guarantee in combination with OSRAM QUICKTRONIC®

### Product characteristics

- Excellent filter at 500 nm
- Long sleeve life (corresponds to the average life of the lamp: B50 = 20,000 h with preheat ECG)

### Applications

- Ideal for microchip fabrication plants and other places where UV and blue components have to be reduced to the absolute minimum
- Industry

### Safety information

- Lamps with plastic sleeves: minimum ambient temperature: - 10 °C
- Lamps with plastic sleeves: maximum storage time 5 years at 0 to 30 °C
- Lamps with plastic sleeves: lamps must be replaced after average life has been reached (B50)
- In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)
- An increase of the emitted radiation power < 500 nm has to be considered depending on the operation conditions. For detailed information please refer to the technical data sheets.

### System guarantee

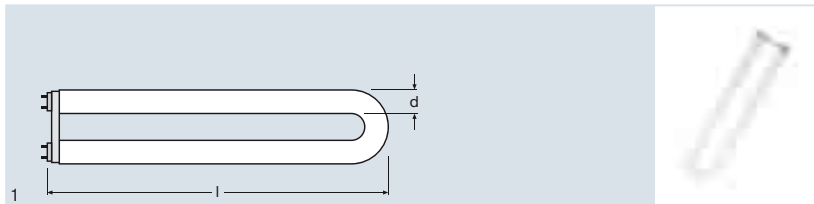
For more information on the system guarantee and the terms and conditions of the guarantee go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



## U-shaped T8, 2G13 base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
LUMILUX® version									
L 18 W/830 U	4008321959904	18	1350	LUMILUX Warm White	80...89	26	310	24	1
L 18 W/840 U	4008321469168	18	1350	LUMILUX Cool White	80...89	26	310	24	1
L 36 W/830 U	4008321959911	36	3350	LUMILUX Warm White	80...89	26	607	12	1
L 36 W/840 U	4008321469182	36	3350	LUMILUX Cool White	80...89	26	607	12	1
L 58 W/830 U	4008321959041	58	5220	LUMILUX Warm White	80...89	26	765	12	1
L 58 W/840 U	4008321469205	58	5220	LUMILUX Cool White	80...89	26	765	12	1
L 36 W/830 UK	4008321583048	36	2800	LUMILUX Warm White	80...89	26	570	12	1
L 36 W/840 UK	4008321960702	36	2800	LUMILUX Cool White	80...89	26	570	12	1

Thanks to its special shape and efficiency, OSRAM T8 U with the appropriate OSRAM QUICKTRONIC® ECG is ideal for space-saving efficient lighting concepts. It is perfect for street lighting.

### Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux
- OSRAM System+ Guarantee in combination with OSRAM QUICKTRONIC®

### Product characteristics

- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Good average life
- Double-ended U-shaped fluorescent lamp
- Suitable for operation on electronic and conventional control gear

### Applications

- Street lighting, city lighting
- Industry

### Safety information

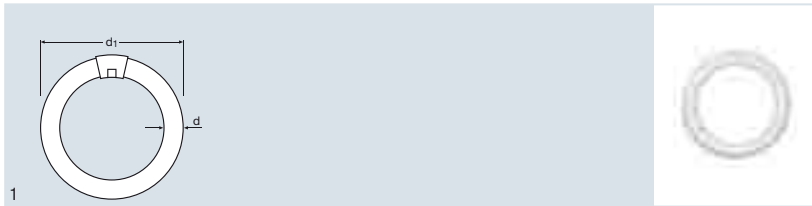
In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

### References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.



# LUMILUX® T9 C circular, G10Q base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	d (mm)		
LUMILUX® version									
L 22 W/827 C	4050300365992	22	1350	LUMILUX INTERNA	80...89	29	216	12	1
L 22 W/840 C	4050300365978	22	1350	LUMILUX Cool White	80...89	29	216	12	1
L 22 W/865 C	4008321960115	22	1300	LUMILUX Cool Daylight	80...89	29	216	12	1
L 32 W/827 C	4050300014821	32	2250	LUMILUX INTERNA	80...89	29	305	12	1
L 32 W/840 C	4050300018379	32	2250	LUMILUX Cool White	80...89	29	305	12	1
L 32 W/865 C	4008321960122	32	2150	LUMILUX Cool Daylight	80...89	29	216	12	1
L 40 W/865 C	4008321960139	40	2950	LUMILUX Cool Daylight	80...89	29	406	12	1
L 40 W/827 C	4008321978103	40	3200	LUMILUX INTERNA	80...89	29	406	12	1
L 40 W/840 C	4050300014845	40	3200	LUMILUX Cool White	80...89	29	406	12	1

The circular LUMILUX® T9 C fluorescent lamp with the appropriate OSRAM QUICKTRONIC® ECG is ideal for round or square fixtures and provide a harmonious direction-neutral light.

## Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux
- Excellent uniform illumination with no shadows

## Product characteristics

- Good color rendering index 1B (R<sub>a</sub> 80-90)
- Good average life
- Single-ended round fluorescent lamp
- Dimmable
- Suitable for operation on electronic and conventional control gear

## Applications

- Public buildings
- Restaurants
- Industry
- Shops
- Supermarkets and department stores
- Hotels

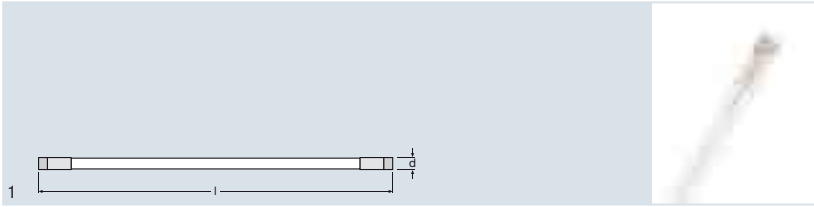
## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# LUMILUX® T2 FM, tubular W4.3 x 8.5d base



Product reference	Product number	W	lm		R <sub>a</sub>	TUBE d (mm)	l (mm)		No.
FM 6 W/730	4008321157546	6	330 <sup>1)</sup>	Warm White	70...79	7	218	20	1
FM 6 W/740	4008321157577	6	330 <sup>1)</sup>	Cool White	70...79	7	218	20	1
FM 6 W/760	4008321157607	6	310 <sup>1)</sup>	Cool Daylight	70...79	7	218	20	1
FM 8 W/730	4008321157638	8	540 <sup>1)</sup>	Warm White	70...79	7	320	20	1
FM 8 W/740	4008321157669	8	540 <sup>1)</sup>	Cool White	70...79	7	320	20	1
FM 8 W/760	4008321157690	8	500 <sup>1)</sup>	Cool Daylight	70...79	7	320	20	1
FM 11 W/730	4008321157720	11	750 <sup>1)</sup>	Warm White	70...79	7	422	20	1
FM 11 W/740	4008321157751	11	750 <sup>1)</sup>	Cool White	70...79	7	422	20	1
FM 11 W/760	4008321157782	11	680 <sup>1)</sup>	Cool Daylight	70...79	7	422	20	1
FM 13 W/730	4008321157836	13	930 <sup>1)</sup>	Warm White	70...79	7	523	20	1
FM 13 W/740	4008321157867	13	930 <sup>1)</sup>	Cool White	70...79	7	523	20	1
FM 13 W/760	4008321157898	13	860 <sup>1)</sup>	Cool Daylight	70...79	7	523	20	1

<sup>1)</sup> Maximum at 33 °C ±2 °C

The unique OSRAM LUMILUX® T2 FM fluorescent lamp with the appropriate OSRAM QUICKTRONIC® ECG has an impressively slim design. It can be easily integrated in small conventional lighting systems.

## Product benefits

- Extremely economical
- Good quality of light
- Excellent luminous flux

## Product characteristics

- Good average life (with OSRAM ECG)
- Extra slim and compact fluorescent lamp
- Suitable for operation on electronic control gear
- Tube diameter 7 mm

## Applications

- Offices
- Museums
- Shops
- Supermarkets and department stores
- Industry (e.g. furniture industry)
- Restaurants

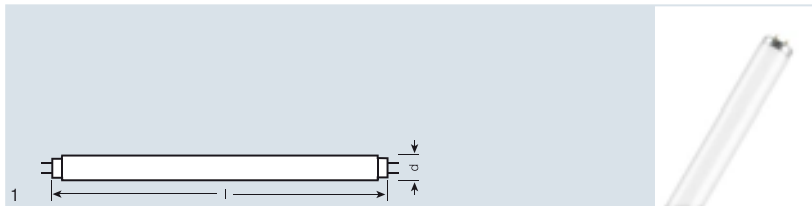
## Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## References

For more information on QUICKTRONIC® electronic control gear go to [www.osram.com/QUICKTRONIC](http://www.osram.com/QUICKTRONIC) and Chapter 9.

# SA-type T12, tubular, G13 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		
SA version									
L 20 W/640 SA	40503000 <b>18195</b>	20	1200	Cool White	60...69	38	590	25	1
L 40 W/640 SA	40503000 <b>18331</b>	40	2800	Cool White	60...69	38	1200	25	1
L 65 W/640 SA	40503000 <b>18201</b>	65	4800	Cool White	60...69	38	1500	25	1

OSRAM T12 SA version with external ignition strip offers quick and simple ignition at low temperatures.

### Product benefits

- Stable and suitable for outdoor lighting or fixtures with little thermal insulation

### Product characteristics

- External ignition strip for improved ignition at low ambient temperatures

### Applications

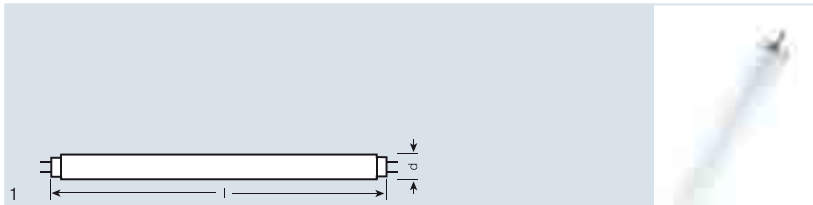
- Street lighting
- Industry

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)



# XL-type T12, tubular, Fa6 base



Product reference	Product number	W	lm		Ra				
XL version									
L 20 W/640 XL <sup>1)</sup>	40503000 <b>14630</b>	20	940	Cool White	60...69	38	574	25	1
L 40 W/640 XL <sup>1)</sup>	40503000 <b>14654</b>	40	2300	Cool White	60...69	38	1184	25	1
L 65 W/640 XL <sup>1)</sup>	40503000 <b>14616</b>	65	4400	Cool White	60...69	38	1484	25	1

<sup>1)</sup> For long-life explosion-proof fixtures in type of protection "increased safety"

OSRAM T12 XL version in explosion-proof fixtures offer high levels of protection against fire and explosions

### Product benefits

- Extreme safety. T12 lamps from OSRAM are perfect for explosion-proof fixtures – especially for applications where there is a heightened risk of fire or explosions, for example on oil rigs.

### Product characteristics

- Fa6 base for explosion-proof fixtures

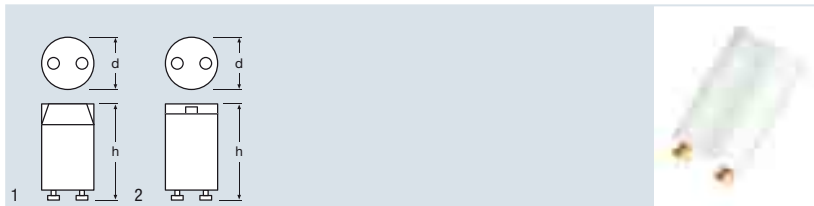
### Applications

- Industry

### Safety information

In the event of a breakage: [www.osram.com/brokenlamps](http://www.osram.com/brokenlamps)

## Starters for single circuits on 230 V<sub>AC</sub>



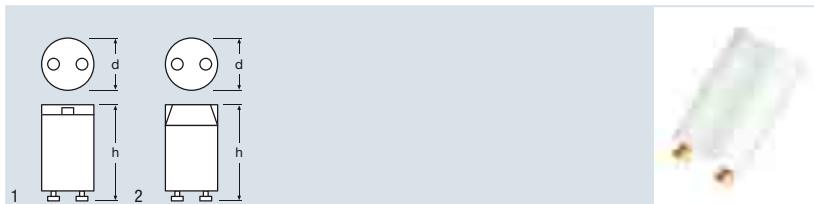
Product reference	Product number	I [mm]		 No.
ST 111 TRY25 <sup>1)</sup>	4050300854045	40	400	1
ST 111 HT TRY25 <sup>2)</sup>	4050300854021	40	400	1
ST 111 GRP <sup>1)</sup>	4050300270166	40	1200	1
ST 171 TRY25	4050300854106	40	200	2
ST 171 GRP	4050300422855	40	1200	2
ST 173 TRY25	4050300854120	40	200	2

<sup>1)</sup> Not suitable for L 70 W  
<sup>2)</sup> Not suitable for L 70 W | Temperature range -20 °C...+100 °C

### Product benefits

- Temperature range for reliable cut-out: -20...+80 °C

## Starters for series circuits on 230 V<sub>AC</sub>

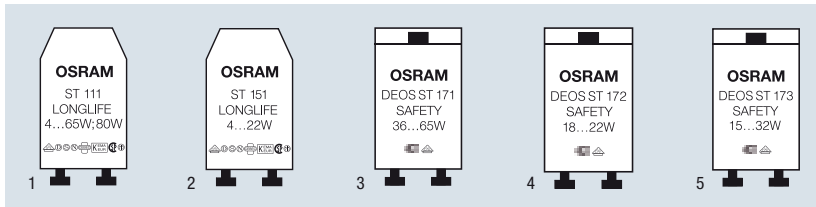


Product reference	Product number		 No.
ST 172 TRY25	4050300854069	200	1
ST 151 TRY25	4050300854083	400	2
ST 151 GRP	4050300012803	1200	2

### Product benefits

- Temperature range for reliable cut-out: -20...+80 °C

## Starters



Product reference	Product number	For fluorescent lamps										For OSRAM DULUX® L			
		4	10	15	18	22	30	38	36	58	18	36	1	No.	2
		6	13	16 <sup>6)</sup>	20	W	32	W	40	65	24	W			
		8	W	W	W	W	W	W	80	W	W				
		W							W						
Single circuit on 230 V <sub>AC</sub>															
ST 111 TRY25 <sup>5)</sup>	4050300854045	X	X	X	X	X	X	X	X	X	X	X	40.3	1	25/400
ST 111 GRP <sup>5)</sup>	4050300270166	X	X	X	X	X	X	X	X	X	X	X	40.3	1	1200
ST 111 HT TRY25 <sup>3)5)</sup>	4050300854021	X	X	X	X	X	X	X	X	X	X	X	40.3	1	400
ST 171 TRY25	4050300854106								X	X	X <sup>1)</sup>	X	40.3	3	25/200
ST 171 GRP	4050300422855								X	X	X <sup>1)</sup>	X	40.3	3	1200
ST 173 TRY25	4050300854120		X	X	X	X						X	40.3	5	25/200
Series circuit on 230 V <sub>AC</sub>															
ST 151 TRY25	4050300854083	X <sup>2)</sup>	X <sup>2)</sup>	X <sup>2)</sup>	X <sup>2)</sup>							X <sup>2)4)</sup>	40.3	2	25/400
ST 151 GRP	4050300012803	X <sup>2)</sup>	X <sup>2)</sup>	X <sup>2)</sup>	X <sup>2)</sup>							X <sup>2)4)</sup>	40.3	2	1200
ST 172 TRY25	4050300854069				X <sup>2)</sup>	X <sup>2)</sup>						X <sup>2)4)</sup>	40.3	4	25/200

### OSRAM high-quality starters ST 111 LONGLIFE, ST 151 LONGLIFE, ST 171 SAFETY, ST 172 SAFETY, ST 173 SAFETY

OSRAM starters ignite every time, reliably and quickly. And they are gentle on lamps. Each starter is subjected to strict manufacturing and quality control tests. All starters have a self-extinguishing insulated casing made of Makrolon® and meet the conditions laid down for protection class II.

They are equipped with a special compensating capacitor (foil winding capacitor), are VDE approved and carry the and marks.

To ensure reliable ignition we recommend that you also replace the starter when you replace the lamp – except in the case of DEOS® SAFETY.

- Switching life: from ≥ 10,000 switching operations to ≥ 60,000 switching operations in inductive mode
- 20 % longer life with fluorescent lamps

### Features and benefits of DEOS® ST 171 SAFETY, DEOS® ST 172 SAFETY and DEOS® ST 173 SAFETY

- DEOS® ST 171 SAFETY, DEOS® ST 172 SAFETY and DEOS® ST 173 SAFETY are safety starters
- DEOS® ST 172 SAFETY is a safety starter for series circuits (tandem circuits)
- DEOS® ST 171 SAFETY, DEOS® ST 172 SAFETY and DEOS® ST 173 SAFETY are designed to operate with conventional control gear (CCG) and low-loss gear (LLG)
- They reliably disconnect burnt-out or faulty lamps under inductive or capacitive operating conditions
- They are instantly ready for operation when the red button is pressed in (there must be an audible click)
- The automatic cutout circuit protects the choke and the starter itself
- Four times the life of conventional starters
- To ensure reliable ignition and operation the DEOS® ST should be replaced after every four lamp replacements.
- Temperature range for reliable cutout: -20°C...+80°C

1) Except L 65 W...JK 570 mm L 80 W/...

2) Also for single operation on 110/127 V<sub>AC</sub>

3) Temperature range -20 °C to +100 °C

4) Not suitable for OSRAM DULUX® L and F 24 W in series operation

5) Not suitable for L 70 W

6) 16 W not suitable for series operation

# Fluorescent lamps – which light color for which application?

Application	SKY WHITE®		Cool Daylight		Daylight	Cool White		White	Warm White		INTERNA®	Special light colors
	880	865	965	954	840	940	835	830	930	827		
	8.000 K	6.500 K	6.500 K	5.400 K	4.000 K	4.000 K	3.500 K	3.000 K	3.000 K	2.700 K		
<b>Offices and administrative buildings</b>												
Offices, corridors	•				•			•	•			
Meeting rooms	•							•	•		•	
<b>Industry, trade and commerce</b>												
Electrical industry		•			•							
Textile industry		•	•		•							
Woodworking industry		•	•	•	•							
Graphics industry, laboratories		•	•	•	•	•						COLOR proof
Color matching					•							COLOR proof
Warehouses, transport depots						•						
<b>Schools and lecture rooms</b>												
Auditoriums, classrooms, kindergartens	•		•		•			•	•		•	
Libraries, reading rooms					•			•	•		•	
<b>Retail outlets</b>												
Food, general		•			•			•	•		•	NATURA
Bread and cakes											•	NATURA
Refrigerated counters and deepfreezers	•											NATURA
Cheese, fruit, vegetables											•	NATURA
Fish											•	NATURA
Meat, sausages			•									NATURA
Textiles, leather goods		•	•		•	•		•	•	•	•	
Furniture, carpets								•	•	•	•	
Sporting goods, toys, stationery							•	•	•	•	•	
Photo, watches, jewellery		•	•	•	•	•	•	•	•	•	•	
Cosmetics, hairdressers					•		•	•	•	•	•	
Flowers, greenhouse		•	•	•	•	•	•	•	•	•	•	FLUORA
Department stores, supermarkets	•	•	•		•	•		•	•	•	•	
<b>Public buildings</b>												
Restaurants, bars, hotels					•			•	•		•	
Theaters, concert halls, foyers											•	
<b>Event rooms</b>												
Exhibition halls and trade fairs	•				•				•			
Sports halls and multi-purpose halls	•				•			•	•			
Art galleries, museums		•			•	•				•		
<b>Hospitals and surgeries</b>												
Consulting and treatment rooms	•	•	•	•			•					
Hospital wards, waiting rooms	•		•				•			•		
<b>Homes</b>												
Living rooms											•	
Kitchens, bathrooms, hobby rooms, cellars	•				•				•	•		
Outdoor lighting, streets, Paths, pedestrian zones					•				•			

• Recommended    • Optional as required

## Light colors and color rendering properties of fluorescent lamps to EN 12464-1

Kelvin	Name	R <sub>a</sub> 60...69	R <sub>a</sub> 70...79	R <sub>a</sub> 80...89	R <sub>a</sub> 90...99
2,700 K	INTERNA®			827	
3,000 K	Warm White			830	930
3,500 K	White			835	
4,000 K	Cool White	640		840	940
5,400 K	Daylight				954/950
6,500 K	Cool Daylight		765	865	965
8,000 K	SKYWHITE®			880	

### Type designation

International color code:

The first digit stands for color rendering

9 = color rendering R<sub>a</sub> 90 to 100

8 = color rendering R<sub>a</sub> 80 to 89

7 = color rendering R<sub>a</sub> 70 to 79

6 = color rendering R<sub>a</sub> 60 to 69

The next digits stand for the light color/

color temperature, e.g. for LUMILUX®

27 = LUMILUX INTERNA® (2,700 K)

30 = LUMILUX® Warm White (3,000 K)

35 = LUMILUX® White (3,500 K)

40 = LUMILUX® Cool White (4,000 K)

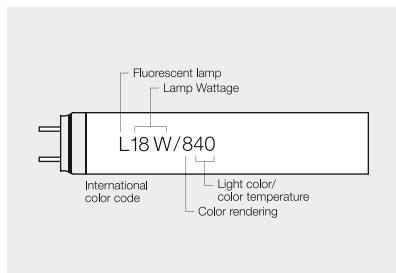
54 = LUMILUX® Daylight (5,400 K)

65 = LUMILUX® Cool Daylight (6,500 K)

80 = LUMILUX SKYWHITE® (8,000 K)

### "Old" light color codes in the OSRAM range

Old		New	R <sub>a</sub>	K
10	Cool Daylight	765	70...79	6500
11	Cool Daylight	865	80...89	6500
12	Daylight	954	90...99	5400
20	Cool White	640	60...69	4000
21	Cool White	840	80...89	4000
22	Cool White	940	90...99	4000
26	White	835	80...89	3500
31	Warm White	830	80...89	3000
32	Warm White	930	90...99	3000
41	INTERNA	827	80...89	2700





## Light colors

### The LUMILUX® lamps

In combination with OSRAM ECGs, LUMILUX® fluorescent lamps offer very high efficiency and long reliable life. They are also perfect for combining with daylight dimmer systems and motion sensors. This leads to even greater energy savings.

### LUMILUX®

Color 880 LUMILUX SKYWHITE®  
Color 865 LUMILUX® Cool Daylight  
Color 840 LUMILUX® Cool White  
Color 835 LUMILUX® White  
Color 830 LUMILUX® Warm White  
Color 827 LUMILUX INTERNA®

LUMILUX® colors combine good color rendering and high luminous efficacy in a single lamp.

Major benefits:

- Reduced power consumption
- Luminous efficacy up to 116 lm/W (T5 HE ES)
- Very good color rendering to EN 12464 ( $R_a$  80...89)

For LUMILUX® light colors it is best to use electronic control gear as this is the best way to make economic use of the minimal drop in luminous flux. This also applies to LUMILUX® DE LUXE.

LUMILUX® T5 HO, HE (including ES, XT, CONSTANT, SPS, CHIP control® and NATURA®) and FC® lamps can only be operated on ECGs.

Color 880 SKYWHITE® contains an increased blue component which is particularly energizing. Ideal for offices and public buildings.

### LUMILUX® DE LUXE

Color 965 LUMILUX® DE LUXE Cool Daylight  
Color 954 LUMILUX® DE LUXE Daylight  
Color 940 LUMILUX® DE LUXE Cool White  
Color 930 LUMILUX® DE LUXE Warm White

The LUMILUX® DE LUXE light colors meet the highest demands with regard to natural color rendering ( $R_a$  90...99) and offer good luminous efficacy at the same time.

The daylight color 954 is ideal for print shops, dental surgeries, dental laboratories, slide presentations and clothing stores.

### Special light colors

The red component of 76 OSRAM NATURA® is closely matched to other color components. This results in natural color rendering and makes items such as meat, sausages, delicatessen products, vegetables and flowers appear fresh and natural, without being unduly "beautified".

77 FLUORA® has been specially designed for plants and aquariums. Its light has an emphasis at the blue and red ends of the spectrum. It is therefore particularly good at promoting photo-biological processes. The result is healthier plants.

### 965 BIOLUX®

Because of its spectral distribution, the light from OSRAM BIOLUX® lamps is also excellent for raising small animals (birds, fish, reptiles, etc.).

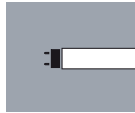
Colors 60 Red, 66 Green and 67 Blue are ideal for creating decorative effects and special moods.

62 Yellow contains only a very small proportion of UV-A radiation. This light color is therefore suitable for clean-room production facilities, chip fabrication and lighting with minimal UV.

For spectral power distributions see pages 5.56 and 5.57.

### COLOR proof

For museums and art galleries, dental laboratories, graphic workshops, photographic laboratories, and industrial testing and color matching facilities, light color 950 offers optimum color characteristics. It has a color rendering index of  $R_a=98$  at a color temperature of 5300 K.



## Technical data

### How fluorescent lamps work

Fluorescent lamps are low-pressure gas discharge lamps. The glass tube is filled with an inert gas at low pressure and a small quantity of mercury. The glass wall is coated with a phosphor. At the ends of the glass tube are pasted electrodes. When an electrical charge is passed between them the mercury vapor emits UV radiation. When the UV radiation hits the phosphor the phosphor emits visible light. The color can be varied for different applications by selecting different phosphor mixes.

### Luminous flux and power consumption to IEC 60081 and EN 50285

The minimum luminous flux of a single lamp is 92% of the rated luminous flux at 25°C; the average is 95% of the rated luminous flux.

**B10:** B10 is defined as the time when 10% of the lamps have failed (in standardized operation).

**B50:** Average life (B50) is defined as the time when 50% of the lamps have failed (in standardized operation).

**Lamp life.** The average life and service life of LUMILUX® fluorescent lamps are listed in the table below. Operating the lamps above or below their rated power will reduce their service life.

**Burning position.** Universal for 26 and 38 mm diameters. When T5 HE and T5 HO lamps are installed in the vertical burning positions the stamp must be at the bottom; when T5 FC® lamps are installed in the vertical position the 2GX13 base must be at the bottom. In multi-lamp fixtures, T5 HE or T5 HO lamps must be positioned with the stamps next to one another. The recommended minimum spacing between two T5 lamps is 32 mm for optimum operation (maintenance of the luminous flux/temperature curve).

### Lamp life in accordance with DIN IEC 60081

(IEC switching cycle 165 min on, 15 min off)	T8 LUMILUX special length	T8 LUMILUX standard length*	T8 LLX DE LUXE	T5 HE	T5 HO	T5 FC LUMILUX	T5 LLX DE LUXE
Service life on preheat ECG	16,000	18,000	16,000	18,000	18,000	8,000	18,000
Average life on preheat ECG	20,000	20,000	20,000	24,000	24,000	12,000	24,000

\* (18 W, 36 W, 58 W and ES 16 W, 32 W and 51 W)

Service life is defined as the time when 80% of the system luminous flux (relative to the 100 h value) is available.

## Technical data

**Luminous fluxes of T5 fluorescent lamps (16 mm), HE and HO fluorescent lamps**

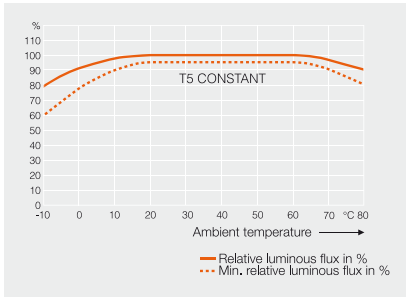
	880	865	840	830	827
HE 14W	1150	1300	1350	1350	1350
HE 14W SLS	-	-	1350	1350	-
HE 21W	1850	2000	2100	2100	2100
HE 21W SLS	-	-	2100	2100	2100
HE 28W	2690	2750	2900	2900	2900
HE 28W SLS	-	-	2900	2900	-
HE 35W	3450	3500	3650	3650	3650
HE 13W ES	-	1300	1350	1350	1350
HE 19W ES	-	2000	2100	2100	2100
HE 25W ES	-	2750	2900	2900	2900
HE 32W ES	-	3500	3650	3650	3650
HO 24W	1750	1900	2000	2000	2000
HO 24W SLS	-	1900	2000	2000	-
HO 39W	3150	3325	3500	3500	3500
HO 39W SLS	-	3325	3500	3500	-
HO 49W	4610	4600	4900	4900	4900
HO 54W	4500	4750	5000	5000	5000
HO 54W SLS	-	4750	5000	5000	-
HO 80W	6400	6650	7000	7000	7000
HO 20W ES	-	1900	2000	2000	2000
HO 34W ES	-	3325	3500	3500	3500
HO 45W ES	-	4600	4900	4900	4900
HO 50W ES	-	4750	5000	5000	5000
HO 73W ES	-	6650	7000	7000	7000
All values for HE and HO at 35°C					

As with all fluorescent lamps, the fixture efficiency of T5 (16 mm) lamps is calculated at an ambient temperature of 25°C. In other words, the luminous flux of the lamp measured at 25°C and the luminous flux of the fixture measured at 25°C are used as the basis for calculating the fixture efficiency. Note that if measurements are taken with goni-photometers with moving lamps the high-speed air currents may cause the cool spot to shift from the stamp end of the lamp. Before the illuminance levels from T5 HE, T5 HO and especially FC® lamps are measured in lighting systems, these lamps must be allowed to stabilize for at least 100 hours. If two lamps are to be operated next to one another, make sure that the stamped ends are on the same side so that the cold spot is not heated.

## Technical data

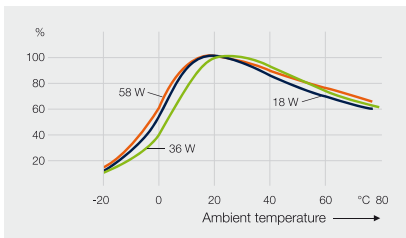
### Temperature dependence

As with fluorescent lamps in general, the rated luminous flux for T5 HE and TE HO fluorescent lamps is specified at 25 °C, and T5 HE and T5 HO achieve their maximum luminous flux at temperatures between 34 and 38 °C. One of the advantages of T5 lamps is therefore an increased fixture efficiency. T5 FC® circular fluorescent lamps achieve their maximum luminous flux between 25 and 30 °C. The luminous flux of a T5 HO CONSTANT at 25 °C is on average 97 % of the maximum luminous flux. 90 % of the maximum luminous flux is achieved in a temperature range from +5 °C to +70 °C (for 49 W: +20 °C to +80 °C).



**Control gear.** In order to operate, each lamp needs control gear appropriate to its wattage. The control gear not only starts the lamp but also limits the current in the discharge phase. Please note: fluorescent lamps are guaranteed only if they are operated with approved control gear or with control gear declared to be suitable. Control gear must comply with EN standards. Modern control gear, such as QUICKTRONIC®, enables energy-saving fluorescent lamps to be operated with optimum economy and lighting comfort, see Section 9. Control gear for sale in the European Union must carry the ENEC mark (tested to IEC 60081). This safeguards the warranty for the lamps under normal conditions.

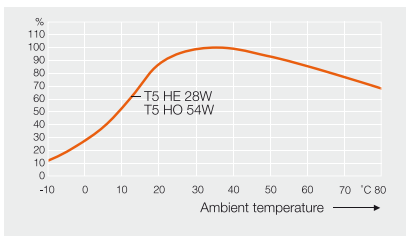
**Circuits** see circuit diagrams on page 5.55 and Section 9.



**Power supply.** Generally 230 V AC. The permissible voltage fluctuations for AC voltage is  $\pm 10\%$ , i.e. 207 V to 253 V. Electronic control gear is considerably less affected by fluctuations in the supply voltage than conventional control gear.

DC operation for emergency lighting systems in accordance with DIN VDE 0108 is indicated in the specifications for the electronic control gear.

**Accessories.** Control gear and holders are available from electrical suppliers. OSRAM compact fluorescent lamps and fluorescent lamps are cadmium-free.



## Technical data

Fluorescent lamp	Ø	Rated lamp current (CCG operation) uncompensated	Lamp voltage UL after ignition ( $\pm 10\%$ )	Resistance/impedance Z (on CCG)	Pre-heating current IEC 81	Luminance LF 840, 830, 827	Compensation capacitor <sup>1)</sup> Power factor $\approx 1$ for CCG operation	Series capacitor for CCG Lead-lag circuit <sup>2)</sup>
(Wattage)	(mm)	(A)	(V)	( $\Omega$ )	(mA) <sup>4)</sup>	(cd/cm <sup>2</sup> )	( $\mu$ F)	( $\mu$ F/Vc)
4	16	0.17	29	700	205	0.85	2.0	–
6	16	0.16	42	700	205	0.95	2.0	–
8	16	0.145	56	700	205	0.9	2.0	–
10	26	0.17	64	375	220	–	2.0	–
13	16	0.165	95	1070	225	0.8	2.0	–
15	26	0.33	55	165	440	1.0	4.5	–
16	26	0.20	90	450	260	0.8	2.5	–
18	26	0.37	57	155	550	1.0	4.5	2.7/480
18/... U	26	0.37	60	165	550	–	–	–
20/... SA	38	0.37	57	270	550	–	–	–
20/... XL	38	0.38	58	270	–	–	4.5	–
22 C	29	0.37	62	165	600	–	5.0	3.0/480
30	26	0.365	96	265	550	1.2	4.5	2.9/450
32 C	29	0.425	81	190	675	0.9	5.0	3.4/450
36	26	0.43	103	240	650	1.2	4.5	3.4/450
36/... U	26	0.43	108	250	650	–	–	–
36-1	26	0.556	81	145	730	1.3	6.0	4.3/480
38 <sup>3)</sup>	26	0.43	104	240	650	–	4.5	3.4/450
40 C	29	0.415	108	260	630	–	–	–
40/... SA	38	0.43	103	390	650	–	–	–
40/... XL	38	0.425	109	390	–	–	4.5	–
40/... K	38	0.88	52	–	–	–	–	–
58	26	0.67	110	165	1000	1.5	7.0	5.3/450
58/... U	26	0.67	115	170	1000	–	–	–
65/... SA	38	0.67	110	240	1000	–	–	–
65/... XL	38	0.67	110	240	–	–	–	–

For information on ECGs see Section 9 (ECGs)

1) For parallel compensation in circuits 1 and 2 see page 5.55

2) Lead-lag circuit as per circuit diagram 3 on page 5.55

3) With 40 W control gear

4) Preheating currents are maximum values for a preheat time of 2 s

## Technical data

Fluorescent lamp	Ø	Rated lamp current (ECG operation) <sup>1)</sup>	Lamp voltage UL after ignition <sup>1)</sup>	System wattage with control gear	Pre-heating current IEC 81	Luminance
		mA	V	W	mA	cd/cm <sup>2</sup>
14 (HE) and 14 (HE) SLS	16	165	86	16.0 <sup>4)</sup>	210	1.7
21 (HE) and 21 (HE) SLS	16	165	126	24.0 <sup>4)</sup>	210	1.7
28 (HE), SPS, CHIP CONTROL and 28 (HE) SLS	16	170	166	32.0 <sup>4)</sup>	210	1.7
35 (HE)	16	175	205	39.0 <sup>4)</sup>	210	1.7
13 (HE) ES	16	185	69	15.0 <sup>4)</sup>	210	1.7
19 (HE) ES	16	185	104	22.0 <sup>4)</sup>	210	1.7
25 (HE) ES	16	180	143	29.0 <sup>4)</sup>	210	1.7
32 (HE) ES	16	175	184	36.0 <sup>4)</sup>	210	1.7
24 (HO) and 24 (HO) SLS	16	295	77	26.0 <sup>4)</sup>	440	2.5
39 (HO) and 39 (HO) SLS	16	325	118	41.0 <sup>4)</sup>	440	2.8
49 (HO) and 49 (HO) XT	16	255	195	53.0 <sup>4)</sup>	330	2.3
54 (HO), 54 (HO) XT, SPS, CHIP CONTROL and 54 (HO) SLS	16	455	120	58.0 <sup>4)</sup>	720	2.9
80 (HO) and 80 (HO) XT	16	530	152	85.0 <sup>4)</sup>	765	3.2
20 (HO) ES	16	300	64	23.0 <sup>4)</sup>	440	2.5
34 (HO) ES	16	340	99	37.0 <sup>4)</sup>	440	2.8
45 (HO) ES	16	265	169	45.0 <sup>4)</sup>	330	2.3
50 (HO) ES	16	485	101	54.0 <sup>4)</sup>	720	3.0
73 (HO) ES	16	555	133	79.0 <sup>4)</sup>	765	3.3
24 (HO CONSTANT)	16	295	77	26.0 <sup>4)</sup>	440	2.7
39 (HO CONSTANT)	16	325	118	41.0 <sup>4)</sup>	440	3.1
49 (HO CONSTANT)	16	255	195	53.0 <sup>4)</sup>	330	2.4
54 (HO CONSTANT)	16	455	120	58.0 <sup>4)</sup>	720	3.3
80 (HO CONSTANT)	16	530	152	88.5 <sup>4)</sup>	765	3.6
22 (FC)	16	0.30	70	25.0 <sup>5)</sup>	440	1.7
40 (FC)	16	0.32	126	43.0 <sup>5)</sup>	440	2.1
55 (FC)	16	0.55	101	59.0 <sup>5)</sup>	765	2.6
6 (FM)	7	0.10	51	7.5 <sup>2)</sup>	120 <sup>4)</sup>	2.5
8 (FM)	7	0.10	79	11.0 <sup>2)</sup>	120 <sup>4)</sup>	2.5
11 (FM)	7	0.10	110	13.0 <sup>3)</sup>	120 <sup>4)</sup>	2.5
13 (FM)	7	0.10	136	16.0 <sup>3)</sup>	120 <sup>4)</sup>	2.5

1) Values at 25 °C on the reference control gear

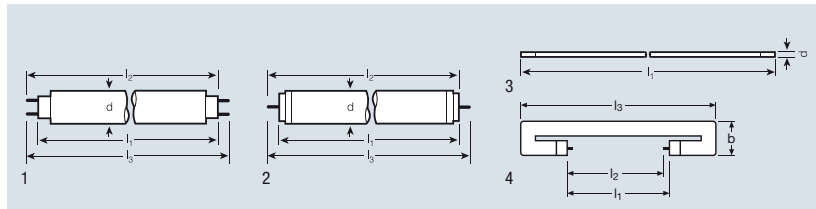
2) For system wattage with QT-ECO FM 1x6-8/220-240, see Section 9

3) For system wattage with QT-ECO FM 1x11-13/220-240, see Section 9

4) System wattage on QTI Gil

5) System wattage on QTP-M or QTP-FC

# Dimensions for tubular fluorescent lamps with tolerances



<b>W</b>		$l_1$ [mm]	$l_2$ [mm]	$l_3$ [mm]	 d [mm]	
----------	--	---------------	---------------	---------------	------------	--

## Tubular fluorescent lamps

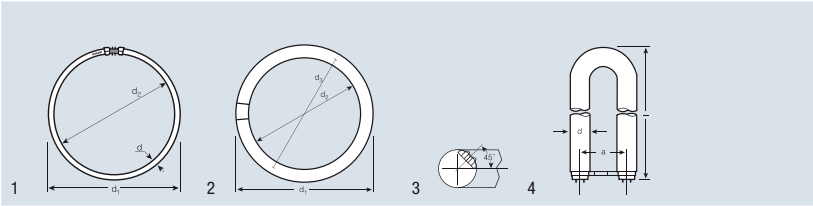
7, 16, 26 and 38 mm Ø, G5 base, G13 base, W4.3 x 8.5d base

6 (FM)	W4.3x8.5d	218.3 ±1.0	–	–	max. 7	3
8 (FM)	W4.3x8.5d	319.9 ±1.0	–	–	max. 7	3
11 (FM)	W4.3x8.5d	421.5 ±1.0	–	–	max. 7	3
13 (FM)	W4.3x8.5d	523.1 ±1.0	–	–	max. 7	3
4	G5	135.9	141.8 ±1.2	150.1	max. 16	1
6	G5	212.1	218 ±1.2	226.3	max. 16	1
8	G5	288.3	294.2 ±1.2	302.5	max. 16	1
13	G5	516.9	522.8 ±1.2	531.1	max. 16	1
14 (HE)	G5	549	554.9 ±1.2	563.2	max. 17	1
21 (HE)	G5	849	854.9 ±1.2	863.2	max. 17	1
24 (HO)	G5	549	554.9 ±1.2	563.2	max. 17	1
28 (HE), 25 (ES)	G5	1149	1154.9 ±1.2	1163.2	max. 17	1
35 (HE), 32 (ES)	G5	1449	1454.9 ±1.2	1463.2	max. 17	1
39 (HO)	G5	849	854.9 ±1.2	863.2	max. 17	1
49 (HO), 49 (HO) XT and 45 (HO) ES	G5	1449	1454.9 ±1.2	1463.2	max. 17	1
54 (HO), 54 (HO) XT and 50 (HO) ES	G5	1149	1154.9 ±1.2	1163.2	max. 17	1
80 (HO), 80 (HO) XT and 73 (HO) ES	G5	1449	1454.9 ±1.2	1463.2	max. 17	1
10	G13	470	475.9 ±1.2	484.2	max. 28	1
15	G13	437.4	443.3 ±1.2	451.6	max. 28	1
16	G13	720	725.9 ±1.2	734.2	max. 28	1
18, 16 (ES)	G13	589.8	595.7 ±1.2	604	max. 28	1
23	G13	970	975.9 ±1.2	984.2	max. 28	1
30	G13	894.6	900.5 ±1.2	908.8	max. 28	1
36, 32 (ES)	G13	1199.4	1205.3 ±1.2	1213.6	max. 28	1
36-1	G13	970	975.9 ±1.2	984.2	max. 28	1
38	G13	1047	1052.8 ±1.2	1061.2	max. 28	1
58, 51 (ES)	G13	1500	1505.9 ±1.2	1514.2	max. 28	1
70	G13	1763.8	1769.7 ±1.2	1778	max. 28	1
20/... SA	G13	589.8	595.7 ±1.2	604	max. 40.5	1
40/... SA	G13	1199.4	1205.3 ±1.2	1213.6	max. 40.5	1
40 K	G13	589.8	595.7 ±1.2	604	max. 40.5	1
65/... SA	G13	1500	1505.9 ±1.2	1514.2	max. 40.5	1
80	G13	1500	1505.9 ±1.2	1514.2	max. 40.5	1
100	G13	1763.8	1769.7 ±1.2	1778	max. 40.5	1
14 (HE SLS), 24 (HO SLS)	G5	min. 481	475.1 ±1.2	max. 582	max. 16	4
21 (HE SLS), 39 (HO SLS)	G5	min. 781	775.1 ±1.2	max. 882	max. 16	4
28 (HE SLS), 54 (HO SLS)	G5	min. 1081	1075.1 ±1.2	max. 1182	max. 16	4

## Fluorescent lamps for starterless operation, 38 mm tube diameter X lamps. Fa6 base

20/... XL	Fa6	574	590.75 ±1.75	611	max. 40.5	2
40/... XL	Fa6	1183.5	1200.25 ±1.75	1220.5	max. 40.5	2
65/... XL	Fa6	1484	1500.85 ±1.75	1521.1	max. 40.5	2

# Dimensions for circular and U-shaped fluorescent lamps with tolerances



W



d1 max.  
[mm]

d2 max.  
[mm]

TUBE  
d [mm]

No.

## Circular T5 FC® fluorescent lamps with 16 mm tube diameter

2GX13 base

22	2GX13	225 ±5	192 ±5	16.0	1
40	2GX13	299 ±6	266 ±6	16.0	1
55	2GX13	299 ±6	266 ±6	16.0	1

W



d1 max.  
[mm]

d2 max.  
[mm]

d3 max.  
[mm]

TUBE  
d [mm]

No.

## Ring-shaped fluorescent lamps

G10q base

22	G10q	215.9	155.6	157.2	29 ±2	2, 3
32	G10q	304.8	246.1	246.1	29 ±2	2, 3
40	G10q	406.4	347.7	347.7	29 ±2	2, 3

W



l  
[mm]

a  
[mm]

d [mm]

No.

## U-shaped fluorescent lamps

2G13-92 base

18 U	2G13-92	310	92.0 ±2	26 -1	4
36 U	2G13-92	607	92.0 ±2	26 -1	4
58 U	2G13-92	765	92.0 ±2	26 -1	4
36 UK	2G13-92	570	92.0 ±2	26 -1	4



# Circuit diagrams for fluorescent lamps – bases

## CIRCUIT DIAGRAMS, STARTER OPERATION

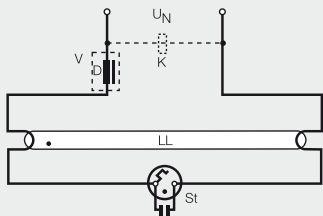


Fig. 1  
Single lamp

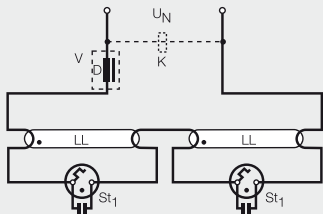


Fig. 2  
Series circuit for two lamps  
4 W, 6 W, 8 W, 15 W, 18 W, 20 W  
and 22 W on 220 Vac only with starters  
ST 151 + ST 172 (see page 5.44)

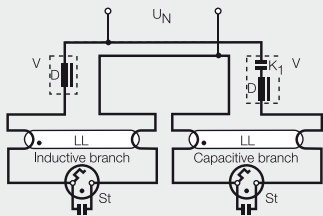


Fig. 3  
Lead-lag circuit

## STARTERLESS OPERATION

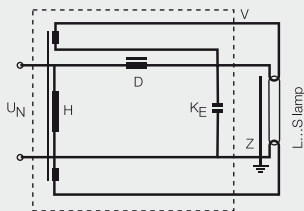


Fig. 4  
Quick-start circuit, inductive

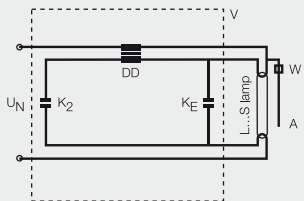


Fig. 5  
Semi-resonant circuit

- A = External starting strip
  - D = Choke
  - DD = Double choke
  - H = Heating transformer
  - K = Compensation capacitor (if required)
  - K1 = Series capacitor
  - K2 = Capacitor
  - KE = Radio interference capacitor 10 nF
  - LL = Fluorescent lamp
  - St = Starter
  - St1 = Starter <sup>1)</sup>
  - UN = Line voltage
  - V = Control gear
  - W = High ohmic resistor (built into lamp base)
  - Z = Capacitor starting aid
- <sup>1)</sup> Prolonged ignition times, especially at low voltage, can be shortened by rotating one of the starters through 180°

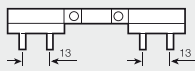
## BASES IEC/EN 60061-1



Fa6  
Sheet 7004-55



G13  
Sheet 7004-51



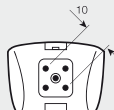
2G13  
Sheet 7004-33



W 4,3 x 8,5d  
Sheet 7004-115



G5  
Sheet 7004-52



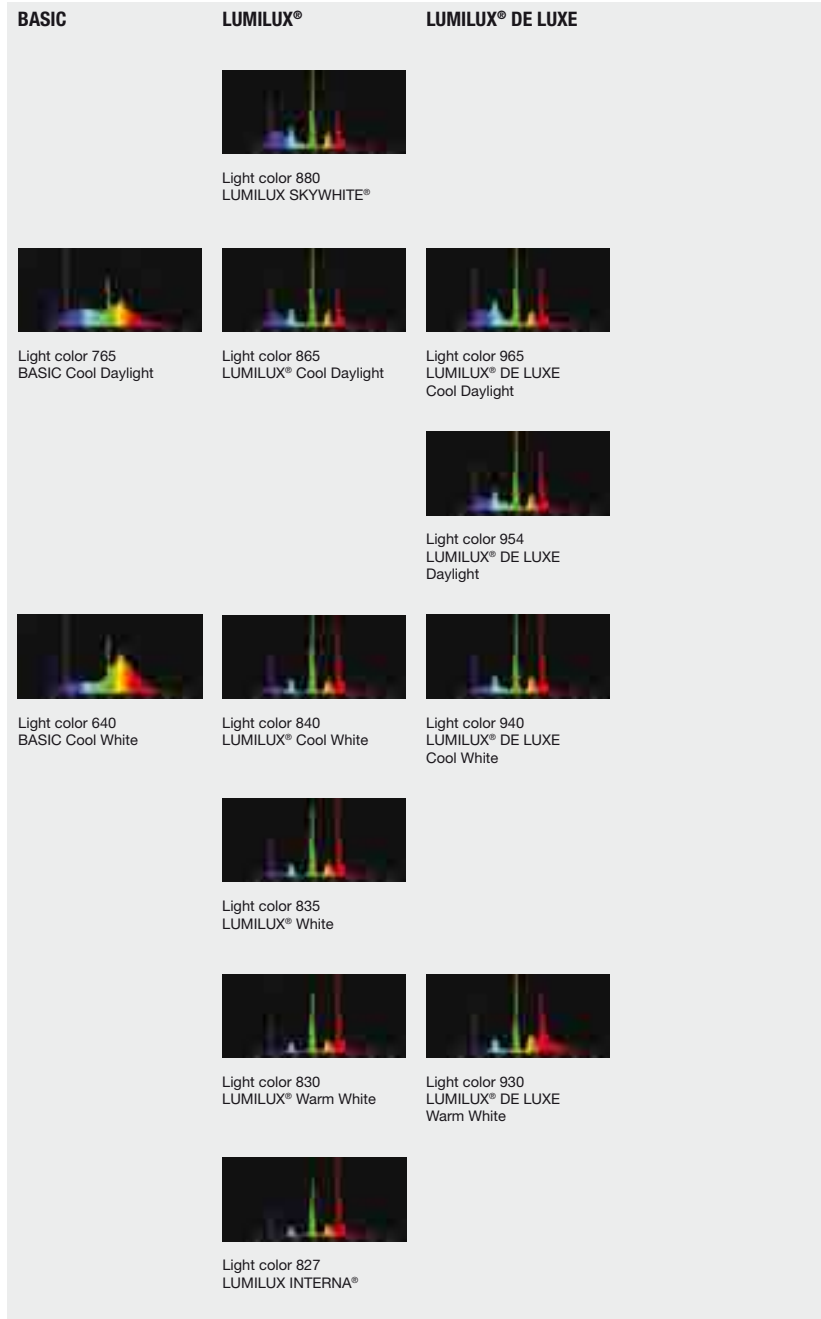
G10q  
Sheet 7004-54



2GX13  
Sheet 7004-125

# Spectral power distribution of fluorescent lamps (white light)

Visible range from 380 to 780 nm, relative spectral emission per 5 nm.



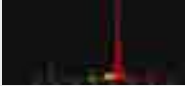
Note: These color graphs do not show the color distributions in great detail. The color printing process is not able to provide an accurate match between the colors shown and the colors defined for the individual color locations.

## Spectral power distribution of fluorescent lamps (COLOR proof)



Light color 950 COLOR proof

## Spectral power distribution of fluorescent lamps (other colors)



Light color 60  
Red



Light color 62  
Yellow



Light color 66  
Green



Light color 67  
Blue



Light color 76 NATURA®



Light color 77 FLUORA®



Light color BIOLUX®

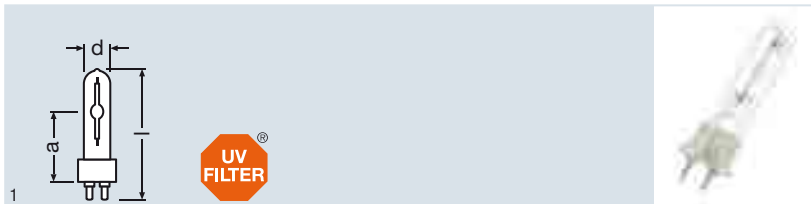
Note: These color graphs do not show the color distributions in great detail. The color printing process is not able to provide an accurate match between the colors shown and the colors defined for the individual color locations.



# Discharge lamps

POWERBALL® HCl®-T for enclosed fixtures	6.02
POWERBALL® Plus HCl®-T for enclosed fixtures	6.03
POWERBALL® HCl®-T Shoplight for enclosed fixtures	6.04
POWERBALL® HCl®-TC for enclosed fixtures	6.05
POWERBALL® Plus HCl®-TC for enclosed fixtures	6.06
POWERBALL® HCl®-TC Shoplight for enclosed fixtures	6.07
POWERBALL® HCl®-TS for enclosed fixtures	6.08
POWERBALL® HCl®-PAR20 for open and enclosed fixtures	6.09
POWERBALL® HCl®-PAR30 for open and enclosed fixtures	6.10
POWERBALL® HCl®-TF for enclosed fixtures	6.11
POWERBALL® HCl®-TX/P for open and enclosed fixtures	6.12
POWERBALL® HCl®-E/P for open and enclosed fixtures	6.13
POWERBALL® HCl®-ET for enclosed fixtures	6.14
POWERBALL® HCl®-TT for enclosed fixtures	6.15
POWERBALL® HCl®-TM for enclosed fixtures	6.16
POWERSTAR® HQI®-R for enclosed fixtures	6.17
POWERSTAR® HQI®-T with G12 base for enclosed fixtures	6.18
POWERSTAR® HQI®-TS EXCELLENCE for enclosed fixtures	6.19
POWERSTAR® HQI®-TS EXCELLENCE COLOR for enclosed fixtures	6.20
POWERSTAR® HQI®-TS for enclosed fixtures	6.21
POWERSTAR® HQI®-TS without outer bulb for enclosed fixtures	6.22
POWERSTAR® HQI®-TS long arc, without outer bulb for enclosed fixtures	6.23
POWERSTAR® HQI®-TM for enclosed fixtures	6.24
POWERSTAR® HQI®-T for enclosed fixtures, 1000 W and higher	6.25
POWERSTAR® HQI®-T for enclosed fixtures	6.26
POWERSTAR® HQI®-E/P, clear, for open and enclosed fixtures	6.27
POWERSTAR® HQI®-E/P, coated, for open and enclosed fixtures	6.28
POWERSTAR® HQI®-E, clear and coated, for enclosed fixtures	6.29
VIALOX® NAV®-E SUPER 4Y®	6.30
VIALOX® NAV®-E 4Y®	6.31
VIALOX® NAV®-E 4Y®, with integrated ignition unit	6.32
VIALOX® NAV®-E (Standard)	6.33
VIALOX® NAV®-E, with internal igniter	6.33
VIALOX® NAV®-E Plug-in (substitute for mercury vapor lamp)	6.34
VIALOX® NAV®-T SUPER 4Y®	6.35
VIALOX® NAV®-T 4Y®	6.36
VIALOX® NAV®-T (Standard)	6.37
VIALOX® NAV®-TS SUPER 4Y®	6.38
VIALOX® NAV®-TS (Standard)	6.38
PLANTASTAR®	6.39
Low-pressure sodium lamps – SOX	6.39
HQL® SUPER DE LUXE	6.40
HQL® DE LUXE	6.40
HQL® (Standard)	6.41
HWL®	6.41
Relative spectral power distribution of discharge lamps	6.42
Technical data	6.43
Operating instructions	6.50
OSRAM System+ Guarantee for HCl®/HQI®/NAV® lamps and POWERTRONIC® ECGs	6.53
Circuit diagrams	6.54
Light colors and color rendering properties – Burning positions – Bases	6.55

# POWERBALL® HCI®-T for enclosed fixtures



Product reference	Product number	W	lm						
					d max [mm]	l [mm]	LCL a [mm]		No.
HCI-T 35/830 WDL PB	4008321681850	35	3600	G12	19	100	56	12	1
HCI-T 35/942 NDL PB	4008321681898	35	3500	G12	19	100	56	12	1
HCI-T 70/830 WDL PB	4008321678430	70	7300	G12	19	100	56	12	1
HCI-T 70/942 NDL PB	4008321678522	70	6800	G12	19	100	56	12	1
HCI-T 100/830 WDL PB	4008321682963	100	9500	G12	19	105	56	12	1
HCI-T 100/942 NDL PB	4008321682987	100	9300	G12	19	105	56	12	1
HCI-T 150/830 WDL PB	4008321682055	150	15000	G12	25	105	56	12	1
HCI-T 150/942 NDL PB	4008321682079	150	14500	G12	25	105	56	12	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Good to excellent color rendering
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL and neutral white light 942 NDL
- Average life of 15,000 hours on electronic control gear
- Average life of 12,000 hours on magnetic control gear

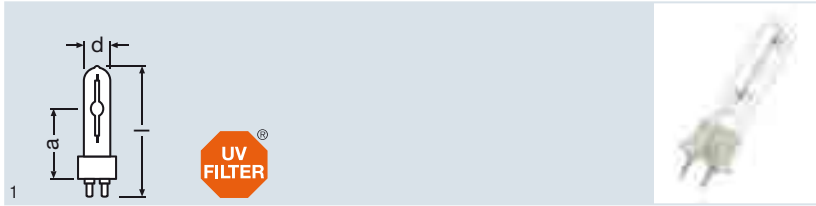
## Applications

- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Exhibition halls and trade fairs
- Factories and workshops
- Pedestrian zones, public squares
- Accent lighting

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# POWERBALL® Plus HCl®-T for enclosed fixtures



Product reference	Product number	W	lm		$d_{max}$ [mm]	$l$ [mm]	LCL $\bar{a}$ [mm]			No.
NEW HCl-T 35W/930 WDL PB Plus	4008321974266	35	4000	G12	19	100	56	12	1	
NEW HCl-T 50W/930 WDL PB Plus <sup>1)</sup>	4008321974303	50	l. p. <sup>1)</sup>	G12	19	100	56	12	1	
NEW HCl-T 70W/930 WDL PB Plus	4008321974228	70	7800	G12	19	100	56	12	1	

<sup>1)</sup> In preparation

HCl® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Higher efficiency in comparison to HCl®-T (page 6.02)
- Better lumen maintenance in comparison to HCl®-T (page 6.02)
- Excellent color rendering
- Very good rendering of red tones
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

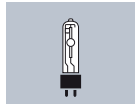
- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 930 WDL
- Average life of 15,000 hours on electronic control gear
- Approx. 80% lumen maintenance factor after 12,000 hours
- CRI ≥ 90

## Applications

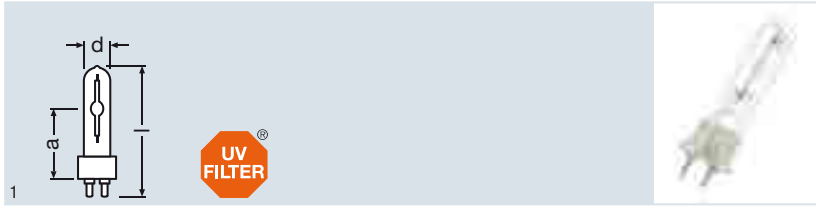
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCl®-T Shoplight for enclosed fixtures



Product reference	Product number	W	lm						
					d max [mm]	l [mm]	LCL a [mm]		No.
HCl-T 35/930 WDL PB Shoplight	4008321 <b>681874</b>	35	2800	G12	19	100	56	12	1
HCl-T 70/930 WDL PB Shoplight	4008321 <b>678508</b>	70	6300	G12	19	100	56	12	1

HCl® metal halide lamps with POWERBALL® ceramic technology

### Product benefits

- Excellent color rendering
- Excellent rendering of red tones
- Very good color stability
- High efficiency
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter
- Best suited for presentation of fashion and food

### Product features

- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 930 WDL Shoplight
- Average life of 15,000 hours on electronic control gear
- Average life of 12,000 hours on magnetic control gear
- CRI ≥ 90

### Applications

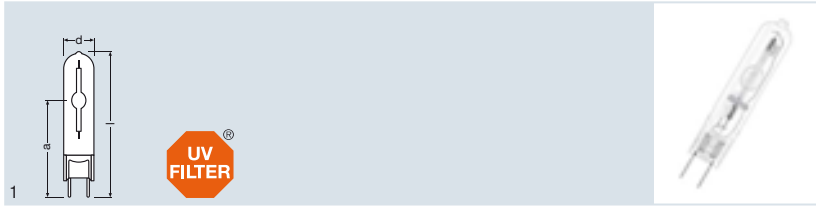
- Shop interiors, shop windows
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting

### System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCI®-TC for enclosed fixtures



Product reference	Product number	W	lm		d max [mm]	l [mm]	LCL a [mm]		No.
HCI-TC 20/830 WDL PB	4008321683007	20	1700	G8.5	15	81	52	12	1
HCI-TC 35/830 WDL PB	4008321681997	35	3500	G8.5	15	81	52	12	1
HCI-TC 35/942 NDL PB	4008321682031	35	3400	G8.5	15	81	52	12	1
HCI-TC 70/830 WDL PB	4008321681799	70	6900	G8.5	15	81	52	12	1
HCI-TC 70/942 NDL PB	4008321681836	70	6600	G8.5	15	81	52	12	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Good to excellent color rendering
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL and neutral white light 942 NDL
- Average life of 15,000 hours on electronic control gear in h90 burning position
- Average life of 12,000 hours on magnetic control gear

## Applications

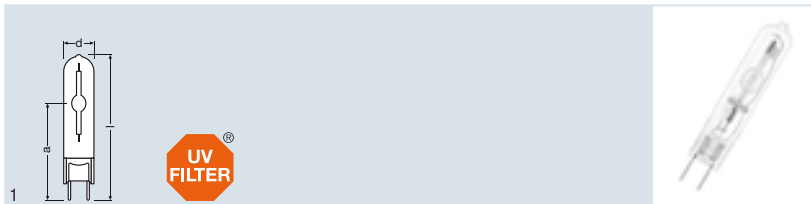
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting
- Decorative lighting

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® Plus HCl®-TC for enclosed fixtures



Product reference	Product number	W	lm						
		[W]	[lm]	[Globe]	d max. [mm]	l [mm]	LCL a [mm]		No.
HCl-TC 35W/930 WDL PB Plus	4008321 <b>974242</b>	35	4000	G8.5	15	81	52	12	1
HCl-TC 50W/930 WDL PB Plus <sup>1)</sup>	4008321 <b>974280</b>	50	l. p. <sup>1)</sup>	G8.5	15	81	52	12	1
HCl-TC 70W/930 WDL PB Plus	4008321 <b>974204</b>	70	7800	G8.5	15	81	52	12	1

NEW  
NEW  
NEW

HCl® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Higher efficiency in comparison to HCl®-TC (page 6.05)
- Better lumen maintenance in comparison to HCl®-TC (page 6.05)
- Excellent color rendering
- Very good rendering of red tones
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 930 WDL
- Average life of 15,000 hours on electronic control gear
- Approx. 80 % lumen maintenance factor after 12,000 hours
- CRI ≥ 90

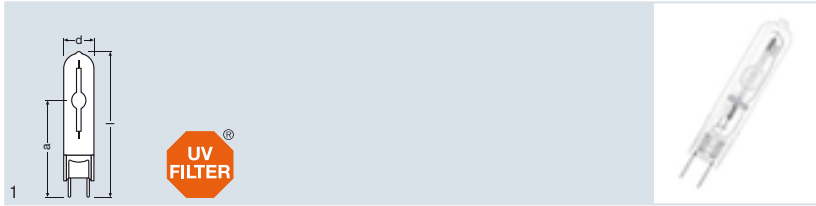
## Applications

- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting
- Decorative lighting

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# POWERBALL® HCI®-TC Shoplight for enclosed fixtures



Product reference	Product number	W	lm		$d_{max}$ [mm]	L [mm]	LCL $\bar{a}$ [mm]		No.
HCI-TC 35/930 WDL PB Shoplight	4008321 <b>682017</b>	35	2800	G8.5	15	81	52	12	1
HCI-TC 70/930 WDL PB Shoplight	4008321 <b>681812</b>	70	6300	G8.5	15	81	52	12	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Excellent color rendering
- Excellent rendering of red tones
- Very good color stability
- High efficiency
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter
- Ideal for illuminating clothing and food

## Product features

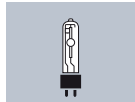
- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 930 WDL Shoplight
- Average life of 15,000 hours on electronic control gear in h90 burning position
- Average life of 12,000 hours on magnetic control gear
- CRI  $\geq 90$

## Applications

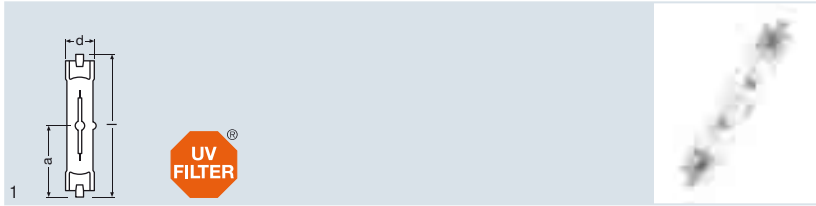
- Shop interiors, shop windows
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting
- Decorative lighting

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCI®-TS for enclosed fixtures



Product reference	Product number	W	lm						
HCI-TS 70/830 WDL PB <sup>1)</sup>	4008321 <b>688309</b>	70	6800	RX7s	20	120	60	12	1
HCI-TS 70/942 NDL PB <sup>1)</sup>	4008321 <b>688361</b>	70	6500	RX7s	20	120	60	12	1
HCI-TS 150/830 WDL PB <sup>1)</sup>	4008321 <b>679857</b>	150	14500	RX7s-24	23	138	69	12	1
HCI-TS 150/942 NDL PB <sup>1)</sup>	4008321 <b>679871</b>	150	14400	RX7s-24	23	138	69	12	1

<sup>1)</sup> Suitable for standard igniters with an ignition voltage of 3.6 to 5 kV

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Good to excellent color rendering
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL and neutral white light 942 NDL
- Average life of 15,000 hours on electronic control gear
- Average life of 12,000 hours on magnetic control gear

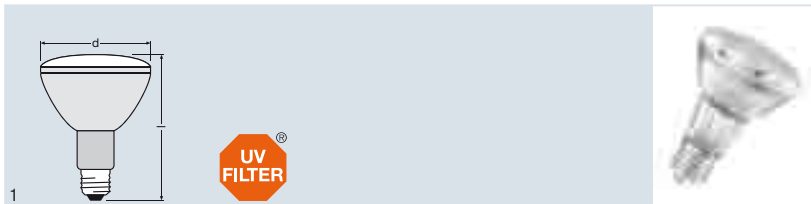
## Applications

- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Exhibition halls and trade fairs
- Factories and workshops
- Buildings, monuments, bridges

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# POWERBALL® HCI®-PAR20 for open and enclosed fixtures



Product reference	Product number	W	cd							No.
HCI-PAR20 35/830 WDL PB SP 10D	4008321 <b>970756</b>	35	22000	10	E27	65	95	12	1	1
HCI-PAR20 35/830 WDL PB FL 30D	4008321 <b>970794</b>	35	5000	30	E27	65	95	12	1	1
HCI-PAR20 35/942 NDL PB SP 10D	4008321 <b>970770</b>	35	16000	10	E27	65	95	12	1	1
HCI-PAR20 35/942 NDL PB FL 30D	4008321 <b>970817</b>	35	4000	30	E27	65	95	12	1	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Simple lamp installation/replacement in open fixtures
- Optimum emission
- Good to excellent color rendering
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

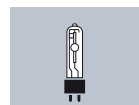
- POWERBALL® ceramic technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Integrated reflector
- Warm white light 830 WDL and neutral white light 942 NDL

## Applications

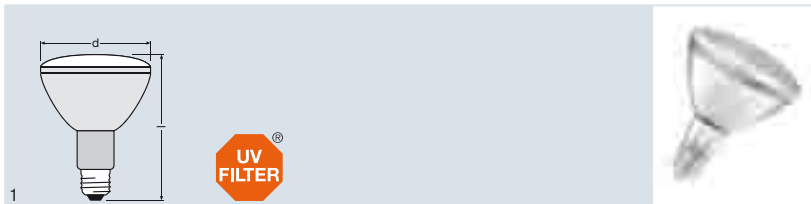
- Shop interiors, shop windows
- Shopping arcades
- Museums and exhibitions
- Industry
- Parks and gardens
- Buildings, monuments, bridges

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCI®-PAR30 for open and enclosed fixtures



Product reference	Product number	W	cd						
						d max. [mm]	l [mm]		No.
HCI-PAR30 35/830 WDL PB SP 10D	4008321 <b>970831</b>	35	45000	10	E27	97	125	6	1
HCI-PAR30 35/830 WDL PB FL 30D	4008321 <b>970855</b>	35	8000	30	E27	97	125	6	1
HCI-PAR30 35/942 NDL PB SP 10D	4008321 <b>970879</b>	35	36000	10	E27	97	125	6	1
HCI-PAR30 35/942 NDL PB FL 30D	4008321 <b>970893</b>	35	7000	30	E27	97	125	6	1
HCI-PAR30 70/930 WDL PB SP 10D	4008321 <b>970930</b>	70	60000	10	E27	97	125	6	1
HCI-PAR30 70/930 WDL PB FL 30D	4008321 <b>971012</b>	70	12000	30	E27	97	125	6	1
HCI-PAR30 70/830 WDL PB WFL 40D	4008321 <b>971036</b>	70	8900	40	E27	97	125	6	1
HCI-PAR30 70/942 NDL PB SP 10D	4008321 <b>970954</b>	70	70000	10	E27	97	125	6	1
HCI-PAR30 70/942 NDL PB FL 30D	4008321 <b>970978</b>	70	13000	30	E27	97	125	6	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Simple lamp installation/replacement in open fixtures
- Optimum emission
- Good to excellent color rendering
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Integrated reflector
- Warm white light 830 WDL, 930 WDL and neutral white light 942 NDL

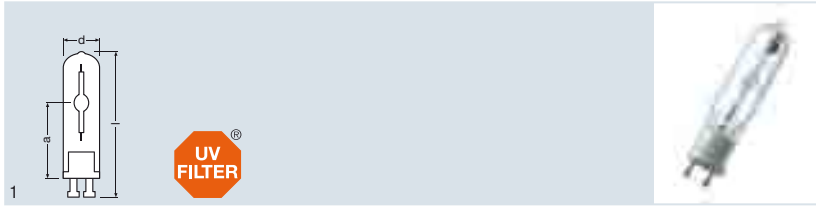
## Applications

- Shop interiors, shop windows
- Shopping arcades
- Museums and exhibitions
- Industry
- Parks and gardens
- Buildings, monuments, bridges

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# POWERBALL® HCI®-TF for enclosed fixtures



Product reference	Product number	W	lm						
HCI-TF 20/830 WDL PB	4008321683045	20	1700	GU6.5	13	57	30	12	1
HCI-TF 35/930 WDL PB	4008321683021	35	3400	GU6.5	13	57	30	12	1

HCI® metal halide lamps with POWERBALL® ceramic technology

### Product benefits

- High efficiency
- Good to excellent color rendering
- Very good color stability
- Easy relamping due to Twist & Lock base
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

### Product features

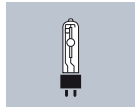
- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL and 930 WDL
- Average life of 12,000 hours
- Twist & Lock base

### Applications

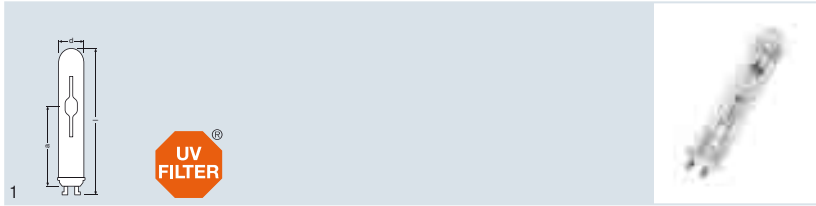
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting
- Decorative lighting

### System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCI®-TX/P for open and enclosed fixtures



Product reference	Product number	W	lm						
HCI-TX/P 35W/930 WDL PB	4008321 <b>539366</b>	35	3300	GU8.5	22	98	51.5	12	1
HCI-TX/P 35W/942 NDL PB	4008321 <b>539380</b>	35	3300	GU8.5	22	98	51.5	12	1
HCI-TX/P 70W/930 WDL PB	4008321 <b>539403</b>	70	7300	GU8.5	22	98	51.5	12	1
HCI-TX/P 70W/942 NDL PB	4008321 <b>539427</b>	70	7300	GU8.5	22	98	51.5	12	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Excellent color rendering
- Very good color stability
- Simple lamp installation/replacement in open fixtures
- Easy relamping due to Twist & Lock base
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Warm white light 930 WDL and neutral white light 942 NDL
- Average life of 15,000 hours on electronic control gear
- Approx. 80% residual luminous flux after 12,000 hours
- Twist & Lock base
- CRI ≥ 90

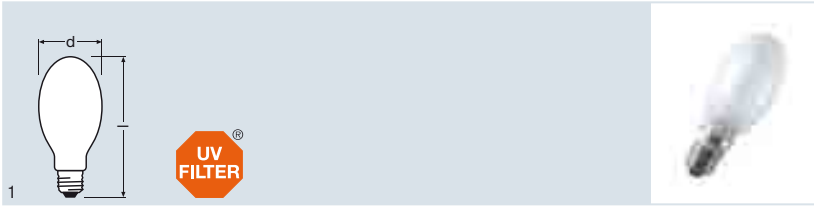
## Applications

- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Exhibition halls and trade fairs
- Pedestrian zones, public squares

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).





Product reference	Product number	W	lm					
HCI-E/P 35/830 WDL PB coated	4008321 <b>692801</b>	35	3200	E27	54	138	12	1
HCI-E/P 50/830 WDL PB coated	4008321 <b>338488</b>	50	4000	E27	54	138	12	1
HCI-E/P 70/830 WDL PB coated	4008321 <b>692825</b>	70	6700	E27	54	138	12	1
HCI-E/P 100/830 WDL PB coated	4008321 <b>692849</b>	100	8500	E27	54	138	12	1
HCI-E/P 150/830 WDL PB coated	4008321 <b>692863</b>	150	13700	E27	54	138	12	1

HCI® metal halide lamps with POWERBALL® ceramic technology

**Product benefits**

- Very high efficiency
- Simple lamp installation/replacement in open fixtures
- Good color rendering
- Very good color stability
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

**Product features**

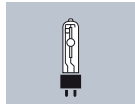
- POWERBALL® ceramic technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Warm white light 830 WDL
- Average life of 12,000 hours

**Applications**

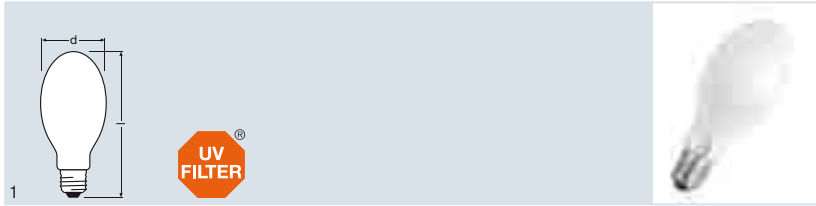
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Exhibition halls and trade fairs
- Streets
- Pedestrian zones, public squares
- Parks and gardens

**System guarantee**

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCI®-ET for enclosed fixtures



Product reference	Product number	W	lm		d max. [mm]	l [mm]		No.
HCI-ET 70W/830 WDL PB	4008321688286	70	7200	E27	70	156	24	1

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Uniform distribution of light
- Good color rendering
- Excellent color stability
- Excellent lumen behavior throughout the life of the lamp
- Full output available soon after switching the lamp on
- Dimmable on POWERTRONIC® PTo 3DIM
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- Lamp survival factor (LSF)  $\geq 95\%$  after 12,000 hours
- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL
- Complies with the ignition requirements of IEC 60662
- Can be operated on existing NAV® fixtures

## Applications

- Streets
- Factories and workshops
- Exhibition halls and trade fairs
- Car parks, courtyards
- Pedestrian zones, public squares
- Buildings, monuments, bridges

## Note

Where possible, use a timer igniter (switch-off time of at least 15 minutes). Otherwise, switch off the fixture for at least 15 minutes if a brief interruption has occurred to the power supply.

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# POWERBALL® HCI®-TT for enclosed fixtures



Product reference	Product number	W	lm						
HCI-TT 50/830 WDL PB	4008321688873	50	5350	E27	32	155	102	12	1
HCI-TT 70/830 WDL PB	4008321688897	70	7200	E27	32	155	102	12	1
HCI-TT 100/830 WDL PB	4008321688910	100	10600	E40	47	210	132	12	2
HCI-TT 150/830 WDL PB	4008321688934	150	15700	E40	47	210	132	12	2
HCI-TT 250/830 WDL PB	4008321688958	250	27700	E40	47	226	158	12	2

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Uniform distribution of light
- Good color rendering
- Excellent color stability
- Excellent lumen behavior throughout the life of the lamp
- Full output available soon after switching the lamp on
- Dimmable on POWERTRONIC® PTo 3DIM
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- Lamp survival factor (LSF) ≥ 95 % after 12,000 hours
- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL
- Complies with the ignition requirements of IEC 60662
- Can be operated on existing NAV® fixtures

## Applications

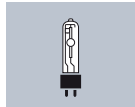
- Streets
- Factories and workshops
- Exhibition halls and trade fairs
- Car parks, courtyards
- Pedestrian zones, public squares
- Buildings, monuments, bridges

## Note

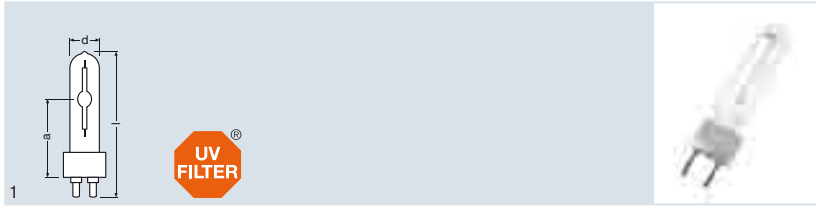
Where possible, use a timer igniter (switch-off time of at least 15 minutes). Otherwise, switch off the fixture for at least 15 minutes if a brief interruption has occurred to the power supply.

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERBALL® HCI®-TM for enclosed fixtures



Product reference	Product number	W	lm		d max. [mm]	l [mm]	LCL a [mm]		No.
HCI-TM 250/930 WDL MD PB <sup>2)</sup>	4008321524591	250	26600	G22	28	175	90	10	1
HCI-TM 250/930 WDL HR PB <sup>1)</sup>	4008321959423	250	26600	GY22	28	175	90	10	1
HCI-TM 250/942 ND L MD PB <sup>2)</sup>	4008321524638	250	25300	G22	28	175	90	10	1
HCI-TM 250/942 ND L HR PB <sup>1)</sup>	4008321959430	250	25300	GY22	28	175	90	10	1
HCI-TM 400/930 WDL PB <sup>2)</sup>	4008321524614	400	43000	G22	34	175	90	10	1
HCI-TM 400/930 WDL HR PB <sup>1)</sup>	4008321959447	400	43000	GY22	34	175	90	10	1
HCI-TM 400/942 ND L PB <sup>2)</sup>	4008321524577	400	43000	G22	34	175	90	10	1
HCI-TM 400/942 ND L HR PB <sup>1)</sup>	4008321959454	400	43000	GY22	34	175	90	10	1

<sup>1)</sup> Operate on NAV® control gear | In preparation | Operate only on suitable hot restrike igniters with an ignition voltage of up to 25 kV  
<sup>2)</sup> Operate with NAV® control gear

HCI® metal halide lamps with POWERBALL® ceramic technology

## Product benefits

- Very high efficiency
- Excellent color rendering
- Excellent color stability
- Much more compact than other discharge lamps of the same output
- Same light center length (LCL) as HQI®-TM 600 W and 1000 W
- Approved for hot restrike (with GY22)
- G22/GY22 plug-in base for good positioning
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERBALL® ceramic technology
- Warm white light 830 WDL and neutral white light 942 ND L
- Average life of 12,000 hours
- Approved for use only in enclosed fixtures
- UV filter technology

## Applications

- Foyers, reception areas
- Museums and exhibitions
- Factories and workshops
- Exhibition halls and trade fairs
- Sports halls and multi-purpose halls
- Industrial installations
- Rail stations, overground and underground
- Pedestrian zones, public squares

# POWERSTAR® HQI®-R for enclosed fixtures



Product reference	Product number	W						
HQI-R 150/NDL/FO	4008321691262	150	5200   1850 <sup>1)</sup>	75	95	93	12	1

1) at 25 mm | at 10 mm

Metal halide lamps POWERSTAR® HQI® with quartz technology

### Product benefits

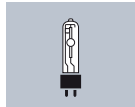
- For compact optical systems with high efficiency
- Optimum adjustment
- Low thermal load on the light guide
- Quick and easy lamp replacement
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

### Product features

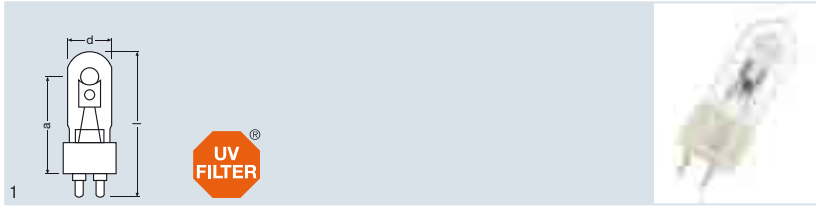
- POWERSTAR® quartz technology
- UV filter technology
- Neutral white light NDL
- Average life of 9,000 hours

### Applications

- Fiber-optic systems



# POWERSTAR® HQI®-T with G12 base for enclosed fixtures



Product reference	Product number	W	lm					
					d max. (mm)	l (mm)	LCL a (mm)	No.
HQI-T 70/WDL	4008321974341	70	5300	G12	25	84	56	1
HQI-T 70/NDL	4008321974327	70	5800	G12	25	84	56	1
HQI-T 150/WDL	4008321974389	150	13000	G12	25	84	56	1
HQI-T 150/NDL	4008321974365	150	13000	G12	25	84	56	1

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- High efficiency
- Good to excellent color rendering
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

- POWERSTAR® quartz technology
- UV filter technology
- Warm white light WDL and neutral white light NDL
- Average life of 9,000 hours

## Applications

- Shopping arcades
- Exhibition halls and trade fairs
- Factories and workshops
- Pedestrian zones, public squares
- Buildings, monuments, bridges

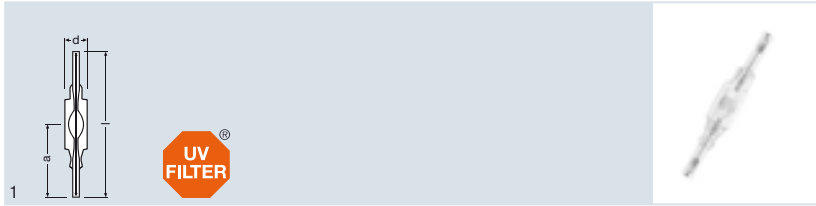
## Note

Burning position: For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other.

## System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# POWERSTAR® HQI®-TS EXCELLENCE for enclosed fixtures



Product reference	Product number	W	lm						
					d max. [mm]	l [mm]	LCL a [mm]		No.
HQI-TS 70/WDL EXCELLENCE	4008321678300	70	6200	RX7s	19	117	57	12	1
HQI-TS 70/NDL EXCELLENCE	4008321678324	70	6500	RX7s	19	117	57	12	1
HQI-TS 70/D EXCELLENCE	4008321678348	70	6200	RX7s	19	117	57	12	1
HQI-TS 70/CD EXCELLENCE	4008321624758	70	5500	RX7s	19	117	57	12	1
HQI-TS 150/WDL EXCELLENCE	4008321678362	150	12000	RX7s-24	23	135	66	12	1
HQI-TS 150/NDL EXCELLENCE	4008321678386	150	12500	RX7s-24	23	135	66	12	1
HQI-TS 150/D EXCELLENCE	4008321678409	150	13500	RX7s-24	23	135	66	12	1
HQI-TS 150/CD EXCELLENCE	4008321624789	150	11500	RX7s-24	23	135	66	12	1

NEW

NEW

Metal halide lamps POWERSTAR® HQI® with quartz technology

### Product benefits

- High efficiency
- Uniform distribution of light
- Good to excellent color rendering
- Hot restrike capable

### Product features

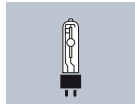
- POWERSTAR® quartz technology
- UV filter technology
- Warm white light WDL, neutral white light NDL, daylight D and cool daylight CD
- Average life of 12,000 hours

### Applications

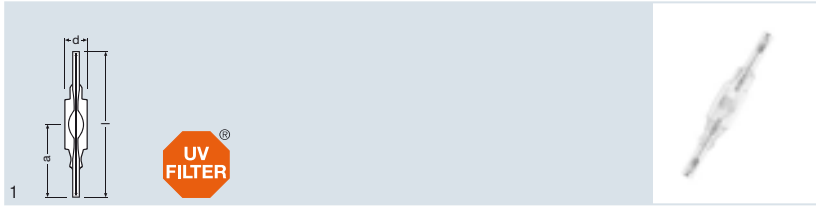
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Buildings, monuments, bridges
- Museums and exhibitions
- Exhibition halls and trade fairs
- Pedestrian zones, public squares
- Parks and gardens

### System guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERSTAR® HQI®-TS EXCELLENCE COLOR for enclosed fixtures



Product reference	Product number	W							
				d max. (mm)	l (mm)	LCL a (mm)			
HQI-TS 70/BL EXCELLENCE	4008321678553	70	RX7s	19	117	57	12	1	NEW
HQI-TS 70/MG EXCELLENCE	4008321678591	70	RX7s	19	117	57	12	1	NEW
HQI-TS 70/GN EXCELLENCE	4008321678577	70	RX7s	19	117	57	12	1	NEW
HQI-TS 150/BL EXCELLENCE	4008321678614	150	RX7s-24	23	135	66	12	1	NEW
HQI-TS 150/MG EXCELLENCE	4008321678652	150	RX7s-24	23	135	66	12	1	NEW
HQI-TS 150/GN EXCELLENCE	4008321678638	150	RX7s-24	23	135	66	12	1	NEW

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- High efficiency
- Uniform distribution of light
- High color saturation (up to 66%) in blue, magenta and green
- Hot restrike capable

## Product features

- POWERSTAR® quartz technology
- UV filter technology
- Average life of 12,000 hours

## Applications

- Buildings, monuments, bridges
- Decorative lighting with the need for long operating times
- Parks and gardens

## System Guarantee

For the vast majority of our lamps we are offering an extended system guarantee in conjunction with OSRAM POWERTRONIC® control gear. For more information and the guarantee conditions go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).



# POWERSTAR® HQI®-TS for enclosed fixtures



Product reference	Product number	W	lm			l (mm)	LCL a (mm)		
HQI-TS 250/WDL	4008321 <b>689177</b>	250	22000	Fc2	25	162	82	12	1
HQI-TS 250/NDL	4008321 <b>689153</b>	250	20000	Fc2	25	162	82	12	1
HQI-TS 250/D	4008321 <b>689139</b>	250	21500	Fc2	25	162	82	12	1
HQI-TS 400/NDL <sup>1)</sup>	4008321 <b>689214</b>	400	36000	Fc2	33	206	103	12	2
HQI-TS 400/D <sup>2)</sup>	4008321 <b>689191</b>	400	37000	Fc2	33	206	103	12	2

<sup>1)</sup> Operate only with NAV® control gear  
<sup>2)</sup> Operate with NAV® control gear

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

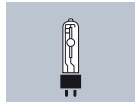
- High efficiency
- Uniform distribution of light
- Excellent color rendering
- Long life
- Hot restrike capable
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

## Product features

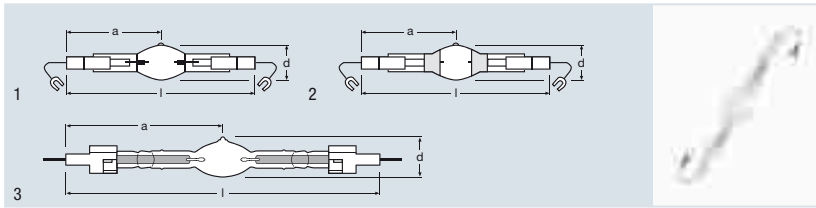
- POWERSTAR® quartz technology
- Warm white light WDL, neutral white light NDL and daylight D
- Approved for use only in enclosed fixtures
- UV filter technology

## Applications

- Foyers, reception areas
- Factory and hall lighting with low-cost installations
- Exhibition halls and trade fairs
- Sports halls and multi-purpose halls
- Pedestrian zones, public squares
- Parks and gardens
- Buildings, monuments, bridges



# POWERSTAR® HQI®-TS without outer bulb for enclosed fixtures



Product reference	Product number	W	lm		d max. [mm]	l [mm]	LCL a [mm]		No.
HQI-TS 1000/NDL/S	4008321 <b>591944</b>	1000	90000	K12s-36	36	187	93	10	2
HQI-TS 1000/D/S PRO	4008321 <b>525475</b>	1000	90000	K12s-36	36	187	93	10	2
HQI-TS 2000/NDL/S	4008321 <b>525499</b>	2000	225000	K12s-36	36	187	93	10	2
HQI-TS 2000/D/S	4050300 <b>271682</b>	2000	210000	K12s-36	36	187	93	10	1
HQI-TS 2000W/D/S High Flux <sup>1)</sup>	4008321 <b>338310</b>	2000	230000	K12s-36	36	187	93	10	1
HQI-TS 2000/D/S/DP <sup>2)</sup>	4008321 <b>772992</b> <sup>3)</sup>	2000	220000	Cable	41	365	182	10	3

<sup>1)</sup> Operate only on 12.2A control gear

<sup>2)</sup> Operate only on BHD L76

<sup>3)</sup> EAN40

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- High efficiency
- Excellent color rendering
- Excellent color stability
- Small loss of luminous flux over the life of the lamp
- Hot restrike capable
- Compact dimensions for small spotlights

## Product features

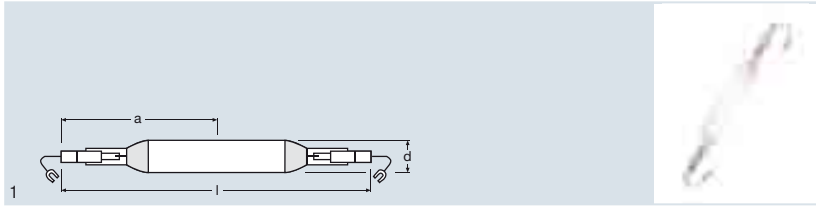
- POWERSTAR® quartz technology
- Neutral white light NDL and daylight D
- Approved for use only in enclosed fixtures
- K12s base for good positioning

## Applications

- Sports stadiums and floodlight systems
- Sports halls and multi-purpose halls
- Airports
- Solar simulation, material testing



# POWERSTAR® HQI®-TS long arc, without outer bulb for enclosed fixtures



Product reference	Product number	W	lm						
HQI-TS 2000W/N/L	4008321530660	2000	230000	K12s-36	32	274	137	10	1

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- Very high efficiency
- Very high luminous flux
- Long life
- Can be used with conventional igniters and control gear
- Ideal for compact floodlights

## Product features

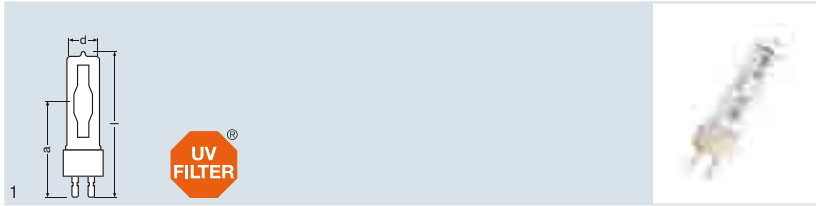
- POWERSTAR® quartz technology
- Approved for use only in enclosed fixtures
- K12s base for good positioning

## Applications

- Sports stadiums and floodlight systems
- Industrial installations
- Airports
- Docks and port facilities
- Marshaling yards, container transshipment facilities



# POWERSTAR® HQI®-TM for enclosed fixtures



Product reference	Product number	W	lm		$\varnothing$ max. (mm)	l (mm)	LCL a (mm)		No.	
<b>Clear</b>										
HQI-TM 600/NDL <sup>1)</sup>	4008321 <b>959461</b>	600	55000	G22	34	180	90	10	1	
HQI-TM 600/NDL HR <sup>2)</sup>	4008321 <b>959478</b>	600	55000	GY22	34	180	90	10	1	
HQI-TM 600/D <sup>1)</sup>	4008321 <b>959485</b>	600	58000	G22	34	180	90	10	1	
HQI-TM 600/D HR <sup>2)</sup>	4008321 <b>959492</b>	600	58000	GY22	34	180	90	10	1	
HQI-TM 1000/NDL <sup>3)</sup>	4008321 <b>959508</b>	1000	92000	G22	38	180	90	10	1	
HQI-TM 1000/NDL HR <sup>4)</sup>	4008321 <b>959515</b>	1000	92000	GY22	38	180	90	10	1	
HQI-TM 1000/D	4008321 <b>467553</b>	1000	97000	G22	38	180	90	10	1	
HQI-TM 1000/D HR <sup>4)</sup>	4008321 <b>959522</b>	1000	97000	GY22	38	180	90	10	1	

<sup>1)</sup> In preparation | Operate with NAV® control gear  
<sup>2)</sup> In preparation | Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV | Operate on NAV® control gear  
<sup>3)</sup> In preparation  
<sup>4)</sup> In preparation | Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- Very high efficiency
- Good to excellent color rendering
- Excellent color stability
- Much more compact than other discharge lamps of the same output
- Same light center length (LCL) as HCL®-TM 250 W and 400 W
- Approved for hot restrike (with GY22)
- G22/GY22 plug-in base for good positioning

## Product features

- POWERSTAR® quartz technology
- Neutral white light ND/L and daylight D
- Average life of 10,000 hours
- Approved for use only in enclosed fixtures
- UV filter technology

## Applications

- Factories and workshops
- Sports halls and multi-purpose halls
- Sports stadiums and floodlight systems
- Industrial installations
- Airports
- Buildings, monuments, bridges
- Marshaling yards, container transshipment facilities
- Docks and port facilities

# POWERSTAR® HQI®-T for enclosed fixtures, 1000 W and higher



Product reference	Product number	W	lm						
HQI-T 1000/N	4008321 <b>528285</b>	1000	110000	E40	76	345	220	6	1
HQI-T 1000/D	4008321 <b>527035</b>	1000	85000	E40	76	345	220	6	1
HQI-T 2000/N/E SUPER	4008321 <b>979063</b>	2000	240000	E40	100	430	265	4	2
HQI-T 2000/N/SN SUPER <sup>1)</sup>	4008321 <b>979087</b>	2000	240000	E40	100	430	265	4	2
HQI-T 2000/D	4008321 <b>526809</b>	2000	180000	E40	100	430	265	4	2
HQI-T 2000/N <sup>1)</sup>	4008321 <b>665379</b>	2000	205000	E40	100	430	265	4	2
HQI-T 2000/D/I <sup>1)</sup>	4008321 <b>527011</b>	2000	180000	E40	100	430	265	4	2

<sup>1)</sup> Operation without an external igniter

Metal halide lamps POWERSTAR® HQI® with quartz technology

### Product benefits

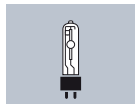
- High efficiency
- E40 screw base for simple lamp handling
- Long life
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

### Product features

- POWERSTAR® quartz technology
- Neutral white light N and daylight D
- Approved for use only in enclosed fixtures
- UV filter technology

### Applications

- Factories and workshops
- Sports halls and multi-purpose halls
- Industrial installations
- Airports
- Docks and port facilities
- Marshaling yards, container transshipment facilities



# POWERSTAR® HQI®-T for enclosed fixtures



Product reference	Product number	W	lm						
					d max. [mm]	l [mm]	LCL a [mm]		No.
HQI-T 250/D/PRO <sup>1)</sup>	4008321 <b>677846</b>	250	20000	E40	46	226	150	12	1
HQI-T 400/N <sup>1)</sup>	4008321 <b>526786</b>	400	42000	E40	46	273	175	12	1
HQI-T 400 GREEN <sup>2)</sup>	4008321 <b>526847</b>	400	–	E40	46	273	175	12	1
HQI-T 400 BLUE <sup>2)</sup>	4008321 <b>526861</b>	400	–	E40	46	273	175	12	1
HQI-T 400 MAGENTA <sup>2)</sup>	4008321 <b>526885</b>	400	–	E40	46	273	175	12	1
HQI-BT 400/D/PRO <sup>1)</sup>	4008321 <b>677860</b>	400	35000	E40	62	285	175	12	2

<sup>1)</sup> Operate with NAV® control gear  
<sup>2)</sup> Operate with HQI® control gear

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- High efficiency
- Different light colors
- Long life
- High color saturation (up to 66%) in blue, green and magenta
- E40 screw base for simple lamp handling
- UV values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

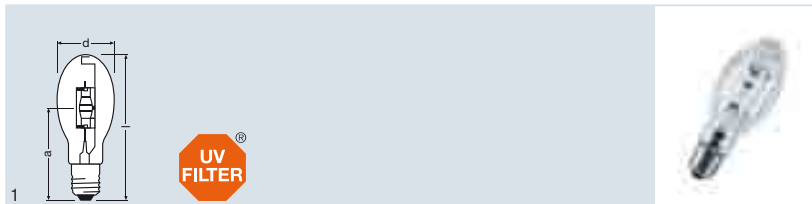
## Product features

- POWERSTAR® quartz technology
- Neutral white light N, daylight D and colored lamps
- Approved for use only in enclosed fixtures
- UV filter technology

## Applications

- Factories and workshops
- Sports halls and multi-purpose halls
- Industrial installations
- Docks and port facilities
- Marshaling yards, container transshipment facilities

# POWERSTAR® HQI®-E/P, clear, for open and enclosed fixtures



Product reference	Product number	W	lm						
HQI-E/P 70/WDL clear	4008321971074	70	6600	E27	55	141	89	20	1
HQI-E/P 70/NDL clear	4008321971111	70	6600	E27	55	141	89	20	1
HQI-E/P 100/WDL clear	4008321994509	100	7700	E27	55	141	89	20	1
HQI-E/P 100/NDL clear	4008321994574	100	7700	E27	55	141	89	20	1
HQI-E/P 150/WDL clear	4008321971159	150	12000	E27	55	141	89	20	1
HQI-E/P 150/NDL clear	4008321971197	150	12000	E27	55	141	89	20	1

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

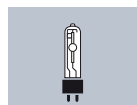
- High efficiency
- Simple lamp installation/replacement in open fixtures
- Good to excellent color rendering

## Product features

- POWERSTAR® quartz technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Warm white light WDL and neutral white light ND
- Average life of 12,000 hours

## Applications

- Shopping arcades
- Conference rooms, auditoriums, libraries
- Factories and workshops
- Exhibition halls and trade fairs
- Rail stations, overground and underground
- Pedestrian zones, public squares





Product reference	Product number	W	lm					
HQI-E/P 70/WDL coated	4008321971050	70	6200	E27	55	141	20	1
HQI-E/P 70/NDL coated	4008321971098	70	6200	E27	55	141	20	1
HQI-E/P 100/WDL coated	4008321994486	100	7300	E27	55	141	20	1
HQI-E/P 100/NDL coated	4008321994523	100	7300	E27	55	141	20	1
HQI-E/P 150/WDL coated	4008321971135	150	11400	E27	55	141	20	1
HQI-E/P 150/NDL coated	4008321971173	150	11400	E27	55	141	20	1
HQI-E/P 250/D coated <sup>1)</sup>	4008321677921	250	17000	E40	90	226	12	2
HQI-E/P 400/D coated <sup>1)</sup>	4008321677945	400	31000	E40	120	290	12	2

<sup>1)</sup> Operate with NAV® control gear

Metal halide lamps POWERSTAR® HQI® with quartz technology

**Product benefits**

- High efficiency
- Simple lamp installation/replacement in open fixtures
- Good to excellent color rendering

**Product features**

- POWERSTAR® quartz technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Warm white light WDL, neutral white light NDL and daylight D
- Average life of 12,000 hours
- Average life of 6,000 hours for HQI-E/P 250W/D

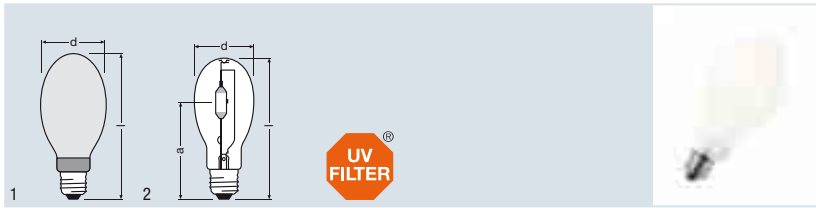
**Applications**

- Shopping arcades
- Conference rooms, auditoriums, libraries
- Factories and workshops
- Exhibition halls and trade fairs
- Rail stations, overground and underground
- Pedestrian zones, public squares





# POWERSTAR® HQI®-E, clear and coated, for enclosed fixtures



Product reference	Product number	W	lm						
					d max. (mm)	l (mm)	LCL a (mm)		No.
HQI-E 250/D/PRO <sup>2)</sup>	4008321 <b>677907</b>	250	19000	E40	90	226	–	12	1
HQI-E 400/N clear <sup>2)</sup>	4008321 <b>526700</b>	400	42000	E40	120	285	198	12	2
HQI-E 400/N coated <sup>2)</sup>	4008321 <b>526724</b>	400	40000	E40	120	285	–	12	1
HQI-E 400/D/PRO <sup>2)</sup>	4008321 <b>677884</b>	400	34000	E40	120	290	–	12	1
HQI-E 1000/N	4008321 <b>528261</b>	1000	100000	E40	165	380	–	6	1

1) In preparation | Lamps ignite at an ignition voltage of 0.56 to 1 kV/s; lamps must not be operated with an ignition voltage >1.5 kV/s | Operate on HQL® control gear  
2) Operate with NAV® control gear

Metal halide lamps POWERSTAR® HQI® with quartz technology

## Product benefits

- Long life
- Good to excellent color rendering
- E40 screw base for simple lamp handling
- Available in clear and coated versions
- UV filter significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

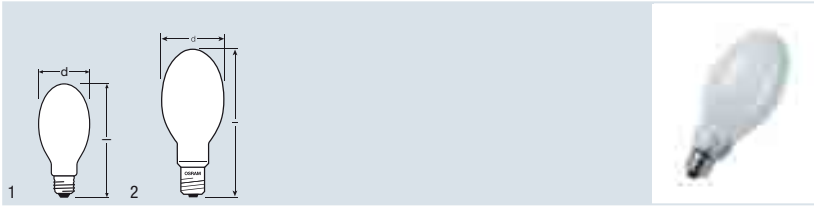
## Product features

- POWERSTAR® quartz technology
- Approved for use only in enclosed fixtures
- Neutral white light ND and daylight D
- UV filter technology

## Applications

- Factories and workshops
- Exhibition halls and trade fairs
- Sports halls and multi-purpose halls





Product reference	Product number	W	lm						
NAV-E 50 SUPER 4Y	4008321 <b>356024</b>	50	4000	E27		71	156	24	1
NAV-E 70 SUPER 4Y	4008321 <b>356048</b>	70	6300	E27		71	156	24	1
NAV-E 100 SUPER 4Y	4050300 <b>015774</b>	100	10400	E40		76	183	12	2
NAV-E 150 SUPER 4Y	4050300 <b>024370</b>	150	17000	E40		91	226	12	2
NAV-E 250 SUPER 4Y	4050300 <b>024387</b>	250	31600	E40		91	226	12	2
NAV-E 400 SUPER 4Y	4050300 <b>024394</b>	400	56500	E40		122	290	12	2

VIALOX® NAV®-E SUPER 4Y® high-pressure sodium vapor lamps

### Product benefits

- Dimmable on CCGs and ECGs
- Optimum energy efficiency on POWERTRONIC® PTo 3DIM ECGs
- Up to 25% longer life than standard lamps
- Greater reliability than standard lamps
- Up to 20% higher luminous efficacy than standard lamps
- Greater mast spacing possible than with standard lamps
- Better luminous flux maintenance than standard lamps
- 4-year relamping cycle

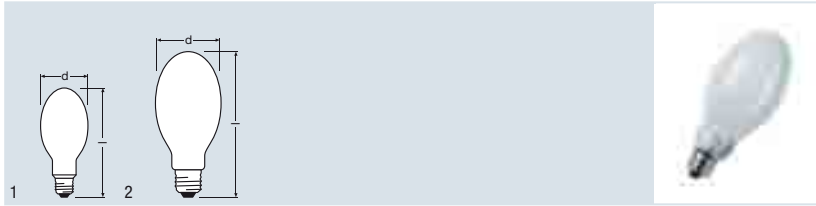
### Product features

- Lamp survival factor (LSF) ≥ 95% after 16,000 hours (for P ≥ 70W)
- All wattages are ErP-compliant

### Applications

- Industrial installations
- Streets
- Tunnels, underpasses
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges





Product reference	Product number	W	lm						No.
NAV-E 50 4Y <sup>1)</sup>	4050300577678	50	3600	E27	71	156	24	1	
NAV-E 70 4Y <sup>1)</sup>	4050300577692	70	5900	E27	71	156	24	1	
NAV-E 150 4Y	4050300577555	150	15000	E40	91	226	12	2	
NAV-E 250 4Y	4050300577579	250	28800	E40	91	226	12	2	
NAV-E 400 4Y	4050300577593	400	50000	E40	122	290	12	2	

<sup>1)</sup> In accordance with Directive 2009/125/EC (ErP)

VIALOX® NAV®-E 4Y® high-pressure sodium vapor lamps

**Product benefits**

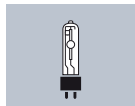
- Up to 25% longer life than standard lamps
- Greater reliability than standard lamps
- 4-year relamping cycle

**Product features**

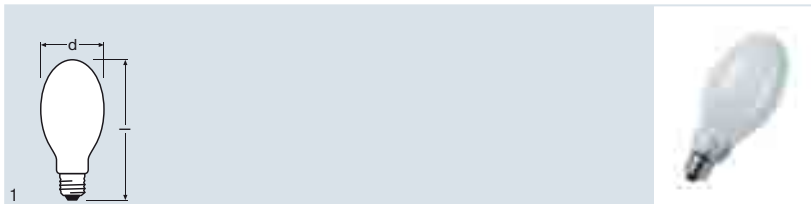
- Lamp survival factor (LSF) ≥ 95% after 16,000 hours (for P ≥ 70W)






**Applications**

- Industrial installations
- Streets
- Tunnels, underpasses
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges



# VIALOX® NAV®-E 4Y®, with integrated ignition unit



Product reference	Product number	W	lm					
NAV-E 50/l 4Y <sup>1)</sup>	4050300606033	50	3600	E27	71	156	24	1
NAV-E 70/l 4Y <sup>1)</sup>	4050300606019	70	5900	E27	71	156	24	1

<sup>1)</sup> Operate only with NAV® control gear  
No igniter required.

VIALOX® NAV®-E 4Y® high-pressure sodium vapor lamps with integrated ignition unit

## Product benefits

- Up to 25 % longer life than standard lamps
- Greater reliability than standard lamps

## Product features

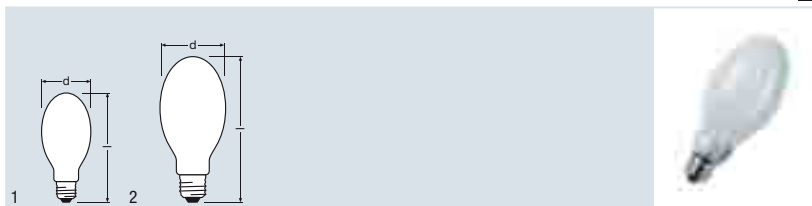
- All wattages are ErP-compliant

## Applications

- Industrial installations
- Streets
- Tunnels, underpasses
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges



## VIALOX® NAV®-E (Standard)



Product reference	Product number	W	lm						No.
NAV-E 50/E <sup>1)</sup>	40503000 <b>15750</b>	50	3600	E27	71	156	24	1	1
NAV-E 70/E <sup>1)</sup>	40503000 <b>15767</b>	70	5900	E27	71	156	24	1	1
NAV-E 100	4008321 <b>087300</b>	100	8800	E40	76	183	12	2	2
NAV-E 150	40503000 <b>15613</b>	150	14500	E40	91	226	12	2	2
NAV-E 250	40503000 <b>15620</b>	250	27000	E40	91	226	12	2	2
NAV-E 400	40503000 <b>15637</b>	400	48000	E40	122	290	12	2	2
NAV-E 1000	40503000 <b>15644</b>	1000	128000	E40	165	370	6	2	2

<sup>1)</sup> In accordance with Directive 2009/125/EC (ErP)

VIALOX® NAV®-E (Standard) high-pressure sodium vapor lamps

### Product features

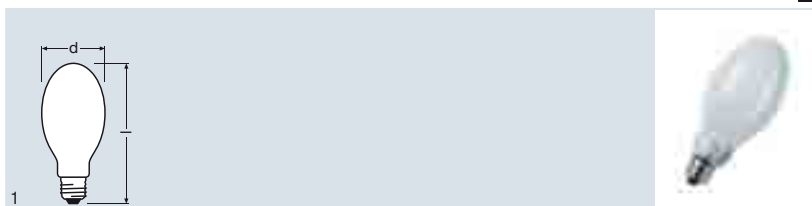
- Lamp survival factor (LSF) ≥ 95% after 12,000 hours (for P ≥ 70W)
- 3-year relamping cycle

### Applications

- Industrial installations
- Streets
- Tunnels, subways
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges



## VIALOX® NAV®-E, with internal igniter



Product reference	Product number	W	lm						No.
NAV-E 50/I <sup>1)</sup>	40503000 <b>15583</b>	50	3700	E27	71	156	24	1	1
NAV-E 70/I <sup>1)</sup>	40503000 <b>15590</b>	70	5900	E27	71	156	24	1	1

<sup>1)</sup> Operate only with NAV® control gear.  
No igniter required.

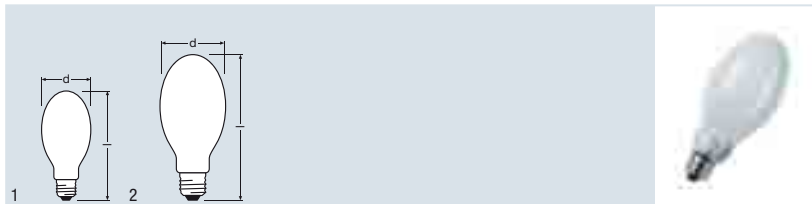
VIALOX® NAV®-E high-pressure sodium vapor lamps with integrated ignition unit

### Applications

- Industrial installations
- Streets
- Tunnels, subways
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges



# VIALOX® NAV®-E Plug-in (substitute for mercury vapor lamp)



Product reference	Product number	W	lm		d max (mm)	l (mm)		No.
NAV-E 68	4008321 <b>345462</b>	68	5600	E27	71	152	24	1
NAV-E 110	40503000 <b>24318</b>	110	8000	E27	76	170	40	1
NAV-E 210	40503000 <b>15576</b>	210	18000	E40	91	226	12	2
NAV-E 350	40503000 <b>15651</b>	350	34000	E40	122	285	12	2

VIALOX® NAV®-E Plug-in high-pressure sodium vapor lamps

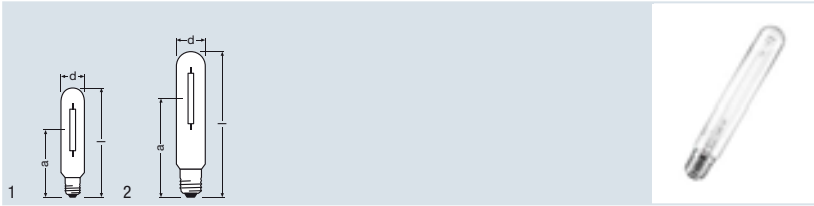
## Applications

- Industrial installations
- Streets
- Car parks, courtyards
- Parks and gardens

## Note

The lamps can be used in fixtures for HQL® 80W, 125W, 250W, or 400W mercury vapor lamps without any modifications to the existing components, provided the control gear is suitable for the higher operating current of the NAV® lamps. Check that the maximum permissible winding temperatures as defined in VDE and IEC specifications are not exceeded. If in doubt, consult the manufacturer of the fixture and/or control gear.





Product reference	Product number	W	lm						
					d max. (mm)	l (mm)	LCL a (mm)		No.
NAV-T 50 SUPER 4Y <sup>1)</sup>	4050300024325	50	4200	E27	38	156	104	12	1
NAV-T 70 SUPER 4Y <sup>1)</sup>	4050300015736	70	6600	E27	38	156	104	12	1
NAV-T 100 SUPER 4Y <sup>1)</sup>	4050300015743	100	10700	E40	47	210	132	12	2
NAV-T 150 SUPER 4Y <sup>1)</sup>	4050300024400	150	17500	E40	47	210	132	12	2
NAV-T 250 SUPER 4Y <sup>1)</sup>	4050300024417	250	33000	E40	47	257	158	12	2
NAV-T 400 SUPER 4Y <sup>1)</sup>	40503000281179	400	56500	E40	47	285	175	12	2
NAV-T 600 SUPER 4Y <sup>1)</sup>	40503000275772	600	90000	E40	47	285	175	12	2

<sup>1)</sup> In accordance with Directive 2009/125/EC (ErP)

VIALOX® NAV®-T SUPER 4Y® high-pressure sodium vapor lamps

### Product benefits

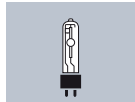
- Dimmable on CCGs and ECGs
- Optimum energy efficiency on POWERTRONIC® PTo 3DIM ECGs
- Up to 25% longer life than standard lamps
- Greater reliability than standard lamps
- Up to 20% higher luminous efficacy than standard lamps
- Greater mast spacing possible than with standard lamps
- Better luminous flux maintenance than standard lamps
- 4-year relamping cycle

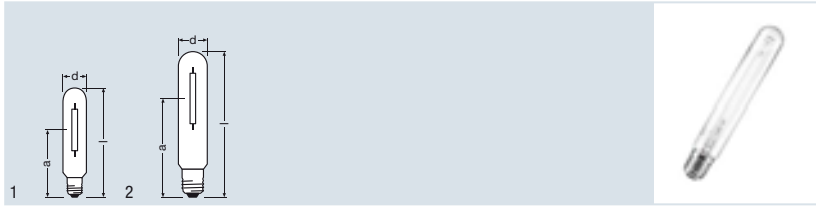
### Product features

- Lamp survival factor (LSF) ≥ 95% after 16,000 hours (for P ≥ 70W)

### Applications

- Industrial installations
- Streets
- Tunnels, underpasses
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges





Product reference	Product number	W	lm						
NAV-T 70 4Y	4050300579061	70	6000	E27	38	156	104	12	1
NAV-T 150 4Y	4050300577616	150	15300	E40	47	210	132	12	2
NAV-T 250 4Y	4050300577630	250	29000	E40	46	257	158	12	2
NAV-T 400 4Y	4050300577654	400	50000	E40	47	285	175	12	2

VIALOX® NAV®-T 4Y® high-pressure sodium vapor lamps

### Product benefits

- Up to 25 % longer life than standard lamps
- Greater reliability than standard lamps
- 4-year relamping cycle

### Product features

- Lamp survival factor (LSF) ≥ 95% after 16,000 hours

### Applications

- Industrial installations
- Streets
- Tunnels, subways
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges

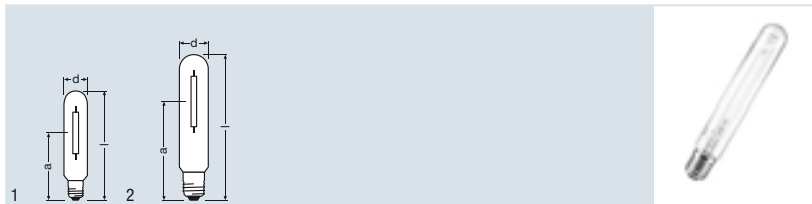
### Note

- None of the wattages will be ErP-compliant after April 2012. For more information on ErP compliance see [www.osram.com/the-better-light](http://www.osram.com/the-better-light)





# VIALOX® NAV®-T (Standard)



Product reference	Product number	W	lm						
NAV-T 50	4008321 <b>337986</b>	50	3800	E27	38	156	104	12	1
NAV-T 70	4050300 <b>255590</b>	70	6000	E27	38	156	104	12	1
NAV-T 100	4008321 <b>087287</b>	100	9000	E40	47	210	132	12	2
NAV-T 150	4050300 <b>015668</b>	150	15000	E40	47	210	132	12	2
NAV-T 250	4050300 <b>015675</b>	250	28000	E40	47	257	158	12	2
NAV-T 400	4050300 <b>015682</b>	400	48000	E40	47	285	175	12	2
NAV-T 1000	4050300 <b>666549</b>	1000	130000	E40/80	66	360	236	12	2
NAV-T 1000	4050300 <b>251417</b>	1000	130000	E40	66	360	236	12	2

VIALOX® NAV®-T (Standard) high-pressure sodium vapor lamps

## Product features

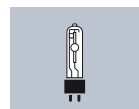
- Lamp survival factor (LSF) ≥ 95 % after 12,000 hours (for 70 W ≤ P ≤ 400 W)

## Applications

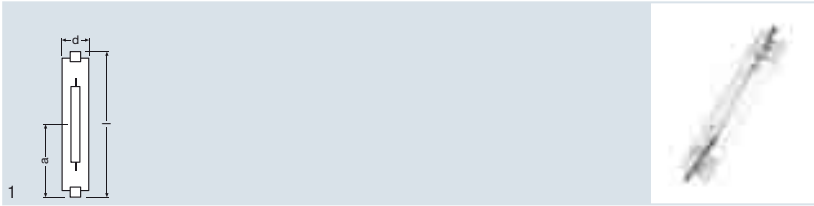
- Industrial installations
- Streets
- Tunnels, subways
- Car parks, courtyards
- Parks and gardens
- Buildings, monuments, bridges

## Note

- None of the wattages will be ErP-compliant after April 2012 (except NAV®-T 1000W). For more information on ErP compliance see [www.osram.com/the-better-light](http://www.osram.com/the-better-light)



## VIALOX® NAV®-TS SUPER 4Y®



Product reference	Product number	W	lm						
NAV-TS 70 SUPER 4Y	40503000 <b>24301</b>	70	6600	RX7s	20	120	60	12	1
NAV-TS 150 SUPER 4Y	4050300 <b>281667</b>	150	15000	RX7s-24	23	138	69	12	1

VIALOX® NAV®-TS SUPER 4Y® high-pressure sodium vapor lamps

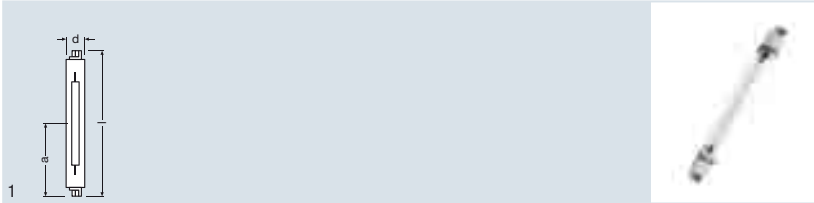
### Product features

- Lamp survival factor (LSF) ≥ 95 % after 16,000 hours

### Applications

- Industrial installations
- Car parks, courtyards
- Buildings, monuments, bridges

## VIALOX® NAV®-TS (Standard)



Product reference	Product number	lm					
NAV-TS 250	4050300 <b>015705</b>	28000	Fc2	23	103	12	1
NAV-TS 400	4050300 <b>015712</b>	49000	Fc2	23	103	12	1

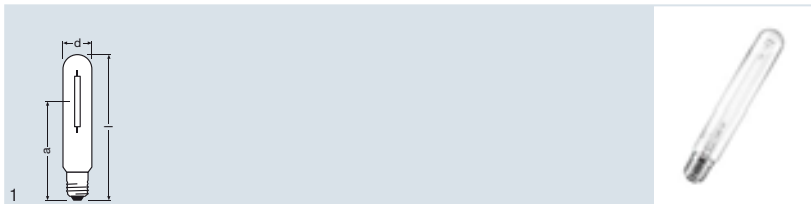
VIALOX® NAV®-TS (Standard) high-pressure sodium vapor lamps

### Product features

- Lamp survival factor (LSF) ≥ 95 % after 12,000 hours

### Applications

- Industrial installations
- Car parks, courtyards
- Buildings, monuments, bridges



Product reference	Product number	W	lm						
PLANTASTAR 250 inter	4008321240620	250	33200	E40	47	257	158	12	1
PLANTASTAR 400	4050300620084	400	56500	E40	47	285	175	12	1
PLANTASTAR 600	4050300620107	600	89000	E40	47	285	175	12	1
PLANTASTAR 600/400	4008321284303	600	87000	E40	47	285	175	12	1

PLANTASTAR® lamps are ideal for additional lighting in the professional horticulture sector because they stimulate assimilation and growth in plants. This is particularly relevant for the production of cut flowers, vegetables, pot plants and seedlings.

**Product benefits**

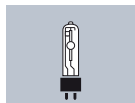
- Shorter production times
- Healthier plants
- Control over blossoming

**Product features**

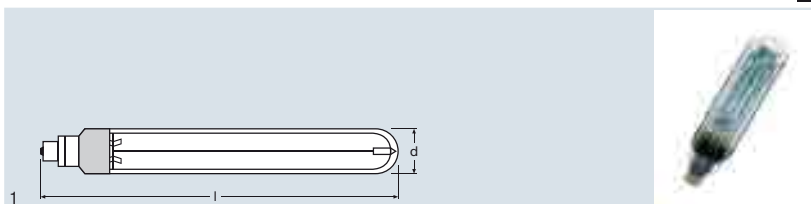
- Average life of 12,000 hours

**Applications**

- Greenhouses



Low-pressure sodium lamps – SOX



Product reference	Product number	W	lm					
SOX 18	4050300015569	18	1800 <sup>1)</sup>	BY22d	54	216	12	1
SOX PLUS 35	4050300614311	35	4600	BY22d	54	311	12	1
SOX PLUS 55	4050300614335	55	8100	BY22d	54	425	12	1
SOX PLUS 90	4050300614359	90	13500	BY22d	68	528	12	1
SOX PLUS 135	4050300614373	135	22500	BY22d	68	775	12	1
SOX 180	4050300015552	180	32000 <sup>1)</sup>	BY22d	68	1120	6	1

<sup>1)</sup> Value resulting from operating the lamp with a high-reactance transformer

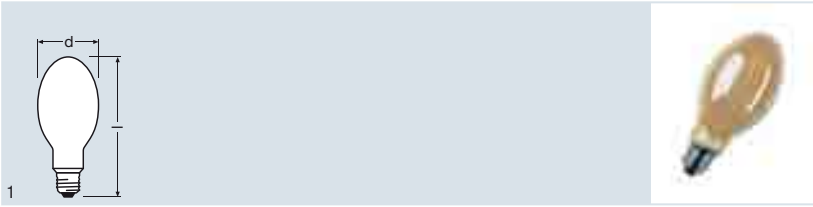
SOX low-pressure sodium lamps

**Applications**

- Streets
- Tunnels, underpasses
- Waterways, locks



## HQL® SUPER DE LUXE



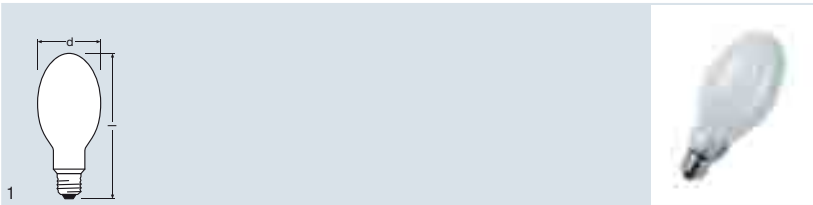
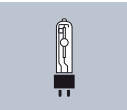
Product reference	Product number	W	lm					
HQL 80 SUPER DE LUXE	4050300015224	80	3400	E27	71	155	40	1

HQL® SUPER DE LUXE mercury vapor lamps

### Applications

- Factories and workshops
- Industrial installations
- Streets
- Car parks, courtyards
- Pedestrian zones, public squares
- Parks and gardens

## HQL® DE LUXE



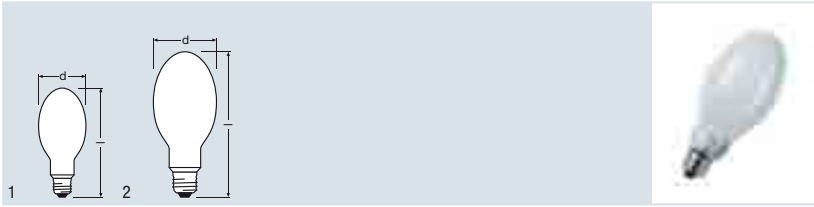
Product reference	Product number	W	lm					
HQL 50 DE LUXE	4050300015132	50	2000	E27	56	130	40	1
HQL 80 DE LUXE	4050300015149	80	4000	E27	71	155	40	1
HQL 125 DE LUXE	4050300015156	125	6800	E27	76	168	40	1
HQL 250 DE LUXE	4050300015163	250	14000	E40	91	226	12	1
HQL 400 DE LUXE	4050300015170	400	24000	E40	122	285	12	1

HQL® DE LUXE mercury vapor lamps

### Applications

- Factories and workshops
- Industrial installations
- Streets
- Car parks, courtyards
- Pedestrian zones, public squares
- Parks and gardens

## HQL® (Standard)



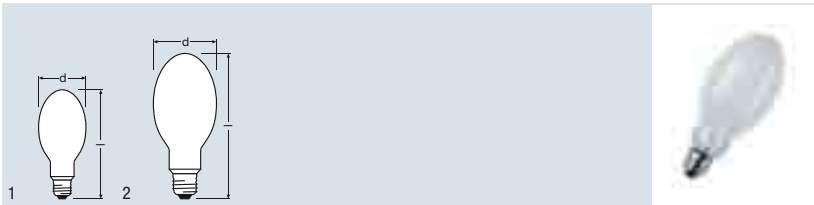
Product reference	Product number	W	lm						
HQL 50	4050300015040	50	1800	E27		56	130	40	1
HQL 80	4050300012360	80	3800	E27		71	155	40	1
HQL 125	4050300012377	125	6300	E27		76	168	40	1
HQL 250	4050300015064	250	13000	E40		91	226	12	2
HQL 400	4050300015071	400	22000	E40		122	285	12	2
HQL 700	4050300015088	700	40000	E40		141	325	6	2
HQL 1000	4050300015095	1000	57000	E40		165	355	6	2

HQL® (Standard) mercury vapor lamps

### Applications

- Factories and workshops
- Industrial installations
- Streets
- Car parks, courtyards
- Pedestrian zones, public squares
- Parks and gardens

## HWL®



Product reference	Product number	W	lm						
HWL 160 225 V <sup>1)</sup>	4050300015453	160	3100	E27		76	168	40	1
HWL 160 235 V <sup>1)</sup>	40503000216867	160	3100	E27		76	168	40	1
HWL 250 225 V <sup>1)</sup>	4008321161123	250	5600	E40		91	226	12	2
HWL 250 235 V <sup>1)</sup>	4008321159274	250	5600	E40		91	226	12	2
HWL 500 225 V <sup>1)</sup>	4050300015484	500	14000	E40		122	275	12	2
HWL 500 235 V <sup>1)</sup>	40503000216928	500	14000	E40		122	275	12	2

<sup>1)</sup> No control gear or igniters required

HWL® mercury mixed-light lamps

### Product benefits

HWL® lamps can be used instead of incandescent lamps because they do not need either control gear or igniters.

### Applications

- Factory and hall lighting with low-cost installations
- Upgrading light fittings with high-wattage incandescent lamps
- Factories and workshops
- Pedestrian zones, public squares

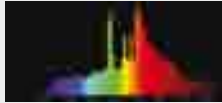
# Relative spectral power distribution of discharge lamps

Visible range from 380 to 780 nm, relative spectral emission per 5 nm.

## HCI®/HQI® lamps



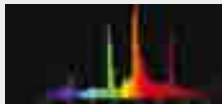
HCI®/930 SHOPLIGHT



HCI®/830 WDL/930 WDL



HCI®/942 NDL



HQI®-TS/WDL



HQI®-TS/NDL

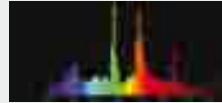


HQI®-TS/D

## HQI® lamps



HQI®-T/WDL G12



HQI®-T/NDL G12



HQI®-T/N E40



HQI®-T/D E40

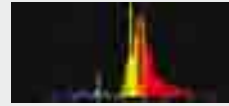


HQI®-TS/D/S CABLE



HQI®-TS Cool Daylight

## VIALOX® NAV® and SOX lamps, HWL® and HQL® lamps



NAV®/NAV® SUPER 4Y®



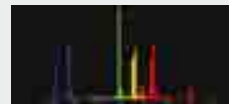
SOX



HWL®



HQL® SUPER DE LUXE



HQL® DE LUXE



HQL®



Note: These color graphs do not show the color distributions in great detail. The color printing process is not able to provide an accurate match between the colors shown and the colors defined for the individual color locations.

## Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz $\mu$ F	Circuit diagram no. <sup>20)</sup>	Luminous flux lm	Luminous efficacy lm/W	Color rendering R <sub>a</sub>	Color temperature K	Burning position <sup>21)</sup>
<b>POWERBALL® HCI®-T for enclosed fixtures</b>									
HCI-T 35/830 WDL PB	0.5	37	6 <sup>4)</sup>	2/7	3600	95	83	3000	universal
HCI-T 35W/930 WDL PB Plus	0.4	39	- <sup>3)</sup>	7	4000	103	90	3000	universal
HCI-T 35/942 NDL PB	0.5	37	6 <sup>4)</sup>	2/7	3500	92	90	4200	universal
HCI-T 50W/930 WDL PB Plus <sup>1)</sup>	0.5	50	- <sup>3)</sup>	7	5300 <sup>22)</sup>	106 <sup>22)</sup>	90	3000	universal
HCI-T 70/830 WDL PB	1.0	72	12 <sup>4)</sup>	2/7	7300	100	88	3000	universal
HCI-T 70W/930 WDL PB Plus	0.9	73	- <sup>3)</sup>	7	7800	107	91	3000	universal
HCI-T 70/942 NDL PB	1.0	72	12 <sup>4)</sup>	2/7	6800	93	94	4200	universal
HCI-T 100/830 WDL PB	1.1	96	12 <sup>4)</sup>	2/7	9500	99	86	3000	universal
HCI-T 100/942 NDL PB	1.2	96	12 <sup>4)</sup>	2/7	9300	97	94	4200	universal
HCI-T 150/830 WDL PB	1.8	142	20 <sup>4)</sup>	2/7	15000	106	88	3000	universal
HCI-T 150/942 NDL PB	1.8	146	20 <sup>4)</sup>	2/7	14500	99	96	4200	universal
<b>POWERBALL® HCI®-TM for enclosed fixtures</b>									
HCI-TM 250/930 WDL MD PB <sup>2)</sup>	3.1	245	32 <sup>4)</sup>	2	26600	109	92	3000	universal
HCI-TM 250/930 WDL HR PB <sup>9)</sup>	3.1	245	32 <sup>4)</sup>	2	26600	109	92	3000	universal
HCI-TM 250/942 NDL MD PB <sup>2)</sup>	3.0	252	32 <sup>4)</sup>	2	25300	100	96	4200	universal
HCI-TM 250/942 NDL HR PB <sup>9)</sup>	3.0	252	32 <sup>4)</sup>	2	25300	100	96	4200	universal
HCI-TM 400/930 WDL PB <sup>2)</sup>	4.6	396	45 <sup>4)</sup>	2	43000	109	92	3000	universal
HCI-TM 400/930 WDL HR PB <sup>9)</sup>	4.6	396	45 <sup>4)</sup>	2	43000	109	92	3000	universal
HCI-TM 400/942 NDL PB <sup>2)</sup>	4.6	410	45 <sup>4)</sup>	2	43000	105	96	4200	universal
HCI-TM 400/942 NDL HR PB <sup>9)</sup>	4.6	410	45 <sup>4)</sup>	2	43000	105	96	4200	universal
<b>POWERBALL® HCI®-TC for enclosed fixtures</b>									
HCI-TC 20/830 WDL PB	0.2	20	- <sup>3)</sup>	7	1700	85	81	3000	universal
HCI-TC 35/830 WDL PB	0.5	38	6 <sup>4)</sup>	2/7	3500	92	83	3000	universal
HCI-TC 35W/930 WDL PB Plus	0.4	39	- <sup>3)</sup>	7	4000	103	90	3000	universal
HCI-TC 35/942 NDL PB	0.5	39	6 <sup>4)</sup>	2/7	3400	87	90	4200	universal
HCI-TC 50W/930 WDL PB Plus <sup>1)</sup>	0.5	50	- <sup>3)</sup>	7	5300 <sup>22)</sup>	106 <sup>22)</sup>	90	3000	universal
HCI-TC 70/830 WDL PB	1.0	72	12 <sup>4)</sup>	2/7	6900	96	89	3000	universal
HCI-TC 70W/930 WDL PB Plus	0.9	73	- <sup>3)</sup>	7	7800	107	91	3000	universal
HCI-TC 70/942 NDL PB	1.0	74	12 <sup>4)</sup>	2/7	6600	89	95	4200	universal
<b>POWERBALL® HCI®-TF for enclosed fixtures</b>									
HCI-TF 20/830 WDL PB	0.2	20	- <sup>3)</sup>	7	1700	85	85	3000	universal
HCI-TF 35/930 WDL PB	0.5	39	- <sup>3)</sup>	7	3400	87	90	3000	universal
<b>POWERBALL® HCI®-T Shoplight for enclosed fixtures</b>									
HCI-T 35/930 WDL PB Shoplight	0.5	39	6 <sup>4)</sup>	2/7	2800	72	93	3000	universal
HCI-T 70/930 WDL PB Shoplight	1.0	73	12 <sup>4)</sup>	2/7	6300	86	94	3000	universal
<b>POWERBALL® HCI®-TC Shoplight for enclosed fixtures</b>									
HCI-TC 35/930 WDL PB Shoplight	0.5	38	6 <sup>4)</sup>	2/7	2800	74	93	3000	universal
HCI-TC 70/930 WDL PB Shoplight	1.0	73	12 <sup>4)</sup>	2/7	6300	86	95	3000	universal
<b>POWERBALL® HCI®-TS for enclosed fixtures</b>									
HCI-TS 70/830 WDL PB	1.0	72	12 <sup>4)</sup>	2/7	6800	94	88	3000	p45
HCI-TS 70/942 NDL PB	1.0	74	12 <sup>4)</sup>	2/7	6500	88	95	4200	p45
HCI-TS 150/830 WDL PB	1.8	144	20 <sup>4)</sup>	2/7	14500	101	90	3000	p45
HCI-TS 150/942 NDL PB	1.8	138	20 <sup>4)</sup>	2/7	14400	104	95	4200	p45

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos  $\varphi > 0.9$  5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HGI® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kVs. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kVs; lamps must not be operated with an ignition voltage > 1.5 kVs 15) Important: Before changing to NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kVs 18) Value resulting from operating the lamp with a high-reactance transformer 19) No control gear or igniters required 20) For circuit diagrams see page 6.54 21) See operating instructions: \*Photometric and electrical data 22) Provisional value



## Technical data

Product reference	Lamp current A	Lamp watt-age W	Com-pen-sation capacitor at 50 Hz $\mu$ F	Circuit dia-gram no. <sup>20)</sup>	Lumi-nous flux lm	Lumi-nous effi-cacy lm/W	Color ren-der-ing R <sub>a</sub>	Color tem-perature K	Burn-ing position <sup>21)</sup>
<b>POWERBALL® HCI®-TT for enclosed fixtures</b>									
HCI-TT 50/830 WDL PB <sup>1)</sup>	0.8	53	10 <sup>4)</sup>	2	5000	94	> 80	3000	universal
HCI-TT 70/830 WDL PB	0.9	74	12 <sup>4)</sup>	2	7000	95	86	3000	universal
HCI-TT 100/830 WDL PB	1.2	96	12 <sup>4)</sup>	2	10000	104	82	3000	universal
HCI-TT 150/830 WDL PB	1.8	148	20 <sup>4)</sup>	2	14500	107	83	3000	universal
HCI-TT 250/830 WDL PB	2.8	249	32 <sup>4)</sup>	2	26000	104	87	3000	universal
<b>POWERBALL® HCI®-E/P for open and enclosed fixtures</b>									
HCI-E/P 35/830 WDL PB coated	0.5	38	6 <sup>4)</sup>	2/7	3200	84	85	3000	universal
HCI-E/P 50/830 WDL PB coated	0.8	52	10 <sup>4)</sup>	2/7	4000	77	> 80	3000	universal
HCI-E/P 70/830 WDL PB coated	1.0	73	12 <sup>4)</sup>	2/7	6700	92	88	3000	universal
HCI-E/P 100/830 WDL PB coated	1.2	96	12 <sup>4)</sup>	2/7	8500	89	88	3000	universal
HCI-E/P 150/830 WDL PB coated	1.8	145	20 <sup>4)</sup>	2/7	13700	94	93	3000	universal
<b>POWERBALL® HCI®-TX/P for open and enclosed fixtures</b>									
HCI-TX/P 35/930 <sup>3)</sup>	0.44	39	-	7	3300	85	93	3000	universal
HCI-TX/P 35/942 <sup>3)</sup>	0.44	39	-	7	3300	85	96	4200	universal
HCI-TX/P 70/930 <sup>3)</sup>	0.86	73	-	7	7300	100	93	3000	universal
HCI-TX/P 70/942 <sup>3)</sup>	0.86	73	-	7	7300	100	96	4200	universal
<b>POWERBALL® HCI®-PAR for open and enclosed fixtures</b>									
HCI-PAR20 35/830 WDL PB SP 10D	0.53	39	6 <sup>4)</sup>	2/7	22000 <sup>6)</sup>	-	84	3000	universal
HCI-PAR20 35/830 WDL PB FL 30D	0.53	39	6 <sup>4)</sup>	2/7	5000	-	84	3000	universal
HCI-PAR20 35W/942 NDL PB SP 10D	0.53	39	6 <sup>4)</sup>	2/7	16000 <sup>6)</sup>	-	> 90	4200	universal
HCI-PAR20 35W/942 NDL PB FL 30D	0.53	39	6 <sup>4)</sup>	2/7	4000 <sup>6)</sup>	-	> 90	4200	universal
HCI-PAR30 35/830 WDL PB SP 10D	0.53	39	6 <sup>4)</sup>	2/7	45000 <sup>6)</sup>	-	83	3000	universal
HCI-PAR30 35/830 WDL PB FL 30D	0.53	39	6 <sup>4)</sup>	2/7	8000 <sup>6)</sup>	-	83	3000	universal
HCI-PAR30 35W/942 NDL PB SP 10D	0.53	39	6 <sup>4)</sup>	2/7	36000 <sup>6)</sup>	-	> 90	4200	universal
HCI-PAR30 35W/942 NDL PB FL 30D	0.53	39	6 <sup>4)</sup>	2/7	7000 <sup>6)</sup>	-	> 90	4200	universal
HCI-PAR30 70/930 WDL PB SP 10D	0.98	72	12 <sup>4)</sup>	2/7	60000	-	95	3000	universal
HCI-PAR30 70/930 WDL PB FL 30D	0.98	72	12 <sup>4)</sup>	2/7	12000	-	95	3000	universal
HCI-PAR30 70/830 WDL PB WFL 40D	0.98	72	12 <sup>4)</sup>	2/7	8900 <sup>6)</sup>	-	85	3000	universal
HCI-PAR30 70W/942 NDL PB SP 10D	0.98	72	12 <sup>4)</sup>	2/7	70000 <sup>6)</sup>	-	> 90	4200	universal
HCI-PAR30 70W/942 NDL PB FL 30D	0.98	72	12 <sup>4)</sup>	2/7	13000 <sup>6)</sup>	-	> 90	4200	universal
<b>POWERSTAR® HQI®-R for enclosed fixtures</b>									
HQI-R 150/NDL/FO	1.8	150	20 <sup>4)</sup>	2/7	11000 <sup>6)</sup>	73	85	4200	p15
<b>POWERSTAR® HQI®-T with G12 base for enclosed fixtures</b>									
HQI-T 70/NDL	1.0	75	12 <sup>4)</sup>	2/7	5800	77	84	4200	universal <sup>9)</sup>
HQI-T 70/WDL	1.0	75	12 <sup>4)</sup>	2/7	5300	71	76	3000	universal <sup>9)</sup>
HQI-T 150/NDL	1.8	150	20 <sup>4)</sup>	2/7	13000	87	85	4200	universal <sup>9)</sup>
HQI-T 150/WDL	1.8	150	20 <sup>4)</sup>	2/7	13000	87	77	3000	universal <sup>9)</sup>

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos  $\phi$   $\geq$  0.9 5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HQI® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kVs. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kVs; lamps must not be operated with an ignition voltage > 1.5 kVs 15) Important: Before replacing for NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kVs 18) Value resulting from operating the lamp with a high-reactance transformer 19) No control gear or igniters required 20) For circuit diagrams see page 6.54 21) See operating instructions: \*Photometric and electrical data\*



## Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz $\mu\text{F}$	Circuit diagram no. <sup>20)</sup>	Luminous flux lm	Luminous efficacy lm/W	Color rendering $R_a$	Color temperature K	Burning position <sup>21)</sup>
<b>POWERSTAR® HQI®-TS EXCELLENCE for enclosed fixtures</b>									
HQI-TS 70/WDL EXCELLENCE	1.0	78	12 <sup>4)</sup>	2/7	6200	80	75	3000	p45
HQI-TS 70/NDL EXCELLENCE	1.0	78	12 <sup>4)</sup>	2/7	6500	83	85	4200	p45
HQI-TS 70/D EXCELLENCE	1.0	78	12 <sup>4)</sup>	2/7	6200	80	80	5600	p45
HQI-TS 70/CD EXCELLENCE	0.9	75	12 <sup>4)</sup>	2/7	5500	73	78	6500	p45
HQI-TS 150/WDL EXCELLENCE	1.8	150	20 <sup>4)</sup>	2/7	12000	80	75	3000	p45
HQI-TS 150/NDL EXCELLENCE	1.8	150	20 <sup>4)</sup>	2/7	12500	83	85	4200	p45
HQI-TS 150/D EXCELLENCE	1.8	150	20 <sup>4)</sup>	2/7	13500	90	80	5600	p45
HQI-TS 150/CD EXCELLENCE	1.8	150	20 <sup>4)</sup>	2/7	11500	77	80	6500	p45
<b>POWERSTAR® HQI®-TS EXCELLENCE COLOR for enclosed fixtures</b>									
HQI-TS 70/BL EXCELLENCE	1	78	12 <sup>4)</sup>	2/7	-	-	-	mono-chromatic	p45
HQI-TS 70/MG EXCELLENCE	1	78	12 <sup>4)</sup>	2/7	-	-	-	mono-chromatic	p45
HQI-TS 70/GN EXCELLENCE	1	78	12 <sup>4)</sup>	2/7	-	-	-	mono-chromatic	p45
HQI-TS 150/BL EXCELLENCE	1.9	146	20 <sup>4)</sup>	2/7	-	-	-	mono-chromatic	p45
HQI-TS 150/MG EXCELLENCE	1.9	146	20 <sup>4)</sup>	2/7	-	-	-	mono-chromatic	p45
HQI-TS 150/GN EXCELLENCE	1.9	146	20 <sup>4)</sup>	2/7	-	-	-	mono-chromatic	p45
<b>POWERSTAR® HQI®-TS for enclosed fixtures</b>									
HQI-TS 250/WDL LVS	2.8	250	32 <sup>4)</sup>	2	22000	88	80	3200	p45
HQI-TS 250/NDL LVS	3.0	250	32 <sup>4)</sup>	2	20000	82	88	4200	p45
HQI-TS 250/D PRO	3.0	250	32 <sup>4)</sup>	2	20000	82	93	5500	p45
HQI-TS 400/NDL <sup>7)</sup>	4.1	400	45 <sup>4)</sup>	2	36000	90	88	4200	p45
HQI-TS 400/D PRO <sup>2)</sup>	4.1	400	45 <sup>4)</sup>	2	37000	90	93	5500	p45
HQI-TS 400/D PRO <sup>10)</sup>	3.6	350	35 <sup>4)</sup>	2	31000	89	90	6000	p45

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos  $\phi \geq 0.9$  5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HQI® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kVs. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kVs; lamps must not be operated with an ignition voltage  $> 1.5$  kVs 15) Important: Before replacing for NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kVs 18) Value resulting from operating the lamp with a high-reactance transformer 19) No control gear or igniters required 20) For circuit diagrams see page 6.5-4 21) See operating instructions: \*Photometric and electrical data\*



## Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz $\mu\text{F}$	Circuit diagram no. <sup>21)</sup>	Luminous flux lm	Luminous efficacy lm/W	Color rendering $R_a$	Color temperature K	Burning position <sup>22)</sup>
<b>POWERSTAR® HQI®-TS without outer bulb for enclosed fixtures</b>									
HQI-TS 1000/NDL/S	9.7	1000	85 <sup>4)</sup>	2	90000	90	> 85	4400	p15
HQI-TS 1000/D/S	9.5	1000	85 <sup>4)</sup>	2	90000	90	90	6100	p15/s15
HQI-TS 2000/NDL/S	11.5	1920	60 <sup>4)</sup>	2/3	225000	117	> 85	4400	p15
HQI-TS 2000/D/S	11.3	1950	60 <sup>4)</sup>	2/3	210000	106	90	6100	p15
HQI-TS 2000/D/S High Flux <sup>8)</sup>	12.2	2060	70 <sup>4)</sup>	2/3	230000	112	90	6200	p15
HQI-TS 2000/N/L	10.3	2150	60 <sup>4)</sup>	2/3	230000	107	$\geq 65$	4100	p15
HQI-TS 2000/D/S/DP	11.6	2020	70	2/3	220000	109	90	6100	p15
<b>POWERSTAR® HQI®-TM for enclosed fixtures</b>									
HQI-TM 600/NDL <sup>1) 2)</sup>	6.0	620	65 <sup>4)</sup>	2	55000	89	85	4500	universal
HQI-TM 600/NDL HR <sup>1) 2) 9)</sup>	6.0	620	65 <sup>4)</sup>	2	55000	89	85	4500	universal
HQI-TM 600/D <sup>1) 2)</sup>	6.2	630	60 <sup>4)</sup>	2	58000	92	90	6100	universal
HQI-TM 600/D HR <sup>1) 2) 9)</sup>	6.2	630	60 <sup>4)</sup>	2	58000	92	90	6100	universal
HQI-TM 1000/NDL <sup>1)</sup>	8.9	1000	85 <sup>4)</sup>	2	92000	92	85	4500	universal
HQI-TM 1000/NDL HR <sup>1) 9)</sup>	8.9	1000	85 <sup>4)</sup>	2	92000	92	85	4500	universal
HQI-TM 1000/D	8.4	1000	85 <sup>4)</sup>	2	97000	97	90	6100	universal
HQI-TM 1000/D HR <sup>1) 9)</sup>	8.4	1000	85 <sup>4)</sup>	2	97000	97	90	6100	universal
<b>POWERSTAR® HQI®-T for enclosed fixtures, 1000 W and higher</b>									
HQI-T 1000/N	9.1	1000	85 <sup>4)</sup>	2	110000	110	65	3500	p30
HQI-T 1000/D	8.9	1000	85 <sup>4)</sup>	2	85000	81	90	7250	p30
HQI-T 2000/N/E SUPER	9.4	2000	37	2	240000	120	65	4400	p60
HQI-T 2000/N/SN SUPER <sup>12)</sup>	9.4	2000	37	2	240000	120	65	4400	p60
HQI-T 2000/D	10.2	2050	60 <sup>4)</sup>	2	180000	88	90	7250	p30
HQI-T 2000/N <sup>12)</sup>	9.0	2000	37 <sup>4)</sup>	1	205000	103	65	4200	p30
HQI-T 2000/D/1 <sup>12)</sup>	10.3	2050	60 <sup>4)</sup>	1	180000	88	90	7250	p30
<b>POWERSTAR® HQI®-T for enclosed fixtures</b>									
HQI-T 250/D PRO <sup>2)</sup>	3.0	250	32 <sup>4)</sup>	2	21500	82	90	5500	universal <sup>13)</sup>
HQI-BT 400/D PRO <sup>2)</sup>	4.0	420	45 <sup>4)</sup>	2	35000	83	90	5500	universal
HQI-BT 400/D <sup>10)</sup>	3.5	360	35 <sup>4)</sup>	2	27000	75	90	6000	universal
HQI-T 400/N <sup>2)</sup>	4.0	430	45 <sup>4)</sup>	2	42000	98	65	3500	p45
HQI-T 400/N <sup>10)</sup>	3.6	380	35 <sup>4)</sup>	2	34000	89	65	4000	p45
HQI-T 400 BLUE <sup>10)</sup>	4.0	400	35 <sup>4)</sup>	2	-	-	-	monochromatic	p55
HQI-T 400 GREEN <sup>10)</sup>	4.0	400	35 <sup>4)</sup>	2	-	-	-	monochromatic	p55
HQI-T 400 MAGENTA <sup>10)</sup>	4.2	400	35 <sup>4)</sup>	2	-	-	-	monochromatic	p55

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and  $\cos \phi \geq 0.9$  5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HQI® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kVs. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kVs; lamps must not be operated with an ignition voltage > 1.5 kVs 15) Important: Before replacing for NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kVs 18) Value resulting from operating instructions: \*Photometric and electrical data 19) No control gear or igniters required 20) Operate on HQL® control gear 21) For circuit diagrams see page 6.54 22) See operating instructions: \*Photometric and electrical data

## Technical data

Product reference	Lamp current A	Lamp watt-age W	Com-pen-sation capacitor at 50 Hz $\mu$ F	Circuit dia-gram no. <sup>21)</sup>	Lumi-nous flux lm	Lumi-nous effi-cacy lm/W	Color ren-dering R <sub>a</sub>	Color tem-perature K	Burn-ing position <sup>22)</sup>
<b>POWERSTAR® HQI®-E/P, clear, for open and enclosed fixtures</b>									
HQI-E/P 70/WDL clear	0.9	78	12 <sup>4)</sup>	2/7	6600	85	70	3000	universal
HQI-E/P 70/NDL clear	0.9	78	12 <sup>4)</sup>	2/7	6600	85	80	4200	universal
HQI-E/P 100/WDL clear	1.2	100	12 <sup>4)</sup>	2/7	7700	77	70	3000	universal
HQI-E/P 100/NDL clear	1.2	100	12 <sup>4)</sup>	2/7	7700	77	80	4200	universal
HQI-E/P 150/WDL clear	1.8	150	20 <sup>4)</sup>	2/7	12000	80	70	3000	universal
HQI-E/P 150/NDL clear	1.8	150	20 <sup>4)</sup>	2/7	12000	80	80	4200	universal
<b>POWERSTAR® HQI®-E/P, coated, for open and enclosed fixtures</b>									
HQI-E/P 70/WDL coated	0.9	78	12 <sup>4)</sup>	2/7	6200	79	70	3000	universal
HQI-E/P 70/NDL coated	0.9	78	12 <sup>4)</sup>	2/7	6200	79	80	4200	universal
HQI-E/P 100/WDL coated	1.2	100	12 <sup>4)</sup>	2/7	7300	73	70	3000	universal
HQI-E/P 100/NDL coated	1.2	100	12 <sup>4)</sup>	2/7	7300	73	85	4200	universal
HQI-E/P 150/WDL coated	1.8	150	20 <sup>4)</sup>	2/7	11400	76	70	3000	universal
HQI-E/P 150/NDL coated	1.8	150	20 <sup>4)</sup>	2/7	11400	76	86	4200	universal
HQI-E/P 250/D coated <sup>2)</sup>	3.0	250	32 <sup>4)</sup>	2	17000	71	90	5200	universal
HQI-E/P 400/D coated <sup>2)</sup>	3.9	420	45 <sup>4)</sup>	2	31000	74	90	5000	universal
HQI-E/P 400/D coated <sup>10)</sup>	3.5	380	35 <sup>4)</sup>	2	25000	71	90	5200	universal
<b>POWERSTAR® HQI®-E, clear and coated, for enclosed fixtures</b>									
HQI-E 400/N CLEAR <sup>2)</sup>	4.0	440	45 <sup>4)</sup>	2	42000	95	65	4000	h45
HQI-E 400/N CLEAR <sup>10)</sup>	3.4	380	35 <sup>4)</sup>	2	34000	90	65	4600	h45
HQI-E 250/D PRO <sup>2)</sup>	3.0	250	32 <sup>4)</sup>	2	19000	78	90	5200	universal <sup>13)</sup>
HQI-E 400/D PRO <sup>2)</sup>	4.0	420	45 <sup>4)</sup>	2	34000	79	90	5200	universal
HQI-E 400/D <sup>10)</sup>	3.6	360	35 <sup>4)</sup>	2	26000	72	90	5700	universal
HQI-E 400/N <sup>2)</sup>	4.0	400	45 <sup>4)</sup>	2	40000	91	65	3800	h45
HQI-E 400/N <sup>10)</sup>	3.4	380	35 <sup>4)</sup>	2	34000	90	65	4400	h45
HQI-E 1000/N	9.5	1000	85 <sup>4)</sup>	2	100000	95	65	3800	h45
<b>VIALOX® NAV®-E SUPER 4Y®</b>									
NAV-E 50 SUPER 4Y <sup>1)</sup>	0.8	50	10 <sup>4)</sup>	2	3800	76	≤ 25	2000	universal
NAV-E 70 SUPER 4Y <sup>1)</sup>	1.0	70	12 <sup>4)</sup>	2	6300	90	≤ 25	2000	universal
NAV-E 100 SUPER 4Y <sup>15)</sup>	1.2	100	12 <sup>4)</sup>	2	10200	102	≤ 25	2000	universal
NAV-E 150 SUPER 4Y <sup>15)</sup>	1.8	150	20 <sup>4)</sup>	2	17000	113	≤ 25	2000	universal
NAV-E 250 SUPER 4Y <sup>15)</sup>	3.0	250	32 <sup>4)</sup>	2	31100	124	≤ 25	2000	universal
NAV-E 400 SUPER 4Y <sup>15)</sup>	4.4	400	45 <sup>4)</sup>	2	55500	139	≤ 25	2000	universal
<b>VIALOX® NAV®-E 4Y®</b>									
NAV-E 50 4Y	0.8	50	10 <sup>4)</sup>	2	3500	70	≤ 25	2000	universal
NAV-E 70 4Y	1.0	70	12 <sup>4)</sup>	2	5600	80	≤ 25	2000	universal
NAV-E 150 4Y	1.8	150	20 <sup>4)</sup>	2	14500	97	≤ 25	2000	universal
NAV-E 250 4Y	3.0	250	32 <sup>4)</sup>	2	27000	108	≤ 25	2000	universal
NAV-E 400 4Y	4.4	400	45 <sup>4)</sup>	2	48000	120	≤ 25	2000	universal
<b>VIALOX® NAV®-E 4Y®, with integrated ignition unit</b>									
NAV-E 50/I 4Y <sup>7) 16)</sup>	0.8	50	10 <sup>4)</sup>	1	3500	70	≤ 25	2000	universal
NAV-E 70/I 4Y <sup>7) 16)</sup>	1.0	70	12 <sup>4)</sup>	1	5600	80	≤ 25	2000	universal

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos  $\phi \geq 0.9$  5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HQI® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kVs. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kVs; lamps must not be operated with an ignition voltage >1.5 kVs 15) Important: Before replacing for NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kVs 18) Value resulting from operating the lamp with a high-reactance transformer 19) No control gear or igniters required 20) Operate on HQL® control gear 21) For circuit diagrams see page 6.54 22) See operating instructions: "Photometric and electrical data"



## Technical data

Product reference	Lamp current A	Lamp watt-age W	Com-pen-sation capacitor at 50 Hz $\mu$ F	Circuit dia-gram no. <sup>20)</sup>	Lumi-nous flux lm	Lumi-nous effi-cacy lm/W	Color ren-dering R <sub>a</sub>	Color tem-perature K	Bur-ning position <sup>21)</sup>
<b>VIALOX® NAV®-E (Standard)</b>									
NAV-E 50/E	0.8	50	10 <sup>4)</sup>	2	3500	70	≤ 25	2000	universal
NAV-E 70/E	1.0	70	12 <sup>4)</sup>	2	5600	80	≤ 25	2000	universal
NAV-E 100	1.2	100	12 <sup>4)</sup>	2	8500	85	≤ 25	2000	universal
NAV-E 150	1.8	150	20 <sup>4)</sup>	2	14500	97	≤ 25	2000	universal
NAV-E 250	3.0	250	32 <sup>4)</sup>	2	27000	108	≤ 25	2000	universal
NAV-E 400	4.4	400	45 <sup>4)</sup>	2	48000	120	≤ 25	2000	universal
NAV-E 1000	10.3	1000	100 <sup>4)</sup>	2	128000	128	≤ 25	2000	universal
<b>VIALOX® NAV®-E, with integrated ignition unit</b>									
NAV-E 50/l <sup>7) 16)</sup>	0.8	50	10 <sup>4)</sup>	1	3500	70	≤ 25	2000	universal
NAV-E 70/l <sup>7) 16)</sup>	1.0	70	12 <sup>4)</sup>	1	5600	80	≤ 25	2000	universal
<b>VIALOX® NAV®-E Plug-in (substitute for mercury vapor lamp)</b>									
NAV-E 68	0.8	68	8 <sup>4)</sup>	-	5400	80	≤ 25	2000	universal
NAV-E 110	1.3	110	10 <sup>4)</sup>	1	8000	73	≤ 25	2000	universal
NAV-E 210	2.3	210	18 <sup>4)</sup>	1	18000	86	≤ 25	2000	universal
NAV-E 350	3.6	350	25 <sup>4)</sup>	1	34000	97	≤ 25	2000	universal
<b>VIALOX® NAV®-T SUPER 4Y®</b>									
NAV-T 50 SUPER 4Y <sup>15)</sup>	0.8	50	10 <sup>4)</sup>	2	4400	88	≤ 25	2000	universal
NAV-T 70 SUPER 4Y <sup>15)</sup>	1.0	70	12 <sup>4)</sup>	2	6600	94	≤ 25	2000	universal
NAV-T 100 SUPER 4Y <sup>15)</sup>	1.2	100	12 <sup>4)</sup>	2	10700	107	≤ 25	2000	universal
NAV-T 150 SUPER 4Y <sup>15)</sup>	1.8	150	20 <sup>4)</sup>	2	17500	116	≤ 25	2000	universal
NAV-T 250 SUPER 4Y <sup>15)</sup>	3.0	250	32 <sup>4)</sup>	2	33200	133	≤ 25	2000	universal
NAV-T 400 SUPER 4Y <sup>15)</sup>	4.4	400	45 <sup>4)</sup>	2	56500	141	≤ 25	2000	universal
NAV-T 600 SUPER 4Y <sup>15)</sup>	6.2	600	65 <sup>4)</sup>	2	90000	150	≤ 25	2000	universal
<b>VIALOX® NAV®-T 4Y®</b>									
NAV-T 70 4Y	1.0	70	12 <sup>4)</sup>	2	6000	86	≤ 25	2000	universal
NAV-T 150 4Y	1.8	150	20 <sup>4)</sup>	2	15000	100	≤ 25	2000	universal
NAV-T 250 4Y	3.0	250	32 <sup>4)</sup>	2	28000	112	≤ 25	2000	universal
NAV-T 400 4Y	4.4	400	45 <sup>4)</sup>	2	48000	120	≤ 25	2000	universal
<b>VIALOX® NAV®-T (Standard)</b>									
NAV-T 50	0.8	50	10 <sup>4)</sup>	2	3700	74	≤ 25	2000	universal
NAV-T 70	1.0	70	12 <sup>4)</sup>	2	6000	86	≤ 25	2000	universal
NAV-T 100	1.2	100	12 <sup>4)</sup>	2	9000	90	≤ 25	2000	universal
NAV-T 150	1.8	150	20 <sup>4)</sup>	2	15000	100	≤ 25	2000	universal
NAV-T 250	3.0	250	32 <sup>4)</sup>	2	28000	112	≤ 25	2000	universal
NAV-T 400	4.4	400	45 <sup>4)</sup>	2	48000	120	≤ 25	2000	universal
NAV-T 1000	10.6	960	100 <sup>4)</sup>	2	130000	130	≤ 25	2000	universal
<b>VIALOX® NAV®-TS SUPER 4Y®</b>									
NAV-TS 70 SUPER 4Y	1.0	70	12 <sup>4)</sup>	2	6800	97	≤ 25	2000	p45
NAV-TS 150 SUPER 4Y	1.8	150	20 <sup>4)</sup>	2	15000	100	≤ 25	2000	p45

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos  $\varphi$  ≥ 0.9 5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HD® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kV. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kV; lamps must not be operated with an ignition voltage > 1.5 kV 15) Important: Before replacing for NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kV 18) Value resulting from operating the lamp with a high-reactance transformer 19) No control gear or igniters required 20) For circuit diagrams see page 6.54 21) See operating instructions: \*Photometric and electrical data\*

## Technical data

Product reference	Lamp current A	Lamp watt-age W	Com-pen-sation capacitor at 50 Hz $\mu$ F	Circuit dia-gram no. <sup>20)</sup>	Lumi-nous flux lm	Lumi-nous effi-cacy lm/W	Color ren-der-ing R <sub>a</sub>	Color tem-perature K	Bur-ning position <sup>21)</sup>
<b>PLANTASTAR®</b>									
PLANTASTAR 250 inter	3.0	250	32 <sup>4)</sup>	2	33200	133	-	-	universal
PLANTASTAR 400 <sup>17)</sup>	4.4	400	45 <sup>4)</sup>	2	56500	141	-	-	universal
PLANTASTAR 600 <sup>17)</sup>	6.2	600	65 <sup>4)</sup>	2	89000	148	-	-	universal
PLANTASTAR 600/400	3.6	600	18 <sup>4)</sup>	2	87000	145	-	-	universal
<b>VIALOX® NAV®-TS (Standard)</b>									
NAV-TS 250	3.0	250	32 <sup>4)</sup>	2	25500	102	≤ 25	2000	p45
NAV-TS 400	4.4	400	45 <sup>4)</sup>	2	48000	120	≤ 25	2000	p45
<b>Low-pressure sodium lamps – SOX</b>									
SOX 18	0.4	18	5 <sup>4)</sup>	4/5/6	1800 <sup>18)</sup>	100	-	-	h150
SOX 35	0.6	36	20 <sup>4)</sup>	4/5/6	4600 <sup>18)</sup>	128	-	-	h110
SOX 55	0.6	57	20 <sup>4)</sup>	4/5/6	8100 <sup>18)</sup>	142	-	-	h110
SOX 90	0.9	91	26 <sup>4)</sup>	4/5/6	13500 <sup>18)</sup>	148	-	-	p20
SOX 135	0.9	135	20 <sup>4)</sup>	4/5/6	22500 <sup>18)</sup>	167	-	-	p20
SOX 180	0.9	185	20 <sup>4)</sup>	4/5/6	32000 <sup>18)</sup>	174	-	-	p20
<b>HQL® SUPER DE LUXE</b>									
HQL 50 SUPER DE LUXE	0.6	50	7 <sup>4)</sup>	1	1600	32	60	3200	universal
<b>HQL® DE LUXE</b>									
HQL 50 DE LUXE	0.6	50	7 <sup>4)</sup>	1	2000	40	54	3400	universal
HQL 80 DE LUXE	0.8	80	8 <sup>4)</sup>	1	4000	50	54	3400	universal
HQL 125 DE LUXE	1.2	125	10 <sup>4)</sup>	1	6800	54	54	3400	universal
HQL 250 DE LUXE	2.2	250	18 <sup>4)</sup>	1	14000	56	52	3400	universal
HQL 400 DE LUXE	3.3	400	25 <sup>4)</sup>	1	24000	60	50	3400	universal
<b>HQL® (Standard)</b>									
HQL 50	0.6	50	7 <sup>4)</sup>	1	1800	36	50	4200	universal
HQL 80	0.8	80	8 <sup>4)</sup>	1	3800	48	50	4200	universal
HQL 125	1.2	125	10 <sup>4)</sup>	1	6300	50	50	4200	universal
HQL 250	2.2	250	18 <sup>4)</sup>	1	13000	52	46	4000	universal
HQL 400	3.3	400	25 <sup>4)</sup>	1	22000	55	44	4000	universal
HQL 700	5.4	700	40 <sup>4)</sup>	1	40000	57	43	4000	universal
HQL 1000	7.5	1000	60 <sup>4)</sup>	1	57000	57	43	4000	universal
<b>HQL®-R DE LUXE</b>									
HQL R 80 DE LUXE	0.8	80	8 <sup>4)</sup>	1	3000	38	56	3400	universal
<b>HWL®</b>									
HWL 160 225 V <sup>19)</sup>	0.8	175	- <sup>4)</sup>	-	3100	18	62	3600	hs30
HWL 160 235 V <sup>19)</sup>	0.8	175	- <sup>4)</sup>	-	3100	18	62	3600	hs30
HWL 250 225 V <sup>19)</sup>	1.2	270	- <sup>4)</sup>	-	5600	21	58	3800	hs45
HWL 250 235 V <sup>19)</sup>	1.2	270	- <sup>4)</sup>	-	5600	21	58	3800	hs45
HWL 500 225 V <sup>19)</sup>	2.4	530	- <sup>4)</sup>	-	14000	27	60	4000	hs45
HWL 500 235 V <sup>19)</sup>	2.3	530	- <sup>4)</sup>	-	14000	27	60	4000	hs45

1) In preparation 2) Operate on NAV® control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos  $\phi$  ≥ 0.9 5) For the horizontal burning position, mount the holder so that the lamp electrodes are not arranged one on top of the other 6) Axial luminous intensity cd 7) Operate only with NAV® control gear 8) Operate only on 12.2 A control gear 9) Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV 10) Operate with HQL® control gear 11) Lamps ignite at an ignition voltage of 0.9 to 1.3 kVs. Lamps must not be operated with 4 to 5 kV igniters 12) Operation without an external igniter 13) Color shifts are possible in the base-down burning position 14) Lamps ignite at an ignition voltage of 0.56 to 1 kVs; lamps must not be operated with an ignition voltage > 1.5 kVs 15) Important: Before replacing for NAV® standard lamps in existing installations, check that the igniters are suitable 16) No igniter required 17) Lamps require igniters with an ignition voltage of 4 to 5 kVs 18) Value resulting from operating the lamp with a high-reactance transformer 19) No control gear or igniters required 20) For circuit diagrams see page 6.54 21) See operating instructions: \*Photometric and electrical data\*



# Operating instructions

## Power supply

Suitable control gear is required to operate the lamps. This may be chokes or electronic control gear. For chokes, the tap provided for the available supply voltage (usually 230 V AC at 50 Hz) must be used. If a different supply voltage is used, control gear with appropriate taps designed for these voltages must be used.

## Permitted line voltage deviation

The permitted line voltage deviation for HQL® is  $\pm 10\%$  and for HCl®, HQI® and NAV® is  $\pm 3\%$ . Sudden fluctuations in the line voltage of more than  $\pm 10\%$  may cause the lamps to go out. If the deviation from rated supply voltage (230 V or 400 V) is permanent without an adjusted choke tap, high intensity discharge lamps may exhibit changes in chromaticity and luminous flux. Lamp life may also be reduced.

## Safety

OSRAM high intensity discharge lamps meet the safety requirements defined in IEC 62035 and IEC 61167.

Because of their high operating pressure the following lamps may only be used in fully enclosed fixtures designed to take them. In the rare case that a discharge vessel shatters, the fixture must be able to retain all the hot pieces of ceramic or glass throughout its life.

This relates to the following lamps:

- All HCl®-T and HQI®-T lamps
- All HCl®-TM and HQI®-TM lamps
- All HCl®-TC lamps
- All HCl®-TF lamps
- All HCl®-TS and HQI®-TS lamps
- All HCl®-TT and HCl®-ET lamps
- All HQI®-E lamps
- HQI®-R 150 W/NDL lamps

Operating lamps with a damaged outer bulb is dangerous and therefore not permitted. At the end of their lives, sodium high-pressure lamps and metal halide lamps exhibit a "rectification" effect. This is not a manufacturer-specific effect. Because of the excessive DC components, the lamp operating equipment (control gear, transformers and/or starters) may be overloaded. To meet the requirements of IEC 62035 therefore, suitable protective measures must be taken to ensure that safety is maintained under these conditions. This applies also to control gear with the option of power reduction. NAV® PLUG-IN lamps have been developed specially as substitutes for mercury vapor lamps in existing fixtures and are therefore not affected. The chokes and pf correction capacitors generally needed for operating discharge lamps may, under certain conditions, create oscillating circuits. These circuits may then produce excessive currents and voltages, which in turn can destroy the lamps, control gear and capacitors. Such resonance phenomena must be avoided by appropriate circuits and fuses.



## Lamp operation

Operating high intensity discharge lamps for short periods in combination with frequent on/off switching will shorten their life. The lamps should be operated for at least 3 hours and should remain off for at least 30 minutes. This applies in particular to HQI®  $\geq 1000$  W. NAV® lamps are not suitable for short on/off cycles but should burn for at least 5 minutes. In low-temperature applications down to  $-50^\circ\text{C}$  only HCl®, HQI® and NAV® lamps are suitable for operation with an external igniter. Such applications call for special (heatable) igniters such as MZN 400 SU-LT from BAG Turgi (for lamps from 100 to 400 W) and similar igniters from other manufacturers.

The following lamps are suitable for open fixtures:

- All HCl®-E/P, HCl®-PAR and HCl®-TX/P lamps
- All HQI®-E/P lamps

## Fixture design

Fixtures must comply with the EN 60598 standard design (thermal characteristics and fuse protection). HQI® 1000 W to 2000 W lamps should be held without pressure or by means of a lamp support close to the crown end. The same applies to NAV®-T 1000 W lamps in the horizontal burning position. In particular, no radiation must be reflected onto the sensitive parts of the lamp. This may cause thermal overloads, which in turn will generally lead to premature failure. For a detailed description and instructions on how to avoid problems see the brochure entitled "Metal halide lamps. Notes on handling and applications" on the internet at [www.osram.com/hid-general-downloads](http://www.osram.com/hid-general-downloads).

# Operating instructions

## Control gear

HWL®:

No control gear required; connect directly to power supply.

HCI®, HQI®, HQL®, NAV®:

- Control gear:
  - < 220 V high-reactance transformer
  - ≥ 220 V choke

For HCI®, HQI® and NAV® lamps, control gear with suitable overload protection should be used (see Safety).

• Igniters: HCI®, HQI® and NAV® lamps also need an appropriate igniter.

Exceptions:

- HQI®-T 2000/N
- HQI®-T 2000/D/I
- NAV®-E 50/I 4Y®
- NAV®-E 70/I 4Y®
- NAV®-E 50/I
- NAV®-E 70/I
- NAV®-E 110
- NAV®-E 210
- NAV®-E 350

NAV® SUPER lamps require igniters with a higher ignition energy.

With suitable igniters or operating equipment HCI®, HQI® and NAV® lamps can be instantly restarted while hot. For more information see Restarting.

SOX, SOX-E:

Operation with high-reactance transformers (except SOX 18 tapped choke and 5 µF ignition capacitor) or hybrid control gear.

For the distances between the lamp and the control gear, check the information provided by the equipment manufacturer.

## Start-up current

HCI®, HQI®, NAV®, HQL®:

Depending on the control gear used, the start-up current may be up to twice as high as the operating current.

## Circuit protection

Fuses for HCI®, HQI® and NAV® lamps must be slow-acting. If fuse-wire is used it should be rated for twice the rated lamp current. If MCBs are provided they should comply with characteristic "C".

## Holders

The holders used must be capable of withstanding the high voltages that occur during ignition and hot restrikes. Suitable high-voltage holders can be ordered from lampholder manufacturers. A retainer is recommended for outdoor applications to prevent them coming loose (IEC 60238).

## Power factors

(without correction)

- HWL®:  $\cos \varphi \sim 1$
- HCI®, HQI® and HQL®:  $\cos \varphi$  0.5 to 0.7
- NAV®: With chokes  $\cos \varphi$  0.5
- SOX, SOX-E:  $\cos \varphi \sim 0.3$  (SOX 18:  $\cos \varphi \sim 0.9$ )

For the PFC capacitors required check the manufacturer's specifications. For examples see pages 6.43 to 6.49.

## Power reduction

HQI® lamps must not be operated at reduced wattage as this may result in color shifts, poorer maintenance and shorter lamp life. In principle, dimming of HCI® POWERBALL® lamps is technically feasible. The higher thermal load capacity of the round ceramic burner offers better dimming behavior in terms of luminous efficacy and color rendering compared to metal halide lamps with quartz burners or cylindrical ceramic burners.

As before, however, dimming does lead to a change in the chromaticity coordinates. Lamps operated at dimmed settings suffer a greater loss of luminous flux and a greater color shift over their lifetime. These effects are unwanted particularly in indoor lighting. They are more pronounced in CGG mode than in ECG mode.



## Operating instructions

OSRAM therefore advises against dimming in CCG mode and in indoor lighting for lamps currently available.

The method of dimming has a strong influence on the results. It is advisable to reduce the lamp power with a controllable square-wave ECG; dimming should not be achieved by reducing the voltage or by leading-edge phase dimming. The product characteristics cannot be guaranteed for lamps that are operated at dimmed settings.

The combination of POWERBALL® HCl® and POWERTRONIC® PTo offers energy-saving operation wherever optimum color rendering is not essential for outdoor lighting.

PTo with square-wave operation and optimized ignition operates POWERBALL® HCl® lamps at optimum performance down to 60% of rated lamp output. There are no significant adverse effects even if power is reduced to 85% of rated output.

Operation between 85% and 60% of rated lamp output also has no impact on the failure rate. The lamps increasingly exhibit a slight green tinge and may differ from one another in terms of their color (color spread). Luminous flux decreases over the life of the lamp at a faster rate in dimming mode than at 100% output on PTo. This effect can be reduced by mixed operation involving dimming mode and 100% mode.

NAV® and HQL® lamps can be operated at up to 50% lower wattage by changing the impedance, provided ignition takes place at rated wattage.

### Switch-on

HWL®: Instant full luminous flux. Starting current approx. 30% higher

HQL®: Full luminous flux after approx. 5 minutes. Starting current approx. 40% higher

HCl®: Full luminous flux after approx. 1 to 3 minutes. Starting current approx. 40% to 90% higher – depending on lamp type and control gear

HQI®: Full luminous flux after approx. 2 to 4 minutes. Starting current approx. 40% to 90% higher – depending on lamp type and control gear

NAV®: Full luminous flux after approx. 6 to 10 minutes depending on lamp type and control gear. Starting current approx. 25% higher

SOX, SOX-E: Full luminous flux after approx. 12 to 15 minutes. Or longer at low ambient temperatures. No higher starting current.

### Restarting

HCl®, HQI®, NAV®, HQL®, HWL®:

These lamps need a little time (0.25 to 15 minutes) to cool down before they can be restarted because the ignition voltage to begin with would be higher than the supply voltage or, in the case of HCl®, HQI® and NAV®, above the ignition voltage of the igniter. Instant restarting is possible with suitable igniters for the following lamps:

HQI®-TS EXCELLENCE

HQI®-TS (exception: HQI®-TS 2000W/N/L)

HCl®/HQI®-TM...HR (HR – Hot Restrike)

NAV®-TS

The necessary restrike voltage is 25 to 60 kV.

SOX, SOX-E:

SOX 18 lamps can be instantly restarted. All other SOX lamps need a cooling time of a few minutes before they can be restarted.

### Radio interference

After ignition, radio interference does not normally occur with high pressure lamps. Should radio interference occur with HQL® lamps it can be avoided by connecting a low induction capacitor of 0.1 µF parallel to the lamp. Capacitors must not be connected parallel to any other high-pressure lamp. The requirements of DIN EN 50160 must be met.





## Operating instructions

### Photometric and electrical data

All lamp-specific electrical and photometric data is measured after 100 hours of operation under laboratory conditions on reference equipment. For HCl<sup>®</sup> lamps the specified values relate to the horizontal burning position for TS types and to the base-up burning position for other types, unless otherwise indicated. For HQI<sup>®</sup> lamps the specified values apply to the horizontal burning position for -T and -TS types and for the base-up burning position for -E and -TM types, unless otherwise indicated. NAV<sup>®</sup> lamps are all measured in the horizontal burning position, and HQ and HW lamps in the base-up position. In other burning positions there may be considerable differences in the measured values, particularly the luminous flux, color temperature and life. With the exception of SOX, the luminous flux is virtually unaffected by the ambient temperature outside the fixture. At low ambient temperatures down to around -50 °C special igniters are needed.

All POWERBALL<sup>®</sup> HCl<sup>®</sup>-TS ..., POWERSTAR<sup>®</sup> HQI<sup>®</sup>-TS ... and VIALOX<sup>®</sup> NAV<sup>®</sup>-TS ... lamps achieve their rated data at relatively high ambient temperatures, such as those in typical fixtures or fixture simulators.

Detailed information on thermal protection tubes (fixture simulators) for determining lamp data for HQI<sup>®</sup>-TS and HCl<sup>®</sup>-TS can be found in IEC 61167, Annex B.6.

NAV<sup>®</sup>-TS ... lamps should be treated similarly.

### Color shift

HCl<sup>®</sup> and HQI<sup>®</sup> lamps may show color shifts from lamp to lamp. These shifts may be due to external influences such as the line voltage, control gear, burning position or fixture design.

### End of life

High intensity discharge lamps (HCl<sup>®</sup>, HQI<sup>®</sup>, NAV<sup>®</sup> and HQL<sup>®</sup>) can be considered to have reached the end of their life if:

- there is a marked change in their color or
- there is a significant loss of brightness or
- the lamp no longer ignites or
- the lamp periodically goes out and comes on again.

To protect the control gear and to avoid unnecessary radio interference, HCl<sup>®</sup>, HQI<sup>®</sup>, NAV<sup>®</sup> and HQL<sup>®</sup> lamps must be replaced as soon as they reach the end of their life.

### Guarantee

High intensity discharge lamps are only guaranteed if the prescribed operating conditions are observed; in other words, in particular if the maximum permissible lamp temperatures are not exceeded and the lamps are operated only on appropriate control gear. In addition, the lifetimes specified by OSRAM apply only to operation in fixtures that do not reflect radiation onto the lamp (see Fixture design, page 6.50).



## OSRAM System+ Guarantee for HCl<sup>®</sup>/HQI<sup>®</sup>/NAV<sup>®</sup> lamps and POWERTRONIC<sup>®</sup> ECGs



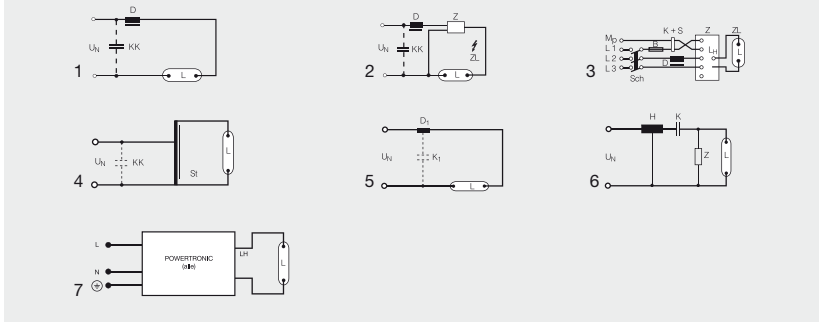
POWERTRONIC<sup>®</sup> control gear from OSRAM enables high intensity discharge lamps to be operated with perfect results and a high degree of intelligence.

For system operation you get an extended guarantee on the POWERTRONIC<sup>®</sup> ECG and on the relevant HCl<sup>®</sup>/HQI<sup>®</sup>/NAV<sup>®</sup> lamp.

For detailed usage and guarantee conditions and a registration form go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

# Circuit diagrams

These **circuit diagrams** refer to the lamps listed on pages 6.43 to 6.49



- B = 6 A fuse, slow-acting
- D = Choke
- D<sub>1</sub> = Choke with tap
- H = Hybrid control gear
- KK = Compensation capacitor
- K<sub>1</sub> = Compensation and ignition capacitor 5 µF
- K = Capacitor
- K+S = Time-limiting switch and contactor
- L = Lamp

- LH = High-voltage terminal
- Mp = Neutral conductor
- N = Neutral line
- Sch = Switch
- St = High-reactance transformer
- U<sub>N</sub> = Line voltage
- Z = Install igniter close to the lamp
- ZL = Igniter line for screw bases for ground contact for the lamp

For single phase supplies the choke must be connected to the live lead.

The right igniter for the particular lamp type must be used to ensure reliable and safe ignition. For POWERTRONIC® electronic control gear for HCl®, HQI® and NAV® high intensity discharge lamps see Section 9.

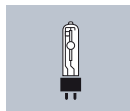
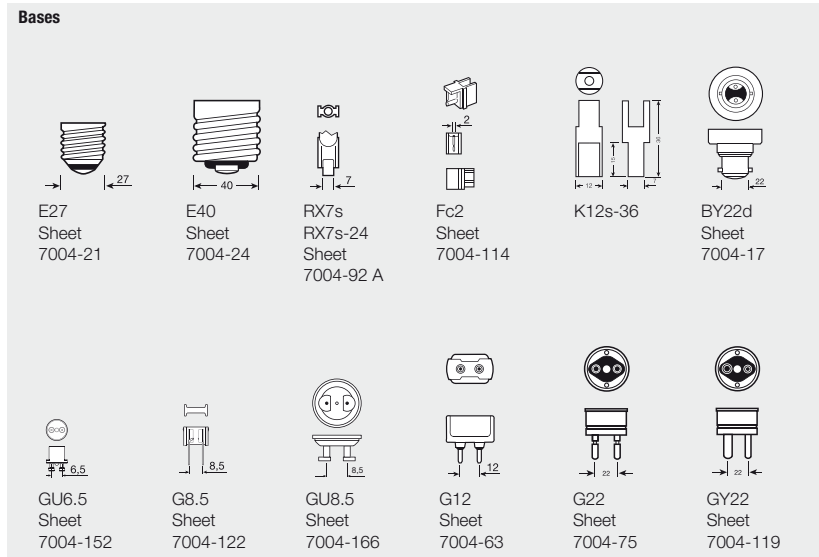
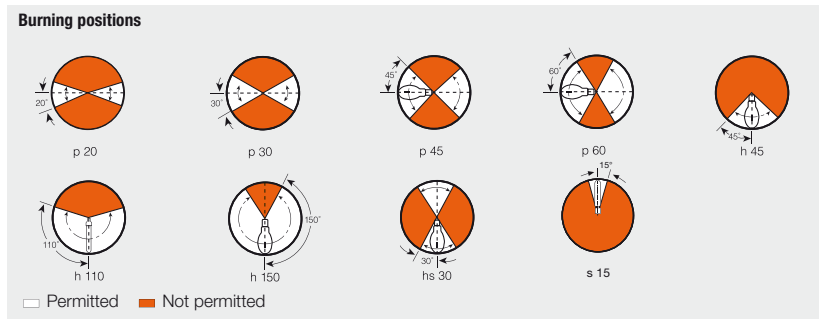
Chokes, lampholders, capacitors, high-reactance transformers and igniters are available from electrical suppliers.



# Light colors and color rendering properties – Burning positions – Bases

Light colors				
Color rendering index (R <sub>a</sub> )	Light color over 5,000 K	Light color about 4,000 K	Light color under 3,400 K	
<b>Class 1</b>	1 A	POWERSTAR® HQI®/D	POWERBALL® HCl®/942/NDL	POWERBALL® HCl®/930/WDL
Very good	R <sub>a</sub> 90-100			
Good	1 B		POWERSTAR® HQI®/NDL	POWERBALL® HCl®/830/WDL
	R <sub>a</sub> 80-89	POWERSTAR® HQI®/CD		
<b>Class 2</b>	2 A			POWERSTAR® HQI®/WDL
	R <sub>a</sub> 70-79			
	2 B		POWERSTAR® HQI®/N	HQL® SUPER DE LUXE
	R <sub>a</sub> 60-69		HWL®	
<b>Class 3</b>	R <sub>a</sub> 40-59		HQL®	HQL® DE LUXE
<b>Class 4</b>	R <sub>a</sub> 20-39			VIALOX® NAV® VIALOX® NAV® 4Y® VIALOX® NAV® SUPER 4Y®

For details of color temperature see page 5.47

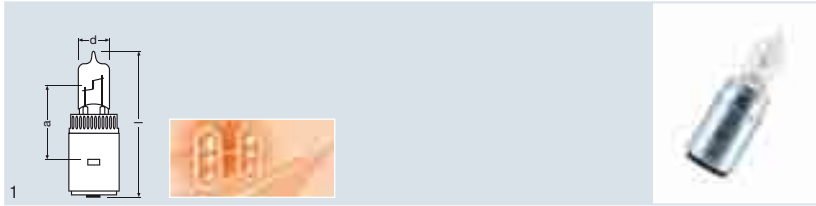




# Display and signal lamps

LONGLIFE halogen signal lamps in 10 V technology for road traffic	7.02
Low-voltage halogen lamps for road traffic	7.03
SIRIUS® low-voltage halogen lamps with reflector for matrix displays	7.04
Low-voltage overpressure lamps in 10 V technology for road traffic	7.05
Low-voltage LONGLIFE lamps in 10 V technology for road traffic equipment	7.06
Low-voltage high-pressure lamps for 40 V systems, single-coil, for road traffic	7.07
Low-voltage high-pressure lamp for 40 V systems, dual-coil, for road traffic equipment	7.08
High-voltage krypton lamps for road traffic equipment	7.09
High-voltage LONGLIFE krypton lamps for road traffic equipment	7.10
High-voltage standard lamps for road traffic equipment	7.11
High-voltage LONGLIFE standard lamps for road traffic equipment	7.12
Low-voltage high-pressure single-coil lamp for rail traffic equipment	7.13
Low-voltage high-pressure dual-coil lamp for rail traffic equipment	7.14
Bases IEC/EN 60061-1	7.15

# LONGLIFE halogen signal lamps in 10 V technology for road traffic



Product reference	Product number Single pack	V TEST	W	Im	t [h]		
SIG 64032	4008321 <b>037725</b>	10.5	20	270	16000 <sup>2)</sup>	s105 <sup>3)</sup>	BA20s
SIG 64033	4008321 <b>037732</b>	10.5	30	400	16000 <sup>2)</sup>	s105 <sup>3)</sup>	BA20s

Product reference				Product number Standard pack		
SIG 64032	12.5	65	31 <sup>1)</sup>	4050300 <b>422770</b>	200	1
SIG 64033	12.5	65	31 <sup>1)</sup>	4050300 <b>422787</b>	200	1

<sup>1)</sup> LCL = light center length (distance from the coil to the lug of base)  
<sup>2)</sup> 2% failure rate within 16,000 hours. This is restricted to failures due to lamp faults.  
<sup>3)</sup> Only the permissible burning positions may be used otherwise the lamp will fail prematurely

Thanks to continual improvements, low-voltage halogen lamps from OSRAM now offer an excellent set of properties.

## Product benefits

- 2-year replacement cycle
- Life of approx. 16,000 hours (taking into account the entire service life in the signal)
- Maximum of 2% premature failure rate (failures due to lamp faults only)
- Reduction in maintenance costs for the signaling system thanks to long lamp life
- Can be used in standard installations without the need for upgrades or adjustments

## Applications

- Road traffic light signaling systems

## Legal notices

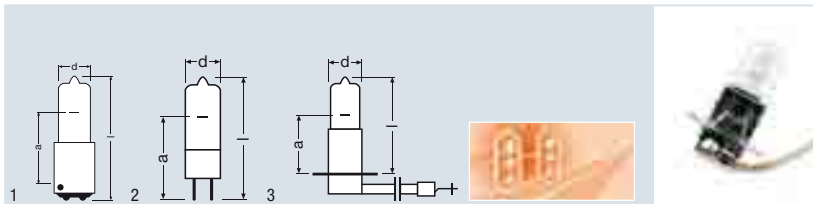
Compliance with DIN 49842 Parts 1 and 3 and DIN 67527-1

## Operating instructions

All halogen signal lamps operate at high temperature and pressure. They may therefore only be operated in signal equipment/fixtures specially designed for the purpose. Make sure that the lamps are protected against moisture during operation and in particular during relamping. When installing a new lamp, handle it by its protective cardboard sleeve.



## Low-voltage halogen lamps for road traffic



Product reference	Product number Single pack	V TEST	W	lm	t [h]		
PA 62165 <sup>1)</sup>	4008321 <b>037718</b>	10	50	820	2000 <sup>4)</sup>	p90/15 <sup>5)</sup>	BA15d
SIG 64016	4050300 <b>837741</b>	12	50	900	4000 <sup>4)</sup>	p90/15 <sup>5)</sup>	GY6.35
SIG 64014 <sup>2)</sup>	4050300 <b>22509</b>	10	50	950	2000 <sup>4)</sup>	p90/15 <sup>5)</sup>	PKX22s
SIG 64015	4050300 <b>217543</b>	10	50	750	8000 <sup>4)</sup>	p90/15 <sup>5)</sup>	PKX22s
SIG 64012/1	4008321 <b>033260</b>	12	20	320	2000 <sup>4)</sup>	p90/15 <sup>5)</sup>	G4

Product reference	d [mm]	h [mm]	LCL a [mm]	Product number Standard pack		No.
PA 62165 <sup>1)</sup>	11.5	50	26 <sup>3)</sup>	4050300 <b>224046</b>	100	1
SIG 64016	12	44	30 <sup>3)</sup>	4050300 <b>345048</b>	100	2
SIG 64014 <sup>2)</sup>	11.5	32	18 <sup>3)</sup>	4050300 <b>22523</b>	100	3
SIG 64015	11.5	32	18 <sup>3)</sup>	4050300 <b>217567</b>	100	3
SIG 64012/1	9	31	19.5 <sup>3)</sup>	4008321 <b>033277</b>	40	2

<sup>1)</sup> On request  
<sup>2)</sup> Particularly suitable for use in fibre-optic traffic signals  
<sup>3)</sup> LCL = light center length (distance from the coil to the lug of base)  
<sup>4)</sup> Average life  
<sup>5)</sup> Only the permissible burning positions may be used otherwise the lamp will fail prematurely | Lamps with transverse filaments should only be inclined perpendicular to the filament plane

### Product benefits

- Low-voltage halogen lamp, therefore capable of very high luminous flux
- Almost point-like light source for optimum focusing in the reflector
- Virtually constant luminous flux throughout the life of the lamp
- Very long life compared to conventional lamps

### Applications

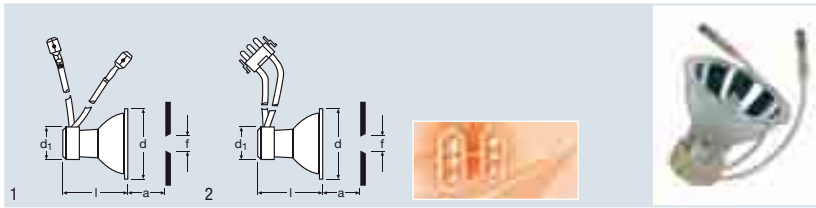
- Road traffic light signaling systems

### Operating instructions

All halogen signal lamps operate at high temperature and pressure. They may therefore only be operated in signal equipment/fixtures specially designed for the purpose. Make sure that the lamps are protected against moisture during operation and in particular during relamping. When installing a new lamp, handle it by its protective cardboard sleeve.



# SIRIUS® low-voltage halogen lamps with reflector for matrix displays



Product reference	Product number Single pack	V TEST	W	lm	t [h]			
SIG 64002	4050300246505	12	20	120 <sup>2)</sup>	2000 <sup>3)</sup>	p90/15	K23d	51
SIG 64002B <sup>1)</sup>	4050300324562	12	20	120 <sup>2)</sup>	2000 <sup>3)</sup>	p90/15	KX23d	51
SIG 64004	4050300245225	10	50	350 <sup>2)</sup>	2000 <sup>3)</sup>	p90/15	K23d	51
SIG 64005	4050300282060	10	50	250 <sup>2)</sup>	6000 <sup>3)</sup>	p90/15	K23d	51

Product reference					Product number Standard pack		
SIG 64002	24.5	46	10.2	42.0	4050300246512	10	1
SIG 64002B <sup>1)</sup>	24.5	46	10.2	42.0	4050300324579	10	2
SIG 64004	24.5	46	10.2	42.0	4050300245232	10	1
SIG 64005	24.5	46	10.2	42.0	4050300282077	10	1

1) For rail signals  
 2) Measured behind the aperture of 10.2 mm  $\varnothing$  = W fiber bundle  
 3) Average life at test voltage/current

## Product benefits

- Fixed adjustment of the halogen burner with regard to the reflector leads to high axial luminous intensity
- Virtually constant axial luminous intensity thanks to high-quality coating on the reflector
- Very long life thanks to the halogen burner
- Connecting cables equipped with contacts and insulation that are highly resistant to corrosion and heat

## Applications

- Road and rail traffic signals

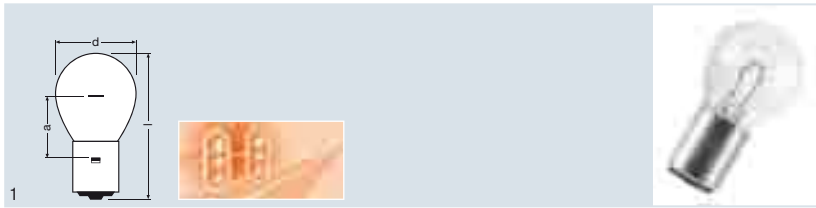
## Operating instructions



All halogen signal lamps operate at high temperature and pressure. They may therefore only be operated in signal equipment/fixtures specially designed for the purpose. Make sure that the lamps are protected against moisture during operation and in particular during relamping.










# Low-voltage overpressure lamps in 10 V technology for road traffic



Product reference	Product number Single pack			V TEST	W	lm		
SIG 1227	4008321903990			10.5	22	270	s135 <sup>2)</sup>	BA20s
SIG 1238	4008321904003			10.5	30	400	s135 <sup>2)</sup>	BA20s
SIG 1259	4050300831770			10.5	45	600	s135 <sup>2)</sup>	BA20s

Product reference	 d (mm)	 l (mm)	 LCL a (mm)	Product number Standard pack		 No.
SIG 1227	36	67	31 <sup>1)</sup>	4050300235028	200	1
SIG 1238	36	67	31 <sup>1)</sup>	4050300253091	200	1
SIG 1259	36	67	31 <sup>1)</sup>	4050300253633	100	1

1) LCL = light center length (distance from the coil to the lug of base)  
 2) Lamps with transverse filaments should only be inclined perpendicular to the filament plane! Only the permissible burning positions may be used otherwise the lamp will fail prematurely

## Product benefits

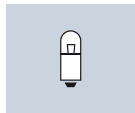
- Much higher luminous efficacy than high-voltage signal lamps
- Significant increase in lamp quality thanks to inert gas filler and higher gas pressure
- Reduction in the energy consumption of signaling systems
- High resistance to shock and vibrations compared to high-voltage signal lamps
- Maximum of 2% premature failure rate up to 4,400 hours (failures due to lamp faults only)
- Benefits also apply to existing 230 V signaling systems after upgrading. For this, the lamp and reflector have to be replaced and a transformer installed.

## Applications

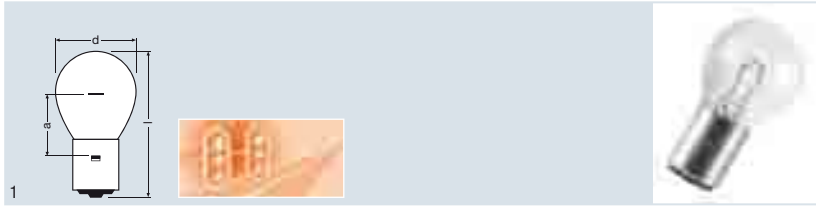
- Road traffic light signaling systems

## Operating instructions

Operate only in approved fixtures/signals. Protect the lamps against moisture during operation and in particular during relamping.



# Low-voltage LONGLIFE lamps in 10 V technology for road traffic equipment



Product reference	Product number Single pack			V TEST	W	lm		
SIG 1227 LL	4008321 <b>037695</b>			10.5	22	270	s135 2)	BA20s
SIG 1238 LL	4008321 <b>037701</b>			10.5	30	400	s135 2)	BA20s
Product reference				Product number Standard pack				
SIG 1227 LL	36	67	31 1)	4050300 <b>900179</b>		200	1	
SIG 1238 LL	36	67	31 1)	4050300 <b>790503</b>		200	1	

1) LCL = light center length (distance from the coil to the lug of base)  
 2) Lamps with transverse filaments should only be inclined perpendicular to the filament plane | Only the permissible burning positions may be used otherwise the lamp will fail prematurely

The low-voltage signal lamp has undergone continual improvement and has now been developed into a LONGLIFE lamp. This leads to further improvements in the economical operation of signaling systems.

### Product benefits

- Longer life compared to previous low-voltage signal lamps
- Maintenance intervals of up to one year (depending on the system)
- Maximum of 2% premature failure rate up to 8,000 hours (failures due to lamp faults only)
- Can be used as replacements for old low-voltage high-pressure lamps without the need for adjustment
- Benefits also apply to existing 230 V signaling systems after upgrading. For this, the lamp and reflector have to be replaced and a transformer installed.

### Applications

- Road traffic light signaling systems

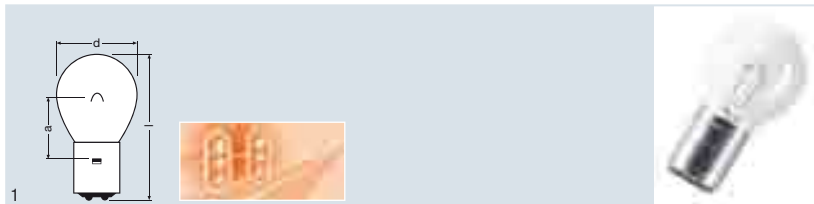
### Operating instructions



Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.








# Low-voltage high-pressure lamps for 40 V systems, single-coil, for road traffic



Product reference	Product number Single pack	V TEST	W	lm		
SIG 1455	4050300832364	40	25	250	s135 <sup>2)</sup>	BA20d
SIG 1462	4050300832326	40	40	500	s135 <sup>2)</sup>	BA20d
SIG 1470	4050300832289	40	60	800	s135 <sup>2)</sup>	BA20d

Product reference	 d [mm]	 l [mm]	 LCL a [mm]	Product number Standard pack		 No.
SIG 1455	36	67	31 <sup>1)</sup>	4050300218328	100	1
SIG 1462	36	67	31 <sup>1)</sup>	4050300218366	100	1
SIG 1470	36	67	31 <sup>1)</sup>	4050300218403	100	1

1) LCL = light center length (distance from the coil to the lug of base)  
 2) Lamps with transverse filaments should only be inclined perpendicular to the filament plane! Only the permissible burning positions may be used otherwise the lamp will fail prematurely

## Product benefits

- Long average life: 8,000 h
- Maximum of 2% premature failure rate up to 3,000 hours (failures due to lamp faults only)
- Maintenance intervals of up to four months (depending on the system)

## Applications

- Road traffic light signaling systems

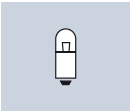
## Legal notices

The lamps comply with DIN 49842 Parts 1 and 3.

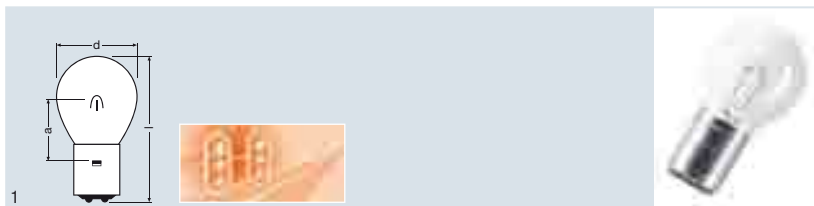
## Operating instructions

Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.



# Low-voltage high-pressure lamp for 40 V systems, dual-coil, for road traffic equipment



Product reference	Product number Single pack	V TEST	W	lm		
SIG 1456	4050300832340	40	25/25	250	s135 <sup>2)</sup>	BA20d
SIG 1463	4050300832302	40	40/40	500	s135 <sup>2)</sup>	BA20d
SIG 1471	4050300832265	40	60/60	800	s135 <sup>2)</sup>	BA20d

Product reference	d [mm]	l [mm]	LCL z [mm]	Product number Standard pack		No.
SIG 1456	36	67	31 <sup>1)</sup>	4050300218342	100	1
SIG 1463	36	67	31 <sup>1)</sup>	4050300218380	100	1
SIG 1471	36	67	31 <sup>1)</sup>	4050300218427	100	1

<sup>1)</sup> LCL = light center length (distance from the coil to the lug of base)

<sup>2)</sup> Lamps with transverse filaments should only be inclined perpendicular to the filament plane | Only the permissible burning positions may be used otherwise the lamp will fail prematurely

Dual-coil lamps are the intelligent way to increase the availability of signaling systems significantly. If the main filament fails in these dual-coil lamps, it is possible to switch to the secondary filament. For safety reasons, however, it is recommended that the lamp be replaced as soon as possible. The specified lifespan applies to the main filament only.

## Product benefits

- Dual-coil lamp for greater reliability of the signaling system
- If the main filament fails it is possible to switch easily to the secondary filament
- Long average life: 8,000 hours (applies only to the main filament)
- Maximum of 2% premature failure rate up to 3,000 hours (failures due to lamp faults only)
- Maintenance intervals of up to four months (depending on the system)

## Applications

- Road traffic light signaling systems

## Legal notices

The lamps comply with DIN 49842 Parts 1 and 3.

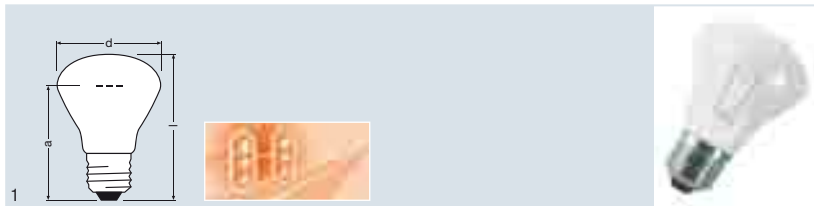
## Operating instructions



Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.








# High-voltage krypton lamps for road traffic equipment



Product reference	Product number Single pack	V TEST	W	lm		
SIG 1541	4008321 <b>044273</b>	235	60	420	s105 <sup>2)</sup>	E27
SIG 1543	4008321 <b>044365</b>	235	75	600	s105 <sup>2)</sup>	E27
SIG 1546	4008321 <b>044372</b>	235	100	840	s105 <sup>2)</sup>	E27

Product reference	 d (mm)	 l (mm)	 LCL & (mm)	Product number Standard pack		 No.
SIG 1541	62	91	69 <sup>1)</sup>	4050300 <b>405070</b>	100	1
SIG 1543	62	91	69 <sup>1)</sup>	4050300 <b>032443</b>	100	1
SIG 1546	62	101	79 <sup>1)</sup>	4050300 <b>284101</b>	100	1

1) LCL = light center length (distance from the coil to base contact)  
 2) Only the permissible burning positions may be used otherwise the lamp will fail prematurely

## Product benefits

- Excellent optical efficiency thanks to a small cradle diameter
- High luminous efficacy thanks to krypton gas filler
- Long average life: 8,000 h
- Maximum of 2% premature failure rate up to 3,000 hours (failures due to lamp faults only)
- Maintenance intervals of up to four months (depending on the system)
- Corrosion-resistant bases
- High resistance to shock and vibrations thanks to the nine supports for the filament

## Applications

- Road traffic light signaling systems

## Legal notices

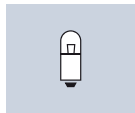
The lamps comply with DIN 49842 Parts 1 and 3.

Luminous intensity values comply with DIN 67527-1 and EN 12368 (depending on the system)

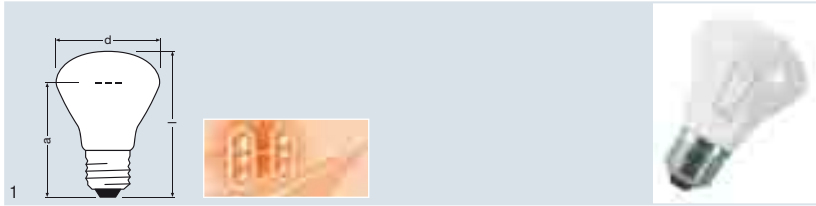
## Operating instructions



Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.








# High-voltage LONGLIFE krypton lamps for road traffic equipment



Product reference	Product number Single pack	V TEST	W	lm		
SIG 1541 LL	4008321 <b>044327</b>	235	60	380	s105 <sup>2)</sup>	E27
SIG 1543 LL	4008321 <b>044389</b>	235	75	540	s105 <sup>2)</sup>	E27
SIG 1546 LL	4008321 <b>044358</b>	235	100	780	s105 <sup>2)</sup>	E27

Product reference	 d (mm)	 l (mm)	 LCL a (mm)	Product number Standard pack		 No.
SIG 1541 LL	62	91	69 <sup>1)</sup>	40503006 <b>13642</b>	100	1
SIG 1543 LL	62	91	69 <sup>1)</sup>	40503006 <b>13666</b>	100	1
SIG 1546 LL	62	101	79 <sup>1)</sup>	40503006 <b>13680</b>	100	1

1) LCL = light center length (distance from the coil to base contact)  
 2) Only the permissible burning positions may be used otherwise the lamp will fail prematurely

High-voltage lamp technology, which has been successful for many years, has undergone continual improvement and has now been developed into LONGLIFE technology. This leads to further improvements in the economical operation of signaling systems.

## Product benefits

- Increased life compared to the previous krypton high-voltage signal lamp
- Can be used in existing HV signals without upgrades or adjustments
- Long average life: 14,000 h
- Maximum of 2% premature failure rate up to 6,000 hours (failures due to lamp faults only)
- Maintenance intervals of up to one year (depending on the system)

## Applications

- Road traffic light signaling systems

## Legal notices

Luminous intensity values comply with DIN EN 12368 (depending on the system)

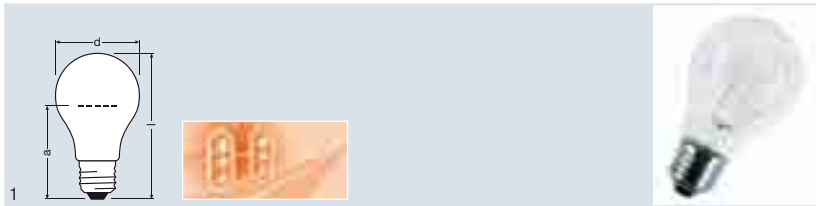
## Operating instructions

Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.



# High-voltage standard lamps for road traffic equipment



<b>Product reference</b>	<b>Product number Single pack</b>	<b>V TEST</b>	<b>W</b>	<b>lm</b>		
SIG 1534 <sup>1)</sup>	4050300 <b>984339</b>	235	40	230	s135 <sup>3)</sup>	E27
<b>Product reference</b>				<b>Product number Standard pack</b>		
SIG 1534 <sup>1)</sup>	62	110	69 <sup>2)</sup>	<b>4050300032474</b>	100	1

<sup>1)</sup> Not for new designs

<sup>2)</sup> LCL = light center length (distance from the coil to base contact)

<sup>3)</sup> Only the permissible burning positions may be used otherwise the lamp will fail prematurely

## Applications

- Road traffic light signaling systems

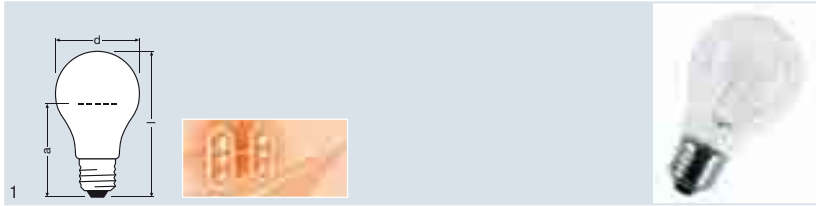
## Operating instructions

Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.



# High-voltage LONGLIFE standard lamps for road traffic equipment



<b>Product reference</b>	<b>Product number Single pack</b>	<b>V TEST</b>	<b>W</b>	<b>lm</b>		
SIG 1534 LL <sup>1)</sup>	4008321 <b>044396</b>	235	40	200	s135 <sup>3)</sup>	E27
<b>Product reference</b>				<b>Product number Standard pack</b>		
SIG 1534 LL <sup>1)</sup>	62	110	69 <sup>2)</sup>	40503006 <b>13703</b>	100	1

<sup>1)</sup> Not for new designs

<sup>2)</sup> LCL = light center length (distance from the coil to base contact)

<sup>3)</sup> Only the permissible burning positions may be used otherwise the lamp will fail prematurely

## Applications

- Road traffic light signaling systems

## Operating instructions

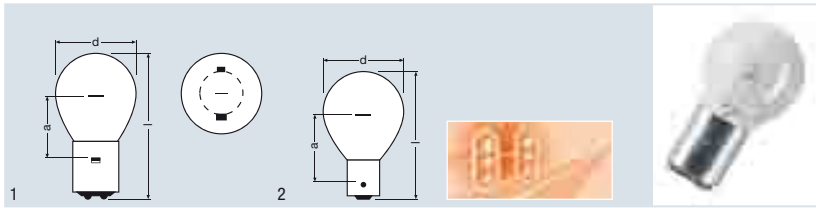
Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.





# Low-voltage high-pressure single-coil lamp for rail traffic equipment



Product reference	Product number Single pack	V TEST	W	lm	t [h]		
SIG 1206 <sup>1)</sup>	4050300832869	12	6	55	600 <sup>3)</sup>	universal <sup>4)</sup>	BA20d <sup>5)</sup>
SIG 1220 <sup>1)</sup>	4050300831596	12	20	290	2000 <sup>3)</sup>	universal <sup>4)</sup>	BA20d
SIG 1260 <sup>1)</sup>	4050300832036	10	20	240	6000 <sup>3)</sup>	universal <sup>4)</sup>	BA15s

Product reference				Product number Standard pack		
SIG 1206 <sup>1)</sup>	36	67	29.6 <sup>2)</sup>	4050300203065	100	1
SIG 1220 <sup>1)</sup>	36	65	30 <sup>2)</sup>	4050300440064	100	1
SIG 1260 <sup>1)</sup>	36	62	33.5 <sup>2)</sup>	4050300233086	100	2

1) On request ! Not for new designs  
 2) LCL = light center length (distance from the coil to the lug of base)  
 3) Average life at test voltage/current  
 4) Lamps with transverse filaments should only be inclined perpendicular to the filament plane  
 5) One base contact is a blind contact

Safety on the railways calls for reliable signaling equipment. Defective lamps pose a serious risk and lead to costly and time-consuming maintenance work because of the large distances between signals. OSRAM has played a major role over many years in ensuring that railways have operated at high levels of safety and efficiency.

## Product benefits

- Narrow geometric tolerances for reliable operation of the signaling systems
- Precise alignment of the light center length for optimum adjustment in the signal
- Long life for economical operation of the signaling systems
- High reliability avoids costly train delays

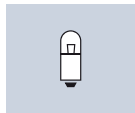
## Applications

- Rail traffic signaling systems

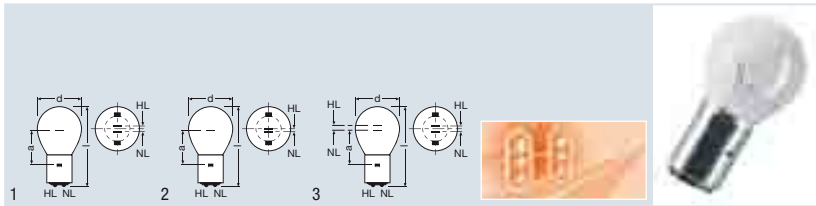
## Operating instructions



Operate only in approved fixtures/signals.






Protect the lamps against moisture during operation and in particular during relamping.



# Low-voltage high-pressure dual-coil lamp for rail traffic equipment



Product reference	Product number Single pack	V TEST	W	lm	t [h]		
SIG 1810 <sup>1)</sup>	4050300832142	12	10/10	137	600 <sup>4)</sup>	universal <sup>5)</sup>	BA20d
SIG 1210 <sup>1)</sup>	4050300832173	12	10/10	137	600 <sup>4)</sup>	universal <sup>5)</sup>	BA20d
SIG 1820 <sup>2)</sup>	4050300832234	12	20/20	350	600 <sup>4)</sup>	universal <sup>5)</sup>	BA20d
SIG 1230 <sup>2)</sup>	4050300832203	12	30/30	520	600 <sup>4)</sup>	universal <sup>5)</sup>	BA20d
SIG 2460 <sup>1)</sup>	4050300831756	24	60/60	700	8000 <sup>4)</sup>	s135 <sup>5)</sup>	BA20d
SIG 3015 <sup>2)</sup>	4050300832111	30	15/15	213	600 <sup>4)</sup>	universal <sup>5)</sup>	BA20d

Product reference	 d [mm]	 l [mm]	 LCL a [mm]	Product number Standard pack		 No.
SIG 1810 <sup>1)</sup>	36	67	29.6 <sup>3)</sup>	4050300219608	100	1
SIG 1210 <sup>1)</sup>	36	67	29.6 <sup>3)</sup>	4050300218182	100	2
SIG 1820 <sup>2)</sup>	36	67	29.6 <sup>3)</sup>	4050300221014	100	2
SIG 1230 <sup>2)</sup>	36	67	29.6 <sup>3)</sup>	4050300218205	100	2
SIG 2460 <sup>1)</sup>	36	67	31 <sup>3)</sup>	4050300278346	100	3
SIG 3015 <sup>2)</sup>	36	67	29.6 <sup>3)</sup>	4050300218229	100	2

- 1) On request | Not for new designs  
 2) On request  
 3) LCL = light center length (distance from the coil to the lug of base)  
 4) Average life at test voltage/current  
 5) Lamps with transverse filaments should only be inclined perpendicular to the filament plane

Dual-coil lamps are the intelligent way to increase the availability of rail signaling systems significantly. If the main filament fails in these dual-coil lamps, it is possible to switch to the secondary filament. For safety reasons, however, it is recommended that the lamp be replaced as soon as possible. The specified lifespan applies to the main filament only.

## Product benefits

- Dual-coil lamp for greater reliability of the signaling system
- The secondary filament can quickly take on the function of the main filament if this latter fails
- The various wattages are perfectly matched to the specific needs of the relevant optical systems

## Applications

- Rail traffic signaling systems

## Operating instructions

Operate only in approved fixtures/signals.

Protect the lamps against moisture during operation and in particular during relamping.



BA15d  
Sheet 7004-11A

Holder standard:  
Sheet 7005-13



BA15s  
Sheet 7004-11A

Sheet 7005-13



BA20d  
Sheet 7004-12

Sheet 7005-14



BA20s  
Sheet 7004-12

Sheet 7005-14



E27  
Sheet 7004-21

Sheet 7005-20



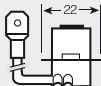
G4  
Sheet 7004-72

Holder standard:  
Sheet 7005-72



GY6.35-15  
Sheet 7004-59

Sheet 7005-59



PK22s  
Sheet 7004-47

Holder standard:  
Sheet 7005-47





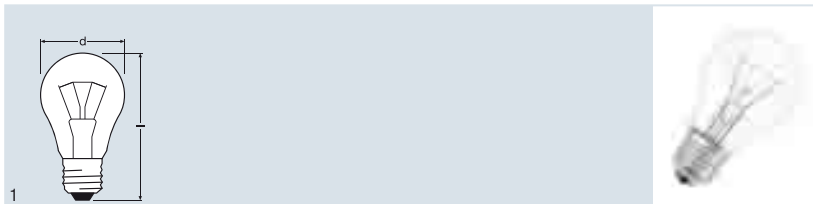
# General lighting service lamps






---

CLASSIC A	8.02
CLASSIC B	8.02
CLASSIC BW	8.03
CLASSIC P	8.03
CONCENTRA® SPOT R39	8.04
CONCENTRA® SPOT R50	8.04
CONCENTRA® SPOT R63	8.05
CONCENTRA® SPOT R80	8.06
CONCENTRA® SPOT NATURA R80	8.06
DECOR COLOR A	8.07
DECOR COLOR P	8.07
DECOR BA FLICKER	8.07
DECOR BW GOLD	8.08
SPECIAL MIRROR SILVER/GOLD A	8.08
SPECIAL MIRROR SILVER/GOLD P	8.08
SPECIAL OVEN T	8.09
SPECIAL OVEN P	8.09
SPECIAL Pygmy T/FRIDGE	8.09
SPECIAL Tubular T	8.10
SPECIAL CENTRA® Standard A	8.10
SPECIAL A (with thermal overload protection)	8.10
SPECIAL LINSTRA®	8.11
SPECIAL LINSTRA® holders	8.11
SPECIAL INSECTA®	8.11
Bases IEC/EN 60061-1	8.12
Spectral power distribution	8.13

---

## CLASSIC A



Product reference	Product number	W	lm		 d (mm)	 l (mm)		 No.
CLAS A CL 15 <sup>1)</sup>	4050300005416	15	100	E27	55	97	100	1
CLAS A CL 25 <sup>1)</sup>	4050300005430	25	220	E27	55	97	100	1
CLAS A CL 40 <sup>1)</sup>	4050300005454	40	415	E27	55	97	100	1

<sup>1)</sup> Banned from 1.9.2012 as per EU phase-out plan

These standard lamps can be used anywhere.

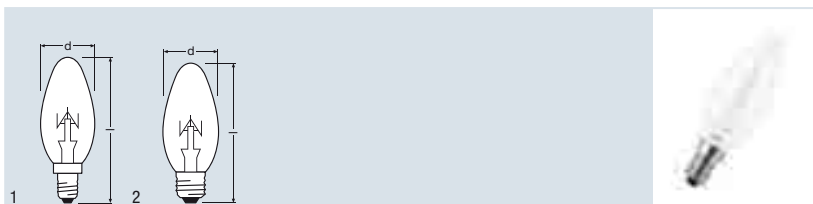
### Alternatives






**HALOGEN ECO PRO CLASSIC** Better incandescent light (see Section 3)

**Compact fluorescent lamps** Better energy-saving light (see Section 4)

**LED lamps** The light of the future – available today (see Section 1)

## CLASSIC B



Product reference	Product number	W	lm		 d (mm)	 l (mm)		 No.
CLAS B CL 15 <sup>1)</sup>	4050300005713	15	100	E14	35	100	50	1
CLAS B CL 25 <sup>1)</sup>	4050300005737	25	210	E14	35	100	100	1
CLAS B CL 40 <sup>1)</sup>	4050300005775	40	400	E14	35	100	100	1
CLAS B CL 25 <sup>1)</sup>	4050300332246	25	210	E27	35	96	100	2
CLAS B CL 40 <sup>1)</sup>	4050300332215	40	400	E27	35	96	100	2

<sup>1)</sup> Banned from 1.9.2012 as per EU phase-out plan

These standard lamps can be used anywhere.

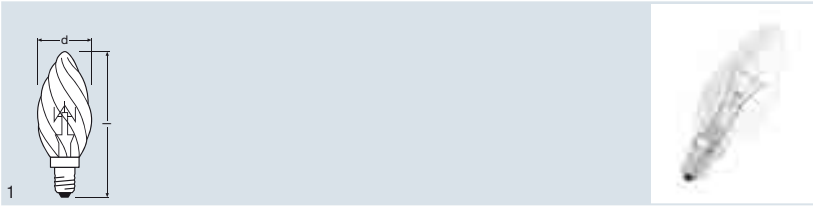
### Alternatives






**HALOGEN ECO PRO CLASSIC** Better incandescent light (see Section 3)

**Compact fluorescent lamps** Better energy-saving light (see Section 4)

**LED lamps** The light of the future – available today (see Section 1)

## CLASSIC BW



Product reference	Product number	W	lm					
CLAS BW CL 25 <sup>1)</sup>	4050300005768	25	210	E14	35	100	35	1
CLAS BW CL 40 <sup>1)</sup>	4050300005805	40	400	E14	35	100	35	1

1) Banned from 1.9.2012 as per EU phase-out plan

These standard lamps can be used anywhere.

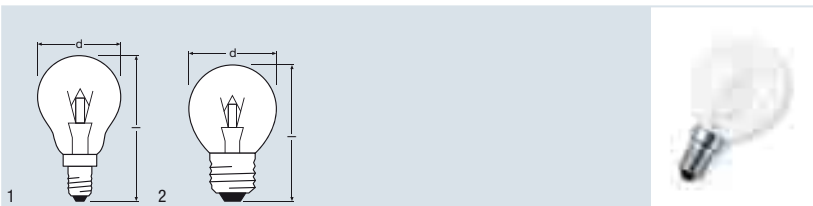
### Alternatives






**HALOGEN ECO PRO CLASSIC** Better incandescent light (see Section 3)

**Compact fluorescent lamps** Better energy-saving light (see Section 4)

**LED lamps** The light of the future – available today (see Section 1)

## CLASSIC P



Product reference	Product number	W	lm					
CLAS P CL 15 <sup>1)</sup>	4050300005881	15	100	E14	45	78	50	1
CLAS P CL 25 <sup>1)</sup>	4050300005904	25	210	E14	45	78	100	1
CLAS P CL 40 <sup>1)</sup>	4050300005928	40	400	E14	45	78	100	1
CLAS P CL 15 <sup>1)</sup>	4050300008462	15	100	E27	45	73	50	2
CLAS P CL 25 <sup>1)</sup>	4050300322704	25	210	E27	45	73	50	2
CLAS P CL 40 <sup>1)</sup>	4050300322674	40	400	E27	45	73	50	2

1) Banned from 1.9.2012 as per EU phase-out plan

These standard lamps can be used anywhere.

### Alternatives

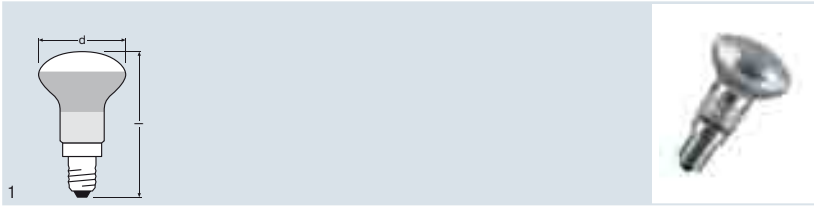
**HALOGEN ECO PRO CLASSIC** Better incandescent light (see Section 3)

**Compact fluorescent lamps** Better energy-saving light (see Section 4)

**LED lamps** The light of the future – available today (see Section 1)



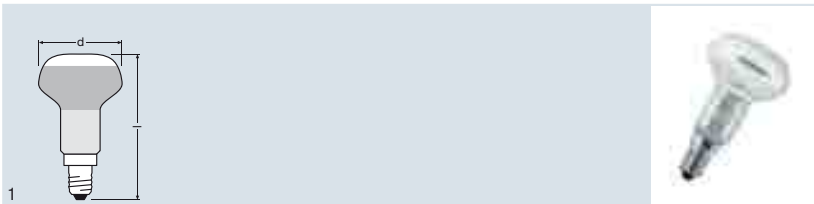
## CONCENTRA® SPOT R39



Product reference	Product number	W	cd	°		d (mm)	l (mm)			No.
CONC R39 30	4050300004815	30	180	40	E14	39	68	58	25	1

CONCENTRA® SPOT R39: the small spotlight lamp from OSRAM with the classic E14 base.

## CONCENTRA® SPOT R50



Product reference	Product number	W	cd	°		d (mm)	l (mm)			No.
CONC R50 25	4050300312811	25	210	30	E14	50	85	63	25	1
CONC R50 40	4050300322315	40	410	30	E14	50	85	63	25	1

CONCENTRA® SPOT R50 provides a focused beam for accent lighting in rooms and other areas.

### Efficient alternatives

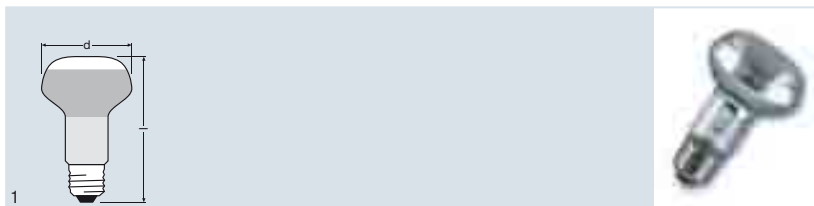
**HALOGEN ECO PRO CLASSIC** Better incandescent light (see Section 3)








**LED lamps** The light of the future – available today (see [www.osram.com](http://www.osram.com))





## CONCENTRA® SPOT R63



Product reference	Product number	W	cd							
						d (mm)	l (mm)			No.
CONC R63 25	4050300312767	25	230	30	E27	63	104	75	25	1
CONC R63 40	4050300310640	40	430	30	E27	63	104	75	25	1
CONC R63 60	4050300323275	60	960	30	E27	63	104	75	25	1

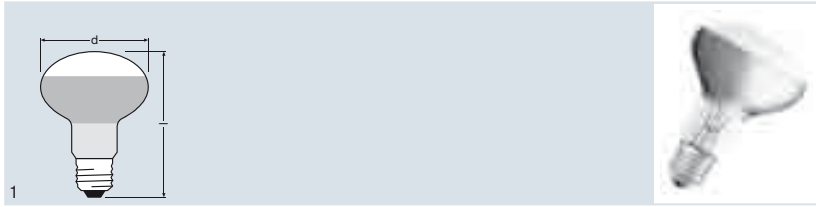
CONCENTRA® SPOT R63 provides a focused beam for accent lighting in rooms and other large areas.

### Efficient alternatives

**HALOGEN ECO PRO CLASSIC** Better incandescent light (see Section 3)



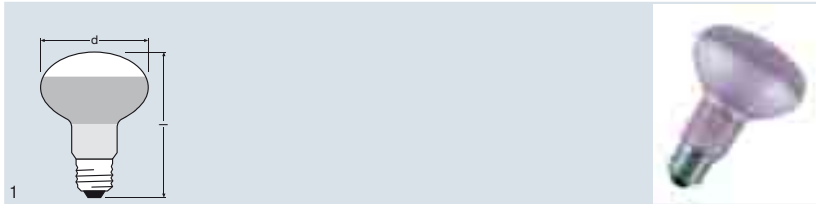
## CONCENTRA® SPOT R80



Product reference	Product number	W	cd							
CONC R80 40	4050300066042	40	150	50	E27	80	114	90	25	1
CONC R80 60	4050300066059	60	260	50	E27	80	114	90	25	1
CONC R80 75	4050300066066	75	345	50	E27	80	114	90	25	1
CONC R80 100	4050300066073	100	500	50	E27	80	114	90	25	1

CONCENTRA® SPOT R80 provides a focused beam for accent lighting in rooms and other large areas.

## CONCENTRA® SPOT NATURA R80

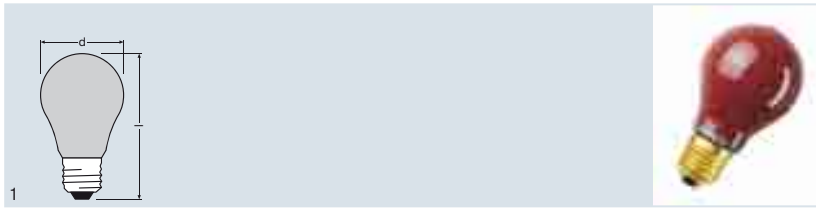







Product reference	Product number	W	cd							
CONC R80 NATURA 60	4050300092485	60	240	50	E27	80	115	90	25	1
CONC R80 NATURA 100	4050300092492	100	480	50	E27	80	115	90	25	1

CONCENTRA® SPOT NATURA R80: the reflector lamps made from neodymium glass, emphasize colors and are ideal for illuminating indoor plants.



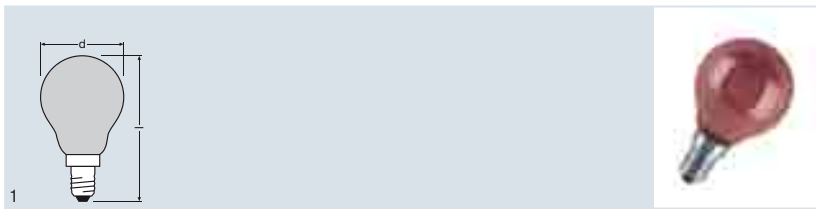
## DECOR COLOR A








Product reference	Product number	W					
DECOR A YELLOW 11	4008321 <b>480910</b>	11	E27	55	97	35	1
DECOR A BLUE 11	4008321 <b>545862</b>	11	E27	55	97	35	1
DECOR A GREEN 11	4008321 <b>545893</b>	11	E27	55	97	35	1
DECOR A ORANGE 11	4008321 <b>545916</b>	11	E27	55	97	35	1
DECOR A RED 11	4008321 <b>545824</b>	11	E27	55	97	35	1

DECOR COLOR A is the classic solution for colored lighting. Available in blue, green, red, orange and yellow.

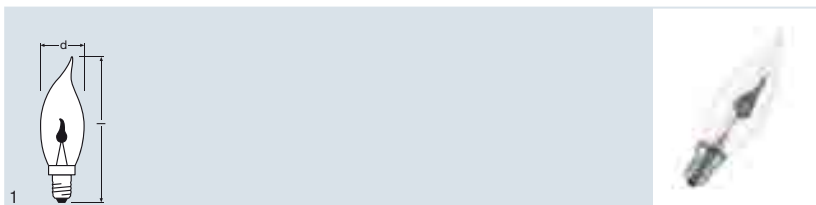
## DECOR COLOR P








Product reference	Product number	W					
DECOR P YELLOW 11	4008321 <b>489838</b>	11	E14	45	77	35	1
DECOR P BLUE 11	4008321 <b>545787</b>	11	E14	45	77	35	1
DECOR P GREEN 11	4008321 <b>545800</b>	11	E14	45	77	35	1
DECOR P RED 11	4008321 <b>545763</b>	11	E14	45	77	35	1

DECOR COLOR P is the classic solution for colored lighting in a small format. Available in blue, green, red and yellow.

## DECOR BA FLICKER

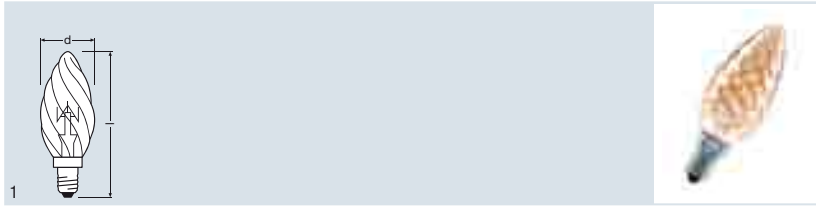


Product reference	Product number	W					
DECOR BA FLICKER 3	4050300 <b>923680</b>	3	E14	32	104	10	1

DECOR BA FLICKER has the flickering flame effect of a candle.



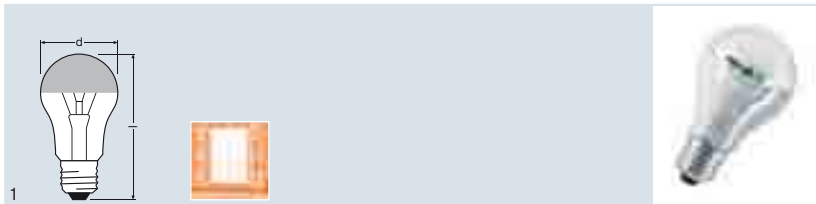
## DECOR BW GOLD



Product reference	Product number	W	lm		$\varnothing$ (mm)	l (mm)			No.
DECOR BW GOLD 15	7039210604565	15	100	E14	35	100	100	1	1

DECOR BW GOLD provides effective sparkling light, for example in chandeliers.

## SPECIAL MIRROR SILVER/GOLD A

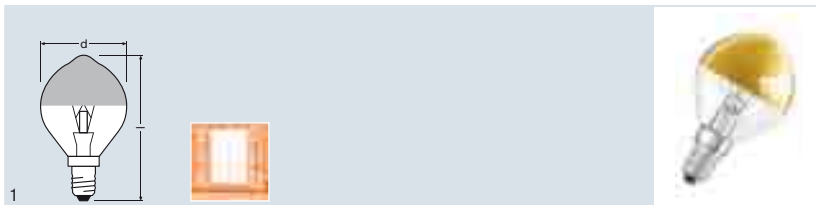


Product reference	Product number	W		$\varnothing$ (mm)	l (mm)			No.
SPC. MIRROR A SILV 40	4050300312729	40	E27	60	105	30	1	1
SPC. MIRROR A SILV 60	4050300309651	60	E27	60	105	30	1	1
SPC. MIRROR A SILV 100	4050300312705	100	E27	65	123	30	1	1
SPC. MIRROR A GOLD 40	4050300001050	40	E27	60	105	30	1	1
SPC. MIRROR A GOLD 60	4050300001067	60	E27	60	105	30	1	1

SPECIAL MIRROR A is perfect for effective glare-free light. Available with a gold or silver coating.



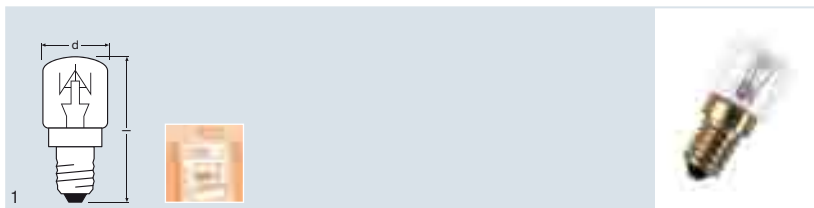
## SPECIAL MIRROR SILVER/GOLD P



Product reference	Product number	W		$\varnothing$ (mm)	l (mm)			No.
SPC. MIRROR P SILV 25	4050300001081	25	E14	45	80	35	1	1
SPC. MIRROR P SILV 40	4050300002224	40	E14	45	80	35	1	1
SPC. MIRROR P GOLD 25	4050300001104	25	E14	45	80	35	1	1
SPC. MIRROR P GOLD 40	4050300001111	40	E14	45	80	35	1	1

SPECIAL MIRROR P is perfect for effective glare-free light. Available with a gold or silver coating.

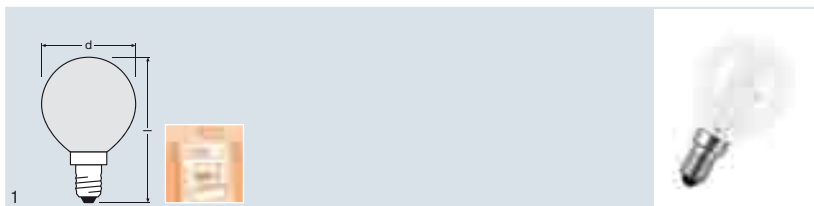
## SPECIAL OVEN T



Product reference	Product number	W	lm		$\varnothing$ (mm)	$\frac{l}{h}$ (mm)			No.
SPC. OVEN T CL 15	4050300003108	15	85	E14	22	52	100		1

These lamps are suitable for domestic oven lighting (up to 300 °C).

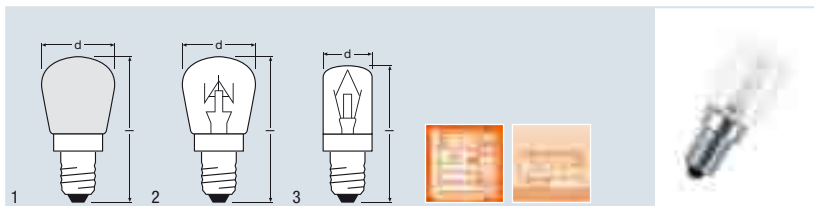
## SPECIAL OVEN P



Product reference	Product number	W	lm		$\varnothing$ (mm)	$\frac{l}{h}$ (mm)			No.
SPC.P OVEN FR 40	4050300008486	40	400	E14	45	78	50		1

These lamps are suitable for domestic oven lighting (up to 300 °C).

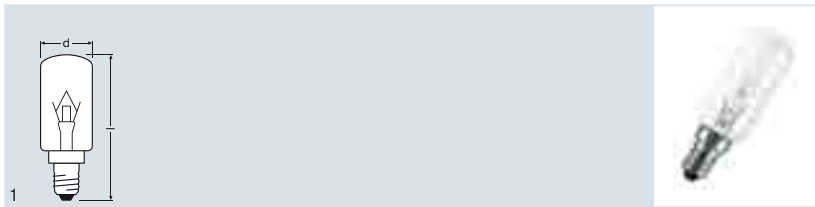
## SPECIAL Pygmy T/FRIDGE



Product reference	Product number	W	lm		$\varnothing$ (mm)	$\frac{l}{h}$ (mm)			No.
SPC. T26/57 FR 15	4050300003085	15	110	E14	26	57	100		1
SPC. T26/57 FR 25	4050300323596	25	190	E14	26	57	100		1
SPC. T26/57 CL 15	4050300310282	15	110	E14	26	57	100		2
SPC. T26/57 CL 25	4050300309637	25	190	E14	26	57	100		2
SPC. T17/54 CL 15	4050300092928	15	100	E14	17	54	10		3

These lamps are suitable for domestic refrigerator lighting and sewing machines.

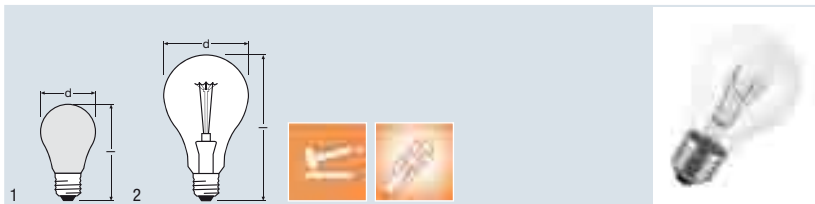
## SPECIAL Tubular T



Product reference	Product number	W	lm		$\varnothing$ (mm)	l (mm)			No.
SPC. T25/85 CL 25 <sup>1)</sup>	40503000 <b>61023</b>	25	210	E14	25	85	100	1	1
SPC. T25/85 CL 40 <sup>1)</sup>	40503000 <b>61078</b>	40	410	E14	25	85	50	1	1

<sup>1)</sup> Banned from 1.9.2012 as per EU phase-out plan

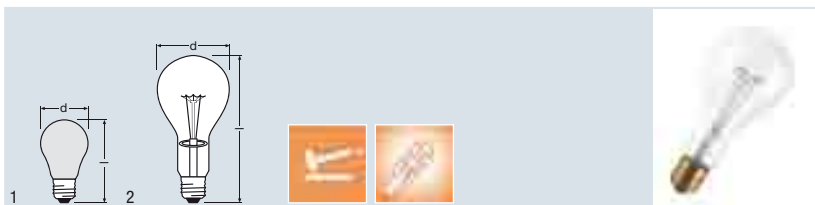
## SPECIAL CENTRA® Standard A



Product reference	Product number	W	lm		$\varnothing$ (mm)	l (mm)			No.
CENTRA A FR 100	40503000 <b>10915</b>	100	1000	E27	60	105	20	1	1
CENTRA A CL 200	40503000 <b>12971</b>	200	2500	E27	80	160	20	2	2

CENTRA® lamps with the shockproof symbol are particularly shockproof and resistant to vibration thanks to their additional filament supports.

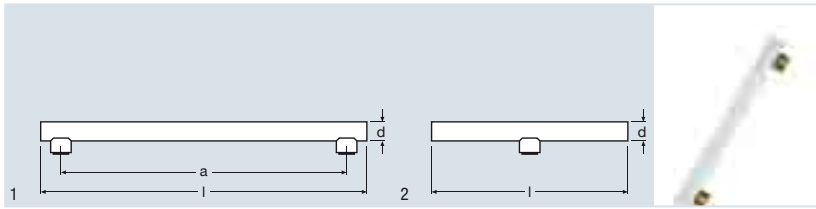
## SPECIAL A (with thermal overload protection)



Product reference	Product number	W	lm		$\varnothing$ (mm)	l (mm)			No.
CENTRA A T FR 25	40503000 <b>10861</b>	25	185	E27	60	105	20	1	1
CENTRA A T FR 40	40503000 <b>10878</b>	40	320	E27	60	105	20	1	1
CENTRA A T FR 60	40503000 <b>10892</b>	60	505	E27	60	105	20	1	1
SPC. A T CL 300	40503000 <b>12933</b>	300	4600	E40	112	189	20	2	2
SPC. A T CL 500	40503000 <b>13176</b>	500	8400	E40	112	240	20	2	2
SPC. A T FR 60 24 V	40503000 <b>13015</b>	60	935	E27	60	105	20	1	1

CENTRA® T and SPC. A T lamps are temperature-protected. They meet all the requirements laid down in DIN 49810-4 and 49810-5 for use in flameproof and explosion-proof suspended and hand-held fixtures. They are used in mining and other hazardous environments.

## SPECIAL LINESTRA®

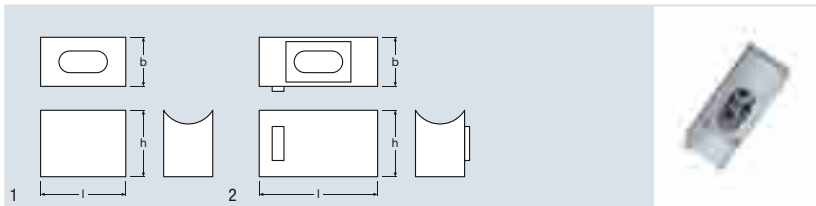


Product reference	Product number	W	lm		d [mm]	l [mm]	a [mm]		No.
SPC. LIN 1603 <sup>1)</sup>	4050300317106	35	270	S14s	30	300	242	25	1
SPC. LIN 1604 <sup>1)</sup>	4050300319919	60	420	S14s	30	500	442	25	1
SPC. LIN 1104 <sup>1)</sup>	4050300317618	120	840	S14s	30	1000	942	16	1
SPC. LIN 1613 <sup>1)</sup>	4050300317595	35	240	S14d	30	300	–	25	2
SPC. LIN 1614 <sup>1)</sup>	4050300319933	60	420	S14d	30	500	–	25	2

<sup>1)</sup> Banned from 1.9.2013 as per EU phase-out plan

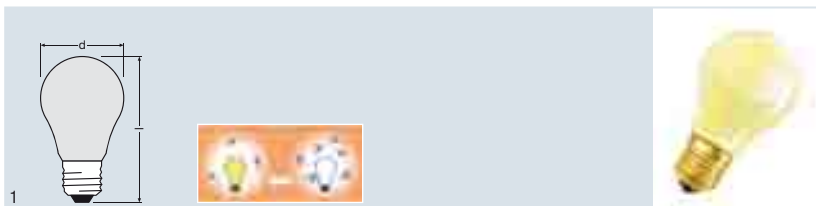
These tubular lamps produce a beautiful soft light, ideal for mirror lighting.

## SPECIAL LINESTRA® holders



Product reference	Product number	COLOR	l [mm]	b [mm]	h [mm]		No.
662 HOLDER	4050300012742	GRAY	59	34	46	100	1
670 HOLDER	4050300018638	GRAY	82	34	46	100	1
675 HOLDER	4050300012766	GRAY	82	34	46	100	2

## SPECIAL INSECTA®



Product reference	Product number	W	lm		d [mm]	l [mm]		No.
SPC.A INSECT YELLOW 60	4050300082226	60	500	E27	55	97	60	1



## Bases IEC/EN 60061-1



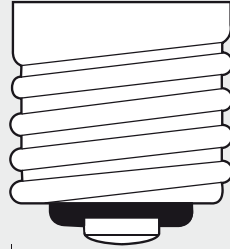
← 14 →

E14  
Sheet 7004-23



← 27 →

E27  
Sheet 7004-21

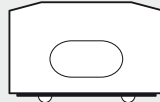
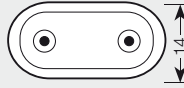


← 40 →

E40  
Sheet 7004-24



S14s  
Sheet 7004-112



S14d  
Sheet 7004-112





## Spectral power distribution

### Spectral power distribution

Visible range from 380 to 780 nm, relative spectral emission per 5 nm.



Daylight (D 65)



Incandescent light

All the general service lamps shown are rated for the European line voltage of 230 V.

Other types are available on request.

An extended range for non-EU countries can be found at [www.osram.com](http://www.osram.com).



Note: These chromaticity diagrams do not show the color distributions in great detail. The color printing process is not able to provide an accurate match between the colors shown and the colors defined for the individual color locations.



## Electronic control gear

QUICKTRONIC® INTELLIGENT dimmable QT <sub>i</sub> (DALI)... DIM	9.06
QT <sub>i</sub> DALI – DALI or Touch DIM® in one unit	9.07
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> DALI DIM for T5 lamps	9.08
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> DALI DIM for T8 lamps	9.10
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> DALI DIM for CFL OSRAM DULUX D/E, T/E	9.12
QUICKTRONIC® QT DALI DIM for CFL OSRAM DULUX T/E HE	9.14
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> DIM (1-10 V) for T5 lamps	9.15
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> DIM (1-10 V) for T8 lamps	9.17
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> DIM (1-10 V) for CFL OSRAM DULUX D/E, T/E	9.19
QUICKTRONIC® DE LUXE HF DIM (1-10 V) for T8 lamps	9.21
OSRAM always has the right control gear for you	9.22
QUICKTRONIC® INTELLIGENT QT <sub>i</sub> for T5 lamps	9.24
QUICKTRONIC® PROFESSIONAL QTP5 for T5 lamps	9.26
QUICKTRONIC® FIT QT-FIT5 for T5 lamps	9.28
QUICKTRONIC® PROFESSIONAL QTP8 for T8 lamps	9.29
QUICKTRONIC® FIT QT-FIT8 for T8 lamps	9.30
QUICKTRONIC® PROFESSIONAL QTP-DL for OSRAM DULUX L and OSRAM DULUX F lamps	9.31
QUICKTRONIC® PROFESSIONAL QTP for T5 ring lamps	9.32
QUICKTRONIC® PROFESSIONAL QTP-M, -D/E, -T/E for CFL OSRAM DULUX D/E, T/E	9.33
QUICKTRONIC® QT-TE for CFL OSRAM DULUX T/E HE	9.35
QUICKTRONIC® ECO QT-ECO for CFL OSRAM DULUX D/E, T/E, FM lamps	9.36
DULUXTRONIC® DT-S/E, DT-D/E, DT-T/E – with integrated lampholder	9.39
QUICKTRONIC® for OSRAM ENDURA®	9.41

POWERTRONIC®	9.42
POWERTRONIC® OUTDOOR PTo for HID lamps for outdoor applications	9.43
POWERTRONIC® INTELLIGENT PTi S for HID lamps – for luminaire installation	9.44
POWERTRONIC® INTELLIGENT PTi I for HID lamps – with strain relief	9.45
POWERTRONIC® FIT PT-FIT S for HID lamps – for luminaire installation	9.46
POWERTRONIC® FIT PT-FIT I for HID lamps – with strain relief	9.47
POWERTRONIC® GREENHOUSE PTg for greenhouse lighting	9.48
Inrush current limiter EBN-OS for POWERTRONIC® ECGs	9.48
HALOTRONIC®	9.49
HALOTRONIC® electronic transformers -PROFESSIONAL- HTi, HTL	9.50
HALOTRONIC® electronic transformers -COMPACT- HTM, HTN	9.51
ET-PARROT® electronic transformers	9.52
Dimmer modules for controlling HALOTRONIC® and ET-PARROT®	9.53
ECG accessories – protective casing	9.54
ECG accessories – strain relief	9.55
OPTOTRONIC®	9.56
LED modules and control gear, application overview	9.57
OPTOTRONIC® control gear - 12 V	9.58
OPTOTRONIC® control gear - 24 V	9.59
OPTOTRONIC® control gear - 1-10 V interface	9.61
OPTOTRONIC® control gear - 350 mA	9.62
OPTOTRONIC® control gear - 500 mA	9.64
OPTOTRONIC® control gear - 700 mA	9.65
OPTOTRONIC® control gear - PhaseCut	9.66
OPTOTRONIC® LEDset	9.68
OPTOTRONIC® control gear - LEDset	9.69
OPTOTRONIC® 3DIM	9.71
OPTOTRONIC® LED constant current 3DIM control gear	9.71
OPTOTRONIC® control gear - DALI/3DIM	9.72
OPTOTRONIC® DALI LED DIMMER	9.74
OPTOTRONIC® 1-10V LED DIMMER	9.75
OPTOTRONIC® DMX LED DIMMER	9.76
Summary of lamp/ECG combinations	9.78
Installation and operating instructions	9.99
Inrush currents for ECGs measured at $U_N = 230 V_{AC}$	9.103
Wiring diagrams for dimmable (DALI) ECGs	9.112
Wiring diagrams for dimmable (1-10 V) ECGs	9.113
Wiring diagrams for non-dimmable (T5) ECGs	9.114
Wiring diagrams for non-dimmable (T8) ECGs	9.115
Wiring diagrams for non-dimmable (CFL) ECGs	9.117
Wiring diagram for PTo ... 3DIM	9.120
Overview of ECGs (cable lengths in meters, wiring by PIN)	9.121

# OSRAM ECGs – innovative technology for energy-efficient lighting

## Research and development

Provide today what tomorrow requires. Continual research and development in all OSRAM products holds out the promise of innovative systems with additional user benefits. For example, thanks to the lamp detection circuit built into the QUICKTRONIC® INTELLIGENT ECG it is possible to achieve variable lumen values from the same fixture. This halves the number of fixture types and simplifies fixture handling for OEMs, trade and users.

## Your benefits:

- Compliance with the latest regulations, and allowance in certain cases for planned regulations
- Exceptional energy efficiency in lighting systems
- State-of-the-art equipment



## Perfect combination

You can expect more than just control gear. You can expect a perfect system. As one of the world's two leading suppliers of ECGs and lamps, OSRAM can provide you with perfectly matched high-quality ECGs and lamps – an unbeatable combination. Whatever your requirements you can be sure of the ideal solution.

## Your benefits:

- One-stop shop for lamps, ECGs and service
- Maximum reliability in system operation
- Only one point of contact to deal with any matters relating to light



*Delhi airport, Terminal 3, India*



*Metro Dubai*



### The reliable ECGs

Put your trust in OSRAM ECGs and start saving – time, money and anguish. The high reliability of OSRAM ECGs has impressed our customers worldwide. OSRAM is particularly appreciated on the lighting market for its reliable data relating to temperature and ECG life. Even in thermally critical applications there are only minimal ECG failures in fixtures with long operating times. This is why, for example, OSRAM QUICKTRONIC® PROFESSIONAL units are the most popular ECGs for damp-proof fixtures. They have continued to operate reliably for many years.

#### Your benefits:

- High reliability of the lighting system over many years
- OSRAM ECGs save time and money
- Long-term satisfaction among system operators



Petuel tunnel in Munich, Germany

### Fully guaranteed up to 5 years

Hundreds of thousands of customers put their trust in us year after year after year. In return we offer them guarantees that stretch for years. OSRAM ECGs are of such high quality that we offer a full 3-year guarantee on them. In combination with OSRAM lamps this ECG guarantee increases to as much as 5 years. OSRAM ECG systems are ideal because they give you the security that you expect over a long period of time. On that you can rely.

#### Your benefits:

Within the guarantee period\* OSRAM will refund

- Any lamp that fails\*
- Any ECG that fails\*
- Only one point of contact



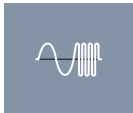
\* The system guarantee is handled directly by OSRAM.  
For terms and conditions see [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee).

### Excellent experience with 800 million installed ECGs

You will only ever put your trust in a company that provides top-quality products. The performance of OSRAM ECGs is significantly better than the market standard at up to 50,000 hours for a maximum failure rate of 10%. Thanks to this excellent reliability, OSRAM ECGs are the choice not only of leading fixture manufacturers but also renowned major users throughout the world.

- Statements by major OEM customers confirm that of the 1 million ECGs sold each year less than 0.1% had a fault of any kind
- The fact that there are more than 12 million registered OSRAM ECGs in the industrial, retail and public sectors speaks for itself

*More than 100,000 OSRAM ECGs for fluorescent lamps are in use at Munich airport. They were chosen mainly for a 10 K lower  $t_c$  temperature in typical fixtures. For users, this means that the ECGs last twice as long.*





# Quality in the palm of your hand

## The multi-level system guarantee from OSRAM

OSRAM introduced the System\* Guarantee for lamp and ECG from a single source more than 8 years ago. The System\* Guarantee is popular with system operators as it provides additional security for using modern energy-efficient systems, especially dimming systems. More than 12 million ECGs throughout the world have already been registered, in applications ranging from industrial facilities and shopping centers to the smallest lighting systems. The System\* Guarantee is in high demand among users particularly for dimming systems and high-intensity discharge lamps.

Under the guarantee OSRAM is the only ECG supplier who will refund **any** ECG that has failed as the result of a material or manufacturing defect.\*

\* For conditions and details go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)



FC 22 W



DULUX T/E 42 W (CONSTANT)



DULUX T/E 32 W (CONSTANT)



FC 40 W



DULUX D/E 26 W



DULUX T/E 26 W (CONSTANT)



DULUX D/E 18 W



DULUX T/E 18 W



**Guarantee Level 1  
OSRAM Guarantee**

OSRAM offers a full 3-year guarantee on all electronic control gear.

The guarantee starts when the relevant fixture with the appropriate OSRAM ECG is first put into operation. There is no need to register. For more information on Guarantee Level 1 go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)



**Guarantee Level 2  
OSRAM System Guarantee**

If ECGs and lamps from OSRAM are used together, OSRAM offers a full 5-year guarantee on selected electronic control gear.

For the System Guarantee the lighting system must be registered with OSRAM on the internet at [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee). Here you will also find further information and conditions relating to Guarantee Level 2.



**Guarantee Level 3  
OSRAM System Guarantee**

If OSRAM ECGs and light sources are used together (selected series or types), OSRAM offers a guarantee on LED modules, LUMILUX® fluorescent lamps, HCLP/HQL® high-intensity discharge lamps and ECO low-voltage halogen lamps and a full 5-year guarantee on the electronic control and operating devices. For the System Guarantee, the lighting system must be registered with OSRAM on the internet at [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee). Here you will also find further information and conditions relating to Guarantee Level 3.



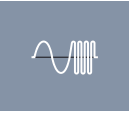
**Guarantee Level 4  
OSRAM Premium Guarantee**

If OSRAM ECGs and light sources are used together (selected series or types) and operated with OSRAM lighting controllers, OSRAM offers a guarantee on LED modules, LUMILUX® fluorescent lamps, HCLP/HQL® HID lamps and ECO low-voltage halogen lamps and a full 5-year guarantee on the electronic control and operating devices. For the System Premium Guarantee, the lighting system must be registered with OSRAM on the internet at [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee). Here you will also find further information and conditions relating to Guarantee Level 4.



In view of the increasing use of LED lighting OSRAM now offers a PrevaLED® System+ Guarantee. It applies to perfectly matched components such as the PrevaLED® light engine, OPTOTRONIC® OTp ECGs and cabling from OSRAM.

**For more information go to**  
[www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)



# QUICKTRONIC® INTELLIGENT dimmable QT*i* (DALI)...DIM

## QT*i* dimmable – DALI or 1-10 V interface

The current generation of dimmable QUICKTRONIC® Intelligent control gear with DALI (Digital Addressable Lighting Interface) or 1-10 V interface (QT*i* DALI/DIM):

- Automatic lamp detection by intelligent multilamp operation and use of a large number of different lamps  
→ Flexible fixtures and reduction in the number of ECG types

### Very high energy efficiency.

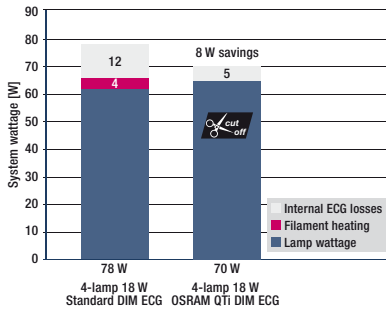
#### Lowest standby consumption on the DALI ECG market.

- Energy Efficiency Index EEI=A1 BAT
- Very low standby consumption:
  - QT*i* DALI 1x, 2x: 0.2 W (in AC & DC operation)
  - QT*i* DALI 3x, 4x: < 0.5 W (in AC & DC operation)
- Optimum preheating in any dimmer setting
- Dimming range: 1 to 100% luminous flux

### Outstanding flexibility and quality.

#### Now also for energy saver lamps.

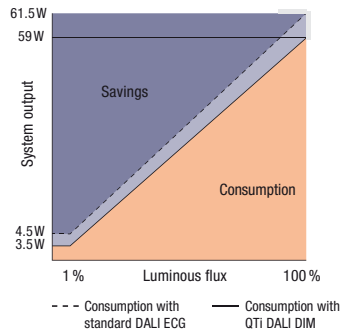
- **Full dimming functionality** even with amalgam and **energy saver** lamps
- **NEW:** Large number of additional ECG/lamp combinations (OSRAM DULUX L...HE, XT)
- Life of up to 100,000 hours (for a definition of life see page 9.111, section 13)
- Suitable for fixtures of protection class I
- Effective overtemperature protection of the dimmable ECG thanks to intelligent thermal management at high  $t_c$  temperatures
- Optimized hot restrike within 0.6 s
- Stable dimming operation from 1(3) to 100 % even of CONSTANT amalgam lamps
- OSRAM CFL and T5 CONSTANT lamps: dimming in outdoor applications possible
- Very high efficiency of OSRAM dimming ECGs of up to 94 % thanks to high-efficiency components and temperature-dependent cut-off. For dimmer settings > 80 % disconnection of electrode heating  
→ Additional energy savings of up to 4 W (type-dependent)



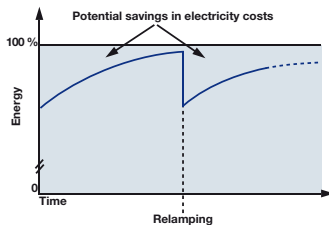
Values related to the same luminous flux (Ballast Lumen Factor) (BLF) for all QT*i* DIM=1.0

Fig. 2. Electronic control gear QT*i* DIM from OSRAM is renowned for its optimized system output

### Comparison between a T5 fluorescent lamp (54 W) on QT*i* DALI DIM and one on a standard DALI ECG



- Adjustment of the planning factor (0.8) thanks to the use of dimmable ECGs saves an additional 10% in electricity costs



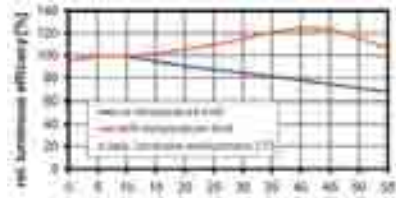
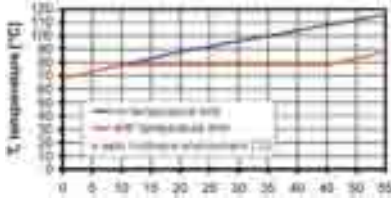
For a 2xHO 49-W fixture additional savings over the life of the lamps of € 20 can be achieved simply by adjusting the planning factor (0.8):

10% of 110 W x 18,000 h x 0.10 €/kWh = 20 €/fixture in 4 years.

This adjustment can be done by the building management system or by a light sensor.



- Effective thermal protection thanks to intelligent power reduction at high  $T_c$  temperatures  
 → Simplifies the safety approval for hot fixtures

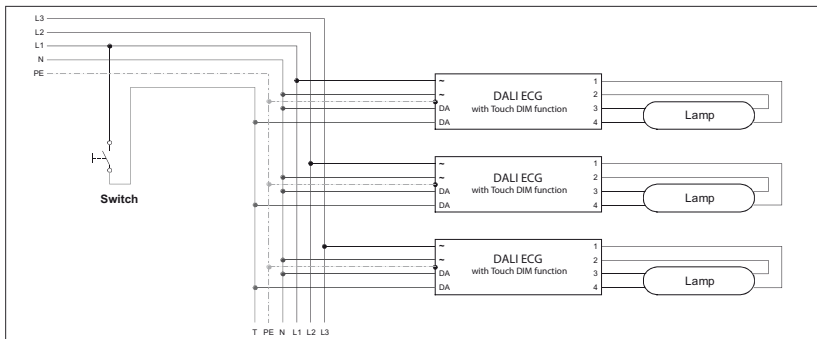


The benefits are a significant increase in the luminous efficacy (lm/W) of hot fixtures and a reduced thermal load on the fixture components

- End of Life (EoL) disconnection according to Test 2 (asymmetrical power test)
- DALI standard as per IEC 60929 and IEC 62386

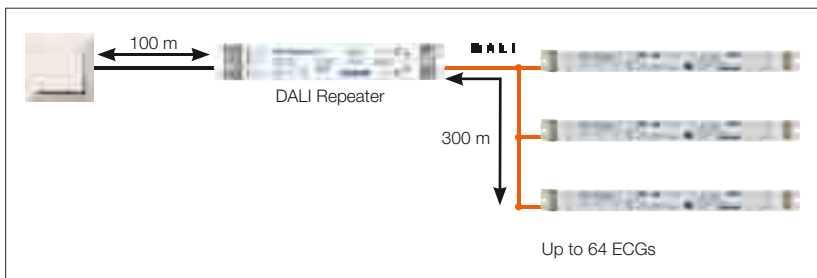
## QTi DALI – DALI or Touch DIM® in one unit

- Touch DIM® – dimming without a dimmer thanks to direct connection to conventional momentary-action switches



Double click to store the switch-on value

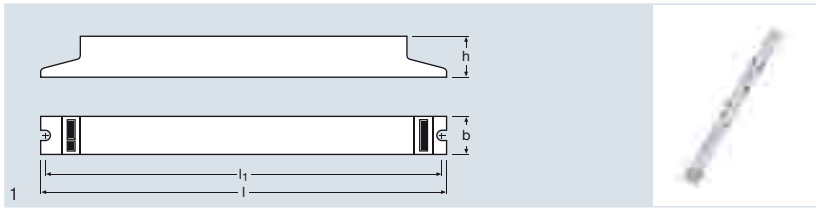
- Operation of more than 4 and up to 64 DALI ECGs via repeaters



- Touch DIM® Sensor – light management without a controller thanks to direct connection of a combined light and motion sensor



# QUICKTRONIC® INTELLIGENT QTİ DALI DIM for T5 lamps









Product reference	Product number		Im	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QTİ DALI 1x14/24 DIM	4050300870380	1xHE 14	1200x1	0.07	15.4	0.95	+10...+50 °)	154...276
		1xHO 24	1750x1	0.11	25.3	0.98		
QTİ DALI 1x21/39 DIM	4050300870366	1xDL 40	3500x1	0.18	41.8	0.98	+10...+50 °)	154...276
		1xHE 21	1900x1	0.11	23.1	0.95		
		1xHO 39	3100x1	0.18	41.8	0.98		
QTİ DALI 1x28/54 DIM	4050300870809	1xDL 55	4800x1	0.26	59	0.99	+10...+50 °)	154...276
		1xHE 28	2600x1	0.14	30.1	0.97		
		1xHO 54	4450x1	0.26	58.8	0.99		
QTİ DALI 1x35/49/80 DIM	4050300870342	1xDL 80	6000x1	0.40	88	0.99	+10...+50 °)	154...276
		1xHE 35	3300x1	0.17	37.8	0.95		
		1xHO 49	4300x1	0.24	53.4	0.98		
		1xHO 80	6150x1	0.39	88.1	0.99		
QTİ DALI 2x14/24 DIM	4050300870861	2xDL 24	1800x2	0.22	49	0.98	+10...+50 °)	154...276
		2xHE 14	1200x2	0.14	30.6	0.95		
QTİ DALI 2x21/39 DIM	4050300870489	2xDL 40	3500x2	0.36	82	0.97	+10...+50 °)	154...276
		2xHE 21	1900x2	0.21	45	0.95		
		2xHO 39	3100x2	0.36	82	0.98		
QTİ DALI 2x28/54 DIM	4050300870502	2xDL 55	4800x2	0.51	115	0.99	+10...+50 °)	154...276
		2xHE 28	2600x2	0.27	60.2	0.97		
QTİ DALI 2x35/49 DIM	4050300870465	2xHE 35	3300x2	0.33	74.5	0.98	+10...+50 °)	154...276
		2xHO 49	4300x2	0.45	103.6	0.99		
QTİ DALI 2x35/49/80 DIM	4050300870441	2xDL 80	6000x2	0.74	165	0.99	+10...+50 °)	154...276
		2xHE 35	3300x2	0.34	74	0.98		
		2xHO 49	4300x2	0.46	101	0.99		
QTİ DALI 3x14/24 DIM	4008321069955	3xDL 24	1800x3	0.32	73	0.99	+10...+50 °)	154...276
		3xHE 14	1200x3	0.20	45.3	0.97		
		3xHO 24	1750x3	0.32	73.4	0.99		
QTİ DALI 4x14/24 DIM	4008321070036	4xDL 24	1800x4	0.43	98	0.99	+10...+50 °)	154...276
		4xHE 14	1200x4	0.27	60.4	0.97		
		4xHO 24	1750x4	0.43	97.6	0.99		

Product reference	kHz ECG	$l$ [mm]	$b$ [mm]	$h$ [mm]	$h$ [mm]			
QTİ DALI 1x14/24 DIM	53...120	360	30	21	350	273	20	1
QTİ DALI 1x21/39 DIM	44...120	360	30	21	350	305	20	1
QTİ DALI 1x28/54 DIM	44...120	360	30	21	350	268	20	1
QTİ DALI 1x35/49/80 DIM	44...120	360	30	21	350	278	20	1
QTİ DALI 2x14/24 DIM	53...120	425	30	21	415	370	20	1
QTİ DALI 2x21/39 DIM	44...120	425	30	21	415	370	20	1
QTİ DALI 2x28/54 DIM	44...120	423	30	21	415	370	20	1
QTİ DALI 2x35/49 DIM	44...120	423	30	21	415	370	20	1
QTİ DALI 2x35/49/80 DIM	44...120	423	30	21	415	370	20	1
QTİ DALI 3x14/24 DIM	40...100	360	40	21	350	420	20	1
QTİ DALI 4x14/24 DIM	40...100	360	40	21	350	380	20	1

1) -20°C operation possible for all QTİ (DALI) ... DIM ECGs. Restriction of the lower dimmer setting is needed. For more information see the Dimming Guide.

**Product characteristics**

- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 1 to 100% luminous flux
- Lamp start within 0.6 s
- Energy Efficiency Index EEL: A1 BAT
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks:    
- Additional features:  
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

**Product benefits**

- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for  $T = 65^\circ\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL T.2)
- Automatic restart of replacement lamps
- Control gear complies with the MINERGIE standard thanks to very low standby consumption

**Applications**

- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I

**DALI product features**

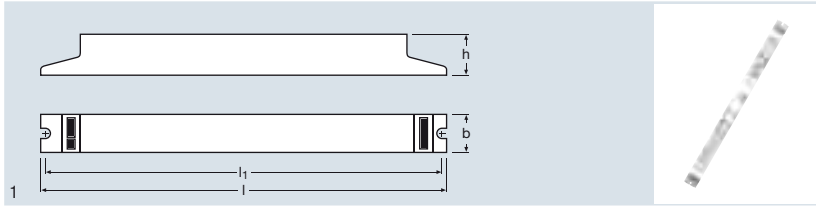
- Control via the DALI interface
- Compliance with the DALI standard to IEC 60929 and IEC 62386
- The control input is protected against overvoltage and polarity reversal in all OSRAM ECGs

**Touch DIM® and Touch DIM® sensor function**

- Manual dimming without any controller and with standard switches
- Includes memory function (double click) and soft start



# QUICKTRONIC® INTELLIGENT QT<sub>i</sub> DALI DIM for T8 lamps









Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>	 min...max
QT <sub>i</sub> DALI 1x18 DIM	4050300870403	1xDL 18	1x1200	0.08	18	0.97	+10...+50 <sup>1)</sup>	154...276
		1xL 18	1x1350	0.08	18.3	0.97	-20...+50 <sup>1)</sup>	
QT <sub>i</sub> DALI 1x36 DIM	4050300870427	1xDL 36	1x2900	0.16	36	0.97	+10...+50 <sup>1)</sup>	154...276
		1xL 36	1x2700	0.16	36	0.98	-20...+50 <sup>1)</sup>	
QT <sub>i</sub> DALI 1x58 DIM	4050300870823	1xL 58	1x5000	0.25	56	0.99	-20...+50 <sup>1)</sup>	154...276
QT <sub>i</sub> DALI 2x18 DIM	4050300870526	2xDL 18	2x1200	0.16	37	0.97	+10...+50 <sup>1)</sup>	154...276
		2xL 18	2x1350	0.16	36.5	0.97	-20...+50 <sup>1)</sup>	
QT <sub>i</sub> DALI 2x36 DIM	4050300870885	2xDL 36	2x2900	0.31	69	0.98	+10...+50 <sup>1)</sup>	154...276
		2xL 36	2x2700	0.30	69	0.98	-20...+50 <sup>1)</sup>	
QT <sub>i</sub> DALI 2x58 DIM	4050300870847	2xL 58	2x5000	0.47	108	0.99	-20...+50 <sup>1)</sup>	154...276
QT <sub>i</sub> DALI 3x18 DIM	4008321069979	3xDL 18	3x1200	0.24	53.6	0.98	+10...+50 <sup>1)</sup>	154...276
		3xL 18	3x1350	0.24	53.6	0.98	-20...+50 <sup>1)</sup>	
QT <sub>i</sub> DALI 4x18 DIM	4008321070050	4xDL 18	4x1200	0.31	69.3	0.98	+10...+50 <sup>1)</sup>	154...276
		4xL 18	4x1350	0.31	69.3	0.98	-20...+50 <sup>1)</sup>	

Product reference	 kHz	 l [mm]	 b [mm]	 h [mm]	 l <sub>1</sub> [mm]			 No.
QT <sub>i</sub> DALI 1x18 DIM	51...120	360	30	21	350	305	20	1
QT <sub>i</sub> DALI 1x36 DIM	48...120	360	30	21	350	271	20	1
QT <sub>i</sub> DALI 1x58 DIM	46...120	360	30	21	350	273	20	1
QT <sub>i</sub> DALI 2x18 DIM	51...120	425	30	21	415	370	20	1
QT <sub>i</sub> DALI 2x36 DIM	48...120	423	30	21	415	370	20	1
QT <sub>i</sub> DALI 2x58 DIM	46...120	423	30	21	415	370	20	1
QT <sub>i</sub> DALI 3x18 DIM	40...100	360	40	21	350	420	20	1
QT <sub>i</sub> DALI 4x18 DIM	40...100	360	40	21	350	374	20	1

1) -20°C operation possible for all QT<sub>i</sub> (DALI) ... DIM ECGs. Restriction of the lower dimmer setting is needed. For more information see the Dimming Guide.



**Product characteristics**

- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 1 to 100% luminous flux
- Lamp start within 0.6 s
- Energy Efficiency Index EEl: A1 BAT
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks:    
- Additional features:  
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

**Product benefits**

- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for  $T = 65^\circ\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL T.2)
- Automatic restart of replacement lamps
- Control gear complies with the MINERGIE standard thanks to very low standby consumption

**Applications**

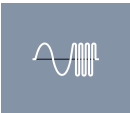
- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I

**DALI product features**

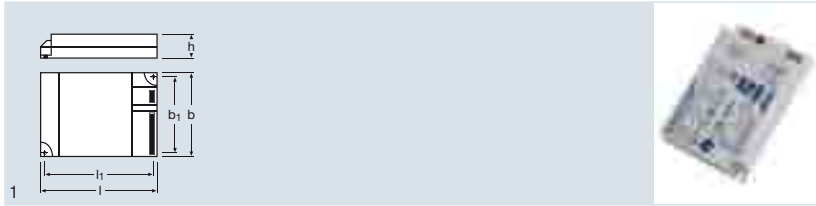
- Control via the DALI interface
- Compliance with the DALI standard to IEC 60929 and IEC 62386
- The control input is protected against overvoltage and polarity reversal in all OSRAM ECGs

**Touch DIM® and Touch DIM® sensor function**

- Manual dimming without any controller and with standard switches
- Includes memory function (double click) and soft start



# QUICKTRONIC® INTELLIGENT QTd DALI DIM for CFL OSRAM DULUX D/E, T/E









Product reference	Product number								
QTi DALI-T/E 1x18-57 DIM <sup>1)</sup>	4008321 <b>060808</b>	1xDL 24	1x1200	0.12	26	0.96	+10...+50 <sup>2)</sup>	176...254	
		1xDL 40	1x3500	0.20	45	0.98			
		1xDT/E 18	1x1200	0.09	20	0.95			
		1xDT/E 26 CONSTANT	1x1800	0.13	29	0.97			
		1xDT/E 26	1x1800	0.13	29	0.97			
		1xDT/E 32 CONSTANT	1x2400	0.16	36	0.98			
		1xDT/E 32	1x2400	0.16	36	0.98			
		1xDT/E 42 CONSTANT	1x3200	0.21	47	0.99			
		1xDT/E 42	1x3200	0.21	47	0.99			
QTi DALI-T/E 2x18-42 DIM <sup>1)</sup>	4008321 <b>060822</b>	2xDL 24	2x1200	0.22	51	0.97	+10...+50 <sup>2)</sup>	176...254	
		2xDL 40	2x3500	0.38	87	0.99			
		2xDT/E 18	2x1200	0.17	38	0.95			
		2xDT/E 26 CONSTANT	2x1800	0.25	56	0.98			
		2xDT/E 26	2x1800	0.25	56	0.98			
		2xDT/E 32 CONSTANT	2x2400	0.30	69	0.99			
		2xDT/E 32	2x2400	0.30	69	0.99			
		2xDT/E 42 CONSTANT	2x3200	0.39	90	0.99			
		2xDT/E 42	2x3200	0.39	90	0.99			
Product reference									
QTi DALI-T/E 1x18-57 DIM <sup>1)</sup>	42...130	123	79	33	129.5	67	227	20	1
QTi DALI-T/E 2x18-42 DIM <sup>1)</sup>	42...130	123	79	33	129.5	67	247	20	1

<sup>1)</sup> Combination with strain relief possible - see ECG accessories – Strain relief

<sup>2)</sup> -20°C operation possible for all QTi (DALI) ... DIM ECGs. Restriction of the lower dimmer setting is needed. For more information see the Dimming Guide.



### Product characteristics

- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 3 to 100% luminous flux
- Lamp start within 0.5 s
- Energy Efficiency Index EEl: A1 BAT
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks:    
- Additional features:  
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

### Product benefits

- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for  $T = 65^\circ\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL T.2)
- Automatic restart of replacement lamps
- Control gear complies with the MINERGIE standard thanks to very low standby consumption

### Applications

- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I

### DALI product features

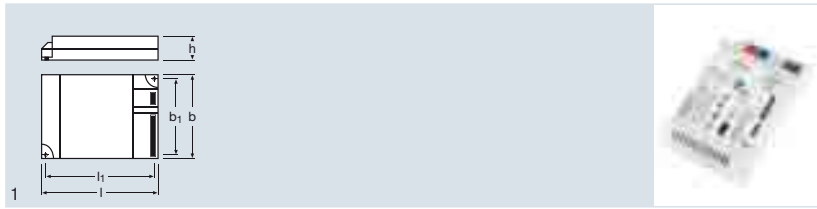
- Control via the DALI interface
- Compliance with the DALI standard to IEC 60929 and IEC 62386
- The control input is protected against overvoltage and polarity reversal in all OSRAM ECGs

### Touch DIM® and Touch DIM® sensor function

- Manual dimming without any controller and with standard switches
- Includes memory function (double click) and soft start



# QUICKTRONIC® QT DALI DIM for CFL OSRAM DULUX T/E HE



Product reference	Product number							
QT DALI-T/E 1x14-17/220-240 DIM HE	4008321 <b>327383</b>	1xDT/E 14 HE	1x1050	0.08	17	0.95	+10...+50	176...254
		1xDT/E 17 HE	1x1250	0.10	21	0.95		
QT DALI-T/E 2x14-17/220-240 DIM HE	4008321 <b>327406</b>	2xDT/E 14 HE	2x1050	0.14	33	0.95	+10...+50	176...254
		2xDT/E 17 HE	2x1250	0.19	39	0.95		
Product reference								
QT DALI-T/E 1x14-17/220-240 DIM HE	123	79	33	129.5	67	200	12	1
QT DALI-T/E 2x14-17/220-240 DIM HE	123	79	33	129.5	67	200	12	1

QUICKTRONIC® QT DALI DIM for CFL OSRAM DULUX T/E HE

## Product characteristics

- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 3 to 100% luminous flux
- Lamp start within 0.5 s
- Energy Efficiency Index EEI: A1
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks:
- Additional features:
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

## Product benefits

- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps

## Applications

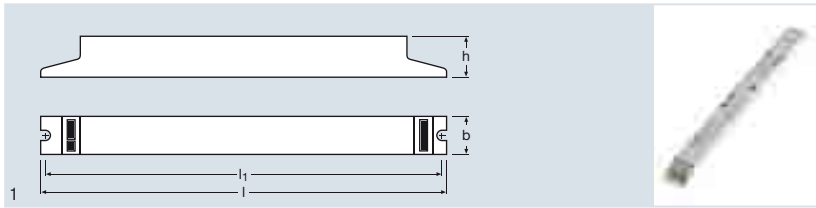
- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I

## DALI product features

- Control via the DALI interface
- Compliance with the DALI standard to IEC 60929 and IEC 62386
- The control input is protected against overvoltage and polarity reversal in all OSRAM ECGs



# QUICKTRONIC® INTELLIGENT QTl DIM (1-10 V) for T5 lamps









Product reference	Product number		Im	A	W SYSTEM	$\lambda$	Ta	
QTi 1x14/24 DIM	4050300870922	1xHE 14	1x1200	0.07	15.4	0.96	+10...+50 <sup>1)</sup>	154...276
		1xHO 24	1x1750	0.11	26	0.98		
QTi 1x21/39 DIM	4050300870564	1xDL 40	1x3500	0.18	41.8	0.98	+10...+50 <sup>1)</sup>	154...276
		1xHE 21	1x1900	0.11	23.1	0.96		
		1xHO 39	1x3100	0.18	41.8	0.98		
QTi 1x28/54 DIM	4050300870588	1xDL 55	1x4800	0.26	59	0.99	+10...+50 <sup>1)</sup>	154...276
		1xHE 28	1x2600	0.14	30.1	0.97		
		1xHO 54	1x4450	0.26	58.8	0.99		
QTi 1x35/49/80 DIM	4050300870540	1xDL 80	1x6000	0.40	88	0.99	+10...+50 <sup>1)</sup>	154...276
		1xHE 35	1x3300	0.17	37.8	0.96		
		1xHO 49	1x4300	0.24	53.4	0.98		
QTi 2x14/24 DIM	4050300870946	1xHO 80	1x6150	0.39	88.1	0.99		
		2xDL 24	2x1800	0.22	49	0.98	+10...+50 <sup>1)</sup>	154...276
		2xHE 14	2x1200	0.14	30.6	0.96		
QTi 2x21/39 DIM	4050300870694	2xHO 24	2x1750	0.22	50	0.96		
		2xDL 40	2x3500	0.36	82	0.97	+10...+50 <sup>1)</sup>	154...276
		2xHE 21	2x1900	0.21	45	0.96		
QTi 2x28/54 DIM	4050300870717	2xHO 39	2x3100	0.36	82	0.96		
		2xDL 55	2x4800	0.51	115	0.99	+10...+50 <sup>1)</sup>	154...276
		2xHE 28	2x2600	0.27	60.2	0.27		
QTi 2x35/49 DIM	4050300870670	2xHO 54	2x4450	0.51	115	0.98		
		2xHE 35	2x3300	0.33	74.5	0.95	+10...+50 <sup>1)</sup>	154...276
		2xHO 49	2x4300	0.45	103.6	0.97		
QTi 2x35/49/80 DIM	4050300870984	2xDL 80	2x6000	0.74	165	0.99	+10...+50 <sup>1)</sup>	154...276
		2xHE 35	2x3300	0.34	74	0.95		
		2xHO 49	2x4300	0.46	103	0.97		
QTi 3x14/24 DIM	4008321069719	2xHO 80	2x6150	0.74	165	0.99		
		3xDL 24	3x1800	0.32	73	0.99	+10...+50 <sup>1)</sup>	154...276
		3xHE 14	3x1200	0.20	45.3	0.97		
QTi 4x14/24 DIM	4008321069993	3xHO 24	3x1750	0.32	74	0.99		
		4xDL 24	4x1800	0.43	98	0.99	+10...+50 <sup>1)</sup>	154...276
		4xHE 14	4x1200	0.27	60.4	0.97		
		4xHO 24	4x1750	0.43	98	0.99		

Product reference								
QTi 1x14/24 DIM	53...120	360	30	21	350	274	20	1
QTi 1x21/39 DIM	44...120	360	30	21	350	276	20	1
QTi 1x28/54 DIM	44...120	360	30	21	350	273	20	1
QTi 1x35/49/80 DIM	44...120	360	30	21	350	289	20	1
QTi 2x14/24 DIM	53...120	423	30	21	415	370	20	1
QTi 2x21/39 DIM	44...120	425	30	21	415	370	20	1
QTi 2x28/54 DIM	44...120	425	30	21	415	373	20	1
QTi 2x35/49 DIM	44...120	423	30	21	415	370	20	1
QTi 2x35/49/80 DIM	44...120	425	30	21	415	370	20	1
QTi 3x14/24 DIM	40...100	360	40	21	350	394	20	1
QTi 4x14/24 DIM	40...100	360	40	21	350	397	20	1

1) -20°C operation possible for all QTl (DALI) ... DIM ECGs. Restriction of the lower dimmer setting is needed. For more information see the Dimming Guide.



**Product characteristics**

- Control via the 1-10 V interface
- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 1 to 100% luminous flux
- Lamp start within 0.6 s
- Energy Efficiency Index EEI: A1 BAT
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks:    
- Additional features:  
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

**Product benefits**

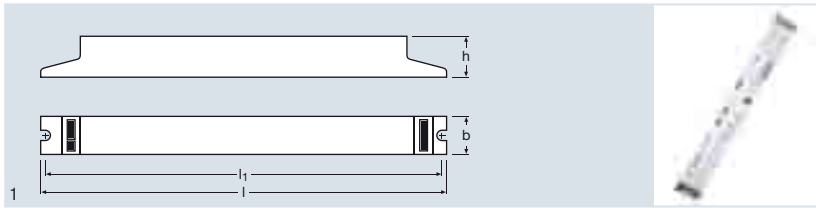
- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for  $T = 65^\circ\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL T.2)
- Automatic restart of replacement lamps
- Control gear complies with the MINERGIE standard thanks to very low standby consumption

**Applications**

- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I



# QUICKTRONIC® INTELLIGENT QTİ DIM (1-10 V) for T8 lamps





Product reference	Product number		Im	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QTİ 1x18 DIM	4050300870601	1xDL 18	1x1200	0.08	19	0.97	+10...+50 <sup>1)</sup>	154...276
		1xL 18	1x1350	0.08	19	0.97	-20...+50 <sup>1)</sup>	
QTİ 1x36 DIM	4050300870625	1xDL 36	1x2900	0.16	36	0.97	+10...+50 <sup>1)</sup>	154...276
		1xL 36	1x3350	0.16	36	0.97	-20...+50 <sup>1)</sup>	
QTİ 1x58 DIM	4050300870908	1xL 58	1x5000	0.25	56	0.99	-20...+50 <sup>1)</sup>	154...276
QTİ 2x18 DIM	4050300870960	2xDL 18	2x1200	0.16	37	0.97	+10...+50 <sup>1)</sup>	154...276
		2xL 18	2x1350	0.16	37	0.97	-20...+50 <sup>1)</sup>	
QTİ 2x36 DIM	4050300870755	2xDL 36	2x2900	0.31	69	0.98	+10...+50 <sup>1)</sup>	154...276
		2xL 36	2x3350	0.31	69	0.98	-20...+50 <sup>1)</sup>	
QTİ 2x58 DIM	4050300870731	2xL 58	2x5000	0.47	108	0.99	-20...+50 <sup>1)</sup>	154...276
QTİ 3x18 DIM	4008321069931	3xDL 18	3x1200	0.24	53.6	0.98	+10...+50 <sup>1)</sup>	154...276
		3xL 18	3x1350	0.24	53.6	0.98	-20...+50 <sup>1)</sup>	
QTİ 4x18 DIM	4008321070012	4xDL 18	4x1200	0.31	69.3	0.98	+10...+50 <sup>1)</sup>	154...276
		4xL 18	4x1350	0.31	69.3	0.98	-20...+50 <sup>1)</sup>	

Product reference							
	kHz	l [mm]	b [mm]	h [mm]	Ø		No.
QTİ 1x18 DIM	51...120	360	30	21	275	20	1
QTİ 1x36 DIM	48...120	360	30	21	280	20	1
QTİ 1x58 DIM	46...120	360	30	21	270	20	1
QTİ 2x18 DIM	51...120	425	30	21	370	20	1
QTİ 2x36 DIM	48...120	425	30	21	370	20	1
QTİ 2x58 DIM	46...120	425	30	21	370	20	1
QTİ 3x18 DIM	40...100	360	40	21	390	20	1
QTİ 4x18 DIM	40...100	360	40	21	401	20	1

1) -20°C operation possible for all QTİ (DALI) ... DIM ECGs. Restriction of the lower dimmer setting is needed. For more information see the Dimming Guide.



**Product characteristics**

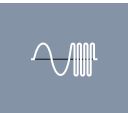
- Control via the 1-10 V interface
- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 1 to 100% luminous flux
- Lamp start within 0.6 s
- Energy Efficiency Index EEI: A1 BAT
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks: 
- Additional features: 
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

**Product benefits**

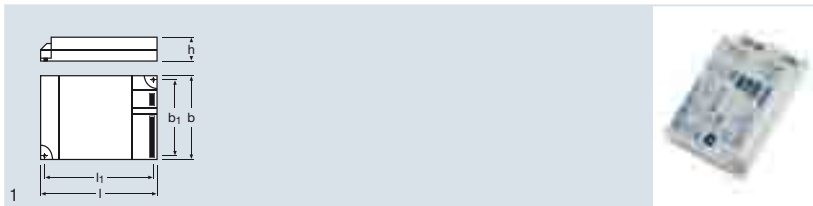
- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for  $T = 65^\circ\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL T.2)
- Automatic restart of replacement lamps
- Control gear complies with the MINERGIE standard thanks to very low standby consumption

**Applications**

- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I



# QUICKTRONIC® INTELLIGENT QTl DIM (1-10 V) for CFL OSRAM DULUX D/E, T/E





Product reference	Product number		lm	A	W SYSTEM	$\lambda$	Ta	V (min-max)	kHz ECG
QTI-T/E 1x18-57 DIM <sup>1)</sup>	4008321060860	1xDT/E 18	1x1200	0.09	20	0.95	+10...+50 <sup>2)</sup>	154...276	42...140
		1xDT/E 26 CONSTANT	1x1800	0.13	29	0.97			
		1xDT/E 26	1x1800	0.13	29	0.97			
		1xDT/E 32 CONSTANT	1x2400	0.16	36	0.98			
		1xDT/E 32	1x2400	0.16	36	0.98			
		1xDT/E 42 CONSTANT	1x3200	0.21	47	0.99			
		1xDT/E 42	1x3200	0.21	47	0.99			
		1xDL 24	1x1200	0.12	26	0.96			
		1xDL 40	1x3500	0.20	45	0.98			
QTI-T/E 2x18-42 DIM <sup>1)</sup>	4008321060846	2xDT/E 18	2x1200	0.17	38	0.95	+10...+50 <sup>2)</sup>	154...276	42...140
		2xDT/E 26 CONSTANT	2x1800	0.25	56	0.98			
		2xDT/E 26	2x1800	0.25	56	0.98			
		2xDT/E 32 CONSTANT	2x2400	0.30	69	0.99			
		2xDT/E 32	2x2400	0.30	69	0.99			
		2xDT/E 42 CONSTANT	2x3200	0.39	90	0.99			
		2xDT/E 42	2x3200	0.39	90	0.99			
		1xDL 24	1x1200	0.12	26	0.96			
		1xDL 40	1x3500	0.20	45	0.98			
Product reference		$\frac{l}{\text{mm}}$	$\frac{b}{\text{mm}}$	$\frac{h}{\text{mm}}$	$\frac{l_1}{\text{mm}}$	$\frac{b_1}{\text{mm}}$			
QTI-T/E 1x18-57 DIM <sup>1)</sup>		123	79	33	129.5	67	234	20	1
QTI-T/E 2x18-42 DIM <sup>1)</sup>		123	79	33	129.5	67	250	20	1

<sup>1)</sup> Combination with strain relief possible - see ECG accessories - Strain relief

<sup>2)</sup> -20°C operation possible for all QTI (DALI) ... DIM ECGs. Restriction of the lower dimmer setting is needed. For more information see the Dimming Guide.



### Product characteristics

- Control via the 1-10 V interface
- Supply voltage: 220 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 1 to 100% luminous flux
- Lamp start within 0.6 s
- Energy Efficiency Index EEI: A1 BAT
- Configurable emergency power characteristics
- Overtemperature protection thanks to thermal management at high  $t_c$  temperatures
- Approval marks: 
- Additional features: 
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

### Product benefits

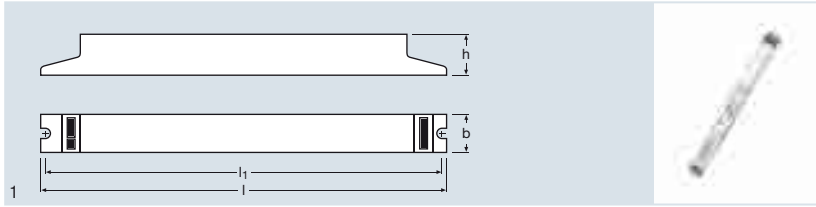
- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for  $T = 65^\circ\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL T.2)
- Automatic restart of replacement lamps
- Control gear complies with the MINERGIE standard thanks to very low standby consumption

### Applications

- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I



# QUICKTRONIC® DE LUXE HF DIM (1-10 V) for T8 lamps



Product reference	Product number		Im	A	W SYSTEM	$\lambda$	Ta	
HF1x18/230-240 DIM	4050300319254	1xL 18	1x1300	0.09	19	0.95	-20...+50	154...276
HF1x36/230-240 DIM	4050300297705	1xL 36	1x3350	0.17	36	0.97	-20...+50	154...276
HF1x58/230-240 DIM	4050300297729	1xL 58	1x5000	0.25	58	0.98	-20...+50	154...276
HF2x18/230-240 DIM	4050300350950	2xL 18	2x1350	0.17	36	0.97	-20...+50	154...276
HF2x36/230-240 DIM	4050300350974	2xL 36	2x3200	0.31	71	0.99	-20...+50	154...276
HF2x58/230-240 DIM	4050300350998	2xL 58	2x5000	0.48	116	0.99	-20...+50	154...276

Product reference	kHz ECG	$l$ [mm]	$b$ [mm]	$h$ [mm]	$h$ [mm]			
HF1x18/230-240 DIM	40...100	360	30	30	350	282	20	1
HF1x36/230-240 DIM	40...100	360	30	30	350	282	20	1
HF1x58/230-240 DIM	40...100	360	30	30	350	284	20	1
HF2x18/230-240 DIM	40...100	423	30	30	415	384	20	1
HF2x36/230-240 DIM	40...100	423	30	30	415	378	20	1
HF2x58/230-240 DIM	40...100	423	30	30	415	380	20	1

## QUICKTRONIC® DE LUXE HF DIM (1-10 V) for T8 lamps

### Product characteristics

- Control via the 1-10 V interface
- Supply voltage: 230 to 240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198 to 264 V
- Dimming range: 1 to 100% luminous flux
- Energy Efficiency Index EEL: A1
- Approval marks:
- Safety: to EN 61347-2-3
- Lamp operation: to EN 60929
- RI suppression: to EN 55015:2006+A1:2007+A2:2009/CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547

### Product benefits

- Same luminous flux with direct and alternating current
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps

### Applications

- Suitable for use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Suitable for fixtures of protection class I





**35/49/80**

## OSRAM always has the right control gear for you

### For tubular fluorescent lamps T5/ø 16 mm:

- **QUICKTRONIC® INTELLIGENT QT<sub>i</sub>**, 2nd generation (GII) – thanks to intelligent lamp detection over 50% fewer ECG types and greater flexibility in lighting systems. Up to three lighting levels can be provided from a single fixture.
- Life of up to 100,000 hours (for a definition of life see page 9.111, section 13)
- For fixtures of protection classes I and II
- For T5 SEAMLESS lamps
- For T5 energy saver lamps

- **QUICKTRONIC® INTELLIGENT DUALPOWER ECG QT<sub>i</sub> DP ... LED**  
Operation of T5 lamp and LED on only one common ECG. Ideal for corridors, side rooms and parking decks

- **QUICKTRONIC® PROFESSIONAL QTP5**, 2nd generation (GII) longlife 100,000 h hot restrike ECG, also for protection class II fixtures

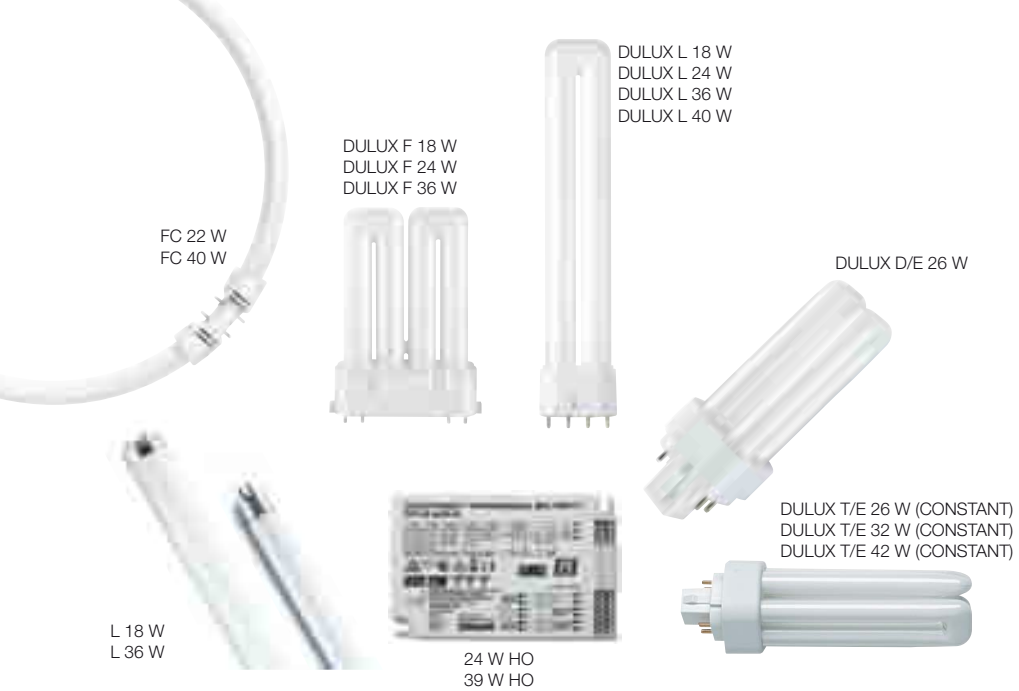
- **QUICKTRONIC® QTP-FC, QTP-M and QT-M**  
The compact control gear for small T5 circular lamps

### For tubular fluorescent lamps T8/ø 26 mm:

- **QUICKTRONIC® PROFESSIONAL QTP8**  
The tried and trusted 100,000 h hot restrike ECG
- **QUICKTRONIC® FIT8**  
The reliable 50,000 h hot restrike ECG, particularly energy-saving in conjunction with motion sensors







**For tubular fluorescent lamps T2/ø 7 mm:**

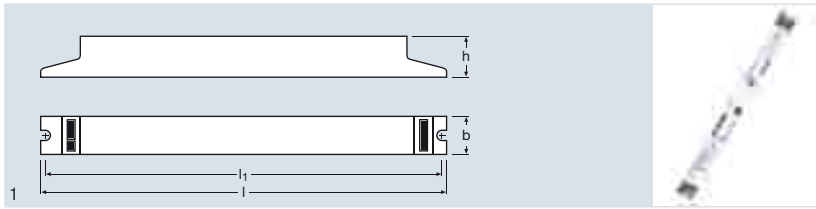
- **QUICKTRONIC® QT-ECO FM**  
The reliable slim low-profile ECG for reliable operation of FM-T2 miniature fluorescent lamps

**For compact fluorescent lamps:**

- **QUICKTRONIC® MULTIWATT-QTP-M and QT-M** – the universal hot restrike ECG for up to 18 different lamps (OSRAM DULUX® L, F, D/E, T/E, ...) from 18 to 42 W
- **QUICKTRONIC® PROFESSIONAL QTP-DL**  
For OSRAM DULUX® L and F from 18 to 55 W and **QTP-D/E, T/E** for OSRAM DULUX® T/E, D/E and S/E from 9 to 42 W
- **QUICKTRONIC® ECONOMIC**  
The electronic alternative to LLG. For OSRAM DULUX® S/E, D/E, T/E, T5, T8 from 4 to 26 W
- **DULUXTRONIC®**  
The ECG with integrated lampholder for OSRAM DULUX® S/E, D/E, T/E from 5 to 18 W








# QUICKTRONIC® INTELLIGENT QT<sub>i</sub> for T5 lamps



Product reference	Product number		Im	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QT <sub>i</sub> 1x14/24/21/39 GII	4008321 <b>383334</b>	1xHE 14	1x1200	0.08	16	0.92 c	-20...+50	176...276
		1xHE 21	1x1900	0.11	24	0.94 c		
		1xHO 24	1x1750	0.12	26	0.96		
		1xHO 39	1x3100	0.18	41	0.98		
QT <sub>i</sub> 1x28/54/35/49 GII	4008321 <b>383358</b>	1xHE 28	1x2600	0.15	32	0.95	-20...+50	176...276
		1xHE 35	1x3300	0.17	38	0.97		
		1xHO 49	1x4300	0.24	53	0.97		
		1xHO 54	1x4450	0.26	58	0.97		
		1xDL 28 HE	1x2700	0.14	28	0.95		
QT <sub>i</sub> 1x35/49/80 GII	4008321 <b>383372</b>	1xHE 35	1x3300	0.17	38	0.97	-20...+50	176...276
		1xHO 49	1x4300	0.24	53	0.97		
		1xHO 80	1x6150	0.38	85	0.98		
		1xDL 80	1x6000	0.38	85	0.98		
QT <sub>i</sub> 2x14/24/21/39 GII	4008321 <b>383396</b>	2xHE 14	2x1200	0.15	31	0.95	-20...+50	176...276
		2xHE 21	2x1900	0.20	45	0.96		
		2xHO 24	2x1750	0.23	50	0.96		
		2xHO 39	2x3100	0.36	81	0.98		
		2xHO 49	2x4300	0.51	115	0.98		
QT <sub>i</sub> 2x28/54/35/49 GII	4008321 <b>383419</b>	2xHE 28	2x2600	0.28	61	0.96	-20...+50	176...276
		2xHE 35	2x3300	0.35	76	0.96		
		2xHO 49	2x4300	0.46	105	0.98		
		2xHO 54	2x4450	0.51	115	0.98		
		2xDL 28 HE	2x2700	0.27	56	0.96		
QT <sub>i</sub> 2x35/49/80 GII	4008321 <b>658951</b>	2xHE 32 ES	2x3150	0.33	70	0.97	-20...+55	176...276
		2xHE 35	2x3400	0.36	77	0.98		
		2xHO 45 ES	2x4300	0.43	95	0.99		
		2xHO 49	2x4300	0.45	105	0.99		
		2xHO 73 ES	2x6150	0.66	157	0.99		
		2xHO 80	2x6150	0.7	165	0.99		
		2xDL 80	2x6000	0.7	165	0.99		
		LED 350 mA / 5.0 - 8.5 W		≤ 0.12		0.40c		
LED 24 V / ≤8.0 W		≤ 0.11		0.40c				
Product reference		$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{h}{[mm]}$			
QT <sub>i</sub> 1x14/24/21/39 GII	42...85	360	30	21	350	210	20	1
QT <sub>i</sub> 1x28/54/35/49 GII	42...85	360	30	21	350	235	20	1
QT <sub>i</sub> 1x35/49/80 GII	42...85	360	30	21	350	240	20	1
QT <sub>i</sub> 2x14/24/21/39 GII	42...85	360	30	21	350	250	20	1
QT <sub>i</sub> 2x28/54/35/49 GII	42...85	423	30	21	415	270	20	1
QT <sub>i</sub> 2x35/49/80 GII	42...85	423	30	21	415	-	20	1
QT <sub>i</sub> -DP 1x28/35/LED	85	423	30	21	415	285	20	1






## QUICKTRONIC® INTELLIGENT QT<sub>i</sub> for T5 lamps

### Product characteristics

- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Lifetime: up to 100,000 hours (for T=65°C at T<sub>c</sub>)
- Energy Efficiency Index EEI: A2 BAT
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:     
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929

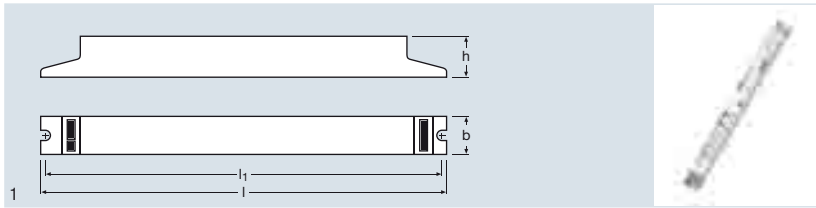
## QUICKTRONIC® INTELLIGENT DUAL POWER QT<sub>i</sub>-DP for T5 lamps and LEDs

### Product characteristics

- Operating modes:
  - LED only: Step Dim terminal SD (pin 7) without associated signal
  - FL only: Step Dim terminal SD (pin 7) with associated signal
  - FL + LED: Pin 1 and Step Dim terminal SD (pin 7) permanently wired before the ECG is switched on
- Automatic detection of connected LED technology (24 V or 350 mA)
- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Lifetime: up to 100,000 hours (for T=65°C at T<sub>c</sub>)
- Energy Efficiency Index EEI: A2 BAT
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:     
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929



# QUICKTRONIC® PROFESSIONAL QTP5 for T5 lamps








Product reference	Product number		Im	A	W SYSTEM	$\lambda$	
QTP5 1x14-35	4008321 <b>329035</b>	1xHE 14	1x1200	0.08	16	0.90 c	176...276
		1xHE 21	1x1900	0.11	24	0.95	
		1xHE 28	1x2600	0.14	31	0.96	
		1xHE 35	1x3300	0.17	38	0.97	
		1xDL 28 HE	1x2800	0.13	28.5	0.95	
QTP5 1x24-39	4008321 <b>329110</b>	1xHO 24	1x1750	0.12	26	0.95	176...276
		1xHO 39	1x3100	0.18	41	0.98	
		1xL 30	1x3000	0.15	33	0.97	
QTP5 1x49	4008321 <b>329370</b>	1xHO 49	1x4300	0.24	53	0.95	176...276
QTP5 1x54	4008321 <b>329394</b>	1xHO 54	1x4450	0.26	59	0.98	176...276
QTP5 1x80	4008321 <b>329059</b>	1xHO 80	1x6150	0.38	86	0.98	176...276
		1xDL 80	1x6000	0.38	86	0.98	
QTP5 2x14-35	4008321 <b>329073</b>	2xHE 14	2x1200	0.14	30	0.98	176...276
		2xHE 21	2x1900	0.20	45	0.98	
		2xHE 28	2x2600	0.26	60	0.98	
		2xHE 35	2x3300	0.33	75	0.98	
		2xDL 28 HE	2x2800	0.26	56	0.98	
QTP5 2x24-39	4008321 <b>329417</b>	2xHO 24	2x1750	0.23	49	0.95	176...276
		2xHO 39	2x3100	0.36	82	0.98	
		2xL 30	2x2850	0.27	62	0.98	
QTP5 2x49	4008321 <b>329431</b>	2xHO 49	2x4300	0.49	106	0.99	176...276
QTP5 2x54	4008321 <b>329097</b>	2xHO 54	2x4450	0.50	115	0.99	176...276
QT-FQ 2x80	4050300 <b>825564</b>	2xHO 80	2x6300	0.76	175	0.98	no DC
		2xDL 80	2x6150	0.76	175	0.99	
		2xDL 55	2x4800	0.59	122	0.99	
QTP5 3x14.4x14	4008321 <b>484598</b>	3xHE 14	3x1200	0.22	48	0.95	176...276
		4xHE 14	4x1200	0.28	63	0.97	

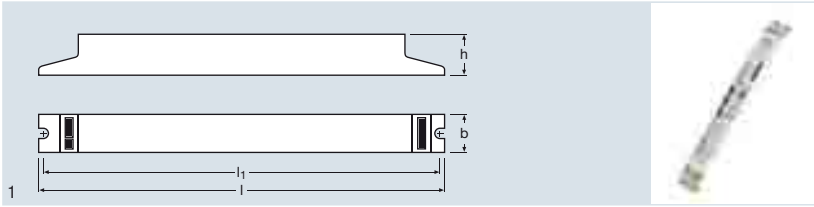
Product reference								
	kHz	l [mm]	b [mm]	h [mm]	l [mm]			No.
QTP5 1x14-35	40...50	280	30	21	270	171	20	1
QTP5 1x24-39	40...50	280	30	21	270	180	20	1
QTP5 1x49	40...50	280	30	21	270	168	20	1
QTP5 1x54	40...50	280	30	21	270	180	20	1
QTP5 1x80	40...50	360	30	21	350	236	20	1
QTP5 2x14-35	40...50	360	30	21	350	234	20	1
QTP5 2x24-39	40...50	360	30	21	350	244	20	1
QTP5 2x49	40...50	360	30	21	350	255	20	1
QTP5 2x54	40...50	360	30	21	350	240	20	1
QT-FQ 2x80	45...50	423	30	21	415	381	20	1
QTP5 3x14.4x14	40...50	280	40	21	270	240	20	1
















**Product characteristics**

- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Lifetime: up to 100,000 hours (for  $T = 65^{\circ}\text{C}$  at  $T_c$ )
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:     
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929



# QUICKTRONIC® FIT QT-FIT5 for T5 lamps

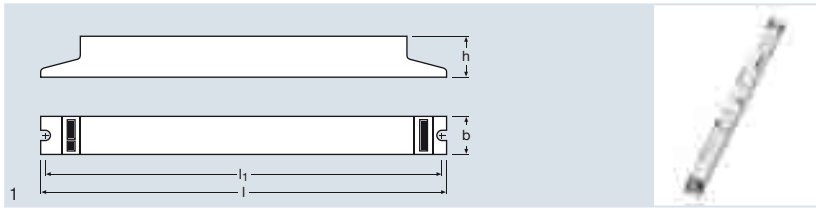


Product reference	Product number							
QT-FIT5 1x14-35 <sup>1)</sup>	4008321971234							
QT-FIT5 2x14-35 <sup>1)</sup>	4008321971258							
QT-FIT5 3x14, 4x14 <sup>1)</sup>	4008321971210							
Product reference								
QT-FIT5 1x14-35 <sup>1)</sup>								No.
QT-FIT5 2x14-35 <sup>1)</sup>								
QT-FIT5 3x14, 4x14 <sup>1)</sup>								

<sup>1)</sup> In preparation



# QUICKTRONIC® PROFESSIONAL QTP8 for T8 lamps



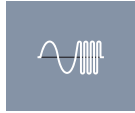
Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QTP8 1x18	4008321131584	1xL 18	1x1350	0.09	18	0.96	-25...+55	154...276
QTP8 1x36	4008321131621	1xL 36	1x3200	0.16	35	0.96	-25...+55	154...276
QTP8 1x58	4008321131669	1xL 58	1x5000	0.24	55	0.98	-25...+55	154...276
QTP8 2x18	4008321131607	2xL 18	2x1350	0.17	35	0.97	-25...+55	154...276
QTP8 2x36	4008321131645	2xL 36	2x3200	0.31	72	0.98	-25...+55	154...276
QTP8 2x58	4008321131683	2xL 58	2x5000	0.45	110	0.98	-25...+55	154...276
QTP8 3x18, 4x18	4008321131706	3xL 18 4xL 18	3x1300 4x1300	0.26 0.32	56 73	0.99 0.99	-25...+50 -25...+50	154...276

Product reference	kHz ECG	$l$ [mm]	$b$ [mm]	$h$ [mm]	$l_1$ [mm]			No.
QTP8 1x18	40...50	360	30	30	350	245	20	1
QTP8 1x36	40...50	360	30	30	350	245	20	1
QTP8 1x58	40...50	360	30	30	350	285	20	1
QTP8 2x18	40...50	423	30	30	415	388	20	1
QTP8 2x36	40...50	423	30	30	415	399	20	1
QTP8 2x58	40...50	423	30	30	415	400	20	1
QTP8 3x18, 4x18	40...50	423	40	30	415	470	20	1

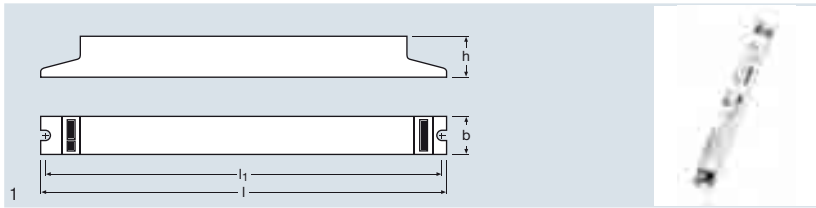
QUICKTRONIC® PROFESSIONAL QTP8 for T8 lamps

## Product characteristics

- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Lifetime: up to 100,000 hours (for T = 65°C at T<sub>c</sub>)
- Automatic restart of replacement lamps
- Approval marks:
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929



# QUICKTRONIC® FIT QT-FIT8 for T8 lamps



Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QT-FIT8 1x18	4008321 <b>294180</b>	1xL 18	1x1350	0.09	19	0.95	-15...+50	198...264
QT-FIT8 1x36	4008321 <b>294203</b>	1xL 36	1x3200	0.16	36	0.96	-15...+50	198...264
QT-FIT8 1x58-70	4008321 <b>294227</b>	1xL 58	1x5000	0.24	54	0.96	-15...+50	198...264
		1xL 70	1x5900	0.28	62	0.96		
QT-FIT8 2x18	4008321 <b>294241</b>	2xL 18	2x1350	0.16	36	0.98	-15...+50	198...264
QT-FIT8 2x36	4008321 <b>294265</b>	2xL 36	2x3200	0.32	71	0.98	-15...+50	198...264
QT-FIT8 2x58-70	4008321 <b>294289</b>	2xL 58	2x5000	0.48	109	0.98	-15...+50	198...264
		2xL 70	2x5900	0.55	124	0.98		
QT-FIT8 3x18, 4x18	4008321 <b>294302</b>	3xL 18	3x1350	0.25	54	0.97	-15...+50	198...264
		4xL 18	4x1350	0.33	74	0.99		
QT-FIT8 3x36 <sup>1)</sup>	4008321 <b>512055</b>	3xL 36	3x3500	0.48	105	0.99	-15...+50	198...264

Product reference		$\frac{l}{(mm)}$	$\frac{b}{(mm)}$	$\frac{h}{(mm)}$	$\frac{h}{(mm)}$			
QT-FIT8 1x18	40...50	280	30	28	270	180	20	1
QT-FIT8 1x36	40...50	280	30	28	270	180	20	1
QT-FIT8 1x58-70	40...50	280	30	28	270	182	20	1
QT-FIT8 2x18	40...50	360	30	28	350	233	20	1
QT-FIT8 2x36	40...50	360	30	28	350	229	20	1
QT-FIT8 2x58-70	40...50	360	30	28	350	264	20	1
QT-FIT8 3x18, 4x18	40...50	280	40	28	270	219	20	1
QT-FIT8 3x36 <sup>1)</sup>	40...50	280	40	28	270	253	20	1

<sup>1)</sup> In preparation

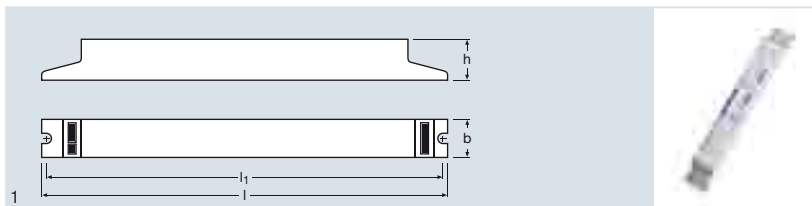
## QUICKTRONIC® FIT QT-FIT8 for T8 lamps

### Product characteristics

- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929



# QUICKTRONIC® PROFESSIONAL QTP-DL for OSRAM DULUX L and OSRAM DULUX F lamps



Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QTP-DL 1x18-24	4008321117861	1xDL 18	1x1200	0.085	18	0.95	-20...+50	176...276
		1xDL 24	1x1800	0.115	26	0.95		
		1xDF 18	1x1100	0.085	18	0.95		
		1xDF 24	1x1700	0.115	26	0.95		
QTP-DL 1x36-40	4008321117908	1xDL 36	1x2900	0.17	35	0.99	-20...+50	176...276
		1xDL 40	1x3600	0.21	45	0.99		
		1xDF 36	1x2800	0.17	35	0.99		
QTP-DL 2x18-24	4008321117885	2xDL 18	2x1200	0.16	36	0.98	-20...+50	176...276
		2xDL 24	2x1800	0.22	49	0.98		
		2xDF 18	2x1100	0.16	36	0.98		
		2xDF 24	2x1700	0.22	49	0.98		
QTP-DL 2x36-40	4008321117922	2xDL 36	2x2900	0.33	68	0.99	-20...+50	176...276
		2xDL 40	2x3650	0.21	90	0.99		
		2xDF 36	2x2800	0.33	68	0.99		
QTP-DL 1x55 GII	4008321390158	1xDL 55	1x4800	0.26	59	0.99	-20...+50	176...276
QTP-DL 2x55 GII	4008321390172	2xDL 55	2x4800	0.51	116	0.99	-20...+50	176...276

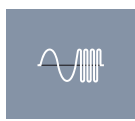
  

Product reference		$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l}{[mm]}$			
QTP-DL 1x18-24	45...50	239	30	28	229	185	20	1
QTP-DL 1x36-40	45...60	239	30	28	229	190	20	1
QTP-DL 2x18-24	41...46	239	40	28	229	230	20	1
QTP-DL 2x36-40	45...60	280	40	28	270	290	20	1
QTP-DL 1x55 GII	40...50	280	30	21	270	160	20	1
QTP-DL 2x55 GII	40...50	360	30	21	350	265	20	1

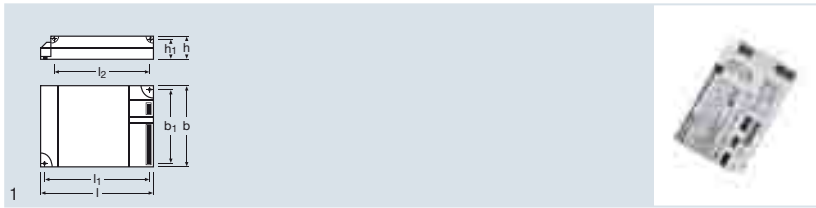
QUICKTRONIC® PROFESSIONAL QTP-DL for OSRAM DULUX L and OSRAM DULUX F lamps

## Product characteristics

- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929



# QUICKTRONIC® PROFESSIONAL QTP for T5 ring lamps



Product reference	Product number								
QTP-FC 1x55	4008321537041	1xFC 55	1x4200	0.26	59	0.98	-20...+50	176...276	
		1xDL 55	1x4800	0.26	59	0.98			
Product reference									
QTP-FC 1x55	40...50	103	67	31	350	67	135	20	1

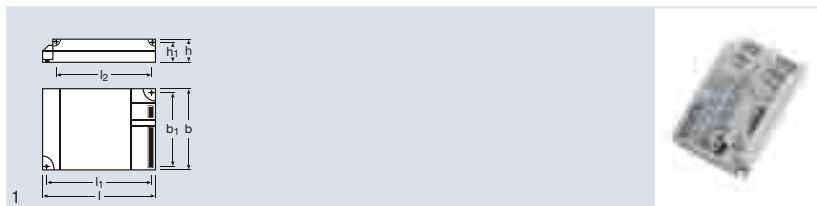
QUICKTRONIC® PROFESSIONAL QTP for T5 ring lamps

## Product characteristics

- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Energy Efficiency Index EEI: A2 BAT
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929














# QUICKTRONIC® PROFESSIONAL QTP-M, -D/E, -T/E for CFL OSRAM DULUX D/E, T/E



Product reference	Product number		lm	A				
QTP-D/E 1x10-13 <sup>1)</sup>	4008321181572	1xDD/E 10	1x600	0.05	12	0.95	-20...+50	176...276
		1xDD/E 13	1x900	0.07	15	0.95		
		1xDS/E 11	1x900	0.06	14	0.95		
		1xDS/E 9	1x600	0.05	9.5	0.92 c		
		1xDT/E 13	1x900	0.07	15	0.95		
QTP-D/E 2x10-13 <sup>1)</sup>	4008321181596	2xDD/E 10	2x600	0.09	21	0.95	-20...+50	176...276
		2xDD/E 13	2x900	0.13	29	0.95		
		2xDS/E 11	2x950	0.12	28	0.95		
		2xDS/E 9	2x600	0.09	18	0.92 c		
		2xDT/E 13	2x900	0.13	29	0.95		
QTP-T/E 1x18, 2x18 <sup>1)</sup>	4008321537065	1xD/E, T/E 18 W	1200	0.09	19	0.90c	-20...+50	176...276
		2xD/E, T/E 18 W	2x1200	0.16	36	0.98		
QTP-T/E 1x26- 42, 2x26 <sup>1)</sup>	4008321537089	2xDD/E 26	2x1750	0.24	54	0.98	-20...+50	176...254
		1xD/E, T/E 26 W	1750	0.13	28	0.95	-20...+50	176...276
		1xT/E 32 W	2400	0.15	35	0.95		
		1xT/E 42 W	3200	0.20	45	0.95		
QTP-M 1x26-42 <sup>1)</sup>	4008321329134	2xDT/E 26	2x1750	0.24	54	0.98		
		1xDD/E 26	1x1750	0.12	27	0.95	-20...+50	176...276
		1xDT/E 26	1x1750	0.12	27	0.95		
		1xDT/E 32	1x2400	0.16	35	0.97		
		1xDT/E 42	1x3200	0.20	46	0.97		
		1xDF 18	1x1050	0.09	19	0.88 c		
		1xDF 24	1x1650	0.12	25	0.94 c		
		1xDF 36	1x2700	0.16	35	0.96		
		1xDL 18	1x1150	0.09	18	0.88 c		
		1xDL 24	1x1750	0.12	25	0.94 c		
		1xDL 36	1x2800	0.16	35	0.97		
		1xDL 40	1x3500	0.19	43	0.98		
		1xFC 22	1x1800	0.12	25	0.94 c		
		1xFC 40	1x3200	0.19	43	0.97		
		1xHO 24	1x1750	0.12	25	0.95		
1xHO 39	1x3100	0.18	41	0.97				
1xL 18	1x1350	0.10	19	0.88 c				
1xL 36	1x3350	0.16	35	0.97				
QTP-M 2x26-32 <sup>1)</sup>	4008321329158	2xDD/E 26	2x1750	0.24	53	0.97	-20...+50	176...276
		2xDT/E 26	2x1750	0.24	53	0.97		
		2xDT/E 32	2x2400	0.30	68	0.97		
		1xDT/E 42	1x3200	0.20	46	0.97		
		1xDT/E 57	1x4300	0.24	60	0.97		
		2xDF 18	2x1050	0.16	36	0.95		
		2xDF 24	2x1650	0.21	48	0.97		









Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>		
		2xDF 36	2x2700	0.30	68	0.97			
		2xDL 18	2x1150	0.16	36	0.95			
		2xDL 24	2x1750	0.22	48	0.97			
		2xDL 36	2x2800	0.30	68	0.97			
		1xFC 22 + 40	1x5000	0.30	67	0.97			
		2xFC 22	2x1800	0.22	49	0.97			
		2xHO 24	2x1750	0.23	49	0.97			
		2xL 18	2x1350	0.17	36	0.95			
QT-M 2x26-42/220-240 S	4008321110022	2xDD/E 26	2x1800	0.23	54	0.97	-20...+50	176...254	
		2xDT/E 26	2x1800	0.23	54	0.97			
		2xDT/E 32	2x2400	0.30	70	0.97			
		2xDT/E 42	2x3200	0.39	92	0.97			
		2xDF 24	2x1700	0.23	54	0.97			
		2xDF 36	2x2700	0.30	70	0.97			
		2xDL 24	2x1750	0.23	54	0.97			
		2xDL 36	2x2800	0.30	70	0.97			
		1xFC 22 + 40	1x5000	0.36	70	0.97			
		2xFC 22	2x3200	0.36	54	0.97			
		2xFC 40	2x3200	0.36	88	0.97			
		2xHO 24	2x3500	0.23	54	0.97			
		2xL 36	2x3200	0.30	70	0.97			
Product reference									
QTP-D/E 1x10-13 <sup>1)</sup>	44	93	58	29	96	48	100	20	1
QTP-D/E 2x10-13 <sup>1)</sup>	44	123	79	33	129.5	67	190	20	1
QTP-T/E 1x18, 2x18 <sup>1)</sup>	40...50	103	67	31	110	57	140	20	1
QTP-T/E 1x26-42, 2x26 <sup>1)</sup>	40...50	103	67	31	110	57	140	20	1
QTP-M 1x26-42 <sup>1)</sup>	47	103	67	31	110	57	135	20	1
QTP-M 2x26-32 <sup>1)</sup>	45	123	79	33	129.5	67	180	20	1
QT-M 2x26-42/220-240 S	45	123	79	33	129.5	67	280	20	1

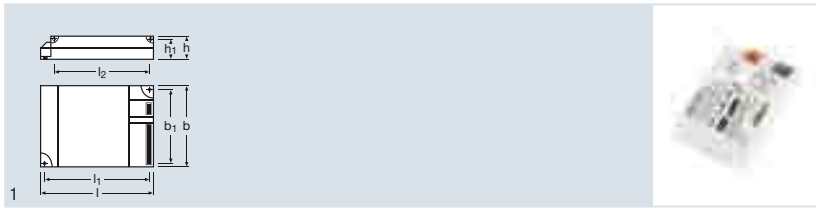
1) Combination with strain relief possible – see ECG accessories – Strain relief

QUICKTRONIC® PROFESSIONAL QTP-M, -D/E, -T/E for CFL OSRAM DULUX D/E, T/E

### Product characteristics

- Supply voltage: 220 to 240 V
- Line voltage: 198 - 254 V or 198 - 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:      
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929

# QUICKTRONIC® QT-TE for CFL OSRAM DULUX T/E HE

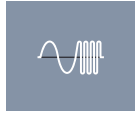


Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>		
QT-T/E 1x14-17/220-240 HE	4008321327345	1xDT/E 11 HE	1x830	0.07	13.5	0.95	-20...+50	176...254	
		1xDT/E 14 HE	1x1050	0.08	17.1	0.95			
		1xDT/E 17 HE	1x1250	0.09	18.8	0.95			
QT-T/E 2x14-17/220-240 HE	4008321327369	2xDT/E 11 HE	2x830	0.15	26.2	0.95	-20...+50	176...254	
		2xDT/E 14 HE	2x1050	0.16	32.7	0.95			
		2xDT/E 17 HE	2x1050	0.19	39.3	0.95			
Product reference		$I$ [mm]	$b$ [mm]	$h$ [mm]	$h$ [mm]	$b_1$ [mm]			
QT-T/E 1x14-17/220-240 HE	45	103	67	30	110	57	140	12	1
QT-T/E 2x14-17/220-240 HE	45	103	67	30	110	57	150	12	1

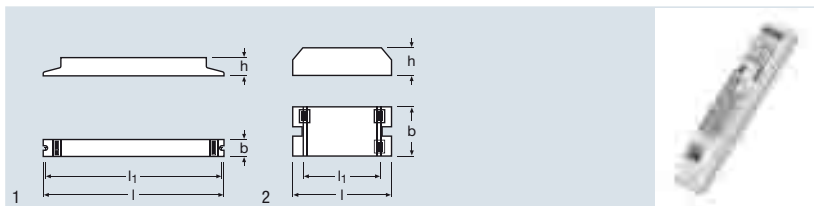
QUICKTRONIC® QT-TE for CFL OSRAM DULUX T/E HE

## Product characteristics






- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 0, 50 - 60 Hz
- For use in emergency lighting systems as per EN 50172 / DIN VDE 0108-100
- Lamp start with optimum filament preheating
- Perfect hot restrike for applications with motion sensors
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Lamp operation: to EN 60929



# QUICKTRONIC® ECO QT-ECO for CFL OSRAM DULUX D/E, T/E, FM lamps




Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>	 min-max
QT-ECO 1x4-16/220-240 L	4050300660370	1xDD/E 10	1x600	0.08	11.5	0.60 c	-15...+50	176...254
		1xDD/E 13	1x850	0.10	14	0.60 c		
		1xDS/E 11	1x900	0.09	13	0.60 c		
		1xDS/E 5	1x250	0.06	7.5	0.60 c		
		1xDS/E 7	1x400	0.06	9	0.60 c		
		1xDS/E 9	1x600	0.07	10	0.60 c		
		1xDT/E 13	1x800	0.10	14	0.60 c		
		1xHE 14	1x1150	0.10	15	0.60 c		
		1xL 10	1x650	0.10	12	0.60 c		
		1xL 13	1x950	0.08	15	0.60 c		
		1xL 16	1x1100	0.11	16	0.60 c		
		1xL 4	1x120	0.05	6.5	0.60 c		
		1xL 6	1x270	0.06	8.5	0.60 c		
		1xL 8	1x450	0.07	10.5	0.60 c		
QT-ECO 1x4-16/220-240 S	4050300638584	1xDD/E 10	1x600	0.08	11.5	0.60 c	-15...+50	176...254
		1xDD/E 13	1x850	0.10	14	0.60 c		
		1xDS/E 11	1x900	0.09	13	0.60 c		
		1xDS/E 5	1x250	0.06	7.5	0.60 c		
		1xDS/E 7	1x400	0.06	9	0.60 c		
		1xDS/E 9	1x600	0.07	10	0.60 c		
		1xDT/E 13	1x800	0.10	14	0.60 c		
		1xHE 14	1x1150	0.10	15	0.60 c		
		1xL 10	1x650	0.10	12	0.60 c		
		1xL 13	1x950	0.08	15	0.60 c		
		1xL 16	1x1100	0.11	16	0.60 c		
		1xL 4	1x120	0.05	6.5	0.60 c		
		1xL 6	1x270	0.06	8.5	0.60 c		
		1xL 8	1x450	0.07	10.5	0.60 c		
QT-ECO 1x18-21/220-240 S	4050300794907	1xDD/E 18	1x1150	0.14	19	0.60 c	-15...+50	176...254
		1xDT/E 18	1x1150	0.14	19	0.60 c		
		1xHE 21	1x1800	0.17	23	0.60 c		
QT-ECO 1x18-24/220-240 L	4050300660417	1xDF 18	1x1000	0.13	18	0.6	-15...+50	176...254
		1xDF 24	1x1500	0.16	22.5	0.6		
		1xDL 18	1x1200	0.13	18	0.92		
		1xDL 24	1x1600	0.16	22.5	0.6		
		1xFC 22	1x1650	0.16	22.5	0.6		
		1xHO 24	1x1600	0.15	20	0.60 c		
		1xL 15	1x950	0.13	17	0.60 c		
		1xL 18 U	1x1100	0.14	19.5	0.60 c		
		1xL 18	1x1250	0.14	19	0.60 c		
		1xL 22 C	1x1250	0.14	20	0.60 c		

Product reference	Product number		lm	A	W SYSTEM	$\lambda$	T <sub>a</sub>	
QT-ECO 1x18-24/220-240 S	4050300638560	1xDF 18	1x1000	0.13	18	0.6	-15...+50	176...254
		1xDF 24	1x1500	0.16	22.5	0.6		
		1xDL 18	1x1200	0.13	18	0.92		
		1xDL 24	1x1600	0.16	22.5	0.6		
		1xFC 22	1x1650	0.16	22.5	0.6		
		1xH0 24	1x1600	0.15	20	0.60 c		
		1xL 15	1x950	0.13	17	0.60 c		
		1xL 18 U	1x1100	0.14	19.5	0.60 c		
		1xL 18	1x1250	0.14	19	0.60 c		
		1xL 22 C	1x1250	0.14	20	0.60 c		
QT-ECO 1x26/220-240 S	4008321065971	1xDD/E 26	1x1600	0.18	23.5	0.60 c	-15...+50	176...254
		1xDT/E 26	1x1600	0.18	23.5	0.60 c		
QT-ECO 2x5-11/220-240 S	4050300821504	2xDD/E 10	2x600	0.14	20	0.6 c	-15...+50	176...254
		2xDS/E 11	2x700	0.16	24	0.6 c		
		2xDS/E 5	2x250	0.10	12	0.6 c		
		2xDS/E 7	2x400	0.11	15	0.6 c		
		2xDS/E 9	2x550	0.13	18	0.6 c		
		2xL 10	2x600	0.14	20	0.6 c		
		2xL 6	2x280	0.11	14.5	0.6 c		
		2xL 8	2x450	0.13	17.5	0.6 c		
QT-ECO TE 2x18/220-240	4050300803982	2xDD/E 18	2x1150	0.18	36	0.95	-15...+50	176...254
		2xDT/E 18	2x1150	0.18	36.5	0.95		
QT-ECO TE 2x26/220-240	4050300804002	2xDD/E 26	2x1750	0.25	53	0.95	-15...+50	176...254
		2xDT/E 26	2x1750	0.25	53	0.95		
QT-ECO FM 1x6-8/220-240	4050300797502	1xFM 6	1x330	0.06	7.5	0.60 c	-15...+50	176...254
		1xFM 8	1x540	0.07	10	0.60 c		
QT-ECO FM 1x11-13/220-240	4050300799780	1xFM 11	1x750	0.10	13	0.60 c	-15...+50	176...254
		1xFM 13	1x930	0.12	16	0.60 c		
Product reference	kHz ECG	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{t}{[mm]}$			
QT-ECO 1x4-16/220-240 L	35...45	150	22	22	140	50	50	1
QT-ECO 1x4-16/220-240 S	35...45	80	40	22	72	50	50	2
QT-ECO 1x18-21/220-240 S	35...45	80	40	22	72	50	50	2
QT-ECO 1x18-24/220-240 L	35...45	150	22	22	140	50	50	1
QT-ECO 1x18-24/220-240 S	35...45	80	40	22	72	50	50	2
QT-ECO 1x26/220-240 S	35...45	80	40	22	72	50	50	2
QT-ECO 2x5-11/220-240 S	30...45	80	40	22	72-75	57	50	2
QT-ECO TE 2x18/220-240	45	150	41	28	140	180	50	1
QT-ECO TE 2x26/220-240	45	150	41	28	140	182	50	1
QT-ECO FM 1x6-8/220-240	37...45	150	22	22	140	60	50	1
QT-ECO FM 1x11-13/220-240	37...45	150	22	22	140	60	50	1



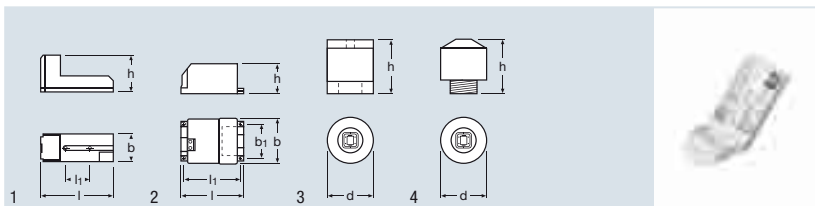
**Product characteristics**

















- Supply voltage: 220 to 240 V
- Line voltage: 198 to 254 V
- Line frequency: 50 Hz
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks: 
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547







# DULUXTRONIC® DT-S/E, DT-D/E, DT-T/E – with integrated lampholder



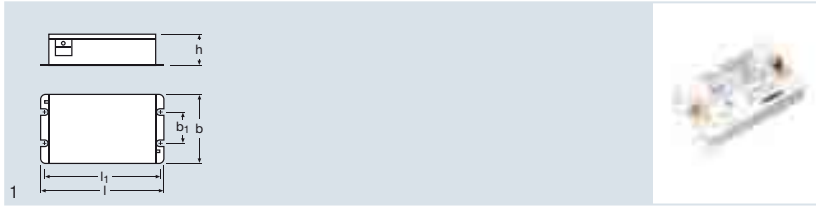
Product reference	Product number								
DT-S/E 5-11/220-240 L	4008321 <b>181473</b>	1xDS/E 11	1x900	0.10	13.5	0.60 c	-15...+50	176...254	
		1xDS/E 5	1x250	0.06	7	0.60 c			
		1xDS/E 7	1x400	0.07	9	0.60 c			
		1xDS/E 9	1x600	0.08	10.5	0.60 c			
DT-S/E 5-11/220-240 S	4008321 <b>181459</b>	1xDS/E 11	1x900	0.10	13.5	0.60 c	-15...+50	176...254	
		1xDS/E 5	1x250	0.06	7	0.60 c			
		1xDS/E 7	1x400	0.07	9	0.60 c			
		1xDS/E 9	1x600	0.08	10.5	0.60 c			
DT-D/E 10-13/220-240 L	4008321 <b>181497</b>	1xDD/E 10	1x600	0.09	12	0.60 c	-15...+50	176...254	
		1xDD/E 13	1x900	0.11	15.5	0.60 c			
		1xDT/E 13	1x900	0.11	15.5	0.60 c			
DT-D/E 10-13/220-240 C	4008321 <b>181510</b>	1xDD/E 10	1x600	0.09	12	0.60 c	-15...+50	176...254	
		1xDD/E 13	1x900	0.11	15.5	0.60 c			
		1xDT/E 13	1x900	0.11	15.5	0.60 c			
DT-D/E 10-13/220-240 P	4008321 <b>181534</b>	1xDD/E 10	1x600	0.09	12	0.60 c	-15...+50	176...254	
		1xDD/E 13	1x900	0.11	15.5	0.60 c			
		1xDT/E 13	1x900	0.11	15.5	0.60 c			
DT-T/E 18/230-240 L	4050300 <b>406404</b>	1xDD/E 18	1x1200	0.10	20	0.85...0.9 c	-20...+50	176...254	
		1xDT/E 18	1x1200	0.10	20	0.85...0.9 c			
DT-T/E 18/230-240 C	4050300 <b>421384</b>	1xDD/E 18	1x1200	0.10	20	0.85...0.9 c	-20...+50	176...254	
		1xDT/E 18	1x1200	0.10	20	0.85...0.9 c			
DT-T/E 18/230-240 P	4050300 <b>421421</b>	1xDD/E 18	1x1200	0.10	20	0.85...0.9 c	-20...+50	176...254	
		1xDT/E 18	1x1200	0.10	20	0.85...0.9 c			
Product reference									
DT-S/E 5-11/220-240 L	40	89	40	45		30	75	20	1
DT-S/E 5-11/220-240 S	40	75	55	34		67	75	20	2
DT-D/E 10-13/220-240 L	40	95	40	64		30	75	20	1
DT-D/E 10-13/220-240 C	40	68	59	59	59	-	75	20	3
DT-D/E 10-13/220-240 P	40	72	59	59	59	-	90	20	4
DT-T/E 18/230-240 L	40	95	40	64		30	85	20	1
DT-T/E 18/230-240 C	40	68	59	59	59	-	110	20	3
DT-T/E 18/230-240 P	40	72	59	59	59	-	100	20	4

**Product characteristics**

- Supply voltage: 220 to 240 V or 230 to 240 V
- Line voltage: 198 to 254 V
- Line frequency: 50 Hz
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EoL)
- Automatic restart of replacement lamps
- Approval marks:  
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-2-3
- Immunity: to EN 61547



# QUICKTRONIC® for OSRAM ENDURA®



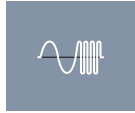
Product reference	Product number		$l_m$	A	W SYSTEM	$\lambda$	$T_a$	V	$V_{min-max}$
QT ENDURA 70-100/120-240 S	4050300804668	1xENDURA 70	1x6500	0.34	78	0.95	-40...+50	120-240	176...275
		1xENDURA 100	1x8000	0.47	107	0.95 <sup>2)</sup>			
QT ENDURA 100-150/120-240 S	4050300662589	1xENDURA 100	1x11000	0.59	154	0.95 <sup>2)</sup>	-40...+50	120-240	176...275
		1xENDURA 150	1x12000	0.66	159	0.95			
Product reference		$kHz$ ECG	$l$ (mm)	$b$ (mm)	$h$ (mm)	$h$ (mm)	$g$		
QT ENDURA 70-100/120-240 S		250 <sup>1)</sup>	181	100	43	170	950	5	1
QT ENDURA 100-150/120-240 S		250 <sup>1)</sup>	181	100	43	170	1140	5	1

1)  $\pm 10\%$   
2) Minimum

QUICKTRONIC® for OSRAM ENDURA®

## Product characteristics

- Supply voltage: 120 to 240 V
- Line voltage: 108 to 264 V
- Line frequency: 0, 50 - 60 Hz
- Energy Efficiency Index EEI: A2 BAT
- Safety: to EN 61347-2-3
- RI suppression: EN 55015:2006+A1:2007+A2:2009/CISPR 15
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547



# POWERTRONIC®

## POWERTRONIC® electronic control gear for optimum operation of HCl®, HQI® and NAV® metal halide lamps

POWERTRONIC® ECGs have a wide variety of uses.

Their low weight and small volume increase the scope for fixture design and system planning. POWERTRONIC® ECGs make the economical light from metal halide lamps even more comfortable, reliable and safe by constantly monitoring lamp starts and lamp operation and by reliably disconnecting the lamps when appropriate.

POWERTRONIC® ECGs can be used in the following applications:

For outdoor lighting:

- PTo 3DIM:** Robust HID ECG – lightning-proof to 10 kV, vibration tested (EN 60598), approved for fixtures of protection classes I and II, 3 control options:
- DALI control or
  - StepDIM (2-stage switching) or
  - AstroDim (dimming with an integrated timer control).



For indoor lighting with strain relief for separate mounting:

- PTi I:** Tried and trusted technology for long system life  
**PTi SNAP:** As for PTi I, but ST 18/GST 18 plug system  
**PT-FIT I:** For standard applications

For luminaire installation:

- PTi S:** Tried and trusted technology for long system life  
**PT-FIT S:** For standard applications

For greenhouse lighting:

- PTg 1000:** For greenhouse lighting (with 400V<sub>AC</sub> input)

Accessories:

**Inrush current limiter EBN-OS** for greater flexibility at the installation stage

### Applications

- Shop interiors/shop windows
- Foyers/entrance halls
- Production facilities/industrial plants
- Public buildings
- Art galleries/museums/exhibition rooms
- Streets/parks/outdoor facilities (PTo)

### Comfort:

- Flickerfree light
- Greater color stability and less scatter around the color location
- No flashing of old or faulty lamps

### Better economy with POWERTRONIC® ECGs compared with conventional control gear

- Energy Efficiency Class A2
- Up to 15% higher system efficiency
- Up to 20% better luminous flux maintenance and smaller spread of luminous flux
- Up to 30% longer lamp life

### Safety:

- Reliable shutdown of aging or faulty lamps for much greater system safety and reliability
- Integrated ignition time restriction prevents attempts to ignite faulty or old lamps and therefore prevents lamp cycling and radio interference

### Guarantee:

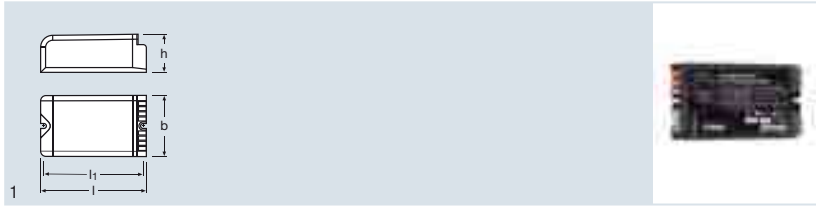
- OSRAM offers its customers its successful System Guarantee\*:
- 5 years on PT ECGs in conjunction with OSRAM HQI®, HCl® and NAV® lamps.
  - 3 years on PT ECGs.

\* For conditions and details go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

\*\* Selected lamps such as HCl®-T/TT, NAV®-E ...



# POWERTRONIC® OUTDOOR PTo for HID lamps for outdoor applications



Product reference	Product number	T <sub>a</sub>	A	W	CONTROL	W
PTo 35/220-240	4008321 <b>956323</b>	-25...+60	0.19	39	-	-
PTo 50/220-240 3DIM	4008321 <b>956347</b>	-25...+55	0.24	50	3DIM, DALI, StepDIM, AstroDIM	70...100
PTo 70/220-240 3DIM	4008321 <b>959355</b>	-25...+55	0.35	73	3DIM, DALI, StepDIM, AstroDIM	60...100
PTo 100/220-240 3DIM	4008321 <b>956361</b>	-25...+55	0.49	97	3DIM, DALI, StepDIM, AstroDIM	60...100
PTo 150/220-240 3DIM	4008321 <b>956385</b>	-25...+55	0.7	147	3DIM, DALI, StepDIM, AstroDIM	60...100

Product reference	T <sub>c</sub>	kV START	max.	l [mm]	b [mm]	h [mm]	l <sub>1</sub> [mm]		No.
PTo 35/220-240	75	4.5	1.5	133	77	48	123	20	1
PTo 50/220-240 3DIM	75	4.5	1.5	133	77	48	123	20	1
PTo 70/220-240 3DIM	75	4.5	1.5	133	77	48	123	20	1
PTo 100/220-240 3DIM	75	4.5	1.5	158	94	42	148	10	1
PTo 150/220-240 3DIM	85	4.5	1.5	158	94	42	148	10	1

## Product characteristics

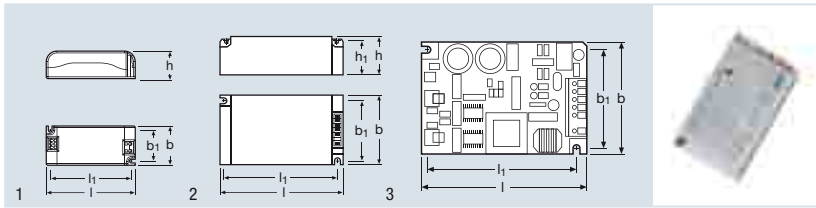
- Energy Efficiency Index EEI: A2
- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 50 to 60 Hz
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- RI suppression: to EN 55015 (A1: 2007) up to 300 MHz
- Safety: to EN 61347-2-12
- Luminous flux factor 1 compared with CCG operation
- Not suitable for DC operation
- Instant hot restrike not possible
- 

## Applications

- Suitable for outdoor and industry applications



# POWERTRONIC® INTELLIGENT PTi S for HID lamps – for luminaire installation



Product reference	Product number	T <sub>a</sub>	A	W	kHz EGG	T <sub>c</sub>	kV START	
PTi 20/220-240 S	4008321 <b>353290</b>	-25...+60	0.11	20	0.100	80	3.0	0.5
PTi 20/220-240 B	4008321 <b>391490</b>	-25...+65	0.11	20	0.100	105	3.0	0.5
PTi 35/220-240 S MINI	4008321 <b>95906</b>	-25...+50	0.19	39	0.100	80	3.0	0.5
PTi 35/220-240 B MINI	4008321 <b>95913</b>	-25...+55	0.19	39	0.100	105	3.0	0.5
PTi 35/220-240 S	4008321 <b>1073112</b>	-25...+65	0.19	39	0.165	85	4.5	1.5
PTi 35/220-240 B	4008321 <b>123589</b>	-25...+65	0.19	39	0.165	85	4.5	1.5
PTi 2x35/220-240 S	4008321 <b>372642</b>	-25...+60	0.37	2*39	0.165	80	4.5	1.5
PTi 70/220-240 S	4008321 <b>049629</b>	-25...+55	0.36	73	0.165	85	4.5	1.5
PTi 70/220-240 B	4008321 <b>123565</b>	-25...+60	0.36	73	0.165	85	4.5	1.5
PTi 2x70/220-240 S	4008321 <b>910028</b>	-25...+55	0.70	2*73	0.165	90	4.5	1.5
PTi 100/220-240 S	4008321 <b>926630</b>	-25...+55	0.49	97	0.165	80	4.5	1.5
PTi 150/220-240 S	4008321 <b>188090</b>	-25...+55	0.72	147	0.165	85	4.5	1.5

Product reference	l [mm]	b [mm]	h [mm]	l1 [mm]	b1 [mm]			
PTi 20/220-240 S	97	43	30	88	34	105	20	1
PTi 20/220-240 B	94	40	27	-	-	80	20	-
PTi 35/220-240 S MINI	97	43	30	88	34	105	20	1
PTi 35/220-240 B MINI	94	40	27	-	-	80	20	-
PTi 35/220-240 S	110	75	30	99	64	245	20	2
PTi 35/220-240 B	110	73	28	99	64	190	20	3
PTi 2x35/220-240 S	165	90	30	151	80	380	20	2
PTi 70/220-240 S	110	75	30	99	64	245	20	2
PTi 70/220-240 B	110	73	28	99	64	190	20	3
PTi 2x70/220-240 S	165	90	30	151	80	400	20	2
PTi 100/220-240 S	150	85	31	139	74	350	20	2
PTi 150/220-240 S	150	85	31	139	74	370	20	2

## Product benefits

- Long reliable life at maximum permitted temperatures
- Compact dimensions and low weight for small fixture designs
- Excellent thermal behavior for very high limit temperatures t<sub>c</sub> and t<sub>a</sub>

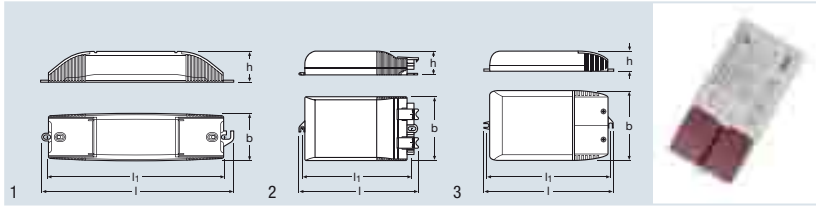
## Product characteristics

- Energy Efficiency Index EEI: A2
- Rated voltage: 220-240 V
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015/CISPR 15
- Safety: to EN 61347-2-12
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- 

## Applications









- Shop lighting
- Health and fitness sectors
- Effect and accent lighting

# POWERTRONIC® INTELLIGENT PTI I for HID lamps – with strain relief



Product reference	Product number	T <sub>a</sub>	A	W	kHz ECG	T <sub>c</sub>	kV START
PTI 20/220-240 I	4008321404763	-25...+60	0.11	20	0.100	75	3.0
PTI 35/220-240 I	4008321099488	-25...+65	0.20	39	0.165	80	4.5
PTI 2x35/220-240 I	4008321372666	-25...+55	0.37	2*39	0.165	70	4.5
PTI 35/220-240 SNAP	4008321955920	-25...+65	0.19	39	0.20	80	4.5
PTI 70/220-240 I	4008321099501	-25...+50	0.36	73	0.165	80	4.5
PTI 2x70/220-240 I	4008321910042	-25...+50	0.70	2*73	0.165	75	4.5
PTI 70/220-240 SNAP	4008321955937	-25...+50	0.36	73	0.20	80	4.5
PTI 100/220-240 I	4008321926654	-25...+55	0.49	97	0.165	70	4.5
PTI 150/220-240 I	4008321915535	-25...+50	0.72	147	0.165	75	4.5

Product reference	 max.	 [mm]	 [mm]	 [mm]	 [mm]			 No.
PTI 20/220-240 I	1.5	204	50	32	187	160	20	1
PTI 35/220-240 I	1.5	155	83	32	163	275	20	3
PTI 2x35/220-240 I	1.5	223	96	32	215	440	20	3
PTI 35/220-240 SNAP	1.5	155	83	31	142	270	20	2
PTI 70/220-240 I	1.5	155	83	32	163	275	20	3
PTI 2x70/220-240 I	1.5	223	96	32	215	450	20	3
PTI 70/220-240 SNAP	1.5	155	83	31	163	270	20	2
PTI 100/220-240 I	1.5	212	96	33	203	400	20	3
PTI 150/220-240 I	1.5	212	96	33	203	420	20	3




PTI I – The professional ECG with strain relief for separate installation

PTI SNAP – Simple installation thanks to Plug&Play system

## Product benefits

- Extended terminal section enables mains looping
- Screw-down cable clamps for reliable strain relief
- Long reliable life at maximum permitted temperatures
- Precabled versions available on request
- (SNAP) Integrated socket/plug offers many benefits
- (SNAP) Rapid error-free installation of the power and fixture connections
- (SNAP) Incorrect wiring virtually impossible thanks to coded plug/socket
- (SNAP) Based on the established ST 18/GST 18 plug system

## Product characteristics

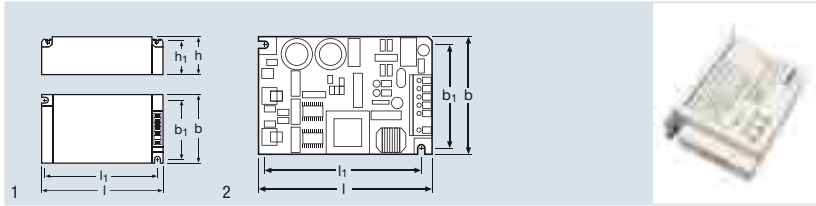
- Energy Efficiency Index EEI: A2
- Rated voltage: 220-240 V
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015/CISPR 15
- Safety: to EN 61347-2-12
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
-   

## Applications





- Shop lighting
- Health and fitness sectors
- Effect and accent lighting



# POWERTRONIC® FIT PT-FIT S for HID lamps – for luminaire installation





Product reference	Product number	T <sub>a</sub>	A	W	kHz ECG	T <sub>c</sub>	kV START
PT-FIT 35/220-240 S	4008321 <b>386625</b>	-15...+65	0.19	39	0.200	85	4.5
PT-FIT 35/220-240 B	4008321 <b>498731</b>	-15...+70	0.19	39	0.200	90	4.5
PT-FIT 50/220-240 S	4008321 <b>648693</b>	-15...+60	0.24	50	0.200	85	4.5
PT-FIT 50/220-240 B	4008321 <b>648716</b>	-15...+65	0.24	50	0.200	90	4.5
PT-FIT 70/220-240 S	4008321 <b>386649</b>	-15...+55	0.36	73	0.200	85	4.5
PT-FIT 70/220-240 B	4008321 <b>498717</b>	-15...+60	0.36	73	0.200	90	4.5

Product reference		$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l_1}{[mm]}$	$\frac{b_1}{[mm]}$			
PT-FIT 35/220-240 S	1.5	110	75	30	99	64	245	20	1
PT-FIT 35/220-240 B	1.5	110	75	29	99	64	185	20	2
PT-FIT 50/220-240 S	1.5	110	75	30	99	64	257	20	1
PT-FIT 50/220-240 B	1.5	110	75	29	99	64	195	20	2
PT-FIT 70/220-240 S	1.5	110	75	30	99	64	245	20	1
PT-FIT 70/220-240 B	1.5	110	75	29	99	64	195	20	2

## Product benefits

- Optimized cost/benefit factor
- Compact dimensions and low weight for small fixture designs

## Product characteristics

- Energy Efficiency Index EEI: A2
- Rated voltage: 220-240 V
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015/CISPR 15
- Safety: to EN 61347-2-12
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
-  

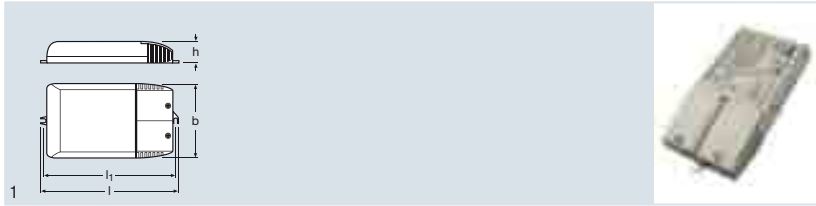
## Applications




- Shop lighting
- Health and fitness sectors
- Effect and accent lighting





# POWERTRONIC® FIT PT-FIT I for HID lamps – with strain relief





Product reference	Product number	$T_a$	A	W	kHz EGG	$T_c$	kV START
PT-FIT 35/220-240 I	4008321 <b>377661</b>	-15...+60	0.19	39	0.200	75	4.5
PT-FIT 50/220-240 I	4008321 <b>648679</b>	-15...+50	0.24	50	0.200	75	4.5
PT-FIT 70/220-240 I	4008321 <b>377685</b>	-15...+45	0.36	73	0.200	75	4.5
Product reference		$l$ [mm]	$b$ [mm]	$h$ [mm]	$l_1$ [mm]		
PT-FIT 35/220-240 I	1.5	155	83	32	163	270	20
PT-FIT 50/220-240 I	1.5	155	83	32	163	270	20
PT-FIT 70/220-240 I	1.5	155	83	32	163	270	20

## Product benefits

- ECG with ergonomic strain relief for correct installation in suspended ceilings
- Optimized cost/benefit factor
- Precabled versions available on request

## Product characteristics

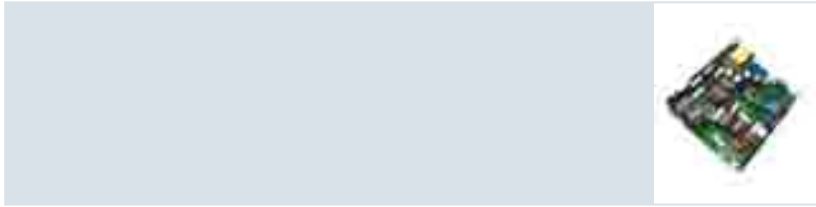
- Energy Efficiency Index EEI: A2
- Rated voltage: 220-240 V
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015/CISPR 15
- Safety: to EN 61347-2-12
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
-  

## Applications

- Shop lighting
- Health and fitness sectors
- Effect and accent lighting




## POWERTRONIC® GREENHOUSE PTg for greenhouse lighting



Product reference	Product number	T <sub>a</sub>	A	W	kHz ECG
PTg 1000/400	4008321956408	+5...+35	0.49 <sup>1)</sup>	1000	130
Product reference	T <sub>c</sub>	kV START	I <sub>max</sub>	g	⊞
PTg 1000/400	70	2.5	0.8	900	8

1) @ 400 V<sub>ac</sub>

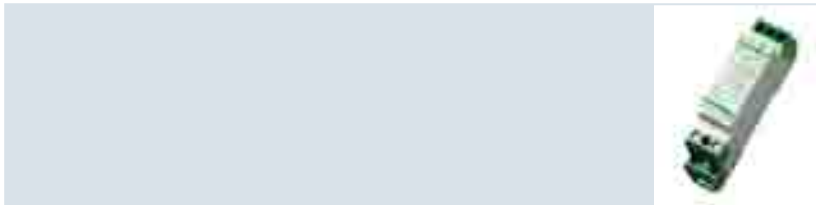
### Product characteristics

- Supply voltage: 400 V
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015 (A1: 2007) up to 300 MHz
- Safety: to EN 61347-2-12
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Not suitable for DC operation
- Instant hot restrike not possible
- 

### Applications

- Greenhouse lighting

## Inrush current limiter EBN-OS for POWERTRONIC® ECGs



Product reference	Product number	T <sub>a</sub>	V	W	l [mm]	b [mm]	h [mm]	g	⊞
EBN-OS/220-240	4006584548019	-10...+45	220-240	0.6	90	18	58	75	100

### General

- Increases the maximum number of HID ECGs per automatic cutout by factor 2.5 (for values see page 9.105)
- Can be used in combination with all POWERTRONIC® ECGs
- Can be used as required depending on the size of the installation
- Simple installation/retrofit on DIN rail to DIN EN 50022
- Operating frequency: 50 to 60 Hz
- Maximum continuous load: 16 A
- Limitation time: 70 ms
- Switching operations: at least 10,000 switching cycles

# HALOTRONIC®

## HALOTRONIC® electronic transformers and dimmers for optimum operation of low-voltage halogen lamps

HALOTRONIC® is primarily intended for:

- Recessed ceiling fixtures with strain relief
- Display lamps
- Residential fixtures (built-in and surface-mounted furniture fixtures)

### Versions

HTI DALI 105 DIM / HTI DALI 150 DIM can be integrated in DALI lighting systems and can be dimmed with a momentary-action switch via Touch DIM®. Daylight-dependent and presence-dependent operation is possible with a DALI MULTeeco controller. Both transformers are suitable for emergency power installations.

For more information on DALI see page 10.38; for usable components see section 10.

HALOTRONIC® LONG (HTL) is available in 105 W and 225 W versions for easy separate mounting:

- 2 terminal pairs on the primary side for looping from unit to unit
- 3 large terminal pairs on the secondary side for connecting up to 3 fixtures in parallel

They offer long life and high thermal load capability, making them suitable for use in emergency installations.

HALOTRONIC® MOUSE® HTM is available in three wattages as a compact standard unit with strain relief for shallow suspended ceilings. The electronic transformer from OSRAM – successfully used in millions of applications.

HALOTRONIC® NANO (HTN) in conjunction with miniaturized low-voltage halogen lamps is ideal for particularly tight spaces and small fixtures. Excellent thermal behavior despite the extremely small size.

ET-PARROT® is a cost-effective alternative to conventional transformers in the 70 -150 W range.

HTI DALI 315 DIM as a trailing-edge phase dimmer enables all the listed electronic transformers to be integrated in a DALI system and can alternatively be operated by means of a momentary-action switch. Daylight-dependent and presence-dependent operation is possible with a DALI MULTeeco controller. Also suitable for line-voltage lamps.

### Applications

- Accent lighting
- Decorative lighting
- Foyers/reception areas
- Passages/corridors
- Shops and exhibition rooms
- Offices and conference rooms
- Residential

### Comfort

- Since it weighs around 80% less and takes up 40% less space than conventional transformers it gives much greater scope for planning halogen-based lighting systems
- All devices have secure strain relief and fixing options
- Dimmable
- Electronically reversible cutout to protect against short circuits, overloads and overtemperature

### Economy

- Protective operation throughout the entire partial-load range for long lamp life
- No additional fusing measures required for connecting the device
- Approx. 60% lower power loss compared to conventional transformers












### Safety

- All the transformers are VDE/IMQ tested
- Suitable for mounting on wooden surfaces
- All transformers have ▽▽
- Suitable, without any additional measures, for fixtures in protection classes II and III, fixtures with ▽ and ▽▽ labels and with ▽ and ▽▽ labels
- Complies with international, European and German standards for safety and EMC

### Guarantee

OSRAM offers its customers unique guarantees (for details on the guarantee see page 9.05)\*:

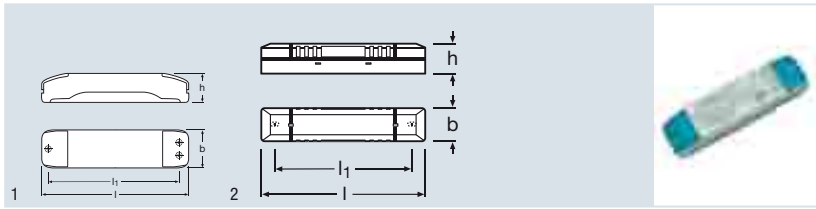
- 5-year guarantee for OSRAM HALOTRONIC® electronic transformers in connection with low-voltage halogen ECO lamps from OSRAM
- 5-year guarantee for OSRAM HALOTRONIC® DIMMER in connection with HALOTRONIC® transformers
- 3 year guarantee for HALOTRONIC® Electronic transformers

Prescribed dimmer for HALOTRONIC®	
HTL 105/230-240	
HTL 225/230-240	
HTM 70/230-240	
HTM 105/230-240	
HTM 150/230-240	
HTN 75/230-240 I	
ET-PARROT 70/220-240 I	
ET-PARROT 105/220-240 I	
ET-PARROT 150/220-240 I	
 with trailing-edge phase dimmer	
 with trailing-edge phase dimmer or leading-edge phase dimmer for inductive loads	
Dimmers for ohmic loads are not suitable.	



\* For conditions and details go to [www.osram.com/system-guarantee](http://www.osram.com/system-guarantee)

# HALOTRONIC® electronic transformers -PROFESSIONAL- HTi, HTL



Product reference	Product number	$\lambda$	$T_a$	A	V	V <sub>min-max</sub>	W	kHz ECG	
HTi DALI 105/230-240 DIM	4008321420633	0.95	-20...+50	0.45	230-240	176	35...105	40	
HTi DALI 150/220-240 DIM	4050300807782	0.95	-20...+45	0.45	220-240	176	35...150	20...35	
HTL 105/230-240	4008321927019	>0.95	-20...+50	0.44 <sup>1)</sup>	230-240	176-275	35...105	≈40	
HTL 225/230-240	4008321927026	>0.95	-20...+50	0.90 <sup>1)</sup>	230-240	176-275	50...225	≈50	
Product reference	V <sub>OUT</sub>		$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l_1}{[mm]}$			
HTi DALI 105/230-240 DIM	11.6 (105W) 11.4 (35W)		170	44	34	140	160	10	1
HTi DALI 150/220-240 DIM	11.7 (150W)	DALI or Touch DIM / Touch DIM Sensor	220	46	44	180	280	10	2
HTL 105/230-240	11.6 (105W) 11.3 (35W)	Trailing-edge or leading-edge dimmer	170	44	34	140	160	10	1
HTL 225/230-240	11.6 (225W) 11.7 (50W)	Trailing-edge or leading-edge dimmer	170	44	34	140	225	10	1

<sup>1)</sup> RMS

## Product benefits

- Short-circuit protection, overload protection, overtemperature protection: electronically reversible
- Dimmable on the leading edge and trailing edge
- Very low power loss thanks to high efficiency
- Through-wiring possible on the primary side
- Large temperature range
- Protective operation throughout the entire partial-load range for long lamp life

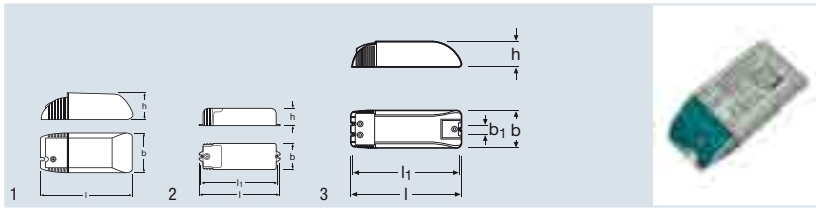
## Product characteristics

- Suitable for emergency installations
- Line frequency: 0, 50 - 60 Hz
- RI suppression: to EN 55015 (A1: 2007) / CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Safety: to EN 61347
- Electrical isolation from the primary and secondary side
- 

## Applications

- Effect and accent lighting
- Living rooms
- Object lighting
- Conference rooms
- Restaurants
- Recessed and surface-mounted furniture fixtures
- Shop lighting
- Event rooms

# HALOTRONIC® electronic transformers -COMPACT- HTM, HTN



Product reference	Product number	$\lambda$	$T_a$	A	V	W	kHz ECG	$V_{OUT}$	
HTM 70/230-240	4050300 <b>442310</b>	0.99	0...+50	0.27 <sup>1)</sup>	230-240	20...70	≈52	11.2 (70W) 11.2 (20W)	
HTM 105/230-240	4050300 <b>442334</b>	0.99	0...+45	0.41 <sup>1)</sup>	230-240	35...105	≈43	11.3 (105W) 11.4 (35W)	
HTM 150/230-240	4050300 <b>581415</b>	0.99	0...+45	0.57 <sup>1)</sup>	230-240	50...150	≈40	11.4 (150W) 11.5 (50W)	
HTN 75/230-240 I	4008321 <b>073037</b>	>0.95	0...+50	0.32 <sup>1)</sup>	230-240	20...75	≈50	11.5 (75W) 11.7 (20W)	
Product reference		$l$ [mm]	$b$ [mm]	$h$ [mm]	$l_1$ [mm]	$b_1$ [mm]			
HTM 70/230-240	Trailing-edge or leading-edge dimmer	108	52	33	–	–	110	20	1
HTM 105/230-240	Trailing-edge or leading-edge dimmer	108	52	33	–	–	125	20	1
HTM 150/230-240	Trailing-edge or leading-edge dimmer	153	54	36	146	15	185	10	3
HTN 75/230-240 I	Trailing-edge phase dimmer	104	33	22	98	–	70	20	2

1) RMS

## Product benefits

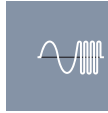
- Short-circuit protection, overload protection, overtemperature protection: electronically reversible
- Dimmable on the leading edge (without HTN) and trailing edge
- Very low power loss thanks to high efficiency
- Strain relief suitable for different cable types (HTM)
- Suitable for space-critical installation thanks to compact functional design
- (HTN) extremely compact transformer for highly space-critical installation conditions
- Protective operation throughout the entire partial-load range for long lamp life

## Product characteristics

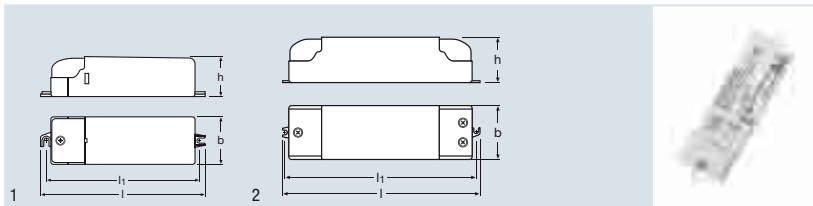
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015 (A1: 2007) / CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Safety: to EN 61347
- Electrical isolation from the primary and secondary side
- 

## Applications

- Effect and accent lighting
- Living rooms
- Object lighting
- Conference rooms
- Restaurants
- Recessed and surface-mounted furniture fixtures
- Shop lighting
- Event rooms



# ET-PARROT® electronic transformers



Product reference	Product number	$\lambda$	$T_a$	A	V	W	kHz ECG	$V_{OUT}$
ET-PARROT 70/220-240 I	4008321111593	>0.95	0...+45	0.30 <sup>1)</sup>	220-240	20...70	≈50	11.3 (70W) 11.4 (20W)
ET-PARROT 105/220-240 I	4008321111579	>0.95	0...+40	0.45 <sup>1)</sup>	220-240	35...105	≈40	11.5 (105W) 11.5 (35W)
ET-PARROT 150/220-240 I	4008321622563	>0.95	0...+40	0.65 <sup>1)</sup>	220-240	50...150	≈40	11.5 (150W) 11.2 (50W)

Product reference		$l$ [mm]	$b$ [mm]	$h$ [mm]	$l_1$ [mm]			
ET-PARROT 70/220-240 I	Trailing-edge phase dimmer	128	38	31	119	115	50	1
ET-PARROT 105/220-240 I	Trailing-edge phase dimmer	128	38	31	119	130	50	1
ET-PARROT 150/220-240 I	Trailing-edge phase dimmer	154	44	38	149	180	20	2

NEW

<sup>1)</sup> RMS

## Product benefits

- Short-circuit protection, overload protection, overtemperature protection: electronically reversible
- Trailing-edge phase dimming
- Very low power loss thanks to high efficiency
- Protective operation throughout the entire partial-load range for long lamp life

## Product characteristics

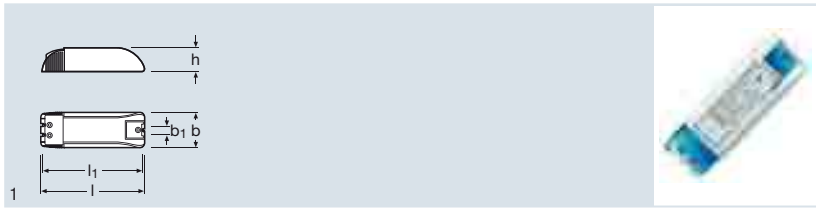
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015 (A1: 2007) / CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Safety: to EN 61347
- Electrical isolation from the primary and secondary side
- (IMQ safety mark)












## Applications

- Effect and accent lighting
- Living rooms
- Object lighting
- Conference rooms
- Restaurants
- Recessed and surface-mounted furniture fixtures
- Shop lighting
- Event rooms



## Dimmer modules for controlling HALOTRONIC® and ET-PARROT®



<b>Product reference</b>	<b>Product number</b>						
HTi DALI 315 DIM	4008321 <b>957344</b>	0...+45	230-240	20-315	DALI or Touch DIM/ Touch DIM Sensor		
<b>Product reference</b>							
HTi DALI 315 DIM	Trailing-edge phase dimmer	0...100 %	153	54	36	110	25

### Product benefits

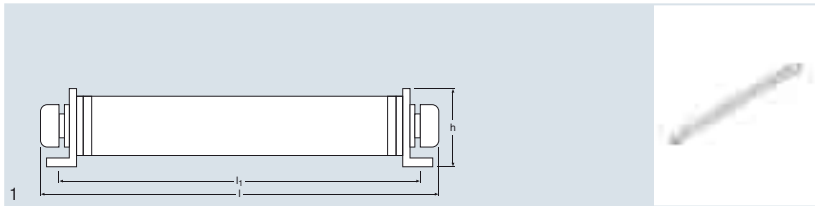
- Standby power consumption < 0.5 W

### Product characteristics

- Total connected load 20...315/420 VA
- DALI/Touch DIM® control signal
- Suitable for all OSRAM HALOTRONIC® and ET-PARROT® ECGs





## ECG accessories – protective casing



Product reference	Product number	$T_a$	l [mm]	b [mm]
OUTKIT 21 L	4008321159595	-25...+50	520	38
OUTKIT 21 S	4008321159571	-25...+50	455	38
OUTKIT 30 L	4008321159557	-25...+50	530	38
OUTKIT 30 S	4008321159533	-25...+50	465	38

Product reference	h [mm]	h [mm]	$\theta$		 No.
OUTKIT 21 L	28	495	120	20	1
OUTKIT 21 S	28	430	120	20	1
OUTKIT 30 L	38	495	120	20	1
OUTKIT 30 S	38	430	120	20	1

### Protective housing for electronic control gear in humid applications

Electronic control gear for fluorescent lamps now plays a major role in indoor lighting. If the benefits of energy saving and low maintenance costs that ECG operation brings are to be enjoyed in outdoor systems as well, these valuable ECGs have to be protected against moisture. In other words, they need a special housing.

### Applications

Outdoor lighting applications in which relatively high protection against moisture for the ECG is needed, e.g. outdoor displays

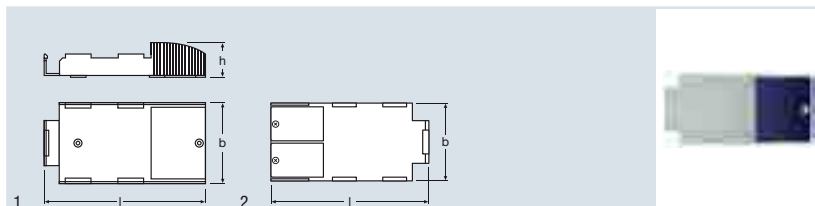
### General

- Type of protection: IP67, no penetration of dust, protected against the consequences of temporary immersion in water
- Suitable as an additional measure if the fixture does not offer IP67 protection
- Self-heating: only 5 K higher than an open ECG








## ECG accessories – strain relief



Product reference	Product number	$l$ [mm]	$b$ [mm]
QT CABLE CLAMP K2	4008321190727	147	71
QT CABLE CLAMP K3	4008321190741	168	84

Product reference	$h$ [mm]			 No.
QT CABLE CLAMP K2	33	65	10	1
QT CABLE CLAMP K3	37	70	10	2

### Product characteristics

- Separate installations thanks to optional cable clamp for K2 and K3 casings
- Suitable for QTP-D/E, T/E, QTP-M, QT<sub>i</sub> (DALI)-T/E DIM ECG and OT 35/220-240/700 LTCS, OT 45/220-240/700 LTCS
- Suitable for various cable types with an outer diameter of at least 7 mm and no more than 11 mm



# OPTOTRONIC®

## OPTOTRONIC® a key component for LED systems

LED technology is changing the world of general lighting and opening up entirely possibilities in lighting planning and luminaire design. Constant development of LEDs and the new requirements that follow as a result, which also applies to LED control gear, call for a high degree of flexibility and future-proof design – with high performance in terms of efficiency and the power factor for example.

Electronic control gear is a key component in LED solutions. The OPTOTRONIC® portfolio meets these requirements and provides the basis for applications with high-quality light, long life, exceptional reliability and attractive design. The product range with its graded features offers an ideal selection of LED control gear.

### Depending on the technical application, there is a choice of two OPTOTRONIC® ECG types.

#### • OPTOTRONIC® constant voltage ECGs

Constant voltage ECGs with an output voltage of 12 V and 24 V in an output power range up to 240 W are suitable for modular and scalable LED systems. In this product range OSRAM offers LED ECGs with an integrated control interface (DALI, 3DIM, 1..10 V, EASY, ..) and with externally combinable control units (DALI, DMX, 1..10 V, ..). The electrical isolation between the primary and secondary sides (SELV, SELV equivalent) and the reversible protection mechanisms for overload, short-circuit and overtemperature enable the LED systems to be set up safely and reliably.

#### • OPTOTRONIC® constant current ECGs

OPTOTRONIC® constant current ECGs provide the basis for highly efficient LED solutions in demanding applications. OSRAM offers a wide range of both simple and fully programmable devices including the innovative LEDset interface. The devices from this product category have various control interfaces (DALI, EASY, 3DIM, leading-edge and trailing-edge dimming, ...) between the OPTOTRONIC® ECG and the LED module to meet the different requirements of the relevant applications.

**3DIM** DALI  
StepDIM  
AstroDIM

**LEDset**

#### Comfort:

- The majority of OPTOTRONIC® devices are suitable for luminaires of protection class II
- ECGs for outdoor applications have high surge protection
- Full flexibility in the selection of the LED module and the functionality through LEDset interface
- Wide variety of dimming options
- Small space requirements thanks to compact functional design

#### Economy:

- Very low power consumption thanks to extremely high efficiency
- Low maintenance factor thanks to “constant lumen” function
- New dimming methods in street applications for existing installations (3DIM)
- Impressive reliability through long life
- Future-proof design (thanks to LEDset)

#### Safety

- All the OPTOTRONIC® ECGs meet the necessary standards for lighting technology:
  - Safety (EN 61347-2-13)
  - Operation (EN 62384)
  - Radiated and line-bound radio interference suppression (EN 55015)
  - EMC immunity (EN 61547)
  - Harmonics (EN 61000-3-2)
- Protection mechanisms for short-circuit, overtemperature and overload are implemented
- Operation in a wide range of ambient temperatures

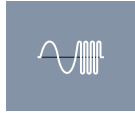


For the latest information on the products in this section go to [www.osram.com/optotronic](http://www.osram.com/optotronic)

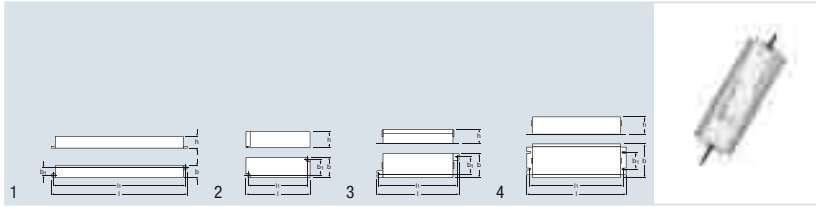
# LED modules and control gear, application overview\*

OPTOTRONIC® control gear	CV		CC					Dimmers													
	OPTOTRONIC 10V	OPTOTRONIC 12V	OPTOTRONIC 24V	OPTOTRONIC 350mA	OPTOTRONIC 500mA	OPTOTRONIC 700mA	OPTOTRONIC LEDset	OT DIM	OT RGB DIM	OT RGB SEQUENCER	OT DIMX RGB DIM	OT DIMX 3x1 RGB DIM	OT DIMX 3x2.5 DIM	OT DIMX 3x2.5 PCB DIM	OT DIMX 9x2 DIM SO	OT DIMX 3x350 DIM LI	OT DIMX 6x350/700 DIM SO	OT DIMX 12x350/700 DIM SO	OTT DALI DIM	OTT DALI DIM LI	OTT DALI 2x700 CS
COINlight Pro CP51			●					●	●	●	●	●	●	●	●				●	●	
COINlight AR111				●	●	●	●										●				●
DRAGONchain Colormix			●					●	●	●	●	●	●	●	●				●	●	
DRAGONchain Tunable White			●					●	●	●	●	●	●	●	●				●	●	
DRAGONeye				●	●	●	●								●	●	●				●
DRAGONpuck DP35 (W4F-3)				●	●	●	●								●	●	●				●
DRAGONpuck DP51 (W4F-3)				●	●	●	●								●	●	●				●
DRAGONpuck DP35 (W4F-7)				●	●	●	●								●	●	●				●
DRAGONpuck DP51 (W4F-7)				●	●	●	●								●	●	●				●
DRAGON-X Plus				●	●	●	●								●	●	●				●
LINEARlight 10 V	●							●	●	●	●	●	●	●	●				●	●	
LINEARlight Colormix (module power 24 W total)			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Colormix Flex			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex ADVANCED Gen II				●				●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex ECO			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight POWER Flex Gen II			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Colormix Flex Protect			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex Protect ADVANCED			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex Protect ECO			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex ShortPitch			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex Value IP			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight POWER Flex Protect			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Flex SIDELED	●							●	●	●	●	●	●	●	●				●	●	
LINEARlight-DRAGON			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight-DRAGON Slim			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight ADVANCED			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight ECO			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight POWER			●					●	●	●	●	●	●	●	●				●	●	
LINEARlight Colormix			●					●	●	●	●	●	●	●	●				●	●	
STREETlight Advanced			●					●	●	●	●	●	●	●	●				●	●	
STREETlight Advanced			●					●	●	●	●	●	●	●	●				●	●	
HPML Core				●			●														
HPML Advanced				●			●														
BoxLED		●						●	●	●	●	●	●	●	●				●	●	
BackLED		●						●	●	●	●	●	●	●	●				●	●	
350 mA High-Flux LED				●			●								●	●	●				●
500 mA High-Flux LED				●	●		●								●	●	●				●
700 mA High-Flux LED				●	●	●	●								●	●	●				●

\* This table provides an overview of the possible combinations, but in each case the output power and the output voltage of the ECG must be matched to the electrical properties of the LED module.



# OPTOTRONIC® control gear - 12 V



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class
OTe 15/220-240/12 P	4008321974433	12 V LED modules	15	198...264 <sup>1)</sup>	50-60	I/II
OTe 30/220-240/12 P	4008321974440	12 V LED modules	30	198...264 <sup>1)</sup>	50-60	I/II
OTe 60/220-240/12 P	4008321974457	12 V LED modules	60	198...264 <sup>1)</sup>	50-60	I
OTe 120/220-240/12 P	4008321974464	12 V LED modules	120	198...264 <sup>1)</sup>	50-60	I
OT 60/220-240/12 P <sup>3)</sup>		12 V LED modules				
OT 120/220-240/12 P <sup>3)</sup>		12 V LED modules				

Product reference	IP	V <sub>OUT</sub>	T <sub>a</sub>	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$			No.
OTe 15/220-240/12 P	IP65	12.5 <sup>2)</sup>	-25...+55	229	20	20	60	1	1
OTe 30/220-240/12 P	IP65	12.5 <sup>2)</sup>	-25...+55	136	42	33	40	2	2
OTe 60/220-240/12 P	IP65	12.5 <sup>2)</sup>	-25...+55	170	53	38	20	3	3
OTe 120/220-240/12 P	IP65	12.5 <sup>2)</sup>	-25...+55	208	72	38	10	4	4
OT 60/220-240/12 P <sup>3)</sup>									
OT 120/220-240/12 P <sup>3)</sup>									

<sup>1)</sup> Permitted voltage range  
<sup>2)</sup> ± 0.5 V  
<sup>3)</sup> In preparation

## OTe 15/220-240/12 P

- SELV equivalent
- Suitable for luminaires of protection class II
- High IP protection (IP65)
- Ideal for mounting in very tight spaces
- Slim housing
- Suitable for outdoor applications

## OTe 30/220-240/12 P

- SELV equivalent
- Suitable for luminaires of protection class II
- High IP protection (IP65)
- Surge protection ≥ 2 kV
- Compact housing
- Suitable for outdoor applications

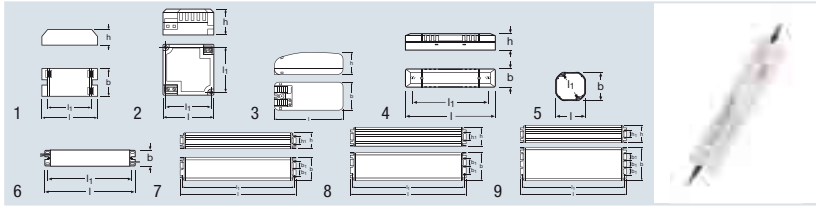
## OTe 60/220-240/12 P

- SELV equivalent
- Suitable for luminaires of protection class I
- High IP protection (IP65)
- Surge protection ≥ 2 kV
- Compact housing
- Suitable for outdoor applications

## OTe 120/220-240/12 P

- SELV equivalent
- Suitable for luminaires of protection class I
- High IP protection (IP65)
- Surge protection ≥ 2 kV
- Compact housing
- Suitable for outdoor applications

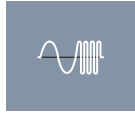
# OPTOTRONIC® control gear - 24 V



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class
OT 8/200-240/24	4008321040169	24 V LED modules	8	180...254 <sup>1)</sup>	50-60	I/II
OT 20/120-240/24 S	4050300662626	24 V LED modules	20	108...254 <sup>1)</sup>	50-60	I/II
OT 20/220-240/24	4050300618111	24 V LED modules	20	198...254 <sup>1)</sup>	50-60	I/II
OT 75/220-240/24	4050300817477	24 V LED modules	75	198...254 <sup>1)</sup>	50-60	I/II
OT 6/200-240/24 CE	4008321113269	24 V LED modules	6	180...254 <sup>1)</sup>	50-60	I/II
OT 75/220-240/24 E	4008321362476	24 V LED modules	75	198...254 <sup>1)</sup>	50-60	I
OT 80/220-240/24 P	4008321981684	24 V LED modules	80	198...264 <sup>1)</sup>	50-60	I/II
OT 120/220-240/24 P	4008321981707	24 V LED modules	120	198...264 <sup>1)</sup>	50-60	I
OT 240/220-240/24 P	4008321981721	24 V LED modules	240	198...264 <sup>1)</sup>	50-60	I
OT 50/220-240/24 <sup>3)</sup>		24 V LED modules				
OT 50/220-240/24 P <sup>5)</sup>		24 V LED modules				

Product reference	IP	V <sub>OUT</sub>	T <sub>a</sub>	l [mm]	b [mm]	h [mm]			No.
OT 8/200-240/24	IP20	24 <sup>2)</sup>	-20...+50	80	40	22	50	1	
OT 20/120-240/24 S	IP20	24 <sup>2)</sup>	-20...+50	60	60	31	30	2	
OT 20/220-240/24	IP20	24 <sup>2)</sup>	-20...+50	109	50	35	20	3	
OT 75/220-240/24	IP20	24 <sup>3)</sup>	-20...+50	220	47	44	10	4	
OT 6/200-240/24 CE	IP65	24 <sup>4)</sup>	-20...+50	51	50	22	20	5	
OT 75/220-240/24 E	IP64	24 <sup>3)</sup>	-25...+60	241	43	30	10	6	
OT 80/220-240/24 P	IP67	24 <sup>3)</sup>	-25...+55	250	50	34	10	7	
OT 120/220-240/24 P	IP67	24 <sup>3)</sup>	-25...+55	250	60	39	10	8	
OT 240/220-240/24 P	IP67	24 <sup>3)</sup>	-25...+55	250	80	39	8	9	
OT 50/220-240/24 <sup>3)</sup>									
OT 50/220-240/24 P <sup>5)</sup>									

1) Permitted voltage range  
 2) ±1.0 V  
 3) ±1.0/-0.5 V  
 4) ±0.8 V  
 5) In preparation



**OT 8/220-240/24**

- SELV equivalent
- Suitable for installation in flush-type boxes
- Ideal for mounting in very tight spaces
- Suitable for indoor applications

**OT 20/120-240/24 S**

- SELV equivalent
- Large input voltage range
- For installation in compact luminaires
- Suitable for indoor applications

**OT 20/220-240/24**

- SELV equivalent
- Cable clamp housing for independent mounting
- Ideal for mounting in very tight spaces
- Suitable for indoor applications

**OT 75/220-240/24**

- SELV equivalent
- Integrated cable clamp
- Intelligent power matching under different operating conditions (Smart Power Supply)
- Higher output power possible thanks to secondary-side parallel connection (up to 4 ECGs)
- Suitable for indoor applications

**OT 6/200-240/24 CE**

- SELV equivalent
- High IP protection (IP65)
- Suitable for installation in flush-type boxes
- Ideal for mounting in very tight spaces
- Suitable for use indoors and outdoors

**OT 75/220-240/24 E**

- SELV equivalent
- High IP protection (IP64)
- Intelligent power matching under different operating conditions (Smart Power Supply)
- Higher output power possible thanks to secondary-side parallel connection (up to 4 ECGs)
- Suitable for outdoor applications and freezer lighting

**OT 80/220-240/24 P**

- SELV equivalent
- High surge protection up to 3 kV (L-N)
- High IP protection (IP67)
- Slim housing and flexible mounting concept
- Suitable for outdoor applications

**OT 120/220-240/24 P**

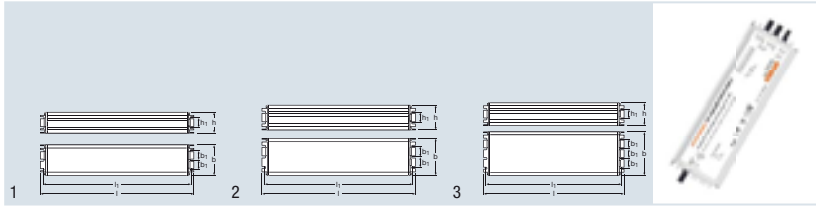
- SELV equivalent
- High surge protection up to 3 kV (L-N) / 6 kV (L/N-PE)
- High IP protection (IP67)
- Slim housing and flexible mounting concept
- Suitable for outdoor applications

**OT 240/220-240/24 P**

- SELV equivalent
- High surge protection up to 3 kV (L-N) / 6 kV (L/N-PE)
- High IP protection (IP67)
- Flexible mounting concept
- 2 output channels for optional distribution of the output power
- Suitable for outdoor applications



# OPTOTRONIC® control gear - 1-10 V interface



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class
OT 80/220-240/24 DIM P	4008321 <b>981677</b>	24 V LED modules	80	198...264 <sup>1)</sup>	50-60	I/II
OT 120/220-240/24 DIM P	4008321 <b>981691</b>	24 V LED modules	120	198...264 <sup>1)</sup>	50-60	I
OT 240/220-240/24 DIM P	4008321 <b>981714</b>	24 V LED modules	240	198...264 <sup>1)</sup>	50-60	I

Product reference	IP	V <sub>OUT</sub>	CONTROL	T <sub>a</sub>	I [mm]	b [mm]	h [mm]			No.
OT 80/220-240/24 DIM P	IP67	24 <sup>2)</sup>	1-10 V	-25...+55	250	50	34	10	1	1
OT 120/220-240/24 DIM P	IP67	24 <sup>2)</sup>	1-10 V	-25...+55	250	60	39	10	2	2
OT 240/220-240/24 DIM P	IP67	24 <sup>2)</sup>	1-10 V	-25...+55	250	80	39	8	3	3

<sup>1)</sup> Permitted voltage range  
<sup>2)</sup> +1.0/-0.5V

## OT 80/220-240/24 DIM P

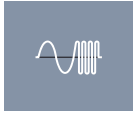
- SELV equivalent
- High surge protection up to 3 kV (L-N)
- Dimmable via isolated 1-10 V interface
- High IP protection (IP67)
- Slim housing and flexible mounting concept
- Suitable for outdoor applications

## OT 120/220-240/24 DIM P

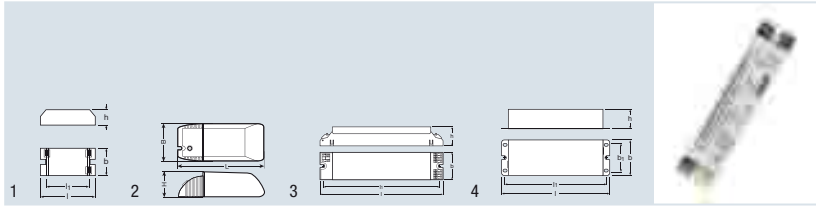
- SELV equivalent
- High surge protection up to 3 kV (L-N) / 6 kV (L/N-PE)
- Dimmable via isolated 1-10 V interface
- High IP protection (IP67)
- Slim housing and flexible mounting concept
- Suitable for outdoor applications

## OT 240/220-240/24 DIM P

- SELV equivalent
- High surge protection up to 3 kV (L-N) / 6 kV (L/N-PE)
- Dimmable via isolated 1-10 V interface
- High IP protection (IP67)
- 2 output channels for optional distribution of the output power
- Flexible mounting concept
- Suitable for outdoor applications



# OPTOTRONIC® control gear - 350 mA



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class	IP
OT 9/10-24/350 DIM	4050300888897	350 mA LED modules	8.5	9...32 <sup>1)</sup>	0	–	IP20
OT 9/200-240/350 DIM	4050300888262	350 mA LED modules	8.5	180...254 <sup>1)</sup>	50-60	I/II	IP20
OT 9/200-240/350 DIM	4008321187321	350 mA LED modules	8.5	180...254 <sup>1)</sup>	50-60	I/II	IP20
OTe 13/220-240/350 SD	4008321519795	350 mA LED modules	12	198...264 <sup>1)</sup>	50-60 <sup>4)</sup>		IP20
OTe 25/220-240/2x350 SD	4008321523686	350 mA LED modules	24	198...264 <sup>1)</sup>	50-60 <sup>4)</sup>		IP20
OTe 90/220-240/4x350 E	4008321637345	350 mA LED modules	81	198...264 <sup>1)</sup>	50-60	I	IP64

Product reference	I <sub>IN</sub> [mA]	V <sub>OUT</sub>	CONTROL	T <sub>a</sub>	l [mm]	b [mm]	h [mm]		
OT 9/10-24/350 DIM	350 <sup>2)</sup>	0...24.5	Poti	-20...+50	80	40	22	50	1
OT 9/200-240/350 DIM	350 <sup>2)</sup>	0...25	–	-20...+50	80	40	22	50	1
OT 9/200-240/350 DIM	350 <sup>2)</sup>	2...25	Poti	-20...+55	108	53	33	20	2
OTe 13/220-240/350 SD	350 <sup>2)</sup>	34	StepDIM	-20...+55	182	41	28	20	3
OTe 25/220-240/2x350 SD	2x350 <sup>2)</sup>	34	StepDIM	-20...+55	182	41	28	20	3
OTe 90/220-240/4x350 E	4x350 <sup>3)</sup>	58	–	-25...+55	238	89	46	6	4

<sup>1)</sup> Permitted voltage range  
<sup>2)</sup> ±5%  
<sup>3)</sup> ±10%  
<sup>4)</sup> Please see data sheet

## OT 9/10-24/350 DIM

- Compact housing
- Dimmable via external potentiometer
- Suitable for indoor applications

## OT 9/200-240/350

- SELV equivalent
- Compact housing
- Suitable for installation in flush-type boxes
- Suitable for indoor applications

## OT 9/200-240/350 DIM

- SELV equivalent
- Compact housing
- Dimmable via external potentiometer
- Cable clamp housing for independent mounting
- Suitable for indoor applications



**OTe 13/220-240/350 SD**

- SELV equivalent
- StepDIM interface: switch between two predefined output currents by means of an external switch or PIR sensor
- Slim housing with separate push-in terminals
- Suitable for indoor applications

**OTe 25/220-240/2x350 SD**

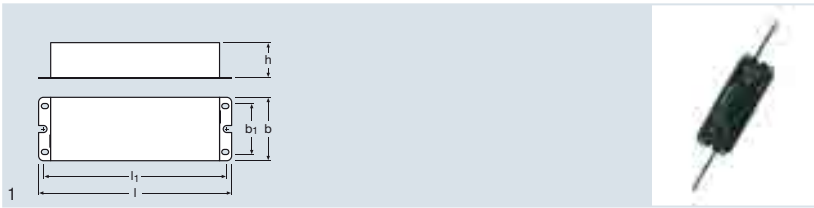
- SELV equivalent
- 2 output channels
- StepDIM interface: switch between two predefined output currents by means of an external switch or PIR sensor
- Slim housing with separate push-in terminals
- Suitable for indoor applications

**OTe 90/220-240/4x350 E**

- Large output power range up to 81 W
- 4 output channels each with low output voltage (< 60 V)
- High surge protection up to 3 kV (L-N) / 3.5 kV (L/N-PE)
- Robust and reliable design
- Doubling of the output current ( $2 \times 350 \text{ mA} = 700 \text{ mA}$ ) by connecting two channels in parallel
- Suitable for outdoor applications



# OPTOTRONIC® control gear - 500 mA

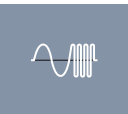


Product reference	Product number		<b>W</b>	$V_{IN}$	pro-tection class	IP	$I [mA]$	
OTe 90/220-240/4x500 E	4008321651600	500 mA LED modules	90	198...264 <sup>1)</sup>	I	IP64	4x500 <sup>2)</sup>	
Product reference	$V_{OUT}$	CONTROL	$T_a$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$h [mm]$		
OTe 90/220-240/4x500 E	< 45 <sup>3)</sup>	—	-25...+55	238	89	46	6	1

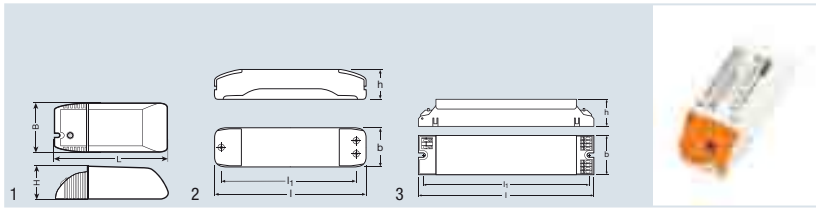
1) Permitted voltage range  
 2) Per channel ± 10%  
 3) Maximum 52 V per channel

## OTe 90/220-240/4x500 E

- Large output power range up to 90 W
- 4 output channels each with low output voltage (< 60 V)
- High surge protection up to 3 kV (L-N) / 3.5 kV (L/N-PE)
- Robust and reliable design
- Doubling of the output current (2x500 mA = 1 A) by connecting two channels in parallel
- Suitable for outdoor applications



# OPTOTRONIC® control gear - 700 mA



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class	IP
OT 18/200-240/700 DIM	4008321 <b>139320</b>	700 mA LED modules	17	180...254 <sup>1)</sup>	50-60	I / II	IP20
OTe 35/220-240/700	4008321 <b>691248</b>	700 mA LED modules	35	195...264 <sup>1)</sup>	50-60	I/II	IP20
OTe 35/220-240/700 SD	4008321 <b>989543</b>	700 mA LED modules	35	195...264 <sup>1)</sup>	50-60 <sup>5)</sup>		IP20
OTe 70/220-240/2x700 SD	4008321 <b>989567</b>	700 mA LED modules	70	195...264 <sup>1)</sup>	50-60 <sup>5)</sup>		IP20

Product reference	I [mA]	V <sub>OUT</sub>	CONTROL	T <sub>a</sub>	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$			No.
OT 18/200-240/700 DIM	0...700 <sup>2)</sup>	2.0...25	Potentiometer	-20...+50	108	53	33	20		1
OTe 35/220-240/700	700 <sup>2)</sup>	25...50	—	-25...+45	170	44	34	10		2
OTe 35/220-240/700 SD	700 <sup>3)</sup>	16...50	StepDIM	-25...+50	182	41	28	20		3
OTe 70/220-240/2x700 SD	2x700 <sup>3)</sup>	16...54	StepDIM	-25...+50	280	40	28	<sup>4)</sup>		3

<sup>1)</sup> Permitted voltage range  
<sup>2)</sup> ±5 %  
<sup>3)</sup> ±10 %  
<sup>4)</sup> Data not available at time of going to press  
<sup>5)</sup> Please see data sheet

## OT 18/200-240/700 DIM

- SELV equivalent
- Compact housing
- Dimmable via external potentiometer
- Cable clamp housing for independent mounting
- Suitable for indoor applications

## OTe 35/220-240/700

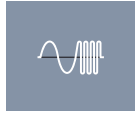
- SELV equivalent
- Large output power range up to 35 W
- Cable clamp housing for independent mounting
- Suitable for indoor applications

## OTe 35/220-240/700 SD

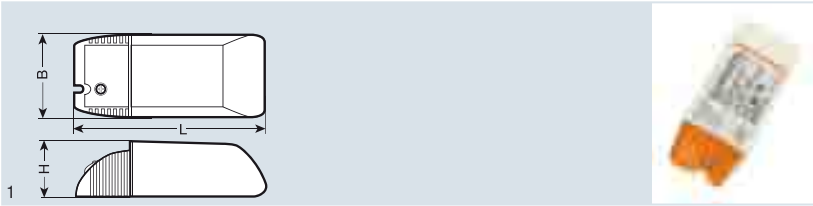
- SELV equivalent
- StepDIM interface: switch between two predefined output currents by means of an external switch or PIR sensor
- Suitable for indoor applications

## OTe 70/220-240/2x700 SD

- SELV equivalent
- 2 output channels
- StepDIM interface: switch between two predefined output currents by means of an external switch or PIR sensor
- Suitable for indoor applications



# OPTOTRONIC® control gear - PhaseCut



Product reference	Product number		W	V <sub>IN</sub>	Hz	pro-tection class	IP
OTe 9/220-240/350 PC	4008321 <b>978387</b>	350 mA LED modules	10 <sup>3)</sup>	195...264 <sup>1)</sup>	50-60	I/II	IP20
OTe 9/220-240/700 PC	4008321 <b>688842</b>	700 mA LED modules	10 <sup>3)</sup>	195...264 <sup>1)</sup>	50-60	I/II	IP20
OTe 15/220-240/350 PC	4008321 <b>700346</b>	350 mA LED modules	16 <sup>4)</sup>	195...264 <sup>1)</sup>	50-60	I/II	IP20
OTe 15/220-240/700 PC	4008321 <b>677341</b>	700 mA LED modules	16 <sup>4)</sup>	195...264 <sup>1)</sup>	50-60	I/II	IP20
OTe 20/220-240/350 PC	4008321 <b>978349</b>	350 mA LED modules	20 <sup>5)</sup>	195...264 <sup>1)</sup>	50-60	I/II	IP20
OTe 20/220-240/700 PC	4008321 <b>978363</b>	700 mA LED modules	20 <sup>5)</sup>	195...264 <sup>1)</sup>	50-60	I/II	IP20

Product reference	I <sub>IN</sub> [mA]	V <sub>OUT</sub>	CONTROL	T <sub>a</sub>	l [mm]	b [mm]	h [mm]			No.
OTe 9/220-240/350 PC	350 <sup>2)</sup>	17...29	Leading-edge and trailing edge	-20...+50	109	53	33	20	1	
OTe 9/220-240/700 PC	700 <sup>2)</sup>	7.5...14	Leading-edge and trailing edge	-20...+50	109	53	33	20	1	
OTe 15/220-240/350 PC	350 <sup>2)</sup>	28...45.5	Leading-edge and trailing edge	-20...+45	109	53	33	20	1	
OTe 15/220-240/700 PC	700 <sup>2)</sup>	23 <sup>6)</sup>	Leading-edge and trailing-edge	-20...+45	109	53	33	20	1	
OTe 20/220-240/350 PC	350 <sup>2)</sup>	45...57	Leading-edge and trailing-edge	-20...+45	109	53	33	20	1	
OTe 20/220-240/700 PC	700 <sup>2)</sup>	22.5...28.5	Leading-edge and trailing-edge	-20...+45	109	53	33	20	1	

<sup>1)</sup> Permitted voltage range  
<sup>2)</sup> ±5 %  
<sup>3)</sup> Partial load 6...10 W  
<sup>4)</sup> For partial load see the data sheet  
<sup>5)</sup> Partial load 16...20 W  
<sup>6)</sup> Maximal. For more information see data sheet

## OTe 9/220-240/350 PC

- SELV equivalent
- Dimmable via leading edge/trailing edge
- Compatible with the most common leading-edge and trailing-edge phase dimmers
- Compact housing for mounting in very tight spaces
- Integrated cable clamp for independent mounting
- Suitable for indoor applications

## OTe 9/220-240/700 PC

- SELV equivalent
- Dimmable via leading edge/trailing edge
- Compatible with the most common leading-edge and trailing-edge phase dimmers
- Compact housing for mounting in very tight spaces
- Integrated cable clamp for independent mounting
- Suitable for indoor applications

## OTe 15/220-240/350 PC

- SELV equivalent
- Dimmable via leading edge/trailing edge
- Compatible with the most common leading-edge and trailing-edge phase dimmers
- Compact housing for mounting in very tight spaces
- Integrated cable clamp for independent mounting
- Suitable for indoor applications

**OTe 15/220-240/700 PC**

- SELV equivalent
- Dimmable via leading edge/trailing edge
- Compatible with the most common leading-edge and trailing-edge phase dimmers
- Compact housing for mounting in very tight spaces
- Integrated cable clamp for independent mounting
- Suitable for indoor applications

**OTe 20/220-240/350 PC**

- SELV equivalent
- Dimmable via leading edge/trailing edge
- Compatible with the most common leading-edge and trailing-edge phase dimmers
- Compact housing for mounting in very tight spaces
- Integrated cable clamp for independent mounting
- Suitable for indoor applications

**OTe 20/220-240/700 PC**

- SELV equivalent
- Dimmable via leading edge/trailing edge
- Compatible with the most common leading-edge and trailing-edge phase dimmers
- Compact housing for mounting in very tight spaces
- Integrated cable clamp for independent mounting
- Suitable for indoor applications



# OPTOTRONIC® LEDset

LEDset – simple effective tuning

LED technology offers a high degree of flexibility in the design of luminaires. Its rapid innovation cycles in terms of efficiency and operating current call for optimum matching of the ECGs to meet the new requirements.

The new OPTOTRONIC® devices with the LEDset interface take account of this flexibility by covering a wide range of wattages and currents and supporting future generations of LEDs with their future-proof design.



LEDset is an intelligent interface between the LED module and the ECG and offers the following possibilities:

- Flexible current setting by means of an external resistor
- Local dimming function within the luminaire
- Customer-specific overtemperature protection for the LED module
- 12 V auxiliary supply (15 mA) for customer-specific control of the LED module (sensor-controlled current, constant lumen, ...)

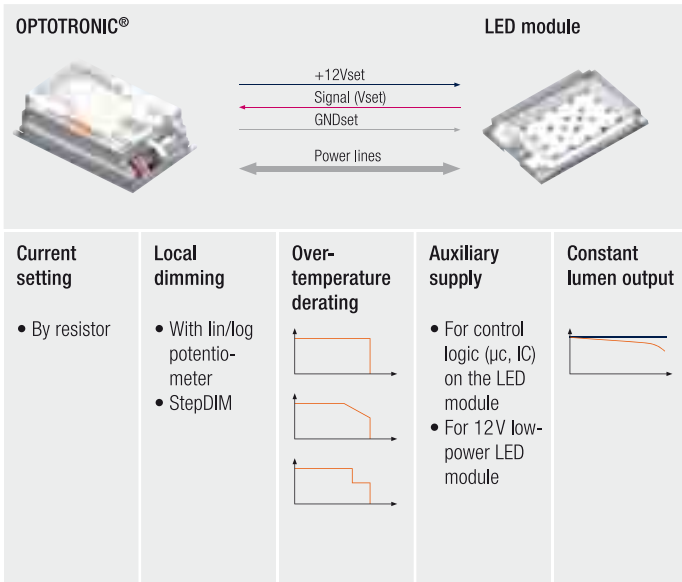
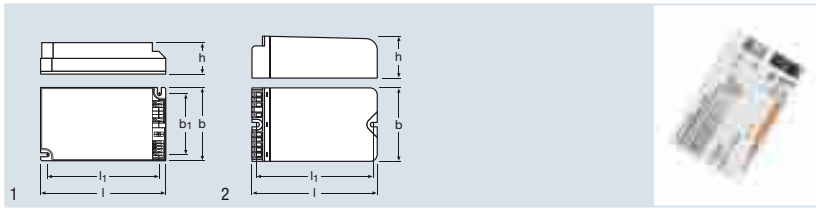


Figure 1: LEDset application features

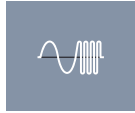
For more information and typical applications go to [www.osram.com/ledset](http://www.osram.com/ledset)

# OPTOTRONIC® control gear - LEDset



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class	IP			
OT 35/220-240/700 LTCS	4008321664419	350-700 mA LED modules	35	195...264 <sup>1)</sup>	50-60	I/II	IP20			
OT 45/220-240/700 LTCS	4008321664433	350-700 mA LED modules	45	195...264 <sup>1)</sup>	50-60	I/II	IP20			
OT 50/220-240/700 LT E	4008321774255	350-700 mA LED modules	54	195...264 <sup>1)</sup>	50-60	I/II	IP20 <sup>3)</sup>			
OT 90/220-240/700 LT E	4008321664976	350-700 mA LED modules	90	195...264 <sup>1)</sup>	50-60	I/II	IP20 <sup>3)</sup>			
OT 150/220-240/700 LT E <sup>4)</sup>		350-700 mA LED modules								
Product reference	I [mA]	V <sub>OUT</sub>	CONTROL	T <sub>a</sub>	$\frac{l}{\text{mm}}$	$\frac{b}{\text{mm}}$	$\frac{h}{\text{mm}}$			No.
OT 35/220-240/700 LTCS	100...700 <sup>2)</sup>	24...87	LEDset	-25...+50	123	79	33	20	1	1
OT 45/220-240/700 LTCS	100...700 <sup>2)</sup>	38...120	LEDset	-25...+50	123	79	33	20	1	1
OT 50/220-240/700 LT E	75...700	38...120	LEDset	-30...+60	133	77	48	20	2	2
OT 90/220-240/700 LT E	75...700 <sup>2)</sup>	64...260	LEDset	-30...+55	133	77	48	20	2	2
OT 150/220-240/700 LT E <sup>4)</sup>										

<sup>1)</sup> Permitted voltage range  
<sup>2)</sup> ± 5% (350-700 mA)  
<sup>3)</sup> Suitable for luminaires of protection class IP54  
<sup>4)</sup> In preparation



**OT 35/220-240/700 LTCS**

- Large output power range up to 35 W
- SELV equivalent
- Current output range 100 - 700mA
- Control of current setting via DIP switch and LEDset interface
- Very low switch-on current
- Future-proof and flexible current setting
- Consistently high efficiency
- Suitable for indoor applications

**OT 45/220-240/700 LTCS**

- Large output power range up to 45 W
- SELV equivalent
- Current output range 100 - 700mA
- Control of current setting via DIP switch and LEDset interface
- Very low switch-on current
- Future-proof and flexible current setting
- Consistently high efficiency
- Suitable for indoor applications

**OT 50/220-240/700 LT E**

- Large output power range up to 54 W
- Control of current setting via LEDset interface
- Suitable for luminaires of protection classes I and II
- Current output range 75 – 700 mA
- High surge protection up to 4 kV (L-N) / 4 kV (L/N-PE)
- Future-proof and flexible current setting
- Consistently high efficiency
- Suitable for outdoor applications

**OT 90/220-240/700 LT E**

- Large output power range up to 90 W
- Control of current setting via LEDset interface
- Suitable for luminaires of protection classes I and II
- Current output range 75 – 700 mA
- High surge protection up to 4 kV (L-N) / 4 kV (L/N-PE)
- Future-proof and flexible current setting
- Consistently high efficiency
- Suitable for outdoor applications





# OPTOTRONIC® 3DIM

## 3DIM – Three independent dimming modes in one device

3DIM stands for a combination of three control and dimming options in one device. OSRAM offers this functionality for constant-current and constant-voltage LED ECGs and also for ECGs for high-intensity discharge lamps. It is therefore a uniform concept for a wide range of lighting technologies.

3DIM <small>DALI StepDIM AstroDIM</small>	StepDIM	AstroDIM	DALI
Energy savings through dimming	●	●	●
Simple installation in the existing infrastructure	●	●	●
Flexibility		●	●
Feedback from the light source and ECG status			●

### StepDIM

- Dimming via an external control phase. Predefined dim levels can be varied by the 3DIM Tool software, and so can the polarity of the phase

### AstroDIM

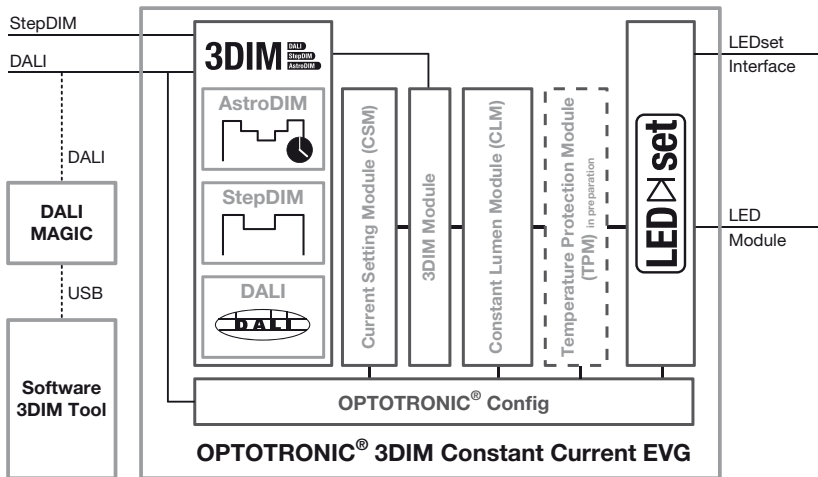
- Automatic dimming via an integrated timer, predefined periods and dim levels can be changed via the software

### DALI

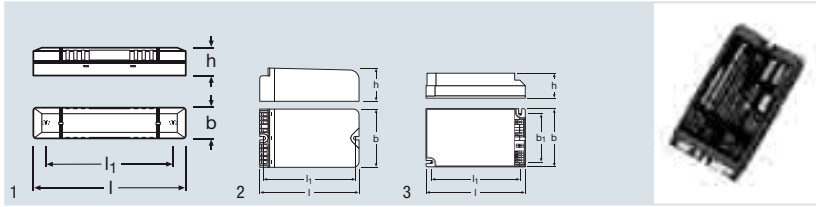
- Suitable for integration in bidirectional telemanagement systems




## OPTOTRONIC® LED constant current 3DIM control gear

This fully programmable family of devices offers not only 3DIM functionality but also the option of setting the parameters for output current, lumen maintenance and, in future, overtemperature protection on the LED module via the 3DIM Tool software. The high degree of flexibility of these devices provides the basis for optimum adjustment to the required lighting conditions, reduces the maintenance factor and also increases the reliability of the luminaire in critical operating conditions.



# OPTOTRONIC® control gear - DALI/3DIM



Product reference	Product number		W	V <sub>IN</sub>	Hz	protection class	IP		
OTi DALI 75/220-240/24	4008321 <b>371560</b>	24 V LED modules	75	198...254 <sup>1)</sup>	50/60	I/II	IP20		
OT 65/220-240/24 3DIM E	4008321 <b>964403</b>	24 V LED modules	65	198...264 <sup>1)</sup>	50/60	I/II	IP20 <sup>3)</sup>		
OT DALI 45/220-240/700 LTCS	4008321 <b>978240</b>	350-700 mA LED modules	45	195...264 <sup>1)</sup>	0/50/60	I/II	IP20		
OT 50/220-240/700 3DIMLT E	4008321 <b>664464</b>	350-700 mA LED modules	54	195...264 <sup>1)</sup>	50/60	I/II	IP20 <sup>3)</sup>		
OT 90/220-240/700 3DIMLT E	4008321 <b>664471</b>	350-700 mA LED modules	90	195...264 <sup>1)</sup>	50/60	I/II	IP20 <sup>3)</sup>		
OT 150/220-240/700 3DIMLT E <sup>4)</sup>		350-700 mA LED modules							
Product reference	I [mA]	V <sub>OUT</sub>	CONTROL	T <sub>a</sub>	l [mm]	b [mm]	h [mm]		 No.
OTi DALI 75/220-240/24	–	24	DALI	-20...+50	220	47	44	20	1
OT 65/220-240/24 3DIM E	–	24	3DIM	-25...+55	133	77	48	20	2
OT DALI 45/220-240/700 LTCS	50...700 <sup>2)</sup>	38...120	DALI	-25...+50	123	79	33	20	3
OT 50/220-240/700 3DIMLT E	75...700 <sup>2)</sup>	38...120	3DIM/LEDset	-30...+60	133	77	48	20	2
OT 90/220-240/700 3DIMLT E	75...700 <sup>2)</sup>	65...260	3DIM/LEDset	-30...+55	133	77	48	20	2
OT 150/220-240/700 3DIMLT E <sup>4)</sup>									

<sup>1)</sup> Permitted voltage range

<sup>2)</sup> ± 5% (350-700 mA)

<sup>3)</sup> Suitable for luminaires of protection class IP54

<sup>4)</sup> In preparation

## OTi DALI 75/220-240/24

- For 24 V LED modules
- 4-channel DALI converter
- Suitable for luminaires of protection classes I and II
- Dimming range: 0 to 100% luminous flux
- Suitable for independent mounting
- Flexible addressing via DALI
- Suitable for indoor applications

## OT 65/220-240/24 3DIM E

- For 24 V LED modules
- 3DIM interface (StepDIM/AstroDIM/DALI)
- Suitable for luminaires of protection classes I and II
- High surge protection > 3 kV
- Flexible setting options for dimming mode and level
- Stand-alone dimming function enables operation in existing installation
- Suitable for outdoor applications
- Accessories: 3DIM Tool 2.0 Software and DALI magic hardware for configuring 3DIM ECGs ([www.osram.com/3dim](http://www.osram.com/3dim))

**OT DALI 45/220-240/700 LTCS**

- Large output power range up to 45 W\*
- SELV equivalent
- Current output range 50 – 700 mA
- Control of current setting via DIP switch and LEDset interface
- Very low inrush current
- Future-proof and flexible current setting
- Consistently high efficiency
- Suitable for indoor applications

**OT 50/220-240/700 3DIMLT E**

- Large output power range up to 54 W
- 3DIM interface (StepDIM/AstroDIM/DALI)
- Suitable for luminaires of protection classes I and II
- Current output range 75 – 700 mA
- High surge protection up to 4 kV (L-N) / 4 kV (L/N-PE)
- Flexible current setting, fully programmable ECG
- Different dimming modes and levels can be set
- Stand-alone dimming function enables operation in existing installation
- Suitable for outdoor applications

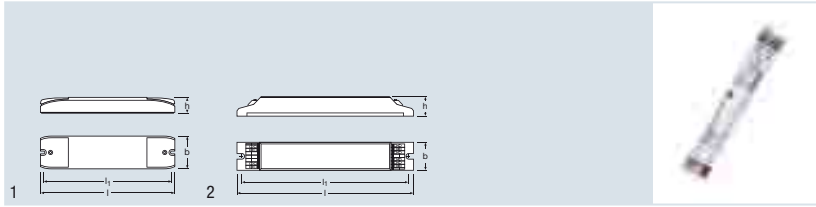
**OT 90/220-240/700 3DIMLT E**

- Large output power range up to 90 W
- 3DIM interface (StepDIM/AstroDIM/DALI)
- Suitable for luminaires of protection classes I and II
- Current output range 75 – 700 mA
- High surge protection up to 4 kV (L-N) / 4 kV (L/N-PE)
- Flexible current setting, fully programmable ECG
- Different dimming modes and levels can be set
- Stand-alone dimming function enables operation in existing installation
- Suitable for outdoor applications

\* Suitable for emergency application



# OPTOTRONIC® DALI LED DIMMER



Product reference	Product number	Product description				
OTi DALI DIM	4008321 <b>061195</b>	DALI LED dimmer	10 V LED modules	50	10...24	DALI
			24 V LED modules	120		
OTi DALI DIM LI	4008321 <b>624437</b>	DALI LED dimmer	10 V LED modules	40	10...24	DALI
			24 V LED modules	96		
OTi DALI 2x700 CS	4008321 <b>694317</b>	DALI LED dimmer	350 mA LED modules	32	24...48	DALI
			700 mA LED modules	66		

Product reference								
OTi DALI DIM	-20...50	1	1	172	42	20	20	1
OTi DALI DIM LI	-20...50	1	1	190	30	21	25	2
OTi DALI 2x700 CS	-20...50	1	2	172	42	20	20	1

## OTi DALI DIM

- Intelligent electronic constant-voltage 1-channel DALI dimmer
- Max. output current 5 A
- Housing with strain relief for separate installation
- Integrated TouchDIM® functionality enables dimming and switching via standard switches
- Dimming range 0.1-100%
- Reversible overload, overtemperature and short-circuit protection

## OTi DALI DIM LI

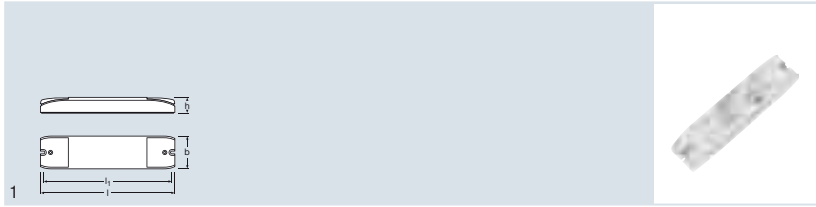
- Intelligent electronic constant-voltage 1-channel DALI dimmer
- Max. output current 4 A
- Compact housing for luminaire installation
- Integrated TouchDIM® functionality enables dimming and switching via standard switches
- Dimming range 0.1-100%
- Reversible overload, overtemperature and short-circuit protection





## OTi DALI 2x700 CS

- Intelligent electronic constant-current 2-channel DALI dimmer
- Output power: 32W @350 mA...66W @700 mA
- Housing with strain relief for separate installation
- Current of 350 or 700 mA (selectable)
- 1-channel (= one DALI address) or 2-channel operation (= occupancy of 2 DALI addresses), selectable
- Integrated TouchDIM® functionality enables dimming and switching via standard switches
- Dimming range 0.1-100%
- Reversible overload, overtemperature and short-circuit protection










# OPTOTRONIC® 1-10V LED DIMMER



Product reference	Product number	Product description				
OT DIM	4050300943459	1-10V LED dimmer	10V LED modules	50	10-24	1-10V
			24V LED modules	120		
OT RGB DIM	4050300793108	1-10V LED dimmer	10V LED modules	3*20	10-24	1-10 V
			24V LED modules	3*48		
OT RGB SEQ	4050300792460	1-10V LED dimmer	10V LED modules	3*20	10-24	1-10V
			24V LED modules	3*48		

Product reference							
OT DIM	-20...+50	1	1	172	42	20	20
OT RGB DIM	-20...+50	3	3	172	42	20	20
OT RGB SEQ	-20...+50	3	3	172	42	20	20

## OPTOTRONIC® DIM

- Intelligent electronic constant-voltage 1-channel 1-10 V dimmer
- Maximum operating output voltage of 5 A
- Cable clamp housing for independent mounting
- Dimming range 0.1 to 100%
- The control input is separate in accordance with SELV requirements
- Reversible overload, overtemperature and short-circuit protection

## OPTOTRONIC® RGB DIM

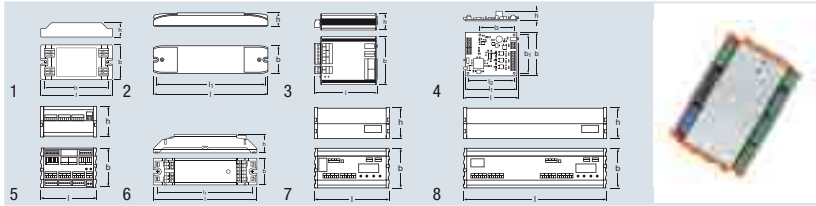
- Intelligent electronic constant-voltage 3-channel 1-10 V dimmer
- Maximum operating output voltage of 2 A per channel
- Cable clamp housing for independent mounting
- Dimming range 0.1 to 100%
- The control input is separate from the output in accordance with SELV requirements
- Reversible overload, overtemperature and short-circuit protection


## OPTOTRONIC® RGB Sequencer


- Intelligent electronic constant-voltage 3-channel 1-10 V dimmer
- Maximum operating output voltage of 2 A per channel
- Cable clamp housing for independent mounting
- Dimming range 0.1 to 100%
- 8 color sequences; the brightness and speed are controlled via a 1-10 V input
- The control input is separate from the output in accordance with SELV requirements
- Reversible overload, overtemperature and short-circuit protection



# OPTOTRONIC® DMX LED DIMMER



Product reference	Product number	Product description		V	CONTROL
OT DMX 3x1 RGB DIM	4008321279835	DMX LED DIMMER	10V LED modules 24V LED modules	10...24	DMX
OT DMX RGB DIM	4008321160829	DMX LED DIMMER	10V LED modules 24V LED modules	10...24	DMX
OT DMX 3x2.5 A DIM	4008321533265	DMX LED DIMMER	10V LED modules 24V LED modules	10...24	DMX
OT DMX 3x2.5 A PCB DIM	4008321533289	DMX LED DIMMER	10V LED modules 24V LED modules	10...24	DMX
OT DMX 9x2 A DIM SO	4008321533302	DMX LED DIMMER	10V LED modules 24V LED modules	10...24	DMX
OT DMX 3x350 DIM LI	4008321602060	DMX LED DIMMER	350 mA LED modules	10...24	DMX
OT DMX 6x350/700 DIM SO	4008321572684	DMX LED DIMMER	350 mA LED modules 700 mA LED modules	24...48	DMX
OT DMX 12x350/700 DIM SO	4008321572707	DMX LED DIMMER	350 mA LED modules 700 mA LED modules	24...48	DMX

Product reference	T <sub>a</sub>	No. of CONTROL INPUTS	No. of OUTPUTS	W SYSTEM	l [mm]	b [mm]	h [mm]		No.
OT DMX 3x1 RGB DIM	-20...50	1	3	3x10 3x24	80	40	22	10	1
OT DMX RGB DIM	-20...50	1	3	3x20 3x48	172	42	20	20	2
OT DMX 3x2.5 A DIM	0...50	1	3	3x25 3x60	93	71.5	24	10	3
OT DMX 3x2.5 A PCB DIM	0...50	1	3	3x25 3x60	86	68	17	10	4
OT DMX 9x2 A DIM SO	0...50	1	9	140 336	107	76	59	10	5
OT DMX 3x350 DIM LI	-20...50	1	3	3x8	118	30	21	20	6
OT DMX 6x350/700 DIM SO	-10...40	1	6	90 180	142	75.4	58.5	12	7
OT DMX 12x350/700 DIM SO	-10...40	1	12	180 360	272	75.4	58.5	12	8

## OT DMX 3x1 RGB DIM

- Intelligent electronic constant-voltage 3-channel DMX dimmer
- Three output channels, can be controlled individually via DMX
- Automatic addressing via DIP switches
- Maximum operating output voltage of 1 A per channel
- Compact housing for luminaire installation
- Control via DMX interface by means of DMX control units such as EASY DMX SO
- Reversible overload, overtemperature and short-circuit protection

#### **OT DMX RGB DIM**

- Intelligent electronic constant-voltage 3-channel DMX dimmer
- Three output channels, can be controlled individually via DMX
- Addressing via rotary switches
- Maximum operating output voltage of 2 A per channel
- Constant-current dimmer with strain relief for separate installation
- Control via DMX interface by means of DMX control units such as EASY DMX SO
- Reversible overload, overtemperature and short-circuit protection

#### **OT DMX 3×2.5 A DIM**

##### **OT DMX 3×2.5 A PCB DIM**

- Intelligent electronic constant-voltage 3-channel DMX dimmer
- Three output channels, can be controlled individually via DMX
- Automatic or manual addressing
- Maximum operating output voltage of 2.5 A per channel
- Housing for installation or board version
- Control via DMX interface by means of DMX control units such as EASY DMX SO
- Daisy chaining for controlling multiple DMX and/or PWM-controlled LED light sources
- Reversible overload and short-circuit protection

#### **OT DMX 9×2 A DIM SO**

- Intelligent electronic constant-voltage 9-channel DMX dimmer
- Nine output channels, can be controlled individually via DMX
- Automatic or manual addressing
- Maximum operating output voltage of 2 A per channel
- Housing for series installation
- Control via DMX interface by means of DMX control units such as EASY DMX SO
- Daisy chaining for series control of multiple DMX devices
- Reversible overload and short-circuit protection

#### **OT DMX 3×350 DIM LI**

- Intelligent electronic constant-current 3-channel DMX dimmer
- Three output channels, can be controlled individually via DMX
- Manual addressing via pushbuttons
- Output current 350 mA
- Housing for luminaire installation and separate mounting
- Control via DMX interface by means of DMX controllers such as EASY DMX SO
- Reversible overload, overtemperature and short-circuit protection

#### **OT DMX 6×350/700 DIM SO**

- Intelligent electronic constant-current 6-channel DMX dimmer
- Six output channels, can be controlled individually via DMX
- Automatic or manual addressing
- Constant current dimmer, adjustable from 50 mA to 700 mA
- Housing for series installation
- Control via DMX interface by means of DMX controllers such as EASY DMX SO
- Control of multiple DMX and/or PWM-controlled LED light sources
- Daisy chaining for series control of multiple DMX devices
- Automatic amplification of the DMX signal
- Reversible short-circuit protection
- Overtemperature protection

#### **OT DMX 12×350/700 DIM SO**

- Intelligent electronic constant-current 12-channel DMX dimmer
- Twelve output channels, can be controlled individually via DMX
- Automatic or manual addressing
- Constant current dimmer, adjustable from 50 mA to 700 mA
- Housing for series installation
- Control via DMX interface by means of DMX controllers such as EASY DMX SO
- Daisy chaining for series control of multiple DMX devices
- Automatic amplification of the DMX signal
- Reversible short-circuit protection
- Overtemperature protection



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
HE 14 W	1	QTI DALI 1x14/24 DIM	40503008 <b>70380</b>	360x30x21	15.4	1x1200
HE 14 W	2	QTI DALI 2x14/24 DIM	40503008 <b>70861</b>	425x30x21	30.6	2x1200
HE 14 W	3	QTI DALI 3x14/24 DIM	4008321 <b>069955</b>	360x40x21	45.3	3x1200
HE 14 W	4	QTI DALI 4x14/24 DIM	4008321 <b>070036</b>	360x40x21	60.4	4x1200
HE 14 W	1	QTI 1x14/24 DIM	40503008 <b>70922</b>	360x30x21	15.4	1x1200
HE 14 W	2	QTI 2x14/24 DIM	40503008 <b>70946</b>	423x30x21	30.6	2x1200
HE 14 W	2	QTI 2x14/24 DIM	40503008 <b>70946</b>	423x30x21	30.6	2x1200
HE 14 W	3	QTI 3x14/24 DIM	4008321 <b>069719</b>	360x40x21	45.3	3x1200
HE 14 W	4	QTI 4x14/24 DIM	4008321 <b>069993</b>	360x40x21	60.4	4x1200
HE 14 W	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	16	1x1200
HE 14 W	1	QTI 1x28/54/35/49 GII	4008321 <b>383358</b>	360x30x21	16	1x1275
HE 14 W	1	QTI 1x35/49/80 GII	4008321 <b>383372</b>	360x30x21	16	1x1275
HE 14 W	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	31	2x1200
HE 14 W	2	QTI 2x28/54/35/49 GII	4008321 <b>383419</b>	360x30x21	32	2x1275
HE 14 W	2	QTI 2x35/49/80 GII	4008321 <b>658951</b>	425x30x21	34	2x1250
HE 14 W	1	QTI-DP 1x28/35/LED	4008321 <b>646521</b>	425x30x21	17	1x1200
HE 14 W	1	QTP5 1x14-35	4008321 <b>329035</b>	280x30x21	16	1x1200
HE 14 W	2	QTP5 2x14-35	4008321 <b>329073</b>	360x30x21	30	2x1200
HE 14 W	3	QTP5 3x14, (4x14)	4008321 <b>484598</b>	280x40x21	48	3x1200
HE 14 W	4	QTP5 (3x14), 4x14	4008321 <b>484598</b>	280x40x21	63	4x1200
HE 14 W	1	QT-ECO 1x4-16/220-240 S	40503006 <b>38584</b>	80x40x22	15	1x1150
HE 14 W	1	QT-ECO 1x4-16/220-240 L	40503006 <b>60370</b>	150x22x22	15	1x1150
HE 14 W SLS	1	QTI DALI 1x14/24 DIM	40503008 <b>70380</b>	360x30x21	15.4	1x1200
HE 14 W SLS	2	QTI DALI 2x14/24 DIM	40503008 <b>70681</b>	425x30x21	30.6	2x1200
HE 14 W SLS	1	QTI 1x14/24 DIM	40503008 <b>70922</b>	360x30x21	15.4	1x1200
HE 14 W SLS	2	QTI 2x14/24 DIM	40503008 <b>70946</b>	423x30x21	30.6	2x1200
HE 14 W SLS	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	31	1x1200
HE 14 W SLS	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	31	2x1200
HE 14 W SLS	1	QTI-DP 1x28/35/LED	4008321 <b>646521</b>	425x30x21	17	1x1200
HE 21 W	1	QTI DALI 1x21/39 DIM	40503008 <b>70366</b>	360x30x21	23.1	1x1900
HE 21 W	2	QTI DALI 2x21/39 DIM	40503008 <b>70489</b>	425x30x21	45	2x1900
HE 21 W	1	QTI 1x21/39 DIM	40503008 <b>70564</b>	360x30x21	23.1	1x1900
HE 21 W	2	QTI 2x21/39 DIM	40503008 <b>70694</b>	425x30x21	45	2x1900
HE 21 W	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	24	1x1900
HE 21 W	1	QTI 1x28/54/35/49 GII	4008321 <b>383358</b>	360x30x21	24	1x1900
HE 21 W	1	QTI 1x35/49/80 GII	4008321 <b>383372</b>	360x30x21	25	1x1900
HE 21 W	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	45	2x1900
HE 21 W	2	QTI 2x28/54/35/49 GII	4008321 <b>383419</b>	360x30x21	45	2x1900
HE 21 W	2	QTI 2x35/49/80 GII	4008321 <b>658951</b>	425x30x21	49	2x2000
HE 21 W	1	QTI-DP 1x28/35/LED	4008321 <b>646521</b>	425x30x21	24	1x1900
HE 21 W	1	QTP5 1x14-35	4008321 <b>329035</b>	280x30x21	24	1x1900
HE 21 W	2	QTP5 2x14-35	4008321 <b>329073</b>	360x30x21	45	2x1900
HE 21 W	1	QT-ECO 1x18-21/220-240 S	40503007 <b>94907</b>	80x40x22	23	1x1800
HE 21 W SLS	1	QTI DALI 1x21/39 DIM	40503008 <b>70366</b>	360x30x21	23.1	1x1900
HE 21 W SLS	2	QTI DALI 2x21/39 DIM	40503008 <b>70489</b>	425x30x21	45	2x1900
HE 21 W SLS	1	QTI 1x21/39 DIM	40503008 <b>70564</b>	360x30x21	23.1	1x1900
HE 21 W SLS	2	QTI 2x21/39 DIM	40503008 <b>70694</b>	425x30x21	45	2x1900
HE 21 W SLS	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	24	1x1900
HE 21 W SLS	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	45	2x1900
HE 21 W SLS	1	QTI-DP 1x28/35/LED	4008321 <b>646521</b>	425x30x21	24	1x1900





## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
HE 28 W	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	30.1	1x2600
HE 28 W	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	60.2	2x2600
HE 28 W	1	QTI 1x28/54 DIM	4050300870588	360x30x21	30.1	1x2600
HE 28 W	2	QTI 2x28/54 DIM	4050300870717	425x30x21	60.2	2x2600
HE 28 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	33	1x2700
HE 28 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	32	1x2600
HE 28 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	33	1x2700
HE 28 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	63	2x2650
HE 28 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	61	2x2600
HE 28 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	63	2x2650
HE 28 W	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	32	1x2600
HE 28 W	1	QTP5 1x14-35	4008321329035	280x30x21	31	1x2600
HE 28 W	2	QTP5 2x14-35	4008321329073	360x30x21	60	2x2600
HE 28 W SLS	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	30.1	1x2600
HE 28 W SLS	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	60.2	2x2600
HE 28 W SLS	1	QTI 1x28/54 DIM	4050300870588	360x30x21	30.1	1x2600
HE 28 W SLS	2	QTI 2x28/54 DIM	4050300870717	425x30x21	60.2	2x2600
HE 28 W SLS	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	32	1x2600
HE 28 W SLS	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	61	2x2600
HE 28 W SLS	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	32	1x2600
HE 35 W	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	37.8	1x3300
HE 35 W	2	QTI DALI 2x35/49 DIM	4050300870465	423x30x21	74.5	2x3300
HE 35 W	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	74	2x3300
HE 35 W	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	37.8	1x3300
HE 35 W	2	QTI 2x35/49 DIM	4050300870670	423x30x21	74.5	2x3300
HE 35 W	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	74	2x3300
HE 35 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	39	1x3300
HE 35 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	38	1x3300
HE 35 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	38	1x3300
HE 35 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	77	2x3400
HE 35 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	79	2x3300
HE 35 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	76	2x3300
HE 35 W	2	QTI 2x35/49/80/220-240	4008321174291	425x30x21	79	2x3300
HE 35 W	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	39	1x3300
HE 35 W	1	QTP5 1x14-35	4008321329035	280x30x21	38	1x3300
HE 35 W	2	QTP5 2x14-35	4008321329073	360x30x21	75	2x3300
HE 13 W ES	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	15	1x1150
HE 13 W ES	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	15	1x1150
HE 13 W ES	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	15	1x1150
HE 13 W ES	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	29	2x1150
HE 13 W ES	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	29	2x1150
HE 13 W ES	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	30	2x1150
HE 13 W ES	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	16	1x1150
HE 13 W ES	1	QTP5 1x14-35	4008321329035	280x30x21	15	1x1150
HE 13 W ES	2	QTP5 2x14-35	4008321329073	360x30x21	28	2x1350
HE 19 W ES	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	22	1x1800
HE 19 W ES	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	22	1x1800
HE 19 W ES	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	22	1x1800
HE 19 W ES	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	42	2x1800
HE 19 W ES	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	42	2x1800
HE 19 W ES	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	43	2x1800
HE 19 W ES	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	22	1x1800
HE 19 W ES	1	QTP5 1x14-35	4008321329035	280x30x21	22	1x1800
HE 19 W ES	2	QTP5 2x14-35	4008321329073	360x30x21	42	2x1800



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
HE 25 W ES	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	29	1x2500
HE 25 W ES	1	QTI 1x28/54/35/49 GII	4008321 <b>383358</b>	360x30x21	29	1x2500
HE 25 W ES	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	56	2x2500
HE 25 W ES	2	QTI 2x35/49/80 GII	4008321 <b>658951</b>	425x30x21	57	2x2500
HE 25 W ES	1	QTI-DP 1x28/35/LED	4008321 <b>646521</b>	425x30x21	29	1x2450
HE 25 W ES	1	QTP5 1x14-35	4008321 <b>329035</b>	280x30x21	27	1x2450
HE 25 W ES	2	QTP5 2x14-35	4008321 <b>329073</b>	360x30x21	54	2x2450
HE 32 W ES	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	36	1x3150
HE 32 W ES	1	QTI 1x28/54/35/49 GII	4008321 <b>383358</b>	360x30x21	36	1x3150
HE 32 W ES	1	QTI 1x35/49/80 GII	4008321 <b>383372</b>	360x30x21	36	1x3150
HE 32 W ES	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	68	2x3150
HE 32 W ES	2	QTI 2x28/54/35/49 GII	4008321 <b>383419</b>	360x30x21	68	2x3150
HE 32 W ES	2	QTI 2x35/49/80 GII	4008321 <b>658951</b>	425x30x21	70	2x3150
HE 32 W ES	1	QTI-DP 1x28/35/LED	4008321 <b>646521</b>	425x30x21	36	1x2900
HE 32 W ES	1	QTP5 1x14-35	4008321 <b>329035</b>	280x30x21	34	1x3100
HE 32 W ES	2	QTP5 2x14-35	4008321 <b>329073</b>	360x30x21	68	2x3100
HO 24 W	1	QTI DALI 1x14/24 DIM	40503008 <b>70380</b>	360x30x21	25.3	1x1750
HO 24 W	2	QTI DALI 2x14/24 DIM	40503008 <b>70861</b>	425x30x21	49.3	2x1750
HO 24 W	3	QTI DALI 3x14/24 DIM	4008321 <b>069955</b>	360x40x21	73.4	3x1750
HO 24 W	4	QTI DALI 4x14/24 DIM	4008321 <b>070036</b>	360x40x21	97.6	4x1750
HO 24 W	1	QTI 1x14/24 DIM	40503008 <b>70922</b>	360x30x21	26	1x1750
HO 24 W	2	QTI 2x14/24 DIM	40503008 <b>70946</b>	423x30x21	50	2x1750
HO 24 W	3	QTI 3x14/24 DIM	4008321 <b>069719</b>	360x40x21	74	3x1750
HO 24 W	4	QTI 4x14/24 DIM	4008321 <b>069993</b>	360x40x21	98	4x1750
HO 24 W	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	26	1x1750
HO 24 W	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	50	2x1750
HO 24 W	1	QTP5 1x24-39	4008321 <b>329110</b>	280x30x21	26	1x1750
HO 24 W	2	QTP5 2x24-39	4008321 <b>329417</b>	360x30x21	49	2x1750
HO 24 W	1	QTP-M 1x26-42	4008321 <b>329134</b>	103x67x31	25	1x1750
HO 24 W	2	QTP-M 2x26-32	4008321 <b>329158</b>	123x79x33	49	2x1750
HO 24 W	2	QT-M 2x26-42/220-240 S	40083211 <b>10022</b>	123x79x33	54	2x3500
HO 24 W	1	QT-ECO 1x18-24/220-240 S	40503006 <b>38560</b>	80x40x22	20	1x1600
HO 24 W	1	QT-ECO 1x18-24/220-240 L	40503006 <b>60417</b>	150x22x22	20	1x1600
HO 24 W SLS	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	26	1x1750
HO 24 W SLS	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	50	2x1750
HO 24 W CONSTANT	1	QTI DALI 1x14/24 DIM	40503008 <b>70380</b>	360x30x21	25.3	1x1900
HO 24 W CONSTANT	2	QTI DALI 2x14/24 DIM	40503008 <b>70861</b>	425x30x21	49.3	2x1900
HO 24 W CONSTANT	3	QTI DALI 3x14/24 DIM	4008321 <b>069955</b>	360x40x21	73.4	3x1900
HO 24 W CONSTANT	4	QTI DALI 4x14/24 DIM	4008321 <b>070036</b>	360x40x21	97.6	4x1900
HO 24 W CONSTANT	1	QTI 1x14/24 DIM	40503008 <b>70922</b>	360x30x21	26	1x1900
HO 24 W CONSTANT	2	QTI 2x14/24 DIM	40503008 <b>70946</b>	423x30x21	50	2x1900
HO 24 W CONSTANT	3	QTI 3x14/24 DIM	4008321 <b>069719</b>	360x40x21	74	3x1900
HO 24 W CONSTANT	4	QTI 4x14/24 DIM	4008321 <b>069993</b>	360x40x21	98	4x1900
HO 24 W CONSTANT	1	QTI 1x14/24/21/39 GII	4008321 <b>383334</b>	360x30x21	26	1x1900
HO 24 W CONSTANT	2	QTI 2x14/24/21/39 GII	4008321 <b>383396</b>	360x30x21	50	2x1750
HO 24 W CONSTANT	1	QTP5 1x24-39	4008321 <b>329110</b>	280x30x21	26	1x1900
HO 24 W CONSTANT	2	QTP5 2x24-39	4008321 <b>329417</b>	360x30x21	49	2x1900
HO 24 W CONSTANT	1	QTP-M 1x26-42	4008321 <b>329134</b>	103x67x31	25	1x1900
HO 24 W CONSTANT	2	QTP-M 2x26-32	4008321 <b>329158</b>	123x79x33	49	2x1900
HO 24 W CONSTANT	2	QT-M 2x26-42/220-240 S	40083211 <b>10022</b>	123x79x33	54	2x1900



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
HO 39 W	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	41.8	1x3100
HO 39 W	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	82	2x3100
HO 39 W	1	QTI 1x21/39 DIM	4050300870564	360x30x21	41.8	1x3100
HO 39 W	2	QTI 2x21/39 DIM	4050300870694	425x30x21	82	2x3100
HO 39 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	41	1x3100
HO 39 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	81	2x3100
HO 39 W	1	QTP5 1x24-39	4008321329110	280x30x21	41	1x3100
HO 39 W	2	QTP5 2x24-39	4008321329417	360x30x21	82	2x3100
HO 39 W	1	QTP-M 1x26-42	4008321329134	103x67x31	41	1x3100
HO 39 W SLS	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	42	1x3100
HO 39 W SLS	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	82	2x3100
HO 39 W SLS	1	QTI 1x21/39 DIM	4050300870564	360x30x21	42	1x3100
HO 39 W SLS	2	QTI 2x21/39 DIM	4050300870694	425x30x21	82	2x3100
HO 39 W SLS	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	41	1x3100
HO 39 W SLS	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	81	2x3100
HO 39 W CONSTANT	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	41.8	1x3300
HO 39 W CONSTANT	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	82	2x3300
HO 39 W CONSTANT	1	QTI 1x21/39 DIM	4050300870564	360x30x21	41.8	1x3300
HO 39 W CONSTANT	2	QTI 2x21/39 DIM	4050300870694	425x30x21	82	2x3300
HO 39 W CONSTANT	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	41	1x3300
HO 39 W CONSTANT	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	81	2x3300
HO 39 W CONSTANT	1	QTP5 1x24-39	4008321329110	280x30x21	41	1x3300
HO 39 W CONSTANT	2	QTP5 2x24-39	4008321329417	360x30x21	82	2x3300
HO 39 W CONSTANT	1	QTP-M 1x26-42	4008321329134	103x67x31	41	1x3300
HO 49 W	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	53.4	1x4300
HO 49 W	2	QTI DALI 2x35/49 DIM	4050300870465	423x30x21	103.6	2x4300
HO 49 W	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	101	2x4300
HO 49 W	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	53.4	1x4300
HO 49 W	2	QTI 2x35/49 DIM	4050300870670	423x30x21	103.6	2x4300
HO 49 W	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	103	2x4300
HO 49 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	53	1x4300
HO 49 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	105	2x4300
HO 49 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	53	1x4300
HO 49 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	105	2x4300
HO 49 W	2	QTI 2x35/49/80/220-240	4008321174291	425x30x21	104	2x4300
HO 49 W	1	QTP5 1x49	4008321329370	280x30x21	53	1x4300
HO 49 W	2	QTP5 2x49	4008321329431	360x30x21	106	2x4300
HO 49 W CONSTANT	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	53.4	1x4450
HO 49 W CONSTANT	2	QTI DALI 2x35/49 DIM	4050300870465	423x30x21	103.6	2x4450
HO 49 W CONSTANT	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	101	2x4450
HO 49 W CONSTANT	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	53.4	1x4450
HO 49 W CONSTANT	2	QTI 2x35/49 DIM	4050300870670	423x30x21	103.6	2x4450
HO 49 W CONSTANT	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	103	2x4450
HO 49 W CONSTANT	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	53	1x4450
HO 49 W CONSTANT	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	53	1x4450
HO 49 W CONSTANT	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	105	2x4450
HO 49 W CONSTANT	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	98	2x4450
HO 49 W CONSTANT	2	QTI 2x35/49/80/220-240	4008321174291	425x30x21	104	2x4450
HO 49 W CONSTANT	1	QTP5 1x49	4008321329370	280x30x21	53	1x4450
HO 49 W CONSTANT	2	QTP5 2x49	4008321329431	360x30x21	106	2x4450



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
HO 54 W	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	58.8	1x4450
HO 54 W	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4450
HO 54 W	1	QTI 1x28/54 DIM	4050300870588	360x30x21	58.8	1x4450
HO 54 W	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4450
HO 54 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	58	1x4450
HO 54 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	115	2x4450
HO 54 W	1	QTP5 1x54	4008321329394	280x30x21	59	1x4450
HO 54 W	2	QTP5 2x54	4008321329097	360x30x21	115	2x4450
HO 54 W SLS	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	59	1x4450
HO 54 W SLS	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4450
HO 54 W SLS	1	QTI 1x28/54 DIM	4050300870588	360x30x21	59	1x4450
HO 54 W SLS	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4450
HO 54 W SLS	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	58	1x4450
HO 54 W SLS	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	115	2x4450
HO 54 W CONSTANT	1	QTI 1x28/54 DIM	4050300870809	360x30x21	58.8	1x4850
HO 54 W CONSTANT	2	QTI DALI 2x28/54 DIM	4008321652126	423x30x21	115	2x4850
HO 54 W CONSTANT	1	QTI 1x28/54 DIM	4050300870588	360x30x21	58.8	1x4850
HO 54 W CONSTANT	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4850
HO 54 W CONSTANT	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	58	1x4850
HO 54 W CONSTANT	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	115	2x4850
HO 54 W CONSTANT	1	QTP5 1x54	4008321329394	280x30x21	59	1x4850
HO 54 W CONSTANT	2	QTP5 2x54	4008321329097	360x30x21	115	2x4850
HO 54 W XT	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	58.8	1x4850
HO 54 W XT	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4850
HO 54 W XT	1	QTI 1x28/54 DIM	4050300870588	360x30x21	58.8	1x4850
HO 54 W XT	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4850
HO 54 W XT	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	58	1x4450
HO 54 W XT	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	115	2x4450
HO 54 W XT	1	QTP5 1x54	4008321329394	280x30x21	59	1x4450
HO 54 W XT	2	QTP5 2x54	4008321329097	360x30x21	115	2x4450
HO 80 W	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	88.1	1x6150
HO 80 W	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	165	2x6150
HO 80 W	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	88.1	1x6150
HO 80 W	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	165	2x6150
HO 80 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	85	1x6150
HO 80 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	167	2x6150
HO 80 W	2	QTI 2x35/49/80/220-240	4008321174291	425x30x21	165	2x6150
HO 80 W	1	QTP5 1x80	4008321329059	360x30x21	86	1x6150
HO 80 W	2	QT-FQ 2x80	4050300825564	423x30x21	175	2x6300
HO 80 W CONSTANT	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	88.1	1x6800
HO 80 W CONSTANT	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	165	2x6800
HO 80 W CONSTANT	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	88.1	1x6800
HO 80 W CONSTANT	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	165	2x6800
HO 80 W CONSTANT	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	85	1x6800
HO 80 W CONSTANT	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	167	2x6800
HO 80 W CONSTANT	2	QTI 2x35/49/80/220-240	4008321174291	425x30x21	165	2x6800
HO 80 W CONSTANT	1	QTP5 1x80	4008321329059	360x30x21	86	1x6800
HO 80 W CONSTANT	2	QT-FQ 2x80	4050300825564	423x30x21	175	2x6800



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
HO 80 W XT	1	QTi DALI 1x35/49/80 DIM	4050300870342	360x30x21	88.1	1x6150
HO 80 W XT	2	QTi DALI 2x35/49/80 DIM	4050300870441	423x30x21	165	2x6150
HO 80 W XT	1	QTi 1x35/49/80 DIM	4050300870540	360x30x21	88.1	1x6150
HO 80 W XT	2	QTi 2x35/49/80 DIM	4050300870984	425x30x21	165	2x6150
HO 80 W XT	1	QTi 1x35/49/80 GII	4008321383372	360x30x21	85	1x6150
HO 80 W XT	2	QTi 2x35/49/80 GII	4008321658951	425x30x21	167	2x6150
HO 80 W XT	2	QTi 2x35/49/80/220-240	4008321174291	425x30x21	165	2x6150
HO 80 W XT	1	QTP5 1x80	4008321329059	360x30x21	86	1x6150
HO 80 W XT	2	QT-FQ 2x80	4050300825564	423x30x21	175	2x6300
HO 45 W ES	1	QTi DALI 1x35/49/80 DIM	4050300870342	360x30x21	53.4	1x4600
HO 45 W ES	2	QTi DALI 2x35/49/80 DIM	4050300870441	423x30x21	101.0	2x4600
HO 45 W ES	1	QTi 1x35/49/80 DIM	4050300870540	360x30x21	53.4	1x4600
HO 45 W ES	2	QTi 2x35/49/80 DIM	4050300870984	425x30x21	101.0	2x4600
HO 45 W ES	1	QTi 1x28/54/35/49 GII	4008321383358	360x30x21	48	1x4300
HO 45 W ES	2	QTi 2x28/54/35/49 GII	4008321383419	360x30x21	98	2x4300
HO 45 W ES	1	QTi 1x35/49/80 GII	4008321383372	360x30x21	48	1x4300
HO 45 W ES	2	QTi 2x35/49/80 GII	4008321658951	425x30x21	95	2x4300
HO 45 W ES	2	QTi 2x35/49/80/220-240	4008321174291	425x30x21	101.0	2x4600
HO 45 W ES	1	QTP5 1x49	4008321329370	280x30x21	49	1x4300
HO 45 W ES	2	QTP5 2x49	4008321329431	360x30x21	100	2x4400
HO 50 W ES	1	QTi DALI 1x28/54 DIM	4050300870809	360x30x21	59	1x4800
HO 50 W ES	2	QTi DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4800
HO 50 W ES	1	QTi 1x28/54 DIM	4050300870588	360x30x21	59	1x4800
HO 50 W ES	2	QTi 2x28/54 DIM	4050300870717	425x30x21	115	2x4800
HO 50 W ES	1	QTi 1x28/54/35/49 GII	4008321383358	360x30x21	54	1x4450
HO 50 W ES	2	QTi 2x28/54/35/49 GII	4008321383419	360x30x21	108	2x4450
HO 50 W ES	1	QTP5 1x54	4008321329394	280x30x21	54	1x4450
HO 50 W ES	2	QTP5 2x54	4008321329097	360x30x21	108	2x4450
HO 73 W ES	1	QTi DALI 1x35/49/80 DIM	4050300870342	360x30x21	88	1x6650
HO 73 W ES	2	QTi DALI 2x35/49/80 DIM	4050300870441	423x30x21	165	2x6400
HO 73 W ES	1	QTi 1x35/49/80 DIM	4050300870540	360x30x21	88	1x6650
HO 73 W ES	2	QTi 2x35/49/80 DIM	4050300870984	425x30x21	165	2x6400
HO 73 W ES	1	QTi 1x35/49/80 GII	4008321383372	360x30x21	79	1x6150
HO 73 W ES	2	QTi 2x35/49/80 GII	4008321658951	425x30x21	157	2x6150
HO 73 W ES	2	QTi 2x35/49/80/220-240	4008321174291	425x30x21	165	2x6400
HO 73 W ES	1	QTP5 1x80	4008321329059	360x30x21	79	1x6150
HO 73 W ES	2	QT-FQ 2x80	4050300825564	423x30x21	162	2x6150



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
FC 22 W	1	QTI DALI 1x14/24 DIM	4050300870380	360x30x21	25	1x1750
FC 22 W	2	QTI DALI 2x14/24 DIM	4050300870861	425x30x21	49	2x1750
FC 22 W	3	QTI DALI 3x14/24 DIM	4008321069955	360x40x21	73	3x1750
FC 22 W	4	QTI DALI 4x14/24 DIM	4008321070036	360x40x21	98	4x1750
FC 22 W	1	QTI DALI-T/E 1x18-57 DIM	4008321068088	123x79x33	26	1x1800
FC 22 W	2	QTI DALI-T/E 2x18-42 DIM	4008321068022	123x79x33	51	2x1800
FC 22 W	1	QTI 1x14/24 DIM	4050300870922	360x30x21	25	1x1750
FC 22 W	2	QTI 2x14/24 DIM	4050300870946	423x30x21	49	2x1750
FC 22 W	3	QTI 3x14/24 DIM	4008321069719	360x40x21	73	3x1750
FC 22 W	4	QTI 4x14/24 DIM	4008321069993	360x40x21	98	4x1750
FC 22 W	1	QTI-T/E 1x18-57 DIM	4008321068080	123x79x33	26	1x1750
FC 22 W	2	QTI-T/E 2x18-42 DIM	4008321068046	123x79x33	51	2x1750
FC 22 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	25	1x1800
FC 22 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	88	2x3200
FC 22 W	1	QTP-M 1x26-42	4008321329134	103x67x31	25	1x1800
FC 22 W	2	QTP-M 2x26-32	4008321329158	123x79x33	49	2x1800
FC 22 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1800
FC 22 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	22.5	1x1650
FC 22 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	22.5	1x1650
FC 22 + 40 W	1	QTI DALI-T/E 2x18-42 DIM	4008321068022	123x79x33	70	1x5000
FC 22 + 40 W	1	QTI-T/E 2x18-42 DIM	4008321068046	123x79x33	70	1x5000
FC 22 + 40 W	1	QTP-M 2x26-32	4008321329158	123x79x33	67	1x5000
FC 22 + 40 W	1	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	70	1x5000
FC 40 W	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	42	1x3100
FC 40 W	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	82	2x3100
FC 40 W	1	QTI DALI-T/E 1x18-57 DIM	4008321068088	123x79x33	45	1x3200
FC 40 W	2	QTI DALI-T/E 2x18-42 DIM	4008321068022	123x79x33	87	2x3200
FC 40 W	1	QTI 1x21/39 DIM	4050300870564	360x30x21	42	1x3100
FC 40 W	2	QTI 2x21/39 DIM	4050300870694	425x30x21	82	2x3100
FC 40 W	1	QTI-T/E 1x18-57 DIM	4008321068060	123x79x33	45	1x3200
FC 40 W	2	QTI-T/E 2x18-42 DIM	4008321068046	123x79x33	87	2x3200
FC 40 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	43	1x3200
FC 40 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	88	2x3200
FC 40 W	1	QTP-M 1x26-42	4008321329134	103x67x31	43	1x3200
FC 40 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	88	2x3200
FC 55 W	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	59	1x4450
FC 55 W	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4450
FC 55 W	1	QTI 1x28/54 DIM	4050300870588	360x30x21	59	1x4450
FC 55 W	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4450
FC 55 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	59	1x4200
FC 55 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	119	2x4200
FC 55 W	1	QTP-FC 1x55	4008321537041	103x67x31	59	1x4200
L 4 W	1	VVG			11	1x140
L 4 W	1	KVG			13	1x140
L 4 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	6.5	1x120
L 4 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	6.5	1x120
L 6 W	1	VVG			15	1x260
L 6 W	1	KVG			13	1x260
L 6 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	8.5	1x270
L 6 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	8.5	1x270
L 6 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	14.5	2x280

## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
L 8 W	1	VVG			17	1x430
L 8 W	1	KVG			15	1x430
L 8 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	10.5	1x450
L 8 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	10.5	1x450
L 8 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	17.5	2x450
L 10 W	1	VVG			11	1x650
L 10 W	1	KVG			14	1x650
L 10 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	12	1x650
L 10 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	12	1x650
L 10 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	20	2x600
L 13 W	1	VVG			21	1x950
L 13 W	1	KVG			19	1x950
L 13 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	15	1x950
L 13 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	15	1x950
L 15 W	1	VVG			25	1x950
L 15 W	1	KVG			23	1x950
L 15 W	1	QTP-DL 1x18-24	4008321117861	239x30x28	17	1x950
L 15 W	2	QTP-DL 2x18-24	4008321117885	239x40x28	32	2x950
L 15 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	17	1x950
L 15 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	17	1x950
L 16 W	1	VVG			19	1x1250
L 16 W	1	KVG			21	1x1250
L 16 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	16	1x1100
L 16 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	16	1x1100
L 18 W	1	VVG			28	1x1350
L 18 W	1	KVG			26	1x1350
L 18 W	1	QTI DALI 1x18 DIM	4050300870403	360x30x21	18.3	1x1350
L 18 W	2	QTI DALI 2x18 DIM	4050300870526	425x30x21	36.5	2x1350
L 18 W	3	QTI DALI 3x18 DIM	4008321069997	360x40x21	53.6	3x1350
L 18 W	4	QTI DALI 4x18 DIM	4008321070050	360x40x21	69.3	4x1350
L 18 W	1	QTI 1x18 DIM	4050300870601	360x30x21	19	1x1350
L 18 W	2	QTI 2x18 DIM	4050300870960	425x30x21	37	2x1350
L 18 W	3	QTI 3x18 DIM	4008321069931	360x40x21	53.6	3x1350
L 18 W	4	QTI 4x18 DIM	4008321070012	360x40x21	69.3	4x1350
L 18 W	1	HF 1x18 DIM	4050300319254	360x30x30	19	1x1300
L 18 W	2	HF 2x18 DIM	4050300350950	423x30x30	36	2x1350
L 18 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	19	1x1350
L 18 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	37	2x1350
L 18 W	1	QTP8 1x18	4008321131584	360x30x30	18	1x1350
L 18 W	2	QTP8 2x18	4008321131607	423x30x30	35	2x1350
L 18 W	3	QTP8 3x/4x18	4008321131706	423x40x30	56	3x1300
L 18 W	4	QTP8 3x/4x18	4008321131706	423x40x30	73	4x1300
L 18 W	1	QT-FIT8 1x18	4008321294180	280x30x28	19	1x1350
L 18 W	2	QT-FIT8 2x18	4008321294241	360x30x28	36	2x1350
L 18 W	3	QT-FIT8 3x/4x18	4008321294302	280x40x28	54	3x1350
L 18 W	4	QT-FIT8 3x/4x18	4008321294302	280x40x28	74	4x1350
L 18 W	1	QTP-DL 1x18-24	4008321117861	239x30x28	18	1x1300
L 18 W	2	QTP-DL 2x18-24	4008321117885	239x40x28	37	2x1300
L 18 W	1	QTP-M 1x26-42	4008321329134	103x67x31	19	1x1350
L 18 W	2	QTP-M 2x26-32	4008321329158	123x79x33	36	2x1350
L 18 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	19	1x1250
L 18 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	19	1x1250



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
L 18 W U	1	VVG			29	1x1200
L 18 W U	1	KVG			30	1x1200
L 18 W U	1	QTP8 1x18/230-240	4008321131584	360x30x30	21	1x1100
L 18 W U	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	19.5	1x1100
L 18 W U	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	19.5	1x1100
L 18 W XT	1	QT-FIT8 1x18	4008321294180	280x30x28	19	1x1350
L 18 W XT	2	QT-FIT8 2x18	4008321294241	360x30x28	36	2x1350
L 18 W XT	3	QT-FIT8 3x18, (4x18)	4008321294302	280x40x28	54	3x1350
L 18 W XT	4	QT-FIT8 (3x18), 4x18	4008321294302	280x40x28	74	4x1350
L 18 W XT	1	QTi 1x14/24/21/39 GII	4008321383334	360x30x21	19	1x1350
L 18 W XT	1	QTi 1x18 DIM	4050300870601	360x30x21	19	1x1350
L 18 W XT	2	QTi 2x14/24/21/39 GII	4008321383396	360x30x21	37	2x1350
L 18 W XT	2	QTi 2x18 DIM	4050300870960	425x30x21	37	2x1350
L 18 W XT	3	QTi 3x18 DIM	4008321069931	360x40x21	53.6	3x1350
L 18 W XT	4	QTi 4x18 DIM	4008321070012	360x40x21	69.3	4x1350
L 18 W XT	1	QTi DALI 1x18 DIM	4050300870403	360x30x21	18.3	1x1350
L 18 W XT	2	QTi DALI 2x18 DIM	4050300870526	423x30x21	36.5	2x1350
L 18 W XT	3	QTi DALI 3x18 DIM	4008321652249	360x40x21	53.6	3x1350
L 18 W XT	4	QTi DALI 4x18 DIM	4008321652263	360x40x21	69.3	4x1350
L 18 W XT	1	QTP8 1x18	4008321131584	360x30x30	18	1x1350
L 18 W XT	2	QTP8 2x18	4008321131607	423x30x30	35	2x1350
L 18 W XT	4	QTP8 (3x18), 4x18	4008321131706	423x40x30	73	4x1300
L 18 W XT	3	QTP8 3x18, (4x18)	4008321131706	423x40x30	56	3x1300
L 18 W XT	1	QTP-DL 1x18-24	4008321117861	239x30x28	18	1x1300
L 18 W XT	2	QTP-DL 2x18-24	4008321117885	239x40x28	37	2x1300
L 18 W XT	1	QTP-M 1x26-42	4008321615398	103x67x31	19	1x1350
L 18 W XT	2	QTP-M 2x26-32	4008321615411	123x79x33	36	2x1350
L 18 W XXT	1	QT-FIT8 1x18	4008321294180	280x30x28	19	1x1350
L 18 W XXT	2	QT-FIT8 2x18	4008321294241	360x30x28	36	2x1350
L 18 W XXT	3	QT-FIT8 3x18, (4x18)	4008321294302	280x40x28	54	3x1350
L 18 W XXT	4	QT-FIT8 (3x18), 4x18	4008321294302	280x40x28	74	4x1350
L 18 W XXT	1	QTi 1x14/24/21/39 GII	4008321383334	360x30x21	19	1x1350
L 18 W XXT	1	QTi 1x18 DIM	4050300870601	360x30x21	19	1x1350
L 18 W XXT	2	QTi 2x14/24/21/39 GII	4008321383396	360x30x21	37	2x1350
L 18 W XXT	2	QTi 2x18 DIM	4050300870960	425x30x21	37	2x1350
L 18 W XXT	3	QTi 3x18 DIM	4008321069931	360x40x21	53.6	3x1350
L 18 W XXT	4	QTi 4x18 DIM	4008321070012	360x40x21	69.3	4x1350
L 18 W XXT	1	QTi DALI 1x18 DIM	4050300870403	360x30x21	18.3	1x1350
L 18 W XXT	2	QTi DALI 2x18 DIM	4050300870526	423x30x21	36.5	2x1350
L 18 W XXT	3	QTi DALI 3x18 DIM	4008321652249	360x40x21	53.6	3x1350
L 18 W XXT	4	QTi DALI 4x18 DIM	4008321652263	360x40x21	69.3	4x1350
L 18 W XXT	1	QTP8 1x18	4008321131584	360x30x30	18	1x1350
L 18 W XXT	2	QTP8 2x18	4008321131607	423x30x30	35	2x1350
L 18 W XXT	4	QTP8 (3x18), 4x18	4008321131706	423x40x30	73	4x1300
L 18 W XXT	3	QTP8 3x18, (4x18)	4008321131706	423x40x30	56	3x1300
L 18 W XXT	1	QTP-DL 1x18-24	4008321117861	239x30x28	18	1x1300
L 18 W XXT	2	QTP-DL 2x18-24	4008321117885	239x40x28	37	2x1300
L 18 W XXT	1	QTP-M 1x26-42	4008321615398	103x67x31	19	1x1350
L 18 W XXT	2	QTP-M 2x26-32	4008321615411	123x79x33	36	2x1350
L 20 W	1	HF 1x18/230-240 DIM	4050300319254	360x30x30	19	1x1000
L 20 W	2	HF 2x18/230-240 DIM	4050300350950	423x30x30	36	2x1000





## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
L 30 W	1	VVG			40	1x2400
L 30 W	1	KVG			38	1x2400
L 30 W	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2250
L 30 W	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2250
L 30 W	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x2250
L 30 W	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x2250
L 30 W	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x2900
L 30 W	2	HF 2x36/230-240 DIM	4050300350974	423x30x30	71	2x2900
L 30 W	1	QTP5 1x24-39	4008321329110	280x30x21	33	1x3000
L 30 W	2	QTP5 2x24-39	4008321329417	360x30x21	62	2x2850
L 36 W	1	VVG			45	1x3350
L 36 W	1	KVG			43	1x3350
L 36 W	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2700
L 36 W	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2700
L 36 W	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x3350
L 36 W	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x3350
L 36 W	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x3350
L 36 W	2	HF 2x36/230-240 DIM	4050300350974	423x30x30	71	2x3200
L 36 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	35	1x3350
L 36 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	70	2x3200
L 36 W	1	QTP5 1x24-39	4008321329110	280x30x21	36	1x3200
L 36 W	2	QTP5 2x24-39	4008321329417	360x30x21	70	2x3200
L 36 W	1	QTP8 1x36/230-240	4008321131621	360x30x30	35	1x3200
L 36 W	2	QTP8 2x36/230-240	4008321131645	423x30x30	72	2x3200
L 36 W	1	QT-FIT8 1x36	4008321294203	280x30x28	36	1x3200
L 36 W	2	QT-FIT8 2x36	4008321294265	360x30x28	71	2x3200
L 36 W	3	QT-FIT8 3x36	4008321512055	280x40x28	105	3x3500
L 36 W	1	QTP-M 1x26-42	4008321329134	103x67x31	35	1x3350
L 36 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x3200
L 36 W	1	QTP-DL 1x36-40	4008321117908	239x30x28	38	1x3400
L 36 W	2	QTP-DL 2x36-40	4008321117922	280x40x28	80.5	2x3400
L 36 W -1	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2700
L 36 W -1	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2700
L 36 W -1	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x2700
L 36 W -1	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x2700
L 36 W -1	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x2700
L 36 W -1	2	HF 2x36/230-240 DIM	4050300350974	423x30x30	71	2x2700
L 36 W -1	1	QTP8 1x58	4008321131669	360x30x30	40	1x3100
L 36 W -1	2	QTP8 2x58	4008321131683	423x30x30	83	2x3100
L 36 W -1	1	QTP-DL 1x36-40	4008321117908	239x30x28	31	1x2875
L 36 W -1	2	QTP-DL 2x36-40	4008321117922	280x40x28	60	2x2900
L 36 W U	1	VVG			44	1x3000
L 36 W U	1	KVG			46	1x3000
L 36 W U	1	QTP8 1x36/230-240	4008321131621	360x30x30	37	1x2600
L 36 W UK	1	QTP8 1x36/230-240	4008321131621	360x30x30	34	1x2800
L 36 W XT	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x3300
L 36 W XT	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x3300
L 36 W XT	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x3300
L 36 W XT	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x3300
L 36 W XT	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	35	1x3200
L 36 W XT	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	70	2x3200
L 36 W XT	1	QTP8 1x36	4008321131621	360x30x30	35	1x3200
L 36 W XT	2	QTP8 2x36	4008321131645	423x30x30	72	2x3200
L 36 W XT	1	QT-FIT8 1x36	4008321294203	280x30x28	36	1x3200
L 36 W XT	2	QT-FIT8 2x36	4008321294265	360x30x28	71	2x3200
L 36 W XT	3	QT-FIT8 3x36	4008321512055	280x40x28	105	3x3500



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
L 36 W XXT	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x3300
L 36 W XXT	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x3300
L 36 W XXT	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x3300
L 36 W XXT	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x3300
L 36 W XXT	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	35	1x3200
L 36 W XXT	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	70	2x3200
L 36 W XXT	1	QTP8 1x36	4008321131621	360x30x30	35	1x3200
L 36 W XXT	2	QTP8 2x36	4008321131645	423x30x30	72	2x3200
L 38 W	1	VVG			47	1x3300
L 38 W	1	KVG			45	1x3300
L 38 W	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x3300
L 38 W	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x3300
L 38 W	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x3300
L 38 W	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x3350
L 38 W	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x3200
L 38 W	2	HF 2x36/230-240 DIM	4050300350974	423x30x30	71	2x3350
L 38 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	35	1x3300
L 38 W	1	QTP8 1x36	4008321131621	360x30x30	35	1x3200
L 38 W	2	QTP8 2x36	4008321131645	423x30x30	70	2x3200
L 40 W	1	VVG			46	1x2500
L 40 W	1	KVG			50	1x2500
L 40 W	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x3000
L 40 W	2	HF 2x36/230-240 DIM	4050300350974	423x30x30	71	2x3000
L 40 W	1	QTP8 1x36	4008321131621	360x30x30	48	1x3000
L 40 W	2	QTP8 2x36	4008321131645	423x30x30	83	2x3000
L 58 W	1	VVG			70	1x5200
L 58 W	1	KVG			67	1x5200
L 58 W	1	QTI DALI 1x58 DIM	4050300870823	360x30x21	56	1x5000
L 58 W	2	QTI DALI 2x58 DIM	4050300870847	423x30x21	108	2x5000
L 58 W	1	QTI 1x58 DIM	4050300870908	360x30x21	56	1x5000
L 58 W	2	QTI 2x58 DIM	4050300870731	425x30x21	108	2x5000
L 58 W	1	HF 1x58/230-240 DIM	4050300297729	360x30x30	58	1x5000
L 58 W	2	HF 2x58/230-240 DIM	4050300350998	423x30x30	116	2x5000
L 58 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	55	1x5000
L 58 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	109	2x5000
L 58 W	1	QTP5 1x54	4008321329394	280x30x21	55	1x5000
L 58 W	2	QTP5 2x54	4008321329097	360x30x21	109	2x5000
L 58 W	1	QTP8 1x58	4008321131669	360x30x30	55	1x5000
L 58 W	2	QTP8 2x58	4008321131683	423x30x30	110	2x5000
L 58 W	1	QT-FIT8 1x58-70	4008321294227	280x30x28	54	1x5000
L 58 W	2	QT-FIT8 2x58-70	4008321294289	360x30x28	109	2x5000
L 58 W U	1	QTP8 1x58	4008321131669	360x30x30	61	1x4300
L 58 W UK	1	QTP8 1x58	4008321131669	360x30x30	55	1x4700
L 58 W XT	1	QTI DALI 1x58 DIM	4050300870823	360x30x21	56	1x5000
L 58 W XT	2	QTI DALI 2x58 DIM	4050300870847	423x30x21	108	2x5000
L 58 W XT	1	QTI 1x58 DIM	4050300870908	360x30x21	56	1x5000
L 58 W XT	2	QTI 2x58 DIM	4050300870731	423x30x21	108	2x5000
L 58 W XT	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	55	1x5000
L 58 W XT	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	109	2x5000
L 58 W XT	1	QTP8 1x58	4008321131669	360x30x30	55	1x5000
L 58 W XT	2	QTP8 2x58	4008321131683	423x30x30	110	2x5000
L 58 W XT	1	QT-FIT8 1x58-70	4008321294227	280x30x28	36	1x3200
L 58 W XT	2	QT-FIT8 2x58-70	4008321294289	360x30x28	71	2x3200

## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
L 58 W XXT	1	QTI DALI 1x58 DIM	4050300870823	360x30x21	56	1x5000
L 58 W XXT	2	QTI DALI 2x58 DIM	4050300870847	423x30x21	108	2x5000
L 58 W XXT	1	QTI 1x58 DIM	4050300870908	360x30x21	56	1x5000
L 58 W XXT	2	QTI 2x58 DIM	4050300870731	423x30x21	108	2x5000
L 58 W XXT	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	55	1x5000
L 58 W XXT	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	109	2x5000
L 58 W XXT	1	QTP8 1x58	4008321131669	360x30x30	55	1x5000
L 58 W XXT	2	QTP8 2x58	4008321131683	423x30x30	110	2x5000
L 58 W XXT	1	QT-FIT8 1	4008321294227	280x30x28	36	1x3200
L 58 W XXT	2	QT-FIT8 2	4008321294289	360x30x28	71	2x3200
L 65 W	1	WVG			75	1x4200
L 65 W	1	KVG			78	1x4200
L 65 W	1	HF 1x58 /230-240 DIM	4050300297729	360x30x30	56	1x3900
L 65 W	2	HF 2x58/230-240 DIM	4050300350998	423x30x30	111	2x3900
L 65 W	1	QTP8 1x58	4008321131669	360x30x30	55	1x4000
L 70 W	1	WVG			80	1x6200
L 70 W	1	KVG			83	1x6200
L 70 W	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	70	1x6200
L 70 W	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	128	2x6200
L 70 W	1	QTI 1x21/39 DIM	4050300870564	360x30x21	65.5	1x6200
L 70 W	2	QTI 2x21/39 DIM	4050300870694	425x30x21	128	2x6200
L 70 W	1	QT-FIT8 1x58-70	4008321294227	280x30x28	62	1x5900
L 70 W	2	QT-FIT8 2x58-70	4008321294289	360x30x28	124	2x5900
L 16 W ES	1	QT-FIT8 1x18	4008321294180	280x30x28	17.2	1x1100
L 16 W ES	2	QT-FIT8 2x18	4008321294241	360x30x28	32.4	2x1100
L 16 W ES	3	QT-FIT8 3x18, (4x18)	4008321294302	280x40x28	47.1	3x1100
L 16 W ES	4	QT-FIT8 (3x18), 4x18	4008321294302	280x40x28	64	4x1100
L 32 W ES	1	QT-FIT8 1x36	4008321294203	280x30x28	32	1x2500
L 32 W ES	2	QT-FIT8 2x36	4008321294265	360x30x28	64	2x2500
L 32 W ES	3	QT-FIT8 3x36	4008321512055	280x40x28	100	3x2500
L 51 W ES	1	QT-FIT8 1x58-70	4008321294227	280x30x28	50	1x4200
L 51 W ES	2	QT-FIT8 2x58-70	4008321294289	360x30x28	96	2x4200
L 22 W C	1	WVG			52	1x1250
L 22 W C	1	KVG			54	1x1250
L 22 W C	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	20	1x1250
L 22 W C	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	20	1x1250
L 32 W C	1	WVG			41	1x2100
L 32 W C	1	KVG			46	1x2100
L 32 W C	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2300
L 32 W C	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2300
L 32 W C	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x2300
L 32 W C	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x2300
L 32 W C	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x2250
L 32 W C	1	QTP8 1x36	4008321131621	360x30x30	34	1x2050
L 40 W C	1	WVG			51	1x2800
L 40 W C	1	KVG			53	1x2800
L 40 W C	1	HF 1x36/230-240 DIM	4050300297705	360x30x30	36	1x2600
L 40 W C	1	QTP8 1x36	4008321131621	360x30x30	43	1x2700



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
FM 6 W	1	QT-ECO FM 1x6-8/220-240	4050300797502	150x22x22	7.5	1x330
FM 8 W	1	QT-ECO FM 1x6-8/220-240	4050300797502	150x22x22	10	1x540
FM 11 W	1	QT-ECO FM 1x11-13/220-240	4050300799780	150x22x22	13	1x750
FM 13 W	1	QT-ECO FM 1x11-13/220-240	4050300799780	150x22x22	16	1x930
DULUX L 18 W	1	VVG			26	1x1200
DULUX L 18 W	1	KVG			28	1x1200
DULUX L 18 W	1	QTi DALI 1x18 DIM	4050300870403	360x30x21	18	1x1200
DULUX L 18 W	2	QTi DALI 2x18 DIM	4050300870526	425x30x21	37	2x1200
DULUX L 18 W	3	QTi DALI 3x18 DIM	4008321069979	360x40x21	53.6	3x1200
DULUX L 18 W	4	QTi DALI 4x18 DIM	4008321070050	360x40x21	69.3	4x1200
DULUX L 18 W	1	QTP-DL 1x18 DIM	4050300870601	360x30x21	19	1x1200
DULUX L 18 W	2	QTP-DL 2x18 DIM	4050300870960	425x30x21	37	2x1200
DULUX L 18 W	3	QTP-DL 3x18 DIM	4008321069931	360x40x21	53.6	3x1200
DULUX L 18 W	4	QTP-DL 4x18 DIM	4008321070012	360x40x21	69.3	4x1200
DULUX L 18 W	1	QTP-DL 1x18-24	4008321117861	239x30x28	18	1x1200
DULUX L 18 W	2	QTP-DL 2x18-24	4008321117885	239x40x28	36	2x1200
DULUX L 18 W	1	QTP-M 1x26-42	4008321329134	103x67x31	18	1x1150
DULUX L 18 W	2	QTP-M 2x26-32	4008321329158	123x79x33	36	2x1150
DULUX L 18 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	18	1x1200
DULUX L 18 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	18	1x1200
DULUX L 18 W XT	1	QTP-DL 1x18-24	4008321117861	239x30x28	18	1x1200
DULUX L 18 W XT	2	QTP-DL 2x18-24	4008321117885	239x40x28	36	2x1200
DULUX L 18 W XT	1	QTP-M 1x26-42	4008321329134	103x67x31	18	1x1150
DULUX L 18 W XT	2	QTP-M 2x26-32	4008321329158	123x79x33	36	2x1150
DULUX L 24 W	1	VVG			32	1x1800
DULUX L 24 W	1	KVG			34	1x1800
DULUX L 24 W	1	QTi DALI 1x14/24 DIM	4050300870380	360x30x21	25	1x1600
DULUX L 24 W	2	QTi DALI 2x14/24 DIM	4050300870861	425x30x21	49	2x1800
DULUX L 24 W	3	QTi DALI 3x14/24 DIM	4008321069955	360x40x21	73	3x1800
DULUX L 24 W	4	QTi DALI 4x14/24 DIM	4008321070036	360x40x21	98	4x1800
DULUX L 24 W	1	QTi DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	26	1x1200
DULUX L 24 W	2	QTi DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	51	2x1200
DULUX L 24 W	1	QTi 1x14/24 DIM	4050300870922	360x30x21	25	1x1800
DULUX L 24 W	2	QTi 2x14/24 DIM	4050300870946	423x30x21	49	2x1800
DULUX L 24 W	3	QTi 3x14/24 DIM	4008321069719	360x40x21	73	3x1800
DULUX L 24 W	4	QTi 4x14/24 DIM	4008321069993	360x40x21	98	4x1800
DULUX L 24 W	1	QTP-DL 1x18-24	4008321117861	239x30x28	26	1x1800
DULUX L 24 W	2	QTP-DL 2x18-24	4008321117885	239x40x28	49	2x1800
DULUX L 24 W	1	QTP-M 1x26-42	4008321329134	103x67x31	25	1x1750
DULUX L 24 W	2	QTP-M 2x26-32	4008321329158	123x79x33	48	2x1750
DULUX L 24 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1750
DULUX L 24 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	22.5	1x1600
DULUX L 24 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	22.5	1x1600
DULUX L 24 W XT	1	QTP-DL 1x18-24	4008321117861	239x30x28	26	1x1800
DULUX L 24 W XT	2	QTP-DL 2x18-24	4008321117885	239x40x28	49	2x1800
DULUX L 24 W XT	1	QTP-M 1x26-42	4008321329134	103x67x31	25	1x1750
DULUX L 24 W XT	2	QTP-M 2x26-32	4008321329158	123x79x33	48	2x1750
DULUX L 24 W XT	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1750



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX L 36 W	1	VVG			43	1x2900
DULUX L 36 W	1	KVG			45	1x2900
DULUX L 36 W	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2900
DULUX L 36 W	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2900
DULUX L 36 W	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x2900
DULUX L 36 W	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x2900
DULUX L 36 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	34	1x2750
DULUX L 36 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	68	2x2800
DULUX L 36 W	1	QTP-DL 1x36-40	4008321117908	239x30x28	35	1x2900
DULUX L 36 W	2	QTP-DL 2x36-40	4008321117922	280x40x28	68	2x2900
DULUX L 36 W	1	QTP-M 1x26-42	4008321103642	103x67x31	35	1x2800
DULUX L 36 W	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2800
DULUX L 36 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x2800
DULUX L 36 W XT	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2900
DULUX L 36 W XT	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2900
DULUX L 36 W XT	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x2900
DULUX L 36 W XT	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x2900
DULUX L 36 W XT	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	34	1x2750
DULUX L 36 W XT	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	68	2x2800
DULUX L 36 W XT	1	QTP-DL 1x36-40	4008321117908	239x30x28	35	1x2900
DULUX L 36 W XT	2	QTP-DL 2x36-40	4008321117922	280x40x28	68	2x2900
DULUX L 36 W XT	1	QTP-M 1x26-42	4008321329158	103x67x31	35	1x2800
DULUX L 36 W XT	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2800
DULUX L 36 W XT	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x2800
DULUX L 40 W	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	41.8	1x3500
DULUX L 40 W	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	82	2x3500
DULUX L 40 W	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	45	1x3500
DULUX L 40 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	87	2x3500
DULUX L 40 W	1	QTI 1x21/39 DIM	4050300870564	360x30x21	41.8	1x3500
DULUX L 40 W	2	QTI 2x21/39 DIM	4050300870694	425x30x21	82	2x3500
DULUX L 40 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	44	1x3500
DULUX L 40 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	86	2x3500
DULUX L 40 W	1	QTP-DL 1x36-40	4008321117908	239x30x28	45	1x3600
DULUX L 40 W	2	QTP-DL 2x36-40	4008321117922	280x40x28	90	2x3650
DULUX L 40 W	1	QTP-M 1x26-42	4008321329134	103x67x31	43	1x3500
DULUX L 40 W CONSTANT	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	41.8	1x3500
DULUX L 40 W CONSTANT	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	82	2x3500
DULUX L 40 W CONSTANT	1	QTI 1x21/39 DIM	4050300870564	360x30x21	41.8	1x3500
DULUX L 40 W CONSTANT	2	QTI 2x21/39 DIM	4050300870694	425x30x21	82	2x3500
DULUX L 40 W CONSTANT	1	QTP-M 1x26-42	4008321329134	103x67x31	43	1x3500
DULUX L 40 W CONSTANT	1	QTP-DL 1x36-40	4008321117908	239x30x28	45	1x3600
DULUX L 40 W CONSTANT	2	QTP-DL 2x36-40	4008321117922	280x40x28	90	2x3650
DULUX L 40 W CONSTANT	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	44	1x3500
DULUX L 40 W CONSTANT	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	86	2x3500
DULUX L 55 W	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	59	1x4800
DULUX L 55 W	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4800
DULUX L 55 W	1	QTI 1x28/54 DIM	4050300870588	360x30x21	59	1x4800
DULUX L 55 W	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4800
DULUX L 55 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	59	1x4800
DULUX L 55 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	110	2x4800
DULUX L 55 W	1	QTP-DL 1x55 GII	4008321390158	280x30x21	59	1x4800
DULUX L 55 W	2	QTP-DL 2x55 GII	4008321390172	360x30x21	116	2x4800
DULUX L 55 W	1	QTP-FC 1x55	4008321537041	103x67x31	59	1x4800
DULUX L 55 W	2	QTP-FQ 2x80	4050300825564	423x30x21	122	2x4800



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX L 55 W CONSTANT	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	59	1x4800
DULUX L 55 W CONSTANT	2	QTI DALI 2x28/54 DIM	4008321652126	423x30x21	115	2x4800
DULUX L 55 W CONSTANT	1	QTI 1x28/54 DIM	4050300870588	360x30x21	59	1x4800
DULUX L 55 W CONSTANT	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4800
DULUX L 55 W CONSTANT	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	59	1x4800
DULUX L 55 W CONSTANT	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	110	2x4800
DULUX L 55 W CONSTANT	1	QTP-DL 1x55 GII	4008321390158	280x30x21	59	1x4800
DULUX L 55 W CONSTANT	2	QTP-DL 2x55 GII	4008321390172	360x30x21	116	2x4800
DULUX L 55 W CONSTANT	1	QTP-FC 1x55	4008321537041	103x67x31	59	1x4800
DULUX L 55 W CONSTANT	2	QT-FQ 2x80	4050300825564	423x30x21	122	2x4800
DULUX L 55 W XT	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	59	1x4800
DULUX L 55 W XT	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4800
DULUX L 55 W XT	1	QTI 1x28/54 DIM	4050300870588	360x30x21	59	1x4800
DULUX L 55 W XT	2	QTI 2x28/54 DIM	4050300870717	425x30x21	115	2x4800
DULUX L 55 W XT	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	59	1x4800
DULUX L 55 W XT	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	110	2x4800
DULUX L 55 W XT	1	QTP-DL 1x55 GII	4008321390158	280x30x21	59	1x4800
DULUX L 55 W XT	2	QTP-DL 2x55 GII	4008321390172	360x30x21	116	2x4800
DULUX L 55 W XT	1	QTP-FC 1x55	4008321537041	103x67x31	59	1x4800
DULUX L 55 W XT	2	QT-FQ 2x80	4050300825564	423x30x21	122	2x4800
DULUX L 80 W	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	88	1x6000
DULUX L 80 W	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	165	2x6000
DULUX L 80 W	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	88	1x6000
DULUX L 80 W	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	165	2x6000
DULUX L 80 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	85	1x6000
DULUX L 80 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	167	2x6000
DULUX L 80 W	1	QTP5 1x80	4008321329059	360x30x21	86	1x6000
DULUX L 80 W	2	QT-FQ 2x80	4050300825564	423x30x21	175	2x6150
DULUX L 80 W CONSTANT	1	QTI DALI 1x35/49/80 DIM	4050300870342	360x30x21	88	1x6000
DULUX L 80 W CONSTANT	2	QTI DALI 2x35/49/80 DIM	4050300870441	423x30x21	165	2x6000
DULUX L 80 W CONSTANT	1	QTI 1x35/49/80 DIM	4050300870540	360x30x21	88	1x6000
DULUX L 80 W CONSTANT	2	QTI 2x35/49/80 DIM	4050300870984	425x30x21	165	2x6000
DULUX L 80 W CONSTANT	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	85	1x6000
DULUX L 80 W CONSTANT	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	167	2x6000
DULUX L 80 W CONSTANT	1	QTP5 1x80	4008321329059	360x30x21	86	1x6000
DULUX L 80 W CONSTANT	2	QT-FQ 2x80	4050300825564	423x30x21	175	2x6150
DULUX L 16 W HE	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	18	1x1500
DULUX L 16 W HE	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	35	2x1500
DULUX L 16 W HE	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	19	1x1500
DULUX L 16 W HE	1	QTP5 1x14-35	4008321329035	280x30x21	17.5	1x1500
DULUX L 16 W HE	2	QTP5 2x14-35	4008321329073	360x30x21	34	2x1500
DULUX L 22 W HE	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	23.1	1x2000
DULUX L 22 W HE	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	45	2x2000
DULUX L 22 W HE	1	QTI 1x21/39 DIM	4050300870564	360x30x21	23.1	1x2000
DULUX L 22 W HE	2	QTI 2x21/39 DIM	4050300870694	425x30x21	45	2x2000
DULUX L 22 W HE	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	25	1x2200
DULUX L 22 W HE	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	49	2x2200
DULUX L 22 W HE	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	26	1x2100
DULUX L 22 W HE	1	QTP5 1x14-35	4008321329035	280x30x21	24	1x2055
DULUX L 22 W HE	2	QTP5 2x14-35	4008321329073	360x30x21	48	2x2055

## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX L 26 W HE	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	30.1	1x2700
DULUX L 26 W HE	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	60.2	2x2700
DULUX L 26 W HE	1	QTI 1x28/54 DIM	4050300870588	360x30x21	30.1	1x2700
DULUX L 26 W HE	2	QTI 2x28/54 DIM	4050300870717	425x30x21	60.2	2x2700
DULUX L 26 W HE	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	30	1x2600
DULUX L 26 W HE	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	30	1x2600
DULUX L 26 W HE	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	61	2x2700
DULUX L 26 W HE	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	58	2x2600
DULUX L 26 W HE	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	30	1x2600
DULUX L 26 W HE	1	QTP5 1x14-35	4008321329035	280x30x21	29	1x2470
DULUX L 26 W HE	2	QTP5 2x14-35	4008321329073	360x30x21	57	2x2470
DULUX L 28 W HE	1	QTI DALI 1x28/54 DIM	4050300870809	360x30x21	30.1	1x2700
DULUX L 28 W HE	2	QTI DALI 2x28/54 DIM	4008321652126	423x30x21	60.2	2x2700
DULUX L 28 W HE	1	QTI 1x28/54 DIM	4050300870588	360x30x21	30.1	1x2800
DULUX L 28 W HE	2	QTI 2x28/54 DIM	4050300870717	425x30x21	60.2	2x2800
DULUX L 28 W HE	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	31	1x2700
DULUX L 28 W HE	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	31	1x2700
DULUX L 28 W HE	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	59	2x2650
DULUX L 28 W HE	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	60	2x2750
DULUX L 28 W HE	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	60	2x2700
DULUX L 28 W HE	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	32	1x2700
DULUX L 28 W HE	1	QTP5 1x14-35	4008321329035	280x30x21	28.5	1x2800
DULUX L 28 W HE	2	QTP5 2x14-35	4008321329073	360x30x21	56	2x2800
DULUX F 18 W	1	WVG			26	1x1100
DULUX F 18 W	1	KVG			28	1x1100
DULUX F 18 W	1	QTI DALI 1x18 DIM	4050300870403	360x30x21	18	1x1100
DULUX F 18 W	2	QTI DALI 2x18 DIM	4050300870526	425x30x21	37	2x1100
DULUX F 18 W	3	QTI DALI 3x18 DIM	4008321069979	360x40x21	53.6	3x1100
DULUX F 18 W	4	QTI DALI 4x18 DIM	4008321070050	360x40x21	69.3	4x1100
DULUX F 18 W	1	QTI 1x18 DIM	4050300870601	360x30x21	18	1x1100
DULUX F 18 W	2	QTI 2x18 DIM	4050300870960	425x30x21	37	2x1100
DULUX F 18 W	3	QTI 3x18 DIM	4008321069931	360x40x21	53.6	3x1100
DULUX F 18 W	4	QTI 4x18 DIM	4008321070012	360x40x21	69.3	4x1100
DULUX F 18 W	1	QTP-DL 1x18-24	4008321117861	239x30x28	18	1x1100
DULUX F 18 W	2	QTP-DL 2x18-24	4008321117885	239x40x28	36	2x1100
DULUX F 18 W	1	QTP-M 1x26-42	4008321329134	103x67x31	19	1x1050
DULUX F 18 W	2	QTP-M 2x26-32	4008321329158	123x79x33	36	2x1050
DULUX F 18 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	18	1x1000
DULUX F 18 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	18	1x1000



## Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX F 24 W	1	VVG			32	1x1700
DULUX F 24 W	1	KVG			34	1x1700
DULUX F 24 W	1	QTI DALI 1x14/24 DIM	4050300870380	360x30x21	25	1x1700
DULUX F 24 W	2	QTI DALI 2x14/24 DIM	4050300870861	423x30x21	49	2x1700
DULUX F 24 W	3	QTI DALI 3x14/24 DIM	4008321069955	360x40x21	73.4	3x1700
DULUX F 24 W	4	QTI DALI 4x14/24 DIM	4008321070036	360x40x21	97.6	4x1700
DULUX F 24 W	1	QTI 1x14/24 DIM	4050300870922	360x30x21	25	1x1700
DULUX F 24 W	2	QTI 2x14/24 DIM	4050300870946	423x30x21	49	2x1700
DULUX F 24 W	3	QTI 3x14/24 DIM	4008321069719	360x40x21	74	3x1700
DULUX F 24 W	4	QTI 4x14/24 DIM	4008321069993	360x40x21	97.6	4x1800
DULUX F 24 W	1	QTP-DL 1x18-24	4008321117861	239x30x28	26	1x1700
DULUX F 24 W	2	QTP-DL 2x18-24	4008321117885	239x40x28	49	2x1700
DULUX F 24 W	1	QTP-M 1x26-42	4008321329134	103x67x31	25	1x1650
DULUX F 24 W	2	QTP-M 2x26-32	4008321329158	123x79x33	48	2x1650
DULUX F 24 W	2	QTP-M 2x26-42/220-240 S	4008321117861	123x79x33	54	2x1700
DULUX F 24 W	1	QT-ECO 1x18-24/220-240 S	4050300638560	80x40x22	22.5	1x1500
DULUX F 24 W	1	QT-ECO 1x18-24/220-240 L	4050300660417	150x22x22	22.5	1x1500
DULUX F 36 W	1	VVG			43	1x2800
DULUX F 36 W	1	KVG			45	1x2800
DULUX F 36 W	1	QTI DALI 1x36 DIM	4050300870427	360x30x21	36	1x2900
DULUX F 36 W	2	QTI DALI 2x36 DIM	4050300870885	423x30x21	69	2x2900
DULUX F 36 W	1	QTI 1x36 DIM	4050300870625	360x30x21	36	1x2900
DULUX F 36 W	2	QTI 2x36 DIM	4050300870755	425x30x21	69	2x2900
DULUX F 36 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	34	1x2750
DULUX F 36 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	66	2x2800
DULUX F 36 W	1	QTP-DL 1x36-40	4008321117908	239x30x28	35	1x2800
DULUX F 36 W	2	QTP-DL 2x36-40	4008321117922	280x40x28	68	2x2800
DULUX F 36 W	1	QTP-M 1x26-42	4008321329134	103x67x31	35	1x2700
DULUX F 36 W	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2700
DULUX F 36 W	2	QTP-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x2700
DULUX S/E 5 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	7.5	1x250
DULUX S/E 5 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	7.5	1x250
DULUX S/E 5 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	12	2x250
DULUX S/E 5 W	1	DT-S/E 5-11/220-240 S	4008321181459	75x55x34	7	1x250
DULUX S/E 5 W	1	DT-S/E 5-11/220-240 L	4008321181473	89x40x45	7	1x250
DULUX S/E 7 W	1	QT-T/E 1x14-17/220-240 HE	4008321327345	103x67x30	8	1x400
DULUX S/E 7 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	9	1x400
DULUX S/E 7 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	9	1x400
DULUX S/E 7 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	15	2x400
DULUX S/E 7 W	1	DT-S/E 5-11/220-240 S	4008321181459	75x55x34	9	1x400
DULUX S/E 7 W	1	DT-S/E 5-11/220-240 L	4008321181473	89x40x45	9	1x400
DULUX S/E 9 W	1	QTP-D/E 1x10-13	4008321181572	93x58x29	9.5	1x600
DULUX S/E 9 W	2	QTP-D/E 2x10-13	4008321181596	123x79x33	18	2x600
DULUX S/E 9 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	10	1x600
DULUX S/E 9 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	10	1x600
DULUX S/E 9 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	18	2x550
DULUX S/E 9 W	1	DT-S/E 5-11/220-240 S	4008321181459	75x55x34	10.5	1x600
DULUX S/E 9 W	1	DT-S/E 5-11/220-240 L	4008321181473	89x40x45	10.5	1x600





## Summary of lamp/ECG combinations

Lamp	lp	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX S/E 11 W	1	QTP-D/E 1x10-13	4008321181572	93x58x29	14	1x900
DULUX S/E 11 W	2	QTP-D/E 2x10-13	4008321181596	123x79x33	28	2x950
DULUX S/E 11 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	13	1x900
DULUX S/E 11 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	13	1x900
DULUX S/E 11 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	24	2x700
DULUX S/E 11 W	1	DT-S/E 5-11/220-240 S	4008321181459	75x55x34	13.5	1x900
DULUX S/E 11 W	1	DT-S/E 5-11/220-240 L	4008321181473	89x40x45	13.5	1x900
DULUX D/E 10 W	1	QTP-D/E 1x10-13	4008321181572	93x58x29	12	1x600
DULUX D/E 10 W	2	QTP-D/E 2x10-13	4008321181596	123x79x33	21	2x600
DULUX D/E 10 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	11.5	1x600
DULUX D/E 10 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	11.5	1x600
DULUX D/E 10 W	2	QT-ECO 2x5-11/220-240 S	4050300821504	80x40x22	20	2x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 L	4008321181497	95x40x64	12	1x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 C	4008321181510	68x59x59	12	1x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 P	4008321181534	72x59x59	12	1x600
DULUX D/E 13 W	1	QTP-D/E 1x10-13	4008321181572	93x58x29	15	1x900
DULUX D/E 13 W	2	QTP-D/E 2x10-13	4008321181596	123x79x33	29	2x900
DULUX D/E 13 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	14	1x850
DULUX D/E 13 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	14	1x850
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 L	4008321181497	95x40x64	15.5	1x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 C	4008321181510	68x59x59	15.5	1x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 P	4008321181534	72x59x59	15.5	1x900
DULUX D/E 18 W	1	QTi DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	20	1x1200
DULUX D/E 18 W	2	QTi DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	38	2x1200
DULUX D/E 18 W	1	QTi-T/E 1x18-57 DIM	4008321060860	123x79x33	20	1x1200
DULUX D/E 18 W	2	QTi-T/E 2x18-42 DIM	4008321060846	123x79x33	38	2x1200
DULUX D/E 18 W	1	QTP-T/E 1x18	4008321181701	103x67x31	19	1x1200
DULUX D/E 18 W	2	QTP-T/E 2x18	4008321181619	123x79x33	38	2x1200
DULUX D/E 18 W	1	QT-ECO 1x18-21/220-240 S	4050300794907	80x40x22	19	1x1150
DULUX D/E 18 W	2	QT-ECO T/E 2x18/220-240	4050300803982	150x41x28	36	2x1150
DULUX D/E 18 W	1	DT-T/E 18/230-240 L	4050300406404	95x40x64	20	1x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 C	4050300421384	68x59x59	20	1x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 P	4050300421421	72x59x59	20	1x1200
DULUX D/E 18 W XT	1	QTP-T/E 1x18	4008321181701	103x67x31	19	1x1200
DULUX D/E 18 W XT	2	QTP-T/E 2x18	4008321181619	123x79x33	38	2x1200
DULUX D/E 18 W XT	1	QTi DALI 1x18 DIM	4050300870403	360x30x21	19	1x1200
DULUX D/E 18 W XT	2	QTi DALI 2x18 DIM	4050300870526	425x30x21	38	2x1200
DULUX D/E 18 W XT	1	QTi 1x18 DIM	4050300870601	360x30x21	19	1x1200
DULUX D/E 18 W XT	2	QTi 2x18 DIM	4050300870960	425x30x21	38	2x1200
DULUX D/E 26 W	1	QTi DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	29	1x1800
DULUX D/E 26 W	2	QTi DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	56	2x1800
DULUX D/E 26 W	1	QTi-T/E 1x18-57 DIM	4008321060860	123x79x33	29	1x1800
DULUX D/E 26 W	2	QTi-T/E 2x18-42 DIM	4008321060846	123x79x33	56	2x1800
DULUX D/E 26 W	1	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	28	1x1750
DULUX D/E 26 W	2	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	54	2x1750
DULUX D/E 26 W	1	QTP-M 1x26-42	4008321329134	103x67x31	27	1x1750
DULUX D/E 26 W	2	QTP-M 2x26-32	4008321329158	123x79x33	53	2x1750
DULUX D/E 26 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1800
DULUX D/E 26 W	1	QT-ECO 1x26/220-240 S	4008321065971	80x40x22	23.5	1x1600
DULUX D/E 26 W	2	QT-ECO T/E 2x26/220-240	4050300804002	150x41x28	53	2x1750



## Summary of lamp/ECG combinations

Lamp	lp	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX D/E 26 W XT	1	QTP-T/E 1x26-42, 2x26	4008321 <b>537089</b>	103x67x31	28	1x1750
DULUX D/E 26 W XT	2	QTP-T/E 1x26-42, 2x26	4008321 <b>537089</b>	103x67x31	54	2x1750
DULUX D/E 26 W XT	1	QTP-M 1x26-42	4008321 <b>329134</b>	103x67x31	27	1x1750
DULUX D/E 26 W XT	2	QTP-M 2x26-32	4008321 <b>329158</b>	123x79x33	53	2x1750
DULUX D/E 26 W XT	2	QT-M 2x26-42/220-240 S	4008321 <b>110022</b>	123x79x33	54	2x1800
DULUX D/E 26 W XT	1	QT-ECO 1x26/220-240 S	4008321 <b>065971</b>	80x40x22	23.5	1x1600
DULUX D/E 26 W XT	2	QT-ECO T/E 2x26/220-240	4050300 <b>804002</b>	150x41x28	53	2x1750
DULUX T/E 11 W HE	1	QT-T/E 1x14-17/220-240 HE	4008321 <b>327345</b>	103x67x30	13.5	1x830
DULUX T/E 11 W HE	2	QT-T/E 2x14-17/220-240 HE	4008321 <b>327369</b>	103x67x30	26.2	2x830
DULUX T/E 14 W HE	1	QT DALI-T/E 1x14-17 DIM HE	4008321 <b>327383</b>	123x79x33	17	1x1050
DULUX T/E 14 W HE	2	QT DALI-T/E 2x14-17 DIM HE	4008321 <b>327406</b>	123x79x33	33	2x1050
DULUX T/E 14 W HE	1	QT-T/E 1x14-17/220-240 HE	4008321 <b>327345</b>	103x67x30	17.1	1x1050
DULUX T/E 14 W HE	2	QT-T/E 2x14-17/220-240 HE	4008321 <b>327369</b>	103x67x30	32.7	2x1050
DULUX T/E 17 W HE	1	QT DALI-T/E 1x14-17 DIM HE	4008321 <b>327383</b>	123x79x33	21	1x1250
DULUX T/E 17 W HE	2	QT DALI-T/E 2x14-17 DIM HE	4008321 <b>327406</b>	123x79x33	39	2x1250
DULUX T/E 17 W HE	1	QT-T/E 1x14-17/220-240 HE	4008321 <b>327345</b>	103x67x30	18.8	1x1250
DULUX T/E 17 W HE	2	QT-T/E 2x14-17/220-240 HE	4008321 <b>327369</b>	103x67x30	39.3	2x1050
DULUX T/E 13 W	1	QTP-D/E 1x10-13	4008321 <b>181572</b>	93x58x29	15	1x900
DULUX T/E 13 W	2	QTP-D/E 2x10-13	4008321 <b>181596</b>	123x79x33	29	2x900
DULUX T/E 13 W	1	QT-ECO 1x4-16/220-240 S	4050300 <b>638584</b>	80x40x22	14	1x800
DULUX T/E 13 W	1	QT-ECO 1x4-16/220-240 L	4050300 <b>660370</b>	150x22x22	14	1x800
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 L	4008321 <b>181497</b>	95x40x64	15.5	1x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 C	4008321 <b>181510</b>	68x59x59	15.5	1x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 P	4008321 <b>181534</b>	72x59x59	15.5	1x900
DULUX T/E 18 W	1	QT DALI-T/E 1x18-57 DIM	4008321 <b>060808</b>	123x79x33	20	1x1200
DULUX T/E 18 W	2	QT DALI-T/E 2x18-42 DIM	4008321 <b>060822</b>	123x79x33	38	2x1200
DULUX T/E 18 W	1	QT-T/E 1x18-57 DIM	4008321 <b>060860</b>	123x79x33	20	1x1200
DULUX T/E 18 W	2	QT-T/E 2x18-42 DIM	4008321 <b>060846</b>	123x79x33	38	2x1200
DULUX T/E 18 W	1	QTP-T/E 1x18	4008321 <b>181701</b>	103x67x31	19	1x1200
DULUX T/E 18 W	2	QTP-T/E 2x18	4008321 <b>181619</b>	123x79x33	38	2x1200
DULUX T/E 18 W	1	QT-ECO 1x18-21/220-240 S	4050300 <b>794907</b>	80x40x22	19	1x1150
DULUX T/E 18 W	2	QT-ECO T/E 2x18/220-240	4050300 <b>803982</b>	150x41x28	36.5	2x1150
DULUX T/E 18 W	1	DT-T/E 18/230-240 L	4050300 <b>406404</b>	95x40x64	20	1x1200
DULUX T/E 18 W	1	DT-T/E 18/230-240 C	4050300 <b>421384</b>	68x59x59	20	1x1200
DULUX T/E 18 W	1	DT-T/E 18/230-240 P	4050300 <b>421421</b>	72x59x59	20	1x1200
DULUX T/E 26 W	1	QT DALI-T/E 1x18-57 DIM	4008321 <b>060808</b>	123x79x33	29	1x1800
DULUX T/E 26 W	2	QT DALI-T/E 2x18-42 DIM	4008321 <b>060822</b>	123x79x33	56	2x1800
DULUX T/E 26 W	1	QT-T/E 1x18-57 DIM	4008321 <b>060860</b>	123x79x33	29	1x1800
DULUX T/E 26 W	2	QT-T/E 2x18-42 DIM	4008321 <b>060846</b>	123x79x33	56	2x1800
DULUX T/E 26 W	1	QTP-T/E 1x26-42, (2x26)	4008321 <b>537089</b>	103x67x31	28	1x1750
DULUX T/E 26 W	2	QTP-T/E (1x26-42), 2x26	4008321 <b>537089</b>	103x67x31	54	2x1750
DULUX T/E 26 W	1	QTP-M 1x26-42	4008321 <b>329134</b>	103x67x31	27	1x1750
DULUX T/E 26 W	2	QTP-M 2x26-32	4008321 <b>329158</b>	123x79x33	53	2x1750
DULUX T/E 26 W	2	QT-M 2x26-42/220-240 S	4008321 <b>110022</b>	123x79x33	54	2x1800
DULUX T/E 26 W	1	QT-ECO 1x26/220-240 S	4008321 <b>065971</b>	80x40x22	23.5	1x1600
DULUX T/E 26 W	2	QT-ECO T/E 2x26/220-240	4050300 <b>804002</b>	150x41x28	53	2x1750












## Summary of lamp/ECG combinations

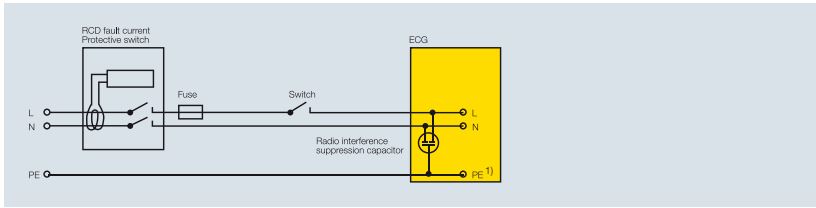
Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
DULUX T/E 26 W CONSTANT	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	29	1x1800
DULUX T/E 26 W CONSTANT	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	56	2x1800
DULUX T/E 26 W CONSTANT	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	29	1x1800
DULUX T/E 26 W CONSTANT	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	56	2x1800
DULUX T/E 26 W CONSTANT	1	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	28	1x1750
DULUX T/E 26 W CONSTANT	2	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	54	2x1750
DULUX T/E 26 W CONSTANT	1	QTP-M 1x26-42	4008321329134	103x67x31	27	1x1750
DULUX T/E 26 W CONSTANT	2	QTP-M 2x26-32	4008321329158	123x79x33	53	2x1750
DULUX T/E 26 W CONSTANT	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1800
DULUX T/E 32 W	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	36	1x2400
DULUX T/E 32 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	69	2x2400
DULUX T/E 32 W	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	36	1x2400
DULUX T/E 32 W	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	69	2x2400
DULUX T/E 32 W	1	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	35	1x2400
DULUX T/E 32 W	1	QTP-M 1x26-42	4008321329134	103x67x31	35	1x2400
DULUX T/E 32 W	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2400
DULUX T/E 32 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x2400
DULUX T/E 32 W CONSTANT	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	36	1x2400
DULUX T/E 32 W CONSTANT	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	69	2x2400
DULUX T/E 32 W CONSTANT	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	36	1x2400
DULUX T/E 32 W CONSTANT	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	69	2x2400
DULUX T/E 32 W CONSTANT	1	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	35	1x2400
DULUX T/E 32 W CONSTANT	1	QTP-M 1x26-42	4008321329134	103x67x31	35	1x2400
DULUX T/E 32 W CONSTANT	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2400
DULUX T/E 32 W CONSTANT	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x2400
DULUX T/E 32 W XT	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	36	1x2400
DULUX T/E 32 W XT	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	69	2x2400
DULUX T/E 32 W XT	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	36	1x2400
DULUX T/E 32 W XT	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	69	2x2400
DULUX T/E 32 W XT	2	QTP-M 2x26-42/220-240 S	4008321110022	123x79x33	70	2x2400
DULUX T/E 32 W XT	1	QTP-M 1x26-42	4008321615398	103x67x31	35	1x2400
DULUX T/E 32 W XT	2	QTP-M 2x26-32	4008321615411	123x79x33	68	2x2400
DULUX T/E 32 W XT	1	QTP-T/E 1x26-42, (2x26)	4008321537089	103x67x31	35	1x2400
DULUX T/E 42 W	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	47	1x3200
DULUX T/E 42 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	90	2x3200
DULUX T/E 42 W	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	47	1x3200
DULUX T/E 42 W	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	90	2x3200
DULUX T/E 42 W	1	QTP-T/E 1x26-42, (2x26)	4008321537089	103x67x31	45	1x3200
DULUX T/E 42 W	1	QTP-M 1x26-42	4008321615398	103x67x31	46	1x3200
DULUX T/E 42 W	1	QTP-M 2x26-32	4008321329158	123x79x33	46	1x3200
DULUX T/E 42 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	92	2x3200
DULUX T/E 42 W CONSTANT	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	47	1x3200
DULUX T/E 42 W CONSTANT	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	90	2x3200
DULUX T/E 42 W CONSTANT	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	47	1x3200
DULUX T/E 42 W CONSTANT	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	90	2x3200
DULUX T/E 42 W CONSTANT	1	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	45	1x3200
DULUX T/E 42 W CONSTANT	1	QTP-M 1x26-42	4008321329134	103x67x31	46	1x3200
DULUX T/E 42 W CONSTANT	1	QTP-M 2x26-32	4008321329158	123x79x33	46	1x3200
DULUX T/E 42 W CONSTANT	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	92	2x3200



## Summary of lamp/ECG combinations

<b>POWERTRONIC®</b>						
Lamp	Ip	ECG type	EAN	L/W/H	System wattage in watts with ECG	
HCI-E/P, HCI-T	1	PTo 35/220-240	4008321 <b>956323</b>	133x77x48	43	
NAV-E, NAV-T, HCI-TT, HCI-E/P	1	PTo 50/220-240 3DIM	4008321 <b>956347</b>	133x77x48	56	
NAV-E, NAV-T, NAV-TS, HCI-T, HCI-TT, HCI-E/P, HCI-TS, HQI-T, HCI-ET, HQI-TS Excellence, HQI-E/P	1	PTo 70/220-240 3DIM	4008321 <b>959355</b>	133x77x48	80	
NAV-E, NAV-T, HCI-TT, HCI-E/P	1	PTo 100/220-240 3 DIM	4008321 <b>956361</b>	158x94x42	106	
NAV-E, NAV-T, NAV-TS, HCI-TT, HCI-E/P, HCI-TS, HQI-T, HQI-TS Excellence, HQI-E/P	1	PTo 150/220-240 3DIM	4008321 <b>956385</b>	158x94x42	160	
HCI-TF, HCI-TC	1	PTi 20/220-240 S	4008321 <b>353290</b>	97x43x30	23	
	1	PTi 20/220-240 I	4008321 <b>404763</b>	204x50x32	23	
	1	PTi 20/220-240 B	4008321 <b>391490</b>	94x40x27	23	
HCI-T, HCI-E/P, HCI-TC, HCI-TF, HCI-PAR	1	PTi 35/220-240 S	4008321 <b>073112</b>	110x75x30	43	
	1	PTi 35/220-240 I	4008321 <b>099488</b>	155x83x32	43	
	1	PTi 35/220-240 B	4008321 <b>123589</b>	110x73x28	43	
	1	PTi 35/220-240 S MINI	4008321 <b>955906</b>	97x43x30	43	
	1	PTi 35/220-240 B MINI	4008321 <b>955913</b>	94x40x27	43	
	1	PTi 35/220-240 SNAP	4008321 <b>955920</b>	155x83x31	43	
	1	PT-FIT 35/220-240 S	4008321 <b>386625</b>	110x75x30	43	
	1	PT-FIT 35/220-240 I	4008321 <b>377661</b>	155x83x32	43	
	1	PT-FIT 35/220-240 B	4008321 <b>498731</b>	110x75x29	43	
	2	PTi 2x35/220-240 S	4008321 <b>372642</b>	165x90x32	86	
	2	PTi 2x35/220-240 I	4008321 <b>372666</b>	223x96x32	86	
HCI-T, HCI-TC, HCI-E/P	1	PT-FIT 50 220-240 S	4008321 <b>648693</b>	110x75x30	55	
	1	PT-FIT 50 220-240 I	4008321 <b>648679</b>	155x83x32	55	
	1	PT-FIT 50 220-240 B	4008321 <b>648716</b>	110x75x29	55	
HCI-T, HCI-TC, HCI-TS, HCI-E/P, HCI-PAR, HQI-T, HQI-TS Excellence, HQI-E/P	1	PTi 70/220-240 S	4008321 <b>049629</b>	110x75x30	80	
	1	PTi 70/220-240 I	4008321 <b>099501</b>	155x83x32	80	
	1	PTi 70/220-240 B	4008321 <b>123565</b>	110x73x28	80	
	1	PTi 70/220-240 SNAP	4008321 <b>955937</b>	155x83x31	80	
	1	PT-FIT 70/220-240 S	4008321 <b>386649</b>	110x75x30	80	
	1	PT-FIT 70/220-240 I	4008321 <b>377685</b>	155x83x32	80	
	1	PT-FIT 70/220-240 B	4008321 <b>498717</b>	110x75x29	80	
	2	PTi 2x70/220-240 S	4008321 <b>910028</b>	165x90x30	159	
	2	PTi 2x70/220-240 I	4008321 <b>910042</b>	223x96x32	159	
HCI-T, HCI-E/P, HQI E/P	1	PTi 100/220-240 S	4008321 <b>926630</b>	150x85x31	106	
	1	PTi 100/220-240 I	4008321 <b>926654</b>	212x96x33	106	
HCI-T, HCI-TS, HCI-E/P, HQI-T, HQI-TS Excellence, HQI-E/P, HQI-R	1	PTi 150/220-240 S	4008321 <b>188090</b>	150x85x31	160	
	1	PTi 150/220-240 I	4008321 <b>915535</b>	212x96x33	160	
<b>HALOTRONIC®</b>						
Lamp	ECG type	EAN	L/W/H	System wattage in watts	Load range	Dimmer
Low-voltage halogen	HTI DALI 105/230-240 DIM	4008321 <b>420633</b>	170/44/34	111	35-105W	
	HTL 105/230-240	4008321 <b>927019</b>	170/44/34	111	35-105W	
	HTL 225/230-240	4008321 <b>927026</b>	170/44/34	234	50-225W	
	HTM 70/230-240	4050300 <b>442310</b>	108/52/33	74	20-70W	
	HTM 105/230-240	4050300 <b>442334</b>	108/52/33	111	35-105W	
	HTM 150/230-240	4050300 <b>581415</b>	153/54/36	157	50-150W	
	HTN 75/230-240 I	4008321 <b>1073037</b>	104/33/22	79	20-75W	
	ET-PARROT 70/220-240 I	4008321 <b>1111593</b>	128/38/31	74	20-70W	
	ET-PARROT 105/220-240 I	4008321 <b>1111579</b>	128/38/31	111	35-105W	
	ET-PARROT 150/220-240 I	4008321 <b>1622563</b>	154/44/38	159	50-150W	

# Installation and operating instructions



The following installation and operating instructions have been included to help you to get the most out of your electronic control gear.

## Requirements

The requirements to be met by lighting systems with luminaires operated with ECGs fall into the following categories:

1. Fault currents/RCD
2. Rating for automatic line protection systems/switch-on currents
3. ECGs in three-phase operation  
(overvoltages/undervoltages/missing neutral conductor)
4. ECGs in emergency lighting systems  
(voltage ranges and switch-on times)
5. Power factor/compensation
6. Permissible cable lengths
7. Faults in infrared controls/transmission systems  
(IR remote control, sound transmission, audio frequency ripple control, paging systems)
8. Dimming
9. Fixtures for ECGs
10. Ambient and ECG temperatures
11. ECGs for outdoor lighting
12. Wiring of the ECGs
13. Life and reliability of ECGs

For more detailed information see the Technical Guides at [www.osram.com/ecg-downloads](http://www.osram.com/ecg-downloads)



# Installation and operating instructions

## 1. Fault currents/RCD

Problem:

For ECGs with protective earth (PE) both the high short-duration in-rush current and the small leakage current from the interference suppression capacitors in the ECGs can trigger the residual current detector.

Solution:

- Distribute luminaires across 3 phases and use 3-phase RCDs
- Use surge-current-resistant short-delay RCDs
- If permissible, use 30 mA RCDs

## 2. Rating for automatic line protection systems

In a choke/starter circuit the lamps do not all ignite simultaneously; in an ECG circuit all the fluorescent lamps ignite simultaneously.

On switch-on at peak voltage, the storage capacitors of electronic control gear cause a high but very brief current pulse.

In this case, the simultaneous charging of these capacitors in ECG operation can mean a higher system switch-on current than with a choke/starter circuit.

This reduces the maximum number of fixtures allowed per automatic line protection unit (see tables on the following pages).

For example, the maximum number of fixtures allowed on a 10 A automatic system reduces from 15 fixtures with 2x58 W lamps with conventional control gear in a twin circuit to 8 fixtures in an ECG circuit.

OSRAM offers an inrush current limiter EBN for POWERTRONIC® devices and for some OPTOTRONIC® devices.

The EBN-OS restricts the switch-on current, which means that a larger number of ECGs can be connected to an automatic cutout.

In the case of PTo the maximum permitted number of fixtures on a 10 A cutout is reduced to 7 PTo's, 50 W.



# Installation and operating instructions

## Ratings for automatic line protection systems

### 10 A circuit breaker

Maximum permissible number of ECGs for operating T8 fluorescent lamps (L 18W, L 36W, L 58W) with an N circuit breaker 10 A, single-pole, type B (made by Siemens)

	ECG type 1-lamp	Max. no. of ECGs	LLG 1-lamp uncomp.	LLG 1-lamp parallel comp.	ECG type 2-lamp	Max. no. of ECGs	LLG 2-lamp DUO
L 18W	QTP8 1x18	36	27	32	QTP8 2x18	25	23
	QT-FIT8 1x18	17	27	32	QT-FIT8 2x18	8	23
L 36W	QTP8 1x36	25	23	32	QTP8 2x36	17	23
	QT-FIT8 1x36	17	23	32	QT-FIT8 2x36	8	23
L 58W	QTP8 1x58	17	15	20	QTP8 2x58	8	15
	QT-FIT8 1x58-70	17	15	20	QT-FIT8 2x58-70	8	15

	ECG type 3-lamp	Max. no. of ECGs		ECG type 4-lamp	Max. no. of ECGs
L 18W	QTP8 3x18, 4x18	17		QTP8 3x18, 4x18	17
	QT-FIT8 3x18, 4x18	8		QT-FIT8 3x18, 4x18	8
L 36W	QT-FIT8 3x36	8		-	-

### 16 A circuit breaker

Maximum permissible number of ECGs for operating T8 fluorescent lamps (L 18W, L 36W, L 58W) with an N circuit breaker 16 A, single-pole, type B (made by Siemens)

	ECG type 1-lamp	Max. no. of ECGs	LLG 1-lamp uncomp.	LLG 1-lamp parallel comp.	ECG type 2-lamp	Max. no. of ECGs
L 18W	QTP8 1x18	59	43	51	QTP8 2x18	31
	QT-FIT8 1x18	28	43	51	QT-FIT8 2x18	18
L 36W	QTP8 1x36	41	43	51	QTP8 2x36	28
	QT-FIT8 1x36	28	43	51	QT-FIT8 2x36	13
L 58W	QTP8 1x58	28	24	33	QTP8 2x58	13
	QT-FIT8 1x58-70	28	24	33	QT-FIT8 2x58-70	13

	ECG type 3-lamp	Max. no. of ECGs		ECG type 4-lamp	Max. no. of ECGs
L 18W	QTP8 3x18, 4x18	28		QTP8 3x18, 4x18	28
	QT-FIT8 3x18, 4x18	13		QT-FIT8 3x18, 4x18	13
L 36W	QT-FIT8 3x36	13		-	-



# Installation and operating instructions

## Ratings for automatic line protection systems

When using the values given in these tables please note the following:

- In ECG operation the load data relates to switching on at peak voltage
- Circuit breaker type and characteristics:  
The specified load from fluorescent lamps and the associated control gear applies to N circuit breakers of Type 5 SL and 5 SX with B characteristics. If the above circuit breaker types with C characteristics are used the number of permitted fixtures for ECG operation can be doubled (please note VDE-0100-410 in particular)
- Circuit breaker design:  
The specified loading is for single-pole circuit breakers. When multi-pole circuit breakers are employed (2-pole, 3-pole) the number of permitted fixtures is reduced by 20%.
- Lamp switch-on:  
The specified load applies:
  - to the joint and group-wise starting of the relevant number of fixtures in “choke operation”
  - to the maximum permissible number of fixtures switched together (with one switching operation)
- Circuit impedance:  
The specified loading applies with reference to a line impedance of 800 m $\Omega$ . (This corresponds to a 15 m long cable with a diameter of 1.5 mm<sup>2</sup> from the distribution board to the first fixture and a further distance of 20 m to the middle of the circuit; at a line impedance of 400 m $\Omega$ , the permitted values are reduced by 10%, and by 20% for a line impedance of 200 m $\Omega$ )





## Inrush currents for ECGs measured at $U_N = 230 V_{AC}$

ECG	Ip/A	T <sub>H</sub> /μs	Maximum no. of ECGs on circuit breakers		ECG	Ip/A	T <sub>H</sub> /μs	Maximum no. of ECGs on circuit breakers	
			10A	16A				10A	16A
<b>QUICKTRONIC® INTELLIGENT dimmable (DALI/DIM) for T5 and T8 fluorescent lamps</b>					<b>QUICKTRONIC® INTELLIGENT QTI</b>				
QTI (DALI) 1x14/24 DIM	25	175	17	28	QTI 1x14/24/21/39 GII	24	230	17	28
QTI (DALI) 1x18 DIM	25	175	17	28	QTI 1x28/54/35/49 GII	24	230	17	28
QTI (DALI) 1x21/39 DIM	25	175	17	28	QTI 1x35/49/80 GII	53	190	8	13
QTI (DALI) 1x28/54 DIM	25	175	17	28					
QTI (DALI) 1x35/49/80 DIM	30	225	12	19	QTI 2x14/24/21/39 GII	53	190	8	13
QTI (DALI) 1x36 DIM	25	175	17	28	QTI 2x28/54/35/49 GII	53	190	8	13
QTI (DALI) 1x58 DIM	25	175	17	28	QTI 2x35/49/80 GII	39	230	5	9
					QTI-DP 1x28/35/LED	24	230	17	28
QTI (DALI) 2x14/24 DIM	35	180	12	19	<b>QUICKTRONIC® T5 for HO (T5) fluorescent lamps</b>				
QTI (DALI) 2x18 DIM	35	180	12	19	QTP5 1x14-35	24	230	17	28
QTI (DALI) 2x21/39 DIM	45	205	8	13	QTP5 1x24-39	24	230	17	28
QTI (DALI) 2x28/54 DIM	45	205	8	13	QTP5 1x49	24	230	17	28
QTI (DALI) 2x35/49 DIM	45	205	8	13	QTP5 1x54	40	200	12	19
QTI (DALI) 2x36 DIM	45	205	8	13	QTP5 1x80	40	200	12	19
QTI (DALI) 2x58 DIM	45	205	8	13	QTP5 2x14-35	40	200	12	19
QTI (DALI) 2x35/49/80 DIM	60	230	5	9	QTP5 2x24-39	40	200	12	19
					QTP5 2x49	53	190	8	13
QTI (DALI) 3x14/24 DIM	35	180	12	19	QTP5 2x54	53	190	8	13
QTI (DALI) 4x14/24 DIM	45	205	8	13	QTP5 3x14, 4x14	40	200	12	19
QTI (DALI) 3x18 DIM	25	175	17	28	QT-FQ 2x80	39	230	5	9
QTI (DALI) 4x18 DIM	35	180	12	19					



## Inrush currents for ECGs measured at $U_N = 230 V_{AC}$

ECG	Ip/A	T <sub>H</sub> /μs	Maximum no. of ECGs on circuit breakers		ECG	Ip/A	T <sub>H</sub> /μs	Maximum no. of ECGs on circuit breakers	
			10A	16A				10A	16A
<b>QUICKTRONIC® DIMMABLE with 1-10 V interface for T8 fluorescent lamps</b>					<b>QUICKTRONIC® PROFESSIONAL for FC (T5) ring lamps</b>				
HF 1x18/230-240 DIM	14	140	37	61	QTP-FC 1x55	25	250	11	19
HF 1x36/230-240 DIM	17	170	25	41	<b>QUICKTRONIC® for OSRAM DULUX® L</b>				
HF 1x58/230-240 DIM	20	210	17	28	QTP-DL 1x18-24	13	320	17	28
<hr/>					QTP-DL 1x36-40	13	320	17	28
HF 2x18/230-240 DIM	25	165	17	28	QTP-DL 1x55 Gen II	24	230	17	28
HF 2x36/230-240 DIM	25	165	17	28	<hr/>				
HF 2x58/230-240 DIM	40	230	8	13	QTP-DL 2x18-24	13	320	17	28
<hr/>					QTP-DL 2x36-42	23	250	12	19
<b>QUICKTRONIC® PROFESSIONAL for T8 fluorescent lamps</b>					QTP-DL 2x55 Gen II	28	230	8	13
QTP8 1x18/230-240	14	140	36	59	<hr/>				
QTP8 1x36/230-240	17	155	25	41	<b>QUICKTRONIC® DALI and QUICKTRONIC® DIMMABLE with 1-10 V interface for T/E compact fluorescent lamps</b>				
QTP8 1x58/230-240	20	210	17	28	QTi (DALI)-T/E 1x18-57 DIM	30	225	12	19
<hr/>					<hr/>				
QTP8 2x18/230-240	17	155	25	41	QTi (DALI)-T/E 2x18-42 DIM	45	205	8	13
QTP8 2x36/230-240	20	210	17	28	<hr/>				
QTP8 2x58/230-240	28	230	8	13	<hr/>				
<hr/>					<hr/>				
QTP8 3x18, 4x18/230-240	20	210	17	28	<hr/>				
<hr/>					<hr/>				
<b>QUICKTRONIC® QT-FIT8 for T8 fluorescent lamps</b>					<hr/>				
QT-FIT8 1x18	15	200	17	28	<hr/>				
QT-FIT8 1x36	15	200	17	28	<hr/>				
QT-FIT8 1x58-70	15	200	17	28	<hr/>				
QT-FIT8 2x18	15	200	8	13	<hr/>				
QT-FIT8 2x36	28	230	8	13	<hr/>				
QT-FIT8 2x58-70	28	230	8	13	<hr/>				
QT-FIT8 3x18, 4x18	28	230	8	13	<hr/>				
QT-FIT8 3x36	28	220	8	13	<hr/>				



## Inrush currents for ECGs measured at $U_N = 230 V_{AC}$

ECG	Ip/A	T <sub>H</sub> /μs	Maximum no. of ECGs on circuit breakers		ECG	Ip/A	T <sub>H</sub> /μs	Maximum no. of ECGs on circuit breakers	
			10A	16A				10A	16A
<b>QUICKTRONIC® MULTIWATT QT-M</b>					<b>DULUXTRONIC® for OSRAM DULUX® S/E, D/E, T/E with integrated lampholder</b>				
QTP-M 1x26-42 S	15	200	17	28	DT-S/E 5-11/220-240	6,2	110	33	52
QTP-M 2x26-32 S	25	250	11	19	DT-D/E 10-13/220-240	8	120	22	35
QT-M 2x26-42/220-240 S	28	230	8	13	DT-T/E 18/230-240	3,5	590	15	25
<b>QUICKTRONIC® for OSRAM DULUX® S/E, D/E and T/E</b>					<b>POWERTRONIC®</b>				
QTP-D/E 1x10-13	7	150	25	41	PTo 35/220-240	30	150	15	26
QTP-D/E 2x10-13	20	200	17	28	PTo 50/220-240 3DIM	40	250	7	13
QTP-T/E 1x18, 2x18	20	200	17	28	PTo 70/220-240 3DIM	40	250	7	13
QTP-T/E 1x26-42, 2x26	20	200	17	28	PTo 100/220-240 3DIM	60	250	4	7
<b>QUICKTRONIC® ECONOMIC</b>					PTo 150/220-240 3DIM	70	250	4	7
QT-ECO 1x4-16/220-240	10	75	68	112	PTi 20/220-240 S/I/B	12	210	22	33
QT-ECO 1x18-21/220-240	13	100	36	59	PTi 35/220-240 S/B MINI	20	170	17	28
QT-ECO 1x18-24/220-240	13	100	36	59	PTi 35/220-240 S/I/B	30	150	15	26
QT-ECO 1x26/220-240	14	120	30	50	PTi 35/220-240 SNAP	30	150	15	26
QT-ECO 2x5-11/220-240	12	100	51	84	PTi 2x35/220-240 S/I	40	250	7	13
QT-ECO T/E 2x18/220-240	11	150	35	56	PTi 70/220-240 S/I/B	45	250	7	13
QT-ECO T/E 2x26/220-240	16	200	23	37	PTi 70/220-240 SNAP	45	250	7	13
<b>QUICKTRONIC® for FM (T2) fluorescent lamps</b>					PTi 2x70/220-240 S/I	70	250	4	7
QT-ECO FM 1x6-8	7,0	70	80	136	PTi 100/220-240 S/I	60	250	5	8
QT-ECO FM 1x11-13	13,5	90	51	84	PTi 150/220-240 S/I	70	250	4	7
					PT-FIT 35/220-240 S/I/B	30	150	15	26
					PT-FIT 50/220-240 S/I/B	45	250	7	13
					PT-FIT 70/220-240 S/I/B	45	250	7	13

By using EBN-OS the number of POWERTRONIC® ECGs per circuit breaker can be increased significantly. See also page 9.48.

ECG type	No. without EBN-OS on 16 A circuit breaker, type B	Approx. no. with EBN-OS on 16 A circuit breaker, type B
PTi 20/220-240	33	82
PTi 35/220-240 MINI	28	70
PTi 35/220-240	26	65
PTi 70/220-240	13	32
PTi 100/220-240	8	20
PTi 150/220-240	7	17
PTi 2x35/220-240	13	32
PTi 2x70/220-240	7	17
PT-FIT 35/220-240	26	65
PT-FIT 50/220-240	13	32
PT-FIT 70/220-240	13	32



# Installation and operating instructions

## 2a) Maximum permitted number of ECGs connected to automatic circuit breakers

Maximum permissible number of HALOTRONIC® units on an automatic circuit breaker

Circuit breaker	Characteristic	
	B 10	B 16
<b>HALOTRONIC®</b>		
HTI DALI 105	23	38
HTI DALI 150	10	16
<hr/>		
HTL 105	23	38
HTL 225	11	18
<hr/>		
HTM 70	37	59
HTM 105	23	38
HTM 150	16	26
<hr/>		
ET-PARROT 70	37	59
ET-PARROT 105	23	38
ET-PARROT 150	16	26

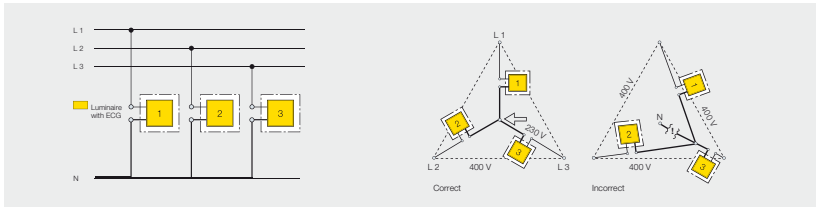
Maximum permissible number of OPTOTRONIC® units on an automatic circuit breaker

ECG	Ip/A	T <sub>H</sub> /µs (measured at 50% I <sub>peak</sub> )	Maximum no. of ECGs on circuit breakers 10A 16A	
<b>OPTOTRONIC® control gear – 12V</b>				
OTe 120/220-240/12 P	22	35	3	6
OTe 15/220-240/12 P	17	15	<sup>1)</sup>	<sup>1)</sup>
OTe 30/220-240/12 P	26	370	<sup>1)</sup>	<sup>1)</sup>
OTe 60/220-240/12 P	35	420	4	8
<b>OPTOTRONIC® control gear – 24V</b>				
OT 75/220-240/24 E	41	200	7	12
OT 8/200-240/24	15	160	25	41
OT 20/120-240/24 S	45	150	7	11
OT 20/220-240/24	14	104	25	41
OT 6/200-240/24 CE	15	120	30	48
OT 75/220-240/24	41	200	7	12
OT 80/220-240/24 P	35	360	7	10
OT 120/220-240/24 P	60	250	6	10
OT 240/220-240/24 P	70	250	5	8
<b>OPTOTRONIC® control gear – 350mA</b>				
OT 9/200-240/350 DIM	15	170	30	48
OT 42/220-240/350 E	33	180	7	12
OT 9/200-240/350	15	170	30	48
OTe 13/220-240/350 SD	16	20	60	80
OTe 25/220-240/2x350	16	20	50	70
OTe 90/220-240/4x350 E	40	300	6	10
<b>OPTOTRONIC® control gear – 500mA</b>				
OT 42/220-240/500 E	33	180	7	12
OTe 90/220-240/4x500 E	40	300	6	10
<b>OPTOTRONIC® control gear – 700mA</b>				
OT 18/200-240/700 DIM	15	170	30	48
OT 90/220-240/700 LT E	40	330	<sup>1)</sup>	<sup>1)</sup>
OT 42/220-240/700 E	33	180	7	12
OTe 35/220-240/700	10	250	30	50
<b>OPTOTRONIC® control gear – 1-10 V interface</b>				
OT 80/220-240/24 DIM P	35	360	7	10
OT 120/220-240/24 DIM P	60	250	6	10
OT 240/220-240/24 DIM P	70	250	5	8
<b>OPTOTRONIC® control gear – DALI/3DIM</b>				
OT DALI 75/220-240/24	36	240	7	12
OT 65/220-240/24 3DIM E	50	180	7	12
OT 50/220-240/700 3DIMLT E	25	250	<sup>1)</sup>	<sup>1)</sup>
OT 90/220-240/700 3DIMLT E	40	330	<sup>1)</sup>	<sup>1)</sup>
<b>OPTOTRONIC® control gear – LEDset</b>				
OT 35/220-240/700 LTCS	8	55	52	84
OT 45/220-240/700 LTCS	8	55	40	60
OT 50/220-240/700 LT E	25	250	<sup>1)</sup>	<sup>1)</sup>
OT 90/220-240/700 LT E	40	330	<sup>1)</sup>	<sup>1)</sup>

<sup>1)</sup> On request or in data sheet



# Installation and operating instructions



The diagram above shows the wiring for fixtures or fixture groups in 3-phase circuits and with a common neutral conductor. If the common neutral conductor is interrupted in a 3-phase star

configuration and voltage is present, then fixtures or groups of fixtures operated with electronic control gear may be exposed to unacceptably high voltages and the ECG itself may be destroyed.

### 3. ECG in 3-phase mode

Overtages/undervoltages/no neutral conductor

1. Check whether the line voltage is within the application range of the ECG (DC/AC range from 198 V to 254 V for example).
2. The line connection should only be made to the fixture terminal. For fixtures or groups of fixtures in 3-phase circuits.
3. Make absolutely sure that the neutral conductor is correctly connected to all the ECG fixtures and that it is making proper contact.
4. Cables should only be disconnected or connected when no voltage is present.
5. For 3x230/240 V supply networks in triangular circuit arrangements, protection by way of common disconnection of the phase conductor is necessary.

Important:

- In new systems the loads must not be connected when the insulation resistance is measured with 500 V DC, since according to VDE 0100 T600 Section 9 the test voltage is also applied between the neutral conductor (N) and all 3 external lines (L1, L2, L3). In existing systems it is sufficient, without disconnecting the loads, to conduct an insulation test between the external conductors (L1, L2, L3) and the protective earth (PE). The neutral conductor (N) and the protective earth (PE) must not be electrically connected in any way when this is done. For this insulation measurement (500 V DC to  $\oplus$ ) the neutral conductor disconnection terminal may only be opened with the line voltage switched off.
- Before the equipment is put into operation, make sure that the N conductor is correctly connected.
- During operation do not disconnect the N conductor under any circumstances.



# Installation and operating instructions

## 4. ECGs in emergency lighting systems with DC voltage

Permitted battery voltage	Upper limit	Lower limit <sup>1)</sup>
QUICKTRONIC® INTELLIGENT DALI...DIM	264 V	154 V
QUICKTRONIC® INTELLIGENT DIM	264 V	154 V
QUICKTRONIC® INTELLIGENT GII, DP	276 V	176 V
QUICKTRONIC® DIMMABLE (HF ... DIM)	264 V	154 V
QUICKTRONIC® PROFESSIONAL T5	276 V	176 V
QUICKTRONIC® PROFESSIONAL T8	276 V	154 V
QUICKTRONIC® PROFESSIONAL DL	276 V	176 V
QUICKTRONIC® PROFESSIONAL (D/E, T/E)	276 V	176 V
QUICKTRONIC® FIT T8	264 V	185 V
QUICKTRONIC® Professional Multiwatt	276 V	176 V
QUICKTRONIC® MULTIWATT®	264 V	176 V
QUICKTRONIC® ECONOMIC	254 V	176 V
DULUXTRONIC®	254 V	176 V
QUICKTRONIC® ENDURA S	290 V	176 V
HALOTRONIC® <sup>3)</sup>	275 V	176 V
OPTOTRONIC®	– <sup>4)</sup>	– <sup>4)</sup>
POWERTRONIC® <sup>2)</sup>	Not permitted for DC operation	
Switch-on times	Maintained Supply is switched from AC to DC	Non-maintained Emergency luminaires are switched on from cold
QUICKTRONIC® INTELLIGENT DALI...DIM	< 0.6 s	< 0.6 s
QUICKTRONIC® INTELLIGENT DIM	< 0.6 s	< 0.6 s
QUICKTRONIC® INTELLIGENT GII, DP	< 0.3 s	< 1 s
QUICKTRONIC® DIMMABLE (HF ... DIM)	< 0.6 s	< 0.6 s
QUICKTRONIC® PROFESSIONAL T5	< 0.3 s	< 1 s
QUICKTRONIC® PROFESSIONAL T8	< 0.5 s	< 2 s
QUICKTRONIC® PROFESSIONAL DL	< 1.0 s	< 1 s
QUICKTRONIC® PROFESSIONAL DL55 GII	< 0.3 s	< 1 s
QUICKTRONIC® PROFESSIONAL D/E	< 1 s	< 1 s
QUICKTRONIC® PROFESSIONAL T/E	< 0.3 s	< 1 s
QUICKTRONIC® FIT T8	< 0.5 s	< 1 s
QUICKTRONIC® Professional Multiwatt	< 0.3 s	< 1 s
QUICKTRONIC® MULTIWATT®	< 0.5 s	< 1 s
QUICKTRONIC® ECONOMIC	< 0.5 s	< 2 s
DULUXTRONIC®	< 0.5 s	< 2 s
QUICKTRONIC® ENDURA S	< 0.5 s	< 0.5 s
HALOTRONIC® <sup>3)</sup>	< 0.5 s	< 0.5 s
OPTOTRONIC®	– <sup>4)</sup>	– <sup>4)</sup>
POWERTRONIC® <sup>2)</sup>	–	–

1) The lamps must be ignited at over 198 V however

2) If POWERTRONIC® is switched on from cold, it takes 1 to 2 minutes for the lamp to reach 70% of the luminous flux

3) For suitable types see page 9.50

4) See data sheet for control gear

## 5. Power factor/compensation

The power factor  $\lambda$  for an electrical load is the ratio of the effective power ( $P_{\text{eff}} = \text{voltage} \times \text{effective current}$ ) to the apparent power ( $P_{\text{app}} = \text{voltage} \times \text{current}$ ). This value is affected both by the phase displacement  $\cos \varphi$  between the current and the voltage and by the current distortion  $\varepsilon$ .

$$\lambda = \frac{P_{\text{eff}}}{P_{\text{app}}} = \varepsilon \cdot \cos \varphi$$

In contrast to CCGs (inductive, 50 Hz), there is hardly any phase displacement ( $\cos \varphi = 0.95$ ) with ECG (high frequency) so compensation is not required.

However distortion in the sine-wave current supply occurs during operation of electronic control gear. Generally speaking, these distortions are classified by integer multiples of the line frequency (harmonics). The harmonic content of the line current is strictly controlled by national and international standards (IEC 61000-3-2).

OSRAM ECGs have integrated active electronic harmonic filters for this purpose, which ensure a value for  $\varepsilon$  of more than 0.95 and therefore a power factor  $\lambda$  greater than 0.9 (exceptions are indicated).

# Installation and operating instructions

## 6. Permissible cable lengths

### QUICKTRONIC®:

When ECGs are used in fixtures the cables, if correctly routed within the fixtures, produce little interference. When ECGs are used in master/slave circuits the maximum permissible cable length between the ECG and the lamp must not be exceeded.

### HALOTRONIC®:

The maximum 12 V cable length must be less than 2 m to comply with radio interference limit values. This means that fixtures can be installed within a radius of 4 m around HALOTRONIC®. The recommended minimum cross-section is 1 mm<sup>2</sup>.

### Cable routing:

The supply cable should not be routed alongside the HALOTRONIC® casing nor alongside the high-frequency 12 V secondary cable. This avoids high-frequency interference on the supply cable.

Instruments for measuring the secondary voltage: An instrument for measuring the secondary voltage must be a true RMS meter and have a bandwidth greater than or equal to 250 kHz (-3 dB). Any other instrument will give false readings.

### OPTOTRONIC®:

The maximum cable length between OPTOTRONIC® and the LED module depends on the type of cable, the currents carried, compliance with radio interference limit values and how the cable is routed. The following maximum cable lengths can be used as guidelines:

<b>OPTOTRONIC® control gear – 12V</b>	
OTe 120/220-240/12 P	10 m
OTe 15/220-240/12 P	10 m
OTe 30/220-240/12 P	10 m
OTe 60/220-240/12 P	10 m
<b>OPTOTRONIC® control gear – 24V</b>	
OT 75/220-240/24 E	10 m
OT 8/200-240/24	10 m
OT 20/120-240/24 S	10 m
OT 20/220-240/24	10 m
OT 6/200-240/24 CE	10 m
OT 75/220-240/24	10 m
OT 80/220-240/24 P	10 m
OT 120/220-240/24 P	10 m
OT 240/220-240/24 P	10 m
<b>OPTOTRONIC® control gear – 350mA</b>	
OT 9/200-240/350 DIM	10 m
OT 42/220-240/350 E	2 m
OT 9/200-240/350	10 m
OTe 13/220-240/350 SD	5 m
OTe 25/220-240/2x350	5 m
OTe 90/220-240/4x350 E	10 m
<b>OPTOTRONIC® control gear – 500mA</b>	
OT 42/220-240/500 E	2 m
OTe 90/220-240/4x500 E	10 m

<b>OPTOTRONIC® control gear – 700mA</b>	
OT 18/200-240/700 DIM	10 m
OT 90/220-240/700 LT E	2 m
OT 42/220-240/700 E	2 m
OTe 35/220-240/700	2 m
<b>OPTOTRONIC® control gear – 1-10V interface</b>	
OT 80/220-240/24 DIM P	10 m
OT 120/220-240/24 DIM P	10 m
OT 240/220-240/24 DIM P	10 m
<b>OPTOTRONIC® control gear – DALI/3DIM</b>	
OT DALI 75/220-240/24	10 m
OT 65/220-240/24 3DIM E	10 m
OT 150/220-240/700 3DIMLT E	2 m
OT 50/220-240/700 3DIMLT E	2 m
OT 90/220-240/700 3DIMLT E	2 m
OT 90/220-240/700 LT E	2 m
OT DALI 45/220-240/700 LTCS	2 m
<b>OPTOTRONIC® control gear – LEDset</b>	
OT 35/220-240/700 LTCS	2 m
OT 45/220-240/700 LTCS	2 m
OT 150/220-240/700 LT E	2 m
OT 90/220-240/700 LT E	2 m
OT 50/220-240/700 LT E	2 m

### Cable routing:

For reasons of interference suppression, the power cable should not be laid parallel to the casing and/or the secondary cable. This will avoid high-frequency coupling effects.

Measurement of the secondary voltage: standard multimeters with appropriate accuracy can be used.

### POWERTRONIC®:

The maximum cable lengths between the lamp and POWERTRONIC® depend on the type of cable and how it is routed. The following maximum cable lengths can be used as guidelines:

	Max. cable length for AC operation
PTo 35/220-240	1.5 m
PTo 50/220-240 3DIM	1.5 m
PTo 70/220-240 3DIM	1.5 m
PTo 100/220-240 3DIM	1.5 m
PTo 150/220-240 3DIM	1.5 m
PTi 20/220-240 S/B	0.5 m
PTi 20/220-240 I	1.5 m
PTi 35/220-240 S/B MINI	0.5 m
PTi 35/220-240 S/I/B	1.5 m
PTi 35/220-240 SNAP	1.5 m
PTi 2x35/220-240 S/I	1.5 m
PTi 70/220-240 S/I/B	1.5 m
PTi 70/220-240 SNAP	1.5 m
PTi 2x70/220-240 S/I	1.5 m
PTi 100/220-240 S/I	1.5 m
PTi 150/220-240 S/I	1.5 m
PT-FIT 35/220-240 S/I/B	1.5 m
PT-FIT 50/220-240 S/I/B	1.5 m
PT-FIT 70/220-240 S/I/B	1.5 m
PTg 1000/400	0.8 m



# Installation and operating instructions

## 7. Faults in infrared control/transmission systems

Fluorescent lamps have an emission in the wavelength range which is also used for infrared transmission and which can be affected by the lamp. Since the IR receivers used are largely non-selective, interference may occur in the IR system. The operating frequency of the ECGs is between 20 and 120 kHz. The light emitted from the fluorescent lamp is modulated at twice the operating frequency. Interference is produced by signals in the same frequency range.

Exception: Interference is not expected with POWERTRONIC®, HALOTRONIC® or OPTOTRONIC®.

### IR remote control:

Systems operating at a sufficiently high carrier frequency (400 to 1500 kHz) are unlikely to suffer interference.

### Sound transmission:

Up to now the carrier signal frequency for sound transmission has been 95 kHz and higher, which has led to serious disturbance from the 3rd, 5th and 7th harmonics of the ECG operating frequency (20 to 120 kHz in normal operation and up to 100 kHz with dimming). Headphone manufacturers have adopted higher and higher frequencies such as 2.3 MHz and 2.8 MHz.

Simultaneous interpreting systems also operate in the 95 kHz to 250 kHz range so it is best not to use the first six transmission channels, particularly channel 1, of the 32 available channels since these are likewise affected by the harmonics of the basic ECG frequencies.

### High-frequency ripple control:

The carrier frequencies used are around 120 kHz. Transmission can be adversely affected by radio interference suppression capacitors which are included in all ECGs and other electronic loads, such as the power supplies of PCs.

### Paging systems:

Generally only HF paging systems (operating in the MHz range) should be used. If inductive paging systems are used (25 to 40 kHz) reliable operation is not possible.

### Electronic merchandise security systems:

In many shops nowadays, merchandise such as DVDs, hi-fi equipment and clothing is protected against theft by electronic security systems.

These systems typically operate with resonance frequencies in the kHz range (e.g. a pulse is emitted which causes an amorphous metal in the security tag to resonate; one of the largest suppliers uses a security system that operates at 58 kHz).

In unfavorable conditions, these systems may suffer from interference if the operating frequency is between 30 kHz and 150 kHz. Such interference can be eliminated by increasing the distance between the fixture and the transmitting/receiving system and by using fixtures with metallic louvers.

## 8. Dimming mode

- a) QUICKTRONIC® units that can be dimmed have the letters ...DIM in their references. They are dimmed via the 1-10 V interface (QTi-...DIM), or via the DALI interface (QTi DALI ... DIM) or via Touch DIM® (also with QTi DALI ... DIM), see p. 10.13 ff. For special technical data, such as wiring and associated control components, please refer to the technical guide for QUICKTRONIC® DALI/DIM. Allow new lamps to burn in for 100 hours at 100% luminous flux since only after this time will they exhibit stable values. A master/slave circuit (one ECG for two separate fixtures with wiring) is not permitted for dimmable ECGs.
- b) HALOTRONIC® can be controlled with various dimmers (see page 9.49) or dimming modules (see page 9.53). Since the interface between the dimmer and the electronic transformer is not standardized, there may be malfunctions in individual cases.
- c) POWERTRONIC® Pto 3 DIM units enable metal halide lamps with ceramic burners and also sodium vapor lamps to be dimmed. Dimming is performed via the DALI interface, StepDIM 2-stage phase control or autonomously via the internal AstroDIM control system of the ECG. Details on dimming HID lamps can be found in "Technical information on power reduction for high-intensity discharge lamps" (www.osram.com).
- d) OPTOTRONIC® ECGs offer the following interfaces for dimming: 1-10 V, DALI, leading-edge/trailing-edge phase dimmers and 3DIM. The minimum dimming value depends on the type of device. In addition, some ECGs offer the option of operating MULTIS sensors directly on the device. Constant voltage LED ECGs can be expanded with appropriate DIM modules (p. 9.74).

## 9. Fixtures with ECGs

The following general points apply to fixtures with electronic control gear:

- a) The temperature limits of the ECGs as regards ambient temperature and measuring point temperature on the ECG must not be exceeded (see 10. Ambient and ECG temperatures).
- b) The maximum permissible radio interference suppression values (EN 55015) must not be exceeded. Make sure the protective conductor and the function earth are correctly connected. Running the lamp cables and protective conductor together (e.g. NYM cables) may lead to problems due to high-frequency interference.
- c) After being installed or replaced, the lamps must be burned in at full load for 100 hours to stabilize the discharge process.





# Installation and operating instructions

## 10. Ambient and ECG temperatures

The temperature ranges specified for the relevant control gear must be maintained to enable the ECG to operate reliably. Generally speaking, lower operating temperatures can extend the life of ECGs. When ECGs are built into fixtures the measuring point temperature  $t_c$  on the casing is the crucial parameter. The maximum permissible value specified for the ECG concerned must not be exceeded.

## 11. ECGs for outdoor fixtures

Electronic control gear has been developed for indoor use (IP 20).

ECGs for high-intensity discharge lamps (PTo) and devices for LED modules (OT...E and OT...P) have been designed specifically for outdoor applications. They are specially equipped for such applications; for example they are protected against moisture, AC voltage peaks and vibrations (wind load, rail vehicles). When using ECGs in outdoor fixtures it must be remembered that the ECG may be exposed to humidity.

1. For fixtures of protection type 5 (protected against water jets, IP65 for example) standard ECGs can be used since moisture cannot penetrate this type of fixture, so there is little chance of ECG corrosion.
2. For fixtures of protection type 3 (protected against splash water, IP43 for example) it is likely that water droplets will penetrate and thus cause corrosion and failure of unprotected standard ECGs. In cases of doubt (e.g. bollard luminaires, outdoor displays), additional protective measures should be taken such as using OUTKIT (see page 9.54).

## 12. Wiring of ECGs

Parallel connection of HALOTRONIC® and OPTOTRONIC® (with the exception of OT 75/220-240/24 [E], OTe 90/220-240/4x350 E and OTe 90/220-240/4x500 E) is not permitted on the secondary side. Series connection of HALOTRONIC® and OPTOTRONIC® to increase the voltage or for voltage matching is not permitted on the secondary side, unless specifically indicated in the data sheet. Lamp-side switching or dimming is not permitted. The only permitted loads for electronic transformers are low-voltage halogen lamps. For details see the Technical Guides.

## 13. Life and reliability of ECGs

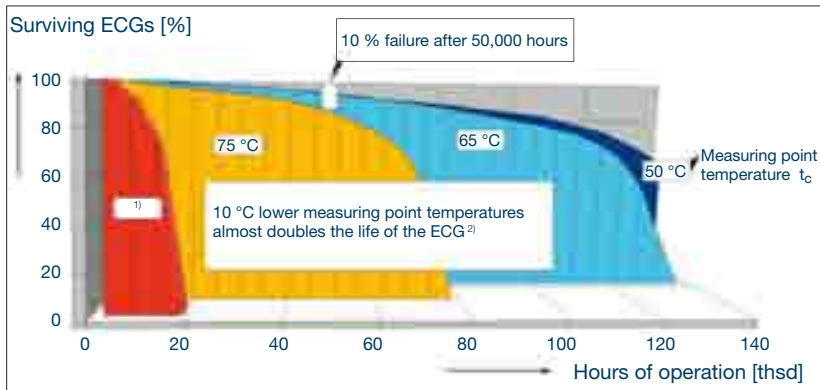
The failure rate of electronic components depends not only on the component specification and quality but also very considerably on the operating temperature. OSRAM's ECGs are designed so that at the maximum permissible ECG temperature ( $t_c$  max.) a failure rate of fewer than 2 per thousand ECGs per 1000 hours of operation can be expected. This corresponds to an ECG life of 50,000 hours at a percentage ECG failure rate of 10%. In actual practice it can be assumed that at a temperature 10°C less than the maximum permitted temperature ( $t_c$ ) the life of an ECG is doubled.

The following have different lifetimes:

1. up to 30,000 hours for QUICKTRONIC® QT-ECO and DULUXTRONIC®, HALOTRONIC® HTM MOUSE® and HTN at a failure rate of < 10%
2. up to 60,000 hours for QT ENDURA at a failure rate of < 10%
3. up to 30,000, 50,000 or 85,000 hours for OPTOTRONIC® depending on version at a failure rate of < 10%
4. up to 60,000 hours for POWERTRONIC® PTo at a failure rate of < 8%, up to 40,000 hours for POWERTRONIC® PTi at a failure rate of < 10%, up to 30,000 hours for POWERTRONIC® PT-FIT at a failure rate of < 10%

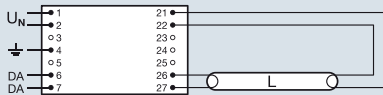
Subject to change without notice. Errors and omission excepted. This catalog information supersedes all previous information.

Special applications, such as operation in corrosive atmospheres, strong vibrations, impermissible voltage conditions etc., may necessitate further protection measures.

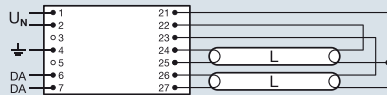


1) If the maximum permissible temperature at the  $t_c$  point is exceeded the failure rate may increase dramatically.  
2) For more precise information please refer to the product data sheet

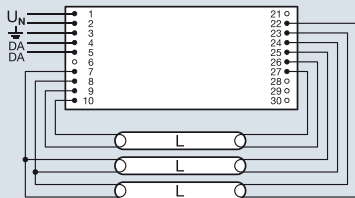
## Wiring diagrams for dimmable (DALI) ECGs



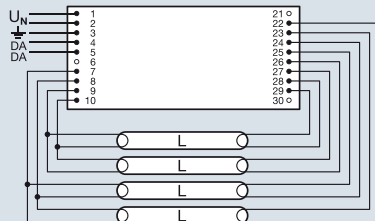
QTi DALI 1x14/24 DIM, QTi DALI 1x21/39 DIM,  
 QTi DALI 1x28/54 DIM, QTi DALI 1x35/49/80 DIM,  
 QTi DALI 1x18 DIM, QTi DALI 1x36 DIM,  
 QTi DALI 1x58 DIM



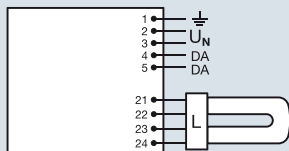
QTi DALI 2x14/24 DIM, QTi DALI 2x21/39 DIM,  
 QTi DALI 2x28/54 DIM, QTi DALI 2x35/49 DIM,  
 QTi DALI 2x35/49/80 DIM, QTi DALI 2x18 DIM,  
 QTi DALI 2x36 DIM, QTi DALI 2x58 DIM



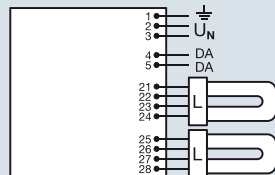
QTi DALI 3x14/24 DIM  
 QTi DALI 3x18 DIM



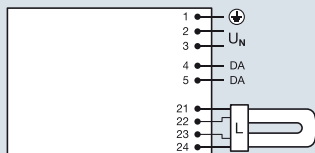
QTi DALI 4x14/24 DIM  
 QTi DALI 4x18 DIM



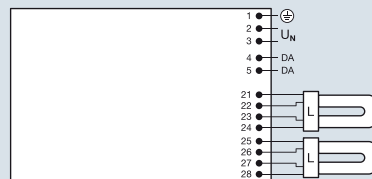
QTi DALI-T/E 1x18-57 DIM



QTi DALI-T/E 2x18-42 DIM

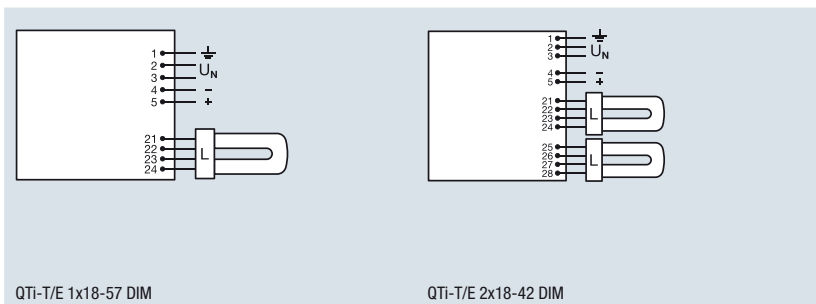
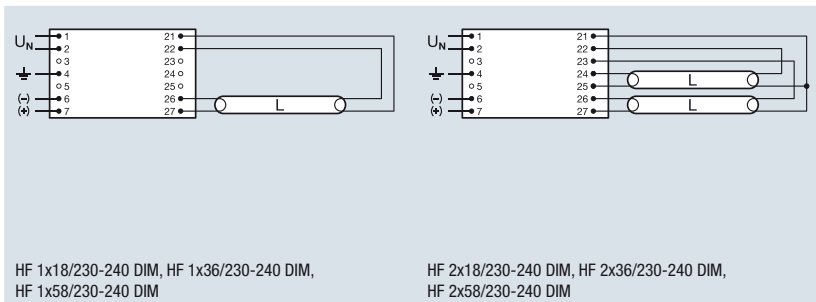
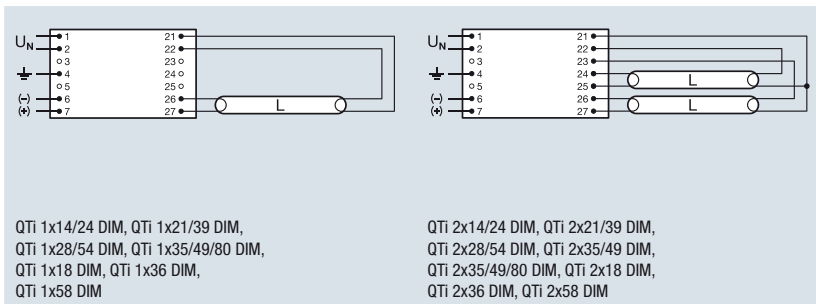
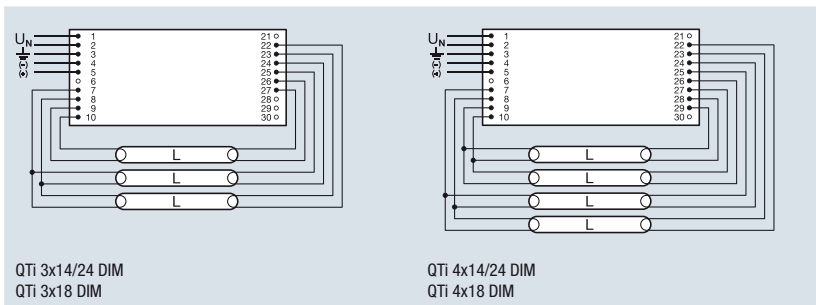


QT DALI-T/E 1x14-17 DIM HE

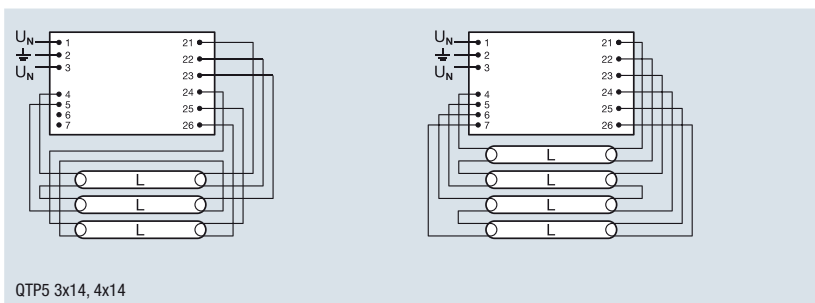
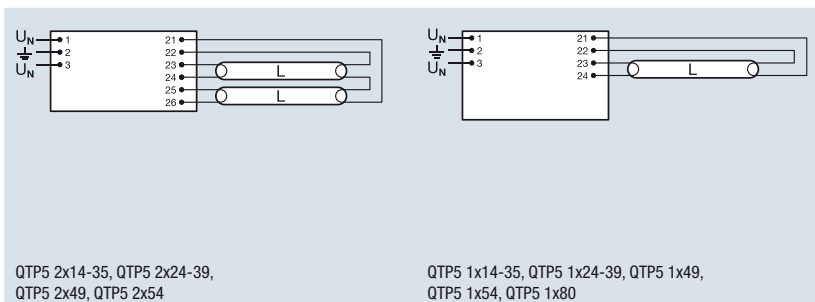
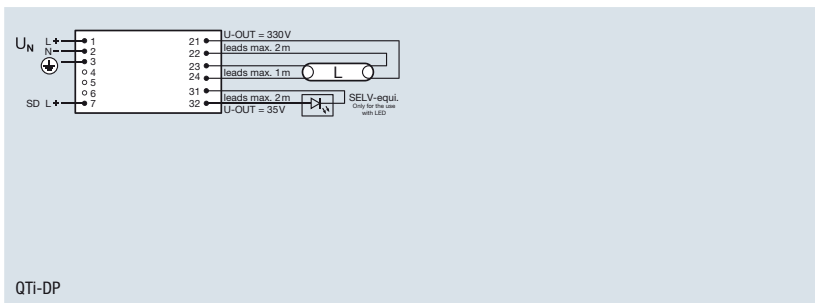
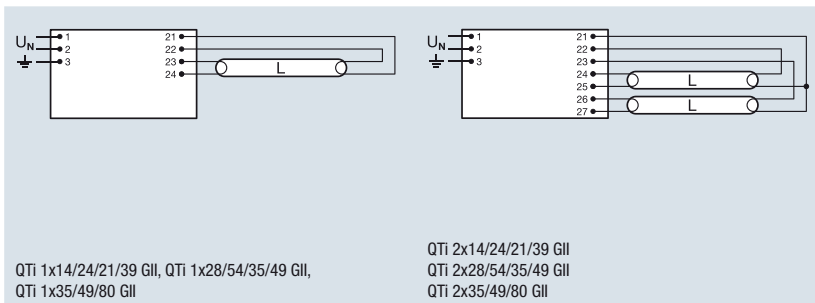


QT DALI-T/E 2x14-17 DIM HE

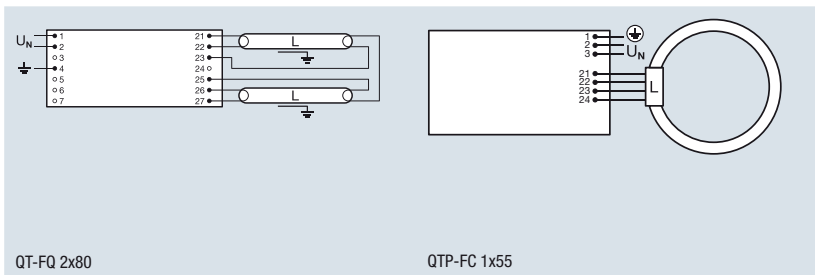
# Wiring diagrams for dimmable (1-10 V) ECGs



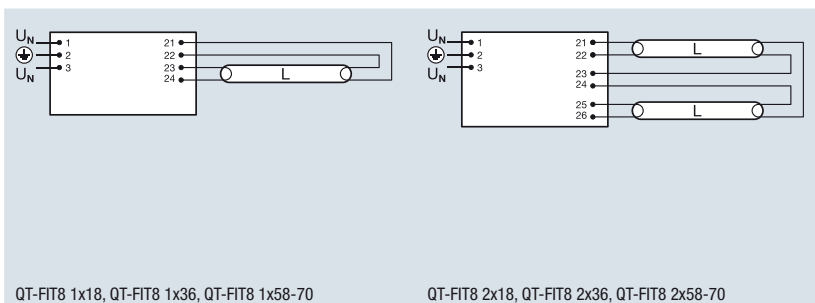
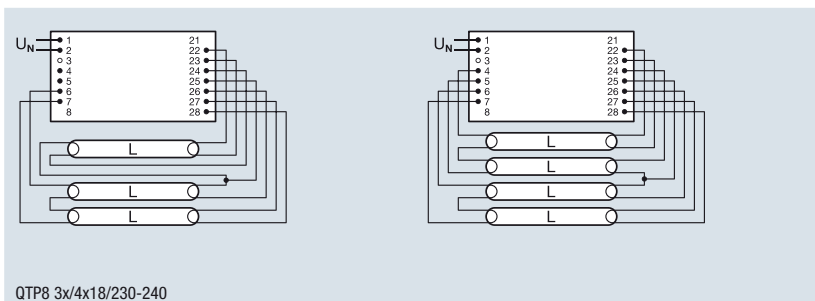
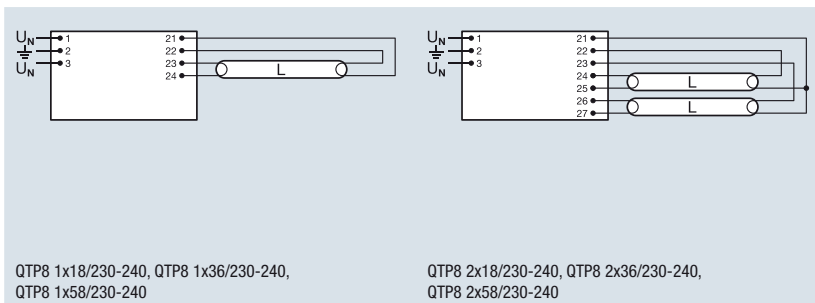
## Wiring diagrams for non-dimmable (T5) ECGs



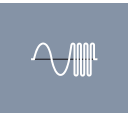
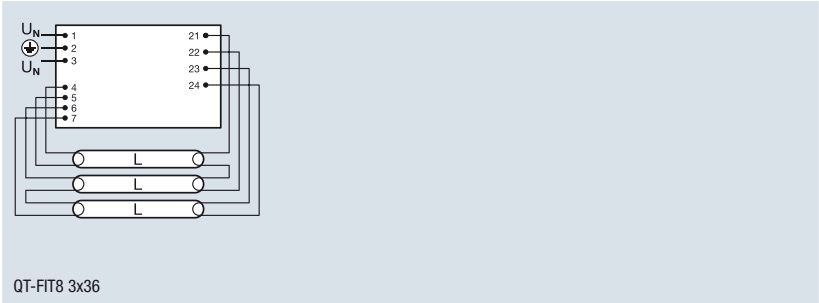
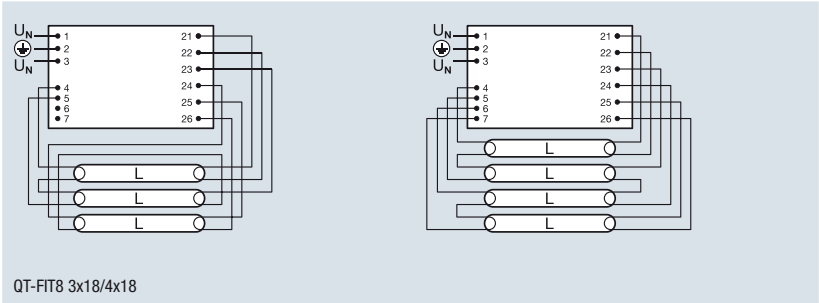
## Wiring diagrams for non-dimmable (T5) ECGs



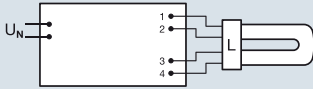
## Wiring diagrams for non-dimmable (T8) ECGs



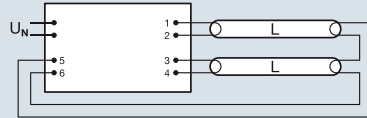
# Wiring diagrams for non-dimmable (T8) ECGs



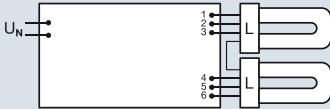
## Wiring diagrams for non-dimmable (CFL) ECGs



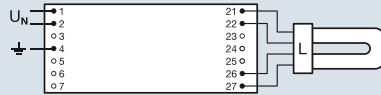
QT-ECO 1x18-21/220-240 S, QT-ECO 1x18-24/220-240 L,  
 QT-ECO 1x18-24/220-240 S, QT-ECO 1x26/220-240 S,  
 QT-ECO 1x4-16/220-240 L, QT-ECO 1x4-16/220-240 S



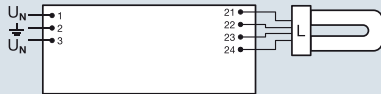
QT-ECO 2x5-11/220-240 S



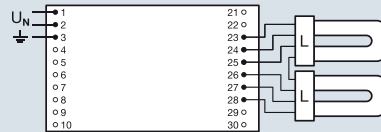
QT-ECO T/E 2x18/220-240  
 QT-ECO T/E 2x26/220-240



QTP-DL 1x18-24  
 QTP-DL 1x36-40



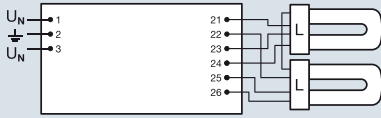
QTP-DL 1x55 GII



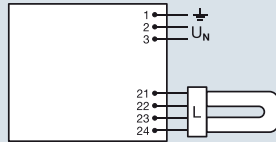
QTP-DL 2x18-24  
 QTP-DL 2x36-40



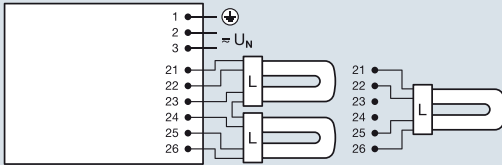
# Wiring diagrams for non-dimmable (CFL) ECGs



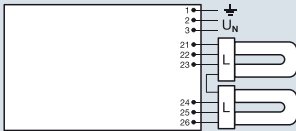
QTP-DL 2x55 GII



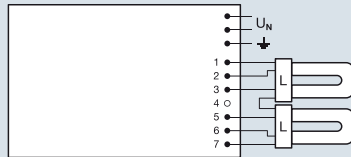
QTP-D/E 1x10-13



QTP-T/E 1x26-42, 2x26  
QTP-T/E 1x18, 2x18



QTP-D/E 2x10-13

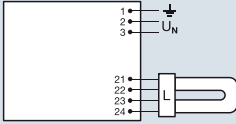


QT-M 2x26-42/220-240 S

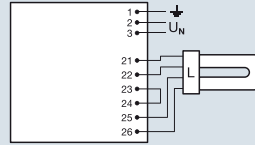
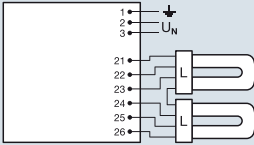




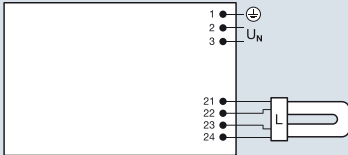
# Wiring diagrams for non-dimmable (CFL) ECGs



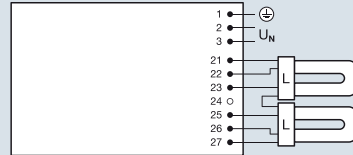
QTP-M 1x26-42 S



QTP-M 2x26-32 S



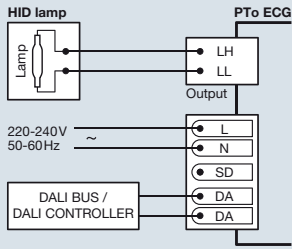
QT-T/E 1x14-17 HE



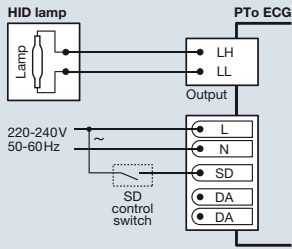
QT-T/E 2x14-17 HE



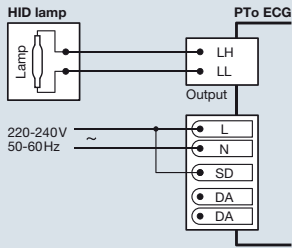
# Wiring diagram for PTo ... 3DIM



With DALI control signal



In StepDIM mode



In AstroDIM mode



## Overview of ECGs (cable lengths in meters, wiring by PIN)

		Wiring								Type					
		sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27						
<b>QUICKTRONIC® INTELLIGENT DALI/1-10 V interface</b>															
QTi (DALI) 1x14/24 DIM	21-27	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 1x18 DIM	21-24	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 1x21/39 DIM	21-24	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 1x28/54 DIM	21-24	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 1x35/49/80 DIM	21-24	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 1x36 DIM	21-24	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 1x58 DIM	21-24	1.5	1.5	-	-	-	1	1		W1					
QTi (DALI) 2x14/24 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x18 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x21/39 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x28/54 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x35/49 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x36 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x58 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
QTi (DALI) 2x35/49/80 DIM	21-27	1.5	1.5	1.5	1	1	1	1		W1					
<b>Wiring</b>															
		sequence	PIN 7	PIN 8	PIN 9	PIN 10	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	PIN 29	Type
<b>QUICKTRONIC® (DALI)</b>															
QTi (DALI) 3x18 DIM	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-	W1	
QTi (DALI) 4x18 DIM	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	W1	
QTi (DALI) 3x14/24 DIM	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-	W1	
QTi (DALI) 4x14/24 DIM	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	W1	
<b>Wiring</b>															
		sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type				
<b>QUICKTRONIC® DALI/1-10 V interface for T/E (T4/Ø 12 mm) fluorescent lamps</b>															
QTi (DALI)-T/E 1x18-57 DIM	21-24	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	W				
QTi (DALI)-T/E 2x18-42 DIM	21-28	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	W				
<b>Wiring</b>															
		sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	Type					
<b>QUICKTRONIC® INTELLIGENT</b>															
QTi 1x14/24/21/39 GII	21-24	2	2	1	1	-	-	-		W1					
QTi 1x28/54/35/49 GII	21-24	2	2	1	1	-	-	-		W1					
QTi 1x35/49/80 GII	21-24	2	2	1	1	-	-	-		W1					
QTi 2x14/24/21/39 GII	21-27	2	2	2	1	1	1	1		W1					
QTi 2x28/54/35/49 GII	21-27	2	2	2	1	1	1	1		W1					
QTi 2x35/49/80 GII	21-27	2	2	2	1	1	1	1		W1					
QT-FQ 2x80	21-27	0.5	0.5	0.5	-	1.5	1.5	1.5		W1					



# Overview of ECGs (cable lengths in meters, wiring by PIN)

	Wiring									Type		
	sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27				
<b>QUICKTRONIC® DE LUXE DIMMABLE</b>												
HF 1x18/230-240 DIM	21-27	2	2	-	-	-	1.5	1.5		W		
HF 1x36/230-240 DIM	21-27	2	2	-	-	-	1.5	1.5		W		
HF 1x58/230-240 DIM	21-27	2	2	-	-	-	1.5	1.5		W		
HF 2x18/230-240 DIM	21-27	2	2	2	1.5	1.5	1.5	1.5		W		
HF 2x36/230-240 DIM	21-27	2	2	2	1.5	1.5	1.5	1.5		W		
HF 2x58/230-240 DIM	21-27	2	2	2	1.5	1.5	1.5	1.5		W		
<b>QUICKTRONIC® for T5 lamps</b>												
QTP5 1x14-35	21-24	2	2	1	1	-	-	-		W1		
QTP5 2x14-35	21-24	2	2	1	1	2	2	-		W1		
QT-FQ 2x80	21-27	0.5	0.5	0.5	-	1.5	1.5	1.5		W1		
QTP5 1x24-39	21-24	2	2	1	1	-	-	-		W1		
QTP5 1x49	21-24	2	2	1	1	-	-	-		W1		
QTP5 1x54	21-24	2	2	1	1	-	-	-		W1		
QTP5 1x80	21-24	2	2	1	1	-	-	-		W1		
QTP5 2x24-39	21-26	2	2	1	1	2	2	-		W1		
QTP5 2x49	21-26	2	2	1	1	2	2	-		W1		
QTP5 2x54	21-26	2	2	1	1	2	2	-		W1		
<b>Wiring</b>												
	sequence	PIN 4	PIN 5	PIN 6	PIN 7	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	Type
QTP5 3x14, 4x14	-	1.5	1.5	1	1	1.5	1.5	1.5	1.5	1	1	W1
<b>Wiring</b>												
	sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type		
<b>QUICKTRONIC® PROFESSIONAL</b>												
QTP8 1x18/230-240	21-24	3	3	1.5	1.5	-	-	-	-	W1		
QTP8 1x36/230-240	21-24	3	3	1.5	1.5	-	-	-	-	W1		
QTP8 1x58/230-240	21-24	3	3	1.5	1.5	-	-	-	-	W1		
QTP8 2x18/230-240	21-27	3	3	3	1.5	1.5	1.5	1.5	-	W1		
QTP8 2x36/230-240	21-27	3	3	3	1.5	1.5	1.5	1.5	-	W1		
QTP8 2x58/230-240	21-27	3	3	3	1.5	1.5	1.5	1.5	-	W1		
QTP8 3x18/4x18/230-240 <sup>1)</sup>	21-31	1	1	1.5	1.5	1.5	1.5	1.5	1.5	W1		
<b>QUICKTRONIC® FIT 8</b>												
QT-FIT8 1x18	21-24	2	2	1	1	-	-	-	-	-		
QT-FIT8 1x36	21-24	2	2	1	1	-	-	-	-	-		
QT-FIT8 1x58-70	21-24	2	2	1	1	-	-	-	-	-		
QT-FIT8 2x18	21-27	2	2	1.5	1.5	1	1	-	-	-		
QT-FIT8 2x36	21-26	2	2	1.5	1.5	1	1	-	-	-		
QT-FIT8 2x58-70	21-26	2	2	1.5	1.5	1	1	-	-	-		
<b>Wiring</b>												
	sequence	PIN 4	PIN 5	PIN 6	PIN 7	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	Type
QT-FIT8 3x18, 4x18	-	1.5	1.5	1	1	1.5	1.5	1.5	1.5	1	1	-
QT-FIT8 3x36	-	2	2	2	2	2	2	1	1	-	-	-



For the latest data go to [www.osram.com](http://www.osram.com)  
 1) PIN 29, 30, 31: 1.5 m

M:  
 W:  
 W1:  
 W2:

Type Metalluk  
 Type WAGO 250  
 Type WAGO 251 mini  
 Type WAGO 251

# Overview of ECGs (cable lengths in meters, wiring by PIN)

## Tender documents

	Wiring sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type
<b>QUICKTRONIC® for compact fluorescent lamps</b>										
QTP-DL 1x18-24	21-27	1	1	-	-	-	2	2	-	W1
QTP-DL 1x36-40	21-27	1	1	-	-	-	2	2	-	W1
QTP-DL 1x55 GII	21-27	2	2	1	1	-	-	-	-	W1
QTP-DL 2x18-24	21-30	-	-	1	1	1	1	2	2	W1
QTP-DL 2x36-40	21-30	-	-	1	1	1	1	2	2	W1
QTP-DL 2x55 GII	21-27	1	1	2	2	1	1	-	-	W1
QTP-D/E 1x10-13	21-24	2	2	1	1	-	-	-	-	W
QTP-D/E 2x10-13	21-26	2	2	2	2	1	1	-	-	W
QTP-T/E 1x18, 2x18, QTP-T/E 1x26-42, 2x26	21-26	2	2	2	2	1	1	-	-	W
<b>Wiring</b>										
	sequence	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	Type
<b>QUICKTRONIC® for compact fluorescent lamps</b>										
QTP-M 1x 26-42 S	21-24	2	2	1	1	-	-	-	-	W
QTP-M 2x 26-32 S	21-26	2	2	2	2	1	1	-	-	W
QT-M 2x26-42/220-240	1-7	2	2	2	-	2	1	1	-	M
QTP-FC 1x55	21-24	2	2	1	1	-	-	-	-	W
<b>QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps</b>										
QT-ECO 1x4-16	1-4	1	1	0.5	0.5	-	-	-	-	W
QT-ECO 1x18-21	1-4	1	1	0.5	0.5	-	-	-	-	W
QT-ECO 1x18-24	1-4	1	1	0.5	0.5	-	-	-	-	W
QT-ECO 1x26	1-4	1	1	0.5	0.5	-	-	-	-	W
QT-ECO 2x5-11	1-6	1	1	1	1	0.5	0.5	-	-	W
QT-ECO T/E 2x18	1-6	1	1	1	1	0.5	0.5	-	-	W
QT-ECO T/E 2x26	1-6	1	1	1	1	0.5	0.5	-	-	W
<b>QUICKTRONIC® for T2 (FM) lamps</b>										
QT-ECO FM 1x6-8	1-4	1	1	0.5	0.5	-	-	-	-	W
QT-ECO FM 1x11-13	1-4	1	1	0.5	0.5	-	-	-	-	W

### Tender documents

The tender documents are available in PDF format at <http://www.osram.com/ecg-tender>



For the latest data go to [www.osram.com](http://www.osram.com)

M:1 Type Metalluk  
S:1 Stelvio MRT15  
W:1 Type WAGO 250  
W1: Type WAGO 251 mini  
W2: Type WAGO 251



# Light management systems

Light management systems from OSRAM – simple, complete, innovative	10.02
Stand-alone sensors: starting point for energy-saving lighting control	10.03
SOLAR	10.04
Switch RC	10.04
HIGH BAY	10.05
VISION	10.06
DIM MULTI	10.07
DUO	10.08
WALL Switch	10.09
OUTDOOR	10.10
DIM MICO	10.11
DIM PICO	10.12
Touch DIM®: lighting control without a controller and dimming without a control line	10.13
Touch DIM® RC	10.14
Touch DIM® RMC	10.14
Touch DIM® WCU	10.15
Touch DIM® LS/PD LI	10.15
Touch DIM® LS LI	10.16
Touch DIM® PD LI 2P WOS	10.16
MULTIeco: clever system for single and group workplaces	10.17
DALI MULTIEco	10.18
DIM MULTIEco	10.19
MULTIEco	10.20
LS/PD MULTI 3	10.20
LS/PD MULTI 3 A	10.21
LS/PD MULTI 3 B	10.22
LS/PD MULTI 3 FL	10.22
LS/PD MULTI 3 CI	10.23
DALIEco: intelligent and powerful light management system for lighting groups in small, medium and large rooms	10.24
DALIEco Control	10.25
DALIEco LS/PD LI	10.26
Master Remote	10.26

EASY Color Control: lighting control for static and dynamic illumination	10.27
DALI EASY SO	10.29
DALI EASY III	10.30
OT EASY 60 II	10.30
OT EASY 32 CC	10.31
EASY DMX SO	10.32
EASY Touch Panel	10.33
EASY Hybrid Remote	10.33
EASY Color Drive	10.34
EASY RMC	10.34
EASY PB Coupler	10.35
EASY SYS CP	10.35
EASY PC KIT	10.36
EASY RC	10.36
EASY IR	10.37
EASY IR CI	10.37
DALI	10.38
MCU: simple manual dimming solutions	10.40
DALI MCU	10.41
DIM MCU	10.41
DALI BASIC: multifunctional lighting control for single rooms	10.42
DALI RC BASIC SO	10.43
DALI WCU 5 BASIC	10.43
DALI LS/PD BASIC	10.44
DALI PROFESSIONAL: flexible light management system for large rooms and multiroom solutions	10.45
DALI PRO CONT-4	10.46
DALI PRO Sensor Coupler	10.47
DALI PRO PB Coupler	10.47
E-BUS DALI Gateway	10.48
DALI PRO Touch Panel	10.48
Glass Touch 6	10.49
Glass Touch 12	10.49
Glass Touch 6 TW	10.50
ENCELIUM – the holistic light management system for intelligent buildings	10.51
IQ Light Control: light management for the home	10.52
LMS components: non-system-specific components from OSRAM	10.53
DALI REP LI	10.54
DALI REP SO	10.55
DMX ISOLATED REP	10.55
DIM SA	10.56
DALI CON 1...10 LI	10.56
DALI CON 1...10 SO	10.57
DMX CON DALI SO	10.57
DALI Switch SO	10.58
Power Supply PS 30	10.58
DALI magic	10.59
Y-CONNECTOR	10.60
Y-CONNECTOR SCREW	10.60
CONNECTION CABLES	10.61
HIGH TEMPERATURE CONNECTION CABLES	10.61
LMS CI BOX	10.62
SENSOR KIT	10.62
Mounting Adapter	10.63
ECO CI KIT	10.63

## Light management systems from OSRAM – simple, complete, innovative

The right light in the right amount at the right place and at the right time promotes our sense of well-being and stimulates us to be active. In addition to the technical and architectural aspects, light management systems (LMS) therefore play an important role in the holistic approach to planning high-quality lighting systems.

Light management systems detect and control different lighting levels and color mixes, so they give lighting a dynamic dimension. Automatic changes to the amount, color and direction of the light means that the lighting system can be controlled on the basis of demand – from daylight-dependent control and dynamic lighting applications to pushbutton selection of different lighting scenes.

Light management solutions can bring the demands for comfort and energy savings into perfect harmony. Users can adjust the lighting level themselves at any time to suit their specific needs. At the same time, the lighting system can be faded up or down automatically depending on the amount of available daylight, leading to enormous energy saving potential.



Light management products from OSRAM provide the ideal basis for innovative tailor-made lighting concepts – from a simple individual luminaire to complex and large-area solutions. Thanks to our many years of experience and in-depth technical know-how, our wide-ranging product portfolio meets the requirements in many different areas of applications.





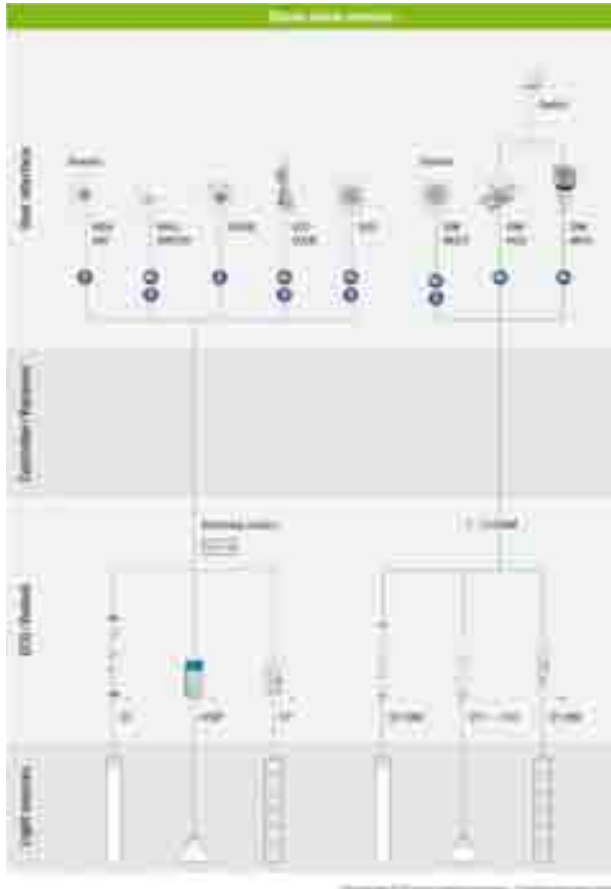
## Stand-alone sensors: starting point for energy-saving lighting control

Sensors provide the basis for energy-saving daylight-dependent and motion/presence-dependent lighting. With motion/presence sensors the incident daylight is measured and if necessary supplemented with artificial light. The lighting system is switched on only if persons are present in the room. Using sensors can therefore achieve energy savings of up to 70%\*.

### Applications

- Offices: single and group workplaces
- Waiting rooms and conference rooms
- Corridors and foyers
- Private living spaces
- Hotel rooms
- Shops and premises
- Toilets and washrooms
- Factories and warehouses

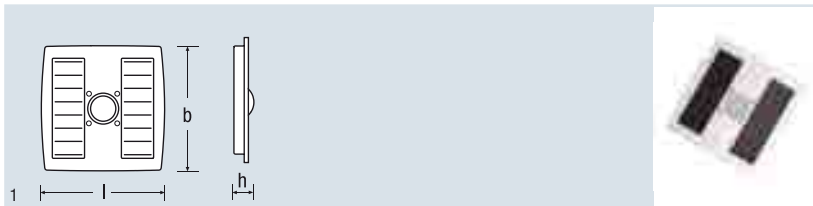
### Overview of sensors









\* Compared with conventional systems: T8 lamp, conventional control gear, no sensors



## SOLAR



Product reference	Product number	Product description				
SOLAR	4008321 <b>385628</b>	Light and presence sensor	9 <sup>1)</sup>	100 <sup>2)</sup>	10...1000 <sup>2)</sup>	4
Product reference		IP	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
SOLAR	Ceiling mounting	IP50	108	108	26	20

<sup>1)</sup> Max. diameter (m)  
<sup>2)</sup> Approx.

### Product characteristics

- Range: up to 30 m (in buildings) or up to 100 m (in the open air)

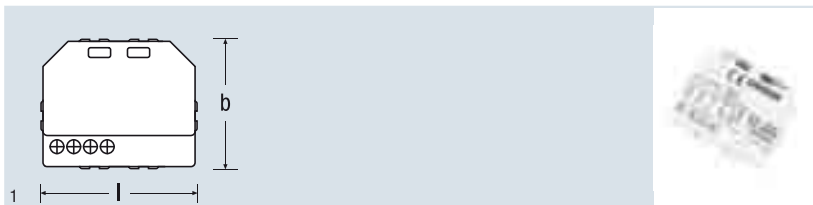
### Product benefits




- No cables, no batteries: maintenance-free EnOcean radio technology
- Up to 45 % energy savings (compared with manual switching)

### Applications

- Wireless and flexible installations

## Switch RC



Product reference	Product number	Product description	V	Hz		
Switch RC	4008321 <b>385642</b>	Radio receiver	220-240	50	Max. 30 <sup>1)</sup>	
Product reference		IP	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
Switch RC	Integration in flush-type box   Ceiling installation	IP20	45	37	23	20

<sup>1)</sup> Valid in buildings

### Product characteristics

- Adjustable switch-off delay: 1 to 20 minutes
- Range: up to 30 m (in buildings) or up to 100 m (in the open air)
- Up to 8 sensors and 8 wall-mounted/handheld transmitters can be trained on one Switch RC receiver
- Frequency band: 868.3 MHz

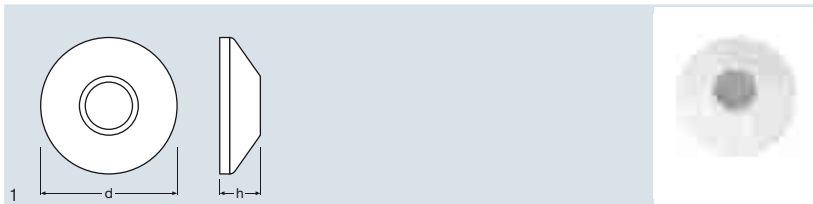
### Product benefits








- Choice of 5 different operating modes

### Technical equipment

- Suitable for all OSRAM control elements and sensors with EnOcean radio technology
- Suitable for up to 14 ECGs

# HIGH BAY



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>			
HIGH BAY	4008321410078	Motion sensor	120-277	50-60	18 <sup>1)</sup>		
<b>Product reference</b>				<b>IP</b>			
HIGH BAY	100 <sup>2)</sup>	13	Ceiling mounting	IP20	116	39	20

1) Max. diameter (m)  
2) Approx.

## Product characteristics

- 3 to 10 m: detection of motion by people
- 3 to 13 m: detection of vehicle movement (e.g. fork lift truck)
- Adjustable switch-off delay: 30 s to 20 min
- Standby consumption: max. 0.25 W

## Product benefits

- Up to 35% energy savings (compared with manual switching)

## Applications

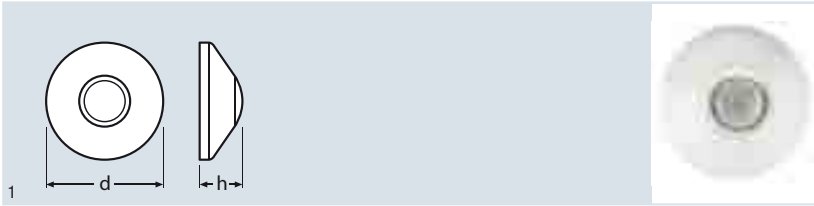
- High ceilings
- Sports halls and factories








## Technical equipment

- Suitable for up to 15 ECGs
- Installation by use of mounting adapters possible



# VISION



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>			
VISION	4008321957047	Motion sensor	120-277	50-60	21 <sup>1)</sup>		
<b>Product reference</b>				<b>IP</b>			
VISION	140 <sup>2)</sup>	4.5	Ceiling mounting	IP20	116	40	20

1) Max. diameter (m)  
2) Approx.

## Product characteristics

- Adjustable switch-off delay: 30 s to 20 min
- Standby consumption: max. 0.25 W

## Product benefits

- Up to 35 % energy savings (compared with manual switching)

## Applications

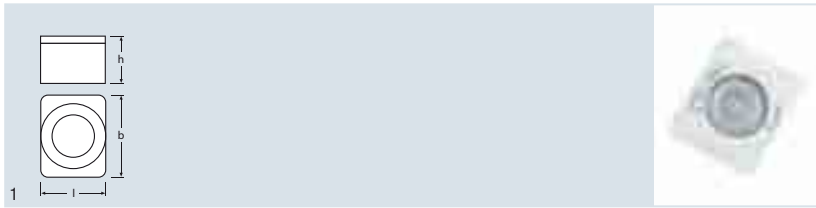
- Large areas
- Open-plan offices, corridors and storage rooms

## Technical equipment

- Suitable for up to 15 ECGs
- Installation by use of mounting adapters possible



# DIM MULTI



Product reference	Product number	Product description	V	CONTROL			Lx
DIM MULTI	4050300554471	Light and presence sensor	220-240	1...10 V	9 <sup>1)</sup>	100 <sup>2)</sup>	20...800 <sup>2)</sup>
Product reference			IP				
DIM MULTI	5	Luminaire installation   Ceiling mounting   Lamp clip	IP20	58	71	42	20

1) Max. diameter (m)  
2) Approx.

## Product characteristics

- Combined daylight and presence detection
- Daylight detection only
- All the functions can be selected via rotary switch
- Adjustable switch-off delay: 1 to 30 min
- Load capacity of switching contact: 5 A ohmic load

## Product benefits

- Up to 70% energy savings (compared with CCG + T8 lamp, without sensors)
- Daylight-dependent control with automatic shutdown in adequate daylight
- Compensates 100% of the incoming daylight
- Multiple sensors can be networked

## Applications

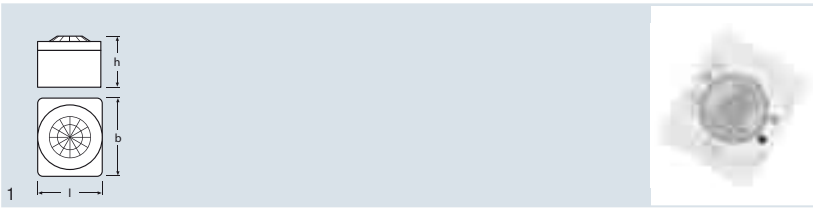
- Individual offices
- Open-plan offices
- Waiting rooms

## Technical equipment

- Suitable for up to 30 ECGs



## DUO



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>					
DUO	4008321496355	Light and presence sensor	220-240	50-60	12 <sup>1)</sup>	110 <sup>2)</sup>	50...500 <sup>2)</sup>
<b>Product reference</b>							
DUO	5	Luminaire installation   Ceiling mounting   Lamp clip	IP20	58	71	47	20

1) Max. diameter (m)  
2) Approx.

### Product characteristics

- Combined daylight and presence detection
- Daylight detection only
- Presence detection only
- All functions can be selected via rotary switch
- Adjustable switch-off delay: 1 to 60 min
- Load capacity of switching contact: 5 A ohmic load
- Standby consumption: max. 0.7 W

### Product benefits

- Up to 45% energy savings (compared with manual switching)
- Multiple sensors can be networked
- Maintenance-free operation and minimal installation costs

### Applications

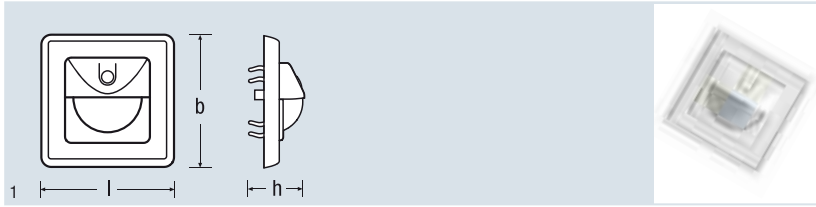
- Individual offices
- Open-plan offices
- Waiting rooms

### Technical equipment

- Suitable for up to 30 ECGs



# WALL Switch



Product reference	Product number	Product description	V	Hz			Lx
WALL Switch	4008321467386	Light and motion sensor	220-240	50-60	8 <sup>1)</sup>	180 <sup>2)</sup>	20...1000 <sup>2)</sup>
Product reference			IP				
WALL Switch	2	Integration in flush-type box	IP20	82 [mm]	82 [mm]	26 [mm]	20

1) Max. diameter (m)  
2) Approx.

## Product characteristics

- Stairwell function
- Timer function
- Continuous light function
- Adjustable switch-off delay: continuous up to 30 min
- Ideal mounting height: 0.8 to 1.2 m (maximum 2.2 m)

## Product benefits

- Up to 45 % energy savings (compared with manual switching)
- Multiple sensors can be networked

## Applications

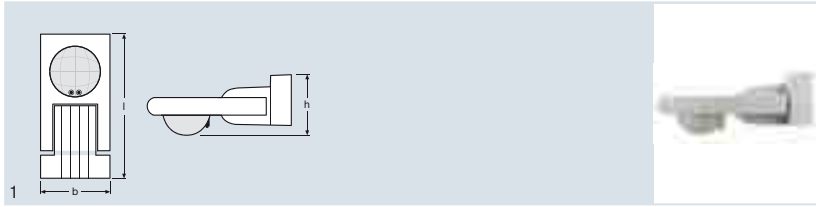
- Touch-free switching (e.g. in stairwells)

## Technical equipment

- Suitable for up to 14 ECGs



# OUTDOOR



Product reference	Product number	Product description	V	Hz			Lx
OUTDOOR	4008321957061	Light and motion sensor	220-240	50-60	16 <sup>1)</sup>	120 <sup>2)</sup>	> 1 <sup>2)</sup>
Product reference			IP	l [mm]	b [mm]	h [mm]	
OUTDOOR	4	Ceiling mounting   Wall mounting	IP55	180	86	74	20

1) Max. diameter (m)  
2) Approx.

## Product characteristics

- Combined daylight and motion detection
- Motion detection only
- Adjustable switch-off delay: 5 s to 30 min
- Ideal mounting height: 2.5 m

## Product benefits

- Up to 45 % energy savings (compared with manual switching)
- Manual control with optional switch or pushbutton

## Applications

- Outdoor applications

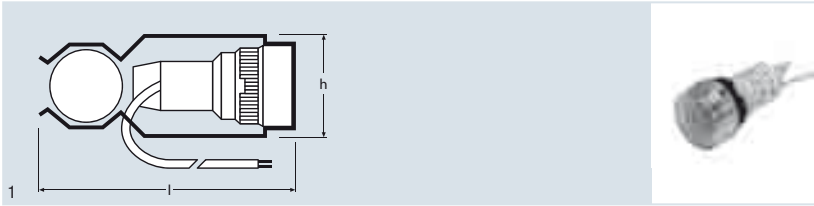
## Technical equipment

- Suitable for up to 14 ECGs





# DIM MICO



Product reference	Product number	Product description	CONTROL			
DIM MICO	4008321586056	Light sensor	1...10 V	80 <sup>1)</sup>	20...800 <sup>1)</sup>	
Product reference		IP				
DIM MICO	8	IP20	95	40	35	20

1) Approx.

## Product characteristics

- Simple clip-on fitting for T8 and T5 lamps
- Cable length: 700 mm

## Product benefits

- Up to 40 % energy savings (compared with CCG + T8 lamp, without sensors)
- Compensates 100 % of the incoming daylight
- Direct connection to the 1...10 V-interface
- Simple setting of the setpoint by means of a potentiometer

## Applications

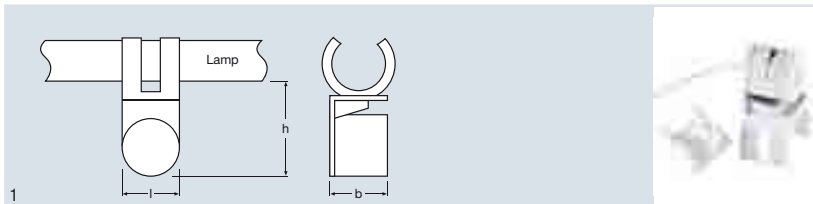
- Strip lighting in individual and open-plan offices

## Technical equipment

- Suitable for up to 100 ECGs
- Suitable for up to 16 signal amplifiers



# DIM PICO



Product reference	Product number	Product description	CONTROL			
DIM PICO	4050300554457	Light sensor	1...10 V	50 <sup>1)</sup>	5	
Product reference		IP				
DIM PICO	Luminaire installation	IP20	21 [mm]	21 [mm]	31 [mm]	20

1) Approx.

### Product characteristics

- Simple clip-on fitting for T8 and T5 lamps
- Load capacity of the control output: max. 6 mA
- Cable length: 700 mm

### Product benefits

- Up to 30% energy savings (compared with CCG + T8 lamp, without sensors)
- Compensates 50% of the incoming daylight
- Direct connection to the 1...10 V interface
- Simple setting of the setpoint by means of a potentiometer

### Applications

- Individual fixtures

### Technical equipment

- Suitable for up to 10 ECGs



## Touch DIM®: lighting control without a controller and dimming without a control line

The Touch DIM® function in the DALI ECG family makes it possible to dim and switch the control gear directly with line voltage at the DALI control terminals. There is no longer any need for a separate controller as the ECG itself acts as the controller. By using DALI to 1...10 V converters it is possible also to control 1...10 V ECGs via Touch DIM®. The Touch DIM® function is characterized in particular by protective soft starting, precise setting of the required light value, manual storage of the switch-on value by double-clicking or switching on at the last dimmer value and automatic restoration of the last state after a power failure.

In conjunction with Touch DIM® sensors it is possible to provide daylight-dependent and presence-dependent lighting control, and with the 2-channel radio switch + associated radio receiver module all Touch DIM® compatible electronic control gear can be controlled. Both radio components are absolutely maintenance-free. Up to 30 radio switches can be easily saved and deleted in each receiver module with one click. Thanks to innovative piezo technology, batteries are not needed to power the transmitter module in the radio switch.

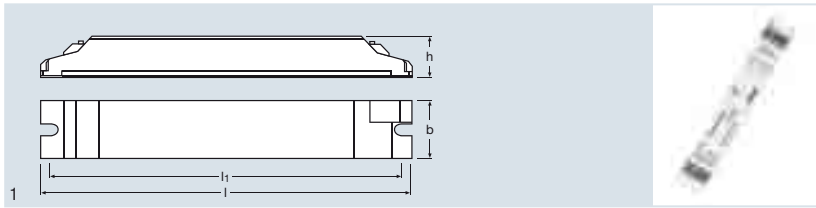
### Applications



- Offices: single and group workplaces
- Suspended luminaires
- Recessed and surface-mounted ceiling fixtures
- Strip lighting
- Floor-luminaires
- Modernization of existing systems
- Renovation of historic buildings

### System overview



## Touch DIM® RC



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>	<b>CONTROL</b>	<b>T<sub>a</sub></b>
TOUCH DIM RC	4008321031938	2-channel radio receiver module	220-240	50-60	Touch DIM	0...+50
<b>Product reference</b>		<b>IP</b>	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
TOUCH DIM RC	Luminaire installation   Ceiling installation	IP20	189	30	21	25

### Product characteristics

- Radio receiver for battery-free EnOcean radio switches for 2 lighting groups
- Maximum power consumption: 1.5 W
- Frequency band: 868.3 MHz
- 2 floating relay outputs: max. 45 mA/240 V
- Up to 30 wall transmitters can be saved

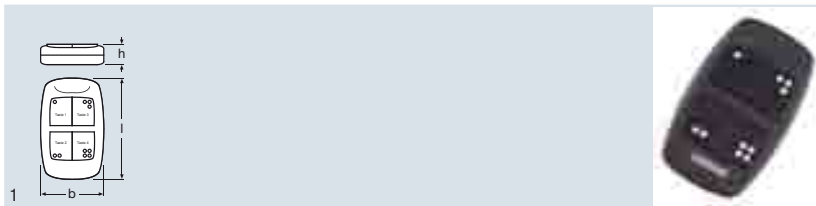
### Product benefits



- Dimming without a control line by use of maintenance-free EnOcean radio technology

### Technical equipment

- Suitable for up to 15 QTi DALI ECGs, OTi DALI ECGs or HTi transformers per output

## Touch DIM® RMC



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>CONTROL</b>		<b>IP</b>
TOUCH DIM RMC	4008321183033	4-channel radio hand-held transmitter	Touch DIM	Max. 30 <sup>1)</sup>	IP20
<b>Product reference</b>	<b>COLOR</b>	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
TOUCH DIM RMC	black	82	49	20	10

1) Valid in buildings

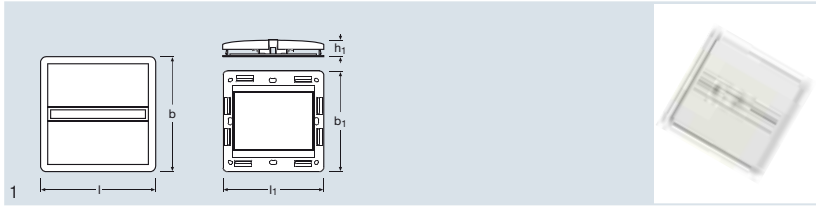
### Product characteristics

- Battery-free radio remote control for up to 4 lighting groups
- Frequency band: 868.3 MHz
- Output power: 10 mW

### Product benefits

- Dimming without a control line by use of maintenance-free EnOcean radio technology
- Battery-free operation due to inductive power generation

## Touch DIM® WCU



Product reference	Product number	Product description	CONTROL		IP
TOUCH DIM WCU	4008321032737	2-channel wall transmitter	Touch DIM	Max. 30 <sup>1)</sup>	IP20
Product reference	COLOR				
TOUCH DIM WCU	white	80	80	20	20

<sup>1)</sup> Valid in buildings

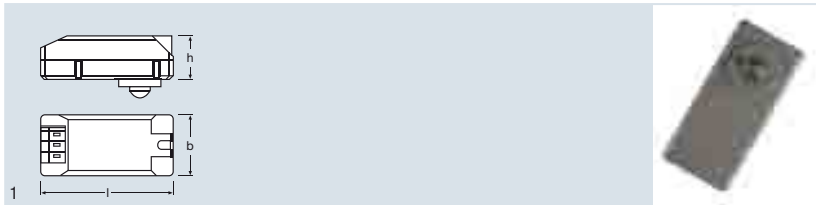
### Product characteristics

- Battery-free radio switch for up to 2 lighting groups
- Frequency band: 868.3 MHz
- Output power: 10 mW

### Product benefits

- Dimming without a control line by use of maintenance-free EnOcean radio technology
- Battery-free operation due to inductive power generation

## Touch DIM® LS/PD LI



Product reference	Product number	Product description	CONTROL			
TOUCH DIM LS/PD LI	4008321023025	Light and presence sensor	Touch DIM	80 <sup>1)</sup>	10...1000 <sup>1)</sup>	4
Product reference		IP				
TOUCH DIM LS/PD LI	Luminaire installation	IP20	63	29	21	25

<sup>1)</sup> Approx.

### Product characteristics

- Suitable for daylight-dependent control with presence function
- Can also be operated purely as a presence sensor
- Maximum signal line length: 10 m
- Maximum power consumption: 0.5 W
- Delay time: 15 min

### Product benefits

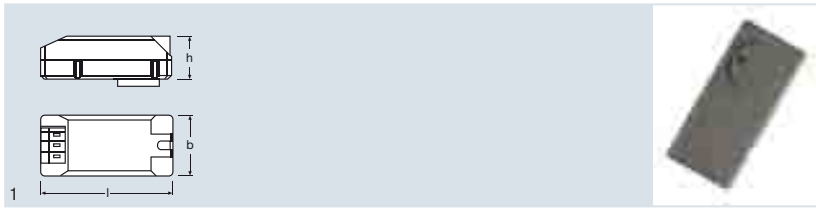
- A setpoint for daylight-dependent control can be stored by double clicking
- Operated via standard switches

### Technical equipment

- Suitable for up to 4 QTi DALI ECGs or 4 HTi transformers or 4 OTi DALI LED dimmers



## Touch DIM® LS LI



Product reference	Product number	Product description	CONTROL			
TOUCH DIM LS LI	4008321 <b>023087</b>	Light sensor	Touch DIM	60 <sup>1)</sup>	10...1000 <sup>1)</sup>	5
Product reference		IP				
TOUCH DIM LS LI	Luminaire installation	IP20	63	29	21	25

<sup>1)</sup> Approx.

### Product characteristics

- Suitable for daylight-dependent control
- Maximum signal line length: 10 m
- Maximum power consumption: 0.5 W

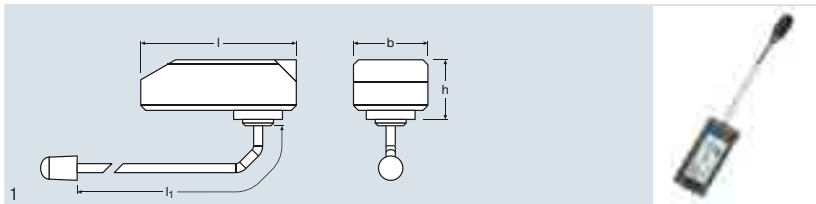
### Product benefits

- A setpoint for daylight-dependent control can be stored by double clicking
- Operated via standard switches

### Technical equipment

- Suitable for up to 4 QTi DALI ECGs or 4 HTi transformers or 4 OTi DALI LED dimmers

## Touch DIM® PD LI 2P WOS



Product reference	Product number	Product description				
TOUCH DIM PD LI	4008321 <b>532947</b>	Presence sensor	20...90	1.5...12 <sup>1)</sup>	4...12	Luminaire installation
Product reference	IP	COLOR				
TOUCH DIM PD LI	IP20	anthracite	63	29	21	25

<sup>1)</sup> Approx.

NEW

### Product characteristics

- Up to 4 ECGs can be connected

### Product benefits

- Maximum power consumption: 0.5 W

### Applications

- Suitable for luminaire installation with small dimensions

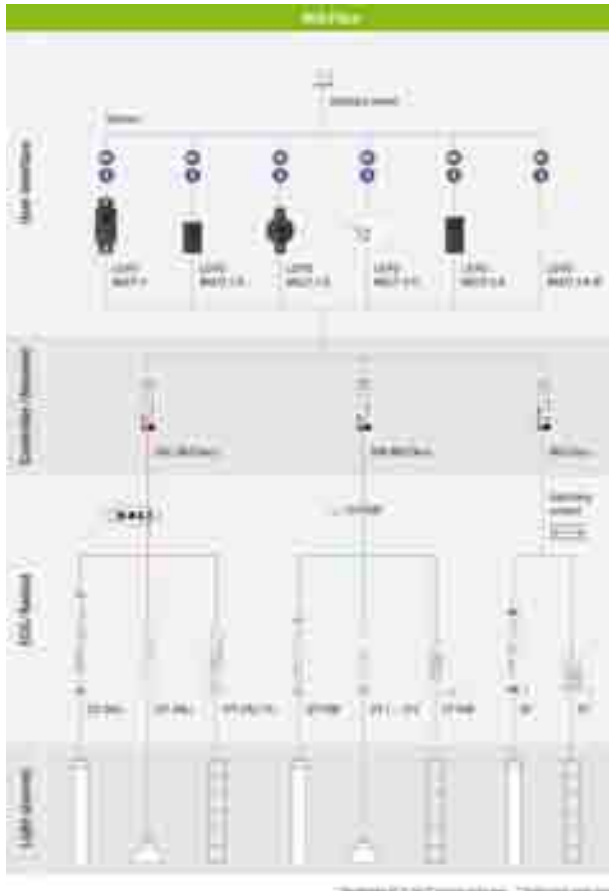
### Technical equipment

- Available with 4 different lens options (5 m; 10 m; Spot; Small movements)



## MULTleco: clever system for single and group workplaces

The compact and modular MULTleco light management system offers varied daylight-dependent and presence-dependent lighting control with minimized standby power.



### The right solution for every need.

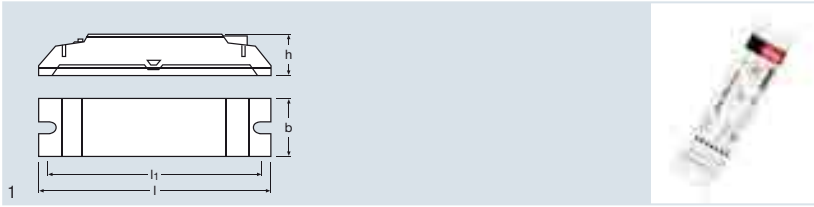
MULTleco is extremely versatile. The controller is available in a DALI version, a 1...10 V version and a switching version. There are six different light and presence sensors for luminaire and ceiling installation as new systems or as retrofits. All MULTleco controllers have extremely compact dimensions and can be installed separately in space-critical locations with the ECO CI KIT. Possible applications include offices, toilets and common areas.



### The benefits of MULTleco:

- Standby consumption < 0.5 W
- Luminaire integration or separate mounting with ECO CI KIT
- Control of up to 20 ECGs
- Extremely compact dimensions
- Meets the Swiss MINERGIE® guidelines and the EU Ecodesign specifications planned for 2012



# DALI MULTIEco



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
DALI MULTIEco	4008321371300	Controller	100-240	50-60	DALI	0...+50	
DALI MULTIEco	4008321659262	Controller	100-240	50-60	DALI	0...+50	
Product reference	 Luminaire installation I	IP	pro-tection class	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DALI MULTIEco	Ceiling installation	IP20	II	118	30	21	25
DALI MULTIEco	Luminaire installation I	IP20	II	118	30	21	50
DALI MULTIEco	Ceiling installation						

## Product characteristics

- Suitable for daylight-dependent control with presence function
- Standby consumption: max. 0.5 W
- Integrated load contact
- 14 operating modes via DIP switches for daylight or presence-dependent lighting control
- Up to 3 controllers can be synchronized for a central presence function
- Manual dimming and setpoint setting via standard switches

## Product benefits

- Complies with MINERGIE and EU Ecodesign requirements planned for 2012
- Up to 75% energy savings (compared with CCG + T8 lamp, without sensors)
- Also available in industrial packs (50 units)

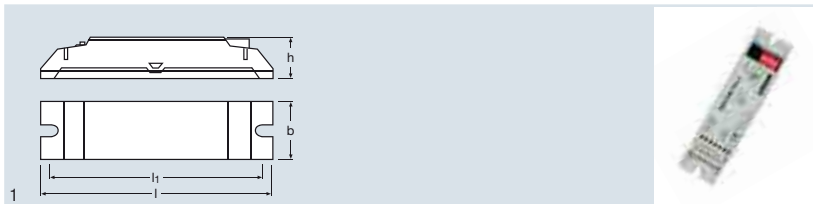
## Technical equipment



- Suitable for up to 2 sensors (compatible with all MULTI 3 sensors)
- Suitable for up to 10 ECGs with DALI interface
- Separate installation possible with ECO CI KIT





## DIM MULTleco



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>
DIM MULTleco	4008321 <b>507273</b>	Controller	100-240	50-60	1...10 V	0...+50
DIM MULTleco	4008321 <b>659279</b>	Controller	100-240	50-60	1...10 V	0...+50
Product reference		IP	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DIM MULTleco	Luminaire installation   Ceiling installation	IP20	118	30	21	25
DIM MULTleco	Luminaire installation   Ceiling installation	IP20	118	30	21	50

### Product characteristics

- Suitable for daylight-dependent control with presence function
- Standby consumption: max. 0.5 W
- Integrated load contact
- 14 operating modes via DIP switches for daylight or presence-dependent lighting control
- Up to 3 controllers can be synchronized for a central presence function
- Manual dimming and setpoint setting via standard switches

### Product benefits

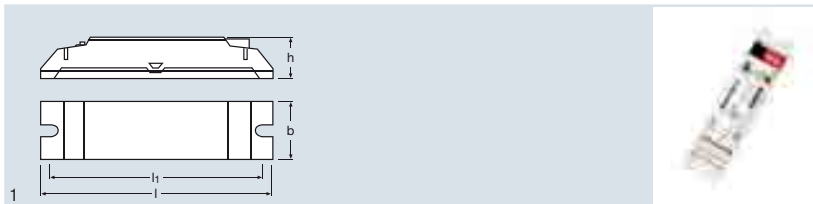
- Complies with MINERGIE and EU Ecodesign requirements planned for 2012
- Up to 75 % energy savings (compared with CCG + T8 lamp, without sensors)
- Also available in industrial packs (50 units)

### Technical equipment

- Suitable for up to 2 sensors (compatible with all MULTI 3 sensors)
- Suitable for up to 10 ECGs with 1...10 V interface
- Separate installation possible with ECO CI KIT





## MULTIeco



Product reference	Product number	Product description	V	Hz	T <sub>a</sub>
MULTIeco	4008321405302	Controller	100-240	50-60	0...+50
MULTIeco	4008321659286	Controller	100-240	50-60	0...+50

Product reference		IP	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
MULTIeco	Luminaire installation   Ceiling installation	IP20	118	30	21	25
MULTIeco	Luminaire installation   Ceiling installation	IP20	118	30	21	50

### Product characteristics

- Suitable for daylight-dependent switching with presence function
- Standby consumption: max. 0.5 W
- Integrated load contact
- 8 different operating modes via DIP switches for daylight or presence-dependent lighting control
- Up to 3 controllers can be synchronized for a central presence function

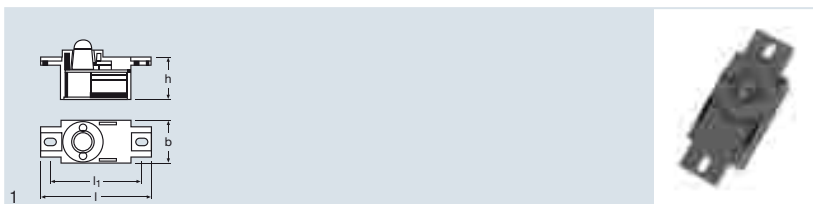
### Product benefits





- Complies with MINERGIE and EU Ecodesign requirements planned for 2012
- Up to 45% energy savings (compared with CCG + T8 lamp, without sensors)
- Also available in industrial packs (50 units)

### Technical equipment


- Suitable for up to 2 sensors (compatible with all MULTI 3 sensors)
- Suitable for up to 20 ECGs
- An external power relay is required if the contact load capacity is exceeded
- Separate installation possible with ECO CI KIT

## LS/PD MULTI 3



Product reference	Product number	Product description				
LS/PD MULTI 3	4050300802138	Light and presence sensor	80 <sup>1)</sup>	20...600 <sup>1)</sup>	4	Luminaire installation

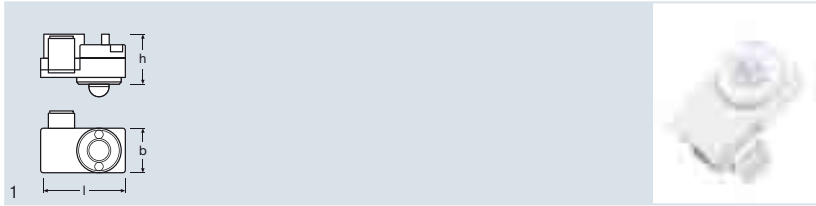
Product reference	IP	COLOR	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LS/PD MULTI 3	IP20	anthracite	55	21	25	25

<sup>1)</sup> Approx.

### Product characteristics

- Connection via modular 4p4c connector
- Connecting cable length: 2.1 m (detachable)

# LS/PD MULTI 3 A



Product reference	Product number	Product description				
<b>NEW</b> LS/PD MULTI 3 A	4008321 <b>653581</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
<b>NEW</b> LS/PD MULTI 3 A	4008321 <b>659385</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
<b>NEW</b> LS/PD MULTI 3 A-w	4008321 <b>653604</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
<b>NEW</b> LS/PD MULTI 3 A-w	4008321 <b>659392</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation

Product reference	IP	COLOR	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
LS/PD MULTI 3 A	IP20	anthracite	38	20	22	25
LS/PD MULTI 3 A	IP20	anthracite	38	20	22	50
LS/PD MULTI 3 A-w	IP20	white	38	20	22	25
LS/PD MULTI 3 A-w	IP20	white	38	20	22	50

<sup>1)</sup> Approx.

### Product characteristics

- Retrofit sensor with clip
- Connection via modular 4p4c connector
- Connecting cable length: 2.1m (detachable)

### Product benefits

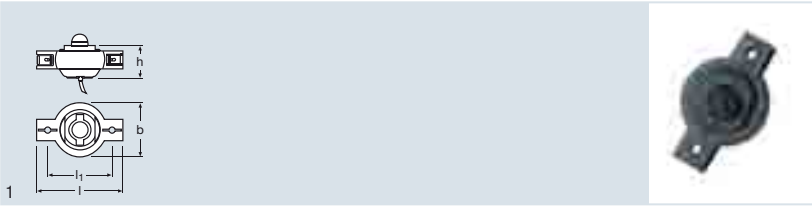
- Also available in industrial packs (50 units)

### Technical equipment

- White version with high-temperature cable and clip
- Anthracite version with standard cable, no clip



## LS/PD MULTI 3 B



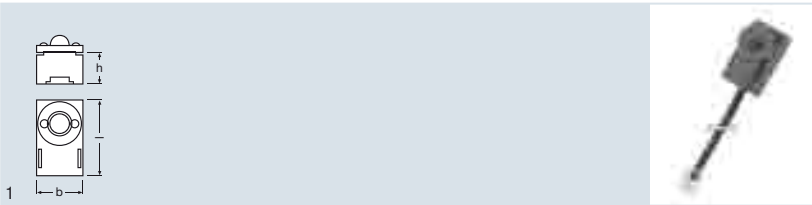
Product reference	Product number	Product description				
LS/PD MULTI 3 B	4050300 <b>803081</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
LS/PD MULTI 3 B-w	4008321 <b>988638</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
Product reference	IP	COLOR				
LS/PD MULTI 3 B	IP20	anthracite	48 [mm]	30 [mm]	25 [mm]	25
LS/PD MULTI 3 B-w	IP20	white	48	30	25	25

NEW

### Product characteristics

- Rotatable sensor head
- Connection via modular 4p4c connector
- Connecting cable length: 2.1 m (permanently connected)
- Color versions white or anthracite

## LS/PD MULTI 3 FL



Product reference	Product number	Product description				
LS/PD MULTI 3 FL	4008321 <b>1047342</b>	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
Product reference	IP	COLOR				
LS/PD MULTI 3 FL	IP20	anthracite	35 [mm]	21 [mm]	12 [mm]	25

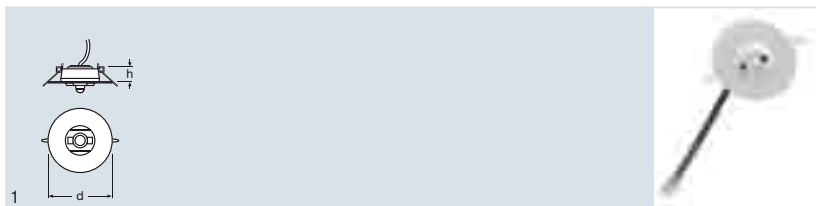
<sup>1)</sup> Approx.










### Product characteristics

- Low-profile casing design
- Connection via modular 4p4c connector
- Connecting cable length: 2.1 m (permanently connected)



## LS/PD MULTI 3 CI



Product reference	Product number	Product description				
LS/PD MULTI 3 CI	4008321916648	Light and presence sensor	80	20...600 <sup>1)</sup>	4	
Product reference						
LS/PD MULTI 3 CI	Ceiling mounting I Ceiling installation	IP20	white	50	25	10

1) Approx.

### Product characteristics

- Ceiling installation sensor with rotatable sensor head
- Connection via 4-pole screw terminal or modular 4c4p connector

### Technical equipment

- Surface mounting with SENSOR KIT



## **DALleco: intelligent and powerful light management system for lighting groups in small, medium and large rooms**

2 DALI channels, 1-click setup, selectable lighting modes and remote controllable extra functions – DALleco offers a wide range of operation possibilities for intelligent energy saving solutions.

### **Flexible.**

The modular system is setting new standards in terms of flexibility in planning and installing a cost-efficient light management system. The system components offer the possibility of direct luminaire integration as well as independent luminaire installation.

### **Powerful.**

Up to 32 DALI ECGs, 6 sensors and 4 pushbuttons can be connected via a DALleco controller.

### **Intelligent.**

1-click setup enables fully automatic system calibration in accordance with the photometric requirements for workplaces.

### **Simple.**

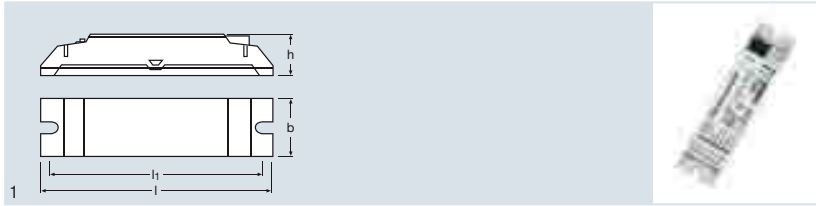
Integration of extension sensors and additional pushbuttons via the DALI lines is simple and installation-friendly.



### **Applications**

- Offices: single and group workplaces
- Waiting rooms and conference rooms
- Corridors and foyers
- Private living spaces
- Hotel rooms
- Shops and premises
- Toilets and washrooms
- Factories and warehouses



# DALIeco Control



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>
<b>NEW</b> DALIeco Control	4008321988645	Controller	220-240	50-60	DALI	0...+50
Product reference		IP	$\frac{l}{\text{[mm]}}$	$\frac{b}{\text{[mm]}}$	$\frac{h}{\text{[mm]}}$	
DALIeco Control	Luminaire installation	IP20	118	30	21	25

## Product characteristics

- Suitable for daylight-dependent control with presence function
- 2 DALI lines with variable offset
- Multiple sensors can be connected via a direct sensor input or DALI line
- Simple system configuration by remote control
- 6 predefined function modes for offices, classrooms, corridors, etc.
- Different lighting functions can be selected, e.g. 100 hour lamp burn-in function

## Product benefits

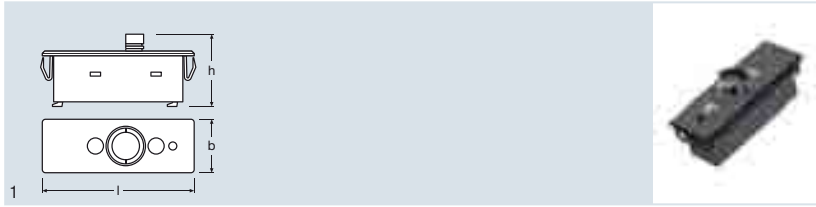
- Up to 75 % energy savings (compared with CCG + T8 lamp, without sensors)
- 1-click setup

## Technical equipment

- Separate installation possible with ECO CI KIT



## DALIeco LS/PD LI



Product reference	Product number	Product description				
DALIeco LS/PD LI	4008321988652	Light and presence sensor	80	20...600 <sup>1)</sup>	4	Luminaire installation
Product reference						
DALIeco LS/PD LI	IP20	anthracite/white	48	15	17	25

1) Approx.

NEW

### Product characteristics

- Integrated shades for individual limitation of the detection area
- Button for 1-click setup
- Connecting via modular 4p4c connector

### Product benefits

- 3 different luminaire installation versions

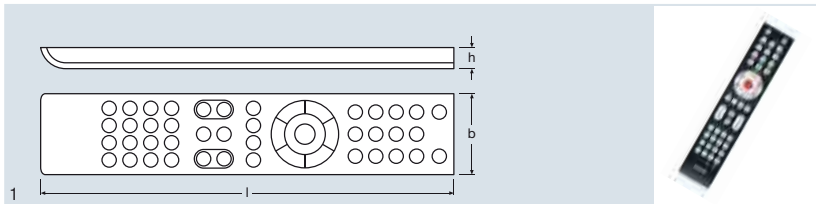
### Applications

- Sensor suitable for luminaire installation (can be mounted from inside or outside)

### Technical equipment

- Different connection cable lengths available

## Master Remote



Product reference	Product number	Product description			
Master Remote	4008321988669	Remote control	DALI	20 <sup>1)</sup>	IP20
Product reference					
Master Remote	black/silver	230	45	13	10

1) Valid in buildings

NEW

### Product characteristics

- Remote control for configuring the DALIeco system
- USB connection for PC data transfer

### Technical equipment

- Batteries included



# EASY Color Control: lighting control for static and dynamic illumination

You do not need to be an expert to use the EASY Color Control light management system to best effect. It has never been easier to create lighting scenes. Whether you need it for general illumination, accent lighting, small applications or complex ones, the EASY Color Control system is the right choice. Innovative light sources (LEDs/OLEDs) and conventional light sources can be controlled simultaneously (on/off, dimming) at any time. The EASY Color Control light management system provides the basis for static or dynamic lighting solutions.

## System architecture

Multiple output channels can be controlled separately with a single control element. The system has an integrated controller for four separate sequences and 16 freely definable lighting scenes. With the aid of a plug system protected against polarity reversal it can be expanded to a maximum of 64 controllers/256 channels. Most control units are available for luminaire integration and ceiling installation.

## New functionality

Applications such as shops require new lighting concepts to attract people, secure brand communication and feel customers comfortable. The new DALI EASY SO is a clever light control that saves energy and costs without skimping on shopping experience.

Lighting scenes can be scheduled and recalled automatically by switch timers allowing retail personnel to focus on shop visitors needs.

Installer's job is easier with DALI EASY SO, at last creation of shop lighting concept does not require software. If different control functions are needed (e.g. for different room requirements or for controlling artificial and natural light by means of additional window blinds), the new EASY Touch Panel is the perfect answer. Its simple programming and the ability to configure all the screen elements to suit the needs of the particular user in a wide variety of language options make the EASY Touch Panel a highly versatile operating and control element.

## Controls

There is a simple jogwheel control on the EASY Color Drive wall control unit and the EASY Hybrid Remote control. Infrared or radio receivers that can be installed in luminaires or ceilings provide remote control access to all the major functions.

A switch coupler that can be installed in a flush-mounted box enables standard pushbuttons, switches or motion sensors to be connected.

The controllers can be connected to a PC USB port via an adapter cable so that scenes and sequences can be easily set up and controlled on screen. Colors can be selected, copied and adjusted at the click of a mouse. The preview function provides a useful offline view of the scenes and sequences.

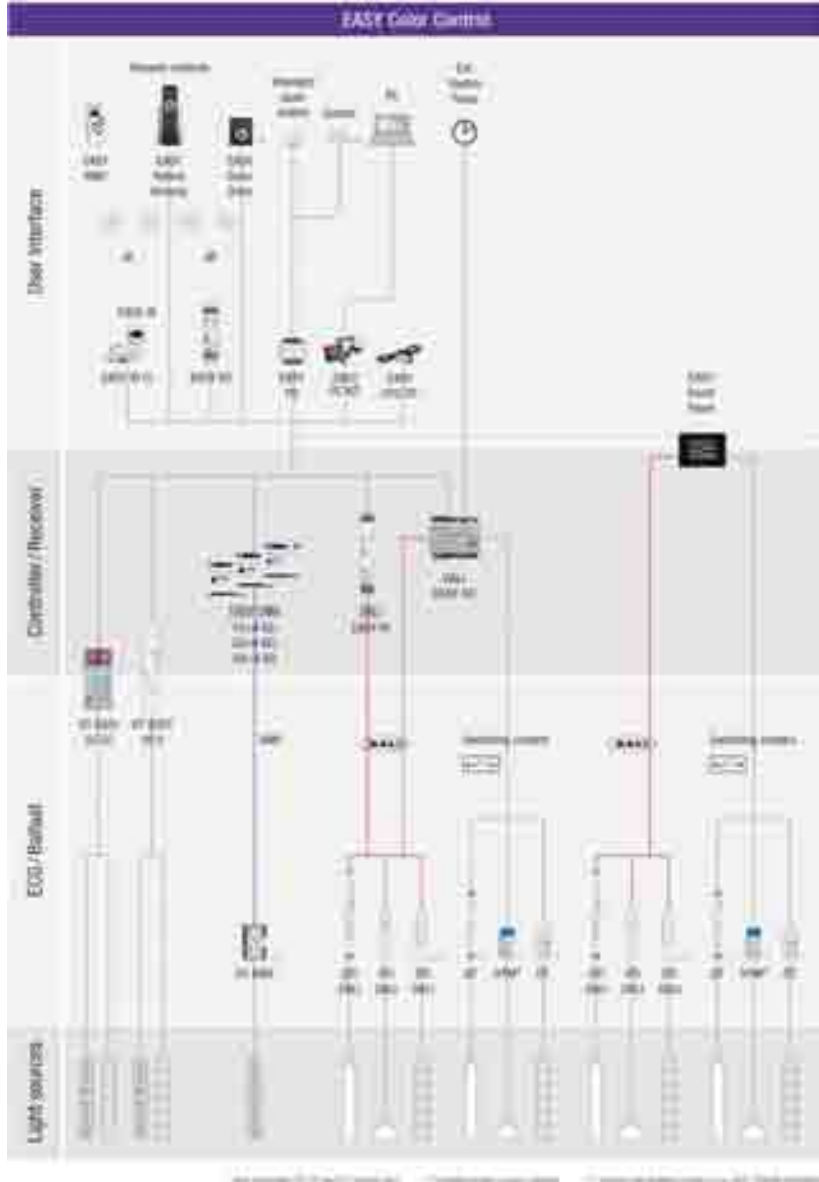
## Applications:

- Shops and retail outlets
- Restaurants and bars
- Hospitals and retirement homes
- Hotel foyers and restaurants
- Conference rooms
- Health and fitness centers
- Façade lighting

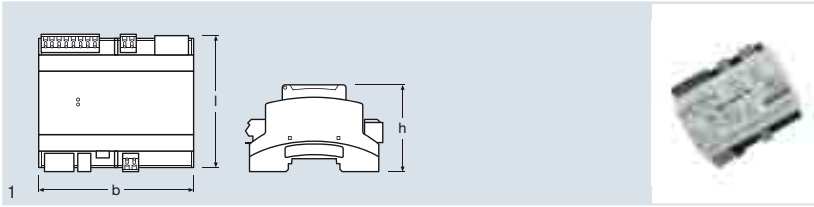




**Main functions:**

- Storage and retrieval of static scenes
- Switching and dimming of multiple luminaire groups
- Ideal for white, colored and tunable white light
- Can be expanded to 256 channels
- Intuitive time-based scene management
- Adjustable fade-in time for smooth scene transitions
- Daylight simulation in rooms without windows
- Daylight control (window blinds)
- Intuitive color control (LED and fluorescent lamps)



# DALI EASY S0



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>
<b>NEW</b> DALI EASY S0	4008321 <b>691040</b>	Controller	110-240	50-60	DALI I EASY	0...+50
Product reference		IP	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DALI EASY S0	Snap-in	IP20	96	108	62	6

## Product characteristics

- Control of lighting scenes and sequences (recall/store)
- Manual, event and time-dependent lighting control
- 4 independent DALI lines
- A maximum of 32 ECGs
- 1 output relay (3A)
- 2 inputs for floating contacts (on/off/dimming and time switch)
- Can be expanded to 64 devices
- Integrated load contact for ECG standby shutdown

## Product benefits

- Basic setup without software
- Lighting schedule with external time switch
- Automatic scene recall
- PHM: Instant lamp starting from standby
- Control of switchable and dimmable lighting

## Applications

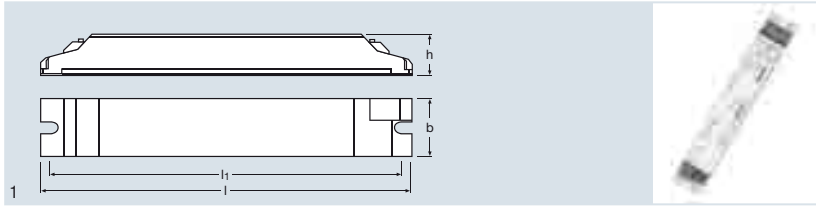
- Shops
- Bars/restaurants



## Technical equipment

- Large number of EASY user interfaces / control units
- Can be used with DALI REPEATER
- Can be used with DALI CONV
- Can be used with DALI SWITCH



## DALI EASY III



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>	<b>CONTROL</b>	<b>No. of OUTPUTS</b>	
DALI EASY III	4008321 <b>053046</b>	Controller	100-240	50-60	DALI I EASY	4	
<b>Product reference</b>	<b>T<sub>a</sub></b>		<b>IP</b>	<b>l</b> [mm]	<b>b</b> [mm]	<b>h</b> [mm]	
DALI EASY III	0...+50	Luminaire installation	IP20	189	30	21	25

### Product characteristics

- Lighting control unit with 4 DALI broadcast outputs
- Up to 64 controllers can be synchronized

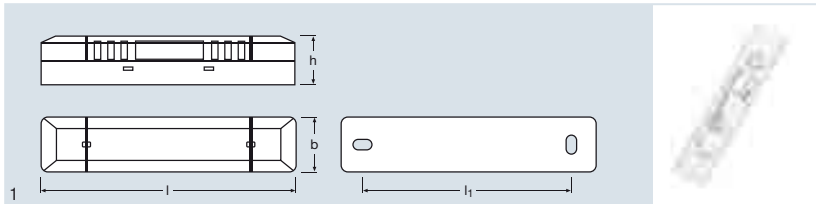
### Product benefits



- Integrated sequence control for up to 4 different sequences
- 16 different lighting scenes with configurable cross-fade times per sequence
- Up to 16 static lighting scenes can be stored and recalled

### Technical equipment

- Suitable for up to 32 DALI ECGs
- Independent installation possible with LMS CI BOX

## OT EASY 60 II



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>	<b>CONTROL</b>	<b>T<sub>a</sub></b>	
OT EASY 60 II	4008321 <b>187796</b>	LED controller	220-240	50-60	EASY	-20...+50	
<b>Product reference</b>		<b>IP</b>	<b>pro-tection class</b>	<b>l</b> [mm]	<b>b</b> [mm]	<b>h</b> [mm]	
OT EASY 60 II	Luminaire installation I Ceiling installation	IP20	II	220	46	44	20

### Product characteristics

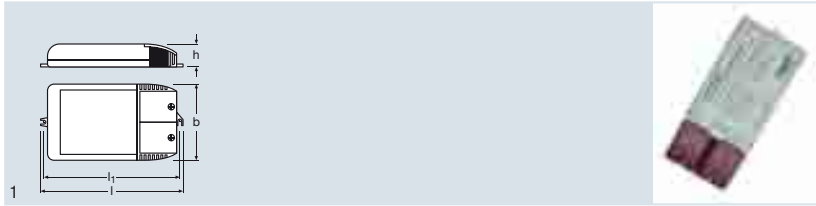
- Integrated power supply for direct connection of 24 V LED modules (up to 60 W)
- Maximum LED output: 60 W
- 4 PWM outputs
- Casing with strain relief for separate installation
- Up to 64 controllers can be synchronized



### Product benefits

- RGB(W) sequence control for up to 4 different sequences
- Up to 16 different lighting scenes with configurable cross-fade times per sequence
- Up to 16 static lighting scenes can be stored and recalled
- Version is available UL certified



# OT EASY 32 CC



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
OT EASY 32	4008321547088	LED controller	120-240	50-60	EASY	-20...+50	
Product reference		IP	pro-tection class	l [mm]	b [mm]	h [mm]	
OT EASY 32	Luminaire installation   Ceiling installation	IP20	II	223	96	32	20

## Product characteristics

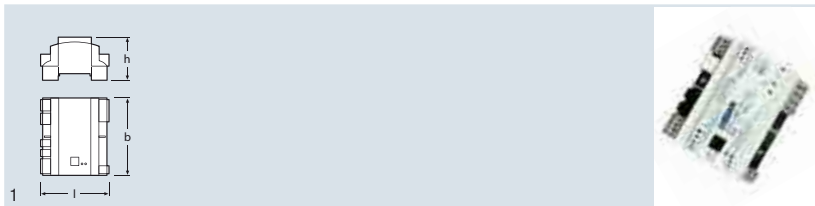
- Integrated power supply for direct connection of constant current LEDs (350 mA)
- Maximum LED output: 32 W
- 4 PWM outputs
- Casing with strain relief for separate installation
- Up to 64 controllers can be synchronized

## Product benefits

- RGB(W) sequence control for up to 4 different sequences
- Up to 16 different lighting scenes with configurable cross-fade times per sequence
- Up to 16 static lighting scenes can be stored and recalled





# EASY DMX SO



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	DMX
EASY DMX 16x4 SO	4008321 <b>441539</b>	DMX controller with EASY Bus	110-240	50-60	DMX   EASY	0...+50	64 <sup>1)</sup>
EASY DMX 32x4 SO	4008321 <b>441553</b>	DMX controller with EASY Bus	110-240	50-60	DMX   EASY	0...+50	128 <sup>1)</sup>
EASY DMX 64x4 SO	4008321 <b>441577</b>	DMX controller with EASY Bus	110-240	50-60	DMX   EASY	0...+50	256 <sup>1)</sup>

Product reference		IP	protection class	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
EASY DMX 16x4 SO	Snap-in	IP20	I/II	96	108	61	6
EASY DMX 32x4 SO	Snap-in	IP20	I/II	96	108	61	6
EASY DMX 64x4 SO	Snap-in	IP20	I/II	96	108	61	6

<sup>1)</sup> Up to

## Product characteristics

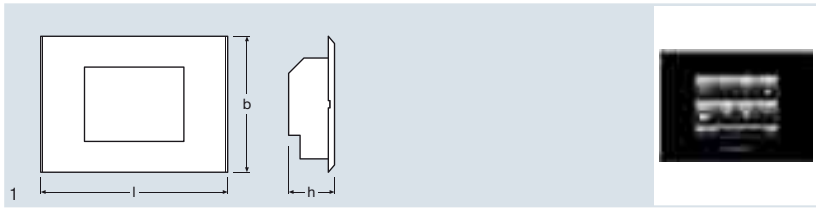
- Suitable for simple control of luminaires and devices via DMX addresses
- Available for controlling up to 16, 32 or 64 individual light points or lighting groups
- Up to 64 lighting scenes and 4 sequences can be programmed
- Dimming, ON/OFF via conventional switches
- Test procedures for rapid error-free installation without software

## Technical equipment

- Configuration via the EASY Color Control software
- DALI Plug&Play expansion via DALI EASY SO



## EASY Touch Panel



Product reference	Product number	Product description	V	Hz	CONTROL	
EASY Touch Panel	4008321956989	Touchpanel	100-240	50-60	EASY   DALI	
Product reference		IP				
EASY Touch Panel	Integration in flush-type box	IP20	220	160	55	1

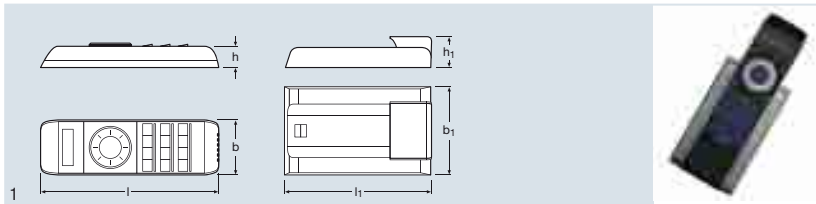
### Product characteristics

- 5.7" display, 640x480 pixels, 16.8 million colors
- Operation of up to 64 lighting scenes and 4 sequences
- Operation of 4 switchable loads or 2 louver blinds via integrated relay contacts
- 4 integrated DALI broadcast channels for up to 32 ECGs, can be expanded to 16 channels

### Technical equipment

- Suitable for up to 32 DALI ECGs
- Flexible expansion via DALI repeaters or EASY control

## EASY Hybrid Remote



Product reference	Product number	Product description	CONTROL		IP	
EASY Hybrid Remote	4008321421739	Radio/infrared remote control	EASY	30 <sup>1)</sup>	IP20	
Product reference		pro-tection class				
EASY Hybrid Remote	black	III	187	57	23	5

<sup>1)</sup> Valid in buildings

### Product characteristics

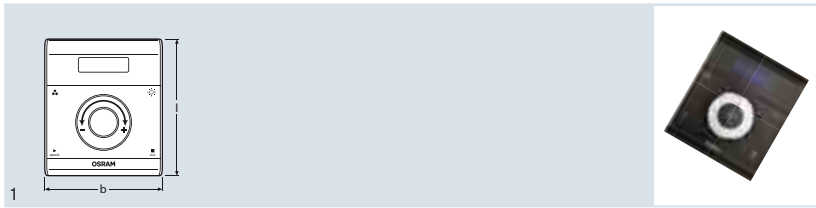
- Convenient radio and infrared remote control
- Hybrid technology for digital infrared and 868.3 MHz radio remote control
- Operation of up to 8 lighting scenes, 8 lighting groups and 4 sequences
- LCD with adjustable backlighting

### Product benefits

- Docking station for wall mounting included



## EASY Color Drive



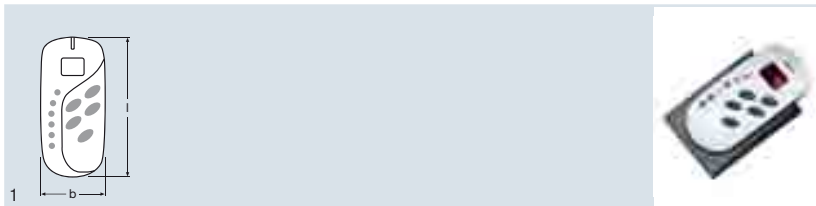
<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>				
EASY Color Drive	4008321 <b>421777</b>	Wall control element	10-24	EASY	Max. 30 <sup>1)</sup>	
<b>Product reference</b>						
EASY Color Drive	IP20	black	103	88	24	5

<sup>1)</sup> Valid in buildings

### Product characteristics

- Wall control element for convenient operation of the EASY controllers
- Connection via a 4-wire signal cable or wirelessly via an 868.3 MHz transmitter
- Operation of up to 8 lighting scenes, 8 lighting groups and 4 sequences
- LCD with adjustable backlighting

## EASY RMC



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>			
DALI EASY RMC	4008321 <b>053152</b>	Infrared remote control	approx. 10-15 <sup>1)</sup>	IP20	
<b>Product reference</b>					
DALI EASY RMC	silver	120	57	26	25

<sup>1)</sup> Valid in buildings

### Product characteristics

- Infrared remote control for configuring and operating the EASY controllers
- Control of the sequencing speed, central dimming, 4 channels and 4 scenes

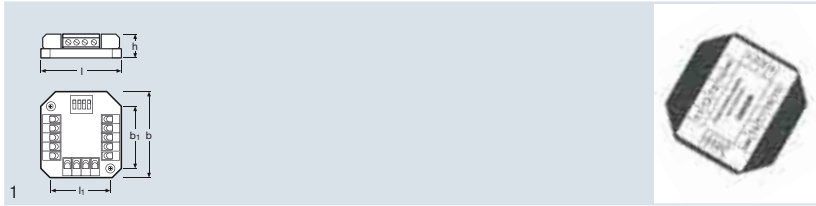
### Technical equipment

- Docking station for wall mounting included





## EASY PB Coupler



Product reference	Product number	Product description	CONTROL	IP
EASY PB COUPLER	4008321915597	Pushbutton coupler	EASY	IP20
Product reference	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
EASY PB COUPLER	47	44	13	25

### Product characteristics

- Pushbutton coupler for connection to EASY controllers
- 8 inputs for floating make contacts
- Group and scene control, central switching and dimming, starting and stopping of sequences
- Floating make contacts of motion sensors can be connected
- Up to 2 EASY pushbutton couplers can be connected to the complete system

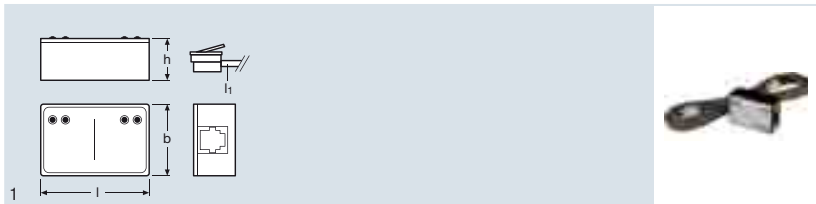
### Applications

- Installation in flush-type boxes

### Technical equipment

- Connection via Y-connector (included)

## EASY SYS CP



Product reference	Product number	Product description	CONTROL	IP
EASY SYS CP	4008321320902	System coupler	EASY	IP20
Product reference	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
EASY SYS CP	45	30	18	25

### Product characteristics

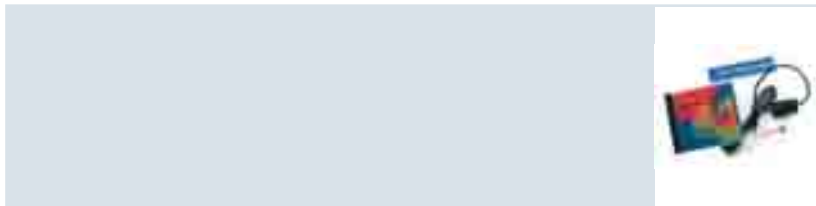
- Coupler element for connecting up to 4 EASY systems

### Product benefits

- Enables the EASY cable length to be extended



## EASY PC KIT



Product reference	Product number	Product description	CONTROL	
EASY PC KIT	4008321915559	PC software with USB adapter	EASY   USB	
Product reference	l [mm]	b [mm]	h [mm]	Icon
EASY PC KIT	56	31	24	10

### Product characteristics

- Preview function for all static and dynamic settings
- System requirements: Windows PC (Pentium II, 256 MB RAM), USB port

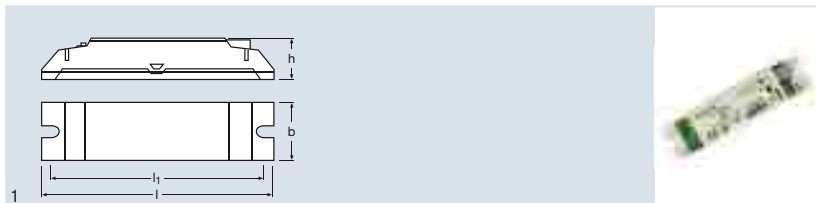
### Product benefits

- Simple creation of scenes and sequences
- Loading, storage and duplication of system settings
- Software in 5 languages (D, E, FR, IT, SP)

### Technical equipment

- With USB adapter cable and detailed user manual

## EASY RC



Product reference	Product number	Product description	CONTROL	m	Icon
EASY RC	4008321421753	Receiver	EASY	Max. 30	Luminaire installation   Ceiling installation
Product reference	IP	l [mm]	b [mm]	h [mm]	Icon
EASY RC	IP20	118	30	21	18

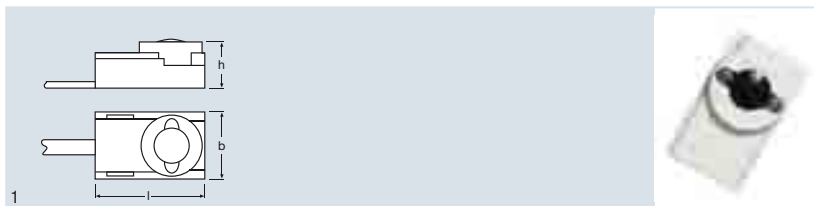
### Product characteristics

- 868.3 MHz radio receiver
- Connection via 4-pole screw terminal or modular 4p4c connector

### Technical equipment

- Suitable for up to 8 x EASY Hybrid Remote or 8 x EASY Color Drive

## EASY IR

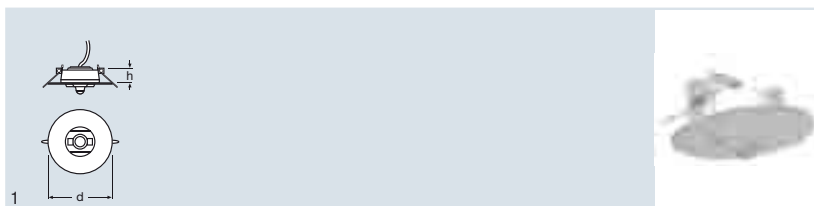


<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>				
EASY IR	4008321053138	Infrared receiver	EASY	Luminaire installation	IP20	
<b>Product reference</b>						
EASY IR	III	white	35	21	12	25

### Product characteristics

- Infrared receiver for luminaire installation for connection to the EASY controllers
- Connecting cable length: 2.1 m (permanently connected)
- Connection via modular 4p4c connector

## EASY IR CI



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>			
EASY IR CI	4008321915573	Infrared receiver	EASY	Ceiling installation   Ceiling mounting	IP20
<b>Product reference</b>					
EASY IR CI	III	white	50	21	10

### Product characteristics

- Infrared receiver for ceiling or wall mounting for connection to the EASY controllers
- Connection via modular 4p4c connector
- Connecting cable length: 2.1 m (permanently connected)



# DALI

## Packed with functions but easy to use. The DALI interface standard

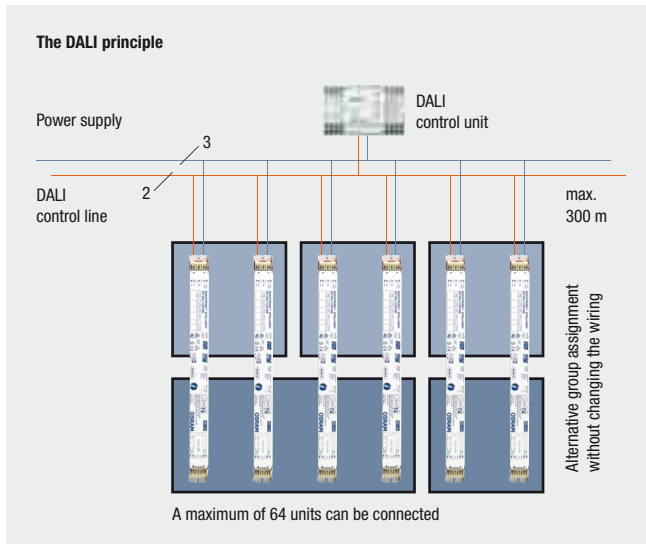
If the lighting control system, sensors, controllers, electronic control gear and light sources are to work together at peak performance they must be able to communicate with one another without restriction and react accordingly. A common interface for all the components within a system is therefore of enormous importance.



## What is DALI – and how does it work?

DALI – Digital Addressable Lighting Interface – is a non-proprietary interface standard for digital dimmable electronic control gear, offering greater functionality and greater ease of use. A maximum of 64 DALI ECGs can be controlled with a high degree of flexibility via a 2-wire control line individually or jointly and in up to 16 groups. The lighting is switched and dimmed via the control line. In other words, there is no need for any relays.

Important information such as the lamp status is stored in the control gear and is available to the controller. DALI is an interface for all professional lighting solutions. OSRAM offers a wide range of DALI ECGs for fluorescent lamps, compact fluorescent lamps, tungsten-halogen lamps, metal halide lamps and LEDs.



# DALI

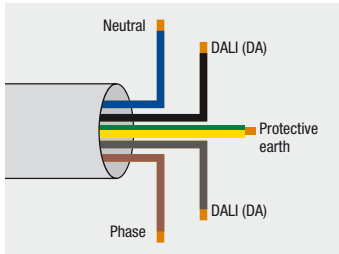
## Simplified lighting planning with DALI at a glance

- **Simple planning**

A single 2-wire control line for up to 64 devices means that the lighting groups do not have to be assigned at the planning stage. Instead, they can be simply set up later with the aid of a controller. Planning of the control line can be completely separate from planning of the power supply.

- **Simple installation**

The control line is protected against polarity reversal and can be routed together with the power supply for example in a 5-core sheathed cable. The control line simply has to be rated for line voltage (basic insulation). There is no need for special cable.



- **Requirements to be met by the transmission line**

When choosing a cable, make sure that the voltage drop on the line does not exceed 2 V at 250 mA. As with 1-10 V systems, the power supply and the control line can be run in the same cable. This means for example that a 5-core NYM cable can be used without any problems at all to connect the DALI ECGs. The maximum permitted length of cable between the controller and the connected ECGs is 300 m.

Cross-section of the power cable:

$$A = L \times I \times 0.018$$

A = Cable cross-section in mm<sup>2</sup>, L = Cable length in meters,  
I = Maximum supply current in A,  
0.018 = Specific resistance of copper

The following is used as a basis for finding the cable cross-section (transmission and supply cable):

Cable length:	Up to 100 m	100 to 150 m	150 to 300 m
Cable cross-section:	0.5 mm <sup>2</sup>	0.75 mm <sup>2</sup>	1.5 mm <sup>2</sup>

**Note:**

In view of the different technical characteristics of the DALI interface in controllers available on the market, and the different local conditions of the installation we recommend restricting the cable length used in the entire system to a maximum of 300 m.

- **Fewer components**

No relays are needed for switching the fixtures. Switching and dimming are handled exclusively via the control line.

- **Flexible for a later change of use**

With DALI, the lighting groups are not hard-wired. The individual fixtures are grouped by simply assigning them to groups with the aid of a controller. These groupings can be changed at any time.

- **Synchronized changes from one lighting scene to another**

Even if different luminaires are started at different dimmer values or different types of lamp are combined with one another, DALI changes from one lighting scene to another in synchronism. All the light sources reach the new light value at the same time.

- **Lamp status on request**

As a means of detecting failed lamps, the lamp status can be reported by a DALI device to the controller and then displayed by the controller. This feature is of particular benefit for major projects in which DALI can be very easily integrated into existing bus systems via gateways.



## MCU: simple manual dimming solutions

The DALI MCU digital rotary dimmer distinguishes between three different rotary speeds and has tactile detents so brightness can be fine-tuned in individual steps as required. Installed in a flush-mounted box and connected to the ac power supply, a DALI MCU can control 25 luminaires in this way with the integrated DALI supply. Parallel connection enables the number of fixtures per group to be increased to 100 and up to four control points can be provided.

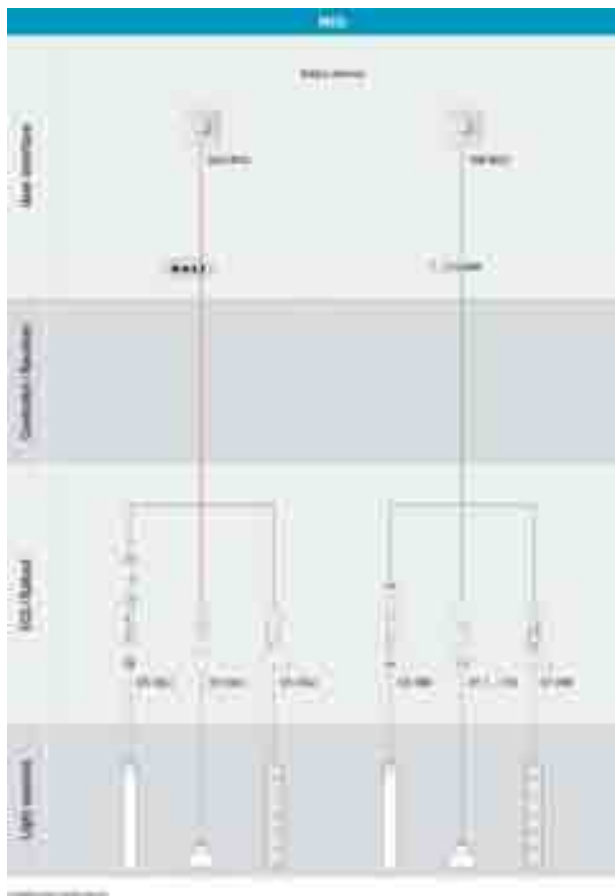
DALI MCUs connected to one another synchronize automatically; in other words, the control point can be changed at any time without the risk of annoying side effects such as sudden changes in brightness.

Thanks to its integrated relay contact the analog DIM MCU rotary dimmer enables up to ten single-lamp 1...10 V ECGs or five 2-lamp 1...10 V ECGs to be controlled directly from one control point. If an external power relay is used up to one hundred 1...10 V ECGs can be controlled.

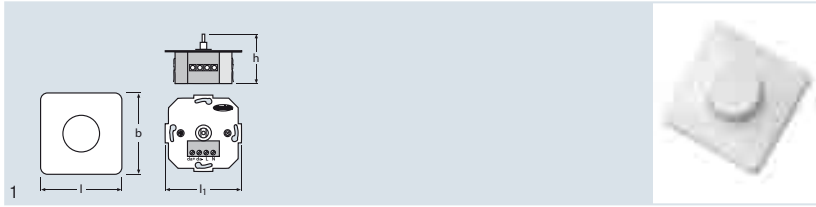
The neutral white cover can be removed from the DALI MCU and from the DIM MCU and replaced with commercially available covers.



### Applications

- Single luminaires
- Offices
- Classrooms
- Conference rooms
- Partitionable rooms



## DALI MCU



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>	<b>CONTROL</b>	<b>T<sub>a</sub></b>		
DALI MCU	4008321 <b>189721</b>	Digital rotary dimmer	230	50-60	DALI	0...+50		
<b>Product reference</b>		<b>IP</b>	<b>pro-tection class</b>	<b>COLOR</b>	<b>l [mm]</b>	<b>b [mm]</b>	<b>h [mm]</b>	
DALI MCU	Integration in flush-type box	IP20	II	white	80	80	50	15

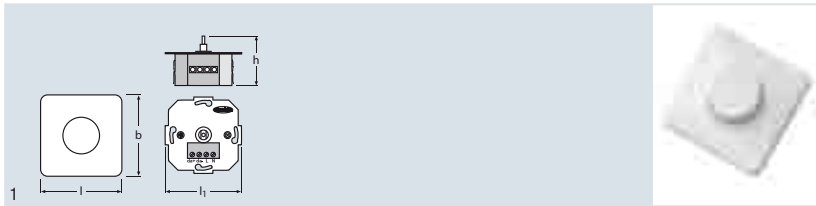
### Product characteristics



- Up to 4 DALI MCUs can be connected in parallel to set up multiple control points
- Automatic synchronization between the control points
- Power consumption: max. 2 W
- Length of the DALI control cable: 300 m

### Technical equipment

- Supplied with cover and rotary switch in neutral white
- Suitable for up to 25 ECGs
- Flexible expansion via DALI repeaters or further DALI MCUs

## DIM MCU



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>CONTROL</b>	<b>T<sub>a</sub></b>		
DIM MCU P	4050300 <b>347424</b>	Analog rotary dimmer	230	1...10 V	0...+50	Integration in flush-type box	
<b>Product reference</b>	<b>IP</b>	<b>pro-tection class</b>	<b>COLOR</b>	<b>l [mm]</b>	<b>b [mm]</b>	<b>h [mm]</b>	
DIM MCU P	IP20	II	white	80	80	40	100

### Product characteristics

- Switching contact load: 250 V/6 A (10 x 1-lamp or 5 x 2-lamp dimmable ECGs)

### Technical equipment

- Supplied with cover and rotary switch in white
- Control signal suitable for up to 100 ECGs
- Flexible expansion via external load power relay and signal amplifier DIM SA



## DALI BASIC: multifunctional lighting control for single rooms

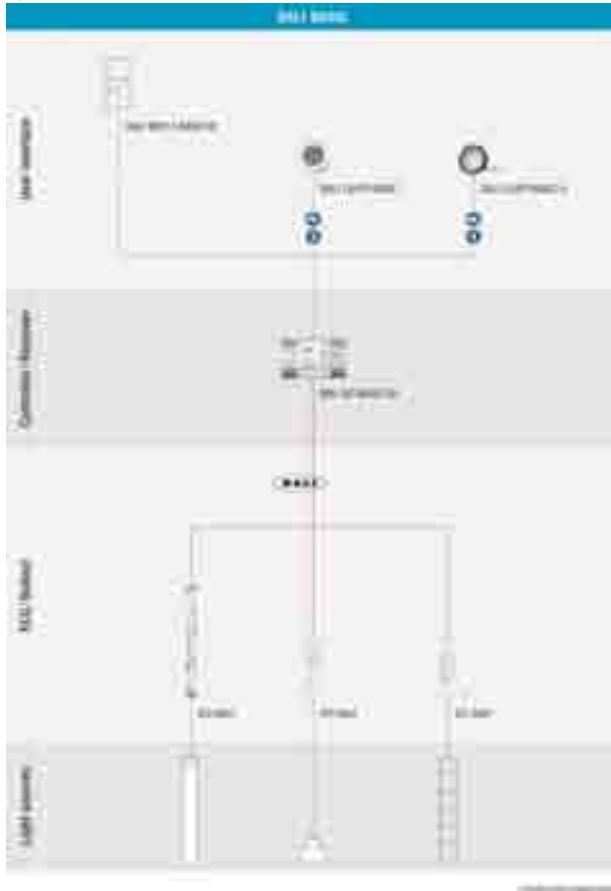
DALI BASIC light management system enables scene-based illumination and energy-saving by daylight harvesting and occupancy management. The DALI RC BASIC SO can control up to 64 DALI ECGs and up to 6 sensors. With DALI to 1...10 V converters it is also possible to integrate 1...10 V ECGs. 4 independent groups can generate up to 4 light scenes which can be stored and recalled. DALI group assignment is variable and can be modified at any time without change of the wiring. Daylight capture with lightsensors regulates the luminaires to an adequate lightlevel. Presence sensors switch off the lights if no one is in the room.

5 standard push buttons are used for configuration and control. With parallel wiring multiple control points can be installed.

### Applications

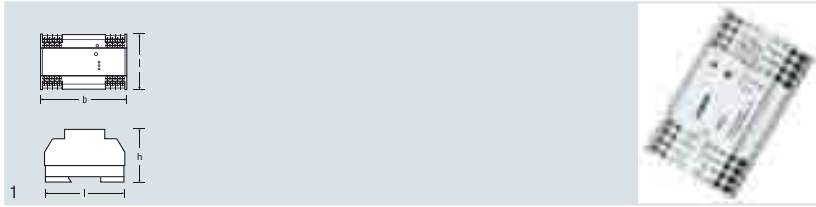
- Offices
- Conference rooms
- Classrooms
- Sports halls
- Event rooms

### System overview





## DALI RC BASIC S0



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>					
DALI RC BASIC S0	4050300654973	Controller	230	50-60	DALI	0...+45	
<b>Product reference</b>							
DALI RC BASIC S0	Snap-in	IP20	II	90	140	62	18

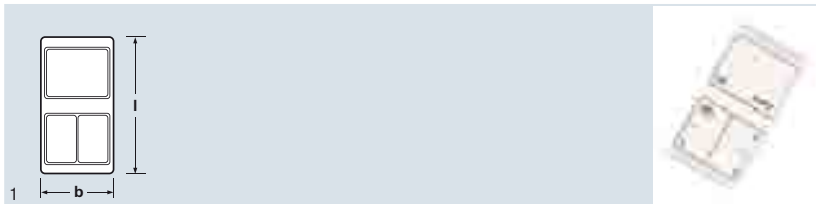
### Product characteristics

- Presence detection with user-definable delay (1 to 30 minutes)
- Integrated floating fault contact for lamp failure detection
- Operation of up to 4 lighting groups (1 of which under daylight-dependent control)
- Operation of up to 4 freely assignable lighting groups (3 of which under daylight-dependent control)
- 3 inputs for up to 6 light and/or presence sensors
- 5 inputs for push buttons with make contacts for startup/operation
- Maximum power draw: 9 W

### Technical equipment

- Suitable for up to 64 DALI ECGs
- Flexible expansion via DALI repeaters

## DALI WCU 5 BASIC



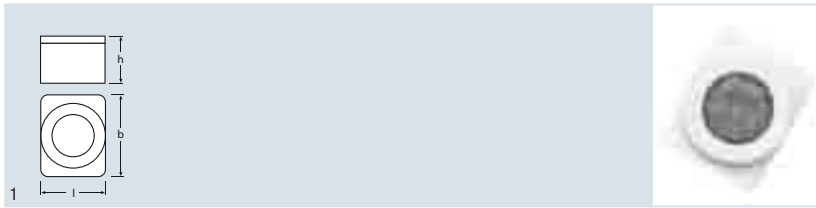
<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>		
DALI WCU 5 BASIC W	4050300771106	5-way switch	Integration in flush-type box	
<b>Product reference</b>				
DALI WCU 5 BASIC W	white	151	80	50











### Product characteristics

- 5 floating push to make contacts
- Mounting in standard flush-type boxes
- Color: Neutral white



## DALI LS/PD BASIC



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>				
DALI LS/PD BASIC	4050300639949	Light and presence sensor	Analog	100 <sup>1)</sup>	0...400 <sup>1)</sup>	6
<b>Product reference</b>						
DALI LS/PD BASIC	Luminaire installation   Ceiling mounting	IP20	59 [mm]	71 [mm]	42 [mm]	50

1) Approx.

### Product characteristics

- Light and presence sensor for luminaire installation and ceiling mounting
- Can also be used purely as light sensor or purely as presence sensor
- Color: Neutral white

### Technical equipment

- Installation in T8 louvers with supplied mounting clip for attaching to fluorescent lamps



## DALI PROFESSIONAL: flexible light management system for large rooms and multiroom solutions

The DALI PROFESSIONAL system with its 4 interactive DALI lines (256 DALI ECGs) is suitable for complex applications in room and floor control, daylight-dependent regulation, RGB control and dynamic lighting.

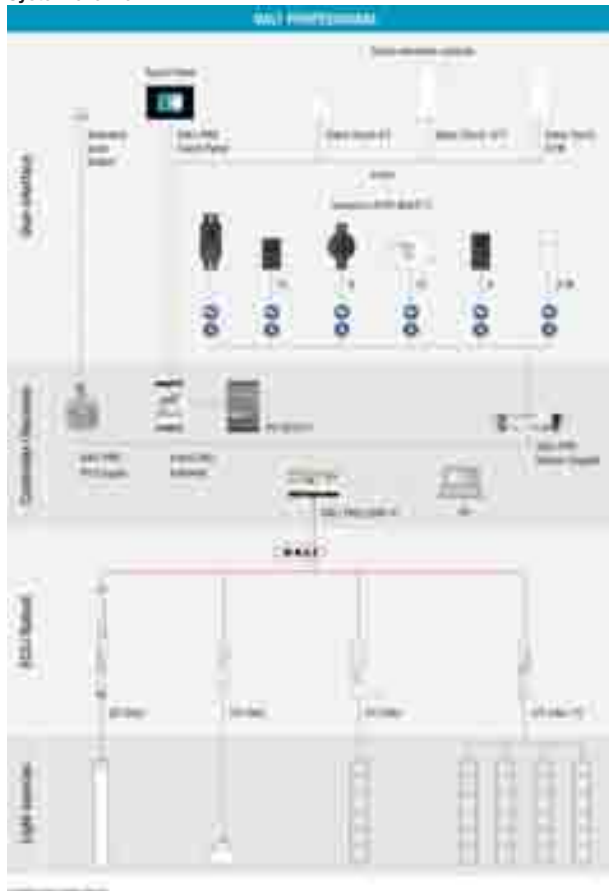
Configuration and setup are easy to achieve with Windows based PC software and USB port. Plug&Play settings are preconfigured for instant use without any setup.

Standard push buttons are used to connect via the DALI PRO Pushbutton Coupler to the system. Furthermore DALI PRO Sensorcoupler integrates all light- and occupancy sensors from LS/PD MULTI 3 family. In total a maximum of 50 couplers can be attached to the system. Capacitive glass touch panels and a touch screen are available as attractive and functional input devices.

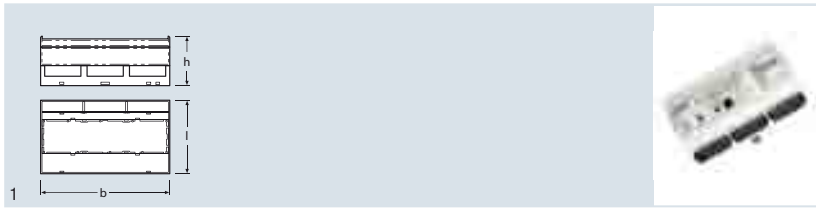
### Applications

- Offices
- Restaurants
- Retail outlets
- Storage areas
- Production and assembly facilities

### System overview





## DALI PRO CONT-4



Product reference	Product number	Product description	Hz	CONTROL	No. of OUTPUTS	T <sub>a</sub>
DALI PRO Cont-4	4008321 <b>478948</b>	Controller	50-60	DALI	4	0...+40
DALI PRO Cont-4 RTC	4008321 <b>710871</b>	Controller	50-60	DALI	4	0...+40

Product reference		IP	pro-tection class	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DALI PRO Cont-4	Snap-in	IP20	I	90	160	62	4
DALI PRO Cont-4 RTC	Snap-in	IP20	I	90	160	62	10

NEW

### Product characteristics

- Controller for 4 DALI lines
- Up to 50 pushbutton/sensor couplers can be integrated
- Integrated DALI supply
- Load contact: 4 x 5 A
- Daylight-dependent and/or presence-dependent or manual control
- Up to 4 x 16 groups can be controlled
- USB PC connection
- RTC version: Integrated real-time clock for configuring any daily schedules

### Product benefits

- Plug&Play preconfigured for instant use without any startup procedure
- 4 freely programmable switchover relays

### Applications

- Room control, floor control, daylight-dependent control

### Technical equipment

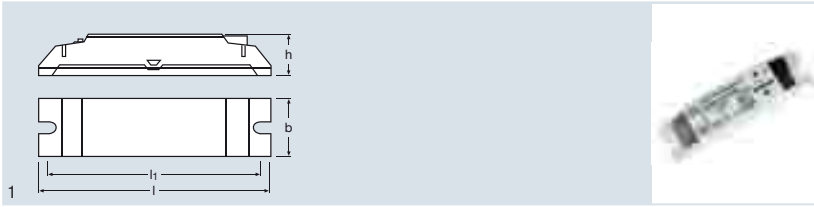
- Suitable for up to 256 ECGs with DALI interfaces
- Graphic configuration software with Windows interface








### References

For configuration software go to [www.osram.com/software](http://www.osram.com/software)



## DALI PRO Sensor Coupler



Product reference	Product number	Product description	CONTROL	No. of OUTPUTS	T <sub>a</sub>		
DALI PRO Sensor Coupler	4008321379269	Sensor coupler	DALI	1	0...+50		
Product reference							
DALI PRO Sensor Coupler	Luminaire installation   Ceiling installation	IP20	II	118 [mm]	30 [mm]	21 [mm]	25

### Product benefits

- Power supply via DALI
- Sensor integration in DALI

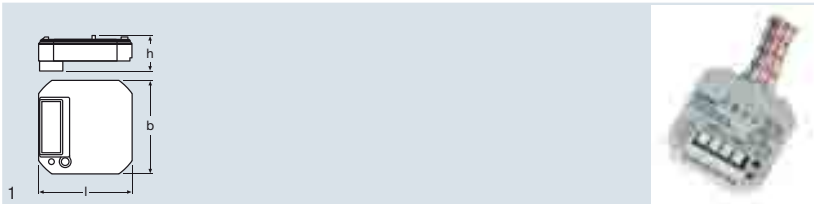
### Applications








- Connection of light and presence sensors in DALI systems

### Technical equipment

- Suitable for all light and presence sensors from the MULTI 3 range

## DALI PRO PB Coupler



Product reference	Product number	Product description	CONTROL	T <sub>a</sub>		
DALI PRO PB Coupler	4008321496461	Pushbutton coupler	DALI	0...+50	Integration in flush-type box	
Product reference						
DALI PRO PB Coupler	IP20	II	42 [mm]	42 [mm]	20 [mm]	20

### Product characteristics

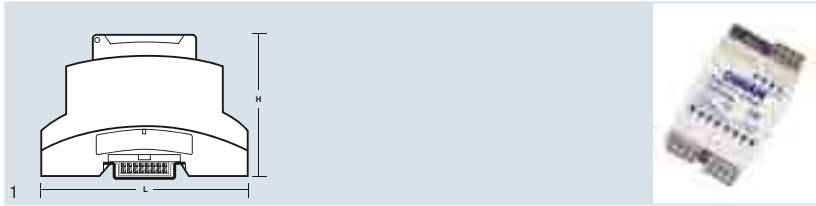
- 4 floating inputs
- For integrating pushbuttons/switches
- For switching, dimming, scene recall

### Product benefits

- Power supply via DALI
- Standard pushbuttons/switches can be used



## E-BUS DALI Gateway



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>T<sub>a</sub></b>		
e:bus DALI Gateway	4008321957085	DALI gateway	24	0...+50	Snap-in	
<b>Product reference</b>	<b>IP</b>	<b>protection class</b>	<b>l [mm]</b>	<b>b [mm]</b>	<b>h [mm]</b>	
e:bus DALI Gateway	IP20	II	90	54	60	8

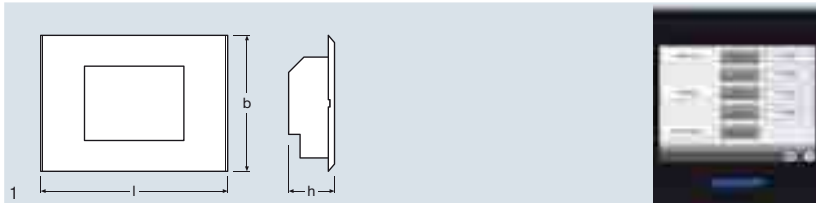
### Product characteristics

- Interface between DALI PRO CONT-4 and Touch Panel or Glass Touches
- Control elements supplied via the communication bus

### Technical equipment

- 24 V supply needed (e.g. PS 30/24 V)

## DALI PRO Touch Panel



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>T<sub>a</sub></b>		<b>IP</b>
DALI PRO Touch Panel	4008321957009	Touchpanel	0...+40	Integration in flush-type box	IP20
<b>Product reference</b>	<b>protection class</b>	<b>l [mm]</b>	<b>b [mm]</b>	<b>h [mm]</b>	
DALI PRO Touch Panel	III	220	160	54	1

### Product characteristics

- High-resolution 5.7" LCD touch screen
- Supply via the e:bus DALI gateway
- Dimming and switching of all connected luminaires
- Timed programming of on/off switching of groups
- Individual objects such as backgrounds, logos, keys or floor plans can be inserted
- Simple and flexible configuration via Windows software (Windows XP and higher)

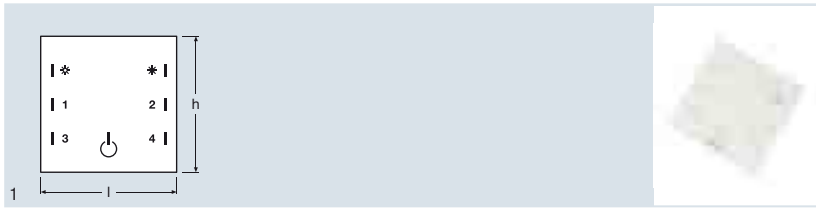
### Technical equipment

- Flush-type boxes available for installation in cavity or solid walls

### References

For configuration software go to [www.osram.com/software](http://www.osram.com/software)

## Glass Touch 6



Product reference	Product number	Product description	T <sub>a</sub>	Mounting	IP	
Glass Touch 6	4008321957108	Glass touch element	0...+40	Wall mounting	IP20	
Product reference	COLOR	protection class	l [mm]	b [mm]	h [mm]	Mounting
Glass Touch 6	white	III	80	11	80	8

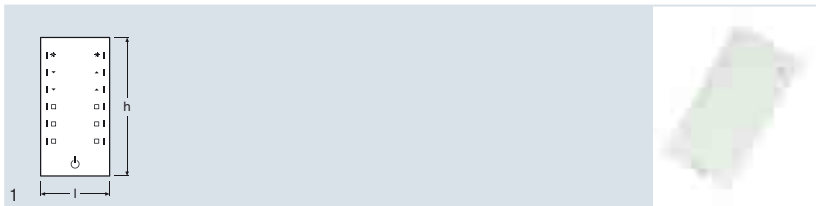
### Product characteristics

- 6 pushbutton functions
- Glass touch screen
- Supply via the e:bus DALI gateway

### Product benefits

- Smooth real glass surface, extremely low profile
- All luminaires in the system can be dimmed or switched

## Glass Touch 12



Product reference	Product number	Product description	T <sub>a</sub>	Mounting	IP	
Glass Touch 12	4008321957115	Glass touch element	0...+40	Wall mounting	IP20	
Product reference	COLOR	protection class	l [mm]	b [mm]	h [mm]	Mounting
Glass Touch 12	white	III	80	11	160	4

### Product characteristics

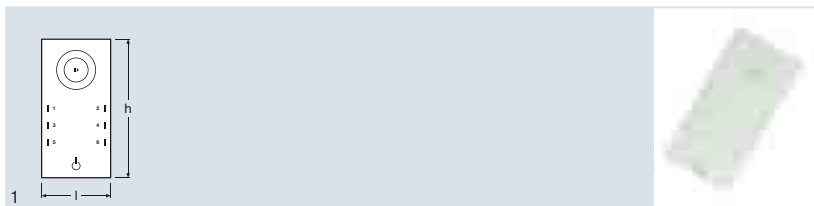
- 12 pushbutton functions
- Glass touch screen
- Supply via the e:bus DALI gateway










### Product benefits

- Smooth real glass surface, extremely low profile
- All luminaires in the system can be dimmed or switched



# Glass Touch 6 TW



Product reference	Product number	Product description				
Glass Touch 6 TW	4008321957054	Glass touch element	0...+40	Wall mounting	IP20	
Product reference						
Glass Touch 6 TW	white	III	80 [mm]	11 [mm]	160 [mm]	4

## Product characteristics

- 6 pushbutton functions + Touch Wheel
- Glass touch screen
- Supply via the e:bus DALI gateway

## Product benefits

- Smooth real glass surface, extremely low profile
- All luminaires in the system can be dimmed or switched





## ENCELIUM – the holistic light management system for intelligent buildings

ENCELIUM is a holistic light management system that aims to improve personal lighting comfort and to achieve optimum energy savings with very short pay-back time. Combining the user-friendly 3D control software with the freely addressable switching and dimming functions, ENCELIUM is able to create the right light in the right place with optimum quality while at the same time avoiding unnecessary energy consumption.

ENCELIUM is much more than just a light management system for saving energy.

- **Three control options:** Employees can adjust the light at their workplaces to suit their particular work and their personal preferences, facility managers can control the entire lighting system, and energy supervisors have the option of controlling the lighting system as part of the facility management strategy to achieve maximum energy savings.
- **Improvements in ergonomics, productivity and satisfaction** come from improvements in the quality of light and from the ability of each and every employee to adjust their own workplace light directly from their own PCs.
- **Enhancement of the “green image” of the building and easier achievement of energy certificates (e.g. LEED):** ENCELIUM solutions help in the certification process, depending on the specific application and other factors.
- **Dynamic adjustment of light settings according to changes in building usage:** Changes in the use of a building, internal layout renovation and variations in lighting requirements can be easily managed by the ENCELIUM 3D software, without having to change any cabling or fixture.
- **Use of light management as a basis for overall energy management:** With the ability to shed lighting load dynamically, ENCELIUM can be used to share energy peaks. ENCELIUM constantly monitors the energy consumption, being able to predict and avoid sharp increases of energy demand, without affecting the lighting quality.

ENCELIUM uses sophisticated data processing programs and special algorithm functions to mix six innovative strategies for optimum energy savings:

- **Smart Time Scheduling:** In areas of a building where presence detection is not used there is the option of switching and/or dimming the lights at scheduled times.
- **Daylight Harvesting:** By using daylight sensors the artificial lighting in the building is automatically adjusted according to the amount of available daylight.
- **Task Tuning:** Maximum light level can be defined for particular workplaces or for particular tasks to avoid over lighting and therefore excessive energy consumption.
- **Occupancy Control:** By using presence sensors it is possible to automatically switch the light on and off or dim it depending on whether or not there is anyone in the room.
- **Personal Control:** Personal Control Software enables the light at every workplace to be individually adjusted directly by a PC.
- **Variable Load Shedding:** Automatic reduction of electrical demand at building level by shedding dynamically lighting load to avoid consumption peaks.

For more information on ENCELIUM go to the OSRAM LMS website.  
[www.osram.com/lms](http://www.osram.com/lms)



## IQ Light Control: light management for the home

Lighting for the home provides scope for creating a pleasant atmosphere.

With the **IQ Light Control** product family the lighting can be easily upgraded to give greater comfort, convenience and energy savings.

The **IQ Light Control** product family comprises the following:

- Switches
- Dimmers
- Plugs
- Sensors
- Remote control

With products from the **IQ Light Control** family you can create dynamic and individual lighting scenes that will give your home a completely new look.

Benefits of **IQ Light Control**:

- **Simple installation:** All the products can be installed without the need for complex cabling
- **Grouping:** Different fixtures can be controlled together or separately
- **Customizing:** Personal settings can be stored and recalled at the touch of a button
- **Expansion:** The system can be expanded at any time to almost any size by adding further components
- **Flexibility:** Lamps, luminaires and components can be placed anywhere – and be remote controlled
- **Compatibility:** Can be combined with many other products that use “ZigBee LightLink” technology

Configuration is intuitive, and the products are easy to operate – making them ideal for residential applications where users can control the lighting to suit their own personal tastes.

The **ZigBee Allianz** comprises around 400 companies working together on open standards for communication in wireless networks for various areas of application.



**ZigBee LightLink** focuses on light and lighting and their simple and convenient usage:

- **Simple:** Setup, configuration and control are handled by remote control in just a few steps – with no need for PC software or expert know-how
- **Wide:** All the devices communicate with each other in a single network for optimum links throughout the home. The range is increased with every plug or switch.
- **Secure:** Communication between the products is encoded so only the lighting connected to the particular network is controlled
- **Economical:** Low consumption means long battery life, for example for remote controls



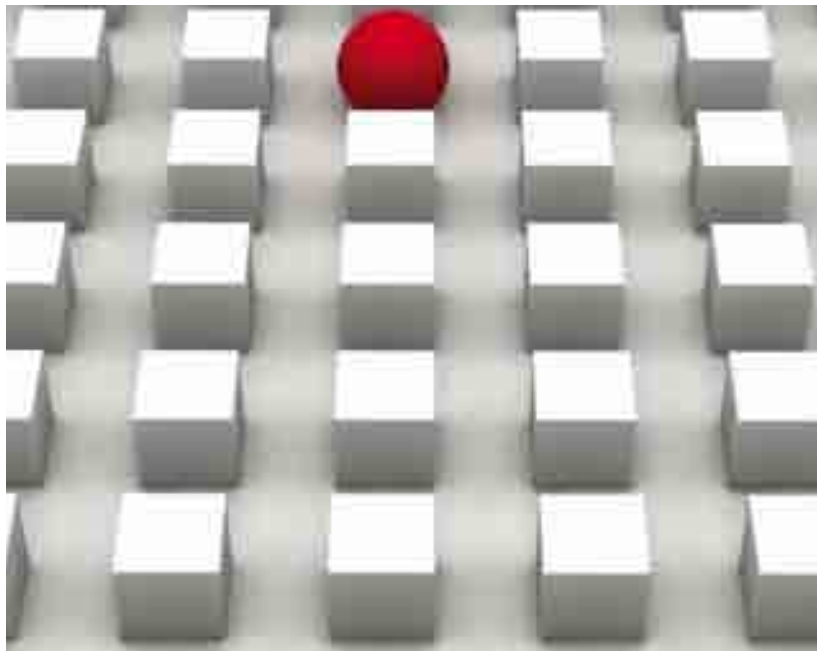
For more information on the IQ Light Control product family go to <http://www.osram.com/lms>

## LMS components: non-system-specific components from OSRAM

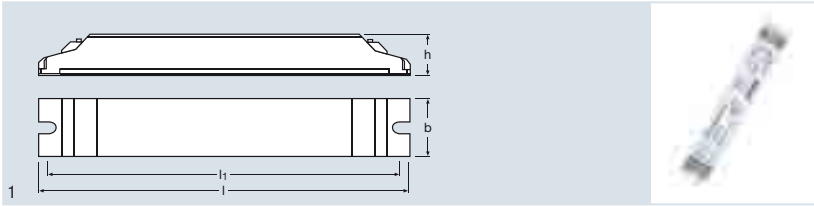
Expand, connect and install light management systems – all from a single source with non-system-specific components from OSRAM.







These accessories, perfectly matched to OSRAM products in terms of quality and compatibility, make installing, connecting and expanding innovative light management systems extremely simple. OSRAM rounds off its offering with non-system-specific components:

- Signal repeaters
- Signal converters
- Signal amplifiers
- Radio-controlled components
- Connectors
- Installation kits



# DALI REP LI



<b>Product reference</b>	<b>Product number</b>	<b>Product description</b>	<b>V</b>	<b>Hz</b>	<b>CONTROL</b>	<b>T<sub>a</sub></b>	
DALI REP LI	4008321 <b>292599</b>	Signal amplifier	100-240	50-60	DALI	0...+50	
<b>Product reference</b>		<b>IP</b>					
DALI REP LI	Luminaire installation	IP20	I	189 [mm]	30 [mm]	21 [mm]	25

## Product characteristics

- Expansion of DALI systems by 64 ECGs per repeater
- Extension of the DALI line by 300 m
- Touch DIM® control of 64 DALI ECGs
- ECGs connected to the repeater operate as a group
- Maximum input power: 4 W

## Product benefits

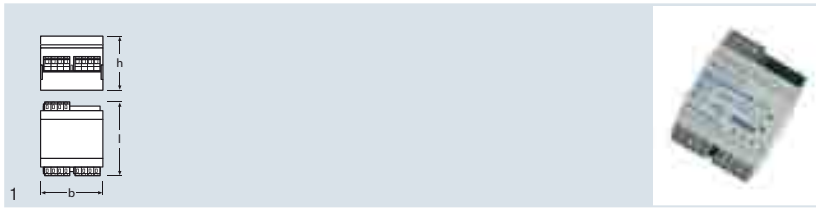
- The repeaters can be addressed via DALI
- The repeaters are cascadable



## Technical equipment

- Separate installation possible with LMS CI BOX



## DALI REP S0



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
DALI REP S0	4008321301093	Signal amplifier	100-240	50-60	DALI	0...+50	
Product reference		IP	pro-tection class	I [mm]	b [mm]	h [mm]	
DALI REP S0	Snap-in	IP20	I	96	72	62	16

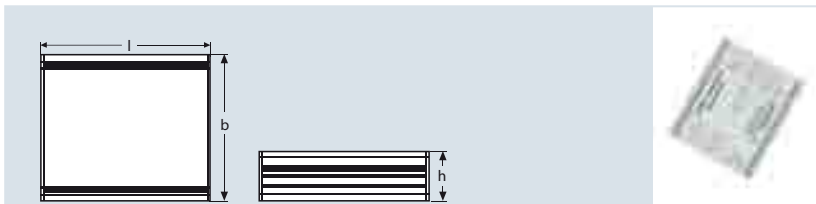
### Product characteristics



- Expansion of DALI systems by 64 ECGs per repeater
- Extension of the DALI line by 300 m
- Touch DIM® control of 64 DALI ECGs
- The ECGs connected to the repeater operate as a group
- Standby consumption: max. 1 W

### Product benefits

- Disconnection of ECG standby power via integrated load contact
- The repeaters can be addressed via DALI
- The repeaters are cascadable

## DMX ISOLATED REP



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
DMX ISOL REP	4008321621832	Isolated DMX signal repeater	48	0	DMX	0...+50	
Product reference		IP	pro-tection class	I [mm]	b [mm]	h [mm]	
DMX ISOL REP	Luminaire installation	IP20	III	80	72	24	10

### Product characteristics

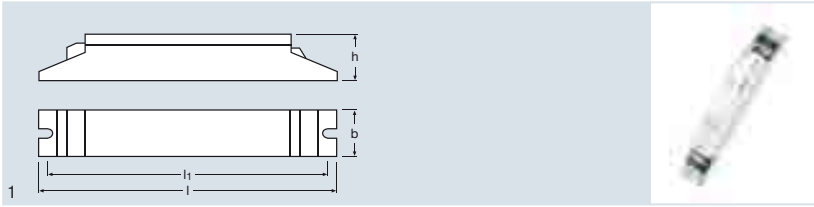
- Increase in the number of DMX devices by 32
- Extension of the signal cable length by 300 m
- Processing of the DMX and RDM signal
- Supply voltage: 9...48 V DC



### Product benefits

- Integrated isolated barrier and galvanic separation between in- and output



## DIM SA



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
DIM SA	4008321097095	Signal amplifier	220-240	50-60	1...10 V	0...+50	
Product reference		IP	pro-tection class	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DIM SA	Luminaire installation	IP20	I	189	30	30	40

### Product characteristics

- Signal amplifier for 1...10 V controllers and sensors
- Load capacity of the output signal: max. 100 mA

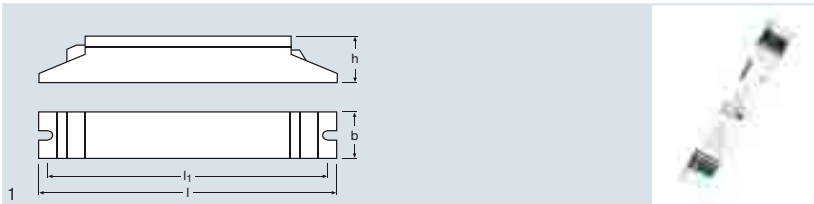
### Product benefits



- Supports large luminaire groups and long control lines
- Signal amplifiers are cascadable

### Technical equipment

- Suitable for up to 100 ECGs
- Suitable for up to 33 DIM SA signal amplifiers

## DALI CON 1...10 LI



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
DALI CON 1-10 LI	4050300638973	Converter from DALI to 1...10V	220-240	50-60	DALI	0...+50	
Product reference		IP	pro-tection class	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
DALI CON 1-10 LI	Luminaire installation	IP20	I	190	30	27	40

### Product characteristics

- Load capacity of the output signal: max. 100 mA
- 0...10 V max. 5 mA active
- Load capacity of switching contact: 5 A
- Touch DIM® control of 1...10 V ECGs

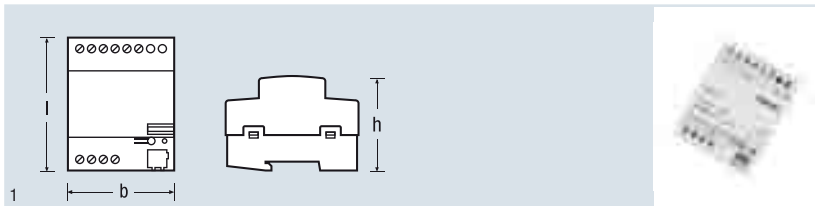
### Product benefits



- Can be used purely as a switching actuator
- Switchable characteristic linear/logarithmic

### Technical equipment

- Suitable for up to 100 ECGs
- Suitable for up to 33 DIM SA signal amplifiers

## DALI CON 1...10 S0



Product reference	Product number	Product description	V	Hz	CONTROL	T <sub>a</sub>	
DALI CON 1-10 S0	4050300639802	Converter from DALI to 1...10V	220-240	50-60	DALI	0...+45	
Product reference		IP	pro-tection class	l [mm]	b [mm]	h [mm]	
DALI CON 1-10 S0	Snap-in	IP20	II	90	72	64	16

### Product characteristics

- Load capacity of the output signal: max. 100 mA
- 0...10 V max. 5 mA active
- Load capacity of switching contact: 5 A
- Touch DIM® control of 1...10 V ECGs

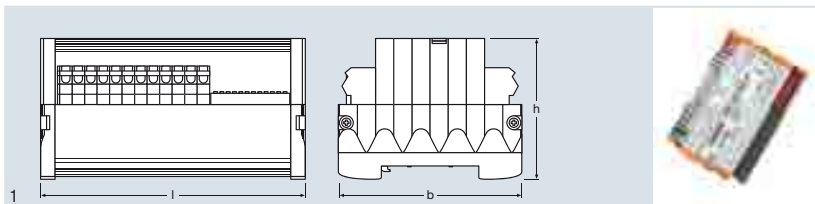
### Product benefits



- Can be used purely as a switching actuator
- Switchable characteristic linear/logarithmic

### Technical equipment

- Suitable for up to 100 ECGs
- Suitable for up to 33 DIM SA signal amplifiers

## DMX CON DALI S0



Product reference	Product number	Product description	V	Hz		
DMX CONV DALI S0	4008321532336	Converter DMX to DALI	100-240	50-60	Snap-in	
Product reference	IP	pro-tection class	l [mm]	b [mm]	h [mm]	
DMX CONV DALI S0	IP20	I	107	76	59	10

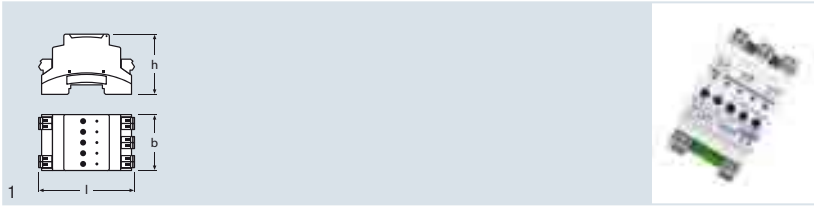
### Product characteristics








- 6 DALI broadcast outputs
- Manual and automatic DMX addressing modes
- Immediate ignition of FL lamps (only in connection with QTl DALI ECGs)
- Number of DMX channels to be converted (1-6) can be set
- Automatic amplification of the DMX output signal

### Technical equipment

- Suitable for up to 96 ECGs

## DALI Switch S0

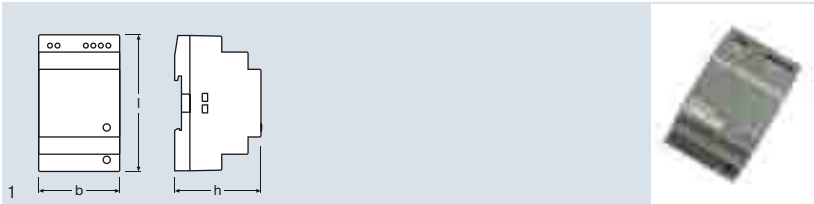








Product reference	Product number	Product description	V	Hz	T <sub>a</sub>		
DALI SWITCH S0	4008321533364	3-way switching actuator	24	0	0...+45		
Product reference							
DALI SWITCH S0	Snap-in	IP20	II	96	54	62	8

### Product characteristics

- DALI-controlled switched output for incandescent lamps, QT, OT, PT, HT control gear
- 3 independent load contacts
- Switch contact load capacity 6 A ohmic load
- Supply voltage 24 V DC
- Floating contacts

## Power Supply PS 30



Product reference	Product number	Product description	V	Hz	T <sub>a</sub>	
PS 30	4008321555311	Power supply	100-240	50-60	-20...+55	
Product reference						
PS 30	Snap-in	IP20	90	54	58	200

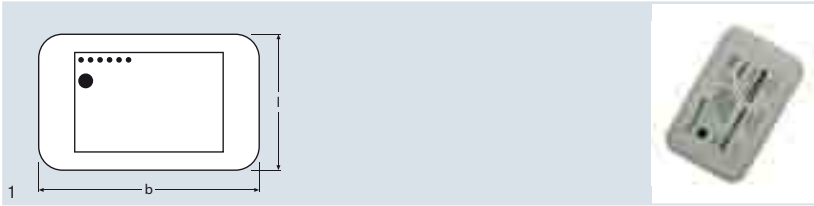
### Product characteristics


- 24 V DC output voltage
- 1.3 A output current





## DALI magic



Product reference	Product number	Product description	V	Hz	CONTROL
DALI magic	4008321582768	DALI configuration tool	220-240	50-60	DALI
Product reference	IP	l [mm]	b [mm]	h [mm]	
DALI magic	IP20	79	120	28	1

### Product characteristics

- Standard USB interface
- Testing, analysis and programming of DALI systems via Windows PC (Windows XP and higher)
- PC-independent: central switching and dimming DALI lighting systems

### Features of the associated DALI wizard software (included)

- Intuitive configuration of up to 64 DALI ECGs
- Offline/online configuration of DALI installations
- "DALI Spy" functionality for recording the DALI data flow

### Features of the 3DIM Tool software

- Programming of OSRAM ECGs with 3DIM functionality
- Visualization of individual AstroDIM and StepDIM operation

### Applications

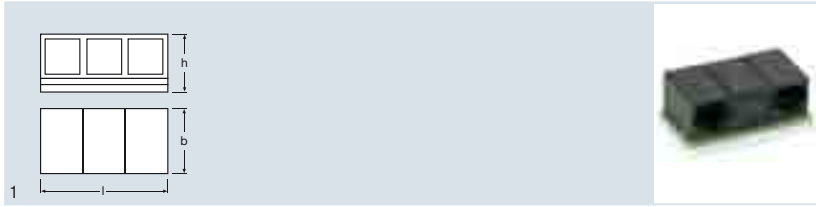
- Analysis and configuration tool for DALI and 3DIM applications

### References

- For configuration software see [www.osram.com/software](http://www.osram.com/software)



## Y-CONNECTOR



Product reference	Product number	Product description	IP	protection class
Y-CONNECTOR	4050300803135	Y connector	IP20	III
Product reference	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
Y-CONNECTOR	34	18	16	25

### Product characteristics

- Passive distributor
- Connections: 3 modular 4p4c sockets
- Type of mounting: Adhesive pad

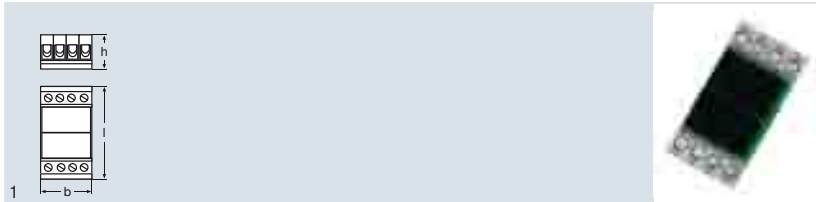
### Product benefits

- Enables multiple sensors to be connected in parallel to a MULTITECO/MULTI 3 system
- Enables multiple EASY system components to be synchronized and interconnected

### Technical equipment

- 2 connecting cables included, modular 4p4c connector on both ends, length 2.1 m
- Suitable for all OSRAM components with modular 4p4c connector system

## Y-CONNECTOR SCREW



Product reference	Product number	Product description	IP	protection class
Y-CONNECTOR SCREW	4008321916686	Y connector	IP20	III
Product reference	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	
Y-CONNECTOR SCREW	40	20	16	25

### Product characteristics

- Passive distributor
- Connection via 2x4-pole screw terminal or modular 2x4p4c connector
- Type of mounting: Adhesive pad

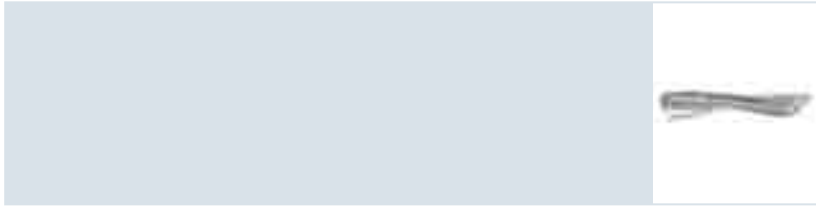
### Product benefits


- Enables multiple sensors to be connected in parallel to a MULTITECO/MULTI 3 system
- Enables multiple EASY system components to be synchronized and interconnected

### Technical equipment


- 2 connecting cables included, modular 4p4c connector on both ends, length 2.1 m
- Suitable for all OSRAM components with modular 4p4c connector system

## CONNECTION CABLES



Product reference	Product number	Product description		IP
CABLE 25CM	4008321 <b>660145</b>	4p4c connecting cable	4p4c	IP20
CABLE 50CM	4008321 <b>660152</b>	4p4c connecting cable	4p4c	IP20
CABLE 100CM	4008321 <b>660169</b>	4p4c connecting cable	4p4c	IP20
CABLE 200CM	4008321 <b>660190</b>	4p4c connecting cable	4p4c	IP20

Product reference	COLOR	l [mm]	b [mm]	h [mm]	
CABLE 25CM	grey	250	5	2	50
CABLE 50CM	grey	500	5	2	50
CABLE 100CM	grey	1000	5	2	50
CABLE 200CM	grey	2000	5	2	50

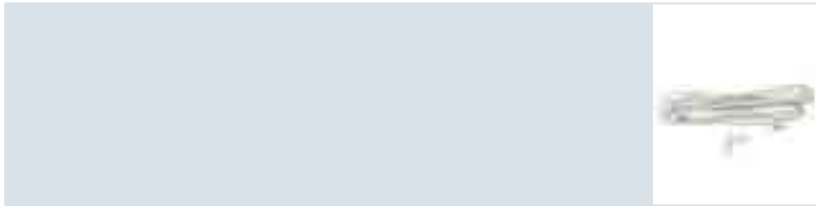
### Product characteristics


- Cable for modular 4p4c connection, pack of 50

### Applications


- Suitable for all OSRAM components with modular 4p4c connector system

## HIGH TEMPERATURE CONNECTION CABLES



Product reference	Product number	Product description		IP
HIGH TEMP CABLE 200CM + SENSORCLIP	4008321 <b>660992</b>	4p4c connecting cable	4p4c	IP20

Product reference	COLOR	l [mm]	b [mm]	h [mm]	
HIGH TEMP CABLE 200CM + SENSORCLIP	white	2000	5	2	25

### Product characteristics

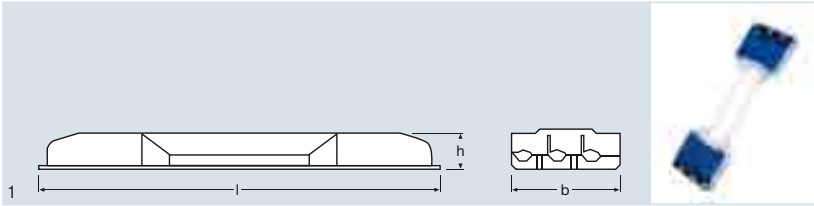
- High temperature cable (up to 125°C)
- Cable for modular 4p4c connection, pack of 25






### Applications

- Mounts onto T5 or T8 luminaire grid for LS/PD MULTI 3 A and LS/PD MULTI 3 A-w



## LMS CI BOX



Product reference	Product number	Product description		
LMS CI BOX	4008321 <b>083692</b>	Installation kit	Ceiling installation	
Product reference				
LMS CI BOX	261	71	27	40

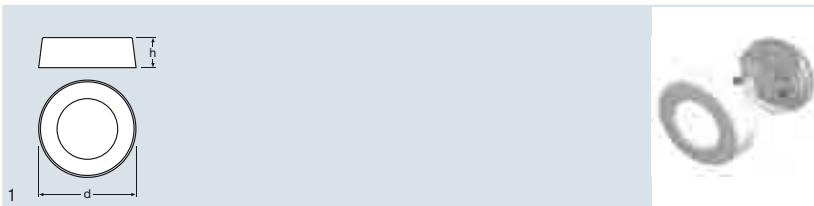
### Product characteristics






- Casing with cable clamp for independent mounting

### Applications

- Suitable for all OSRAM controllers with dimensions of 189 mm x 30 mm x 21 mm

## SENSOR KIT



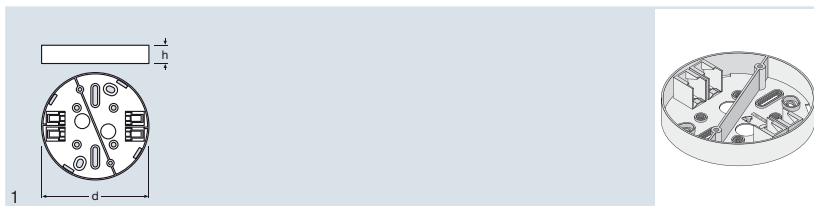
Product reference	Product number	Product description		
SENSOR KIT	4008321 <b>916662</b>	Installation kit	Ceiling mounting	
Product reference				
SENSOR KIT	white	80	25	10

### Applications

- Adapter for surface mounting of sensor elements with a diameter of 50 mm



## Mounting Adapter

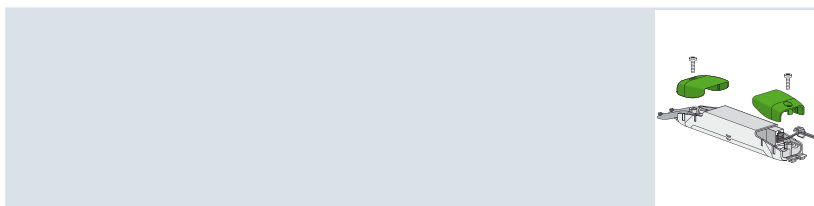


Product reference	Product number	Product description	 d (mm)	 h (mm)	
MOUNTING ADAPTER	4008321480798	Mounting adapter	116	19	20

### Applications

- Adapter for surface mounting of sensor elements with a diameter of 116 mm

## ECO CI KIT



Product reference	Product number	Product description		
ECO CI KIT	4008321392091	Installation kit	Ceiling installation	100

### Product characteristics

- Cable clamp for separate installation

### Applications

- Suitable for all OSRAM controllers with dimensions of 118 mm x 30 mm x 21 mm



# OSRAM lamps with the Energy Label

## Energy labeling of lamps for household applications.

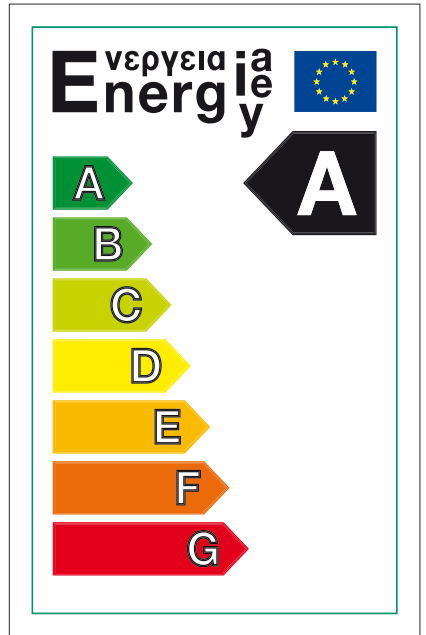
In line with Directive 98/11/EC\* and the Energy Consumption Labeling Ordinance\*\*, lamps for household applications must have an energy label.

### The Energy Label

This label shows which of the seven classes of energy efficiency the household lamp has been assigned to. A stands for “very efficient” and G for “least efficient”.

Here are some sample classifications:

- LED lamps  
Always in Class A
- Compact fluorescent and fluorescent lamps:  
Classes A and B
- Halogen lamps:  
Mostly classes C and D
- Incandescent lamps:  
Class E



As specified in the above-mentioned directive, lamps are assigned to the energy efficiency classes according to their measured luminous flux and power draw. The methods used for measuring these values are defined in DIN EN 50285 “Energy efficiency of electric lamps for household use, measuring methods”. This standard includes references to the relevant lamp standards. In Germany, the Federal States are responsible for checking for compliance with this Directive. The energy efficiency classes are currently being redefined and are likely to come into force in 2013. The energy efficiency classes will then range from A++ to E.

\* Directive 98/11/EC of the Commission dated 27.01.1998 for implementing Directive 92/75/EEC of the Council regarding the energy labeling of household lamps  
\*\* First ordinance dated 26.11.1999 for amending the Energy Consumption Labeling Ordinance of 30.10.1997

# Energy labeling


LED lamps	11.02
Halogen lamps	11.03
Compact fluorescent lamps	11.05
Fluorescent lamps	11.12
General lighting service lamps	11.20

Lamps affected	Wattage range
You will find the Energy Label on the following lamps:	
General lighting service lamps (incandescent lamps)	≤ 200 W
Other incandescent lamps without reflectors (candle, round, etc.)	≤ 100 W
Compact fluorescent lamps of all types*	All
Energy-saving lamps, i.e. compact fluorescent lamps with integrated control gear (electronic or magnetic)	All
Tubular fluorescent lamps with Ø 16, 26 and 38 mm (T5, T8, T12)	≤ 58 W or ≤ 6500 lm
Circular or rectangular fluorescent lamps	All
Single-ended halogen lamps for line voltage	All
Double-ended halogen floodlight lamps	> 4 W or < 6500 lm
Lamps not affected	Wattage range
The following lamps are exempt from the energy labeling requirements:	
All lamps with very high luminous flux	> 6500 lm
Low-voltage lamps	All
Reflector lamps of all kinds	All
Lamps that are not used for generating light in the wavelength range from 380 nm to 780 nm (IR, UV, colored, black-light and similar lamps)	All
Lamps for special applications	All
High-intensity discharge lamps and low-pressure sodium lamps	All
* Lamps with 2G10 and 2G11 bases and U-shaped fluorescent lamps are used primarily in commercial applications. To ensure uniform handling, these lamps should also have an energy label.	

## Information on the fixture packaging

In cases in which lamps are included with the fixture, either with or without its own packaging, there is no requirement for the fixture to be labeled.

## LED lamps


Product reference		lm	W	t[h]	Page reference
<b>PARATHOM® CLASSIC A</b>					
CL A 40 adv FR WW	A	470	8.5	25000	1.07
CL A 60 adv FR WW	A	810	12	25000	1.07
CL A 40 340° adv FR WW	A	470	8	30000	1.07
CL A 60 340° adv FR WW	A	810	12	30000	1.07
CL A 75 340° adv FR WW	A	1055	14.5	30000	1.07
CL A 60 adv FR WW LEDOTRON	A	<sup>1)</sup>	12	25000	1.07
<b>PARATHOM® CLASSIC B</b>					
CLASSIC B 25 FR WW	A	250	4.5	25000	1.08
<b>PARATHOM® CLASSIC P</b>					
CL P 25 FR WW	A	250	4.5	25000	1.09
CL P 25 FR WW	A	250	4.5	25000	1.09
<b>LEDinestra®</b>					
LEDinestra WW FR S14d	A	250	6	12000	1.10
LEDinestra WW FR S14s	A	250	6	12000	1.10
<b>PARATHOM® LED PIN G4</b>					
PARATHOM LED PIN G4	A	80	1.5	15000	1.11

<sup>1)</sup> In preparation






# Halogen lamps

Product reference		lm	W	Page reference
<b>HALOGEN ECO PRO CLASSIC A</b>				
64541 A PRO	C	235	20	3.02
64542 A PRO	C	405	30	3.02
64543 A PRO	C	700	46	3.02
64544 A PRO	C	915	57	3.02
64547 A PRO	C	1320	77	3.02
64548 A PRO	C	2135	116	3.02
<b>HALOGEN ECO PRO CLASSIC B</b>				
64541 B PRO	C	235	20	3.03
64542 B PRO	C	405	30	3.03
64543 B PRO	C	700	46	3.03
64542 B PRO	C	405	30	3.03
64543 B PRO	C	700	46	3.03
<b>HALOGEN ECO PRO CLASSIC BW</b>				
64542 BW PRO	C	405	30	3.04
64543 BW PRO	C	700	46	3.04
<b>HALOGEN ECO PRO CLASSIC P</b>				
64541 P PRO	C	235	20	3.05
64542 P PRO	C	405	30	3.05
64543 P PRO	C	700	46	3.05
64541 P PRO	C	235	20	3.05
64542 P PRO	C	405	30	3.05
64543 P PRO	C	700	46	3.05
<b>HALOLUX CERAM® ECO</b>				
64491	C	590	40	3.15
64492	C	980	60	3.15
64406	C	980	60	3.15
64494	C	1180	70	3.15
64496	C	1800	100	3.15
64498	C	2870	150	3.15
64499	C	4200	205	3.15
64400	C	1180	70	3.15
64401	C	1800	100	3.15
64402	C	2870	150	3.15
64404	C	4200	205	3.15
<b>HALOPIN® ECO</b>				
66720 ECO	C	235	20	3.16
66733 ECO	C	460	33	3.16
66748 ECO	C	740	48	3.16
66760 ECO	C	980	60	3.16
<b>HALOPIN®</b>				
66725	D	260	25	3.17
66740	E	450	40	3.17




# Halogen lamps

Product reference		lm	W	Page reference
<b>HALOLINE® ECO</b>				
64684 ECO	C	750	48	3.19
64690 ECO	C	1400	80	3.19
64695 ECO	C	2250	120	3.19
64696 ECO	C	2250	120	3.19
64698 ECO	C	3100	160	3.19
64701 ECO	C	5000	230	3.19
64702 ECO	C	9000	400	3.19
<b>HALOLINE®</b>				
64560	F	16100	750	3.20
64740	F	22000	1000	3.20
64760	F	33000	1500	3.20
64783	F	44000	2000	3.20
64784	F	44000	2000	3.20
<b>HALOLUX® T ECO</b>				
64860 T ECO	D	260	25	3.37
64861 T ECO	D	490	40	3.37
64862 T ECO	D	820	60	3.37




# Compact fluorescent lamps

Product reference		lm	W	t[h]	Page reference
<b>OSRAM DULUX® INTELLIGENT FACILITY</b>					
DINT FCY 10W/825 E14	A	580	10	20000	4.02
DINT FCY 10W/825 E27	A	580	10	20000	4.02
DINT FCY 14W/825 E27	A	800	14	20000	4.02
DINT FCY 18W/825 E27	A	1050	18	20000	4.02
DINT FCY 22W/825 E27	A	1360	22	20000	4.02
<b>OSRAM DULUX® INTELLIGENT LONGLIFE</b>					
DINT LL 7W/825 E14	A	380	7	20000	4.03
DINT LL 7W/825 E27	A	380	7	20000	4.03
DINT LL 11W/825 E14	A	640	11	20000	4.03
DINT LL 11W/825 E27	A	640	11	20000	4.03
DINT LL 14W/825 E27	A	820	14	20000	4.03
DINT LL 18W/825 E27	A	1140	18	20000	4.03
DINT LL 22W/825 E27	A	1440	22	20000	4.03
DINT LL 30W/825 E27	A	1940	30	20000	4.03
<b>OSRAM DULUX® INTELLIGENT LEDOTRON</b>					
DINT LEDOTRON CLA14W/825 E27	A	740	14	10000	4.04
DINT LEDOTRON GL14W/825 E27	A	820	14	20000	4.04
DINT LEDOTRON STICK 18W/825 E27	A	1140	18	20000	4.04
<b>OSRAM DULUX® INTELLIGENT DIM</b>					
DINT DIM GL 15W/825 E27	A	840	15	20000	4.05
DINT DIM CLA 16W/825 E27	A	880	16	10000	4.05
DINT DIM STICK 18W/825 E27	A	1140	18	20000	4.05
DINT DIM TWIST 20W/825 E27	A	1300	20	10000	4.05
<b>OSRAM DULUX® INTELLIGENT HIGH EFFICIENCY</b>					
DINT HE CL A 11W/825 E27	A	770	11	15000	4.06
DINT HE CL A 14W/825 E27	A	980	14	15000	4.06
DINT HE MICRTW 11W/825 E27	A	825 <sup>1)</sup>	11	15000	4.06
DINT HE MICRTW 14W/825 E27	A	1050 <sup>1)</sup>	14	15000	4.06
DINT HE MICRTW 20W/825 E27	A	1500 <sup>1)</sup>	20	15000	4.06
<b>OSRAM DULUX® INTELLIGENT SENSOR</b>					
DINT SENSOR MIBA 11W/825 E27	A	630	11	10000	4.07
DINT SENSOR STICK 11W/827 E27	A	600	11	20000	4.07
DINT SENSOR STICK 15W/827 E27	A	850	15	20000	4.07
<b>OSRAM DULUX® PRO STICK</b>					
DPRO STICK 8W/825 E14	A	440	8	10000	4.08
DPRO STICK 8W/825 E27	A	440	8	10000	4.08
DPRO STICK 14W/825 E27	A	770	14	10000	4.08
DPRO STICK 20W/825 E27	A	1300	20	10000	4.08
DPRO STICK 30W/825 E27	A	1940	30	10000	4.08
<b>OSRAM DULUX® PRO MICRO TWIST</b>					
DPRO MCTW 7W/825 E14	A	430	7	10000	4.09
DPRO MCTW 7W/825 E27	A	430	7	10000	4.09
DPRO MCTW 11W/825 E14	A	650	11	12000	4.09
DPRO MCTW 11W/825 E27	A	650	11	12000	4.09
DPRO MCTW 14W/825 E27	A	860	14	12000	4.09
DPRO MCTW 17W/825 E27	A	1200	17	12000	4.09
DPRO MCTW 23W/825 E27	A	1600	23	12000	4.09


<sup>1)</sup> Photometric data subject to change without notice



## Compact fluorescent lamps


Product reference		lm	W	t[h]	Page reference
<b>OSRAM DULUX® PRO MINI TWIST</b>					
DPRO MTW 11W/825 E14	A	660	11	8000	4.10
DPRO MTW 11W/825 E27	A	660	11	8000	4.10
DPRO MTW 13W/825 E27	A	835	13	8000	4.10
DPRO MTW 18W/825 E27	A	1150	18	8000	4.10
DPRO MTW 23W/825 E27	A	1520	23	8000	4.10
<b>OSRAM DULUX® PRO CIRCOLUX</b>					
DPRO CIRCOLUX 24W/827 E27	A	1600	24	15000	4.11
<b>OSRAM DULUX® PRO MINI BALL</b>					
DPRO MIBA 7W/825 E14	A	300	7	10000	4.12
DPRO MIBA 7W/825 E27	A	300	7	10000	4.12
DPRO MIBA 11W/825 E27	A	580	11	10000	4.12
DPRO MIBA 15W/825 E27	A	800	15	10000	4.12
DPRO MIBA 20W/825 E27	A	1152	20	10000	4.12
<b>OSRAM DULUX® PRO MINI CANDLE</b>					
DPRO MICA 6W/825 E14	A	230	6	10000	4.13
DPRO MICA 6W/825 E27	A	230	6	10000	4.13
DPRO MICA 9W/825 E14	A	430	9	10000	4.13
DPRO MICA 9W/825 E27	A	430	9	10000	4.13
<b>OSRAM DULUX® PRO MINI BULLET</b>					
DPRO MIBU 6W/825 E14	A	230	6	10000	4.14
DPRO MIBU 6W/825 E27	A	230	6	10000	4.14
DPRO MIBU 9W/825 E14	A	430	9	10000	4.14
DPRO MIBU 9W/825 E27	A	430	9	10000	4.14
<b>OSRAM DULUX® PRO GLOBE</b>					
DPRO GL 14W/825 E27	A	860	14	15000	4.15
DPRO GL 18W/825 E27	A	1060	18	15000	4.15

## Compact fluorescent lamps

Product reference		lm	W	Page reference
<b>OSRAM DULUX® T PLUS</b>				
DULUX T 13 W/830 PLUS	A	900	13	4.16
DULUX T 13 W/840 PLUS	A	900	13	4.16
DULUX T 18 W/827 PLUS	B	1200	18	4.16
DULUX T 18 W/830 PLUS	B	1200	18	4.16
DULUX T 18 W/840 PLUS	B	1200	18	4.16
DULUX T 26 W/827 PLUS	B	1800	26	4.16
DULUX T 26 W/830 PLUS	B	1800	26	4.16
DULUX T 26 W/840 PLUS	B	1800	26	4.16
<b>OSRAM DULUX® T/E PLUS</b>				
DULUX T/E 13 W/827 PLUS	A	900	13	4.17
DULUX T/E 13 W/830 PLUS	A	900	13	4.17
DULUX T/E 13 W/840 PLUS	A	900	13	4.17
DULUX T/E 18 W/827 PLUS	B	1200	18	4.17
DULUX T/E 18 W/830 PLUS	B	1200	18	4.17
DULUX T/E 18 W/840 PLUS	B	1200	18	4.17
DULUX T/E 26 W/827 PLUS	B	1800	26	4.17
DULUX T/E 26 W/830 PLUS	B	1800	26	4.17
DULUX T/E 26 W/840 PLUS	B	1800	26	4.17
DULUX T/E 32 W/827 PLUS	B	2400	32	4.17
DULUX T/E 32 W/830 PLUS	B	2400	32	4.17
DULUX T/E 32 W/840 PLUS	B	2400	32	4.17
DULUX T/E 42 W/827 PLUS	B	3200	42	4.17
DULUX T/E 42 W/830 PLUS	B	3200	42	4.17
DULUX T/E 42 W/840 PLUS	B	3200	42	4.17
<b>OSRAM DULUX® T/E CONSTANT</b>				
DULUX T/E 26 W/830 CONSTANT	B	1800	26	4.19
DULUX T/E 26 W/840 CONSTANT	B	1800	26	4.19
DULUX T/E 32 W/827 CONSTANT	B	2400	32	4.19
DULUX T/E 32 W/830 CONSTANT	B	2400	32	4.19
DULUX T/E 32 W/840 CONSTANT	B	2400	32	4.19
DULUX T/E 42 W/827 CONSTANT	B	3200	42	4.19
DULUX T/E 42 W/830 CONSTANT	B	3200	42	4.19
DULUX T/E 42 W/840 CONSTANT	B	3200	42	4.19
<b>OSRAM DULUX® T/E HE HIGH EFFICIENCY</b>				
DULUX T/E 11 W/830 HE	A	810	11	4.20
DULUX T/E 11 W/840 HE	A	810	11	4.20
DULUX T/E 14 W/830 HE	A	1050	14	4.20
DULUX T/E 14 W/840 HE	A	1050	14	4.20
DULUX T/E 17 W/830 HE	A	1250	17	4.20
DULUX T/E 17 W/840 HE	A	1250	17	4.20
<b>OSRAM DULUX® T/E XT</b>				
DULUX T/E 32 W/830 XT	B	2400	32	4.21
DULUX T/E 32 W/840 XT	B	2400	32	4.21
DULUX T/E 42 W/830 XT	B	3200	42	4.21
DULUX T/E 42 W/840 XT	B	3200	42	4.21




## Compact fluorescent lamps

Product reference		lm	W	Page reference
<b>OSRAM DULUX® D</b>				
DULUX D 10 W/827	B	600	10	4.22
DULUX D 10 W/830	B	600	10	4.22
DULUX D 10 W/840	B	600	10	4.22
DULUX D 13 W/827	A	900	13	4.22
DULUX D 13 W/830	A	900	13	4.22
DULUX D 13 W/840	A	900	13	4.22
DULUX D 13 W/865	B	855	13	4.22
DULUX D 18 W/827	B	1200	18	4.22
DULUX D 18 W/830	B	1200	18	4.22
DULUX D 18 W/835	B	1200	18	4.22
DULUX D 18 W/840	B	1200	18	4.22
DULUX D 18 W/865	B	1140	18	4.22
DULUX D 26 W/827	B	1800	26	4.22
DULUX D 26 W/830	B	1800	26	4.22
DULUX D 26 W/835	B	1800	26	4.22
DULUX D 26 W/840	B	1800	26	4.22
DULUX D 26 W/865	B	1710	26	4.22
<b>OSRAM DULUX® D/E</b>				
DULUX D/E 10 W/827	B	600	10	4.24
DULUX D/E 10 W/830	B	600	10	4.24
DULUX D/E 10 W/840	B	600	10	4.24
DULUX D/E 13 W/827	A	900	13	4.24
DULUX D/E 13 W/830	A	900	13	4.24
DULUX D/E 13 W/835	A	900	13	4.24
DULUX D/E 13 W/840	A	900	13	4.24
DULUX D/E 18 W/827	B	1200	18	4.24
DULUX D/E 18 W/830	B	1200	18	4.24
DULUX D/E 18 W/835	B	1200	18	4.24
DULUX D/E 18 W/840	B	1200	18	4.24
DULUX D/E 18 W/865	B	1140	18	4.24
DULUX D/E 26 W/827	B	1800	26	4.24
DULUX D/E 26 W/830	B	1800	26	4.24
DULUX D/E 26 W/835	B	1800	26	4.24
DULUX D/E 26 W/840	B	1800	26	4.24
DULUX D/E 26 W/865	B	1710	26	4.24
<b>OSRAM DULUX® D/E XT</b>				
DULUX D/E 18 W/830 XT	B	1200	18	4.26
DULUX D/E 18 W/840 XT	B	1200	18	4.26
DULUX D/E 26 W/830 XT	B	1800	26	4.26
DULUX D/E 26 W/840 XT	B	1800	26	4.26






## Compact fluorescent lamps

Product reference		lm	W	Page reference
<b>OSRAM DULUX® S</b>				
DULUX S 5 W/827	B	250	5	4.27
DULUX S 5 W/840	B	250	5	4.27
DULUX S 7 W/827	B	400	7	4.27
DULUX S 7 W/830	B	400	7	4.27
DULUX S 7 W/840	B	400	7	4.27
DULUX S 9 W/827	A	600	9	4.27
DULUX S 9 W/830	A	600	9	4.27
DULUX S 9 W/835	A	600	9	4.27
DULUX S 9 W/840	A	600	9	4.27
DULUX S 9 W/865	A	570	9	4.27
DULUX S 11W/827	A	900	11	4.27
DULUX S 11 W/830	A	900	11	4.27
DULUX S 11 W/840	A	900	11	4.27
<b>OSRAM DULUX® S/E</b>				
DULUX S/E 7 W/827	B	400	7	4.29
DULUX S/E 7 W/830	B	400	7	4.29
DULUX S/E 7 W/840	B	400	7	4.29
DULUX S/E 9 W/827	A	600	9	4.29
DULUX S/E 9 W/830	A	600	9	4.29
DULUX S/E 9 W/840	A	600	9	4.29
DULUX S/E 11 W/827	A	900	11	4.29
DULUX S/E 11 W/830	A	900	11	4.29
DULUX S/E 11 W/840	A	900	11	4.29
<b>OSRAM DULUX® L LUMILUX®</b>				
DULUX L 18 W/827	B	1200	18	4.30
DULUX L 18 W/830	B	1200	18	4.30
DULUX L 18 W/835	B	1200	18	4.30
DULUX L 18 W/840	B	1200	18	4.30
DULUX L 24 W/827	B	1800	24	4.30
DULUX L 24 W/830	B	1800	24	4.30
DULUX L 24 W/835	B	1800	24	4.30
DULUX L 24 W/840	B	1800	24	4.30
DULUX L 36 W/827	A	2900	36	4.30
DULUX L 36 W/830	A	2900	36	4.30
DULUX L 36 W/835	A	2900	36	4.30
DULUX L 36 W/840	A	2900	36	4.30
DULUX L 36 W/865	B	2750	36	4.30
DULUX L 36 W/880	B	2600	36	4.30
DULUX L 40 W/827	A	3500	40	4.30
DULUX L 40 W/830	A	3500	40	4.30
DULUX L 40 W/835	A	3500	40	4.30
DULUX L 40 W/840	A	3500	40	4.30
DULUX L 40 W/865	A	3325	40	4.30
DULUX L 40 W/880	B	3150	40	4.30
DULUX L 55 W/827	A	4800	55	4.30
DULUX L 55 W/830	A	4800	55	4.30
DULUX L 55 W/835	A	4800	55	4.30
DULUX L 55 W/840	A	4800	55	4.30
DULUX L 55 W/865	B	4550	55	4.30
DULUX L 55 W/880	B	4300	55	4.30
DULUX L 80 W/830	B	6500	80	4.30
DULUX L 80 W/840	B	6500	80	4.30
DULUX L 80 W/880	B	5850	80	4.30




## Compact fluorescent lamps

Product reference		lm	W	Page reference
<b>OSRAM DULUX® L CONSTANT</b>				
DULUX L 40 W/840 CONSTANT	A	3500	40	4.32
DULUX L 55 W/840 CONSTANT	A	4800	55	4.32
DULUX L 80 W/840 CONSTANT	B	6500	80	4.32
<b>OSRAM DULUX® L LUMILUX® DE LUXE</b>				
DULUX L 18 W/930	B	950	18	4.33
DULUX L 18 W/940	B	950	18	4.33
DULUX L 18 W/954	B	950	18	4.33
DULUX L 24 W/930	B	1500	24	4.33
DULUX L 24 W/940	B	1500	24	4.33
DULUX L 24 W/954	B	1500	24	4.33
DULUX L 36 W/930	B	2350	36	4.33
DULUX L 36 W/940	B	2350	36	4.33
DULUX L 36 W/954	B	2350	36	4.33
DULUX L 40 W/954	B	2950	40	4.33
DULUX L 55 W/930	B	4000	55	4.33
DULUX L 55 W/940	B	4000	55	4.33
DULUX L 55 W/954	B	4000	55	4.33
<b>OSRAM DULUX® L SP</b>				
DULUX L 18 W/830 SP	B	1200 <sup>1)</sup>	18	4.35
DULUX L 18 W/840 SP	B	1200 <sup>1)</sup>	18	4.35
DULUX L 24 W/830 SP	B	1800 <sup>1)</sup>	24	4.35
DULUX L 24 W/840 SP	B	1800 <sup>1)</sup>	24	4.35
DULUX L 36 W/830 SP	A	2900 <sup>1)</sup>	36	4.35
DULUX L 36 W/840 SP	A	2900 <sup>1)</sup>	36	4.35
<b>OSRAM DULUX® L HE HIGH EFFICIENCY</b>				
				
DULUX L 16 W/830 HE	A	1600	16	4.36
DULUX L 16 W/840 HE	A	1600	16	4.36
DULUX L 22 W/830 HE	A	2200	22	4.36
DULUX L 22 W/840 HE	A	2200	22	4.36
DULUX L 26 W/830 HE	A	2600	26	4.36
DULUX L 26 W/840 HE	A	2600	26	4.36
DULUX L 28 W/830 HE	A	2800	28	4.36
DULUX L 28 W/840 HE	A	2800	28	4.36
<b>OSRAM DULUX® L XT</b>				
				
DULUX L 18 W/830 XT	B	1200	18	4.38
DULUX L 18 W/840 XT	B	1200	18	4.38
DULUX L 24 W/830 XT	B	1800	24	4.38
DULUX L 24 W/840 XT	B	1800	24	4.38
DULUX L 36 W/830 XT	A	2900	36	4.38
DULUX L 36 W/840 XT	A	2900	36	4.38
DULUX L 55 W/830 XT	A	4800	55	4.38
DULUX L 55 W/840 XT	A	4800	55	4.38

1) At an ambient temperature of 5 °C






## Compact fluorescent lamps




Product reference		lm	W	Page reference
<b>OSRAM DULUX® F</b>				
DULUX F 18 W/827	B	1100	18	4.40
DULUX F 18 W/830	B	1100	18	4.40
DULUX F 18 W/840	B	1100	18	4.40
DULUX F 24 W/827	B	1700	24	4.40
DULUX F 24 W/830	B	1700	24	4.40
DULUX F 24 W/840	B	1700	24	4.40
DULUX F 36 W/827	B	2800	36	4.40
DULUX F 36 W/830	B	2800	36	4.40
DULUX F 36 W/840	B	2800	36	4.40
<b>OSRAM CFL SQUARE® 2-Pin</b>				
CFL SQUARE 16 W/827 2-PIN	B	1050	16	4.41
CFL SQUARE 16 W/835 2-PIN	B	1050	16	4.41
CFL SQUARE 28 W/827 2-PIN	B	2050	28	4.41
CFL SQUARE 28 W/835 2-PIN	B	2050	28	4.41
<b>OSRAM CFL SQUARE® 4-Pin</b>				
CFL SQUARE 16 W/835 4-PIN	B	1050	16	4.42
CFL SQUARE 16 W/827 4-PIN	B	1050	16	4.42
CFL SQUARE 28 W/827 4-PIN	B	2050	28	4.42
CFL SQUARE 28 W/835 4-PIN	B	2050	28	4.42
CFL SQUARE 38 W/827 4-PIN	B	2735	38	4.42
CFL SQUARE 38 W/835 4-PIN	B	2735	38	4.42



## Fluorescent lamps




Product reference				Page reference
<b>LUMILUX® T5 HE HIGH EFFICIENCY, tubular, G5 base</b>				
HE 14 W/827	A	1350	14	5.02
HE 14 W/830	A	1350	14	5.02
HE 14 W/835	A	1350	14	5.02
HE 14 W/840	A	1350	14	5.02
HE 14 W/865	A	1300	14	5.02
HE 14 W/880	A	1150	14	5.02
HE 21 W/827	A	2100	21	5.02
HE 21 W/830	A	2100	21	5.02
HE 21 W/835	A	2100	21	5.02
HE 21 W/840	A	2100	21	5.02
HE 21 W/865	A	2000	21	5.02
HE 21 W/880	A	1850	21	5.02
HE 28 W/827	A	2900	28	5.02
HE 28 W/830	A	2900	28	5.02
HE 28 W/835	A	2900	28	5.02
HE 28 W/840	A	2900	28	5.02
HE 28 W/865	A	2750	28	5.02
HE 28 W/880	A	2690	28	5.02
HE 35 W/827	A	3650	35	5.02
HE 35 W/830	A	3650	35	5.02
HE 35 W/840	A	3650	35	5.02
HE 35 W/865	A	3500	35	5.02
HE 35 W/880	A	3450	35	5.02
<b>LUMILUX® T5 HO HIGH OUTPUT, tubular, G5 base</b>				
HO 24 W/827	A	2000	24	5.04
HO 24 W/830	A	2000	24	5.04
HO 24 W/835	A	2000	24	5.04
HO 24 W/840	A	2000	24	5.04
HO 24 W/865	A	1900	24	5.04
HO 24 W/880	B	1750	24	5.04
HO 39 W/827	A	3500	39	5.04
HO 39 W/830	A	3500	39	5.04
HO 39 W/840	A	3500	39	5.04
HO 39 W/865	A	3325	39	5.04
HO 49 W/827	A	4900	49	5.04
HO 49 W/830	A	4900	49	5.04
HO 49 W/840	A	4900	49	5.04
HO 49 W/865	A	4600	49	5.04
HO 49 W/880	A	4610	49	5.04
HO 54 W/827	A	5000	54	5.04
HO 54 W/830	A	5000	54	5.04
HO 54 W/835	A	5000	54	5.04
HO 54 W/840	A	5000	54	5.04
HO 54 W/865	A	4750	54	5.04
HO 54 W/880	B	4500	54	5.04
HO 80 W/827	A	7000	80	5.04
HO 80 W/830	A	7000	80	5.04
HO 80 W/840	A	7000	80	5.04
HO 80 W/865	B	6650	80	5.04
HO 80 W/880	B	6400	80	5.04

## Fluorescent lamps

Product reference				Page reference
<b>LUMILUX® T5 HE ES HIGH EFFICIENCY ENERGY SAVER, tubular, G5 base</b>				
HE 13 W/830 ES	A	1350	13	5.06
HE 13 W/840 ES	A	1350	13	5.06
HE 13 W/865 ES	A	1300	13	5.06
HE 19 W/830 ES	A	2100	19	5.06
HE 19 W/840 ES	A	2100	19	5.06
HE 19 W/865 ES	A	2000	19	5.06
HE 25 W/827 ES	A	2900	25	5.06
HE 25 W/830 ES	A	2900	25	5.06
HE 25 W/840 ES	A	2900	25	5.06
HE 25 W/865 ES	A	2750	25	5.06
HE 32 W/827 ES	A	3650	32	5.06
HE 32 W/830 ES	A	3650	32	5.06
HE 32 W/840 ES	A	3650	32	5.06
HE 32 W/865 ES	A	3500	32	5.06
<b>LUMILUX® T5 HO ES HIGH OUTPUT ENERGY SAVER, tubular, G5 base</b>				
HO 20 W/830 ES	A	2000	20	5.07
HO 20 W/840 ES	A	2000	20	5.07
HO 20 W/865 ES	A	1900	20	5.07
HO 34 W/830 ES	A	3500	34	5.07
HO 34 W/840 ES	A	3500	34	5.07
HO 34 W/865 ES	A	3325	34	5.07
HO 45 W/827 ES	A	4900	45	5.07
HO 45 W/830 ES	A	4900	45	5.07
HO 45 W/840 ES	A	4900	45	5.07
HO 45 W/865 ES	A	4600	45	5.07
HO 50 W/827 ES	A	5000	50	5.07
HO 50 W/830 ES	A	5000	50	5.07
HO 50 W/840 ES	A	5000	50	5.07
HO 50 W/865 ES	A	4750	50	5.07
HO 73 W/827 ES	A	7000	73	5.07
HO 73 W/830 ES	A	7000	73	5.07
HO 73 W/840 ES	A	7000	73	5.07
HO 73 W/865 ES	A	6650	73	5.07
<b>LUMILUX® T5 HO XT, tubular, G5 base</b>				
HO 49 W/827 XT	A	4900	49	5.08
HO 49 W/830 XT	A	4900	49	5.08
HO 49 W/840 XT	A	4900	49	5.08
HO 49 W/865 XT	A	4600	49	5.08
HO 54 W/827 XT	A	5000	54	5.08
HO 54 W/830 XT	A	5000	54	5.08
HO 54 W/840 XT	A	5000	54	5.08
HO 54 W/865 XT	A	4750	54	5.08
HO 80 W/827 XT	A	7000	80	5.08
HO 80 W/830 XT	A	7000	80	5.08
HO 80 W/840 XT	A	7000	80	5.08
HO 80 W/865 XT	B	6650	80	5.08




## Fluorescent lamps

Product reference				Page reference
<b>LUMILUX® T5 HO CONSTANT, tubular, G5 base</b>				
HO 24 W/830 CONSTANT	A	2000	24	5.09
HO 24 W/840 CONSTANT	A	2000	24	5.09
HO 24 W/865 CONSTANT	A	1900	24	5.09
HO 39 W/830 CONSTANT	A	3500	39	5.09
HO 39 W/840 CONSTANT	A	3500	39	5.09
HO 39 W/865 CONSTANT	A	3325	39	5.09
HO 49 W/830 CONSTANT	A	4450	49	5.09
HO 49 W/840 CONSTANT	A	4450	49	5.09
HO 49 W/865 CONSTANT	A	4100	49	5.09
HO 54 W/830 CONSTANT	A	5000	54	5.09
HO 54 W/840 CONSTANT	A	5000	54	5.09
HO 54 W/865 CONSTANT	A	4750	54	5.09
HO 80 W/830 CONSTANT	A	7000	80	5.09
HO 80 W/840 CONSTANT	A	7000	80	5.09
HO 80 W/865 CONSTANT	B	6650	80	5.09
<b>LUMILUX® DE LUXE T5 HO HIGH OUTPUT, tubular, G5 base</b>				
HO 24 W/940	B	1570	24	5.11
HO 24 W/965	B	1570	24	5.11
HO 49 W/940	B	3850	49	5.11
HO 49 W/965	B	3795	49	5.11
HO 54 W/940	B	4250	54	5.11
HO 54 W/965	B	4250	54	5.11
<b>LUMILUX® T5 SEAMLESS, G5 base</b>				
HE 14 W/830 SLS	A	1350	14	5.12
HE 14 W/840 SLS	A	1350	14	5.12
HE 21 W/830 SLS	A	2100	21	5.12
HE 21 W/840 SLS	A	2100	21	5.12
HE 28 W/830 SLS	A	2900	28	5.12
HE 28 W/840 SLS	A	2900	28	5.12
HO 24 W/830 SLS	A	2000	24	5.12
HO 24 W/840 SLS	A	2000	24	5.12
HO 24 W/865 SLS	A	1900	24	5.12
HO 39 W/830 SLS	A	3500	39	5.12
HO 39 W/840 SLS	A	3500	39	5.12
HO 39 W/865 SLS	A	3325	39	5.12
HO 54 W/830 SLS	A	5000	54	5.12
HO 54 W/840 SLS	A	5000	54	5.12
HO 54 W/865 SLS	A	4750	54	5.12




## Fluorescent lamps

Product reference		lm	W	Page reference
<b>LUMILUX® DE LUXE T5 short, tubular, G5 base</b>				
L 6 W/930	B	260	6	5.18
L 8 W/930	B	380	8	5.18
L 8 W/954	B	380	8	5.18
L 13 W/930	B	680	13	5.18
<b>LUMILUX® T5 short, tubular, G5 base</b>				
L 6 W/830	B	300	6	5.19
L 8 W/827	B	430	8	5.19
L 8 W/830	B	430	8	5.19
L 8 W/840	B	430	8	5.19
L 13 W/827	A	950	13	5.19
L 13 W/830	A	950	13	5.19
L 13 W/840	A	950	13	5.19
<b>Basic T5 short, tubular, G5 base</b>				
L 4 W/640	B	140	4	5.20
L 6 W/640	B	270	6	5.20
L 8 W/640	B	385	8	5.20
L 8 W/765	B	330	8	5.20
L 13 W/640	B	830	13	5.20
L 13 W765	B	720	13	5.20
<b>Emergency Lighting (LUMILUX®) T5 short, tubular, G5 base</b>				
L 6 W/840 EL	B	320	6	5.21
L 8 W/840 EL	B	450	8	5.21
<b>Emergency Lighting (Basic) T5 short, tubular, G5 base</b>				
L 6 W/640 EL	B	320	6	5.22
L 8 W/640 EL	B	450	8	5.22
<b>LUMILUX® T5 FC®, circular, 26x13 base</b>				
FC 22 W/827	A	1900	22	5.23
FC 22 W/830	A	1900	22	5.23
FC 22 W/840	A	1900	22	5.23
FC 22 W/865	A	1800	22	5.23
FC 40 W/827	A	3400	40	5.23
FC 40 W/830	A	3400	40	5.23
FC 40 W/840	A	3400	40	5.23
FC 40 W/865	A	3300	40	5.23
FC 55 W/827	B	4200	55	5.23
FC 55 W/830	B	4200	55	5.23
FC 55 W/840	B	4200	55	5.23
FC 55 W/865	B	3990	55	5.23




## Fluorescent lamps

Product reference		lm	W	Page reference
<b>LUMILUX® T8, tubular, G13 base</b>				
L 10 W/827	A	650	10	5.24
L 15 W/827	B	950	15	5.24
L 15 W/830	B	950	15	5.24
L 15 W/840	B	950	15	5.24
L 15 W/865	B	900	15	5.24
L 16 W/827	A	1250	16	5.24
L 16 W/830	A	1250	16	5.24
L 16 W/840	A	1250	16	5.24
L 18 W/827	A	1350	18	5.24
L 18 W/830	A	1350	18	5.24
L 18 W/835	A	1350	18	5.24
L 18 W/840	A	1350	18	5.24
L 18 W/865	A	1300	18	5.24
L 18 W/880	A	1300	18	5.24
L 23 W/830	A	1900	23	5.24
L 23 W/840	A	1900	23	5.24
L 30 W/827	A	2400	30	5.24
L 30 W/830	A	2400	30	5.24
L 30 W/840	A	2400	30	5.24
L 30 W/865	A	2350	30	5.24
L 30 W/880	A	2350	30	5.24
L 36 W/827	A	3350	36	5.24
L 36 W/827-1	A	3100	36	5.24
L 36 W/830	A	3350	36	5.24
L 36 W/830-1	A	3100	36	5.24
L 36 W/835	A	3350	36	5.24
L 36 W/840	A	3350	36	5.24
L 36 W/840-1	A	3100	36	5.24
L 36 W/865	A	3250	36	5.24
L 36 W/880	A	3010	36	5.24
L 38 W/830	A	3300	38	5.24
L 38 W/840	A	3300	38	5.24
L 38 W/880	A	2975	38	5.24
L 58 W/827	A	5200	58	5.24
L 58 W/830	A	5200	58	5.24
L 58 W/835	A	5200	58	5.24
L 58 W/840	A	5200	58	5.24
L 58 W/865	A	5000	58	5.24
L 58 W/880	A	4900	58	5.24
L 70 W/835	A	6200	70	5.24
L 70 W/840	A	6200	70	5.24




## Fluorescent lamps

Product reference		lm	W	Page reference
<b>LUMILUX® T8 ES ENERGY SAVER, tubular, G13 base</b>				
L 16 W/830 ES	A	1300 <sup>1)</sup>	16	5.26
L 16 W/840 ES	A	1300 <sup>1)</sup>	16	5.26
L 32 W/830 ES	A	3000 <sup>1)</sup>	32	5.26
L 32 W/840 ES	A	3000 <sup>1)</sup>	32	5.26
L 51 W/830 ES	A	4800 <sup>1)</sup>	51	5.26
L 51 W/840 ES	A	4800 <sup>1)</sup>	51	5.26
1) At an ambient temperature of 30 °C				
<b>LUMILUX® XT T8, tubular, G13 base</b>				
L 18 W/830 XT	A	1350	18	5.27
L 18 W/840 XT	A	1350	18	5.27
L 18 W/865 XT	A	1250	18	5.27
L 36 W/830 XT	A	3300	36	5.27
L 36 W/840 XT	A	3300	36	5.27
L 36 W/865 XT	A	3250	36	5.27
L 58 W/830 XT	A	5200	58	5.27
L 58 W/840 XT	A	5200	58	5.27
L 58 W/865 XT	A	5000	58	5.27
<b>LUMILUX® XXT T8, tubular, G13 base</b>				
L 18 W/830 XXT	A	1350	18	5.28
L 18 W/840 XXT	A	1350	18	5.28
L 18 W/865 XXT	A	1250	18	5.28
L 36 W/830 XXT	A	3300	36	5.28
L 36 W/840 XXT	A	3300	36	5.28
L 36 W/865 XXT	A	3250	36	5.28
L 58 W/830 XXT	A	5200	58	5.28
L 58 W/840 XXT	A	5200	58	5.28
L 58 W/865 XXT	A	5000	58	5.28
<b>LUMILUX® DE LUXE T8, tubular, G13 base</b>				
L 15 W/930	B	750	15	5.29
L 15 W/954	B	750	15	5.29
L 16 W/930	B	950	16	5.29
L 18 W/930	B	1100	18	5.29
L 18 W/940	B	1200	18	5.29
L 18 W/954	B	1150	18	5.29
L 18 W/965	B	1150	18	5.29
L 30 W/930	B	1920	30	5.29
L 36 W/930	B	2700	36	5.29
L 36 W/940	B	2900	36	5.29
L 36 W/954	B	2850	36	5.29
L 36 W/954-1	B	2600	36	5.29
L 36 W/965	B	2850	36	5.29
L 58 W/930	B	4350	58	5.29
L 58 W/940	B	4600	58	5.29
L 58 W/954	B	4550	58	5.29
L 58 W/965	B	4550	58	5.29




## Fluorescent lamps

Product reference		lm	W	Page reference
<b>COLOR proof T8, tubular, G13 base</b>				
L 18 W/950	B	900	18	5.30
L 36 W/950	B	2150	36	5.30
L 58 W/950	B	3350	58	5.30
<b>BIOLUX® T8, tubular, G13 base</b>				
L 18 W/965	B	1000	18	5.31
L 30 W/965	B	1600	30	5.31
L 36 W/965	B	2300	36	5.31
L 58 W/965	B	3700	58	5.31
<b>U-shaped T8, 2G13 base</b>				
L 18 W/830 U	A	1350	18	5.38
L 18 W/840 U	A	1350	18	5.38
L 36 W/830 U	A	3550	36	5.38
L 36 W/840 U	A	3350	36	5.38
L 58 W/830 U	A	5220	58	5.38
L 58 W/840 U	A	5220	58	5.38
L 36 W/830 UK	B	2800	36	5.38
L 36 W/840 UK	B	2800	36	5.38
<b>LUMILUX® T9 C circular, G10Q base</b>				
L 22 W/865 C	B	1300	22	5.39
L 22 W/827 C	B	1350	22	5.39
L 22 W/840 C	B	1350	22	5.39
L 32 W/865 C	B	2150	32	5.39
L 32 W/827 C	B	2250	32	5.39
L 32 W/840 C	B	2250	32	5.39
L 40 W/865 C	B	2950	40	5.39
L 40 W/827 C	B	3200	40	5.39
L 40 W/840 C	B	3200	40	5.39






## Fluorescent lamps

Product reference		lm	W	Page reference
<b>LUMILUX® T2 FM, tubular W4.3 x 8.5d base</b>				
FM 6 W/730	B	330 <sup>1)</sup>	6	5.40
FM 6 W/740	B	330 <sup>1)</sup>	6	5.40
FM 6 W/760	B	310 <sup>1)</sup>	6	5.40
FM 8 W/730	B	540 <sup>1)</sup>	8	5.40
FM 8 W/740	B	540 <sup>1)</sup>	8	5.40
FM 8 W/760	B	500 <sup>1)</sup>	8	5.40
FM 11 W/730	B	750 <sup>1)</sup>	11	5.40
FM 11 W/740	B	750 <sup>1)</sup>	11	5.40
FM 11 W/760	B	680 <sup>1)</sup>	11	5.40
FM 13 W/730	B	930 <sup>1)</sup>	13	5.40
FM 13 W/740	B	930 <sup>1)</sup>	13	5.40
FM 13 W/760	B	860 <sup>1)</sup>	13	5.40
<b>SA-type T12, tubular, G13 base</b>				
L 20 W/640 SA	B	1200	20	5.41
L 40 W/640 SA	B	2800	40	5.41
L 65 W/640 SA	B	4800	65	5.41
<b>XL-type T12, tubular, Fa6 base</b>				
L 20 W/640 XL	B	940	20	5.42
L 40 W/640 XL	B	2300	40	5.42
L 65 W/640 XL	B	4400	65	5.42

1) Maximum at 33°C ± 2°C




# General lighting service lamps

Product reference		lm	W	Page reference
<b>CLASSIC A</b>				
CLAS A CL 15 <sup>1)</sup>	E	100	15	8.02
CLAS A CL 25 <sup>1)</sup>	E	220	25	8.02
CLAS A CL 40 <sup>1)</sup>	E	415	40	8.02
<b>CLASSIC B</b>				
CLAS B CL 15 <sup>1)</sup>	E	100	15	8.02
CLAS B CL 25 <sup>1)</sup>	E	210	25	8.02
CLAS B CL 40 <sup>1)</sup>	E	400	40	8.02
CLAS B CL 40 <sup>1)</sup>	E	400	40	8.02
<b>CLASSIC BW</b>				
CLAS BW CL 25 <sup>1)</sup>	E	210	25	8.03
CLAS BW CL 40 <sup>1)</sup>	E	400	40	8.03
<b>CLASSIC P</b>				
CLAS P CL 15 <sup>1)</sup>	E	100	15	8.03
CLAS P CL 25 <sup>1)</sup>	E	210	25	8.03
CLAS P CL 40 <sup>1)</sup>	E	400	40	8.03
CLAS P CL 15 <sup>1)</sup>	E	100	15	8.03
CLAS P CL 25 <sup>1)</sup>	E	210	25	8.03
CLAS P CL 40 <sup>1)</sup>	E	400	40	8.03
<b>SPECIAL MIRROR SILVER/GOLD A</b>				
SPC. MIRROR A SILV 40	F	340	40	8.08
SPC. MIRROR A SILV 60	F	550	60	8.08
SPC. MIRROR A SILV 100	F	1180	100	8.08
SPC. MIRROR A GOLD 40	F	330	40	8.08
SPC. MIRROR A GOLD 60	F	570	60	8.08
<b>SPECIAL MIRROR SILVER/GOLD P</b>				
SPC. MIRROR P SILV 25	F	170	25	8.08
SPC. MIRROR P SILV 40	F	320	40	8.08
SPC. MIRROR P GOLD 25	F	160	25	8.08
SPC. MIRROR P GOLD 40	F	330	40	8.08
<b>SPECIAL OVEN T</b>				
SPC. OVEN T CL 15	F	85	15	8.09
<b>SPECIAL OVEN P</b>				
SPC.P OVEN FR 40	E	400	40	8.09
<b>SPECIAL Pygmy T/FRIDGE</b>				
SPC. T26/57 FR 15	E	110	15	8.09
SPC. T26/57 FR 25	F	190	25	8.09
SPC. T26/57 CL 15	E	110	15	8.09
SPC. T26/57 CL 25	F	190	25	8.09
SPC. T17/54 CL 15	E	100	15	8.09
<b>SPECIAL Tubular T</b>				
SPC. T25/85 CL 25 <sup>1)</sup>	E	210	25	8.10
SPC. T25/85 CL 40 <sup>1)</sup>	E	410	40	8.10

<sup>1)</sup> Banned from 1.9.2012 as per EU phase-out plan

## General lighting service lamps

Product reference		lm	W	Page reference
<b>SPECIAL CENTRA® Standard A</b>				
CENTRA A FR 100	G	1000	100	8.10
CENTRA A CL 200	F	2500	200	8.10
<b>SPECIAL A (with thermal overload protection)</b>				
CENTRA A T FR 25	F	185	25	8.10
CENTRA A T FR 40	F	320	40	8.10
CENTRA A T FR 60	G	505	60	8.10
SPC. A T CL 300	E	4600	300	8.10
SPC. A T CL 500	E	8400	500	8.10
SPC. A T FR 60 24 V	D	935	60	8.10
<b>SPECIAL LINESTRA®</b>				
SPC. LIN 1603 <sup>1)</sup>	F	270	35	8.11
SPC. LIN 1604 <sup>1)</sup>	G	420	60	8.11
SPC. LIN 1104 <sup>1)</sup>	G	840	120	8.11
SPC. LIN 1613 <sup>1)</sup>	G	240	35	8.11
SPC. LIN 1614 <sup>1)</sup>	G	420	60	8.11
<b>SPECIAL INSECTA®</b>				
SPC.A INSECT YELLOW 60	G	500	60	8.11

<sup>1)</sup> Banned from 1.9.2013 as per EU phase-out plan





# Index and general information

---

Glossary of the most important lighting terms	12.02
Index of product names	12.04
Alphanumeric product references	12.07
Numeric product references	12.20
International Lamp Coding System ILCOS	12.22
Disposing of your lamps and luminaires	12.30
General notes	12.31
Standard packs	12.31
C € labeling for fixtures, lamps and accessories	12.32
Registered trademarks	12.33
Symbols on our packaging	12.34
Symbols in the tables	12.36

---

# Glossary of the most important lighting terms

As with any technical or scientific discipline, lighting technology has its own special terms and concepts for defining the characteristics of lamps and fixtures and for standardizing the units of measurement.

The most important terms are described here.

## Luminous flux $\Phi$

Unit of measurement: lumen [lm]

Luminous flux  $\Phi$  is all the radiated power emitted by a light source evaluated with the spectral sensitivity of the eye and the photometric radiation equivalent  $k_m$ .

## Luminous intensity I

Unit of measurement: candela [cd]

Generally speaking, a light source emits its luminous flux  $\Phi$  in different directions and at different intensities.

Luminous intensity is the luminous flux radiated in a particular direction (solid angle  $\Omega$ ).

## Illuminance E

Unit of measurement: lux [lx]

Illuminance E is the ratio between the luminous flux and the area being illuminated.

An illuminance of 1 lx occurs when a luminous flux of 1 lm is evenly distributed over an area of 1 m<sup>2</sup>.

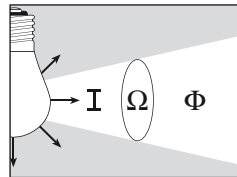
## Luminance L

Unit of measurement: candela per square meter [cd/m<sup>2</sup>]

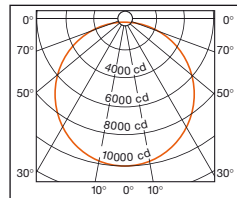
The luminance L of a light source or an illuminated area is a measure of the impression of brightness.

## Light and radiation

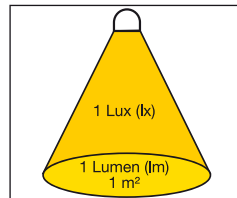
Light is taken to mean the electromagnetic radiation that the human eye perceives as brightness, in other words that part of the spectrum that can be seen. This is the radiation between 380 and 780 nm, a tiny fraction of the known spectrum of electromagnetic radiation.



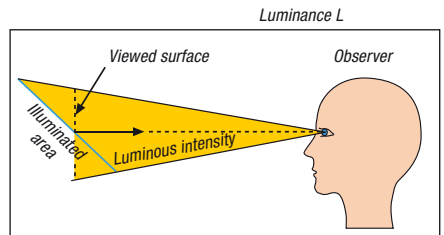
Luminous I intensity is a measure of the luminous flux  $\Phi$  emitted in solid angle  $\Omega$ .



Polar diagram



Illuminance E



Luminance L

The most important photometric formulae:

Luminous intensity $I$	
[cd]	
Illuminance $E$	
[lx]	

Luminous flux [lm]	
Solid angle $\Omega$ [sr]	
Luminous flux falling on area [lm]	
Illuminated area [m <sup>2</sup> ]	

Luminance $L$	
[cd/m <sup>2</sup> ]	
Luminous efficacy $\eta$	
[lm/W]	

Luminous intensity [cd]	
Viewed luminous area [m <sup>2</sup> ]	
Generated luminous flux [lm]	
Electrical power consumed [W]	

### Luminous efficacy $\eta$

Unit of measurement: lumen per watt [lm/W]

Luminous efficacy  $\eta$  indicates the efficiency with which the electrical power consumed is converted into light.

### Color temperature

Unit of measurement: Kelvin [K]

The color temperature of a light source is defined in comparison with a "black body radiator" and plotted on what is known as the "Planckian curve". The higher the temperature of this "black body radiator" the greater the blue component in the spectrum and the smaller the red component. An incandescent lamp with a warm white light, for example, has a color temperature of 2700 K, whereas a daylight fluorescent lamp has a color temperature of 6000 K.

### Light color

The light color of a lamp can be neatly defined in terms of color temperature. There are three main categories here:  
Warm White < 3300 K  
Cool White 3300 – 5300 K  
Daylight > 5300 K

Despite having the same light color, lamps may have very different color rendering properties owing to the spectral composition of their light.

### Color rendering

As a rule, artificial light should enable the human eye to perceive colors correctly, as it would in natural daylight. Obviously, this depends to some extent on the location and purpose for which light is required.

The criterion here is the color rendering property of a light source. This is expressed as a "general color rendering index" ( $R_a$ ).

The color rendering index is a measure of the correspondence between the color of an object (its "self-luminous color") and its appearance under a reference light source. To determine the  $R_a$  values, eight test colours defined in accordance with DIN 6169 are illuminated with the reference light source and the light source under test. The smaller the discrepancy, the better the color rendering property of the lamp being tested.

A light source with an  $R_a$  value of 100 displays all colors exactly as they appear under the reference light source. The lower the  $R_a$  value, the worse the colors are rendered.

### Luminaire efficiency

Luminaire efficiency (also known as light output ratio) is an important criterion in gauging the energy efficiency of a luminaire. This is the ratio between the luminous flux emitted by the luminaire and the luminous flux of the lamp (or lamps) installed in the luminaire.

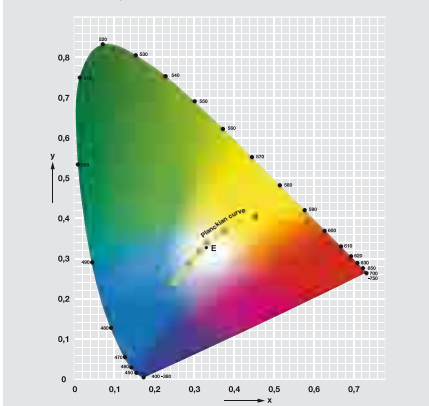
### Average life

The average life of a lamp is an average of the lives of individual lamps operated under standard conditions (50% failure = average rated life).

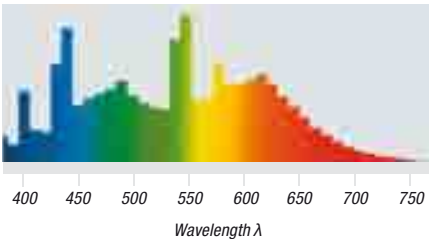
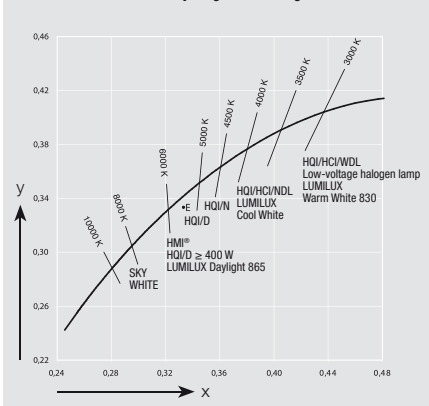
### Service life

Service life is a simple practical measure of the economical life of a lamp. It is the number of hours of operation after which the system luminous flux (i.e. the product of the relative luminous flux and the relative proportion of lamps still in operation) is around 80% of the initial value.

Chromaticity diagram to DIN 5033



Extract from the chromaticity diagram showing the Planckian curve



Spectrum of a BIOLUX<sup>®</sup> fluorescent lamp.

The radiation is very evenly distributed over the entire visible range.

## Index of product names

Product	Page	Product	Page
BackLED L	2.41	DIM SA	10.56
BackLED M	2.42	Dimmer modules for controlling HALOTRONIC® and ET-PARROT®	9.53
BackLED S	2.43	DMX CON DALI SO	10.57
Basic T5 short, tubular, G5 base	5.20	DMX ISOLATED REP	10.55
BIOLUX® T8, tubular, G13 base	5.31	DRAGONchain® Colormix RGBW	2.29
BoxLED® Back	2.40	DRAGONchain® Tunable White	2.15
BoxLED® Side	2.39	DRAGONeye®	2.06
BoxLED® and BackLED mounting profile	2.44	DRAGONpuck®	2.03
CLASSIC A	8.02	DRAGON-X® Plus	2.02
CLASSIC B	8.02	DULUXTRONIC® DT-S/E, DT-D/E, DT-T/E – with integrated lampholder	9.39
CLASSIC BW	8.03	DUO	10.08
CLASSIC P	8.03	EASY Color Drive	10.34
COINlight® AR111	2.05	EASY DMX SO	10.32
COINlight® Pro	2.04	EASY Hybrid Remote	10.33
COLOR proof T8, tubular, G13 base	5.30	EASY IR	10.37
Colored T5 HE HIGH EFFICIENCY, tubular, G5 base	5.13	EASY IR CI	10.37
Colored T5 HO HIGH OUTPUT, tubular, G5 base	5.14	EASY PB Coupler	10.35
Colored T8, tubular, G13 base	5.33	EASY PC KIT	10.36
CONCENTRA® SPOT NATURA R80	8.06	EASY RC	10.36
CONCENTRA® SPOT R39	8.04	EASY RMC	10.34
CONCENTRA® SPOT R50	8.04	EASY SYS CP	10.35
CONCENTRA® SPOT R63	8.05	EASY Touch Panel	10.33
CONCENTRA® SPOT R80	8.06	E-BUS DALI Gateway	10.48
CONNECTION CABLES	10.61	ECG accessories – protective casing	9.54
CONNECTsystem for LINEARlight	2.35	ECG accessories – strain relief	9.55
CONNECTsystem for LINEARlight (POWER) Flex	2.34	ECO CI KIT	10.63
CONNECTsystem for LINEARlight (POWER) Flex Protect	2.33	Emergency Lighting (Basic) T5 short, tubular, G5 base	5.22
CONNECTsystem for LINEARlight Colormix Flex	2.35	Emergency Lighting (LUMILUX®) T5 short, tubular, G5 base	5.21
CONNECTsystem for LINEARlight Colormix Flex Protect	2.33	ET-PARROT® electronic transformers	9.52
CONNECTsystem for LINEARlight Flex® SIDELED®	2.34	FLUORA® T8, tubular, G13 base	5.32
CONNECTsystem for LINEARlight-DRAGON®	2.36	Glass Touch 6	10.49
DALI CON 1...10 LI	10.56	Glass Touch 6 TW	10.50
DALI CON 1...10 SO	10.57	Glass Touch 12	10.49
DALI EASY III	10.30	HALOGEN ECO PRO CLASSIC A	3.02
DALI EASY SO	10.29	HALOGEN ECO PRO CLASSIC B	3.03
DALI LS/PD BASIC	10.44	HALOGEN ECO PRO CLASSIC BW	3.04
DALI magic	10.59	HALOGEN ECO PRO CLASSIC P	3.05
DALI MCU	10.41	HALOGEN ECO PRO CLASSIC R50	3.06
DALI MULTeico	10.18	HALOGEN ECO PRO CLASSIC R63	3.07
DALI PRO CONT-4	10.46	HALOLINE®	3.20
DALI PRO PB Coupler	10.47	HALOLINE® ECO	3.19
DALI PRO Sensor Coupler	10.47	HALOLUX CERAM® ECO	3.15
DALI PRO Touch Panel	10.48	HALOLUX® T ECO	3.37
DALI RC BASIC SO	10.43	HALOPIN®	3.17
DALI REP LI	10.54	HALOPIN® ECO	3.16
DALI REP SO	10.55	HALOPIN® oven lighting	3.38
DALI Switch SO	10.58	HALOSPOT® 48	3.28
DALI WCU 5 BASIC	10.43	HALOSPOT® 70	3.27
DALieco Control	10.25	HALOSPOT® 111	3.26
DALieco LS/PD LI	10.26	HALOSPOT® 111 ECO	3.25
DECOPIN®	3.18	HALOSTAR STARLITE®	3.22
DECOR BA FLICKER	8.07	HALOSTAR® 24 V	3.24
DECOR BW GOLD	8.08	HALOSTAR® ECO	3.21
DECOR COLOR A	8.07	HALOSTAR® oven lighting	3.38
DECOR COLOR P	8.07	HALOSTAR® Standard	3.23
DECOSTAR® 35	3.36	HALOTRONIC® electronic transformers -COMPACT- HTM, HTN	9.51
DECOSTAR® 35 TITAN	3.31	HALOTRONIC® electronic transformers -PROFESSIONAL- HTI, HTL	9.50
DECOSTAR® 51 ALU	3.32	Heat sink for DRAGONchain DC24	2.32
DECOSTAR® 51 COOL BLUE®	3.33	Heat sink for DRAGONpuck DP35, DP51, COINlight Pro CP51	2.32
DECOSTAR® 51 ECO	3.29	HIGH BAY	10.05
DECOSTAR® 51 STANDARD	3.35	HIGH TEMPERATURE CONNECTION CABLES	10.61
DECOSTAR® 51 TITAN	3.30	High-voltage krypton lamps for road traffic equipment	7.09
DECOSTAR® 51S STANDARD	3.34	High-voltage LONGLIFE krypton lamps for road traffic equipment	7.10
DIM MCU	10.41	High-voltage LONGLIFE standard lamps for road traffic equipment	7.12
DIM MICO	10.11	High-voltage standard lamps for road traffic equipment	7.11
DIM MULTI	10.07	HPML® Advance	2.47
DIM MULTeico	10.19	HPML® Core	2.46
DIM PICO	10.12	HQL® (Standard)	6.41



# Index of product names

Product	Page	Product	Page
HQL® DE LUXE	6.40	Mounting Adapter	10.63
HQL® SUPER DE LUXE	6.40	Mounting bracket, LINEARlight-DRAGON®, LINEARlight LR... (24 V)	2.38
HWL®	6.41	MULTIeco	10.20
Inrush current limiter EBN-OS for POWERTRONIC® ECGs	9.48	OLED components	2.62
LEDinestra®	1.10	OLED module	2.63
LINEARlight 10 V	2.17	Optics for LINEARlight	2.37
LINEARlight ADVANCED (complete module)	2.24	Optics for LINEARlight-DRAGON®	2.37
LINEARlight ADVANCED (PCB)	2.23	OPTOTRONIC® 1-10 V Dimmer	9.75
LINEARlight Colormix (complete module)	2.31	OPTOTRONIC® control gear - 1-10 V interface	9.61
LINEARlight Colormix (PCB)	2.30	OPTOTRONIC® control gear - 12 V	9.58
LINEARlight Colormix Flex	2.28	OPTOTRONIC® control gear - 24 V	9.59
LINEARlight Colormix Flex Protect	2.27	OPTOTRONIC® control gear - 350 mA	9.62
LINEARlight ECO (complete module)	2.26	OPTOTRONIC® control gear - 500 mA	9.64
LINEARlight ECO (PCB)	2.25	OPTOTRONIC® control gear - 700 mA	9.65
LINEARlight Flex® ADVANCED Generation II	2.13	OPTOTRONIC® control gear - DALI/3DIM	9.72
LINEARlight Flex® ECO	2.14	OPTOTRONIC® control gear - LEDset	9.69
LINEARlight Flex® Protect ADVANCED	2.08	OPTOTRONIC® control gear - PhaseCut	9.66
LINEARlight Flex® Protect ECO	2.09	OPTOTRONIC® control gear for PrevaLED® Core	2.54
LINEARlight Flex® ShortPitch	2.12	OPTOTRONIC® control gear for PrevaLED® Linear and PrevaLED® Linear Slim	2.58
LINEARlight Flex® SIDELED®	2.16	OPTOTRONIC® DALI Dimmer	9.74
LINEARlight Flex® Value IP	2.10	OPTOTRONIC® DMX Dimmer	9.76
LINEARlight POWER (complete module)	2.22	OSRAM CFL SQUARE® 2-Pin	4.41
LINEARlight POWER (PCB)	2.21	OSRAM CFL SQUARE® 4-Pin	4.42
LINEARlight POWER Flex Generation II	2.11	OSRAM DULUX® D	4.22
LINEARlight POWER Flex Protect	2.07	OSRAM DULUX® D/E	4.24
LINEARlight Track	2.38	OSRAM DULUX® D/E XT	4.26
LINEARlight-DRAGON® complete module	2.19	OSRAM DULUX® F	4.40
LINEARlight-DRAGON® PCB	2.18	OSRAM DULUX® INTELLIGENT DIM	4.05
LINEARlight-DRAGON® Slim	2.20	OSRAM DULUX® INTELLIGENT FACILITY	4.02
LMS CI BOX	10.62	OSRAM DULUX® INTELLIGENT HIGH EFFICIENCY	4.06
LONGLIFE halogen signal lamps in 10 V technology for road traffic	7.02	OSRAM DULUX® INTELLIGENT LEDOTRON	4.04
Low-pressure sodium lamps – SOX	6.39	OSRAM DULUX® INTELLIGENT LONGLIFE	4.03
Low-voltage halogen lamps for road traffic	7.03	OSRAM DULUX® INTELLIGENT SENSOR	4.07
Low-voltage high-pressure dual-coil lamp for rail traffic equipment	7.14	OSRAM DULUX® L CONSTANT	4.32
Low-voltage high-pressure lamp for 40V systems, dual-coil, for road traffic equipment	7.08	OSRAM DULUX® L HE HIGH EFFICIENCY	4.36
Low-voltage high-pressure lamps for 40 V systems, single-coil, for road traffic	7.07	OSRAM DULUX® L LUMILUX®	4.30
Low-voltage high-pressure single-coil lamp for rail traffic equipment	7.13	OSRAM DULUX® L LUMILUX® DE LUXE	4.33
Low-voltage LONGLIFE lamps in 10 V technology for road traffic equipment	7.06	OSRAM DULUX® L SP	4.35
Low-voltage overpressure lamps in 10 V technology for road traffic	7.05	OSRAM DULUX® L XT	4.38
LS/PD MULTI 3	10.20	OSRAM DULUX® PRO CIRCULUX	4.11
LS/PD MULTI 3 A	10.21	OSRAM DULUX® PRO GLOBE	4.15
LS/PD MULTI 3 B	10.22	OSRAM DULUX® PRO MICRO TWIST	4.09
LS/PD MULTI 3 C	10.23	OSRAM DULUX® PRO MINI BALL	4.12
LS/PD MULTI 3 FL	10.22	OSRAM DULUX® PRO MINI BULLET	4.14
LUMILUX® CHIP control® T5, tubular, G5 base	5.17	OSRAM DULUX® PRO MINI CANDLE	4.13
LUMILUX® CHIP control® T8, tubular, G13 base	5.37	OSRAM DULUX® PRO MINI TWIST	4.10
LUMILUX® DE LUXE T5 HO HIGH OUTPUT, tubular, G5 base	5.11	OSRAM DULUX® PRO STICK	4.08
LUMILUX® DE LUXE T5 short, tubular, G5 base	5.18	OSRAM DULUX® S	4.27
LUMILUX® DE LUXE T8, tubular, G13 base	5.29	OSRAM DULUX® S/E	4.29
LUMILUX® SPLIT control T5, tubular, G5 base	5.16	OSRAM DULUX® T PLUS	4.16
LUMILUX® SPLIT control T8, tubular, G13 base	5.36	OSRAM DULUX® T/E CONSTANT	4.19
LUMILUX® T2 FM, tubular W4.3 x 8.5d base	5.40	OSRAM DULUX® T/E HE HIGH EFFICIENCY	4.20
LUMILUX® T5 FC®, circular, 2Gx13 base	5.23	OSRAM DULUX® T/E PLUS	4.17
LUMILUX® T5 HE ES HIGH EFFICIENCY ENERGY SAVER, tubular, G5 base	5.06	OSRAM DULUX® T/E XT	4.21
LUMILUX® T5 HE HIGH EFFICIENCY, tubular, G5 base	5.02	OSRAM ENDURA®	4.43
LUMILUX® T5 HO CONSTANT, tubular, G5 base	5.09	OSRAM HALOPAR® 16 - E14	3.10
LUMILUX® T5 HO ES HIGH OUTPUT ENERGY SAVER, tubular, G5 base	5.07	OSRAM HALOPAR® 16 - GU10/GZ10	3.09
LUMILUX® T5 HO HIGH OUTPUT, tubular, G5 base	5.04	OSRAM HALOPAR® 20 - E27	3.12
LUMILUX® T5 HO XT, tubular, G5 base	5.08	OSRAM HALOPAR® 20 - GU10	3.11
LUMILUX® T5 SEAMLESS, G5 base	5.12	OSRAM HALOPAR® 30	3.13
LUMILUX® T5 short, tubular, G5 base	5.19	OSRAM HALOPAR® 38	3.14
LUMILUX® T8 ES ENERGY SAVER, tubular, G13 base	5.26	OSRAM HALOPAR® ECO	3.08
LUMILUX® T8, tubular, G13 base	5.24	OSRAM NATURA® SPLIT control T8, tubular, G13 base	5.35
LUMILUX® T8, U-shaped, 2G13 base	5.38	OSRAM NATURA® T5, tubular, G5 base	5.15
LUMILUX® T9 C circular, G10Q base	5.39	OSRAM NATURA® T8, tubular, G13 base	5.34
LUMILUX® XT T8, tubular, G13 base	5.27	OT EASY 32 CC	10.31
LUMILUX® XXT T8, tubular, G13 base	5.28	OT EASY 60 II	10.30
Master Remote	10.26	OUTDOOR	10.10

# Index of product names

Product	Page	Product	Page
PARATHOM® CLASSIC A	1.07	QUICKTRONIC® QT-TE for CFL OSRAM DULUX T/E HE	9.35
PARATHOM® CLASSIC B	1.08	SA-type T12, tubular, G13 base	5.41
PARATHOM® CLASSIC P	1.09	SENSOR KIT	10.62
PARATHOM® LED PIN G4	1.11	SIRIUS® low-voltage halogen lamps with reflector for matrix displays	7.04
PARATHOM® MR16/MR11 - 12V	1.04	SOLAR	10.04
PARATHOM® PAR16	1.02	SPECIAL A (with thermal overload protection)	8.10
PARATHOM® PRO LEDspot 111	1.06	SPECIAL CENTRA® Standard A	8.10
PLANTASTAR®	6.39	SPECIAL INSECTA®	8.11
Power Supply PS 30	10.58	SPECIAL LINESTRA®	8.11
POWERBALL® HCl®-E/P for open and enclosed fixtures	6.13	SPECIAL LINESTRA® holders	8.11
POWERBALL® HCl®-ET for enclosed fixtures	6.14	SPECIAL MIRROR SILVER/GOLD A	8.08
POWERBALL® HCl®-PAR20 for open and enclosed fixtures	6.09	SPECIAL MIRROR SILVER/GOLD P	8.08
POWERBALL® HCl®-PAR30 for open and enclosed fixtures	6.10	SPECIAL OVEN P	8.09
POWERBALL® HCl®-T for enclosed fixtures	6.02	SPECIAL OVEN T	8.09
POWERBALL® HCl®-T Shoplight for enclosed fixtures	6.04	SPECIAL Pygmy T/FRIDGE	8.09
POWERBALL® HCl®-TC for enclosed fixtures	6.05	SPECIAL Tubular T	8.10
POWERBALL® HCl®-TC Shoplight for enclosed fixtures	6.07	Starters for series circuits on 230 VAC	5.43
POWERBALL® HCl®-TF for enclosed fixtures	6.11	Starters for single circuits on 230 VAC	5.43
POWERBALL® HCl®-TM for enclosed fixtures	6.16	STREETlight Advanced	2.48
POWERBALL® HCl®-TS for enclosed fixtures	6.08	STREETlight Protect	2.45
POWERBALL® HCl®-TT for enclosed fixtures	6.15	SubstiTUBE® Advanced	1.14
POWERBALL® HCl®-TX/P for open and enclosed fixtures	6.12	SubstiTUBE® Advanced, 2nd Generation	1.12
POWERBALL® Plus HCl®-T for enclosed fixtures	6.03	SubstiTUBE® Basic	1.15
POWERBALL® Plus HCl®-TC for enclosed fixtures	6.06	SubstiTUBE® EXT Advanced	1.16
POWERSTAR® HQI®-E, clear and coated, for enclosed fixtures	6.29	Switch RC	10.04
POWERSTAR® HQI®-E/P, clear, for open and enclosed fixtures	6.27	Touch DIM® LS LI	10.16
POWERSTAR® HQI®-E/P, coated, for open and enclosed fixtures	6.28	Touch DIM® LS/PD LI	10.15
POWERSTAR® HQI®-R for enclosed fixtures	6.17	Touch DIM® PD LI 2P WOS	10.16
POWERSTAR® HQI®-T for enclosed fixtures	6.26	Touch DIM® RC	10.14
POWERSTAR® HQI®-T for enclosed fixtures, 1000 W and higher	6.25	Touch DIM® RMC	10.14
POWERSTAR® HQI®-T with G12 base for enclosed fixtures	6.18	Touch DIM® WCU	10.15
POWERSTAR® HQI®-TM for enclosed fixtures	6.24	U-shaped T8, 2G13 base	5.38
POWERSTAR® HQI®-TS EXCELLENCE COLOR for enclosed fixtures	6.20	VIALOX® NAV®-E (Standard)	6.33
POWERSTAR® HQI®-TS EXCELLENCE for enclosed fixtures	6.19	VIALOX® NAV®-E 4Y®	6.31
POWERSTAR® HQI®-TS for enclosed fixtures	6.21	VIALOX® NAV®-E 4Y®, with integrated ignition unit	6.32
POWERSTAR® HQI®-TS long arc, without outer bulb for enclosed fixtures	6.23	VIALOX® NAV®-E Plug-in (substitute for mercury vapor lamp)	6.34
POWERSTAR® HQI®-TS without outer bulb for enclosed fixtures	6.22	VIALOX® NAV®-E SUPER 4Y®	6.30
POWERTRONIC® FIT PT-FIT I for HID lamps – with strain relief	9.47	VIALOX® NAV®-E, with internal igniter	6.33
POWERTRONIC® FIT PT-FIT S for HID lamps – for luminaire installation	9.46	VIALOX® NAV®-T (Standard)	6.37
POWERTRONIC® GREENHOUSE PTg for greenhouse lighting	9.48	VIALOX® NAV®-T 4Y®	6.36
POWERTRONIC® INTELLIGENT PTi I for HID lamps – with strain relief	9.45	VIALOX® NAV®-T SUPER 4Y®	6.35
POWERTRONIC® INTELLIGENT PTi S for HID lamps – for luminaire installation	9.44	VIALOX® NAV®-TS (Standard)	6.38
POWERTRONIC® OUTDOOR PTo for HID lamps for outdoor applications	9.43	VIALOX® NAV®-TS SUPER 4Y®	6.38
PrevaLED® Compact	2.59	VISION	10.06
PrevaLED® Core – CRI >90	2.50	WALL Switch	10.09
PrevaLED® Core – CRI 80	2.52	XL-type T12, tubular, Fa6 base	5.42
PrevaLED® Core accessories	2.55	Y-CONNECTOR	10.60
PrevaLED® Linear	2.56	Y-CONNECTOR SCREW	10.60
PrevaLED® Linear Slim	2.57		
PrevaLED® Linear accessories	2.58		
QUICKTRONIC® DE LUXE HF DIM (1-10 V) for T8 lamps	9.21		
QUICKTRONIC® ECO QT-ECO for CFL OSRAM DULUX D/E, T/E, FM lamps	9.36		
QUICKTRONIC® FIT QT-FIT5 for T5 lamps	9.28		
QUICKTRONIC® FIT QT-FIT8 for T8 lamps	9.30		
QUICKTRONIC® for OSRAM ENDURA®	9.41		
QUICKTRONIC® INTELLIGENT QTi DALI DIM for CFL OSRAM DULUX D/E, T/E	9.12		
QUICKTRONIC® INTELLIGENT QTi DALI DIM for T5 lamps	9.08		
QUICKTRONIC® INTELLIGENT QTi DALI DIM for T8 lamps	9.10		
QUICKTRONIC® INTELLIGENT QTi DIM (1-10 V) for CFL OSRAM DULUX D/E, T/E	9.19		
QUICKTRONIC® INTELLIGENT QTi DIM (1-10 V) for T5 lamps	9.15		
QUICKTRONIC® INTELLIGENT QTi DIM (1-10 V) for T8 lamps	9.17		
QUICKTRONIC® INTELLIGENT QTi for T5 lamps	9.24		
QUICKTRONIC® PROFESSIONAL QTP for T5 ring lamps	9.32		
QUICKTRONIC® PROFESSIONAL QTP5 for T5 lamps	9.26		
QUICKTRONIC® PROFESSIONAL QTP8 for T8 lamps	9.29		
QUICKTRONIC® PROFESSIONAL QTP-DL for OSRAM DULUX L and OSRAM DULUX F	9.31		
QUICKTRONIC® PROFESSIONAL QTP-M, -D/E, -T/E for CFL OSRAM DULUX D/E, T/E	9.33		
QUICKTRONIC® QT DALI DIM for CFL OSRAM DULUX T/E HE	9.14		

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
BA01LA-W4F-765	4008321641182	2.41	CONC R63 60	4050300323275	8.05
BA01LA-W4F-830	4008321641267	2.41	CONC R80 40	4050300066042	8.06
BA01LA-W4F-840	4008321693808	2.41	CONC R80 60	4050300066059	8.06
BA01MA-B2	4008321641168	2.42	CONC R80 75	4050300066066	8.06
BA01MA-R2	4008321641144	2.42	CONC R80 100	4050300066073	8.06
BA01MA-W4F-765	4008321640901	2.42	CONC R80 NATURA 60	4050300092485	8.06
BA01MA-W4F-830	4008321641021	2.42	CONC R80 NATURA 100	4050300092492	8.06
BA01SA-B2	4008321640888	2.43	CP51-W4F-4-827	4008321975843	2.04
BA01SA-G2	4008321640864	2.43	CP51-W4F-4-857	4008321975867	2.04
BA01SA-O2	4008321640840	2.43	CP51-W4F-8-827	4008321975881	2.04
BA01SA-R2	4008321640826	2.43	CP51-W4F-8-857	4008321975904	2.04
BA01SA-W4F-765	4008321640666	2.43	CP51-W4F-10-827	4008321975928	2.04
BA01SA-W4F-830	4008321640741	2.43	CP51-W4F-10-857	4008321975942	2.04
BX-MP	4008321981110	2.44	CPDPHS-51	4008321975829	2.32
BX03BA-W4F-765	4008321641519	2.40	CT5B-W4F-827-L24	4008321989420	2.05
BX03SA-W4F-765	4008321641427	2.39	CT5B-W4F-830-L24	4008321989444	2.05
BX03SA-W4F-830	4008321693204	2.39	CT7B-W4F-827-L24	4008321989468	2.05
BX03SA-W4F-840	4008321693365	2.39	CT7B-W4F-830-L24	4008321989482	2.05
CABLE 25CM	4008321660145	10.61	CT11B-W4F-827-L24	4008321989505	2.05
CABLE 50CM	4008321660152	10.61	CT11B-W4F-830-L24	4008321989529	2.05
CABLE 100CM	4008321660169	10.61	DALI CON 1...10 LI	4050300638973	10.56
CABLE 200CM	4008321660190	10.61	DALI CON 1...10 SO	4050300639802	10.57
Cable clamp OTp 45, OTp 35	4008321966155	2.55	DALI EASY III	4008321053046	10.30
CENTRA A CL 200	4050300012971	8.10	DALI EASY RMC	4008321053152	10.34
CENTRA A FR 100	4050300010915	8.10	DALI EASY SO	4008321691040	10.29
CENTRA A T FR 25	4050300010861	8.10	DALI LS/PP BASIC	4050300639949	10.44
CENTRA A T FR 40	4050300010878	8.10	DALI magic	4008321582768	10.59
CENTRA A T FR 60	4050300010892	8.10	DALI MCU	4008321189721	10.41
CFL SQUARE 16 W/827 2-PIN	40503000816852	4.41	DALI MULTleco	4008321371300	10.18
CFL SQUARE 16 W/827 4-PIN	40503000816890	4.42	DALI MULTleco	4008321659262	10.18
CFL SQUARE 16 W/835 2-PIN	40503000816838	4.41	DALI PRO Cont-4	4008321478948	10.46
CFL SQUARE 16 W/835 4-PIN	40503000816876	4.42	DALI PRO Cont-4 RTC	4008321710871	10.46
CFL SQUARE 28 W/827 2-PIN	40503000816913	4.41	DALI PRO PB Coupler	4008321496461	10.47
CFL SQUARE 28 W/827 4-PIN	40503000816951	4.42	DALI PRO Sensor Coupler	4008321379269	10.47
CFL SQUARE 28 W/835 2-PIN	40503000816937	4.41	DALI PRO Touch Panel	4008321957009	10.48
CFL SQUARE 28 W/835 4-PIN	40503000816982	4.42	DALI RC BASIC SO	4050300654973	10.43
CFL SQUARE 38 W/827 4-PIN	40503000817002	4.42	DALI REP LI	4008321292599	10.54
CFL SQUARE 38 W/835 4-PIN	40503000817026	4.42	DALI REP SO	4008321301093	10.55
CL A 40 340° adv FR WW	4008321979124	1.07	DALI SWITCH SO	4008321533364	10.58
CL A 40 adv FR WW	4008321960610	1.07	DALI WCU 5 BASIC W	4050300771106	10.43
CL A 60 340° adv FR WW	4008321973498	1.07	DALIeco Control	4008321988645	10.25
CL A 60 adv FR WW	4008321960658	1.07	DALIeco LS/PD LI	4008321988652	10.26
CL A 60 adv FR WW LEDOTRON	4008321988553	1.07	DC24B-RGBW	4008321709219	2.29
CL A 75 340° adv FR WW	4008321973511	1.07	DC24B-TW	4008321709233	2.15
CL P 25 adv FR WW	4008321994073	1.09	DC24HS	4008321657992	2.32
CL P 25 adv FR WW	4008321994172	1.09	DE1-W3F-830	4008321365361	2.06
CLAS A CL 15	4050300005416	8.02	DE1-W4F-854	4008321364999	2.06
CLAS A CL 25	4050300005430	8.02	DECOR A BLUE 11	4008321545862	8.07
CLAS A CL 40	4050300005454	8.02	DECOR A GREEN 11	4008321545893	8.07
CLAS B CL 15	4050300005713	8.02	DECOR A ORANGE 11	4008321545916	8.07
CLAS B CL 25	4050300005737	8.02	DECOR A RED 11	4008321545824	8.07
CLAS B CL 25	4050300332246	8.02	DECOR A YELLOW 11	4008321480910	8.07
CLAS B CL 40	4050300005775	8.02	DECOR BA FLICKER 3	4050300923680	8.07
CLAS B CL 40	4050300332215	8.02	DECOR BW GOLD 15	7039210604565	8.08
CLAS BW CL 25	4050300005768	8.03	DECOR P BLUE 11	4008321545787	8.07
CLAS BW CL 40	4050300005805	8.03	DECOR P GREEN 11	4008321545800	8.07
CLAS P CL 15	4050300005881	8.03	DECOR P RED 11	4008321545763	8.07
CLAS P CL 15	4050300008462	8.03	DECOR P YELLOW 11	4008321489838	8.07
CLAS P CL 25	4050300005904	8.03	DIM MCU P	4050300347424	10.41
CLAS P CL 25	4050300322704	8.03	DIM MICO	4008321586056	10.11
CLAS P CL 40	4050300005928	8.03	DIM MULTI	4050300554471	10.07
CLAS P CL 40	4050300322674	8.03	DIM MULTleco	4008321507273	10.19
CLASSIC B 25 FR WW	4008321984128	1.08	DIM MULTleco	4008321659279	10.19
CONC R39 30	4050300004815	8.04	DIM PICO	4050300554457	10.12
CONC R50 25	4050300312811	8.04	DIM SA	4008321097095	10.56
CONC R50 40	4050300322315	8.04	DINT DIM CLA 16W/825 E27	4008321953544	4.05
CONC R63 25	4050300312767	8.05	DINT DIM GL 15W/825 E27	4008321924209	4.05
CONC R63 40	4050300310640	8.05	DINT DIM STICK 18W/825 E27	4008321953445	4.05

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
DINT DIM TWIST 20W/825 E27	4008321953605	4.05	DPRO STICK 8W/825 E27	4008321987075	4.08
DINT FCY 10W/825 E14	4008321126276	4.02	DPRO STICK 14W/825 E27	4008321987013	4.08
DINT FCY 10W/825 E27	4008321126290	4.02	DPRO STICK 20W/825 E27	4008321986825	4.08
DINT FCY 14W/825 E27	4050300631905	4.02	DPRO STICK 30W/825 E27	4008321987099	4.08
DINT FCY 18W/825 E27	4008321118356	4.02	DT-D/E 10-13/220-240 C	4008321181510	9.39
DINT FCY 22W/825 E27	4008321948519	4.02	DT-D/E 10-13/220-240 L	4008321181497	9.39
DINT HE CL A 11W/825 E27	4008321587947	4.06	DT-D/E 10-13/220-240 P	4008321181534	9.39
DINT HE CL A 14W/825 E27	4008321587985	4.06	DT-S/E 5-11/220-240 L	4008321181473	9.39
DINT HE MICRTW 11W/825 E27	4008321965905	4.06	DT-S/E 5-11/220-240 S	4008321181459	9.39
DINT HE MICRTW 14W/825 E27	4008321965912	4.06	DT-T/E 18/230-240 C	4050300421384	9.39
DINT HE MICRTW 20W/825 E27	4008321965929	4.06	DT-T/E 18/230-240 L	4050300406040	9.39
DINT LEDOTRON CLA14W/825 E27	4008321988546	4.04	DT-T/E 18/230-240 P	4050300421421	9.39
DINT LEDOTRON GL14W/825 E27	4008321694652	4.04	DULUX D 10 W/827	4050300008110	4.22
DINT LEDOTRON STICK 18W/825 E27	4008321671059	4.04	DULUX D 10 W/830	4050300025681	4.22
DINT LL 22W/825 E27	4008321953469	4.03	DULUX D 10 W/840	40503000010595	4.22
DINT LL 7W/825 E14	4050300315157	4.03	DULUX D 13 W/827	4050300008127	4.22
DINT LL 7W/825 E27	4050300288819	4.03	DULUX D 13 W/830	4050300025698	4.22
DINT LL 11W/825 E14	40503000811451	4.03	DULUX D 13 W/840	4050300010625	4.22
DINT LL 11W/825 E27	40503000811598	4.03	DULUX D 13 W/865	4050300487106	4.22
DINT LL 14W/825 E27	4008321394965	4.03	DULUX D 18 W/827	4050300011462	4.22
DINT LL 18W/825 E27	4008321394989	4.03	DULUX D 18 W/830	4050300025704	4.22
DINT LL 30W/825 E27	4008321935939	4.03	DULUX D 18 W/835	4050300028873	4.22
DINT SENSOR MIBA 11W/825 E27	4008321377722	4.07	DULUX D 18 W/840	4050300012056	4.22
DINT SENSOR STICK 11W/827 E27	4008321986955	4.07	DULUX D 18 W/865	4050300487120	4.22
DINT SENSOR STICK 15W/827 E27	4008321987082	4.07	DULUX D 26 W/827	4050300011912	4.22
DMX CONV DALI SO	4008321532336	10.57	DULUX D 26 W/830	4050300025711	4.22
DMX ISOL REP	4008321621832	10.55	DULUX D 26 W/835	4050300028897	4.22
DP35-W4F-3-827	4008321976123	2.03	DULUX D 26 W/840	4050300012049	4.22
DP35-W4F-3-857	4008321976147	2.03	DULUX D 26 W/865	4050300486987	4.22
DP35-W4F-7-827	4008321976161	2.03	DULUX D/E 10 W/827	4050300012124	4.24
DP35-W4F-7-857	4008321976185	2.03	DULUX D/E 10 W/830	4050300419435	4.24
DP35-W4F-9-827	4008321976208	2.03	DULUX D/E 10 W/840	4050300017587	4.24
DP35-W4F-9-857	4008321976222	2.03	DULUX D/E 13 W/827	4050300012131	4.24
DP51-W4F-3-827	4008321976123	2.03	DULUX D/E 13 W/830	4050300389059	4.24
DP51-W4F-3-857	4008321976246	2.03	DULUX D/E 13 W/835	4050300450957	4.24
DP51-W4F-7-827	4008321976284	2.03	DULUX D/E 13 W/840	4050300017594	4.24
DP51-W4F-7-857	4008321976307	2.03	DULUX D/E 18 W/827	4050300012148	4.24
DP51-W4F-9-827	4008321976321	2.03	DULUX D/E 18 W/830	4050300327211	4.24
DP51-W4F-9-857	4008321976345	2.03	DULUX D/E 18 W/830 XT	4008321507532	4.26
DPRO CIRCOLUX 24W/827 E27	4008321987112	4.11	DULUX D/E 18 W/835	4050300450971	4.24
DPRO GL 14W/825 E27	4008321986665	4.15	DULUX D/E 18 W/840	4050300017617	4.24
DPRO GL 18W/825 E27	4008321986672	4.15	DULUX D/E 18 W/840 XT	4008321507556	4.26
DPRO MCTW 7W/825 E14	4008321986030	4.09	DULUX D/E 18 W/865	4050300564944	4.24
DPRO MCTW 7W/825 E27	4008321986047	4.09	DULUX D/E 26 W/827	4050300012230	4.24
DPRO MCTW 11W/825 E14	4008321986085	4.09	DULUX D/E 26 W/830	4050300327235	4.24
DPRO MCTW 11W/825 E27	4008321986092	4.09	DULUX D/E 26 W/830 XT	4008321508782	4.26
DPRO MCTW 14W/825 E27	4008321986139	4.09	DULUX D/E 26 W/835	4050300450995	4.24
DPRO MCTW 17W/825 E27	4008321986160	4.09	DULUX D/E 26 W/840	4050300020303	4.24
DPRO MCTW 23W/825 E27	4008321986191	4.09	DULUX D/E 26 W/840 XT	4008321508829	4.26
DPRO MIBA 7W/825 E14	4008321986580	4.12	DULUX D/E 26 W/865	4008321185877	4.24
DPRO MIBA 7W/825 E27	4008321986573	4.12	DULUX F 18 W/827	4050300333564	4.40
DPRO MIBA 11W/825 E27	4008321986610	4.12	DULUX F 18 W/830	4050300333540	4.40
DPRO MIBA 15W/825 E27	4008321986627	4.12	DULUX F 18 W/840	4050300333526	4.40
DPRO MIBA 20W/825 E27	4008321986634	4.12	DULUX F 24 W/827	4050300333625	4.40
DPRO MIBU 6W/825 E14	4008321986696	4.14	DULUX F 24 W/830	4050300333601	4.40
DPRO MIBU 6W/825 E27	4008321986689	4.14	DULUX F 24 W/840	4050300333588	4.40
DPRO MIBU 9W/825 E14	4008321986733	4.14	DULUX F 36 W/827	4050300312187	4.40
DPRO MIBU 9W/825 E27	4008321986726	4.14	DULUX F 36 W/830	4050300299051	4.40
DPRO MICA 6W/825 E14	4008321986603	4.13	DULUX F 36 W/840	4050300299037	4.40
DPRO MICA 6W/825 E27	4008321986597	4.13	DULUX L 16 W/830 HE	4008321507792	4.36
DPRO MICA 9W/825 E14	4008321986658	4.13	DULUX L 16 W/840 HE	4008321507815	4.36
DPRO MICA 9W/825 E27	4008321986641	4.13	DULUX L 18 W/827	4050300010748	4.30
DPRO MTW 11W/825 E14	4008321986221	4.10	DULUX L 18 W/830	4050300010731	4.30
DPRO MTW 11W/825 E27	4008321986238	4.10	DULUX L 18 W/830 SP	4050300300276	4.35
DPRO MTW 13W/825 E27	4008321986290	4.10	DULUX L 18 W/830 XT	4008321507570	4.38
DPRO MTW 18W/825 E27	4008321986337	4.10	DULUX L 18 W/835	4050300295893	4.30
DPRO MTW 23W/825 E27	4008321986375	4.10	DULUX L 18 W/840	4050300010724	4.30
DPRO STICK 8W/825 E14	4008321986948	4.08	DULUX L 18 W/840 SP	4008321280497	4.35

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
DULUX L 18 W/840 XT	4008321507594	4.38	DULUX S 9 W/830	4050300025742	4.27
DULUX L 18 W/930	4050300018324	4.33	DULUX S 9 W/835	4050300451053	4.27
DULUX L 18 W/940	4050300018560	4.33	DULUX S 9 W/840	4050300010588	4.27
DULUX L 18 W/954	4050300018423	4.33	DULUX S 9 W/865	4050300355320	4.27
DULUX L 22 W/830 HE	4008321507839	4.36	DULUX S 11 W/827	4050300006017	4.27
DULUX L 22 W/840 HE	4008321508638	4.36	DULUX S 11 W/830	4050300025759	4.27
DULUX L 24 W/67	4050300354033	4.30	DULUX S 11 W/840	4050300010618	4.27
DULUX L 24 W/827	4050300010779	4.30	DULUX S/E 7 W/827	4050300017648	4.29
DULUX L 24 W/830	4050300010762	4.30	DULUX S/E 7 W/830	4050300591988	4.29
DULUX L 24 W/830 SP	4050300300238	4.35	DULUX S/E 7 W/840	4050300020167	4.29
DULUX L 24 W/830 XT	4008321507617	4.38	DULUX S/E 9 W/827	4050300017655	4.29
DULUX L 24 W/835	4050300295916	4.30	DULUX S/E 9 W/830	4050300589398	4.29
DULUX L 24 W/840	4050300010755	4.30	DULUX S/E 9 W/840	4050300020174	4.29
DULUX L 24 W/840 SP	4008321280510	4.35	DULUX S/E 11 W/827	4050300017662	4.29
DULUX L 24 W/840 XT	4008321507631	4.38	DULUX S/E 11 W/830	4050300589374	4.29
DULUX L 24 W/930	4050300018386	4.33	DULUX S/E 11 W/840	4050300020181	4.29
DULUX L 24 W/940	4050300018584	4.33	DULUX T 13 W/830 PLUS	4050300446929	4.16
DULUX L 24 W/954	4050300018447	4.33	DULUX T 13 W/840 PLUS	4050300446905	4.16
DULUX L 26 W/830 HE	4008321508584	4.36	DULUX T 18 W/827 PLUS	4050300333502	4.16
DULUX L 26 W/840 HE	4008321508713	4.36	DULUX T 18 W/830 PLUS	4050300333489	4.16
DULUX L 28 W/830 HE	4008321296719	4.36	DULUX T 18 W/840 PLUS	4050300333465	4.16
DULUX L 28 W/840 HE	4008321296757	4.36	DULUX T 26 W/827 PLUS	4050300342085	4.16
DULUX L 36 W/827	4050300010809	4.30	DULUX T 26 W/830 PLUS	4050300342061	4.16
DULUX L 36 W/830	4050300010793	4.30	DULUX T 26 W/840 PLUS	4050300342047	4.16
DULUX L 36 W/830 SP	4008321283757	4.35	DULUX T/E 11 W/830 HE	4008321359452	4.20
DULUX L 36 W/830 XT	4008321507655	4.38	DULUX T/E 11 W/840 HE	4008321359476	4.20
DULUX L 36 W/835	4050300295930	4.30	DULUX T/E 13 W/827 PLUS	4050300447001	4.17
DULUX L 36 W/840	4050300010786	4.30	DULUX T/E 13 W/830 PLUS	4050300446981	4.17
DULUX L 36 W/840 SP	4008321283771	4.35	DULUX T/E 13 W/840 PLUS	4050300446967	4.17
DULUX L 36 W/840 XT	4008321507679	4.38	DULUX T/E 14 W/830 HE	4008321290496	4.20
DULUX L 36 W/865	4050300328263	4.30	DULUX T/E 14 W/840 HE	4008321290519	4.20
DULUX L 36 W/880	4008321185891	4.30	DULUX T/E 17 W/830 HE	4008321290533	4.20
DULUX L 36 W/930	4050300018393	4.33	DULUX T/E 17 W/840 HE	4008321290557	4.20
DULUX L 36 W/940	4050300018607	4.33	DULUX T/E 18 W/827 PLUS	4050300342269	4.17
DULUX L 36 W/954	4050300018461	4.33	DULUX T/E 18 W/830 PLUS	4050300342245	4.17
DULUX L 40 W/827	4050300322285	4.30	DULUX T/E 18 W/840 PLUS	4050300342221	4.17
DULUX L 40 W/830	4050300298894	4.30	DULUX T/E 26 W/827 PLUS	4050300342320	4.17
DULUX L 40 W/835	4050300295954	4.30	DULUX T/E 26 W/830 CONSTANT	4050300425467	4.19
DULUX L 40 W/840	4050300279909	4.30	DULUX T/E 26 W/830 PLUS	4050300342306	4.19
DULUX L 40 W/840 CONSTANT	4008321104823	4.32	DULUX T/E 26 W/840 CONSTANT	4050300425443	4.17
DULUX L 40 W/865	4050300592008	4.30	DULUX T/E 26 W/840 PLUS	4050300342283	4.17
DULUX L 40 W/880	4008321185914	4.30	DULUX T/E 32 W/827 CONSTANT	4050300425542	4.19
DULUX L 40 W/954	4050300315799	4.33	DULUX T/E 32 W/827 PLUS	4050300348605	4.17
DULUX L 55 W/827	4050300315881	4.30	DULUX T/E 32 W/830 CONSTANT	4050300425528	4.19
DULUX L 55 W/830	4050300298917	4.30	DULUX T/E 32 W/830 PLUS	4050300348582	4.17
DULUX L 55 W/830 XT	4008321507693	4.38	DULUX T/E 32 W/830 XT	4008321511911	4.21
DULUX L 55 W/835	4050300295978	4.30	DULUX T/E 32 W/840 CONSTANT	4050300425504	4.19
DULUX L 55 W/840	4050300295879	4.30	DULUX T/E 32 W/840 PLUS	4050300348568	4.17
DULUX L 55 W/840 CONSTANT	4008321104847	4.32	DULUX T/E 32 W/840 XT	4008321511935	4.21
DULUX L 55 W/840 XT	4008321507716	4.38	DULUX T/E 42 W/827 CONSTANT	4050300425603	4.19
DULUX L 55 W/865	4050300553900	4.30	DULUX T/E 42 W/827 PLUS	4050300425665	4.17
DULUX L 55 W/880	4008321185938	4.30	DULUX T/E 42 W/830 CONSTANT	4050300425580	4.19
DULUX L 55 W/930	4050300370705	4.33	DULUX T/E 42 W/830 PLUS	4050300425641	4.17
DULUX L 55 W/940	4050300197999	4.33	DULUX T/E 42 W/830 XT	4008321511959	4.21
DULUX L 55 W/954	4050300321400	4.33	DULUX T/E 42 W/840 CONSTANT	4050300425566	4.19
DULUX L 80 W/830	4050300665467	4.30	DULUX T/E 42 W/840 PLUS	4050300425627	4.17
DULUX L 80 W/840	4050300665481	4.30	DULUX T/E 42 W/840 XT	4008321511973	4.21
DULUX L 80 W/840 CONSTANT	40083211104861	4.32	DUO	4008321496355	10.08
DULUX L 80 W/880	4008321185952	4.30	DX01-W4F-830	4008321196023	2.02
DULUX S 5 W/827	4050300006130	4.27	DX01-W4F-854	40083211960047	2.02
DULUX S 5 W/840	4050300010564	4.27	e:bus DALI Gateway	4008321957085	10.48
DULUX S 7 W/827	4050300005997	4.27	EASY Color Drive	4008321421777	10.34
DULUX S 7 W/830	4050300025735	4.27	EASY DMX 16x4 SO	4008321441539	10.32
DULUX S 7 W/840	4050300010571	4.27	EASY DMX 32x4 SO	4008321441553	10.32
DULUX S 9 W/60	4050300015927	4.27	EASY DMX 64x4 SO	4008321441577	10.32
DULUX S 9 W/66	4050300015934	4.27	EASY Hybrid Remote	4008321421739	10.33
DULUX S 9 W/67	4050300015941	4.27	EASY IR	4008321053138	10.37
DULUX S 9 W/827	4050300006000	4.27	EASY IR CI	4008321915573	10.37

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
EASY PB COUPLER	4008321915597	10.35	HCI-T 70/830 WDL PB	4008321678430	6.02
EASY PC KIT	4008321915559	10.36	HCI-T 70/930 WDL PB Shoplight	4008321678508	6.04
EASY RC	4008321421753	10.36	HCI-T 70/942 NDL PB	4008321678522	6.02
EASY SYS CP	4008321320902	10.35	HCI-T 70W/930 WDL PB Plus	4008321974228	6.03
EASY Touch Panel	4008321956989	10.33	HCI-T 100/830 WDL PB	4008321682963	6.02
EBN-OS/220-240	4006584548019	9.48	HCI-T 100/942 NDL PB	4008321682987	6.02
ECO CI KIT	4008321392091	10.63	HCI-T 150/830 WDL PB	4008321682055	6.02
ENDURA 70 W/830 2-pole	4050300817293	4.43	HCI-T 150/942 NDL PB	4008321682079	6.02
ENDURA 70 W/840 2-pole	4050300817286	4.43	HCI-TC 20/830 WDL PB	4008321683007	6.05
ENDURA 100 W/830 2-pole	4050300668420	4.43	HCI-TC 35/830 WDL PB	4008321681997	6.05
ENDURA 100 W/840 2-pole	4050300668437	4.43	HCI-TC 35/930 WDL PB Shoplight	4008321682017	6.07
ENDURA 100 W/840 Reflector	4008321368034	4.43	HCI-TC 35/942 NDL PB	4008321682031	6.05
ENDURA 150 W/830 2-pole	4050300668444	4.43	HCI-TC 35W/930 WDL PB Plus	4008321974242	6.06
ENDURA 150 W/840 2-pole	4050300668451	4.43	HCI-TC 50W/930 WDL PB Plus	4008321974280	6.06
ET-PARROT 70/220-240 I	4008321111593	9.52	HCI-TC 70/830 WDL PB	4008321681799	6.05
ET-PARROT 105/220-240 I	4008321111579	9.52	HCI-TC 70/930 WDL PB Shoplight	4008321681812	6.07
ET-PARROT 150/220-240 I	4008321622563	9.52	HCI-TC 70/942 NDL PB	4008321681836	6.05
FC 22 W/827	4050300646237	5.23	HCI-TC 70W/930 WDL PB Plus	4008321974204	6.06
FC 22 W/830	4050300528489	5.23	HCI-TF 20/830 WDL PB	4008321683045	6.11
FC 22 W/840	4050300528465	5.23	HCI-TF 35/930 WDL PB	4008321683021	6.11
FC 22 W/865	4050300528441	5.23	HCI-TM 250/930 WDL HR PB	4008321959423	6.16
FC 40 W/827	4050300646251	5.23	HCI-TM 250/930 WDL MD PB	4008321524591	6.16
FC 40 W/830	4050300528540	5.23	HCI-TM 250/942 NDL HR PB	4008321959430	6.16
FC 40 W/840	4050300528526	5.23	HCI-TM 250/942 NDL MD PB	4008321524638	6.16
FC 40 W/865	4050300528502	5.23	HCI-TM 400/930 WDL HR PB	4008321959447	6.16
FC 55 W/827	4050300646275	5.23	HCI-TM 400/930 WDL PB	4008321524614	6.16
FC 55 W/830	4050300528601	5.23	HCI-TM 400/942 NDL HR PB	4008321959454	6.16
FC 55 W/840	4050300528588	5.23	HCI-TM 400/942 NDL PB	4008321524577	6.16
FC 55 W/865	4050300528564	5.23	HCI-TS 70/830 WDL PB	4008321688309	6.08
FM 6 W/730	4008321157546	5.40	HCI-TS 70/942 NDL PB	4008321688361	6.08
FM 6 W/740	4008321157577	5.40	HCI-TS 150/830 WDL PB	4008321679857	6.08
FM 6 W/760	4008321157607	5.40	HCI-TS 150/942 NDL PB	4008321679871	6.08
FM 8 W/730	4008321157638	5.40	HCI-TT 50/830 WDL PB	4008321688873	6.15
FM 8 W/740	4008321157669	5.40	HCI-TT 70/830 WDL PB	4008321688897	6.15
FM 8 W/760	4008321157690	5.40	HCI-TT 100/830 WDL PB	4008321688910	6.15
FM 11 W/730	4008321157720	5.40	HCI-TT 150/830 WDL PB	4008321688934	6.15
FM 11 W/740	4008321157751	5.40	HCI-TT 250/830 WDL PB	4008321688958	6.15
FM 11 W/760	4008321157782	5.40	HCI-TX/P 35W/930 WDL PB	4008321539366	6.12
FM 13 W/730	4008321157836	5.40	HCI-TX/P 35W/942 NDL PB	4008321539380	6.12
FM 13 W/740	4008321157867	5.40	HCI-TX/P 70W/930 WDL PB	4008321539403	6.12
FM 13 W/760	4008321157898	5.40	HCI-TX/P 70W/942 NDL PB	4008321539427	6.12
Glass Touch 6	4008321957108	10.49	HE 13W/830 ES	4008321733818	5.06
Glass Touch 6 TW	4008321957054	10.50	HE 13W/840 ES	4008321733832	5.06
Glass Touch 12	4008321957115	10.49	HE 13W/865 ES	4008321733856	5.06
HCI-E/P 35/830 WDL PB coated	4008321692801	6.13	HE 14 W/60	4008321170705	5.13
HCI-E/P 50/830 WDL PB coated	4008321338488	6.13	HE 14 W/66	4008321170729	5.13
HCI-E/P 70/830 WDL PB coated	4008321692825	6.13	HE 14 W/67	4008321170781	5.13
HCI-E/P 100/830 WDL PB coated	4008321692849	6.13	HE 14 W/827	4050300645933	5.02
HCI-E/P 150/830 WDL PB coated	4008321692863	6.13	HE 14 W/830	4050300646824	5.02
HCI-ET 70W/830 WDL PB	4008321688286	6.14	HE 14 W/835	4050300771991	5.02
HCI-PAR20 35/830 WDL PB FL 30D	4008321970794	6.09	HE 14 W/840	4050300464688	5.02
HCI-PAR20 35/830 WDL PB SP 10D	4008321970756	6.09	HE 14 W/865	4050300464848	5.02
HCI-PAR20 35/942 NDL PB FL 30D	4008321970817	6.09	HE 14 W/880	4008321225009	5.02
HCI-PAR20 35/942 NDL PB SP 10D	4008321970770	6.09	HE 14W/830 SLS	4008321957719	5.12
HCI-PAR30 35/830 WDL PB FL 30D	4008321970855	6.10	HE 14W/840 SLS	4008321957733	5.12
HCI-PAR30 35/830 WDL PB SP 10D	4008321970831	6.10	HE 19W/830 ES	4008321733931	5.06
HCI-PAR30 35/942 NDL PB FL 30D	4008321970893	6.10	HE 19W/840 ES	4008321733955	5.06
HCI-PAR30 35/942 NDL PB SP 10D	4008321970879	6.10	HE 19W/865 ES	4008321733979	5.06
HCI-PAR30 70/830 WDL PB WFL 40D	4008321971036	6.10	HE 21 W/60	4008321170682	5.13
HCI-PAR30 70/930 WDL PB FL 30D	4008321971012	6.10	HE 21 W/66	4008321170743	5.13
HCI-PAR30 70/930 WDL PB SP 10D	4008321970930	6.10	HE 21 W/67	4008321170804	5.13
HCI-PAR30 70/942 NDL PB FL 30D	4008321970978	6.10	HE 21 W/827	4050300645971	5.02
HCI-PAR30 70/942 NDL PB SP 10D	4008321970954	6.10	HE 21 W/830	4050300464800	5.02
HCI-T 35/830 WDL PB	4008321681850	6.02	HE 21 W/835	4050300776149	5.02
HCI-T 35/930 WDL PB Shoplight	4008321681874	6.04	HE 21 W/840	4050300464701	5.02
HCI-T 35/942 NDL PB	4008321681898	6.02	HE 21 W/865	4050300464626	5.02
HCI-T 35W/930 WDL PB Plus	4008321974266	6.03	HE 21 W/880	4008321224989	5.02
HCI-T 50W/930 WDL PB Plus	4008321974303	6.03	HE 21W/830 SLS	4008321957771	5.12

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
HE 21W/840 SLS	4008321957795	5.12	HO 39 W/830 CONSTANT	4008321075512	5.09
HE 25 W/827 ES	4008321516909	5.06	HO 39 W/830 SLS	4008321409973	5.12
HE 25 W/830 ES	4008321516923	5.06	HO 39 W/840	4050300453538	5.04
HE 25 W/840 ES	4008321516947	5.06	HO 39 W/840 CONSTANT	4008321075550	5.09
HE 25 W/865 ES	4008321516961	5.06	HO 39 W/840 SLS	4008321357373	5.12
HE 28 W/60	4008321161840	5.13	HO 39 W/865	4050300453514	5.04
HE 28 W/62 CHIP CONTR	4008321233424	5.17	HO 39 W/865 CONSTANT	4008321075574	5.09
HE 28 W/66	4008321161864	5.13	HO 39 W/865 SLS	4008321410030	5.12
HE 28 W/67	4008321161888	5.13	HO 45 W/827 ES	4008321958129	5.07
HE 28 W/76	4008321581716	5.15	HO 45 W/830 ES	4008321958136	5.07
HE 28 W/827	4050300646015	5.02	HO 45 W/840 ES	4008321958143	5.07
HE 28 W/830	4050300464787	5.02	HO 45 W/865 ES	4008321958150	5.07
HE 28 W/835	4050300776552	5.02	HO 49 W/827	4050300796772	5.04
HE 28 W/840	4050300464725	5.02	HO 49 W/827 XT	4008321958488	5.08
HE 28 W/840 SPS	4008321233387	5.16	HO 49 W/830	4050300657158	5.04
HE 28 W/865	4050300464640	5.02	HO 49 W/830 CONSTANT	4008321958761	5.09
HE 28 W/880	4008321153517	5.02	HO 49 W/830 XT	4008321958495	5.08
HE 28W/830 SLS	4008321957832	5.12	HO 49 W/840	4050300657134	5.04
HE 28W/840 SLS	4008321957856	5.12	HO 49 W/840 CONSTANT	4008321958778	5.09
HE 32 W/827 ES	4008321517067	5.06	HO 49 W/840 XT	4008321958501	5.08
HE 32 W/830 ES	4008321517111	5.06	HO 49 W/865	4008321110732	5.04
HE 32 W/840 ES	4008321517166	5.06	HO 49 W/865 CONSTANT	4008321958785	5.09
HE 32 W/865 ES	4008321517210	5.06	HO 49 W/865 XT	4008321958518	5.08
HE 35 W/60	4008321133458	5.13	HO 49 W/880	4008321907486	5.04
HE 35 W/66	4008321161925	5.13	HO 49 W/940	4008321234025	5.11
HE 35 W/67	4008321161949	5.13	HO 49 W/965	4008321233066	5.11
HE 35 W/827	4050300646053	5.02	HO 50 W/827 ES	4008321958167	5.07
HE 35 W/830	4050300464763	5.02	HO 50 W/830 ES	4008321958174	5.07
HE 35 W/835	4050300776415	5.02	HO 50 W/840 ES	4008321958181	5.07
HE 35 W/840	4050300464749	5.02	HO 50 W/865 ES	4008321958198	5.07
HE 35 W/865	4050300464664	5.02	HO 54 W/60	4008321170965	5.14
HE 35 W/880	4008321153531	5.02	HO 54 W/62 CHIP CONTR	4008321233400	5.17
HF1x18/230-240 DIM	4050300319254	9.21	HO 54 W/66	4008321170903	5.14
HF1x36/230-240 DIM	4050300297705	9.21	HO 54 W/67	4008321170842	5.14
HF1x58/230-240 DIM	4050300297729	9.21	HO 54 W/76	4008321581693	5.15
HF2x18/230-240 DIM	4050300350950	9.21	HO 54 W/827	4050300646176	5.04
HF2x36/230-240 DIM	4050300350974	9.21	HO 54 W/827 XT	4008321958525	5.08
HF2x58/230-240 DIM	4050300350998	9.21	HO 54 W/830	4050300453415	5.04
HIGH BAY	4008321410078	10.05	HO 54 W/830 CONSTANT	4008321075611	5.09
HIGH TEMP CABLE 200CM + SENSORCLIP	4008321660992	10.61	HO 54 W/830 SLS	4008321409997	5.12
HO 20 W/830 ES	4008321734068	5.07	HO 54 W/830 XT	4008321958549	5.08
HO 20 W/840 ES	4008321734082	5.07	HO 54 W/835	4050300776477	5.04
HO 20 W/865 ES	4008321734105	5.07	HO 54 W/840	4050300453392	5.04
HO 24 W/60	4008321171009	5.14	HO 54 W/840 CONSTANT	4008321075659	5.09
HO 24 W/66	4008321170941	5.14	HO 54 W/840 SLS	4008321357434	5.12
HO 24 W/67	4008321170880	5.14	HO 54 W/840 SPS	4008321233363	5.16
HO 24 W/827	4050300646077	5.04	HO 54 W/840 XT	4008321958556	5.08
HO 24 W/830	4050300453491	5.04	HO 54 W/865	4050300453378	5.04
HO 24 W/830 CONSTANT	4008321074911	5.09	HO 54 W/865 CONSTANT	4008321075673	5.09
HO 24 W/830 SLS	4008321409959	5.12	HO 54 W/865 SLS	4008321410054	5.12
HO 24 W/835	4050300776439	5.04	HO 54 W/865 XT	4008321958563	5.08
HO 24 W/840	4050300453477	5.04	HO 54 W/880	4008321070425	5.04
HO 24 W/840 CONSTANT	4008321075451	5.09	HO 54 W/940	4008321233929	5.11
HO 24 W/840 SLS	4008321357250	5.12	HO 54 W/965	4008321233943	5.11
HO 24 W/865	4050300453453	5.04	HO 73 W/827 ES	4008321958204	5.07
HO 24 W/865 CONSTANT	4008321075475	5.09	HO 73 W/830 ES	4008321958211	5.07
HO 24 W/865 SLS	4008321410016	5.12	HO 73 W/840 ES	4008321958228	5.07
HO 24 W/880	4008321081469	5.04	HO 73 W/865 ES	4008321958235	5.07
HO 24 W/940	4008321233028	5.11	HO 80 W/60	4008321161963	5.14
HO 24 W/965	4008321233042	5.11	HO 80 W/66	4008321161987	5.14
HO 34 W/830 ES	4008321734181	5.07	HO 80 W/67	4008321162007	5.14
HO 34 W/840 ES	4008321734204	5.07	HO 80 W/827	4050300646213	5.04
HO 34 W/865 ES	4008321734228	5.07	HO 80 W/827 XT	4008321958570	5.08
HO 39 W/60	4008321170989	5.14	HO 80 W/830	4050300515137	5.04
HO 39 W/66	4008321170927	5.14	HO 80 W/830 CONSTANT	4008321075819	5.09
HO 39 W/67	4008321170866	5.14	HO 80 W/830 XT	4008321958587	5.08
HO 39 W/827	4050300646138	5.04	HO 80 W/840	4050300515151	5.04
HO 39 W/830	4050300453552	5.04	HO 80 W/840 CONSTANT	4008321080042	5.09

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
HO 80 W/840 XT	4008321958594	5.08	HQI-TS 70/NDL EXCELLENCE	4008321678324	6.19
HO 80 W/865	4050300515113	5.04	HQI-TS 70/WDL EXCELLENCE	4008321678300	6.19
HO 80 W/865 CONSTANT	4008321080066	5.09	HQI-TS 150/BL EXCELLENCE	4008321678614	6.20
HO 80 W/865 XT	4008321958600	5.08	HQI-TS 150/CD EXCELLENCE	4008321624789	6.19
HO 80 W/880	4008321070449	5.04	HQI-TS 150/D EXCELLENCE	4008321678409	6.19
HPML AD-W4-765 L130X50 46V	4008321643063	2.47	HQI-TS 150/GN EXCELLENCE	4008321678638	6.20
HPML AD-W4F-740 L60X60 46V	4008321643308	2.47	HQI-TS 150/MG EXCELLENCE	4008321678652	6.20
HPML AD-W4F-765 L60X60 46V	4008321643124	2.47	HQI-TS 150/NDL EXCELLENCE	4008321678386	6.19
HPML AD-W4F-830 L60X60 46V	4008321642875	2.47	HQI-TS 150/WDL EXCELLENCE	4008321678362	6.19
HPML CC-W4-765 L30X30	4008321660763	2.46	HQI-TS 250/D	4008321689139	6.21
HPML CC-W4-765 L60X60	4008321660831	2.46	HQI-TS 250/NDL	4008321689153	6.21
HPML CC-W4-765 L75X130	4008321660893	2.46	HQI-TS 250/WDL	4008321689177	6.21
HPML CC-W4F-830 L30X30	4008321630148	2.46	HQI-TS 400/D	4008321689191	6.21
HPML CC-W4F-830 L60X60	4008321630506	2.46	HQI-TS 400/NDL	4008321689214	6.21
HPML CC-W4F-830 L75X130	4008321579362	2.46	HQI-TS 1000/D/S PRO	4008321525475	6.22
HPML CC-W4F-840 L30X30	4008321630261	2.46	HQI-TS 1000/NDL/S	4008321591944	6.22
HPML CC-W4F-840 L60X60	4008321630629	2.46	HQI-TS 2000/D/S	40503000271682	6.22
HPML CC-W4F-840 L75X130	4008321579485	2.46	HQI-TS 2000/D/S/DP	4008321772992	6.22
HQI-BT 400/D/PRO	4008321677860	6.26	HQI-TS 2000/NDL/S	4008321525499	6.22
HQI-E 250/D/PRO	4008321677907	6.29	HQI-TS 2000W/D/S High Flux	4008321338310	6.22
HQI-E 400/D/PRO	4008321677884	6.29	HQI-TS 2000W/W/L	4008321530660	6.23
HQI-E 400/N clear	4008321526700	6.29	HQL 50	4050300015040	6.41
HQI-E 400/N coated	4008321526724	6.29	HQL 50 DE LUXE	4050300015132	6.40
HQI-E 1000/N	4008321528261	6.29	HQL 80	4050300012360	6.41
HQI-E/P 70/NDL clear	4008321971111	6.27	HQL 80 DE LUXE	4050300015149	6.40
HQI-E/P 70/NDL coated	4008321971098	6.28	HQL 80 SUPER DE LUXE	4050300015224	6.40
HQI-E/P 70/WDL clear	4008321971074	6.27	HQL 125	4050300012377	6.41
HQI-E/P 70/WDL coated	4008321971050	6.28	HQL 125 DE LUXE	4050300015156	6.40
HQI-E/P 100/NDL clear	4008321994574	6.27	HQL 250	4050300015064	6.41
HQI-E/P 100/NDL coated	4008321994523	6.28	HQL 250 DE LUXE	4050300015163	6.40
HQI-E/P 100/WDL clear	4008321994509	6.27	HQL 400	4050300015071	6.41
HQI-E/P 100/WDL coated	4008321994486	6.28	HQL 400 DE LUXE	4050300015170	6.40
HQI-E/P 150/NDL clear	4008321971197	6.27	HQL 700	4050300015088	6.41
HQI-E/P 150/NDL coated	4008321971173	6.28	HQL 1000	4050300015095	6.41
HQI-E/P 150/WDL clear	4008321971159	6.27	HTI DALI 105/230-240 DIM	4008321420633	9.50
HQI-E/P 150/WDL coated	4008321971135	6.28	HTI DALI 150/220-240 DIM	4050300807782	9.50
HQI-E/P 250/D coated	4008321677921	6.28	HTI DALI 315 DIM	4008321957344	9.53
HQI-E/P 400/D coated	4008321677945	6.28	HTL 105/230-240	4008321927019	9.50
HQI-R 150/NDL/FO	4008321691262	6.17	HTL 225/230-240	4008321927026	9.50
HQI-T 70/NDL	4008321974327	6.18	HTM 70/230-240	4050300442310	9.51
HQI-T 70/WDL	4008321974341	6.18	HTM 105/230-240	4050300442334	9.51
HQI-T 150/NDL	4008321974365	6.18	HTM 150/230-240	4050300581415	9.51
HQI-T 150/WDL	4008321974389	6.18	HTN 75/230-240 I	4008321073037	9.51
HQI-T 250/D/PRO	4008321677846	6.26	HWL 160 225 V	4050300015453	6.41
HQI-T 400 BLUE	4008321526861	6.26	HWL 160 235 V	4050300216867	6.41
HQI-T 400 GREEN	4008321526847	6.26	HWL 250 225 V	4008321161123	6.41
HQI-T 400 MAGENTA	4008321526885	6.26	HWL 250 235 V	4008321159274	6.41
HQI-T 400/N	4008321526786	6.26	HWL 500 225 V	4050300015484	6.41
HQI-T 1000/D	4008321527035	6.25	HWL 500 235 V	4050300216928	6.41
HQI-T 1000/N	4008321528285	6.25	L 4 W/640	4050300008875	5.20
HQI-T 2000/D	4008321526809	6.25	L 6 W/640	4050300008899	5.20
HQI-T 2000/D/I	4008321527011	6.25	L 6 W/640 EL	4008321152381	5.22
HQI-T 2000/N	4008321665379	6.25	L 6 W/830	4008321959874	5.19
HQI-T 2000/N/E SUPER	4008321979063	6.25	L 6 W/840 EL	4008321325662	5.21
HQI-T 2000/N/SN SUPER	4008321979087	6.25	L 6 W/930	4050300015880	5.18
HQI-TM 600/D	4008321959485	6.24	L 8 W/640	4050300008912	5.20
HQI-TM 600/D HR	4008321959492	6.24	L 8 W/640 EL	4050300606644	5.22
HQI-TM 600/NDL	4008321959461	6.24	L 8 W/765	4050300035475	5.20
HQI-TM 600/NDL HR	4008321959478	6.24	L 8 W/827	4050300008943	5.19
HQI-TM 1000/D	4008321467553	6.24	L 8 W/830	4008321959881	5.19
HQI-TM 1000/D HR	4008321959522	6.24	L 8 W/840	4050300241623	5.19
HQI-TM 1000/NDL	4008321959508	6.24	L 8 W/840 EL	4008321325846	5.21
HQI-TM 1000/NDL HR	4008321959515	6.24	L 8 W/930	4050300015897	5.18
HQI-TS 70/BL EXCELLENCE	4008321678553	6.20	L 8 W/954	4050300018232	5.18
HQI-TS 70/CD EXCELLENCE	4008321624758	6.19	L 10 W/827	4050300446165	5.24
HQI-TS 70/D EXCELLENCE	4008321678348	6.19	L 13 W/640	4050300008974	5.20
HQI-TS 70/GN EXCELLENCE	4008321678577	6.20	L 13 W/765	4050300035536	5.20
HQI-TS 70/MG EXCELLENCE	4008321678591	6.20	L 13 W/827	4050300008967	5.19



## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
L 13 W/830	4008321959898	5.19	L 36 W/60	4050300024240	5.33
L 13 W/840	4050300241647	5.19	L 36 W/62	4008321232724	5.33
L 13 W/930	4050300015903	5.18	L 36 W/62	4008321232724	5.37
L 15 W/76	4050300018287	5.34	L 36 W/66	4050300024257	5.33
L 15 W/77	4050300003214	5.32	L 36 W/67	4050300024264	5.33
L 15 W/827	4050300446042	5.24	L 36 W/76	4050300010526	5.34
L 15 W/830	4050300446028	5.24	L 36 W/76 SPS	4008321232809	5.35
L 15 W/840	4050300446004	5.24	L 36 W/76-1	4050300010557	5.34
L 15 W/865	4050300446189	5.24	L 36 W/77	4050300003184	5.32
L 15 W/954	4050300018249	5.29	L 36 W/827	4050300517919	5.24
L 16 W/827	4050300446080	5.24	L 36 W/827-1	4050300518114	5.24
L 16 W/830	4008321959065	5.24	L 36 W/830	4050300517896	5.24
L 16 W/830 ES	4008321955791	5.26	L 36 W/830 U	4008321959911	5.38
L 16 W/840	4050300446066	5.24	L 36 W/830 UK	4008321583048	5.38
L 16 W/840 ES	4008321955777	5.26	L 36 W/830 XT	4008321209146	5.27
L 16 W/930	4050300242361	5.29	L 36 W/830 XXT	4008321923707	5.28
L 18 W/60	4050300024219	5.33	L 36 W/830-1	4008321959058	5.24
L 18 W/62	4008321232700	5.33	L 36 W/835	4050300447988	5.24
L 18 W/62	4008321232700	5.37	L 36 W/840	4050300517872	5.24
L 18 W/66	4050300024226	5.33	L 36 W/840 SPS	4008321232823	5.36
L 18 W/67	4050300024233	5.33	L 36 W/840 U	4008321469182	5.38
L 18 W/76	4050300010519	5.34	L 36 W/840 UK	4008321960702	5.38
L 18 W/76 SPS	4008321232762	5.35	L 36 W/840 XT	4008321209160	5.27
L 18 W/77	4050300004235	5.32	L 36 W/840 XXT	4008321923721	5.28
L 18 W/827	4050300517834	5.24	L 36 W/840-1	4050300518091	5.24
L 18 W/830	4050300517810	5.24	L 36 W/865	4050300517858	5.24
L 18 W/830 U	4008321959904	5.38	L 36 W/865 XT	4008321209221	5.27
L 18 W/830 XT	4008321209085	5.27	L 36 W/865 XXT	4008321923745	5.28
L 18 W/830 XXT	4008321923646	5.28	L 36 W/880	4008321002976	5.24
L 18 W/835	4050300447964	5.24	L 36 W/930	4050300011318	5.29
L 18 W/840	4050300517797	5.24	L 36 W/940	4050300011301	5.29
L 18 W/840 SPS	4008321232885	5.36	L 36 W/950	4008321423047	5.30
L 18 W/840 U	4008321469168	5.38	L 36 W/954	4050300018263	5.29
L 18 W/840 XT	4008321209108	5.27	L 36 W/954-1	4050300024196	5.29
L 18 W/840 XXT	4008321923660	5.28	L 36 W/965	4008321111395	5.29
L 18 W/865	4050300517773	5.24	L 36 W/965	4050300270821	5.31
L 18 W/865 XT	4008321209122	5.27	L 38 W/830	4050300518152	5.24
L 18 W/865 XXT	4008321923684	5.28	L 38 W/840	4050300518138	5.24
L 18 W/880	4008321027962	5.24	L 38 W/880	4008321072245	5.24
L 18 W/930	4050300011264	5.29	L 40 W/640 SA	4050300018331	5.41
L 18 W/940	4050300011257	5.29	L 40 W/640 XL	4050300014654	5.42
L 18 W/950	4008321423023	5.30	L 40 W/827 C	4008321978103	5.39
L 18 W/954	4050300018256	5.29	L 40 W/840 C	4050300014845	5.39
L 18 W/965	4008321111371	5.29	L 40 W/865 C	4008321960139	5.39
L 18 W/965	4050300270807	5.31	L 51 W/830 ES	4008321339713	5.26
L 20 W/640 SA	4050300018195	5.41	L 51 W/840 ES	4008321339690	5.26
L 20 W/640 XL	4050300014630	5.42	L 58 W/60	4050300024271	5.33
L 22 W/827 C	4050300365992	5.39	L 58 W/62	4008321232748	5.33
L 22 W/840 C	4050300365978	5.39	L 58 W/62	4008321232748	5.37
L 22 W/865 C	4008321960115	5.39	L 58 W/66	4050300024288	5.33
L 23 W/830	4050300446264	5.24	L 58 W/67	4050300024295	5.33
L 23 W/840	4050300446240	5.24	L 58 W/76	4050300010533	5.34
L 30 W/67	4050300366920	5.33	L 58 W/76 SPS	4008321232847	5.35
L 30 W/76	4050300010540	5.34	L 58 W/77	4050300004259	5.32
L 30 W/76 SPS	4008321232786	5.35	L 58 W/827	4050300603049	5.24
L 30 W/77	4050300003238	5.32	L 58 W/830	4050300517971	5.24
L 30 W/827	4050300518077	5.24	L 58 W/830 U	4008321959041	5.38
L 30 W/830	4050300518053	5.24	L 58 W/830 XT	4008321209344	5.27
L 30 W/840	4050300518039	5.24	L 58 W/830 XXT	4008321923769	5.28
L 30 W/865	4050300518015	5.24	L 58 W/835	4050300448008	5.24
L 30 W/880	4008321027986	5.24	L 58 W/840 SPS	4008321232922	5.36
L 30 W/930	4050300014432	5.29	L 58 W/840 U	4008321469205	5.38
L 30 W/965	4050300302461	5.31	L 58 W/840 XT	4008321209320	5.27
L 32 W/827 C	4050300014821	5.39	L 58 W/840 XXT	4008321923783	5.28
L 32 W/830 ES	4008321339652	5.26	L 58 W/865	4050300517933	5.24
L 32 W/840 C	4050300018379	5.39	L 58 W/865 XT	4008321923622	5.27
L 32 W/840 ES	4008321339676	5.26	L 58 W/865 XXT	4008321923806	5.28
L 32 W/865 C	4008321960122	5.39	L 58 W/880	4008321002990	5.24

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
L 58 W/930	4050300011363	5.29	LEP-2500-740-CT	4008321989017	2.59
L 58 W/940	4050300011356	5.29	LEP-3000-827-C-Z2	4008321993786	2.52
L 58 W/950	4008321423061	5.30	LEP-3000-830-C-Z2	4008321993809	2.52
L 58 W/954	4050300018270	5.29	LEP-3000-835-C-Z2	4008321993823	2.52
L 58 W/965	4008321090034	5.29	LEP-3000-840-C-Z2	4008321993847	2.52
L 58 W/965	4050300370613	5.31	LEP-3000-840-HD-C	4008321966094	2.50
L 58W/840	40503000517957	5.24	LEP-3000-927-C-Z2	4008321993861	2.50
L 65 W/640 SA	4050300018201	5.41	LEP-3000-930-C-Z2	4008321993885	2.50
L 65 W/640 XL	4050300014616	5.42	LEP-3000-930-HD-C	4008321966070	2.50
L 70 W/835	4008321003911	5.24	LEP-3000-935-C-Z2	4008321993908	2.50
L 70 W/840	4008321003959	5.24	LEP-3000-940-C-Z2	4008321990273	2.50
LD-2CONN-40	4008321182869	2.36	LEP-4000-657-CT	4008321989109	2.59
LD-2CONN-100	4008321182883	2.36	LEP-4000-740-CT	4008321989093	2.59
LD-2PIN	4008321182845	2.36	LEP-4000-827-C-Z2	4008321993700	2.52
LD-MB	4008321225672	2.38	LEP-4000-830-C-Z2	4008321993724	2.52
LD06B-W4F-830	4008321395757	2.18	LEP-4000-835-C-Z2	4008321993748	2.52
LD06B-W4F-830-L30	4008321394491	2.19	LEP-4000-840-C-Z2	4008321993762	2.52
LD06B-W4F-840	4008321395870	2.18	LEP-5000-830-C-Z2	4008321993649	2.52
LD06B-W4F-840-L30	4008321394613	2.19	LEP-5000-835-C-Z2	4008321993663	2.52
LD06B-W4F-854	4008321395993	2.18	LEP-5000-840-C-Z2	4008321993687	2.52
LD06B-W4F-854-L30	4008321395290	2.19	LEP-6000-657-CT	4008321989123	2.59
LD06S-W4F-830	4008321953308	2.20	LEP-6000-740-CT	4008321989116	2.59
LD06S-W4F-840	4008321953322	2.20	LF-2CONN PROTECT	4008321977083	2.33
LEDinestra WW FR S14d	4008321975331	1.10	LF-2PIN FLEX	4008321955326	2.34
LEDinestra WW FR S14s	4008321975317	1.10	LF-2PIN PROTECT	4008321977069	2.33
LEP PreMix	4008321674982	2.55	LF-2TERM FLEX	4008321955357	2.34
LEP-630-830-LS	4008321978844	2.57	LF-4CONN PROTECT	4008321977090	2.33
LEP-630-840-LS	4008321978820	2.57	LF-4PIN	4008321514585	2.35
LEP-800-827-C-Z2	4008321745460	2.52	LF-4PIN PROTECT	4008321977076	2.33
LEP-800-830-C-Z2	4008321745484	2.52	LF-CLIP FIXTURE PROTECT	4008321644749	2.33
LEP-800-835-C-Z2	4008321745507	2.52	LF-CONN-10 FLEX	4008321955333	2.34
LEP-800-840-C-Z2	4008321745521	2.52	LF-CONN-10 FLEX	4008321955333	2.35
LEP-800-840-HD-C	4008321963406	2.50	LF-CONN-150 FLEX	4008321955340	2.34
LEP-800-927-C-Z2	4008321990457	2.50	LF-CONN-150 FLEX	4008321955340	2.35
LEP-800-930-C-Z2	4008321990471	2.50	LF-ENDCAP PROTECT	4008321977106	2.33
LEP-800-930-HD-C	4008321963390	2.50	LF05A-B3-P	4008321617804	2.08
LEP-800-935-C-Z2	4008321990495	2.50	LF05A-W3F-830-P	4008321617217	2.08
LEP-800-940-C-Z2	4008321990518	2.50	LF05A-W3F-840-P	4008321619266	2.08
LEP-1000-830-L	4008321975638	2.56	LF05A-W3F-860-P	4008321617392	2.08
LEP-1000-830-LS	4008321978882	2.57	LF05CA-RGB3	4008321592644	2.28
LEP-1000-840-L	4008321971944	2.56	LF05CA-RGB3-P	4008321977205	2.27
LEP-1000-840-LS	4008321978868	2.57	LF05CE-RGB1	4008321593375	2.28
LEP-1000-850-L	4008321975652	2.56	LF05CE-RGB1-P	4008321977182	2.27
LEP-1500-827-C-Z2	4008321745545	2.52	LF05E-B2	4008321955425	2.14
LEP-1500-830-C-Z2	4008321745569	2.52	LF05E-B2-P	4008321616913	2.09
LEP-1500-835-C-Z2	4008321745583	2.52	LF05E-R1	4008321955418	2.14
LEP-1500-840-C-Z2	4008321745606	2.52	LF05E-R1-P	4008321616937	2.09
LEP-1500-840-HD-C	4008321644480	2.50	LF05E-T2	4008321955449	2.14
LEP-1500-927-C-Z2	4008321990372	2.50	LF05E-T2-P	4008321616951	2.09
LEP-1500-930-C-Z2	4008321990396	2.50	LF05E-W2F-830-P	4008321616432	2.09
LEP-1500-930-HD-C	4008321644466	2.50	LF05E-W2F-840-P	4008321621184	2.09
LEP-1500-935-C-Z2	4008321990419	2.50	LF05E-W2F-860-P	4008321616777	2.09
LEP-1500-940-C-Z2	4008321990433	2.50	LF05E-Y1	4008321955432	2.14
LEP-2000-827-C-Z2	4008321745422	2.52	LF05E-Y1-P	4008321616975	2.09
LEP-2000-830-C-Z2	4008321745361	2.52	LF05E2-W2F-730	4008321971371	2.14
LEP-2000-830-L	4008321975690	2.56	LF05E2-W2F-740	4008321971395	2.14
LEP-2000-830-LS	4008321978929	2.57	LF05E2-W2F-827	4008321971357	2.14
LEP-2000-835-C-Z2	4008321745446	2.52	LF05E2-W2F-865	4008321971418	2.14
LEP-2000-840-C-Z2	4008321745408	2.52	LF06A-W3F-827	4008321973986	2.13
LEP-2000-840-L	4008321975676	2.56	LF06A-W3F-830	4008321973993	2.13
LEP-2000-840-LS	4008321978905	2.57	LF06A-W3F-840	4008321974006	2.13
LEP-2000-850-L	4008321975713	2.56	LF06A-W3F-854	4008321974013	2.13
LEP-2000-927-C-Z2	4008321990297	2.50	LF06A-W3F-865	4008321974020	2.13
LEP-2000-930-C-Z2	4008321990310	2.50	LF06P-W4F-827-P	4008321621894	2.07
LEP-2000-935-C-Z2	4008321990334	2.50	LF06P-W4F-830-P	4008321621870	2.07
LEP-2000-940-C-Z2	4008321990358	2.50	LF06P-W4F-840-P	4008321621856	2.07
LEP-2100-840-HD-C	4008321963369	2.50	LF06P-W4F-854-P	4008321621917	2.07
LEP-2100-930-HD-C	4008321963352	2.50	LF06P2-W5F-827	4008321971272	2.11

# Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
LF06P2-W5F-830	4008321971296	2.11	LT-H047-S	4008321256805	2.38
LF06P2-W5F-840	4008321971319	2.11	LT-H143-P	4008321239587	2.38
LF06P2-W5F-854	4008321971791	2.11	LT-H143-S	4008321256829	2.38
LF06P2-W5F-865	4008321971340	2.11	Master Remote	4008321988669	10.26
LF06S-W3F-827	4008321973887	2.12	MOUNTING ADAPTER	4008321480798	10.63
LF06S-W3F-830	4008321973894	2.12	MR 11 20 24" 830	4008321975553	1.04
LF06S-W3F-840	4008321973900	2.12	MR 16 20 36" 828 adv	4008321682611	1.04
LF06S-W3F-854	4008321973917	2.12	MR 16 20 36" 830 adv	4008321682574	1.04
LF06S-W3F-865	4008321973924	2.12	MULTIleco	4008321405302	10.20
LM-2CONN	4008321908643	2.35	MULTIleco	4008321659286	10.20
LM-2CONN-50	4008321908667	2.35	NAV-E 50 4Y	40503000577678	6.31
LM-2PIN	4008321908629	2.35	NAV-E 50 SUPER 4Y	4008321356024	6.30
LM-2PIN FLEX	4008321916211	2.34	NAV-E 50/E	4050300015750	6.33
LM-CONN-10 FLEX	4008321916259	2.34	NAV-E 50/I	4050300015583	6.33
LM-CONN-150 FLEX	4008321931375	2.34	NAV-E 50/I 4Y	4050300606033	6.32
LM01A-A1	4050300887128	2.17	NAV-E 68	4008321345462	6.34
LM01A-B2	4008321313652	2.17	NAV-E 70 4Y	40503000577692	6.31
LM01A-O1	4050300888040	2.17	NAV-E 70 SUPER 4Y	4008321356048	6.30
LM01A-T2	4050300887845	2.17	NAV-E 70/E	4050300015767	6.33
LM01A-W3F-827	4008321372390	2.17	NAV-E 70/I	4050300015590	6.33
LM01A-W3F-830	4008321342997	2.17	NAV-E 70/I 4Y	4050300606019	6.32
LM01A-W3F-840	4008321343413	2.17	NAV-E 100	4008321087300	6.33
LM01A-W3F-854	4008321387950	2.17	NAV-E 100 SUPER 4Y	4050300015774	6.30
LM01A-Y1	4008321015969	2.17	NAV-E 110	4050300024318	6.34
LM11A-W3-847	4008321187161	2.16	NAV-E 150	4050300015613	6.33
LM11A-W3-854	4008321187185	2.16	NAV-E 150 4Y	40503000577555	6.31
LM11A-W3-865	4008321187208	2.16	NAV-E 150 SUPER 4Y	4050300024370	6.30
LMS CI BOX	4008321083692	10.62	NAV-E 210	4050300015576	6.34
LR-4CONN-45	4008321971890	2.35	NAV-E 250	4050300015620	6.33
LR-4CONN-250	4008321971814	2.35	NAV-E 250 4Y	40503000577579	6.31
LR-4PIN-500	4008321971852	2.35	NAV-E 250 SUPER 4Y	4050300024387	6.30
LR14A-W2F-830	4008321978400	2.23	NAV-E 350	4050300015651	6.34
LR14A-W2F-830-L30	4008321971678	2.24	NAV-E 400	4050300015637	6.33
LR14A-W2F-830-L80	4008321978424	2.24	NAV-E 400 4Y	40503000577593	6.31
LR14A-W2F-840	4008321971531	2.23	NAV-E 400 SUPER 4Y	4050300024394	6.30
LR14A-W2F-840-L30	4008321971692	2.24	NAV-E 1000	4050300015644	6.33
LR14A-W2F-840-L80	4008321978448	2.24	NAV-T 50	4008321337986	6.37
LR14E-W2F-830	4008321971555	2.25	NAV-T 50 SUPER 4Y	4050300024325	6.35
LR14E-W2F-830-L30	4008321971715	2.26	NAV-T 70	4050300255590	6.37
LR14E-W2F-830-L80	4008321978585	2.26	NAV-T 70 4Y	40503000579061	6.36
LR14E-W2F-840	4008321971579	2.25	NAV-T 70 SUPER 4Y	4050300015736	6.35
LR14E-W2F-840-L30	4008321971739	2.26	NAV-T 100	4008321087287	6.37
LR14E-W2F-840-L80	4008321978608	2.26	NAV-T 100 SUPER 4Y	4050300015743	6.35
LR18CE	4008321971616	2.30	NAV-T 150	4050300015668	6.37
LR18CE-560	4008321971777	2.31	NAV-T 150 4Y	40503000577616	6.36
LR18CP	4008321971593	2.30	NAV-T 150 SUPER 4Y	4050300024400	6.35
LR18CP-560	4008321971753	2.31	NAV-T 250	4050300015675	6.37
LR21P-W2F-830	4008321971470	2.21	NAV-T 250 4Y	40503000577630	6.36
LR21P-W2F-830-L30	4008321971630	2.22	NAV-T 250 SUPER 4Y	4050300024417	6.35
LR21P-W2F-830-L80	4008321978707	2.22	NAV-T 400	4050300015682	6.37
LR21P-W2F-840	4008321971494	2.21	NAV-T 400 4Y	40503000577654	6.36
LR21P-W2F-840-L30	4008321971654	2.22	NAV-T 400 SUPER 4Y	4050300281179	6.35
LR21P-W2F-840-L80	4008321978721	2.22	NAV-T 600 SUPER 4Y	4050300275772	6.35
LR28CA	4008321978547	2.30	NAV-T 1000	4050300666549	6.37
LR28CA-560	4008321978561	2.31	NAV-T 1000	4050300251417	6.37
LS/PD MULTI 3	4050300802138	10.20	NAV-TS 70 SUPER 4Y	4050300024301	6.38
LS/PD MULTI 3 A	4008321653581	10.21	NAV-TS 150 SUPER 4Y	4050300281667	6.38
LS/PD MULTI 3 A	4008321659385	10.21	NAV-TS 250	4050300015705	6.38
LS/PD MULTI 3 A-w	4008321653604	10.21	NAV-TS 400	4050300015712	6.38
LS/PD MULTI 3 A-w	4008321659392	10.21	OP1x1-10	4008321909893	2.37
LS/PD MULTI 3 B	4050300803081	10.22	OP1x1-14x22	4008321909787	2.37
LS/PD MULTI 3 B-w	4008321988638	10.22	OP1x1-30	4008321909770	2.37
LS/PD MULTI 3 Ci	4008321916648	10.23	OP4x1	4008321908704	2.37
LS/PD MULTI 3 FL	4008321047342	10.22	OPLR1x1-20x50	4008321976048	2.37
LT-280	4008321975973	2.38	OPLR1x1-30	4008321976000	2.37
LT-560	4008321975997	2.38	OPLR1x1-80	4008321976024	2.37
LT-ENDCAP	4008321976116	2.38	ORBEOS CDW-030	1)	2.62
LT-H047-P	4008321239563	2.38			

1) In preparation

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
ORBEOS DANCE	4008321981097	2.63	OTp 35/220-240/700	4008321962218	2.54
ORBEOS SDW-058	<sup>1)</sup>	2.62	OTp 35/220-240/700 HD	4008321963420	2.54
OT 6/200-240/24 CE	4008321113269	9.59	OTp 40/220-240/700 L	4008321975737	2.58
OT 8/200-240/24	4008321040169	9.59	OTp 45/220-240/700 HD	4008321966117	2.54
OT 9/10-24/350 DIM	4050300888897	9.62	OTp 45/220-240/700 HD FAN	4008321633705	2.54
OT 9/200-240/350	4050300888262	9.62	OTp 60/220-240/2000 FAN	4008321990532	2.54
OT 9/200-240/350 DIM	4008321187321	9.62	OTp cable 400mm	4008321966131	2.55
OT 18/200-240/700 DIM	4008321139320	9.65	OTp cable 800mm	4008321590565	2.55
OT 20/120-240/24 S	4050300662626	9.59	OTp cable L 800mm	4008321978967	2.58
OT 20/220-240/24	4050300661811	9.59	OTp cable Z2 400mm	4008321679543	2.55
OT 35/220-240/700 LTCS	4008321664419	9.69	OTp cable Z2 800mm	4008321679512	2.55
OT 45/220-240/700 LTCS	4008321664433	9.69	OTp cable Z2 OW 800mm	4008321991676	2.55
OT 50/220-240/24	<sup>1)</sup>	9.59	OTp DALI 35/220-240/700 HD	4008321963413	2.54
OT 50/220-240/24 P	<sup>1)</sup>	9.59	OTp DALI 45/220-240/400 LS	4008321975751	2.58
OT 50/220-240/700 3DIMLT E	4008321664464	9.72	OTp DALI 45/220-240/700 HD FAN	4008321659880	2.54
OT 50/220-240/700 LT E	4008321774255	9.69	OTR-280-LR14A/E/LR28CA	4008321994448	2.37
OT 60/220-240/12 P	<sup>1)</sup>	9.58	OTR-280-LR18C/CP	4008321976086	2.37
OT 65/220-240/24 3DIM E	4008321964403	9.72	OTR-280-LR21P	4008321976062	2.37
OT 75/220-240/24	4050300817477	9.59	OUTDOOR	4008321957061	10.10
OT 75/220-240/24 E	4008321362476	9.59	OUTKIT 21 L	4008321595959	9.54
OT 80/220-240/24 DIM P	4008321981677	9.61	OUTKIT 21 S	4008321595971	9.54
OT 80/220-240/24 P	4008321981684	9.59	OUTKIT 30 L	4008321595957	9.54
OT 90/220-240/700 3DIMLT E	4008321664471	9.72	OUTKIT 30 S	4008321595933	9.54
OT 90/220-240/700 LT E	4008321664976	9.69	PA 62165	4008321037718	7.03
OT 120/220-240/12 P	<sup>1)</sup>	9.58	PAR16 20 35° 740	4008321973634	1.02
OT 120/220-240/24 DIM P	4008321981691	9.61	PAR16 20 35° 828	4008321973108	1.02
OT 120/220-240/24 P	4008321981707	9.59	PAR16 20 35° 830	4008321980502	1.02
OT 150/220-240/700 3DIMLT E	<sup>1)</sup>	9.72	PAR16 35 35° 828	4008321973061	1.02
OT 150/220-240/700 LT E	<sup>1)</sup>	9.69	PAR16 35 35° 830	4008321980489	1.02
OT 240/220-240/24 DIM P	4008321981714	9.61	PAR16 35 35° 830 adv	4008321975379	1.02
OT 240/220-240/24 P	4008321981721	9.59	PARATHOM LED PIN G4	4008321977281	1.11
OT DALI 45/220-240/700 LTCS	4008321978240	9.72	PLANTASTAR 250 inter	4008321240620	6.39
OT DIM	4050300943459	9.75	PLANTASTAR 400	4050300620084	6.39
OT DMX 3x1 RGB DIM	4008321279835	9.76	PLANTASTAR 600	4050300620107	6.39
OT DMX 3x2.5 A DIM	4008321533265	9.76	PLANTASTAR 600/400	4008321284303	6.39
OT DMX 3x2.5 A PCB DIM	4008321533289	9.76	PRO LEDspot 111 50 24° adv	4008321972392	1.06
OT DMX 3x350 DIM LI	4008321602060	9.76	PRO LEDspot 111 50 24° adv	4008321972415	1.06
OT DMX 6x350/700 DIM SO	4008321572684	9.76	PRO MR 16 20 24° 840 adv	4008321973290	1.04
OT DMX 9x2 A DIM SO	4008321533302	9.76	PRO MR 16 20 24° 927 adv	4008321973252	1.04
OT DMX 12x350/700 DIM SO	4008321572707	9.76	PRO MR 16 20 24° 930 adv	4008321973276	1.04
OT DMX RGB DIM	4008321160829	9.76	PRO MR 16 20 36° 840 adv	4008321972118	1.04
OT EASY 32	4008321547088	10.31	PRO MR 16 20 36° 927 adv	4008321972217	1.04
OT EASY 60 II	4008321187796	10.30	PRO MR 16 20 36° 930 adv	4008321972095	1.04
OT RGB DIM	4050300793108	9.75	PRO MR 16 35 24° 827 adv	4008321973313	1.04
OT RGB SEQ	4050300792460	9.75	PRO MR 16 35 24° 830 adv	4008321973337	1.04
OTe 9/220-240/350 PC	4008321978387	9.66	PRO MR 16 35 24° 840 adv	4008321973351	1.04
OTe 9/220-240/700 PC	4008321688842	9.66	PRO MR 16 35 36° 827 adv	4008321972231	1.04
OTe 13/220-240/350 SD	4008321519795	9.62	PRO MR 16 35 36° 830 adv	4008321972132	1.04
OTe 15/220-240/12 P	4008321974433	9.58	PRO MR 16 35 36° 840 adv	4008321972156	1.04
OTe 15/220-240/350 PC	4008321700346	9.66	PRO MR 16 50 24° 765 adv	4008321972972	1.04
OTe 15/220-240/700 PC	4008321677341	9.66	PRO MR 16 50 24° 827 adv	4008321972934	1.04
OTe 20/220-240/350 PC	4008321978349	9.66	PRO MR 16 50 24° 830 adv	4008321972958	1.04
OTe 20/220-240/700 PC	4008321978363	9.66	PRO MR 16 50 36° 765 adv	4008321972194	1.04
OTe 25/220-240/2x350 SD	4008321523686	9.62	PRO MR 16 50 36° 827 adv	4008321972316	1.04
OTe 30/220-240/12 P	4008321974440	9.58	PRO MR 16 50 36° 830 adv	4008321972170	1.04
OTe 35/220-240/700	4008321691248	9.65	PRO PAR16 35 25° 840 adv	4008321973412	1.02
OTe 35/220-240/700 SD	4008321989543	9.65	PRO PAR16 35 25° 927 adv	4008321973375	1.02
OTe 60/220-240/12 P	4008321974457	9.58	PRO PAR16 35 25° 930 adv	4008321973399	1.02
OTe 70/220-240/2x700 SD	4008321989567	9.65	PRO PAR16 35 35° 840 adv	4008321972293	1.02
OTe 90/220-240/4x350 E	4008321637345	9.62	PRO PAR16 35 35° 927 adv	4008321972255	1.02
OTe 90/220-240/4x500 E	4008321651600	9.64	PRO PAR16 35 35° 930 adv	4008321972279	1.02
OTe 120/220-240/12 P	4008321974464	9.58	PRO PAR16 50 25° 840 adv	4008321973474	1.02
OTI DALI 2x700 CS	4008321694317	9.74	PRO PAR16 50 25° 927 adv	4008321973436	1.02
OTI DALI 75/220-240/24	4008321371560	9.72	PRO PAR16 50 25° 930 adv	4008321973450	1.02
OTI DALI DIM	4008321061195	9.74	PRO PAR16 50 35° 830 adv	4008321973771	1.02
OTI DALI DIM LI	4008321624437	9.74	PRO PAR16 50 35° 840 adv	4008321973795	1.02
OTp 15/220-240/700 HD	4008321962225	2.54	PRO PAR16 50 35° 927 adv	4008321972736	1.02
			PRO PAR16 50 35° LEDOTRON	4008321988560	1.02

1) In preparation

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
PRO PAR16 75 25° 765 adv	4008321972910	1.02	QT-FIT8 2x58-70	4008321294289	9.30
PRO PAR16 75 25° 827 adv	4008321972873	1.02	QT-FIT8 3x18, 4x18	4008321294302	9.30
PRO PAR16 75 25° 830 adv	4008321972897	1.02	QT-FIT8 3x36	4008321512055	9.30
PRO PAR16 75 35° 765 adv	4008321972338	1.02	QT-FQ 2x80	4050300825564	9.26
PRO PAR16 75 35° 827 adv	4008321972370	1.02	QT-M 2x26-42/220-240 S	4008321110022	9.34
PRO PAR16 75 35° 830 adv	4008321972354	1.02	QT-T/E 1x14-17/220-240 HE	4008321327345	9.35
PS 30	4008321555311	10.58	QT-T/E 2x14-17/220-240 HE	4008321327369	9.35
PT-FIT 35/220-240 B	4008321498731	9.46	QTI 1x14/24 DIM	4050300870922	9.15
PT-FIT 35/220-240 I	4008321377661	9.47	QTI 1x14/24/21/39 GII	4008321383334	9.24
PT-FIT 35/220-240 S	4008321386625	9.46	QTI 1x18 DIM	4050300870601	9.17
PT-FIT 50/220-240 B	4008321648716	9.46	QTI 1x21/39 DIM	4050300870564	9.15
PT-FIT 50/220-240 I	4008321648679	9.47	QTI 1x28/54 DIM	4050300870588	9.15
PT-FIT 50/220-240 S	4008321648693	9.46	QTI 1x28/54/35/49 GII	4008321383358	9.24
PT-FIT 70/220-240 B	4008321498717	9.46	QTI 1x35/49/80 DIM	4050300870540	9.15
PT-FIT 70/220-240 I	4008321377685	9.47	QTI 1x35/49/80 GII	4008321383372	9.24
PT-FIT 70/220-240 S	4008321386649	9.46	QTI 1x36 DIM	4050300870625	9.17
PTg 1000/400	4008321956408	9.48	QTI 1x58 DIM	4050300870908	9.17
PTI 2x35/220-240 I	4008321372666	9.45	QTI 2x14/24 DIM	4050300870946	9.15
PTI 2x35/220-240 S	4008321372642	9.44	QTI 2x14/24/21/39 GII	4008321383396	9.24
PTI 2x70/220-240 I	4008321910042	9.45	QTI 2x18 DIM	4050300870960	9.17
PTI 2x70/220-240 S	4008321910028	9.44	QTI 2x21/39 DIM	4050300870694	9.15
PTI 20/220-240 B	4008321391490	9.44	QTI 2x28/54 DIM	4050300870717	9.15
PTI 20/220-240 I	4008321404763	9.45	QTI 2x28/54/35/49 GII	4008321383419	9.24
PTI 20/220-240 S	4008321353290	9.44	QTI 2x35/49 DIM	4050300870670	9.15
PTI 35/220-240 B	4008321123589	9.44	QTI 2x35/49/80 DIM	4050300870984	9.15
PTI 35/220-240 B MINI	4008321955913	9.44	QTI 2x35/49/80 GII	4008321658951	9.24
PTI 35/220-240 I	4008321099488	9.45	QTI 2x36 DIM	4050300870755	9.17
PTI 35/220-240 S	4008321073112	9.44	QTI 2x58 DIM	4050300870731	9.17
PTI 35/220-240 S MINI	4008321955906	9.44	QTI 3x14/24 DIM	4008321069719	9.15
PTI 35/220-240 SNAP	4008321955920	9.45	QTI 3x18 DIM	4008321069931	9.17
PTI 70/220-240 B	4008321123565	9.44	QTI 4x14/24 DIM	4008321069993	9.15
PTI 70/220-240 I	4008321099501	9.45	QTI 4x18 DIM	4008321070012	9.17
PTI 70/220-240 S	4008321049629	9.44	QTI DALI 1x14/24 DIM	4050300870380	9.08
PTI 70/220-240 SNAP	4008321955937	9.45	QTI DALI 1x18 DIM	4050300870403	9.10
PTI 100/220-240 I	4008321926654	9.45	QTI DALI 1x21/39 DIM	4050300870366	9.08
PTI 100/220-240 S	4008321926630	9.44	QTI DALI 1x28/54 DIM	4050300870809	9.08
PTI 150/220-240 I	4008321915535	9.45	QTI DALI 1x35/49/80 DIM	4050300870342	9.08
PTI 150/220-240 S	4008321188090	9.44	QTI DALI 1x36 DIM	4050300870427	9.10
PTo 35/220-240	4008321956323	9.43	QTI DALI 1x58 DIM	4050300870823	9.10
PTo 50/220-240 3DIM	4008321956347	9.43	QTI DALI 2x14/24 DIM	4050300870861	9.08
PTo 70/220-240 3DIM	4008321959355	9.43	QTI DALI 2x18 DIM	4050300870526	9.10
PTo 100/220-240 3DIM	4008321956361	9.43	QTI DALI 2x21/39 DIM	4050300870489	9.08
PTo 150/220-240 3DIM	4008321956385	9.43	QTI DALI 2x28/54 DIM	4050300870502	9.08
QT CABLE CLAMP K2	4008321190727	9.55	QTI DALI 2x35/49 DIM	4050300870465	9.08
QT CABLE CLAMP K3	4008321190741	9.55	QTI DALI 2x35/49/80 DIM	4050300870441	9.08
QT DALI-T/E 1x14-17/220-240 DIM HE	4008321327383	9.14	QTI DALI 2x36 DIM	4050300870885	9.10
QT DALI-T/E 2x14-17/220-240 DIM HE	4008321327406	9.14	QTI DALI 2x58 DIM	4050300870847	9.10
QT ENDURA 70-100/120-240 S	4050300804668	9.41	QTI DALI 3x14/24 DIM	4008321069955	9.10
QT ENDURA 100-150/120-240 S	4050300662589	9.41	QTI DALI 3x18 DIM	4008321069979	9.08
QT-ECO 1x4-16/220-240 L	4050300660370	9.36	QTI DALI 4x14/24 DIM	4008321070036	9.08
QT-ECO 1x4-16/220-240 S	4050300638584	9.36	QTI DALI 4x18 DIM	4008321070050	9.10
QT-ECO 1x18-21/220-240 S	4050300794907	9.36	QTI DALI-T/E 1x18-57 DIM	4008321060808	9.12
QT-ECO 1x18-24/220-240 L	4050300660417	9.36	QTI DALI-T/E 2x18-42 DIM	4008321060822	9.12
QT-ECO 1x18-24/220-240 S	4050300638560	9.37	QTI-DP 1x28/35/LED	4008321646521	9.24
QT-ECO 1x26/220-240 S	4050300665971	9.37	QTI-T/E 1x18-57 DIM	4008321060860	9.19
QT-ECO 2x5-11/220-240 S	4050300821504	9.37	QTI-T/E 2x18-42 DIM	4008321060846	9.19
QT-ECO FM 1x6-8/220-240	4050300797502	9.37	QTP-D/E 1x10-13	4008321181572	9.33
QT-ECO FM 1x11-13/220-240	4050300799780	9.37	QTP-D/E 2x10-13	4008321181596	9.33
QT-ECO TE 2x18/220-240	4050300803982	9.37	QTP-DL 1x18-24	4008321117861	9.31
QT-ECO TE 2x26/220-240	4050300804002	9.37	QTP-DL 1x36-40	4008321117908	9.31
QT-FIT5 1x14-35	4008321971234	9.28	QTP-DL 1x55 GII	4008321390158	9.31
QT-FIT5 2x14-35	4008321971258	9.28	QTP-DL 2x18-24	4008321117885	9.31
QT-FIT5 3x14, 4x14	4008321971210	9.28	QTP-DL 2x36-40	4008321117922	9.31
QT-FIT8 1x18	4008321294180	9.30	QTP-DL 2x55 GII	4008321390172	9.31
QT-FIT8 1x36	4008321294203	9.30	QTP-F 1x55	4008321537041	9.32
QT-FIT8 1x58-70	4008321294227	9.30	QTP-M 1x26-42	4008321329134	9.33
QT-FIT8 2x18	4008321294241	9.30	QTP-M 2x26-32	4008321329158	9.33
QT-FIT8 2x36	4008321294265	9.30	QTP-T/E 1x18, 2x18	4008321537065	9.33

## Alphanumeric product references

Product reference	Product number	Page	Product reference	Product number	Page
QTP-T/E 1x26-42, 2x26	4008321537089	9.33	SOX 18	4050300015569	6.39
QTP5 1x14-35	4008321329035	9.26	SOX 180	4050300015552	6.39
QTP5 1x24-39	4008321329110	9.26	SOX PLUS 35	4050300614311	6.39
QTP5 1x49	4008321329370	9.26	SOX PLUS 55	4050300614335	6.39
QTP5 1x54	4008321329394	9.26	SOX PLUS 90	4050300614359	6.39
QTP5 1x80	4008321329059	9.26	SOX PLUS 135	4050300614373	6.39
QTP5 2x14-35	4008321329073	9.26	SPC. A T CL 300	4050300012933	8.10
QTP5 2x24-39	4008321329417	9.26	SPC. A T CL 500	4050300013176	8.10
QTP5 2x49	4008321329431	9.26	SPC. A T FR 60 24 V	4050300013015	8.10
QTP5 2x54	4008321329097	9.26	SPC. LIN 1104	4050300317618	8.11
QTP5 3x14,4x14	4008321484598	9.26	SPC. LIN 1603	4050300317106	8.11
QTP8 1x18	4008321131584	9.29	SPC. LIN 1604	4050300319919	8.11
QTP8 1x36	4008321131621	9.29	SPC. LIN 1613	4050300317595	8.11
QTP8 1x58	4008321131669	9.29	SPC. LIN 1614	4050300319933	8.11
QTP8 2x18	4008321131607	9.29	SPC. MIRROR A GOLD 40	4050300001050	8.08
QTP8 2x36	4008321131645	9.29	SPC. MIRROR A GOLD 60	4050300001067	8.08
QTP8 2x58	4008321131683	9.29	SPC. MIRROR A SILV 40	4050300312729	8.08
QTP8 3x18, 4x18	4008321131706	9.29	SPC. MIRROR A SILV 60	4050300309651	8.08
SENSOR KIT	4008321916662	10.62	SPC. MIRROR A SILV 100	4050300312705	8.08
SIG 1206	4050300832869	7.13	SPC. MIRROR P GOLD 25	4050300001104	8.08
SIG 1210	4050300832173	7.14	SPC. MIRROR P GOLD 40	4050300001111	8.08
SIG 1220	4050300831596	7.13	SPC. MIRROR P SILV 25	4050300001081	8.08
SIG 1227	4008321903990	7.05	SPC. MIRROR P SILV 40	4050300002224	8.08
SIG 1227 LL	4008321037695	7.06	SPC. OVEN T CL 15	4050300003108	8.09
SIG 1230	4050300832203	7.14	SPC. T17/54 CL 15	4050300092928	8.09
SIG 1238	4008321904003	7.05	SPC. T25/85 CL 25	4050300061023	8.10
SIG 1238 LL	4008321037701	7.06	SPC. T25/85 CL 40	4050300061078	8.10
SIG 1259	4050300831770	7.05	SPC. T26/57 CL 15	4050300310282	8.09
SIG 1260	4050300832036	7.13	SPC. T26/57 CL 25	4050300309637	8.09
SIG 1455	4050300832364	7.07	SPC. T26/57 FR 15	4050300003085	8.09
SIG 1456	4050300832340	7.08	SPC. T26/57 FR 25	4050300323596	8.09
SIG 1462	4050300832326	7.07	SPC. A INSECT YELLOW 60	4050300822226	8.11
SIG 1463	4050300832302	7.08	SPC. P OVEN FR 40	4050300008486	8.09
SIG 1470	4050300832289	7.07	ST 111 GRP	4050300270166	5.43
SIG 1471	4050300832265	7.08	ST 111 HT TRY25	4050300854021	5.43
SIG 1534	4050300984339	7.11	ST 111 TRY25	4050300854045	5.43
SIG 1534 LL	4008321044396	7.12	ST 151 GRP	4050300012803	5.43
SIG 1541	4008321044273	7.09	ST 151 TRY25	4050300854083	5.43
SIG 1541 LL	4008321044327	7.10	ST 171 GRP	4050300422855	5.43
SIG 1543	4008321044365	7.09	ST 171 TRY25	4050300854106	5.43
SIG 1543 LL	4008321044389	7.10	ST 172 TRY25	4050300854069	5.43
SIG 1546	4008321044372	7.09	ST 173 TRY25	4050300854120	5.43
SIG 1546 LL	4008321044358	7.10	ST8-EA2-104-830	4008321984593	1.16
SIG 1810	4050300832142	7.14	ST8-EA2-115-840	4008321984616	1.16
SIG 1820	4050300832234	7.14	ST8-EA2-115-850	4008321984630	1.16
SIG 2460	4050300831756	7.14	ST8-EA4-230-830	4008321984678	1.16
SIG 3015	4050300832111	7.14	ST8-EA4-256-840	4008321984692	1.16
SIG 64002	4050300246505	7.04	ST8-EA4-256-850	4008321984715	1.16
SIG 64002B	4050300324562	7.04	ST8-EA5-288-830	4008321984753	1.16
SIG 64004	4050300245225	7.04	ST8-EA5-320-840	4008321984777	1.16
SIG 64005	4050300282060	7.04	ST8-EA5-320-850	4008321984791	1.16
SIG 64012/1	4008321033260	7.03	ST8-HA2-67-830	4008321980861	1.14
SIG 64014	4050300222509	7.03	ST8-HA2-67-840	4008321980854	1.14
SIG 64015	4050300217543	7.03	ST8-HA2-83-750	4008321980847	1.14
SIG 64016	4050300837741	7.03	ST8-HA2-120-830	4008321993410	1.12
SIG 64032	4008321037725	7.02	ST8-HA2-120-840	4008321993434	1.12
SIG 64033	4008321037732	7.02	ST8-HA2-120-850	4008321993458	1.12
SLA1-L-105-830-L80x140	4008321958877	2.48	ST8-HA4-135-830	4008321980892	1.14
SLA1-L-123-742-L80x140	4008321965967	2.48	ST8-HA4-135-840	4008321980885	1.14
SLA1-L-143-760-L80x140	4008321958853	2.48	ST8-HA4-165-750	4008321980878	1.14
SLA1-SL-105-830-L80x140	4008321960085	2.48	ST8-HA4-240-830	4008321993472	1.12
SLA1-SL-123-742-L80x140	4008321965981	2.48	ST8-HA4-240-840	4008321993496	1.12
SLA1-SL-143-760-L80x140	4008321960061	2.48	ST8-HA4-240-850	4008321993519	1.12
SLP1-W4F-765-L75x130	4008321964755	2.45	ST8-HA5-165-830	4008321980922	1.14
SLP1-W4F-830-L75x130	4008321964724	2.45	ST8-HA5-165-840	4008321980915	1.14
SLP1-W4F-840-L75x130	4008321964731	2.45	ST8-HA5-205-750	4008321980908	1.14
SLP1-W4F-854-L75x130	4008321964748	2.45	ST8-HA5-300-830	4008321993533	1.12
SOLAR	4008321385628	10.04	ST8-HA5-300-840	4008321993557	1.12

## Alphanumeric product references

Product reference	Product number	Page
ST8-HA5-300-850	4008321 <b>993571</b>	1.12
ST8-HB2-830	4008321 <b>972538</b>	1.15
ST8-HB2-840	4008321 <b>972545</b>	1.15
ST8-HB2-865	4008321 <b>972569</b>	1.15
ST8-HB4-830	4008321 <b>972576</b>	1.15
ST8-HB4-840	4008321 <b>972583</b>	1.15
ST8-HB4-865	4008321 <b>972606</b>	1.15
ST8-HB5-830	4008321 <b>972613</b>	1.15
ST8-HB5-840	4008321 <b>972620</b>	1.15
ST8-HB5-865	4008321 <b>972644</b>	1.15
Switch RC	4008321 <b>385642</b>	10.04
TOUCH DIM LS LI	4008321 <b>023087</b>	10.16
TOUCH DIM LS/PD LI	4008321 <b>023025</b>	10.15
TOUCH DIM PD LI	4008321 <b>532947</b>	10.16
TOUCH DIM RC	4008321 <b>031938</b>	10.14
TOUCH DIM RMC	4008321 <b>183033</b>	10.14
TOUCH DIM WCU	4008321 <b>032737</b>	10.15
VI05A-W3-730	4008321 <b>643933</b>	2.10
VI05A-W3-760	4008321 <b>643957</b>	2.10
VISION	4008321 <b>957047</b>	10.06
WALL Switch	4008321 <b>467386</b>	10.09
Y-CONNECTOR	4050300 <b>803135</b>	10.60
Y-CONNECTOR SCREW	4008321 <b>916686</b>	10.60

## Numeric product references

Product reference	Product number	Page	Product reference	Product number	Page
662 HOLDER	4050300012742	8.11	48837 ECO SP	4050300786070	3.25
670 HOLDER	4050300018638	8.11	48837 ECO WFL	4008321909251	3.25
675 HOLDER	4050300012766	8.11	48855 ECO SP	4008321945020	3.29
41830 SSP	4050300011141	3.26	48855 ECO WFL	4008321945044	3.29
41832 FL	4050300335766	3.26	48860 ECO FL	4050300620183	3.29
41832 SSP	4050300335728	3.26	48860 ECO SP	4050300620169	3.29
41835 FL	4050300011769	3.26	48860 ECO VWFL	4050300620220	3.29
41835 SP	4050300011752	3.26	48860 ECO WFL	4050300620206	3.29
41835 SSP	4050300011165	3.26	48865 ECO FL	4050300516615	3.29
41835 WFL	4008321909213	3.26	48865 ECO SP	4050300516592	3.29
41840 FL	4050300011783	3.26	48865 ECO VWFL	4050300516653	3.29
41840 SP	4050300011776	3.26	48865 ECO WFL	4050300516639	3.29
41840 WFL	4050300011790	3.26	48870 ECO FL	4050300516691	3.29
41850 FL	4050300358628	3.26	48870 ECO SP	4050300516677	3.29
41850 SP	4050300358604	3.26	48870 ECO VWFL	4050300516738	3.29
41850 WFL	4050300358642	3.26	48870 ECO WFL	4050300516714	3.29
41860 SP	4050300012612	3.35	60040 FL	4008321907189	3.18
41860 WFL	4050300012629	3.35	64400	4008321393821	3.15
41861 WFL	4050300428819	3.32	64401	4008321393845	3.15
41865 SP	4050300026527	3.35	64402	4008321393869	3.15
41865 WFL	4050300026541	3.35	64404	4008321393883	3.15
41866 WFL	4050300428833	3.32	64405 S	4050300335032	3.22
41870 FL	4050300012551	3.35	64406	4008321393722	3.15
41870 SP	4050300012636	3.35	64408	4050300308029	3.38
41870 VWFL	4050300020112	3.35	64410 S	4050300335131	3.22
41870 WFL	4050300012575	3.35	64415	4050300010717	3.23
41871 WFL	4050300428857	3.32	64415 S	4050300335087	3.22
41900 SP	4050300003962	3.28	64417 ECO	4008321963192	3.21
41930 SP	4050300003979	3.28	64418	4050300308081	3.38
41970 FL	4050300011110	3.27	64423 ECO	4008321317964	3.21
41970 SP	4050300010656	3.27	64425	4050300003924	3.23
41990 FL	4050300004020	3.27	64425 S	4050300335162	3.22
41990 SP	4050300011158	3.27	64427 S	4050300328171	3.22
44860 SP	4050300272474	3.34	64428	4050300308050	3.38
44860 WFL	4050300272511	3.34	64429 ECO	4050300987262	3.21
44865 SP	4050300272559	3.34	64432	4050300364629	3.23
44865 WFL	4050300272634	3.34	64432 ECO	4050300615905	3.21
44870 FL	4050300272719	3.34	64432 S	4050300017426	3.22
44870 SP	4050300272672	3.34	64435 U	4050300335513	3.24
44870 VWFL	4050300272832	3.34	64440	4050300324432	3.23
44870 WFL	4050300272795	3.34	64440 ECO	4050300615936	3.21
44888 WFL	4050300443935	3.36	64440 S	4050300328201	3.22
44890 SP	4050300346090	3.36	64445 U	4050300335544	3.24
44890 WFL	4050300346168	3.36	64447 ECO	4050300785400	3.21
44892 SP	4050300346182	3.36	64450 S	4050300490151	3.22
44892 WFL	4050300346229	3.36	64458 S	4050300490182	3.22
46860 SP	4050300428635	3.30	64460 U	4050300335667	3.24
46860 VWFL	4050300428673	3.30	64465 U	4050300335698	3.24
46860 WFL	4050300428659	3.30	64491	4008321393319	3.15
46865 FL	4050300476414	3.30	64492	4008321393708	3.15
46865 SP	4050300428697	3.30	64494	4008321393746	3.15
46865 VWFL	4050300428734	3.30	64496	4008321393760	3.15
46865 WFL	4050300428710	3.30	64498	4008321393784	3.15
46870 FL	4050300465708	3.30	64499	4008321393807	3.15
46870 SP	4050300428758	3.30	64541 A PRO	4008321998026	3.02
46870 VWFL	4050300428796	3.30	64541 B PRO	4008321998149	3.03
46870 WFL	4050300428772	3.30	64541 P PRO	4008321998224	3.05
46871 WFL	4050300816661	3.33	64541 P PRO	4008321998248	3.05
46890 SP	4050300529301	3.31	64541 R50 PRO	4008321998521	3.06
46890 WFL	4050300529325	3.31	64542 A PRO	4008321998040	3.02
46892 SP	4050300529349	3.31	64542 B PRO	4008321998163	3.03
46892 WFL	4050300529363	3.31	64542 B PRO	4008321998460	3.03
48832 ECO FL	4050300656847	3.25	64542 BW PRO	4008321998200	3.04
48832 ECO SP	4050300656823	3.25	64542 P PRO	4008321998262	3.05
48835 ECO FL	4050300656885	3.25	64542 P PRO	4008321998286	3.05
48835 ECO SP	4050300656861	3.25	64542 R50 PRO	4008321998347	3.06
48835 ECO WFL	4008321909237	3.25	64542 R63 PRO	4008321998569	3.07
48837 ECO FL	4050300786094	3.25	64543 A PRO	4008321998064	3.02



## Numeric product references

Product reference	Product number	Page
64543 B PRO	4008321998187	3.03
64543 B PRO	4008321998484	3.03
64543 BW PRO	4008321998507	3.04
64543 P PRO	4008321998309	3.05
64543 P PRO	4008321998323	3.05
64543 R50 PRO	4008321998545	3.06
64543 R63 PRO	4008321998361	3.07
64544 A PRO	4008321998088	3.02
64547 A PRO	4008321998101	3.02
64548 A PRO	4008321998125	3.02
64560	4050300004167	3.20
64684 ECO	4008321977595	3.19
64690 ECO	4008321928078	3.19
64695 ECO	4008321928092	3.19
64696 ECO	4008321977670	3.19
64698 ECO	4008321977755	3.19
64701 ECO	4008321207692	3.19
64702 ECO	4008321207715	3.19
64740	4050300004174	3.20
64760	4050300004181	3.20
64783	4050300004198	3.20
64784	4050300004204	3.20
64819 ECO FL	4008321927767	3.08
64820 FL	4050300727165	3.09
64822 FL	4050300938479	3.10
64823 ECO FL	4008321208767	3.08
64824 FL	4050300580111	3.09
64826 FL	4050300501857	3.09
64830 FL	4050300856971	3.11
64831 FL	4008321279057	3.09
64832 FL	4050300406824	3.12
64832 SP	4050300406800	3.12
64836 FL	4050300406862	3.12
64836 SP	4050300406848	3.12
64837 FL	4008321380364	3.14
64838 FL	4008321380340	3.14
64838 SP	4008321380401	3.14
64839 FL	4008321372062	3.14
64841 FL	4050300338484	3.13
64841 SP	4050300338460	3.13
64845 FL	4050300338507	3.13
64845 SP	4050300338521	3.13
64860 T ECO	4050300500942	3.37
64861 T ECO	4050300363707	3.37
64862 T ECO	4050300331638	3.37
66720 ECO	4008321945273	3.16
66725	4050300791777	3.17
66725 OVEN	4008321703552	3.38
66733 ECO	4008321208668	3.16
66740	4050300791791	3.17
66740 OVEN	4008321703576	3.38
66748 ECO	4008321945334	3.16
66760 ECO	4008321945372	3.16

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
DRAAF-8-220-240-E27-62	CL A 40 340° adv FR WW	1.07	FB-14/25/1B-220/240-E27	DINT HE MICRTW 14W/825 E27	4.06
DRAAF-8,5-220-240-E27-57	CL A 40 adv FR WW	1.07	FB-14/25/1B-220/240-E27	DPRO MCTW 14W/825 E27	4.09
DRAAF-12-220-240-E27-62	CL A 60 adv FR WW	1.07	FB-17/25/1B-220/240-E27	DPRO MCTW 17W/825 E27	4.09
DRAAF-12-220-240-E27-62	CL A 60 340° adv FR WW	1.07	FB-18/25/1B-220/240-E27	DPRO MTW 18W/825 E27	4.10
DRAAF-12-220-240-E27-62	CL A 60 adv FR WW LEDOTRON	1.07	FB-20/25/1B-220/240-E27	DINT DIM TW 20W/825 E27	4.05
DRAAF-14,5-220-240-E27-62	CL A 75 340° adv FR WW	1.07	FB-20/25/1B-220/240-E27	DINT HE MICRTW 20W/825 E27	4.06
DRBB/F-4,5-220-240-E14-40	CL B 25 FR WW	1.08	FB-23/25/1B-220/240-E27	DPRO MCTW 23W/825 E27	4.09
DRBPF-4,5-220-240-E14-45	CL P 25 adv FR WW	1.09	FB-23/25/1B-220/240-E27	DPRO MTW 23W/825 E27	4.10
DRBPF-4,5-220-240-E27-45	CL P 25 adv FR WW	1.09	FB-24/27/1B-220/240-E27-231/82	DPRO CIRCOLUX 24W/827 E27	4.11
DRGST/F-1,5-12-G4-18/55	PARATHOM LED PIN G4	1.11	FBA-11/25/1B-220/240-E27	DINT HE CL A 11W/825 E27	4.06
DRL-6-230-S14D-29/300	LEDInestra WW FR S14d	1.10	FBA-14/25/1B-220/240-E27	DINT HE CL A 14W/825 E27	4.06
DRL-DE-6-230-S14D-29/300	LEDInestra WW FR S14s	1.10	FBA-14/25/1B-220/240-E27	DINT LEDOTRON CLA 14W/825 E27	4.04
DRPAR-5-220/240-GU10-50/35	PAR16 20 35° 740	1.02	FBA-16/25/1B-220/240-E27	DINT DIM CLA 16W/825 E27	4.05
DRPAR-5-220/240-GU10-50/35	PAR16 20 35° 828	1.02	FBC-6/25/1B-220/240-E14	DPRO MICA 6W/825 E14	4.13
DRPAR-5-220/240-GU10-50/35	PAR16 20 35° 830	1.02	FBC-6/25/1B-220/240-E27	DPRO MICA 6W/825 E27	4.13
DRPAR-5-220/240-GU10-50/35	PAR16 35 35° 828	1.02	FBC-9/25/1B-220/240-E14	DPRO MICA 9W/825 E14	4.13
DRPAR-5-220/240-GU10-50/35	PAR16 35 35° 830	1.02	FBC-9/25/1B-220/240-E27	DPRO MICA 9W/825 E27	4.13
DRPAR-5-2-230-GU10-50/25	PRO PAR16 35 25° 840 adv	1.02	FBG-14/25/1B-220/240-E27	DINT LEDOTRON GL 14W/825 E27	4.04
DRPAR-5-2-230-GU10-50/25	PRO PAR16 35 25° 927 adv	1.02	FBG-14/25/1B-220/240-E27	DPRO GL 14W/825 E27	4.15
DRPAR-5-2-230-GU10-50/25	PRO PAR16 35 35° 930 adv	1.02	FBG-15/25/1B-220/240-E27	DINT DIM GL 15W/825 E27	4.05
DRPAR-5-2-230-GU10-50/35	PRO PAR16 35 35° 840 adv	1.02	FBG-18/25/1B-220/240-E27	DPRO GL 18W/825 E27	4.15
DRPAR-5-2-230-GU10-50/35	PRO PAR16 35 35° 927 adv	1.02	FBP-6/25/1B-220/240-E14	DPRO MIBU 6W/825 E14	4.14
DRPAR-5-2-230-GU10-50/35	PRO PAR16 35 35° 930 adv	1.02	FBP-6/25/1B-220/240-E27	DPRO MIBU 6W/825 E27	4.14
DRPAR-5-5-230-GU10-50/35	PAR16 35 35° 830 adv	1.02	FBP-7/25/1B-220/240-E14	DPRO MIBA 7W/825 E14	4.12
DRPAR-9-220/240-GU10-50/25	PRO PAR16 50 25° 840 adv	1.02	FBP-7/25/1B-220/240-E27	DPRO MIBA 7W/825 E27	4.12
DRPAR-9-220/240-GU10-50/25	PRO PAR16 50 25° 927 adv	1.02	FBP-9/25/1B-220/240-E14	DPRO MIBU 9W/825 E14	4.14
DRPAR-9-220/240-GU10-50/25	PRO PAR16 50 25° 930 adv	1.02	FBP-9/25/1B-220/240-E27	DPRO MIBU 9W/825 E27	4.14
DRPAR-9-220/240-GU10-50/35	PRO PAR16 50 35° 840 adv	1.02	FBP-11/25/1B-220/240-E27	DINT SENSOR MIBA 11W/825 E27	4.07
DRPAR-9-220/240-GU10-50/35	PRO PAR16 50 35° 927 adv	1.02	FBP-11/25/1B-220/240-E27	DPRO MIBA 11W/825 E27	4.12
DRPAR-9-220/240-GU10-50/35	PRO PAR16 50 35° 930 adv	1.02	FBP-15/25/1B-220/240-E27	DPRO MIBA 15W/825 E27	4.12
DRPAR-9-220/240-GU10-50/35	PRO PAR16 50 35° LEDOTRON	1.02	FBP-20/25/1B-220/240-E27	DPRO MIBA 20W/825 E27	4.12
DRPAR-10,5-230-GU10-50/25	PRO PAR16 75 25° 765 adv	1.02	FBT-7/25/1B-220/240-E14	DINT LL 7W/825 E14	4.03
DRPAR-10,5-230-GU10-50/25	PRO PAR16 75 25° 827 adv	1.02	FBT-7/25/1B-220/240-E27	DINT LL 7W/825 E27	4.03
DRPAR-10,5-230-GU10-50/25	PRO PAR16 75 25° 830 adv	1.02	FBT-8/25/1B-220/240-E14	DPRO 8W/825 E14	4.08
DRPAR-10,5-230-GU10-50/35	PRO PAR16 75 35° 765 adv	1.02	FBT-8/25/1B-220/240-E27	DPRO 8W/825 E27	4.08
DRPAR-10,5-230-GU10-50/35	PRO PAR16 75 35° 827 adv	1.02	FBT-10/25/1B-220/240-E14	DINT FCY 10W/825 E14	4.02
DRPAR-10,5-230-GU10-50/35	PRO PAR16 75 35° 830 adv	1.02	FBT-10/25/1B-220/240-E27	DINT FCY 10W/825 E27	4.02
DRR-3-12-GU4-35/24	MR11 20 24° 830	1.04	FBT-11/25/1B-220/240-E14	DINT LL 11W/825 E14	4.03
DRR-5-12-GU5,3-50/24	PRO MR16 20 24° 840 adv	1.04	FBT-11/25/1B-220/240-E27	DINT LL 11W/825 E27	4.03
DRR-5-12-GU5,3-50/24	PRO MR16 20 24° 927 adv	1.04	FBT-11/27/1B-220/240-E27	DINT SENSOR 11W/827 E27	4.07
DRR-5-12-GU5,3-50/24	PRO MR16 20 24° 930 adv	1.04	FBT-14/25/1B-220/240-B22D	DINT FCY 14W/825 E27	4.02
DRR-5-12-GU5,3-50/36	MR16 20 36° 828 adv	1.04	FBT-14/25/1B-220/240-E27	DINT LL 14W/825 E27	4.03
DRR-5-12-GU5,3-50/36	MR16 20 36° 830 adv	1.04	FBT-14/25/1B-220/240-E27	DPRO 14W/825 E27	4.08
DRR-5-12-GU5,3-50/36	PRO MR16 20 36° 840 adv	1.04	FBT-15/27/1B-220/240-E27	DINT SENSOR 15W/827 E27	4.07
DRR-5-12-GU5,3-50/36	PRO MR16 20 36° 927 adv	1.04	FBT-18/25/1B-220/240-E27	DINT DIM 18W/825 E27	4.05
DRR-5-12-GU5,3-50/36	PRO MR16 20 36° 930 adv	1.04	FBT-18/25/1B-220/240-E27	DINT FCY 18W/825 E27	4.02
DRR-7-12-GU5,3-50/24	PRO MR16 35 24° 827 adv	1.04	FBT-18/25/1B-220/240-E27	DINT LEDOTRON STICK 18W/825 E27	4.04
DRR-7-12-GU5,3-50/24	PRO MR16 35 24° 830 adv	1.04	FBT-18/25/1B-220/240-E27	DINT LL 18W/825 E27	4.03
DRR-7-12-GU5,3-50/24	PRO MR16 35 24° 840 adv	1.04	FBT-20/25/1B-220/240-E27	DPRO 20W/825 E27	4.08
DRR-7-12-GU5,3-50/36	PRO MR16 35 36° 827 adv	1.04	FBT-22/25/1B-220/240-E27	DINT FCY 22W/825 E27	4.02
DRR-7-12-GU5,3-50/36	PRO MR16 35 36° 830 adv	1.04	FBT-22/25/1B-220/240-E27	DINT LL 22W/825 E27	4.03
DRR-7-12-GU5,3-50/36	PRO MR16 35 36° 840 adv	1.04	FBT-30/25/1B-220/240-E27	DINT LL 30W/825 E27	4.03
DRR-11-12-GU5,3-50/24	PRO MR16 50 24° 765 adv	1.04	FBT-30/25/1B-220/240-E27	DPRO 30W/825 E27	4.08
DRR-11-12-GU5,3-50/24	PRO MR16 50 24° 827 adv	1.04	FC-22/27/1B-E-2GX13-16	FC 22 W/827	5.23
DRR-11-12-GU5,3-50/24	PRO MR16 50 24° 830 adv	1.04	FC-22/27/1B-E-G10q-29	L 22 W/827 C	5.39
DRR-11-12-GU5,3-50/36	PRO MR16 50 36° 765 adv	1.04	FC-22/30/1B-E-2GX13-16	FC 22 W/830	5.23
DRR-11-12-GU5,3-50/36	PRO MR16 50 36° 827 adv	1.04	FC-22/40/1B-E-2GX13-16	FC 22 W/840	5.23
DRR-11-12-GU5,3-50/36	PRO MR16 50 36° 830 adv	1.04	FC-22/40/1B-E-G10q-29	L 22 W/840 C	5.39
DRR-12-12-G53-111/24	PRO LEDspot11 50 24° adv	1.06	FC-22/65/1B-E-2GX13-16	FC 22 W/865	5.23
DRR-12-12-G53-111/24	PRO LEDspot11 50 24° adv	1.06	FC-22/65/1B-E-G10q-29	L 22 W/865 C	5.39
FB-7/25/1B-220/240-E14	DPRO MCTW 7W/825 E14	4.09	FC-32/27/1B-E-G10q-29	L 32 W/827 C	5.39
FB-7/25/1B-220/240-E27	DPRO MCTW 7W/825 E27	4.09	FC-32/40/1B-E-G10q-29	L 32 W/840 C	5.39
FB-11/25/1B-220/240-E14	DPRO MCTW 11W/825 E14	4.09	FC-32/65/1B-E-G10q-29	L 32 W/865 C	5.39
FB-11/25/1B-220/240-E14	DPRO MTW 11W/825 E14	4.10	FC-40/27/1B-E-2GX13-16	FC 40 W/827	5.23
FB-11/25/1B-220/240-E27	DINT HE MICRTW 11W/825 E27	4.06	FC-40/27/1B-E-G10q-29	L 40 W/827 C	5.39
FB-11/25/1B-220/240-E27	DPRO MCTW 11W/825 E27	4.09	FC-40/30/1B-E-2GX13-16	FC 40 W/830 C	5.23
FB-11/25/1B-220/240-E27	DPRO MTW 11W/825 E27	4.10	FC-40/40/1B-E-2GX13-16	FC 40 W/840	5.23
FB-13/25/1B-220/240-E27	DPRO MTW 13W/825 E27	4.10	FC-40/40/1B-E-G10q-29	L 40 W/840 C	5.39

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
FC-40/65/1B-E-2GX13-16	FC 40 W/865	5.23	FD-30/65/1B-E-G13-26/895	L 30 W/865	5.24
FC-40/65/1B-E-G10q-29	L 40 W/865 C	5.39	FD-30/80/1B-E-G13-26/895	L 30 W/880	5.24
FC-55/27/1B-E-2GX13-16	FC 55 W/827	5.23	FD-30/BLUE-E-G13-26/895	L 30 W/67	5.33
FC-55/30/1B-E-2GX13-16	FC 55 W/830	5.23	FD-36/27/1B-E-G13-26/970	L 36 W/827-1	5.24
FC-55/40/1B-E-2GX13-16	FC 55 W/840	5.23	FD-36/27/1B-E-G13-26/1200	L 36 W/827	5.24
FC-55/65/1B-E-2GX13-16	FC 55 W/865	5.23	FD-36/30/1A-E-G13-26/1200	L 36 W/930	5.29
FD-4/40/2B-G5-16/136	L 4 W/640	5.20	FD-36/30/1B-E-G13-26/970	L 36 W/830-1	5.24
FD-6/30/1A-G5-16/212	L 6 W/930	5.18	FD-36/30/1B-E-G13-26/1200	L 36 W/830	5.24
FD-6/30/1B-G5-16/212	L 6 W/830	5.19	FD-36/30/1B-E-G13-26/1200	L 36 W/830 XT	5.27
FD-6/40/1B-G5-16/212	L 6 W/840 EL	5.21	FD-36/30/1B-E-G13-26/1200	L 36 W/830 XXT	5.28
FD-6/40/2B-G5-16/212	L 6 W/640	5.20	FD-36/35/1B-E-G13-26/1200	L 36 W/835	5.24
FD-6/40/2B-G5-16/212	L 6 W/640 EL	5.22	FD-36/40/1A-E-G13-26/1200	L 36 W/940	5.29
FD-8/27/1B-G5-16/288	L 8 W/827	5.19	FD-36/40/1B-E-G13-26/970	L 36 W/840-1	5.24
FD-8/30/1A-G5-16/288	L 8 W/930	5.18	FD-36/40/1B-E-G13-26/1200	L 36 W/840	5.24
FD-8/30/1B-G5-16/288	L 8 W/830	5.19	FD-36/40/1B-E-G13-26/1200	L 36 W/840 SPS	5.36
FD-8/40/1B-G5-16/288	L 8 W/840	5.19	FD-36/40/1B-E-G13-26/1200	L 36 W/840 XT	5.27
FD-8/40/1B-G5-16/288	L 8 W/840 EL	5.21	FD-36/40/1B-E-G13-26/1200	L 36 W/840 XXT	5.28
FD-8/40/2B-G5-16/288	L 8 W/640	5.20	FD-36/50/1A-E-G13-26/970	L 36 W/954-1	5.29
FD-8/40/2B-G5-16/288	L 8 W/640 EL	5.22	FD-36/50/1A-E-G13-26/1200	L 36 W/954	5.29
FD-8/50/1A-G5-16/288	L 8 W/954	5.18	FD-36/50/1B-E-G13-26/1200	L 36 W/950	5.30
FD-8/65/2A-G5-16/288	L 8 W/765	5.20	FD-36/65/1A-E-G13-26/1200	L 36 W/965	5.29
FD-10/27/1B-E-G13-26/470	L 10 W/827	5.24	FD-36/65/1B-E-G13-26/1200	L 36 W/865	5.24
FD-13/27/1B-E-G5/11x15	L 13 W/827	5.19	FD-36/65/1B-E-G13-26/1200	L 36 W/865 XT	5.27
FD-13/30/1A-G5-16/517	L 13 W/930	5.18	FD-36/65/1B-E-G13-26/1200	L 36 W/865 XXT	5.28
FD-13/30/1B-G5-16/517	L 13 W/830	5.19	FD-36/80/1B-E-G13-26/1200	L 36 W/880	5.24
FD-13/40/1B-G5-16/517	L 13 W/840	5.19	FD-36/BLUE-E-G13-26/1200	L 36 W/67	5.33
FD-13/40/2B-G5-16/517	L 13 W/640	5.20	FD-36/GREEN-E-G13-26/1200	L 36 W/66	5.33
FD-13/65/2A-G5-16/517	L 13 W/765	5.20	FD-36/RED-E-G13-26/1200	L 36 W/60	5.33
FD-15/27/1B-E-G13-26/438	L 15 W/827	5.24	FD-36/YELLOW-E-G13-26/1200	L 36 W/62	5.33
FD-15/30/1B-E-G13-26/438	L 15 W/830	5.24	FD-38/30/1B-E-G13-26/1047	L 38 W/830	5.24
FD-15/40/1B-E-G13-26/438	L 15 W/840	5.24	FD-38/40/1B-E-G13-26/1047	L 38 W/840	5.24
FD-15/50/1A-E-G13-26/438	L 15 W/954	5.29	FD-38/80/1B-E-G13-26/1047	L 38 W/880	5.24
FD-15/65/1B-E-G13-26/438	L 15 W/865	5.24	FD-40/40/2B-E-Fa6-38/1200	L 40 W/640 XL	5.42
FD-16/27/1B-E-G13-26/720	L 16 W/827	5.24	FD-40/40/2B-E-G13-38/1200	L 40 W/640 SA	5.41
FD-16/30/1A-E-G13-26/720	L 16 W/930	5.29	FD-58/27/1B-E-G13-16/1500	L 58 W/827	5.24
FD-16/30/1B-E-G13-26/720	L 16 W/830	5.24	FD-58/30/1A-E-G13-26/1500	L 58 W/930	5.29
FD-16/40/1B-E-G13-26/720	L 16 W/840	5.24	FD-58/30/1B-E-G13-26/1500	L 58 W/830	5.24
FD-18/27/1B-E-G13-26/590	L 18 W/827	5.24	FD-58/30/1B-E-G13-26/1500	L 58 W/830 XT	5.27
FD-18/30/1A-E-G13-26/590	L 18 W/930	5.29	FD-58/30/1B-E-G13-26/1500	L 58 W/830 XXT	5.28
FD-18/30/1B-E-G13-26/590	L 18 W/830	5.24	FD-58/35/1B-E-G13-16/1500	L 58 W/835	5.24
FD-18/30/1B-E-G13-26/590	L 18 W/830 XT	5.27	FD-58/40/1A-E-G13-26/1500	L 58 W/940	5.29
FD-18/30/1B-E-G13-26/590	L 18 W/830 XXT	5.28	FD-58/40/1B-E-G13-26/1500	L 58 W/840	5.24
FD-18/35/1B-E-G13-26/590	L 18 W/835	5.24	FD-58/40/1B-E-G13-26/1500	L 58 W/840 SPS	5.36
FD-18/40/1A-E-G13-26/590	L 18 W/940	5.29	FD-58/40/1B-E-G13-26/1500	L 58 W/840 XT	5.27
FD-18/40/1B-E-G13-26/590	L 18 W/840	5.24	FD-58/40/1B-E-G13-26/1500	L 58 W/840 XXT	5.28
FD-18/40/1B-E-G13-26/590	L 18 W/840 SPS	5.36	FD-58/50/1A-E-G13-26/1500	L 58 W/954	5.29
FD-18/40/1B-E-G13-26/590	L 18 W/840 XT	5.27	FD-58/50/1B-E-G13-26/1500	L 58 W/950	5.30
FD-18/40/1B-E-G13-26/590	L 18 W/840 XXT	5.28	FD-58/65/1A-E-G13-26/1500	L 58 W/965	5.29
FD-18/50/1A-E-G13-26/590	L 18 W/950	5.30	FD-58/65/1A-E-G13-26/1500	L 58 W/965	5.31
FD-18/50/1A-E-G13-26/590	L 18 W/954	5.29	FD-58/65/1B-E-G13-26/1500	L 58 W/865	5.24
FD-18/65/1A-E-G13-26/590	L 18 W/965	5.29	FD-58/65/1B-E-G13-26/1500	L 58 W/865 XT	5.27
FD-18/65/1B-E-G13-26/590	L 18 W/865	5.24	FD-58/65/1B-E-G13-26/1500	L 58 W/865 XXT	5.28
FD-18/65/1B-E-G13-26/590	L 18 W/865 XT	5.27	FD-58/80/1B-E-G13-26/1500	L 58 W/880	5.24
FD-18/65/1B-E-G13-26/590	L 18 W/865 XXT	5.28	FD-58/BLUE-E-G13-26/1500	L 58 W/67	5.33
FD-18/80/1B-E-G13-26/590	L 18 W/880	5.24	FD-58/GREEN-E-G13-26/1500	L 58 W/66	5.33
FD-18/BLUE-E-G13-26/590	L 18 W/67	5.33	FD-58/RED-E-G13-26/1500	L 58 W/60	5.33
FD-18/GREEN-E-G13-26/590	L 18 W/66	5.33	FD-58/YELLOW-E-G13-26/1500	L 58 W/62	5.33
FD-18/RED-E-G13-26/590	L 18 W/60	5.33	FD-65/40/2B-E-Fa6-38/1484	L 65 W/640 XL	5.42
FD-18/YELLOW-E-G13-26/590	L 18 W/62	5.33	FD-65/40/2B-E-G13-38/1484	L 65 W/640 SA	5.41
FD-20/40/2B-E-Fa6-38/592	L 20 W/640 XL	5.42	FDH-6/30/2A-L/P-W4,3	FM 6 W/730	5.40
FD-20/40/2B-E-G13-38/592	L 20 W/640 SA	5.41	FDH-6/40/2A-L/P-W4,3	FM 6 W/740	5.40
FD-23/30/1B-E-G13-26/970	L 23 W/830	5.24	FDH-6/60/2A-L/P-W4,3	FM 6 W/760	5.40
FD-23/40/1B-E-G13-26/970	L 23 W/840	5.24	FDH-8/30/2A-L/P-W4,3	FM 8 W/730	5.40
FD-30/27/1B-E-G13-26/895	L 30 W/827	5.24	FDH-8/40/2A-L/P-W4,3	FM 8 W/740	5.40
FD-30/30/1A-E-G13-26/895	L 30 W/930	5.29	FDH-8/60/2A-L/P-W4,3	FM 8 W/760	5.40
FD-30/30/1B-E-G13-26/895	L 30 W/830	5.24	FDH-11/30/2A-L/P-W4,3	FM 11 W/730	5.40
FD-30/40/1B-E-G13-26/895	L 30 W/840	5.24	FDH-11/40/2A-L/P-W4,3	FM 11 W/740	5.40
FD-30/65/1A-E-G13-26/895	L 30 W/965	5.31	FDH-11/60/2A-L/P-W4,3	FM 11 W/760	5.40

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
FDH-13/30/2A-L/P-W4,3	FM 13 W/730	5.40	FDH-49/40/1B-L/P-G5-16/1449	HO 49 W/840 CONSTANT	5.09
FDH-13/40/2A-L/P-W4,3	FM 13 W/740	5.40	FDH-49/40/1B-L/P-G5-16/1449	HO 49 W/840 XT	5.08
FDH-13/60/2A-L/P-W4,3	FM 13 W/760	5.40	FDH-49/65/1A-L/P-G5-16/1449	HO 49 W/965	5.11
FDH-14/27/1B-L/P-G5-16/549	HE 14 W/827	5.02	FDH-49/65/1B-L/P-G5-16/1449	HO 49 W/865	5.04
FDH-14/30/1B-L/P-G5-16/549	HE 14 W/830	5.02	FDH-49/65/1B-L/P-G5-16/1449	HO 49 W/865 CONSTANT	5.09
FDH-14/35/1B-L/P-G5-16/549	HE 14 W/835	5.02	FDH-49/65/1B-L/P-G5-16/1449	HO 49 W/865 XT	5.08
FDH-14/40/1B-L/P-G5-16/549	HE 14 W/840	5.02	FDH-49/80/1B-L/P-G5-16/1449	HO 49 W/880	5.04
FDH-14/65/1B-L/P-G5-16/549	HE 14 W/865	5.02	FDH-54/27/1B-L/P-G5-16/1149	HO 54 W/827	5.04
FDH-14/80/1B-L/P-G5-16/549	HE 14 W/880	5.02	FDH-54/27/1B-L/P-G5-16/1149	HO 54 W/827 XT	5.08
FDH-14/BLUE/1B-L/P-G5-16/549	HE 14 W/67	5.13	FDH-54/30/1B-L/P-G5-16/1149	HO 54 W/830	5.04
FDH-14/GREEN/1B-L/P-G5-16/549	HE 14 W/66	5.13	FDH-54/30/1B-L/P-G5-16/1149	HO 54 W/830 CONSTANT	5.09
FDH-14/RED/1B-L/P-G5-16/549	HE 14 W/60	5.13	FDH-54/30/1B-L/P-G5-16/1149	HO 54 W/830 XT	5.08
FDH-21/27/1B-L/P-G5-16/849	HE 21 W/827	5.02	FDH-54/35/1B-L/P-G5-16/1149	HO 54 W/835	5.04
FDH-21/30/1B-L/P-G5-16/849	HE 21 W/830	5.02	FDH-54/40/1A-L/P-G5-16/1149	HO 54 W/940	5.11
FDH-21/35/1B-L/P-G5-16/849	HE 21 W/835	5.02	FDH-54/40/1B-L/P-G5-16/1149	HO 54 W/840	5.04
FDH-21/40/1B-L/P-G5-16/849	HE 21 W/840	5.02	FDH-54/40/1B-L/P-G5-16/1149	HO 54 W/840 CONSTANT	5.09
FDH-21/65/1B-L/P-G5-16/849	HE 21 W/865	5.02	FDH-54/40/1B-L/P-G5-16/1149	HO 54 W/840 XT	5.08
FDH-21/80/1B-L/P-G5-16/849	HE 21 W/880	5.02	FDH-54/65/1A-L/P-G5-16/1149	HO 54 W/965	5.11
FDH-21/BLUE/L/P-G5-16/849	HE 21 W/67	5.13	FDH-54/65/1B-L/P-G5-16/1149	HO 54 W/865	5.04
FDH-21/65/1B-L/P-G5-16/849	HE 21 W/66	5.13	FDH-54/65/1B-L/P-G5-16/1149	HO 54 W/865 CONSTANT	5.09
FDH-21/RED/L/P-G5-16/849	HE 21 W/60	5.13	FDH-54/65/1B-L/P-G5-16/1149	HO 54 W/865 XT	5.08
FDH-24/27/1B-L/P-G5-16/549	HO 24 W/827	5.04	FDH-54/80/1B-L/P-G5-16/1149	HO 54 W/880	5.04
FDH-24/30/1B-L/P-G5-16/549	HO 24 W/830	5.04	FDH-54/BLUE/L/P-G5-16/1149	HO 54 W/67	5.14
FDH-24/30/1B-L/P-G5-16/549	HO 24 W/830 CONSTANT	5.09	FDH-54/GREEN/L/P-G5-16/1149	HO 54 W/66	5.14
FDH-24/35/1B-L/P-G5-16/549	HO 24 W/835	5.04	FDH-54/RED/L/P-G5-16/1149	HO 54 W/60	5.14
FDH-24/40/1A-L/P-G5-16/549	HO 24 W/940	5.11	FDH-80/27/1B-L/P-G5-16/1449	HO 80 W/827	5.04
FDH-24/40/1B-L/P-G5-16/549	HO 24 W/840	5.04	FDH-80/27/1B-L/P-G5-16/1449	HO 80 W/827 XT	5.08
FDH-24/40/1B-L/P-G5-16/549	HO 24 W/840 CONSTANT	5.09	FDH-80/30/1B-L/P-G5-16/1449	HO 80 W/830	5.04
FDH-24/65/1A-L/P-G5-16/549	HO 24 W/965	5.11	FDH-80/30/1B-L/P-G5-16/1449	HO 80 W/830 CONSTANT	5.09
FDH-24/65/1B-L/P-G5-16/549	HO 24 W/865	5.04	FDH-80/30/1B-L/P-G5-16/1449	HO 80 W/830 XT	5.08
FDH-24/65/1B-L/P-G5-16/549	HO 24 W/865 CONSTANT	5.09	FDH-80/40/1B-L/P-G5-16/1449	HO 80 W/840	5.04
FDH-24/80/1B-L/P-G5-16/549	HO 24 W/880	5.04	FDH-80/40/1B-L/P-G5-16/1449	HO 80 W/840 CONSTANT	5.09
FDH-24/BLUE/L/P-G5-16/549	HO 24 W/67	5.14	FDH-80/40/1B-L/P-G5-16/1449	HO 80 W/840 XT	5.08
FDH-24/GREEN/L/P-G5-16/549	HO 24 W/66	5.14	FDH-80/65/1B-L/P-G5-16/1449	HO 80 W/865	5.04
FDH-24/RED/L/P-G5-16/549	HO 24 W/60	5.14	FDH-80/65/1B-L/P-G5-16/1449	HO 80 W/865 CONSTANT	5.09
FDH-28/27/1B-L/P-G5-16/1149	HE 28 W/827	5.02	FDH-80/65/1B-L/P-G5-16/1449	HO 80 W/865 XT	5.08
FDH-28/30/1B-L/P-G5-16/1149	HE 28 W/830	5.02	FDH-80/80/1B-L/P-G5-16/1449	HO 80 W/880	5.04
FDH-28/35/1B-L/P-G5-16/1149	HE 28 W/835	5.02	FDH-80/BLUE/L/P-G5-16/1449	HO 80 W/67	5.14
FDH-28/40/1B-L/P-G5-16/1149	HE 28 W/840	5.02	FDH-80/GREEN/L/P-G5-16/1449	HO 80 W/66	5.14
FDH-28/65/1B-L/P-G5-16/1149	HE 28 W/865	5.02	FDH-80/RED/L/P-G5-16/1449	HO 80 W/60	5.14
FDH-28/BLUE/1B-L/P-G5-16/1149	HE 28 W/67	5.13	FDI-70/30/1B-K-2 Pole	ENDURA 70 W/830 2-pole	4.43
FDH-28/GREEN/1B-L/P-G5-16/1149	HE 28 W/66	5.13	FDI-70/40/1B-K-2 Pole	ENDURA 70 W/840 2-pole	4.43
FDH-28/RED/1B-L/P-G5-16/1149	HE 28 W/60	5.13	FDI-100/30/1B-K-2 Pole	ENDURA 100 W/830 2-pole	4.43
FDH-35/27/1B-L/P-G5-16/1449	HE 35 W/827	5.02	FDI-100/40/1B-K-2 Pole	ENDURA 100 W/840 2-pole	4.43
FDH-35/30/1B-L/P-G5-16/1449	HE 35 W/830	5.02	FDI-150/30/1B-K-2 Pole	ENDURA 150 W/830 2-pole	4.43
FDH-35/35/1B-L/P-G5-16/1449	HE 35 W/835	5.02	FDI-150/40/1B-K-2 Pole	ENDURA 150 W/840 2-pole	4.43
FDH-35/40/1B-L/P-G5-16/1449	HE 35 W/840	5.02	FDV-18/30/1B-E-2G13-26	L 18 W/830 U	5.38
FDH-35/65/1B-L/P-G5-16/1449	HE 35 W/865	5.02	FDV-18/40/1B-E-2G13-26	L 18 W/840 U	5.38
FDH-35/BLUE/1B-L/P-G5-16/1449	HE 35 W/67	5.13	FDV-36/30/1B-E-2G13-26	L 36 W/830 U	5.38
FDH-35/GREEN/1B-L/P-G5-16/1449	HE 35 W/66	5.13	FDV-36/30/1B-E-2G13-26/566	L 36 W/830 UK	5.38
FDH-35/RED/1B-L/P-G5-16/1449	HE 35 W/60	5.13	FDV-36/40/1B-E-2G13-26	L 36 W/840 U	5.38
FDH-39/27/1B-L/P-G5-16/849	HO 39 W/827	5.04	FDV-36/40/1B-E-2G13-26/566	L 36 W/840 UK	5.38
FDH-39/30/1B-L/P-G5-16/849	HO 39 W/830	5.04	FDV-58/30/1B-E-2G13-26	L 58 W/830 U	5.38
FDH-39/30/1B-L/P-G5-16/849	HO 39 W/830 CONSTANT	5.09	FDV-58/40/1B-E-2G13-26	L 58 W/840 U	5.38
FDH-39/40/1B-L/P-G5-16/849	HO 39 W/840	5.04	FSD/B-9-I-G23	DULUX S 9 W/67	4.27
FDH-39/40/1B-L/P-G5-16/849	HO 39 W/840 CONSTANT	5.09	FSD/B-24-E-2G11	DULUX L 24 W/67	4.30
FDH-39/65/1B-L/P-G5-16/849	HO 39 W/865	5.04	FSD/G-9-I-G23	DULUX S 9 W/66	4.27
FDH-39/65/1B-L/P-G5-16/849	HO 39 W/865 CONSTANT	5.09	FSD/R-9-I-G23	DULUX S 9 W/60	4.27
FDH-39/BLUE/L/P-G5-16/849	HO 39 W/67	5.14	FSD-5/27/1B-I-G23	DULUX S 5 W/827	4.27
FDH-39/GREEN/L/P-G5-16/849	HO 39 W/66	5.14	FSD-5/40/1B-I-G23	DULUX S 5 W/840	4.27
FDH-39/RED/L/P-G5-16/849	HO 39 W/60	5.14	FSD-7/27/1B-E-2G7	DULUX S/E 7 W/827	4.29
FDH-49/27/1B-L/P-G5-16/1449	HO 49 W/827	5.04	FSD-7/27/1B-I-G23	DULUX S 7 W/827	4.27
FDH-49/27/1B-L/P-G5-16/1449	HO 49 W/827 XT	5.08	FSD-7/30/1B-E-2G7	DULUX S/E 7 W/830	4.29
FDH-49/30/1B-L/P-G5-16/1449	HO 49 W/830	5.04	FSD-7/30/1B-I-G23	DULUX S 7 W/830	4.27
FDH-49/30/1B-L/P-G5-16/1449	HO 49 W/830 CONSTANT	5.09	FSD-7/40/1B-E-2G7	DULUX S/E 7 W/840	4.29
FDH-49/30/1B-L/P-G5-16/1449	HO 49 W/830 XT	5.08	FSD-7/40/1B-I-G23	DULUX S 7 W/840	4.27
FDH-49/40/1A-L/P-G5-16/1449	HO 49 W/940	5.11	FSD-9/27/1B-E-2G7	DULUX S/E 9 W/827	4.29
FDH-49/40/1B-L/P-G5-16/1449	HO 49 W/840	5.04	FSD-9/27/1B-I-G23	DULUX S 9 W/827	4.27

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
FSD-9/30/1B-E-2G7	DULUX S/E 9 W/830	4.29	FSDH-55/35/1B-2G11	DULUX L 55 W/835	4.30
FSD-9/30/1B-I-G23	DULUX S 9 W/830	4.27	FSDH-55/40/1B-2G11	DULUX L 55 W/840	4.30
FSD-9/30/1B-I-G23	DULUX S 9 W/835	4.27	FSDH-55/65/1B-2G11	DULUX L 55 W/865	4.30
FSD-9/40/1B-E-2G7	DULUX S/E 9 W/840	4.29	FSDH-55/93/1A-2G11	DULUX L 55 W/930	4.33
FSD-9/40/1B-I-G23	DULUX S 9 W/840	4.27	FSDH-55/94/1A-2G11	DULUX L 55 W/940	4.33
FSD-9/65/1B-I-G23	DULUX S 9 W/865	4.27	FSDH-55/95/1A-2G11	DULUX L 55 W/954	4.33
FSD-11/27/1B-E-2G7	DULUX S/E 11 W/827	4.29	FSDH-80/30/1B-2G11	DULUX L 80 W/830	4.30
FSD-11/27/1B-I-G23	DULUX S 11 W/827	4.27	FSDH-80/40/1B-2G11	DULUX L 80 W/840	4.30
FSD-11/30/1B-E-2G7	DULUX S/E 11 W/830	4.29	FSM-13/30/1B-I-GX24d-1	DULUX T 13 W/830 PLUS	4.16
FSD-11/30/1B-I-G23	DULUX S 11 W/830	4.27	FSM-13/40/1B-I-GX24d-1	DULUX T 13 W/840 PLUS	4.16
FSD-11/40/1B-E-2G7	DULUX S/E 11 W/840	4.29	FSM-18/27/1B-I-GX24d-2	DULUX T 18 W/827 PLUS	4.16
FSD-11/40/1B-I-G23	DULUX S 11 W/840	4.27	FSM-18/30/1B-I-GX24d-2	DULUX T 18 W/830 PLUS	4.16
FSD-18/27/1B-E-2G11	DULUX L 18 W/827	4.30	FSM-18/40/1B-I-GX24d-2	DULUX T 18 W/840 PLUS	4.16
FSD-18/30/1B-E-2G11	DULUX L 18 W/830	4.30	FSM-26/27/1B-I-GX24d-3	DULUX T 26 W/827 PLUS	4.16
FSD-18/30/1B-E-2G11	DULUX L 18 W/830 XT	4.38	FSM-26/30/1B-I-GX24d-3	DULUX T 26 W/830 PLUS	4.16
FSD-18/35/1B-E-2G11	DULUX L 18 W/835	4.30	FSM-26/40/1B-I-GX24d-3	DULUX T 26 W/840 PLUS	4.16
FSD-18/40/1B-E-2G11	DULUX L 18 W/840	4.30	FSMGH-11/30/1B-L/P-GR14q-1	DULUX T/E 11 W/830 HE	4.20
FSD-18/40/1B-E-2G11	DULUX L 18 W/840 XT	4.38	FSMGH-11/40/1B-L/P-GR14q-1	DULUX T/E 11 W/840 HE	4.20
FSD-18/93/1A-E-2G11	DULUX L 18 W/930	4.33	FSMGH-14/30/1B-L/P-GR14q-1	DULUX T/E 14 W/830 HE	4.20
FSD-18/94/1A-E-2G11	DULUX L 18 W/940	4.33	FSMGH-14/40/1B-L/P-GR14q-1	DULUX T/E 14 W/840 HE	4.20
FSD-18/95/1A-E-2G11	DULUX L 18 W/954	4.33	FSMGH-17/30/1B-L/P-GR14q-1	DULUX T/E 17 W/830 HE	4.20
FSD-18/L/30/1B-E-2G11	DULUX L 18 W/830 SP	4.35	FSMGH-17/40/1B-L/P-GR14q-1	DULUX T/E 17 W/840 HE	4.20
FSD-18/L/40/1B-E-2G11	DULUX L 18 W/840 SP	4.35	FSMH-13/27/1B-E-GX24q-1	DULUX T/E 13 W/827 PLUS	4.17
FSD-24/27/1B-E-2G11	DULUX L 24 W/827	4.30	FSMH-13/30/1B-E-GX24q-1	DULUX T/E 13 W/830 PLUS	4.17
FSD-24/30/1B-E-2G11	DULUX L 24 W/830	4.30	FSMH-13/40/1B-E-GX24q-1	DULUX T/E 13 W/840 PLUS	4.17
FSD-24/30/1B-E-2G11	DULUX L 24 W/830 XT	4.38	FSMH-18/27/1B-E-GX24q-2	DULUX T/E 18 W/827 PLUS	4.17
FSD-24/35/1B-E-2G11	DULUX L 24 W/835	4.30	FSMH-18/30/1B-E-GX24q-2	DULUX T/E 18 W/830 PLUS	4.17
FSD-24/40/1B-E-2G11	DULUX L 24 W/840	4.30	FSMH-18/40/1B-E-GX24q-2	DULUX T/E 18 W/840 PLUS	4.17
FSD-24/40/1B-E-2G11	DULUX L 24 W/840 XT	4.38	FSMH-26/27/1B-E-GX24q-3	DULUX T/E 26 W/827 PLUS	4.17
FSD-24/93/1A-E-2G11	DULUX L 24 W/930	4.33	FSMH-26/30/1B-E-GX24q-3	DULUX T/E 26 W/830 CONSTANT	4.19
FSD-24/94/1A-E-2G11	DULUX L 24 W/940	4.33	FSMH-26/40/1B-E-GX24q-3	DULUX T/E 26 W/840 CONSTANT	4.19
FSD-24/95/1A-E-2G11	DULUX L 24 W/954	4.33	FSMH-26/40/1B-E-GX24q-3	DULUX T/E 26 W/840 PLUS	4.17
FSD-24/L/30/1B-E-2G11	DULUX L 24 W/830 SP	4.35	FSMH-32/27/1B-E-GX24q-3	DULUX T/E 32 W/827 CONSTANT	4.19
FSD-24/L/40/1B-E-2G11	DULUX L 24 W/840 SP	4.35	FSMH-32/27/1B-E-GX24q-3	DULUX T/E 32 W/827 PLUS	4.17
FSD-36/27/1B-E-2G11	DULUX L 36 W/827	4.30	FSMH-32/30/1B-E-GX24q-3	DULUX T/E 32 W/830 CONSTANT	4.19
FSD-36/30/1B-E-2G11	DULUX L 36 W/830	4.30	FSMH-32/30/1B-E-GX24q-3	DULUX T/E 32 W/830 PLUS	4.17
FSD-36/30/1B-E-2G11	DULUX L 36 W/830 XT	4.38	FSMH-32/30/1B-E-GX24q-3	DULUX T/E 32 W/830 XT	4.21
FSD-36/35/1B-E-2G11	DULUX L 36 W/835	4.30	FSMH-32/40/1B-E-GX24q-3	DULUX T/E 32 W/840 CONSTANT	4.19
FSD-36/40/1B-E-2G11	DULUX L 36 W/840	4.30	FSMH-32/40/1B-E-GX24q-3	DULUX T/E 32 W/840 PLUS	4.17
FSD-36/40/1B-E-2G11	DULUX L 36 W/840 XT	4.38	FSMH-32/40/1B-E-GX24q-3	DULUX T/E 32 W/840 XT	4.21
FSD-36/65/1B-E-2G11	DULUX L 36 W/865	4.30	FSMH-42/27/1B-E-GX24q-4	DULUX T/E 42 W/827 CONSTANT	4.19
FSD-36/80/1B-E-2G11	DULUX L 36 W/880	4.30	FSMH-42/27/1B-E-GX24q-4	DULUX T/E 42 W/827 PLUS	4.17
FSD-36/93/1A-2G11	DULUX L 36 W/930	4.33	FSMH-42/30/1B-E-GX24q-4	DULUX T/E 42 W/830 CONSTANT	4.19
FSD-36/94/1A-2G11	DULUX L 36 W/940	4.33	FSMH-42/30/1B-E-GX24q-4	DULUX T/E 42 W/830 PLUS	4.17
FSD-36/95/1A-2G11	DULUX L 36 W/954	4.33	FSMH-42/30/1B-E-GX24q-4	DULUX T/E 42 W/830 XT	4.21
FSD-36/L/30/1B-E-2G11	DULUX L 36 W/830 SP	4.35	FSMH-42/40/1B-E-GX24q-4	DULUX T/E 42 W/840 CONSTANT	4.19
FSD-36/L/40/1B-E-2G11	DULUX L 36 W/840 SP	4.35	FSMH-42/40/1B-E-GX24q-4	DULUX T/E 42 W/840 PLUS	4.17
FSD-40/80/1B-E-2G11	DULUX L 40 W/880	4.30	FSMH-42/40/1B-E-GX24q-4	DULUX T/E 42 W/840 XT	4.21
FSD-55/30/1B-E-2G11	DULUX L 55 W/830 XT	4.38	FSQ-10/27/1B-E-G24q-1	DULUX D/E 10 W/827	4.24
FSD-55/40/1B-E-2G11	DULUX L 55 W/840 XT	4.38	FSQ-10/27/1B-I-G24d-1	DULUX D 10 W/827	4.22
FSD-55/80/1B-E-2G11	DULUX L 55 W/880	4.30	FSQ-10/30/1B-E-G24q-1	DULUX D/E 10 W/830	4.24
FSD-80/80/1B-E-2G11	DULUX L 80 W/880	4.30	FSQ-10/30/1B-I-G24d-1	DULUX D 10 W/830	4.22
FSDH-16/30/1B-L/P-2GX11	DULUX L 16 W/830 HE	4.36	FSQ-10/40/1B-E-G24q-1	DULUX D/E 10 W/840	4.24
FSDH-16/40/1B-L/P-2GX11	DULUX L 16 W/840 HE	4.36	FSQ-10/40/1B-I-G24d-1	DULUX D 10 W/840	4.22
FSDH-22/30/1B-L/P-2GX11	DULUX L 22 W/830 HE	4.36	FSQ-13/27/1B-E-G24q-1	DULUX D/E 13 W/827	4.24
FSDH-22/40/1B-L/P-2GX11	DULUX L 22 W/840 HE	4.36	FSQ-13/27/1B-I-G24d-1	DULUX D 13 W/827	4.22
FSDH-26/30/1B-L/P-2GX11	DULUX L 26 W/830 HE	4.36	FSQ-13/30/1B-E-G24q-1	DULUX D/E 13 W/830	4.24
FSDH-26/40/1B-L/P-2GX11	DULUX L 26 W/840 HE	4.36	FSQ-13/30/1B-I-G24d-1	DULUX D 13 W/830	4.22
FSDH-28/30/1B-L/P-2GX11	DULUX L 28 W/830 HE	4.36	FSQ-13/35/1B-E-G24q-1	DULUX D/E 13 W/835	4.24
FSDH-28/40/1B-L/P-2GX11	DULUX L 28 W/840 HE	4.36	FSQ-13/40/1B-E-G24q-1	DULUX D/E 13 W/840	4.24
FSDH-40/27/1B-2G11	DULUX L 40 W/827	4.30	FSQ-13/40/1B-I-G24d-1	DULUX D 13 W/840	4.22
FSDH-40/30/1B-2G11	DULUX L 40 W/830	4.30	FSQ-13/65/1B-I-G24d-1	DULUX D 13 W/865	4.22
FSDH-40/35/1B-2G11	DULUX L 40 W/835	4.30	FSQ-18/27/1B-E-G24q-2	DULUX D/E 18 W/827	4.24
FSDH-40/40/1B-2G11	DULUX L 40 W/840	4.30	FSQ-18/27/1B-I-G24d-2	DULUX D 18 W/827	4.22
FSDH-40/65/1B-2G11	DULUX L 40 W/865	4.30	FSQ-18/30/1B-E-G24q-2	DULUX D/E 18 W/830	4.24
FSDH-40/95/1A-2G11	DULUX L 40 W/954	4.33	FSQ-18/30/1B-E-G24q-2	DULUX D/E 18 W/830 XT	4.26
FSDH-55/27/1B-2G11	DULUX L 55 W/827	4.30	FSQ-18/30/1B-I-G24d-2	DULUX D 18 W/830	4.22
FSDH-55/30/1B-2G11	DULUX L 55 W/830	4.30			

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
FSQ-18/35/1B-E-G24q-2	DULUX D/E 18 W/835	4.24	HMG/UB-20-24-GY4-48/8	41930 SP	3.28
FSQ-18/35/1B-I-G24d-2	DULUX D 18 W/835	4.22	HMGs/UB-20-12-BA15D-70/8	41970 SP	3.27
FSQ-18/40/1B-E-G24q-2	DULUX D/E 18 W/840	4.24	HMGs/UB-20-12-BA15D-70/24	41970 FL	3.27
FSQ-18/40/1B-E-G24q-2	DULUX D/E 18 W/840 XT	4.26	HMGs/UB-20-12-GY4-48/8	41900 SP	3.28
FSQ-18/40/1B-I-G24d-2	DULUX D 18 W/840	4.22	HMGs/UB-35-6-G53-111/4	41830 SSP	3.26
FSQ-18/65/1B-E-G24q-2	DULUX D/E 18 W/865	4.24	HMGs/UB-35-12-G53-111/4	41832 SSP	3.26
FSQ-18/65/1B-I-G24d-2	DULUX D 18 W/865	4.22	HMGs/UB-35-12-G53-111/24	41832 FL	3.26
FSQ-26/27/1B-E-G24q-3	DULUX D/E 26 W/827	4.24	HMGs/UB-40-230-G9-42/40	60040 FL	3.18
FSQ-26/27/1B-I-G24d-3	DULUX D 26 W/827	4.22	HMGs/UB-50-12-BA15D-70/8	41990 SP	3.27
FSQ-26/30/1B-E-G24q-3	DULUX D/E 26 W/830	4.24	HMGs/UB-50-12-BA15D-70/24	41990 FL	3.27
FSQ-26/30/1B-E-G24q-3	DULUX D/E 26 W/830 XT	4.26	HMGs/UB-50-12-G53-111/4	41835 SSP	3.26
FSQ-26/30/1B-I-G24d-3	DULUX D 26 W/830	4.22	HMGs/UB-50-12-G53-111/6	41835 SP	3.26
FSQ-26/35/1B-E-G24q-3	DULUX D/E 26 W/835	4.24	HMGs/UB-50-12-G53-111/24	41835 FL	3.26
FSQ-26/35/1B-I-G24d-3	DULUX D 26 W/835	4.22	HMGs/UB-50-12-G53-111/40	41835 WFL	3.26
FSQ-26/40/1B-E-G24q-3	DULUX D/E 26 W/840	4.24	HMGs/UB-75-12-G53-111/6	41840 SP	3.26
FSQ-26/40/1B-E-G24q-3	DULUX D/E 26 W/840 XT	4.26	HMGs/UB-75-12-G53-111/24	41840 FL	3.26
FSQ-26/40/1B-I-G24d-3	DULUX D 26 W/840	4.22	HMGs/UB-75-12-G53-111/40	41840 WFL	3.26
FSQ-26/65/1B-E-G24q-3	DULUX D/E 26 W/865	4.24	HMGs/UB-100-12-G53-111/6	41850 SP	3.26
FSQ-26/65/1B-I-G24d-3	DULUX D 26 W/865	4.22	HMGs/UB-100-12-G53-111/24	41850 FL	3.26
FSS-16/27/1B-E-GR8	CFL SQUARE 16 W/827 2-PIN	4.41	HMGs/UB-100-12-G53-111/40	41850 WFL	3.26
FSS-16/27/1B-E-GR10Q	CFL SQUARE 16 W/827 4-PIN	4.42	HMGs/UBIB-35-12-G53-111/6	48832 ECO SP	3.25
FSS-16/35/1B-E-GR8	CFL SQUARE 16 W/835 2-PIN	4.41	HMGs/UBIB-35-12-G53-111/24	48832 ECO FL	3.25
FSS-16/35/1B-E-GR10Q	CFL SQUARE 16 W/835 4-PIN	4.42	HMGs/UBIB-50-12-G53-111/6	48835 ECO SP	3.25
FSS-18/27/1B-E-2G10	DULUX F 18 W/827	4.40	HMGs/UBIB-50-12-G53-111/24	48835 ECO FL	3.25
FSS-18/30/1B-E-2G10	DULUX F 18 W/830	4.40	HMGs/UBIB-50-12-G53-111/40	48835 ECO WFL	3.25
FSS-18/40/1B-E-2G10	DULUX F 18 W/840	4.40	HMGs/UBIB-60-12-G53-111/8	48837 ECO SP	3.25
FSS-24/27/1B-E-2G10	DULUX F 24 W/827	4.40	HMGs/UBIB-60-12-G53-111/24	48837 ECO FL	3.25
FSS-24/30/1B-E-2G10	DULUX F 24 W/830	4.40	HMGs/UBIB-60-12-G53-111/40	48837 ECO WFL	3.25
FSS-24/40/1B-E-2G10	DULUX F 24 W/840	4.40	HRGS/UB-10-12-GU4-35/36	44888 WFL	3.36
FSS-28/27/1B-E-GR8	CFL SQUARE 28 W/827 2-PIN	4.41	HRGS/UB-14-12-GU5,3-51/36	44855 ECO WFL	3.29
FSS-28/27/1B-E-GR10Q	CFL SQUARE 28 W/827 4-PIN	4.42	HRGS/UB-20-12-GU4-35/10	44890 SP	3.36
FSS-28/35/1B-E-GR8	CFL SQUARE 28 W/835 2-PIN	4.41	HRGS/UB-20-12-GU4-35/36	44890 WFL	3.36
FSS-28/35/1B-E-GR10Q	CFL SQUARE 28 W/835 4-PIN	4.42	HRGS/UB-20-12-GU4-35,3/10	46890 SP	3.31
FSS-36/27/1B-E-2G10	DULUX F 36 W/827	4.40	HRGS/UB-20-12-GU4-35,3/36	46890 WFL	3.31
FSS-36/30/1B-E-2G10	DULUX F 36 W/830	4.40	HRGS/UB-20-12-GU5,3-51/10	41860 SP	3.35
FSS-36/40/1B-E-2G10	DULUX F 36 W/840	4.40	HRGS/UB-20-12-GU5,3-51/10	44860 SP	3.34
FSS-38/27/1B-E-GR10Q	CFL SQUARE 38 W/827 4-PIN	4.42	HRGS/UB-20-12-GU5,3-51/10	46860 SP	3.30
FSS-38/35/1B-E-GR10Q	CFL SQUARE 38 W/835 4-PIN	4.42	HRGS/UB-20-12-GU5,3-51/36	41860 WFL	3.35
HAGS/UB-20-12-GU5,3-51/36	41861 WFL	3.32	HRGS/UB-20-12-GU5,3-51/36	44860 WFL	3.34
HAGS/UB-35-12-GU5,3-51/36	41866 WFL	3.32	HRGS/UB-20-12-GU5,3-51/36	46860 WFL	3.30
HAGS/UB-50-12-GU5,3-51/36	41871 WFL	3.32	HRGS/UB-20-12-GU5,3-51/60	46860 WWFL	3.30
HAGS/UB-20-230-GU10-51/35	64831 FL	3.09	HRGS/UB-35-12-GU4-35/10	44892 SP	3.36
HAGS/UB-28-230-GU10-51/35	64819 ECO FL	3.08	HRGS/UB-35-12-GU4-35/36	44892 WFL	3.36
HAGS/UB-35-230-GU10-51/35	64820 FL	3.09	HRGS/UB-35-12-GU4-35,3/10	46892 SP	3.31
HAGS/UB-40-230-E14-51/35	64822 FL	3.10	HRGS/UB-35-12-GU4-35,3/36	46892 WFL	3.31
HAGS/UB-40-230-GU10-51/35	64823 ECO FL	3.08	HRGS/UB-35-12-GU5,3-51/10	44865 SP	3.34
HAGS/UB-50-230-E27-64,5/10	64832 SP	3.12	HRGS/UB-35-12-GU5,3-51/10	46865 SP	3.30
HAGS/UB-50-230-E27-64,5/30	64832 FL	3.12	HRGS/UB-35-12-GU5,3-51/10	41865 SP	3.35
HAGS/UB-50-230-GU10-51/35	64824 FL	3.09	HRGS/UB-35-12-GU5,3-51/24	48665 FL	3.30
HAGS/UB-50-240-E27-123/30	64837 FL	3.14	HRGS/UB-35-12-GU5,3-51/36	46865 WFL	3.30
HAGS/UB-75-230-E27-97/10	64841 SP	3.13	HRGS/UB-35-12-GU5,3-51/36	44865 WFL	3.34
HAGS/UB-75-230-E27-97/30	64841 FL	3.13	HRGS/UB-35-12-GU5,3-51/36	41865 WFL	3.35
HAGS/UB-75-230-GU10-64/30	64830 FL	3.11	HRGS/UB-35-12-GU5,3-51/60	46865 WWFL	3.30
HAGS/UB-75-240-E27-123/12	64838 SP	3.14	HRGS/UB-50-12-GU5,3-51/10	46870 SP	3.30
HAGS/UB-75-240-E27-123/30	64838 FL	3.14	HRGS/UB-50-12-GU5,3-51/10	44870 SP	3.34
HAGS/UB-100-240-E27-123/30	64839 FL	3.14	HRGS/UB-50-12-GU5,3-51/10	41870 SP	3.35
HDG-48-230-R7s-74,9	64684 ECO	3.19	HRGS/UB-50-12-GU5,3-51/24	46870 FL	3.30
HDG-80-230-R7s-74,9	64690 ECO	3.19	HRGS/UB-50-12-GU5,3-51/24	44870 FL	3.34
HDG-120-230-R7s-74,9	64695 ECO	3.19	HRGS/UB-50-12-GU5,3-51/24	41870 FL	3.35
HDG-120-230-R7s-114,2	64696 ECO	3.19	HRGS/UB-50-12-GU5,3-51/36	46870 WFL	3.30
HDG-160-230-R7s-114,2	64698 ECO	3.19	HRGS/UB-50-12-GU5,3-51/36	46871 WFL	3.33
HDG-230-230-R7s-114,2	64701 ECO	3.19	HRGS/UB-50-12-GU5,3-51/36	44870 WFL	3.34
HDG-400-230-R7s-114,2	64702 ECO	3.19	HRGS/UB-50-12-GU5,3-51/36	41870 WFL	3.35
HDG-750-230-R7s-185,7	64560	3.20	HRGS/UB-50-12-GU5,3-51/60	46870 WWFL	3.30
HDG-1000-230-R7s-185,7	64740	3.20	HRGS/UB-50-12-GU5,3-51/60	44870 WFL	3.34
HDG-1500-230-R7s-250,7	64760	3.20	HRGS/UB-50-12-GU5,3-51/60	41870 WFL	3.35
HDG-2000-230-Fa4-334,4	64783	3.20	HRGS/UBIB14-12-GU5,3-51/10	48855 ECO SP	3.29
HDG-2000-230-R7s-327,4	64784	3.20	HRGS/UBIB20-12-GU5,3-51/10	48860 ECO SP	3.29

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
HRGS//UBIB-20-12-GU5,3-51/24	48860 ECO FL	3.29	HSGST/C/UB-70-230-E27	64400	3.15
HRGS//UBIB-20-12-GU5,3-51/36	48860 ECO WFL	3.29	HSGST/C/UB-75-12-GY6,35-12/30	64450 S	3.22
HRGS//UBIB-20-12-GU5,3-51/60	48860 ECO VWFL	3.29	HSGST/C/UB-100-230-B15D/86	64496	3.15
HRGS//UBIB-35-12-GU5,3-51/60	48865 ECO SP	3.29	HSGST/C/UB-100-230-E27	64401	3.15
HRGS//UBIB-35-12-GU5,3-51/24	48865 ECO FL	3.29	HSGST/C/UB-150-230-B15D/86	64498	3.15
HRGS//UBIB-35-12-GU5,3-51/36	48865 ECO WFL	3.29	HSGST/C/UB-150-230-E27	64402	3.15
HRGS//UBIB-35-12-GU5,3-51/60	48865 ECO VWFL	3.29	HSGST/C/UB-205-230-B15D/98	64499	3.15
HRGS//UBIB-50-12-GU5,3-51/10	48870 ECO SP	3.29	HSGST/C/UB-205-230-E27	64404	3.15
HRGS//UBIB-50-12-GU5,3-51/24	48870 ECO FL	3.29	HSGST/C/UBIB-25-12-GY6,35-12/30	64429 ECO	3.21
HRGS//UBIB-50-12-GU5,3-51/36	48870 ECO WFL	3.29	HSGST/C/UBIB-35-12-GY6,35-12/30	64432 ECO	3.21
HRGS//UBIB-50-12-GU5,3-51/60	48870 ECO VWFL	3.29	HSGST/C/UBIB-50-12-GY6,35-12/30	64440 ECO	3.21
HRGS/UB-50-230-E27-64,5/10	64836 SP	3.12	HSGST/C/UBIB-65-12-GY6,35-12/30	64447 ECO	3.21
HRGS/UB-50-230-E27-64,5/30	64836 FL	3.12	HSGT/C/UB-5-12-G4-10/21,5	64408	3.38
HRGS/UB-50-230-GZ10-51/35	64826 FL	3.09	HSGT/C/UB-10-12-G4-10/21,5	64418	3.38
HRGS/UB-75-230-E27-97/10	64845 SP	3.13	HSGT/C/UB-20-24-G4-10/33	64435 U	3.24
HRGS/UB-75-230-E27-97/30	64845 FL	3.13	HSGT/C/UB-50-24-GY6,35-12/44	64445 U	3.24
HSGS/C/AXUB-90-12-GY6,35-12/30	64458 S	3.22	HSGT/C/UB-100-24-GY6,35-12/44	64460 U	3.24
HSGSA/C/UB-20-230-E27	64541 A PRO	3.02	HSGT/C/UB-150-24-GY6,35-12/44	64465 U	3.24
HSGSA/C/UB-30-230-E27	64542 A PRO	3.02	HSGT/C/UBIB-7-12-G4-10/22	64417 ECO	3.21
HSGSA/C/UB-46-230-E27	64543 A PRO	3.02	HSGT/C/UBIB-14-12-G4-10/22	64423 ECO	3.21
HSGSA/C/UB-57-230-E27	64544 A PRO	3.02	HST-50-10-PKX22s-11,5/18	SIG 64014	7.03
HSGSA/C/UB-77-230-E27	64547 A PRO	3.02	HST-50-10-PKX22s-11,5/18	SIG 64015	7.03
HSGSA/C/UB-116-230-E27	64548 A PRO	3.02	HST-50-12-GY6,35-15-12/30	SIG 64016	7.03
HSGSB/C/UB-20-230-E14	64541 A PRO	3.03	IAA/C/RS-200-230-E27-80	CENTRA A CL 200	8.10
HSGSB/C/UB-30-230-E14	64542 A PRO	3.03	IAA/C-15-230-E27-60	CLAS A CL 15	8.02
HSGSB/C/UB-30-230-E27	64542 A PRO	3.03	IAA/C-25-230-E27-60	CLAS A CL 25	8.02
HSGSB/C/UB-46-230-E14	64543 A PRO	3.03	IAA/C-40-230-E27-60	CLAS A CL 40	8.02
HSGSB/C/UB-46-230-E27	64543 A PRO	3.03	IAA/C-300-230-E40-112	SPC. A T CL 300	8.10
HSGSBW/C/UB-30-230-E14	64542 BW PRO	3.04	IAA/C-500-230-E40-112	SPC. A T CL 500	8.10
HSGSBW/C/UB-46-230-E14	64543 BW PRO	3.04	IAA/F/RS-100-230-E27-65	CENTRA A FR 100	8.10
HSGSP/C/UB-20-230-E14	64541 P PRO	3.05	IAA/F/RT-25-230-E27-60	CENTRA A T FR 25	8.10
HSGSP/C/UB-20-230-E27	64541 P PRO	3.05	IAA/F/RT-40-230-E27-60	CENTRA A T FR 40	8.10
HSGSP/C/UB-30-230-E14	64542 P PRO	3.05	IAA/F/RT-60-230-E27-60	CENTRA A T FR 60	8.10
HSGSP/C/UB-30-230-E27	64542 P PRO	3.05	IAA/S-40-240-E27-60	SPC. MIRROR A SILV 40	8.08
HSGSP/C/UB-46-230-E14	64543 P PRO	3.05	IAA/S-60-240-E27-60	SPC. MIRROR A SILV 60	8.08
HSGSP/C/UB-46-230-E27	64543 P PRO	3.05	IAA/S-100-240-E27-65	SPC. MIRROR A SILV 100	8.08
HSGSR/C/UB-20-230-E14-50/30	64541 R50 PRO	3.06	IAA/X-60-240-E27-60	SPC. MIRROR A GOLD 60	8.08
HSGSR/C/UB-30-230-E14-50/30	64542 R50 PRO	3.06	IAA/Y-11-240-E27-55	DECOR A YELLOW 11	8.07
HSGSR/C/UB-30-230-E14-63/30	64543 R63 PRO	3.07	IAT/F-60-24-E27-60	SPC. A T FR 60 24 V	8.10
HSGSR/C/UB-46-230-E14-50/30	64543 R50 PRO	3.06	IAT/Y-60-230-E27-60	SPC. A INSECT YELLOW 60	8.11
HSGSR/C/UB-46-230-E14-63/30	64543 R63 PRO	3.07	IBB/C-15-230-E14-35	CLAS B CL 15	8.02
HSGST/C/UB-5-12-G4-10/22	64405 S	3.22	IBB/C-25-230-E14-35	CLAS B CL 25	8.02
HSGST/C/UB-10-12-G4-10/22	64415 S	3.22	IBB/C-25-230-E14-35	CLAS BW CL 25	8.03
HSGST/C/UB-10-12-G4-10/22	64415	3.23	IBB/C-25-230-E27-35	CLAS B CL 25	8.02
HSGST/C/UB-10-6-G4-10/22	64410 S	3.22	IBB/C-40-230-E14-35	CLAS B CL 40	8.02
HSGST/C/UB-20-12-G4-10/21,5	64428	3.38	IBB/C-40-230-E14-35	CLAS BW CL 40	8.03
HSGST/C/UB-20-12-G4-10/22	64425 S	3.22	IBB/C-40-230-E27-35	CLAS B CL 40	8.02
HSGST/C/UB-20-12-G4-10/22	64425	3.23	IBBA-3-240-E14-32	DECOR BA FLICKER 3	8.07
HSGST/C/UB-20-12-GY6,35-12/30	64427 S	3.22	IBC/C-15-230-E14-26	SPC. T26/57 CL 15	8.09
HSGST/C/UB-20-230-G9-22	66720 ECO	3.16	IBC/C-25-230-E14-26	SPC. T26/57 CL 25	8.09
HSGST/C/UB-25-230-E14	64860 T ECO	3.37	IBC/F-15-230-E14-26	SPC. T26/57 FR 15	8.09
HSGST/C/UB-25-230-G9-22	66725	3.17	IBC/F-25-230-E14-26	SPC. T26/57 FR 25	8.09
HSGST/C/UB-25-230-G9-22	66725 OVEN	3.38	IBP/C-15-230-E14-45	CLAS P CL 15	8.03
HSGST/C/UB-33-230-G9-22	66733 ECO	3.16	IBP/C-15-230-E27-45	CLAS P CL 15	8.03
HSGST/C/UB-35-12-GY6,35-12/30	64432	3.23	IBP/C-25-230-E14-45	CLAS P CL 25	8.03
HSGST/C/UB-35-12-GY6,35-12/30	64432 S	3.22	IBP/C-25-230-E27-45	CLAS P CL 25	8.03
HSGST/C/UB-40-230-B15D/67	64491	3.15	IBP/C-40-230-E14-45	CLAS P CL 40	8.03
HSGST/C/UB-40-230-E14	64861 T ECO	3.37	IBP/C-40-230-E27-45	CLAS P CL 40	8.03
HSGST/C/UB-40-230-G9-22	66740	3.17	IBP/F-40-230-E14-45	SPC. P OVEN FR 40	8.09
HSGST/C/UB-40-230-G9-22	66740 OVEN	3.38	IBP/Y-11-240-E14-45	DECOR P YELLOW 11	8.07
HSGST/C/UB-48-230-G9-22	66748 ECO	3.16	IBT/C-15-230-E14-17	SPC. T17/54 CL 15	8.09
HSGST/C/UB-50-12-GY6,35-12/30	64440	3.23	IBT/C-15-230-E14-22	SPC. OVEN T CL 15	8.09
HSGST/C/UB-50-12-GY6,35-12/30	64440 S	3.22	IBT/C-25-230-E14-25	SPC. T25/85 CL 25	8.10
HSGST/C/UB-60-230-B15D/67	64492	3.15	IBT/C-40-230-E14-25	SPC. T25/85 CL 40	8.10
HSGST/C/UB-60-230-B15D/86	64406	3.15	INT/W-35-230-S14d-30	SPC. LIN 1613	8.11
HSGST/C/UB-60-230-E14	64862 T ECO	3.37	INT/W-35-230-S14s-30	SPC. LIN 1603	8.11
HSGST/C/UB-60-230-G9-23.5	66760 ECO	3.16	INT/W-60-230-S14d-30	SPC. LIN 1614	8.11
HSGST/C/UB-70-230-B15D/86	64494	3.15	INT/W-60-230-S14s-30	SPC. LIN 1604	8.11

# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
INT/W-120-230-S14s-30	SPC. LIN 1104	8.11	MN-2000/44/1B-H-cable lug-36/187/S15	HQI-TS 2000/NDL/S	6.22
IRP/S-25-230-E14-45	SPC. MIRROR P SILV 25	8.08	MN-2000/61/1A-E-cable lug-36/187/P15	HQI-TS 2000/D/S	6.22
IRP/S-40-240-E14-45	SPC. MIRROR P SILV 40	8.08	MN-2000/61/1A-E-cable lug-41/365/P15	HQI-TS 2000/D/S/DP	6.22
IRP/X-25-240-E14-45	SPC. MIRROR P GOLD 25	8.08	MN-2000/62/1A-E-cable lug-36/187/P15	HQI-TS 2000W/D/S High Flux	6.22
IRP/X-40-240-E14-45	SPC. MIRROR P GOLD 40	8.08	MOS/UB-70/30/2A/H-E27-54/141	HQI-E/P 70/WDL clear	6.27
IRR/N-60-230-E27-80/80	CONC R80 NATURA 60	8.06	MOS/UB-70/42/1B-H-E27-54/141	HQI-E/P 70/NDL clear	6.27
IRR/N-100-230-E27-80/80	CONC R80 NATURA 100	8.06	MOS/UB-100/30/2A/H-E27-54/141	HQI-E/P 100/WDL clear	6.27
IRR-25-230-E14-50/30	CONC R50 25	8.04	MOS/UB-100/42/1B-H-E27-54/141	HQI-E/P 100/NDL clear	6.27
IRR-25-230-E27-63/30	CONC R63 25	8.05	MOS/UB-150/30/2A/H-E27-54/141	HQI-E/P 150/WDL clear	6.27
IRR-30-230-E14-39/40	CONC R39 30	8.04	MOS/UB-150/42/1B-H-E27-54/141	HQI-E/P 150/NDL clear	6.27
IRR-40-230-E14-50/30	CONC R50 40	8.04	MR-150/42/1B-H-STECKER-95/93/P15	HQI-R 150/NDL/F	6.17
IRR-40-230-E27-63/30	CONC R63 40	8.05	MRS/UB-35/30/1B-H-E27-65/95/10	HCI-PAR20 35/830 WDL PB SP 10D	6.09
IRR-60-230-E27-63/30	CONC R63 60	8.05	MRS/UB-35/30/1B-H-E27-65/95/30	HCI-PAR20 35/830 WDL PB FL 30D	6.09
IRR-60-240-E27-80/80	CONC R80 60	8.06	MRS/UB-35/30/1B-H-E27-97/125/10	HCI-PAR30 35/830 WDL PB SP 10D	6.10
IRR-75-240-E27-80/80	CONC R80 75	8.06	MRS/UB-35/30/1B-H-E27-97/125/30	HCI-PAR30 35/830 WDL PB FL 30D	6.10
IRR-100-240-E27-80/80	CONC R80 100	8.06	MRS/UB-35/42/1A-H-E27-65/95/10	HCI-PAR20 35/942 NDL PB SP 10D	6.09
LS-18-BY22D-54/216/H150	SOX 18	6.39	MRS/UB-35/42/1A-H-E27-65/95/30	HCI-PAR20 35/942 NDL PB FL 30D	6.09
LS-35-BY22D-54/311/H110	SOX PLUS 35	6.39	MRS/UB-35/42/1A-H-E27-97/125/10	HCI-PAR30 35/942 NDL PB SP 10D	6.10
LS-56-BY22D-54/425/H110	SOX PLUS 55	6.39	MRS/UB-35/42/1A-H-E27-97/125/30	HCI-PAR30 35/942 NDL PB FL 30D	6.10
LS-91-BY22D-68/528/P20	SOX PLUS 90	6.39	MRS/UB-70/30/1A-H-E27-97/125/10	HCI-PAR30 70/930 WDL PB SP 10D	6.10
LS-135-BY22D-68/775/P20	SOX PLUS 135	6.39	MRS/UB-70/30/1A-H-E27-97/125/30	HCI-PAR30 70/930 WDL PB FL 30D	6.10
LS-180-BY22D-66/1120/H20	SOX 180	6.39	MRS/UB-70/30/1B-H-E27-97/125/40	HCI-PAR30 70/830 WDL PB WFL 40D	6.10
MC/UB-400/52=59/1A-H-E40-62/285	HQI-BT 400/D/PRO	6.26	MRS/UB-70/42/1A-H-E27-97/125/10	HCI-PAR30 70/942 NDL PB SP 10D	6.10
MD/UB-70/30/1B-H-RX7s-22/114,2/P45	HCI-TS 70/830 WDL PB	6.08	MRS/UB-70/42/1A-H-E27-97/125/30	HCI-PAR30 70/942 NDL PB FL 30D	6.10
MD/UB-70/30/2A-H-RX7s-22/114,2/H	HQI-TS 70/WDL EXCELLENCE	6.19	MT/UB-20/30/1B-H/E-G8.5-15/81	HCI-TF 20/830 WDL PB	6.05
MD/UB-70/42/1A-H-RX7s-22/114,2/P45	HCI-TS 70/942 NDL PB	6.08	MT/UB-20/30/1B-H-GU6.5-13/57	HCI-TF 20/930 WDL PB	6.11
MD/UB-70/42/1B-H-RX7s-22/114,2/H	HQI-TS 70/NDL EXCELLENCE	6.19	MT/UB-35/30/1A-H-G12-19/100	HCI-T 35W/930 WDL PB Plus	6.03
MD/UB-70/56/1B-H-RX7s-22/114,2/H	HQI-TS 70/D EXCELLENCE	6.19	MT/UB-35/30/1A-H-G12-19/100	HCI-T 35/930 WDL PB Shoplight	6.04
MD/UB-70/65/1B-H-RX7s-19/114,2/H	HQI-TS 70/CD EXCELLENCE	6.19	MT/UB-35/30/1A-H-G8.5-15/81	HCI-TC 35W/930 WDL PB Plus	6.06
MD/UB-70/70/1B-H-RX7s-22/114,2/H	HQI-TS 70/BL EXCELLENCE	6.20	MT/UB-35/30/1A-H-G8.5-15/81	HCI-TC 35/930 WDL PB Shoplight	6.07
MD/UB-70/G-H-RX7s-22/114,2/H	HQI-TS 70/GN EXCELLENCE	6.20	MT/UB-35/30/1A-H-GU6.5-13/57	HCI-TF 35/930 WDL PB	6.11
MD/UB-70/P-H-RX7s-22/114,2/H	HQI-TS 70/MG EXCELLENCE	6.20	MT/UB-35/30/1B-H-G8.5-15/81	HCI-TF 35/830 WDL PB	6.05
MD/UB-150/30/1B-H-RX7s=24-25/132/P45	HCI-TS 150/830 WDL PB	6.08	MT/UB-35/30/1B-H-G12-19/100	HCI-T 35/830 WDL PB	6.02
MD/UB-150/30/2A-H-RX7s=24-25/132/H	HQI-TS 150/WDL EXCELLENCE	6.19	MT/UB-35/42/1A-H-G8.5-15/81	HCI-TC 35/942 NDL PB	6.05
MD/UB-150/42/1A-H-RX7s=24-25/132/P45	HCI-TS 150/942 NDL PB	6.08	MT/UB-35/42/1A-H-G12-19/100	HCI-T 35/942 NDL PB	6.02
MD/UB-150/42/1B-H-RX7s=24-25/132/H	HQI-TS 150/NDL EXCELLENCE	6.19	MT/UB-50/30/1A-H-G8.5-15/81	HCI-TC 50W/930 WDL PB Plus	6.06
MD/UB-150/56/1B-H-RX7s=24-25/132/H	HQI-TS 150/D EXCELLENCE	6.19	MT/UB-50/30/1A-H-G12-19/100	HCI-T 50W/930 WDL PB Plus	6.03
MD/UB-150/65/1B-H-RX7s=24-25/132/H	HQI-TS 150/CD EXCELLENCE	6.19	MT/UB-50/30/1B-H-E27-32/150	HCI-TT 50/830 WDL PB	6.15
MD/UB-150/B-H-RX7s=24-25/132/H	HQI-TS 150/BL EXCELLENCE	6.20	MT/UB-70/30/1A-H-G12-19/100	HCI-T 70W/930 WDL PB Plus	6.03
MD/UB-150/G-H-RX7s=24-25/132/H	HQI-TS 150/GN EXCELLENCE	6.20	MT/UB-70/30/1A-H-G12-19/100	HCI-T 70/930 WDL PB Shoplight	6.04
MD/UB-150/P-H-RX7s=24-25/132/H	HQI-TS 150/MG EXCELLENCE	6.20	MT/UB-70/30/1A-H-G8.5-15/81	HCI-TC 70W/930 WDL PB Plus	6.06
MD/UB-250/32/1B-H-Fc2-25/163/P45	HQI-TS 250/WDL	6.21	MT/UB-70/30/1A-H-G8.5-15/81	HCI-TT 70/930 WDL PB Shoplight	6.07
MD/UB-250/42/1B-H-Fc2-25/163/P45	HQI-TS 250/NDL	6.21	MT/UB-70/30/1B-H-E27-32/155	HCI-TT 70/830 WDL PB	6.15
MD/UB-250/51/1A-H-Fc2-25/163/P45	HQI-TS 250/D	6.21	MT/UB-70/30/1B-H-G12-19/100	HCI-T 70/830 WDL PB	6.02
MD/UB-400/42/1B-H-Fc2-31/206/P45	HQI-TS 400/NDL	6.21	MT/UB-70/30/1B-H-G8.5-15/81	HCI-TC 70/830 WDL PB	6.05
MD/UB-400/52=56/1A-H-Fc2-31/206/P45	HQI-TS 400/D	6.21	MT/UB-70/30/2A-H-G12-25/84	HQI-T 70/WDL	6.18
ME/UB-70/30/1B-H-E27-71/156	HCI-E/T 70W/830 WDL PB	6.14	MT/UB-70/42/1A-H-G12-19/100	HCI-T 70/942 NDL PB	6.02
ME/UB-250/52/1A-H-E40-91/226	HQI-E 250/D PRO	6.29	MT/UB-70/42/1A-H-G8.5-15/81	HCI-TC 70/942 NDL PB	6.05
ME/UB-400/38=44/2B-H-E40-122/285/H45	HQI-E 400/N coated	6.29	MT/UB-70/42/1B-H-G12-25/84	HQI-T 70/NDL	6.18
ME/UB-400/40=46/2B-H-E40-122/285/H45	HQI-E 400/N clear	6.29	MT/UB-100/30/1B-H-E40-47/204	HCI-TT 100/830 WDL PB	6.15
ME/UB-400/52=57/1A-H-E40-122/290	HQI-E 400/D PRO	6.29	MT/UB-100/30/1B-H-G12-19/105	HCI-T 100/830 WDL PB	6.02
ME-1000/38/2B-H-E40-165/380/H45	HQI-E 1000/N	6.29	MT/UB-100/42/1A-H-G12-19/105	HCI-T 100/942 NDL PB	6.02
MES/UB-35/30/1B-H-E27-54/138	HCI-E/P 35/830 WDL PB coated	6.13	MT/UB-150/30/1B-H-E40-47/210	HCI-TT 150/830 WDL PB	6.15
MES/UB-50/30/1B-H-E27-54/138	HCI-E/P 50/830 WDL PB coated	6.13	MT/UB-150/30/1B-H-G12-25/105	HCI-T 150/830 WDL PB	6.02
MES/UB-70/30/1B-H-E27-54/138	HCI-E/P 70/830 WDL PB coated	6.13	MT/UB-150/30/2A-H-G12-25/84	HQI-T 150/WDL	6.18
MES/UB-70/30/2A-H-E27-54/141	HQI-E/P 70/WDL coated	6.28	MT/UB-150/42/1A-H-G12-25/105	HCI-T 150/942 NDL PB	6.02
MES/UB-70/42/1B-H-E27-54/141	HQI-E/P 70/NDL coated	6.28	MT/UB-150/42/1B-H-G12-25/84	HQI-T 150/NDL	6.18
MES/UB-100/30/1B-H-E27-54/138	HCI-E/P 100/830 WDL PB coated	6.13	MT/UB-250/30/1A-H-G12-28/175	HCI-TM 250/930 WDL MD PB	6.16
MES/UB-100/30/2A-H-E27-54/141	HQI-E/P 100/WDL coated	6.28	MT/UB-250/30/1A-H-GY22-28/175	HCI-TM 250/930 WDL HR PB	6.16
MES/UB-100/42/1B-H-E27-54/141	HQI-E/P 100/NDL coated	6.28	MT/UB-250/30/1B-H-E40-47/226	HCI-TT 250/830 WDL PB	6.15
MES/UB-150/30/1A-H-E27-54/138	HCI-E/P 150/830 WDL PB coated	6.13	MT/UB-250/42/1A-H-G22-28/175	HCI-TM 250/942 NDL MD PB	6.16
MES/UB-150/30/2A-H-E27-54/141	HQI-E/P 150/WDL coated	6.28	MT/UB-250/42/1A-H-GY22-28/175	HCI-TM 250/942 NDL HR PB	6.16
MES/UB-150/42/1B-H-E27-54/141	HQI-E/P 150/NDL coated	6.28	MT/UB-250/52/1A-H-E40-46/225	HCI-T 250/D/PRO	6.26
MES/UB-250/52/1A-H-E40-91/226	HQI-E/P 250/D coated	6.28	MT/UB-400/30/1A-H-G22-34/175	HCI-TM 400/930 WDL PB	6.16
MES/UB-400/47=52/1A-H-E40-122/290	HQI-E/P 400/D coated	6.28	MT/UB-400/30/1A-H-GY22-34/175	HCI-TM 400/930 WDL HR PB	6.16
MN-1000/44/1B-H-cable lug-36/187/P15	HQI-TS 1000/NDL/S	6.22	MT/UB-400/35=40/2B-H-E40-46/275/P45	HQI-T 400/N	6.26
MN-1000/59/1A-H-cable lug-36/187/P15/S15	HQI-TS 1000/D/S PRO	6.22	MT/UB-400/42/1A-H-G22-34/175	HCI-TM 400/942 NDL PB	6.16
MN-2000/42/2B-E-cable lug-36/274/P15	HQI-TS 2000W/N/L	6.23	MT/UB-400/42/1A-H-GY22-34/175	HCI-TM 400/942 NDL HR PB	6.16



# International Lamp Coding System ILCOS

ILCOS	Product reference	Page	ILCOS	Product reference	Page
MT/UB-600/45/1B-H-G22-34/190	HQI-TM 600/NDL	6.24	SEQ-210/20/4-H-E40-91/226	NAV-E 210	6.34
MT/UB-600/45/1B-H-GY22-34/190	HQI-TM 600/NDL HR	6.24	SEQ-350/20/4-H-E40-122/285	NAV-E 350	6.34
MT/UB-600/60/1A-H-G22-34/190	HQI-TM 600/D	6.24	ST-50/20/4-H-E27-38/156	NAV-T 50	6.37
MT/UB-600/60/1A-H-GY22-34/190	HQI-TM 600/D HR	6.24	ST-50/20/4-H-E27-38/156	NAV-T 50 SUPER 4Y	6.35
MT/UB-1000/45/1B-H-G22-38/188	HQI-TM 1000/NDL	6.24	ST-70/20/4-H-E27-38/156	NAV-T 70	6.37
MT/UB-1000/45/1B-H-GY22-38/188	HQI-TM 1000/NDL HR	6.24	ST-70/20/4-H-E27-38/156	NAV-T 70 4Y	6.36
MT/UB-1000/60/1A-H-G22-38/188	HQI-TM 1000/D	6.24	ST-70/20/4-H-E27-38/156	NAV-T 70 SUPER 4Y	6.35
MT/UB-1000/60/1A-H-GY22-38/188	HQI-TM 1000/D HR	6.24	ST-100/20/4-H-E40-47/210	NAV-T 100	6.37
MT-400/BLUE/H-E40-46/275/P55	HQI-T 400 BLUE	6.26	ST-100/20/4-H-E40-47/210	NAV-T 100 SUPER 4Y	6.35
MT-400/GREEN/H-E40-46/275/P55	HQI-T 400 GREEN	6.26	ST-150/20/40-H-E40-47/210	NAV-T 150 SUPER 4Y	6.35
MT-400/MAGENTA/H-E40-46/275/P55	HQI-T 400 MAGENTA	6.26	ST-150/20/4-H-E40-47/210	NAV-T 150	6.37
MT-1000/35/2B-H-E40-76/345/P30	HQI-T 1000/N	6.25	ST-150/20/4-H-E40-47/210	NAV-T 150 4Y	6.36
MT-1000/72/1A-H-E40-76/345/P30	HQI-T 1000/D	6.25	ST-250/20/4-H-E40-47/257	NAV-T 250 SUPER 4Y	6.35
MT-2000/42/2B-E/H-E40-100/430/P60	HQI-T 2000/N	6.25	ST-250/21/4-H-E40-47/257	NAV-T 250	6.37
MT-2000/44/2B-E-E40-100/430/P30	HQI-T 2000/N 230V	6.25	ST-250/21/4-H-E40-47/257	NAV-T 250 4Y	6.36
MT-2000/72/1A-E/H-E40-100/430/P30	HQI-T 2000/D/I	6.25	ST-250-H-E40-47/257	PLANTASTAR 250 inter	6.39
MT-2000/72/1A-E-E40-100/430/P30	HQI-T 2000/D	6.25	ST-400/20/4-H-E40-47/285	NAV-T 400	6.37
MTS/UB-35/30/1A-H-GU8.5-21/98	HCI-TX/P 35W/930 WDL PB	6.12	ST-400/20/4-H-E40-47/285	NAV-T 400 4Y	6.36
MTS/UB-35/42/1A-H-GU8.5-21/98	HCI-TX/P 35W/942 NDL PB	6.12	ST-400/20/4-H-E40-47/285	NAV-T 400 SUPER 4Y	6.35
MTS/UB-70/30/1A-H-GU8.5-21/98	HCI-TX/P 70W/930 WDL PB	6.12	ST-400-H-E40-47/285	PLANTASTAR 400	6.39
MTS/UB-70/42/1A-H-GU8.5-21/98	HCI-TX/P 70W/942 NDL PB	6.12	ST-600/20/4-H-E40-47/285	NAV-T 600 SUPER 4Y	6.35
QB/R-160/36/2B-E225-E27-76/168-HS30	HWL 160 225 V	6.41	ST-600-E-E40-47/285	PLANTASTAR 600/400	6.39
QB/R-160/36/2B-E235-E27-76/168-HS30	HWL 160 235 V	6.41	ST-600-H-E40-47/285	PLANTASTAR 600	6.39
QB/R-250/38/2B-E225-E40-91/226	HWL 250 225 V	6.41	ST-1000/20/4-H-E40-66/355	NAV-T 1000	6.37
QB/R-250/38/2B-E235-E40-91/226	HWL 250 235 V	6.41			
QB/R-500/40/2B-E225-E40-122/275	HWL 500 225 V	6.41			
QB/R-500/40/2B-E235-E40-122/275	HWL 500 235 V	6.41			
QE/R-50/34/3-H-E27-56/130	HQL 50 DE LUXE	6.40			
QE/R-50/42/3-H-E27-56/130	HQL 50	6.41			
QE/R-80/32/2B-H-E27-71/155	HQL 80 SUPER DE LUXE	6.40			
QE/R-80/34/3-H-E27-71/155	HQL 80 DE LUXE	6.40			
QE/R-80/41/3-H-E27-71/155	HQL 80	6.41			
QE/R-125/34/3-H-E27-76/168	HQL 125 DE LUXE	6.40			
QE/R-125/42/3-H-E27-76/168	HQL 125	6.41			
QE/R-250/34/3-H-E40-91/226	HQL 250 DE LUXE	6.40			
QE/R-250/40/3-H-E40-91/226	HQL 250	6.41			
QE/R-400/30/3-H-E40-120/285	HQL 400 DE LUXE	6.40			
QE/R-400/40/3-H-E40-122/285	HQL 400	6.41			
QE/R-700/40/3-H-E40-141/325	HQL 700	6.41			
QE/R-1000/40/3-H-E40-165/390	HQL 1000	6.41			
SD-70/20/4-H-RX7s-20/114,2/P45	NAV-TS 70 SUPER 4Y	6.38			
SD-150/20/4-H-RX7s24-23/132/P45	NAV-TS 150 SUPER 4Y	6.38			
SD-250/20/4-H-Fc2-23/206/P45	NAV-TS 250	6.38			
SD-400/20/4-H-Fc2-23/206/P45	NAV-TS 400	6.38			
SE-50/20/4-H/I-E27-71/156	NAV-E 50/I	6.33			
SE-50/20/4-H/I-E27-71/156	NAV-E 50/I 4Y	6.32			
SE-50/20/4-H-E27-71/156	NAV-E 50 4Y	6.31			
SE-50/20/4-H-E27-71/156	NAV-E 50 SUPER 4Y	6.30			
SE-50/20/4-H-E27-71/156	NAV-E 50/E	6.33			
SE-70/20/4-H/I-E27-71/156	NAV-E 70/I	6.33			
SE-70/20/4-H/I-E27-71/156	NAV-E 70/I 4Y	6.32			
SE-70/20/4-H-E27-71/156	NAV-E 70 4Y	6.31			
SE-70/20/4-H-E27-71/156	NAV-E 70 SUPER 4Y	6.30			
SE-70/20/4-H-E27-71/156	NAV-E 70/E	6.33			
SE-100/20/4-H-E40-76/183	NAV-E 100	6.33			
SE-100/20/4-H-E40-76/183	NAV-E 100 SUPER 4Y	6.30			
SE-150/20/4-H-E40-91/226	NAV-E 150	6.33			
SE-150/20/4-H-E40-91/226	NAV-E 150 4Y	6.31			
SE-150/20/4-H-E40-91/226	NAV-E 150 SUPER 4Y	6.30			
SE-250/20/4-H-E40-91/226	NAV-E 250	6.33			
SE-250/20/4-H-E40-91/226	NAV-E 250 4Y	6.31			
SE-250/20/4-H-E40-91/226	NAV-E 250 SUPER 4Y	6.30			
SE-400/20/4-H-E40-122/290	NAV-E 400	6.33			
SE-400/20/4-H-E40-122/290	NAV-E 400 4Y	6.31			
SE-400/20/4-H-E40-122/290	NAV-E 400 SUPER 4Y	6.30			
SE-1000/20/4-H-E40-165/370	NAV-E 1000	6.33			
SEQ-68/20/4-H-E27-71/156	NAV-E 68	6.34			
SEQ-110/20/4-H-E27-75/170	NAV-E 110	6.34			

# Disposing of your lamps and luminaires

EU directive 2002/96/EC WEEE relates, among other things, to luminaires (with the exception of luminaires in households), fluorescent lamps, compact fluorescent lamps, discharge lamps including high-pressure sodium lamps, metal halide lamps and low-pressure sodium lamps<sup>1)</sup>. Since the start of 2010 LED lamps that can be operated in standardized holders are also affected by the directive, e.g. LED retrofit lamps or LED tubes. Starters, control gear and light emitting diodes are classed as luminaire components and as such are part of the luminaire disposal process.

All OSRAM products that need to be disposed of under the WEEE directive are labeled with the symbol shown here.



Incandescent lamps and tungsten-halogen lamps do not contain any substances that are harmful to the environment and can be thrown away with household waste.

All manufacturers must register with their relevant national authority. Products from non-registered manufacturers may no longer be marketed.

In Germany, OSRAM is registered as a manufacturer in the "Elektro-Altgeräte-Register" [Old Electrical Equipment Register] (EAR) as number **DE 71568000**.

In addition, there are individual regulations governing the disposal of lamps and luminaires in the other member states of the EU and also in Norway and Switzerland. For more information please contact the local OSRAM company.

The primary objectives of the WEEE Directive are to reduce the load on the environment, safeguard valuable resources and protect the environment and public health.

All consumers (commercial and domestic) are obliged to return old lamps for separate disposal. Collection points have been set up for this. Consumers in Germany do not have to sort the old lamps by manufacturer or by product age. Lamps from private households and businesses (in volumes of normal household proportions) can be disposed of at local recycling centers. Large quantities of lamps can be disposed of via the Lightcycle scheme.

On behalf of lamp manufacturers, Lightcycle organizes the logistics processes for disposing of the lamps cost-effectively and with minimal impact on the environment, both directly and at local recycling centers. Lightcycle bundles the volume to be transported and coordinates the collection logistics. You drop off your old lamps and Lightcycle does the rest.

Disposal of luminaires from commercial applications is also handled by Lightcycle. OSRAM is a contract partner of Lightcycle. Since 2010 luminaires can be disposed of directly throughout Germany at any one of 100 Lightcycle luminaire collection points. In addition to dropping off luminaires at collection points, luminaires can also be collected from wholesalers, installers, building sites or customers. There are basically no volume restrictions on collection jobs. For large quantities Lightcycle can set up an individual permanent collection point. You drop off your old luminaires and Lightcycle does the rest.

The latest information for Germany can be found on the internet at: [www.osram.de/WEEE](http://www.osram.de/WEEE)  
Lightcycle: [www.lightcycle.de](http://www.lightcycle.de)  
German Ministry for the Environment, Nature and Reactor Safety: [www.bmu.de](http://www.bmu.de)  
German Central Association of Electrical Engineering and the Electronics Industry: [www.zvei.org](http://www.zvei.org)  
Stiftung Elektro-Altgeräte Register: [www.stiftung-ear.de](http://www.stiftung-ear.de)  
German Environment Office: [www.uba.de](http://www.uba.de)  
European Lamp Companies Federation: [www.elcfd.org](http://www.elcfd.org)

## RoHS Directive: 2002/95/EC Greatly reduced mercury content

This EU directive has defined the use of certain hazardous substances since July 1, 2006. The mercury content in some discharge lamps has been restricted. As a company committed to the protection of the environment, OSRAM is doing more than just meeting statutory requirements. Our objective is to reduce hazardous substances such as mercury to the absolute minimum needed and to promote the development, for example, of efficient mercury-free lighting systems. Because it promotes the use of new environmentally friendly technologies and materials we comply with the RoHS Directive (**R**estriction of **H**azardous **S**ubstances) for the benefit of the environment and health.

1) Since 23.03.2006 there is an obligation in Germany to take products back

# General notes

## Standard packs

### General

All OSRAM articles are EAN coded in their various packaging formats. The EAN numbers listed in this catalog normally relate to the smallest packaging unit unless otherwise indicated.

Technical data is in accordance with DIN (German Industrial Standards) and IEC (International Electrotechnical Commission).

In future editions of this Lighting Program, ILCOS (International Lamp Coding System) codes will gradually be incorporated in addition to existing OSRAM references. This will enable lamp types to be specified without having to use a particular manufacturer's reference.

Unless otherwise indicated, all lamps are designed for a mains voltage of 230 V.

For CE labeling see notes on page 12.32

Sales and shipments are based on the OSRAM Conditions of Supply and Payment valid on the contract date.

Technical data and dimensions are subject to the customary small tolerances.

Subject to technical modification and availability of supplies. The information in this catalog supersedes information in previous catalogs.

® = Registered trademark

### Standard packs

There is a surcharge on order quantities different from the standard pack quantities listed in this catalog because standard packs have to be broken open.

There are considerable advantages in ordering original cartons/standard packs:

- Prompt delivery
- No surcharges
- Simple cost-saving handling on receipt
- No time-consuming checks when the goods arrive
- Exact contents description on each stacked carton
- No danger of mistaking one type of lamp for another
- Reduced risk of losses in transit
- Reduced risk of breakage

### Types not listed

Available on request. Surcharge for different bases and voltages.



# CE labeling for fixtures, lamps and accessories

Products that fall under the scope of the European directives on low voltage (LVD), electromagnetic compatibility (EMC) and the eco-design of energy related products (ErP and its applicable implementation measures) must carry the CE label in order to be sold in the EU. The CE label indicates compliance with the principal requirements of these directives. Of course, all OSRAM products meet the requirements of the relevant European directives and therefore carry the CE label.

Notes on CE labeling:

## 1. CE labeling as a requirement for marketing products in Europe

The CE label is applied to the product itself or to its type plate (minimum height of the label: 5 mm). If this is not possible in certain circumstances the label may be applied to the packaging, if any, and also to the accompanying paperwork. The CE label is a requirement for sales within the EU and must therefore be applied before a product can be marketed. By applying the CE label to their products, manufacturers and importers are confirming that their products comply with the "basic requirements" of special European directives and ordinances and that they meet the stated objectives of the directives (electromagnetic compatibility, for example). As a rule, these "basic requirements" are met if the products were manufactured in compliance with the relevant ordinances and harmonized European standards.

## 2. The CE label is an administrative mark

The CE label is an administrative mark addressed to the national inspection agencies. The CE label indicates to these agencies that at the time of its marketing the labeled product complies with the European directives that apply to the product and require a CE label.

## 3. Neither retailers nor consumers have the right to inspect the conformity certificates of the manufacturers

The right to request and inspect conformity certificates is reserved exclusively for those market inspection agencies responsible for checking that electrical and electronic products comply with statutory requirements. In Germany these are the Bundesnetzagentur (Federal Network Agency, responsible in connection with the EMC directive), the Gewerbeaufsichtsämter (Trade Supervision Offices, responsible in connection with the low-voltage directive), the relevant authorities and the Bundesanstalt für Materialforschung und -Prüfung (Federal Agency for Material Research and Testing) as the commissioned agency (in connection with the ErP directive).

## 4. The CE label is not a seal of quality or an approval mark

CE labeling relates solely to compliance with the statutory "basic requirements" contained in certain directives and ordinances. It is therefore not an indicator of the quality of the product.

The product features required in the ordinances for implementing the ErP directive are verified by the manufacturers by means of type testing and confirmed with the CE label. As an administrative label required by law, the CE label should not be confused with the approval marks (such as ENEC and VDE marks) issued by independent inspectorates. These inspectorates do not even check whether or not a product carries the CE label legitimately.



Member of the  
Fördergemeinschaft Gutes Licht  
(Good Light Association)



# Registered trademarks

4arXS  
4arXS HSD  
ACCUTRONIC  
aluPAR  
AQUALED  
AQUALED DRAGON  
AS  
BELLALUX  
BELLALUX SOFT  
BILUX  
BILUX ALLSEASON  
BILUX-AS  
BILUX HALOROAD  
BIOLUX  
BoxLED  
CENTRA  
CHIP control  
CIRCOLUX  
COINlight  
COINLIGHT-OSTAR  
CONCENTRA  
COOL BLUE  
COPILOT  
DECOPIN  
DECOSPOT  
DECOSTAR  
DECOSTAR MULTISPOT  
DEOS  
DIADEM  
DOT-it  
DRAGONchain  
DRAGONeye  
DRAGONpuck  
DRAGONSTAR  
DRAGONtape  
DRAGON-X  
DULUX BRIK  
DULUX COMPACTLINE  
DULUX SENSOR  
DULUXTRONIC  
DULED  
ENDURA

EVERSUN  
FC  
FH  
FLATLITE  
FLORALUX  
FLORA-P  
FLORASET  
FLUORA  
FM  
FQ  
GIGANT  
Golden DRAGON  
HALOLINE  
HALOLUX  
HALOLUX CERAM  
HALOMAX  
HALONEA  
HALONESTRA  
HALOPIN  
HALOROAD  
HALOSPOT  
HALOSTAR  
HALOSTAR STARLITE  
HALOTHERM  
HALOTRONIC  
HALOTRONIC MOUSE  
HBO  
HCI  
HLX  
HMI  
HMP  
HNS  
HPL  
HQI  
HQL  
HQV  
HSD  
HSR  
HTI  
HTM MOUSE  
HWL  
HXP

INSECTA  
LED MOOD STONE  
LEDtag  
LIGHT@DAY  
LINEARlight-DRAGON  
LINEARlight Flex  
LINESTRA  
LINEX  
LiteGen  
LITEPACK  
Lok-it!  
LUMILINE  
LUMILUX  
LUMILUX BRIK  
LUMILUX DUO  
LUMILUX ECOLINE  
LUMILUX FLATLITE  
LUMILUX INTERNA  
LUMILUX SPLIT  
LUMINESTRA  
LUMISTAR  
LUMISTICK  
LUNETTA  
MARKERlight  
MINISTAR  
MINIWATT  
MINIXEN  
MOODSPOT  
NAV  
NIGHT BREAKER  
NIGHT RACER  
OPTOTRONIC  
OSRAM ALLSEASON  
OSRAM DULUX  
OSRAM ECOPACK  
OSRAM HALOPAR  
OSRAM HALOROAD  
OSRAM LUMINESCENT  
OSRAM NATURA  
OSRAM SNAP<sup>IN</sup> LITE  
OSRAM SOFTLITE  
OSTAR

OUT KIT  
PARATHOM  
PICOLINE  
PLANON  
PLANTALUX  
PLANTASTAR  
POWERBALL  
POWERBALL HCI  
POWERSTAR  
POWERSTAR HCI  
POWERSTAR HQI  
POWERTRONIC  
PrevaLED  
PURITEC  
QUICKTRONIC  
RUBYSTAR  
SharXS  
SICCATHERM  
SIDELED  
SIG  
SILVERSTAR  
SIRATEC  
SIRIUS  
SLIMLITE  
SQUARE  
STUDIOLINE  
SUPERLUX  
SUPRATEC  
THERATHERM  
TOPLED  
Touch DIM  
TRUCKSTAR  
ULTRA-VITALUX  
ULTRAMED  
VIALOX  
VIP  
VITALUX  
XBO  
XENAELECTRON  
XENARC  
X-RACER  
XSTAGE




# Symbols on our packaging





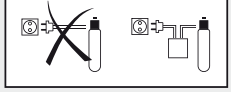



OSRAM has always focused not only on high product quality but also on the health and safety of the consumers of its products. The European regulations on product safety create the same conditions in all EU member states and standardize the safety requirements relating to products.

The regulations promise greater safety and transparency for the consumer. To meet our obligations arising from these regulations, we provide information about our products on the products themselves, on the packaging and on the leaflets enclosed with the products. Because there are so many different languages in the EU we use pictograms.

## OSRAM uses the following symbols:

 <p>Open packaging, read instructions</p>	 <p>Restriction on burning position Additional text avoids misinterpretations</p>
 <p>Read the enclosed leaflet before use</p>	 <p>Do not throw away with household waste</p>
 <p>Keep away from children</p>	 <p>Use indoors only</p>
 <p>Hold by the casing, not the lamp</p>	 <p>Disconnect the power supply before relamping</p>
 <p>Do not touch the lamp with bare fingers</p>	 <p>Disconnect electronic control gear from the power supply before maintenance work</p>
 <p>Do not touch the glass bulb; hold the casing when inserting</p>	 <p>Switch off headlights before replacing lamp</p>
 <p>Do not use the lamp if the glass bulb is scratched or damaged</p>	 <p>Can be operated in unshielded luminaires</p>
 <p>Must not be used if outer bulb is defective</p>	 <p>Operate only in shielded luminaires</p>

	Lamp cannot be dimmed
	Caution: hot
	Wear suitable protective gloves when fitting or removing
	Wear suitable goggles when fitting or removing
	Protect against splashes
	Dichroic reflector lamp ("Cool Beam") – use only in fixtures designed for these lamps
	Cap reflector lamp – use only in special installations
	Restriction on burning position: p = horizontal, h = hanging, s = standing, $15 = \pm 15^\circ$

	Must be installed and maintained only by qualified electricians
	High levels of UV radiation
	Germicidal lamp
	Radiation hazard
	Operate only with control gear
	Ignition procedure for lamps with built-in ignition
	Ignition procedure for lamps with external igniter
	Dangerous voltage



# Symbols in the tables

## Symbols used in all chapters



Power in W



Voltage in V



Current in A



Operating frequency in Hz



Color temperature in K



Luminous flux in lm at 35 °C



Luminous flux in lm



Luminous intensity in cd



Power factor/wavelength



Diameter d in mm



Diameter d<sub>1</sub> in mm



Length l in mm



Length l<sub>1</sub> in mm



Length l<sub>1</sub> max. in mm



Width b in mm



Height h in mm



Light center length (LCL) in mm



Spacing a in mm



Focal length a in mm



Beam angle in °



Base



Average period of use/life



Burning position



Light color



Color



Color rendering index



Protection class



Dimmable



Control



Number of control outputs



Ambient temperature range in °C



Type of protection



Rated current in mA



Standard pack in pcs.



Fig. no.

## LED systems



Length of smallest unit in mm



No. of LEDs per module



Cable length in mm



Cable cross-section/AWG



Binnings



Threshold unit for the quality of color differences



System luminous efficacy



Luminous flux of chain



Luminous flux of module



Output voltage/output power



Wattage of chain



Luminous efficacy



Average luminance



Module wattage in W



System wattage in W

## Halogen lamps



Fuse, quick-acting, in A



### Compact fluorescent lamps

	Length $I_{max}$ in mm
	Length $I_{max}$ to IEC in mm
	Length $I_1$ max. to IEC in mm
	Length $I_2$ max. in mm
	Rated number of switching cycles
	Luminous flux in $Im$ at 25 °C

### Fluorescent lamps

	Tube diameter $d$ in mm
	Max. diameter $d_1$ in mm
	Max. diameter $d_2$ in mm
	Max. diameter $d_3$ in mm
	Length $I_2$ in mm
	Length $I_3$ in mm
	Diameter to IEC in mm

### Discharge lamps

	Max. diameter $d$ in mm
	Aperture luminous flux $b$ in $Im$

### Display and signal lamps

	Test voltage in V
	Aperture window $f$ in mm

### General lighting service lamps

	Overall length in mm
--	----------------------

### Electronic control gear

	Hole spacing $b_1$ in mm
	Maximum operating temperature at the $t_c$ point in °C

	Number of outputs
	Number of control inputs

	DC voltage in V
	Operating frequency in kHz

	Dimming range
	For lamp / LED module

	Maximum cable length – system in m
--	------------------------------------

	Input voltage in V
--	--------------------

	Output voltage in V
--	---------------------

	Ignition voltage in kV
--	------------------------

	Weight in g
--	-------------

### Light management systems

	Detection zone
	Working range of light sensor in Lx
	Maximum installation height in m
	Type of installation
	Transmitter range in m
	Number of DMX channels





**OSRAM AG**

**Head Office**

Hellabrunner Strasse 1

81543 Munich

Germany

Phone +49 (0)89-6213-0

Fax +49 (0)89-6213-20 20

www.osram.com