



Traditional Lamps and Electronic Control Gear

July 2014

Light is OSRAM



Traditional Lamps and Electronic Control Gear

July 2014

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Compact fluorescent lamps	2.00 – 2.35
Fluorescent lamps	3.00 – 3.57
Discharge lamps	4.00 – 4.55
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Cover: Traxon Installation –
Pitt Street Mall, Sydney Australia

SEE THE WORLD IN A NEW LIGHT



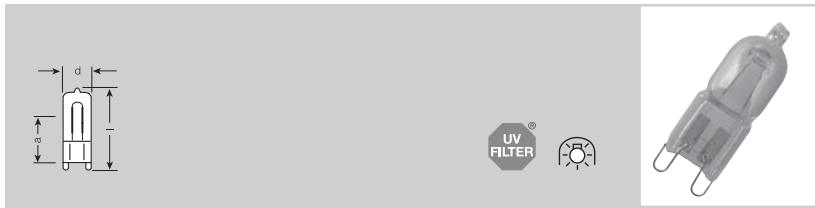


Halogen lamps

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HALOPIN® ECO

HALOPIN®

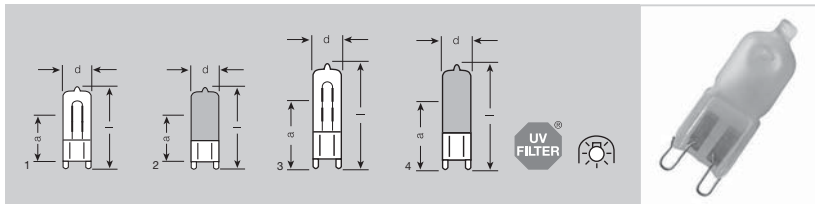


Product reference	Product number	W	V	lm	t [h]					
HALOPIN® ECO										
66733 ECO	4008321 226327	33	240	460	2000	G9	14	43	22	10xBL11

HALOPIN® ECO lamps from OSRAM are direct replacements for standard 40 W HALOPIN® lamps. Not only do they provide light that is at least as brilliant, they save up to 20% energy and CO₂.

- Up to 20% energy savings
- Robust filament design thanks to innovative, unique bulb pinch technology
- Complies with IEC 60432-3 thanks to integrated fuse function, the lamp shuts down reliably
- Approved for use in open luminaires to IEC 60598-1

- No transformer required
- Simple handling thanks to G9 plug-in base/holder system
- Color temperature approx. 2900 K
- Average life of 2000 hours
- Dimmable
- Extremely compact dimensions



Product reference	Product number	W	V	lm	t [h]						
HALOPIN® CLEAR											
66725	4050300 791814	25	240	260	2000	G9	14	43	22	20	1
66740	4050300 791852	40	240	490	2000	G9	14	43	22	20	1
66660	4050300 622965	60	240	820	2000	G9	14	51	26,5	20	3
66675	4050300 623009	75	240	1100	2000	G9	14	51	26,5	20	3
HALOPIN® FROSTED											
66725 AM	4050300 791838	25	240	230	2000	G9	14	43	22	20	2
66740 AM	4050300 791876	40	240	460	2000	G9	14	43	22	20	2
66660 AM	4008321 525956	60	240	790	2000	G9	14	51	26,5	20	4

As a mini line voltage halogen lamp, HALOPIN® is ideal for modern luminaires in living rooms.

- Extremely compact dimensions
- Robust filament design thanks to innovative, unique bulb pinch technology
- Approved for use in open luminaires to IEC 60598-1
- No transformer required

- Color temperature approx. 2900 K
- Average life of 2000 hours
- UV-FILTER
- Dimmable

OSRAM HALOPAR® 16 ECO

OSRAM HALOPAR® 16



Product reference	Product number	W	V	cd ¹⁾		d max. (mm)	l max. (mm)	
OSRAM HALOPAR® 16 ECO								
64823 ECO FL	4008321918901	40	240	900	GU10	51	55	10xBL11

HALOPAR ECO lamps from OSRAM are direct replacements for standard 50 W HALOPAR 16 lamps. Not only do they provide light that is as brilliant, they save up to 20% energy and CO₂.

- Up to 20% energy savings
- Average life of 2000 hours
- With whole glass reflector for bright lighting effects

- Innovative bulb pinch technology for the burner and with integrated fuse function; complies with the safety requirements of IEC 60432-3
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Color temperature approx. 2900 K
- Dimmable



Product reference	Product number	W	V	cd ¹⁾	t (h)			d max. (mm)	l max. (mm)		No.
OSRAM HALOPAR® 16											
64824 FL	4050300580159	50	240	950	2000	35	GU10	51	55	20	1

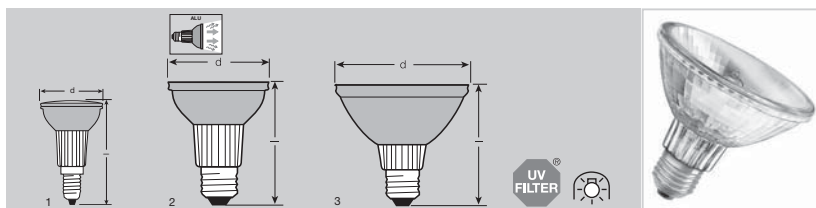
With its OSRAM HALOPAR® line voltage halogen lamps, OSRAM offers a real alternative to low-voltage reflector lamps. They do not require a transformer but still provide brilliant white halogen light. They are available in various wattages and with different beam angles, making them ideal for revitalizing rooms and providing accent lighting. OSRAM HALOPAR® 16 is ideal for modern small and stylish halogen luminaires and is the halogen line-voltage counterpart of the DECOSTAR®. It is available with an aluminum or dichroic reflector.

- Average life of 2000 hours
- With whole glass reflector for brilliant lighting effects
- Innovative bulb pinch technology for the burner and with integrated fuse function; complies with the safety requirements of IEC 60432-3
- Approved for use in open luminaires (to IEC 60598-1)
- No transformer required
- UV-FILTER
- Color temperature approx. 2900 K
- Dimmable

1) For luminous intensity distribution see page 1.26



OSRAM HALOPAR® 16/20/30



Product reference	Product number	W	V	cd ¹⁾	t[h]	°		d max. [mm]	l max. [mm]		No.
OSRAM HALOPAR® 16											
64822 FL	4050300 772080	40	240	650	2000	35	E14	51	75	20	1
OSRAM HALOPAR® 20											
64832 SP	4050300 435268	50	240	3000	2000	10	E27	64,5	91	15	2
64832 SST FL	4008321 286895	50	240	1000	2000	30	E27	64,5	91	15	2
64836 FL	4050300 435329	50	240	1100	2000	30	E27	64,5	91	15	2
OSRAM HALOPAR® 30											
64841 SST SP	4008321 286505	75	240	6900	2000	10	E27	97	90,5	15	3
64841 SST FL	4008321 286369	75	240	2200	2000	30	E27	97	90,5	15	3
64845 SP	4050300 435381	75	240	7500	2000	10	E27	97	90,5	15	3
64845 FL	4050300 435404	75	240	2400	2000	30	E27	97	90,5	15	3

With its OSRAM HALOPAR® line voltage halogen lamps, OSRAM offers a brilliant and modern alternative to conventional reflector lamps. With their standard E14 and E27 screw bases they are quick and easy to install instead of ordinary light bulbs; they provide more light and last twice as long.

- More light than conventional reflector lamps
- Average life of 2000 hours
- With whole glass reflector for brilliant lighting effects
- Complies with the requirements of IEC 60432-3
- Approved for use in open luminaires (to IEC 60598-1)
- UV-FILTER
- Color temperature approx. 2900 K
- Dimmable

¹⁾ For luminous intensity distribution see page 1.26

HALOGEN ECO CLASSIC A CLEAR/FROSTED



Product reference	Product number	W	V	lm	t [h]		ϕ max. [mm]	l max. [mm]	α [°]		No.
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HALOGEN ECO CLASSIC A- Classic Shape, CLEAR

64541 A ECO CL B22d 18W	4008321 934239	18	240	220	2000	B22d	56	96	73	20	1
64542 A ECO CL B22d 28W	4008321 918949	28	240	345	2000	B22d	56	96	72	20	1
64542 A ECO CL E27 28W	4008321 229267	28	240	345	2000	E27	56	96	73	20	1
64543 A ECO CL B22d 42W	4008321 919083	42	240	630	2000	B22d	56	96	72	20	1
64543 A ECO CL E27 42W	4008321 229281	42	240	630	2000	E27	56	96	73	20	1
64544 A ECO CL B22d 52W ¹⁾	4008321 403346	52	240	840	2000	B22d	56	96	72	20	1
64544 A ECO CL E27 52W ¹⁾	4008321 403322	52	240	840	2000	E27	56	96	73	20	1
64547 A ECO CL B22d 70W ¹⁾	4008321 403360	70	240	1240	2000	B22d	56	96	72	20	1
64547 A ECO CL E27 70W ¹⁾	4008321 936059	70	240	1240	2000	E27	56	96	73	20	1
64548 A ECO CL B22d 105W ¹⁾	4008321 403407	105	240	1900	2000	B22d	56	96	72	20	1
64548 A ECO CL E27 105W ¹⁾	4008321 403384	105	240	1900	2000	E27	56	96	73	20	1

HALOGEN ECO CLASSIC A- Classic Shape, FROSTED

64541 A ECO FR B22d 18W	4008321 934246	18	240	220	2000	B22d	56	96	73	20	1
64542 A ECO FR B22d 28W	4008321 277220	28	240	345	2000	B22d	56	96	73	20	1
64542 A ECO FR E27 28W	4008321 229366	28	240	345	2000	E27	56	96	73	20	1
64543 A ECO FR B22d 42W	4008321 277244	42	240	630	2000	B22d	56	96	73	20	1
64543 A ECO FR E27 42W	4008321 229380	42	240	630	2000	E27	56	96	73	20	1
64544 A ECO FR B22d 52W ¹⁾	-	52	240	840	2000	B22d	56	96	72	20	1
64544 A ECO FR E27 52W	4008321 934253	52	240	840	2000	E27	56	96	73	20	1
64547 A ECO FR B22d 70W	4008321 934260	70	240	1240	2000	B22d	56	96	72	20	1
64547 A ECO FR E27 70W	4008321 934277	70	240	1240	2000	E27	56	96	73	20	1
64548 A ECO FR B22d 105W	4008321 934284	105	240	1900	2000	B22d	56	96	72	20	1
64548 A ECO FR E27 105W ¹⁾	-	105	240	1900	2000	E27	56	96	73	20	1

1) In preparation

HALOGEN ECO CLASSIC A



HALOGEN ECO:

30% energy savings and direct replacement for ordinary light bulbs.

HALOGEN ECO lamps are available in the classic shapes of bulb, candle and spot. Ordinary light bulbs can therefore be replaced, like for like, in no time at all. HALOGEN ECO lamps provide light that is as attractive as that from an ordinary light bulb. They also save up to 30% energy and last twice as long as an ordinary light bulb.

- Familiar bulb shape
- Up to 30% energy savings
- Average life: 2000 hours
- Bright white halogen light
- Simple operation on line voltage without a transformer
- Dimmable
- Color temperature approx. 2900 K

Ordinary light bulb A, B, P, R50, R63		HALOGEN ECO A, B, P, R50, R63
25 W	→	18 W
40 W	→	28 W
60 W	→	42 W
75 W	→	52 W
100 W	→	70 W
150 W	→	105 W



HALOGEN
ECO

HALOGEN ECO CLASSIC B/P



Product reference	Product number	W	V	lm	t (h)		d max. (mm)	l max. (mm)	a		No.
HALOGEN ECO CLASSIC B - Candle Shape, CLEAR											
64542 B ECO E14 30W	4008321229304	30	240	405	2000	E14	35	104	67	20	1
64542 B ECO B22d 30W	4008321917045	30	240	405	2000	B22d	36	104	64	10	1
64543 B ECO B22d 42W	4008321934789	42	240	630	2000	B22d	35	104	67	10	1
64543 B ECO E14 42W	4008321934796	42	240	630	2000	E14	35	104	67	10	1
HALOGEN ECO CLASSIC B - Candle Shape, FROSTED											
64542 B ECO FR B22d 30W	4008321277268	30	240	405	2000	B22d	35	104	67	10	1
64542 B ECO FR E14 30W	4008321229403	30	240	405	2000	E14	35	104	67	10	1
HALOGEN ECO CLASSIC P - Candle Shape, CLEAR											
64542 P ECO B22d 30W	4008321952950	30	240	405	2000	B22d	45	74	80	10	1
64542 B ECO E14 30W	4008321952851	30	240	405	2000	E14	45	74	80	10	1

HALOGEN ECO:

30% energy savings and direct replacement for ordinary light bulbs.

HALOGEN ECO lamps are available in the classic shapes of bulb, candle and spot.

Ordinary

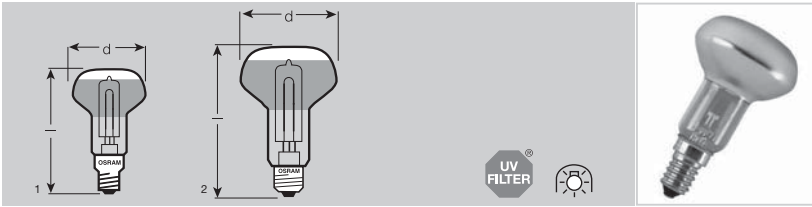
light bulbs can therefore be replaced, like for like, in no time at all. HALOGEN ECO lamps provide light that is as attractive as that from an ordinary light bulb. They also save up to 30% energy and last twice as long as an ordinary light bulb.

- Familiar bulb shape
- Up to 30% energy savings
- Average life: 2000 hours
- Bright white halogen light
- Simple operation on line voltage without a transformer
- Dimmable
- Color temperature approx. 2900 K

Ordinary light bulb A, B, P, R50, R63		HALOGEN ECO A, B, P, R50, R63
40 W	→	28 W / 30 W
60 W	→	42 W

1) In preparation

HALOGEN ECO SPOT R50/R63



Product reference	Product number	W	V	cd	t [h]	△	⊓	d max. (mm)	l max. (mm)	⊞	💡 No.
HALOGEN ECO SPOT R50											
64542 R50 ECO E14 30W	4008321228675	30	240	430	2000	30	E14	51	87	20	1
HALOGEN ECO SPOT R63											
64546 R63 ECO E27 46W	4008321228789	46	240	960	2000	30	E27	64	105	20	2

HALOGEN ECO:

less energy. More light.

The clever alternative to ordinary light bulbs. With its new HALOGEN ECO lamps, OSRAM can offer a large range of attractive lamps with screw bases for replacement of less efficient light bulbs.

And of course they bring with them the familiar impressive benefits of halogen lamps such as twice the life and pure bright halogen light.

- Up to 30% energy savings
- Cost-effective halogen alternative for direct replacement of conventional spotlight lamps
- E14 (R50) and E27 (R63) screw bases
- Average life of 2000 hours
- Significantly lower CO2 emissions
- Lower thermal output
- Color temperature approx. 2800 K
- Fully dimmable



- Familiar bulb shape



HALOGEN
ECO

HALOLINE® ECO



Product reference	Product number	W	V	lm [®]	t [h]		d max. [mm]	l [mm]	A	
HALOLINE® ECO										
64690 ECO	4008321 325396	80	240	1500	2000	R7s	12	74,9	2	20
64695 ECO	4008321 325419	120	240	2450	2000	R7s	12	74,9	2	20
64698 ECO	4008321 197793	160	240	3100	2000	R7s	12	114,2	2	10xBLI1
64701 ECO	4008321 227966	230	240	5060	2000	R7s	12	114,2	2	10xBLI1
64702 ECO	4008321 227980	400	240	9200	2000	R7s	12	114,2	2	10xBLI1



Enclosed luminaires must be used with these halogen floodlight lamps for both indoor and outdoor applications. (In accordance with IEC 60598).
Fuse protection with the indicated values is recommended on the luminaire side (as per IEC 60357).

HALOLINE® ECO:

With its HALOLINE® ECO series

OSRAM gives you a simple way of saving energy and protecting the environment at the same time.

And you do not have to forego the excellent quality of light that brilliant halogen lamps provide. By replacing 500 W lamps with 400 W ECO lamps you will save 100 W each time. That soon adds up. Just replace the lamps to start saving

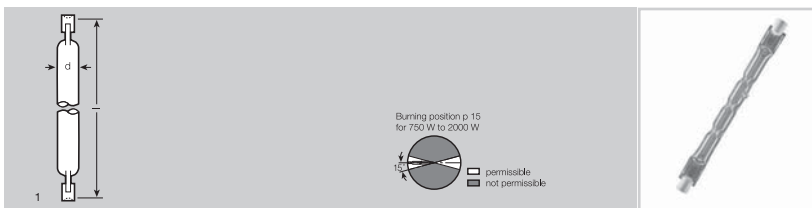
immediately and enjoy the pleasant atmosphere of halogen light. The range of applications for HALOLINE® ECO lamps is just as wide as it is for our HALOLINE Standard series. Whatever the application and whatever the burning position, HALOLINE® ECO lamps also help improve the efficiency with which valuable energy resources are used. This is made possible by using the highest quality materials and most advanced technologies to manufacture the lamps.

- Up to 20% energy savings
- Brilliant halogen light
- Ideal for emphasizing and accentuating the structure of a room
- 100% dimmable for a variable atmosphere
- Can be plugged in anywhere
- Color temperature approx. 3000 K
- Universal burning position
- Average life of 2000 hours
- Can be operated simply on line voltage without the need for a transformer

Standard HALOLINE		HALOLINE® ECO
100 W	→	80 W
150 W	→	120 W
200 W	→	160 W
300 W	→	230 W
500 W	→	400 W



HALOLINE® for line voltage



Product reference	Product number	W	V	Im	t(h)		d max. (mm)	l (mm)	A		No.
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HALOLINE® for line voltage

Universal burning position

64693	4008321 301203	150	220-240	2500	1000	R7s	12	74,9	2	12	1
64706	4008321 329509	500	240	9500	1000	R7s	12	114,2	4	12	1
Burning position horizontal p 15											
64740	4050300 209906	1000	240	22000	2000	R7s	12	185,7	6.3	12	1
64760	4050300 209920	1500	240	36000	2000	R7s	12	250,7	10	12	1



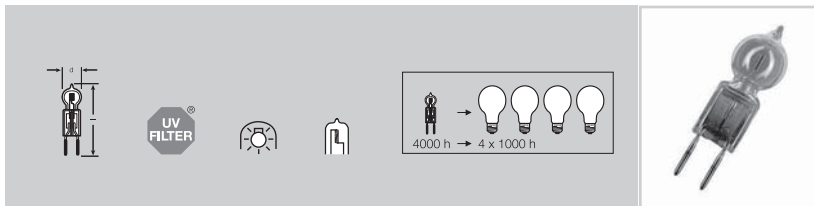
Enclosed luminaires must be used with these halogen floodlight lamps for both indoor and outdoor applications. (In accordance with IEC 60598).

Fuse protection with the indicated values is recommended on the luminaire side (as per IEC 60357).

HALOLINE® can be used universally and is suitable for a wide range of applications. It is the classic lamp for small outdoor systems for floodlighting buildings and sports arenas and for security lighting. It is experiencing a renaissance in the home, where it is being used above all for indirect lighting to emphasize and accentuate the structure of rooms. HALOLINE® is also re-conquering classic applications, providing wide-area lighting from pendant luminaires in a wide range of new and exciting designs.

- Brilliant halogen light
- Ideal for emphasizing and accentuating the structure of a room
- 100% dimmable for a variable atmosphere
- Can be plugged in anywhere
- Color temperature approx. 3000 K
- Universal burning position up to and including 500 W
- Average life of 2000 hours
- Can be operated simply on line voltage without the need for a transformer

HALOSTAR® ECO



Product reference	Product number	W	V	lm	t [h]		d_{max} [mm]	l_{max} [mm]	a [mm]	
HALOSTAR® ECO										
64432 ECO	4050300615905	35	12	900	4000	GY6.35	12	44	30	40
64440 ECO	4050300615936	50	12	1250	4000	GY6.35	12	44	30	40
64447 ECO	4050300785400	65	12	1700	4000	GY6.35	12	44	30	40

Straight to the point.

With HALOSTAR® lamps, it is possible for light sources in "starlight ceilings", furniture luminaires and chandeliers for example to be on open display without the need for protective shields.

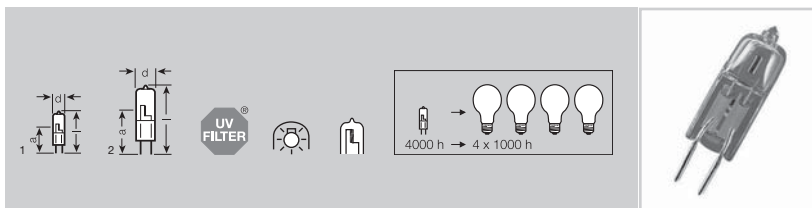
Thanks to IRC technology the HALOSTAR® ECO needs much less energy to produce the same amount of light.

Standard pin-base lamp	HALOSTAR® ECO
50 W →	35 W ECO
75 W →	50 W ECO
90 W →	65 W ECO

- Up to 60% cost savings¹⁾
- Long average life of 4000 hours
- High luminous efficacy of up to 26 lm/W
- Significantly lower CO₂ emissions due to energy savings
- Approved for use in open luminaires to IEC 60598-1
- Dimmable
- Color temperature of 3000 K
- Low thermal output
- Axial filament for optimum directional light
- Special pins for corrosion protection
- UV-FILTER

1) Compared with HALOSTAR® STANDARD

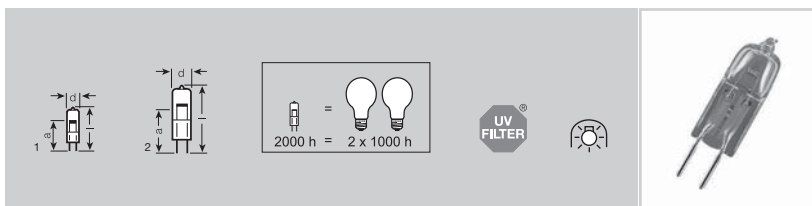
HALOSTAR STARLITE® 6-12V HALOSTAR STANDARD 12V



Product reference	Product number	W	V	lm	t [h]						
HALOSTAR STARLITE® 6-12V SERIES											
64405 S ¹⁾	4050300335032	5	12	60	4000	G4	10	33	22	40	1
64410 S	4050300335131	10	6	110	4000	G4	10	33	22	40	1
64415 S	4050300335087	10	12	130	4000	G4	10	33	22	40	1
64425 S	4050300335162	20	12	300	4000	G4	10	33	22	40	1
64427 S	4050300328171	20	12	300	4000	GY6.35	12	44	30	40	2
64432 S	4050300017426	35	12	600	4000	GY6.35	12	44	30	40	2
64440 S	4050300328201	50	12	910	4000	GY6.35	12	44	30	40	2
64450 S	4050300490151	75	12	1450	4000	GY6.35	12	44	30	40	2
64458 S	4050300490182	90	12	1800	4000	GY6.35	12	44	30	40	2

HALOSTAR STARLITE® lamps may be used in free-burning applications without a shield on the luminaire. They are made from UV-reducing quartz and comply with the strictest UV protection thresholds (to IEC 60432).

- Long average life of 4000 hours
- Axial filament for optimum directional light
- Special pins for corrosion protection
- Approved for use in open luminaires to IEC 60598-1
- Dimmable
- Color temperature of 3000 K



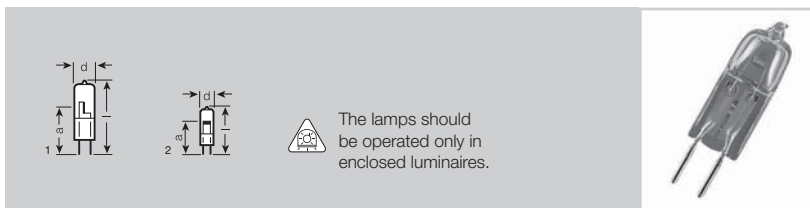
Product reference	Product number	W	V	lm	t [h]						
HALOSTAR® STANDARD 12V											
64415 STD UVS	4050300010717	10	12	140	2000	G4	10	33	22	40	1
64425 STD UVS	4050300003924	20	12	320	2000	G4	10	33	22	40	1
64425 STD UVS TWIN	4008321201836	20	12	320	2000	G4	10	33	22	10x BLI2	1
64440 STD UVS	4050300324432	50	12	910	2000	GY6.35	12	44	30	40	2
64440 STD UVS TWIN	4008321202161	50	12	910	2000	GY6.35	12	44	30	10x BLI2	2

Free-burning halogen lamps such as HALOSTAR® STANDARD, have given lighting designers new freedom thanks to their brilliant, highly focused and decorative light.

- Average life 2000 hours
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Dimmable
- Color temperature of 3000 K

1) Lamp with transverse filament

HALOSTAR® 24 V



Product reference	Product number	W	V	Im	t (h)						
HALOSTAR® 24 V series											
64435 U AX	4050300 335513	20	24	320	1000	G4	9,5	33	22	40	2
64445 U AX	4050300 335544	50	24	900	2000	GY6.35	12	44	30	40	1
64460 U AX	4050300 335667	100	24	2200	2000	GY6.35	12	44	30	40	1
64465 U AX	4050300 335698	150	24	3200	2000	GY6.35	16	50	32	40	1

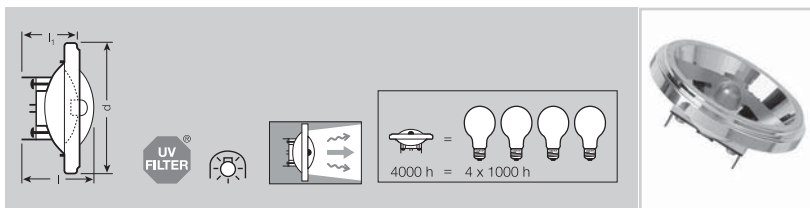
HALOSTAR® 24 V

UV-reducing quartz suppresses unwanted UV radiation. The UV-related bleaching effect as defined by IEC has therefore been reduced by up to 80% compared with conventional pin-base lamps. Complies with the strictest UV protection thresholds (IEC 60432).

- The base pins are tempered to protect against corrosion
- The axial filament ensures optimum directional light
- High illuminance level

1) Average life at room temperature
These values may be lower at higher ambient temperatures

HALOSPOT® 111 ECO



Product reference	Product number	W	V	cd	t[h]	°				
HALOSPOT® 111 ECO										
48832 ECO SP	4050300656823	35	12	22500	4000	8	G53 ¹⁾	111	67	6
48832 ECO FL	4050300656847	35	12	4500	4000	24	G53 ¹⁾	111	67	6
48835 ECO SP	4050300656861	50	12	33000	4000	8	G53 ¹⁾	111	67	6
48835 ECO FL	4050300656885	50	12	5800	4000	24	G53 ¹⁾	111	67	6
48835 ECO WFL	4008321909237	50	12	2000	4000	45	G53 ¹⁾	111	67	6
48837 ECO SP	4050300786070	60	12	45000	4000	8	G53 ¹⁾	111	67	6
48837 ECO FL	4050300786094	60	12	8500	4000	24	G53 ¹⁾	111	67	6
48837 ECO WFL	4008321909251	60	12	2800	4000	45	G53 ¹⁾	111	67	6

HALOGEN ECO lamps from OSRAM have been designed for commercial applications. They combine impressive economy and luminous intensity with excellent quality of light. In combination with the revolutionary HighTech reflector the result is outstanding brightness.

- Up to 48% cost savings with IRC technology²⁾
- Long average life of 4000 hours
- New HighTech reflector for
 - optimum illumination
 - less scattered light
- The powerful light for professional applications
- Approved for use in open luminaires to IEC 60598-1
- Cap for reduced glare and ease of handling
- UV-FILTER
- Dimmable
- Significantly lower CO₂ emissions due to energy savings
- Color temperature of 3000 K

Applications:
Shoplighting, restaurants, hotels, art galleries, high-ceiling rooms, etc.

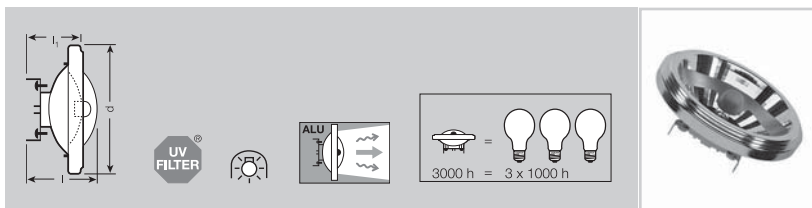
Standard-HALOSPOT 111	HALOSPOT® 111 ECO
50 W →	35 W ECO
75 W →	50 W ECO
100 W →	65 W ECO

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee



1) If connection elements are used, an additional support is needed on the edge of the reflector
2) Compared with HALOSPOT® 111

HALOSPOT® 111



Product reference	Product number	W	V	cd	t[h]	°		d max. [mm]	l max. [mm]	
HALOSPOT® 111										
41830 SSP	40503000 11141	35	6	30000	3000	4	G53 ¹⁾	111	67	6
41832 SSP	4050300 335728	35	12	35000	3000	4	G53 ¹⁾	111	67	6
41832 FL	4050300 335766	35	12	2500	3000	24	G53 ¹⁾	111	67	6
41835 SSP	4050300 11165	50	12	40000	3000	4	G53 ¹⁾	111	67	6
41835 SP	4050300 11752	50	12	20000	3000	8	G53 ¹⁾	111	67	6
41835 FL	4050300 11769	50	12	4000	3000	24	G53 ¹⁾	111	67	6
41840 SP	4050300 11776	75	12	30000	3000	8	G53 ¹⁾	111	67	6
41840 FL	4050300 11783	75	12	5300	3000	24	G53 ¹⁾	111	67	6
41840 WFL	4050300 11790	75	12	2000	3000	45	G53 ¹⁾	111	67	6
41850 SP	4050300 358604	100	12	48000	3000	8	G53 ¹⁾	111	67	6
41850 FL	4050300 358628	100	12	8500	3000	24	G53 ¹⁾	111	67	6
41850 WFL	4050300 358642	100	12	2800	3000	45	G53 ¹⁾	111	67	6

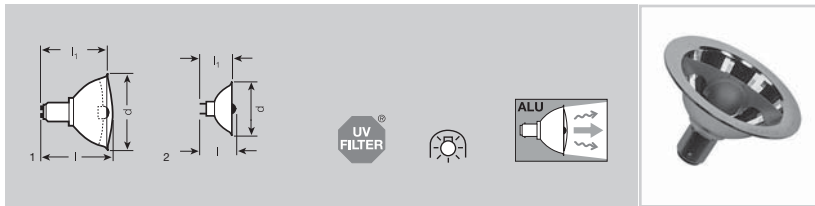
HALOSPOT® 111 lamps have reflectors with excellent focusing properties and extremely tight beam angles of as little as 4° for enormous luminous intensity so that objects can be highlighted even in bright surroundings.

- Long average life of 3000 hours
- Powerful light
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Cap for reduced glare and ease of handling
- Dimmable
- Color temperature of 3000 K

1) If connection elements are used, an additional support is needed on the edge of the reflector

HALOSPOT® 70

HALOSPOT® 48



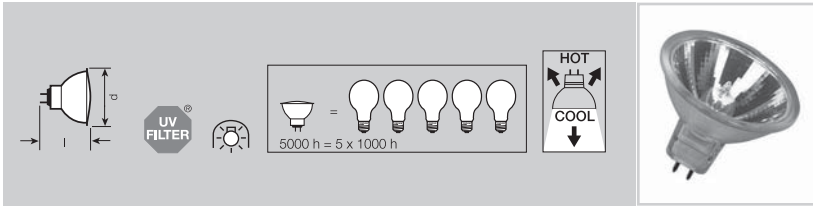
Product reference	Product number	W	V	cd	t (h)						
								d max. [mm]	l max. [mm]		No.
HALOSPOT® 70											
41970 SP	4050300010656	20	12	7700	3000	8	BA15d	70,5	50	10	1
41970 FL UVS	4050300011110	20	12	900	3000	24	BA15d	70,5	50	10	1
41990 SP UVS	4050300011158	50	12	12500	3000	8	BA15d	70,5	50	10	1
41990 FL UVS	4050300004020	50	12	2600	3000	24	BA15d	70,5	50	10	1
HALOSPOT® 48											
41900 SP	4050300003962	20	12	3100	2000	8	GY4	48	38	10	2
41930 SP ^{1) 2)}	4050300003979	20	24	2600	1000	8	GY4	48	38	10	2

The faceted reflector ensures the light is evenly distributed. The lamps are equipped with cap for reduced glare and ease of handling.

- UV-reducing quartz is used for the integral lamp. The lamp therefore complies with the strictest UV threshold values (as per IEC 60432) and their UV-related bleaching effect is reduced by up to 80%.
- 12 V versions in low-pressure design. The lamps may be used in free-burning applications without a shield on the luminaire in accordance with IEC 60598
- The high-pressure 24 V version requires a shield
- HALOSPOT® 70 lamps are dimmable
- UV-FILTER
- Color temperature of 3000 K

1) Fine fuse 2 A quick-acting needed – on secondary side for transformer operation
2) The high-pressure 24 V version requires a shield

DECOSTAR® 51 ECO



Product reference	ANSI	Product number	W	V	cd	t [h]	°			d max. [mm]	l max. [mm]	
DECOSTAR® 51 ECO												
48860 ECO SP	ESX	4050300620169	20	12	6000	5000	10	GU5.3	51	46	20	
48860 ECO FL	-	4050300620183	20	12	2300	5000	24	GU5.3	51	46	20	
48860 ECO WFL	BAB	4050300620206	20	12	1000	5000	36	GU5.3	51	46	20	
48860 ECO WWFL	-	4050300620220	20	12	450	5000	60	GU5.3	51	46	20	
48865 ECO SP	FRB	4050300516592	35	12	12500	5000	10	GU5.3	51	46	20	
48865 ECO FL	FRA	4050300516615	35	12	4400	5000	24	GU5.3	51	46	20	
48865 ECO WFL	FMW	4050300516639	35	12	2200	5000	36	GU5.3	51	46	20	
48865 ECO WWFL	-	4050300516653	35	12	1100	5000	60	GU5.3	51	46	20	

The energy and money-saving lamp: DECOSTAR® ECO.

Halogen ECO lamps combine economy, luminous intensity and quality. What's more, these new lamps last up to 5000 hours.

The Longlife coating of the reflector ensures constant luminous intensity and color location. Thanks to innovative technology and the IRC infrared coating on these lamps you save a large amount of electricity and up to 30% in costs compared with standard halogen lamps. And the environment benefits too.

- Up to 30% cost savings through IRC technology¹⁾
- Extra long average life of 5000 hours
- Significantly lower CO2 emissions due to energy savings
- Constant luminous intensity and color location throughout their life
- UV-FILTER
- Dimmable
- Color temperature of 3000 K
- 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%
- Approved for use in open luminaires to IEC 60598-1

Standard dichroic reflector lamp	DECOSTAR® ECO
35 W →	20 W ECO
50 W →	35 W ECO

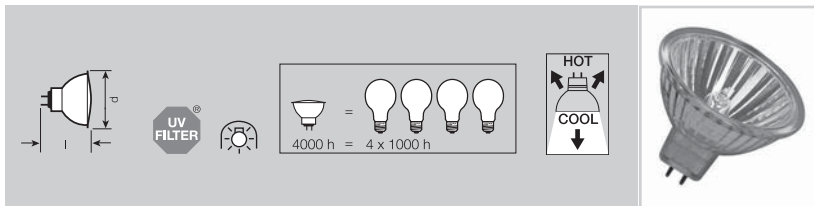


For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

¹⁾ Cost savings of up to 30% compared with standard halogen lamps (depending on the price of electricity)

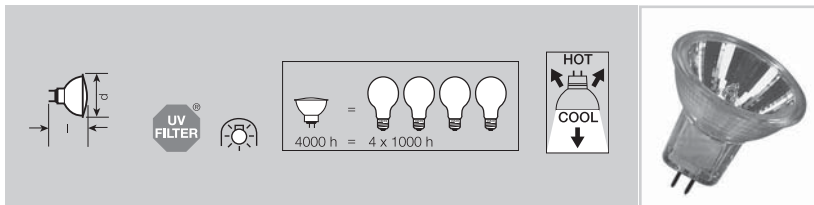
DECOSTAR® 51 TITAN

DECOSTAR® 35 TITAN



Product reference	ANSI	Product number	W	V	cd	t [h]	△°				
DECOSTAR® 51 TITAN											
46860 SP	ESX	4050300428635	20	12	5000	4000	10	GU5.3	51	46	20
46860 WFL	BAB	4050300428659	20	12	780	4000	36	GU5.3	51	46	20
46860 WWFL	-	4050300428673	20	12	350	4000	60	GU5.3	51	46	20
46865 SP	FRD	4050300428697	35	12	8000	4000	10	GU5.3	51	46	20
46865 FL	FRA	4050300476414	35	12	3100	4000	24	GU5.3	51	46	20
46865 WFL	FMW	4050300428710	35	12	1500	4000	36	GU5.3	51	46	20
46865 WWFL	-	4050300428734	35	12	700	4000	60	GU5.3	51	46	20

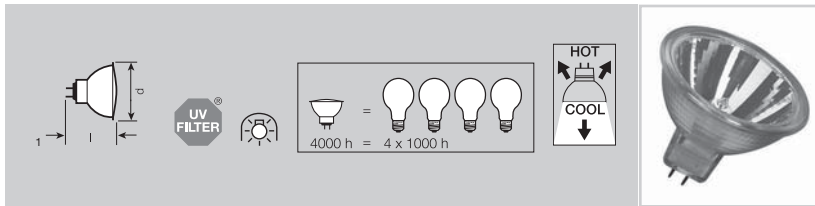
- Long average life of 4000 hours
- High luminous intensity
- Constant luminous intensity and color location throughout their life
- Constant bluish appearance of the light escaping at the back of the reflector
- Dichroic reflector reduces the heat in the light beam by up to 66%
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Dimmable
- Color temperature of 3000 K



Product reference	ANSI	Product number	W	V	cd	t [h]	△°				
DECOSTAR® 35 TITAN											
46890 SP	ESX	4050300529301	20	12	4000	4000	10	GU4	35	40	10
46890 WFL	BAB	4050300529325	20	12	700	4000	36	GU4	35	40	10
46892 SP	FRB	4050300529349	35	12	6200	4000	10	GU4	35	40	10
46892 WFL	FMW	4050300529363	35	12	1400	4000	36	GU4	35	40	10

DECOSTAR® 51 LONGLIFE

DECOSTAR® 51S STANDARD



Product reference	ANSI	Product number	W	V	cd	t[h]						
DECOSTAR® 51 LONGLIFE												
45860 SP	ESX	4050300857633	20	12	3000	4000	10	GU 5.3	51	46	20	1
45860 WFL	BAB	4050300857596	20	12	480	4000	38	GU 5.3	51	46	20	1
45865 SP	FRB	4050300857664	35	12	6000	4000	10	GU 5.3	51	46	20	1
45865 WFL	FMW	4050300857572	35	12	1000	4000	38	GU 5.3	51	46	20	1

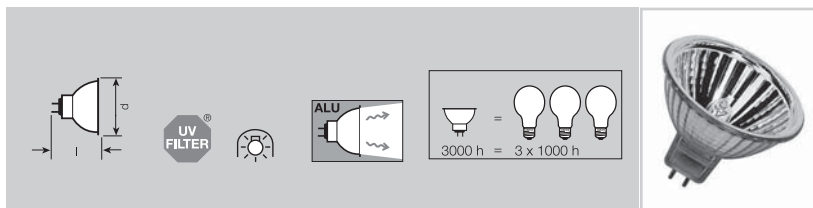
- Average life of 4000 hours
- Dichroic reflector reduces the heat in the light beam by up to 66%
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Dimmable
- Color temperature of 3000 K

Product reference	ANSI	Product number	W	V	cd	t[h]						
DECOSTAR® 51S STANDARD												
44865 VWFL		4008321871503	35	12	480	2000	60	GU 5.3	51	46	300	1

- Average life of 2000 hours
- Dichroic reflector reduces the heat in the light beam by up to 66%
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Dimmable
- Color temperature of 3000 K



DECOSTAR® 51 ALU



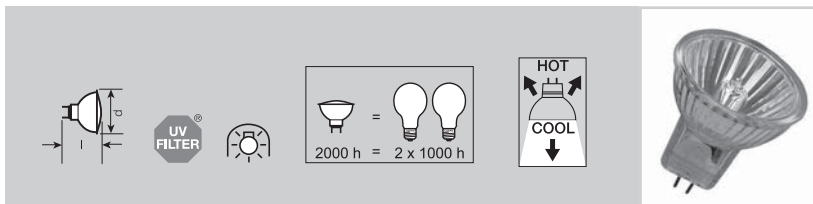
Product reference	ANSI	Product number	W	V	cd	t [h]	Δ		d_{max} [mm]	l_{max} [mm]	
DECOSTAR® 51 ALU											
41861 WFL	BAB	4050300428819	20	12	700	3000	36	GU5.3	51	46	20
41866 WFL	FMW	4050300428833	35	12	1100	3000	36	GU5.3	51	46	20

DECOSTAR® ALU

The aluminum-coated reflector without a shield reduces the thermal load in the luminaire by around 60% compared with aluminum-coated reflectors with a shield and by about 80% compared with dichroic reflectors with a shield. The dimmable lamp with UV-reducing quartz (as per IEC 60432) offers a neutral light throughout the life of the lamp.

- Long average life of 3000 hours
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Dimmable
- Color temperature of 3000 K

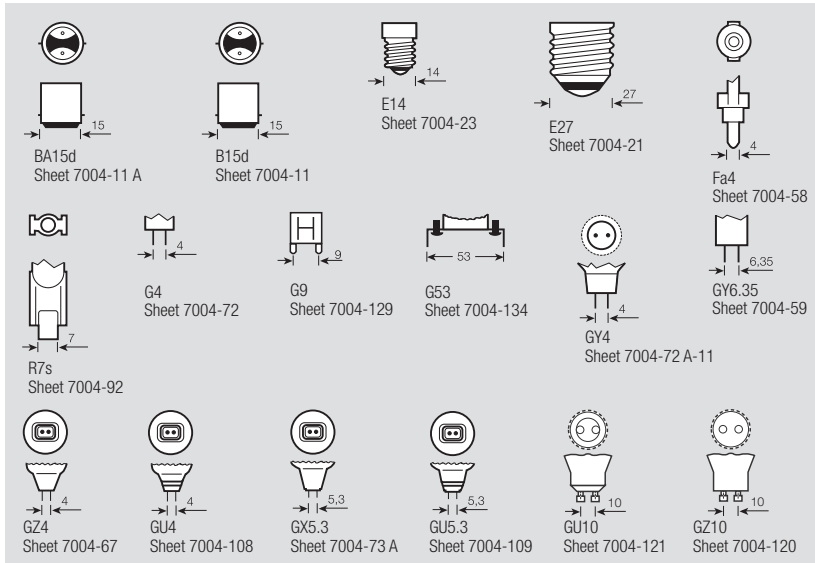
DECOSTAR® 35



Product reference	ANSI	Product number	W	V	cd	t [h]	Δ		d_{max} [mm]	l_{max} [mm]	
DECOSTAR® 35											
44888 WFL	-	4050300443935	10	12	300	2000	36	GU4	35	40	10
44890 WFL	FTD	4050300346168	20	12	500	2000	36	GU4	35	40	10
44892 SP	FTE	4050300346182	35	12	5000	2000	10	GU4	35	40	10
44892 WFL	FTH	4050300346229	35	12	1000	2000	36	GU4	35	40	10

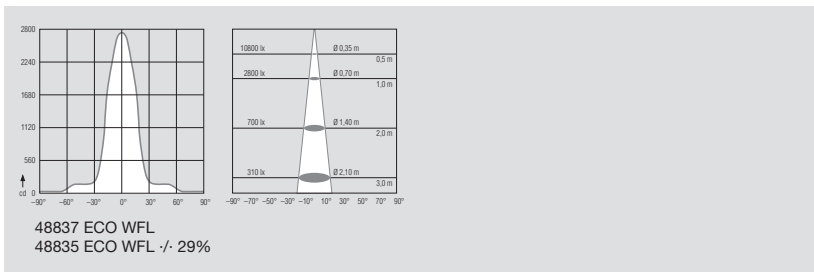
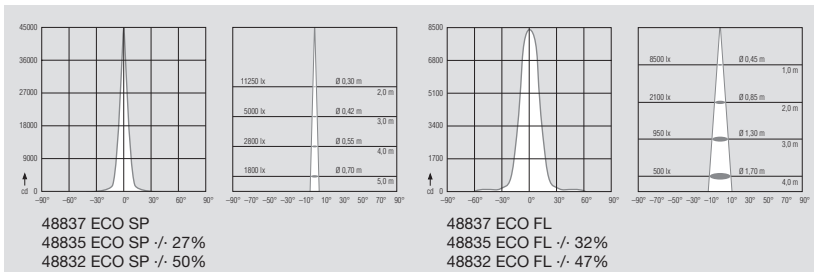
- Average life of 2000 hours
- Dichroic reflector reduces the heat in the light beam by up to 66%
- Approved for use in open luminaires to IEC 60598-1
- UV-FILTER
- Dimmable
- Color temperature of 3000 K

Bases IEC/EN 60061-1



Note:
Operate halogen lamps for outdoor applications and damp locations only in luminaires approved for the purpose.

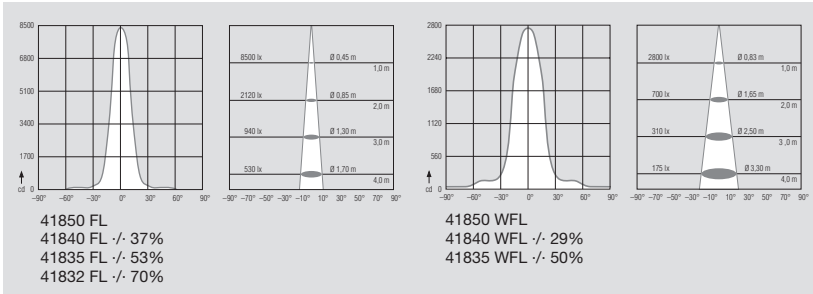
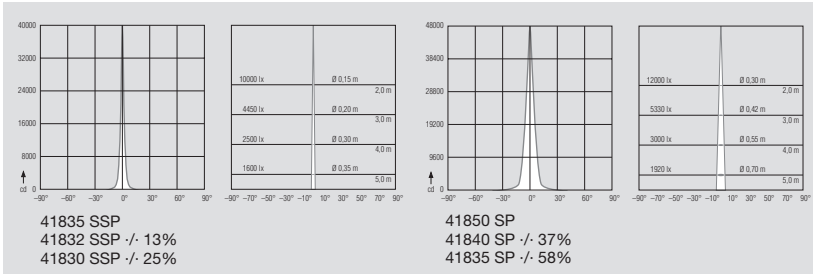
Tungsten-halogen lamps with reflectors | Luminous intensity distribution¹⁾ HALOSPOT® 111 ECO



— HWW = Half-peak angle

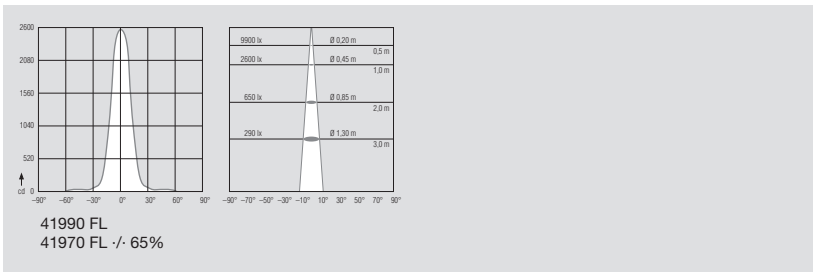
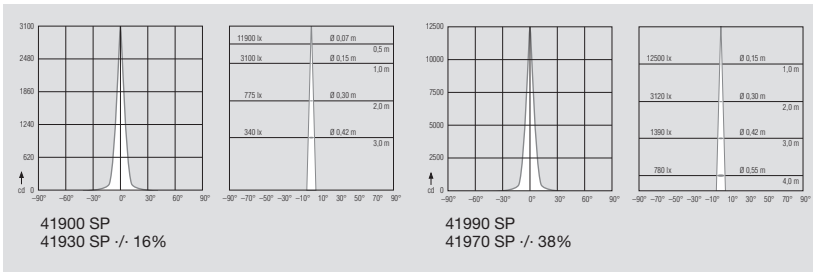
¹⁾ The graphics show the basic distribution of light. They are not suitable for the purposes of planning a lighting system. Please ask for Eulumdat files or you can obtain them from www.mycosram.com.

HALOSPOT® 111



— HWW = Half-peak angle

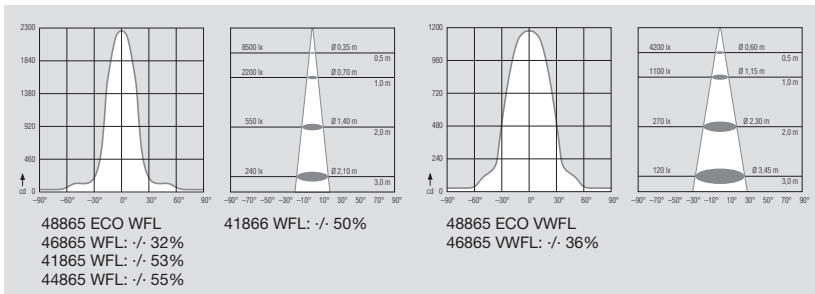
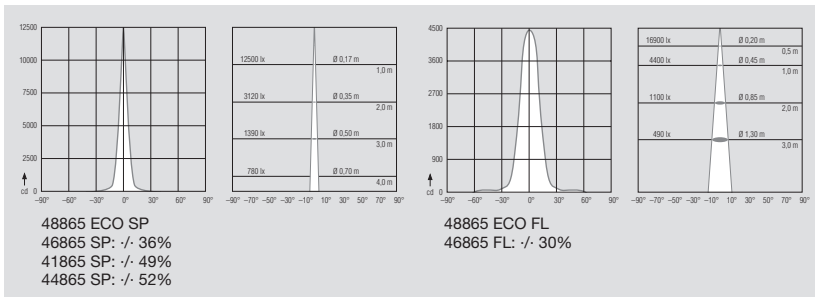
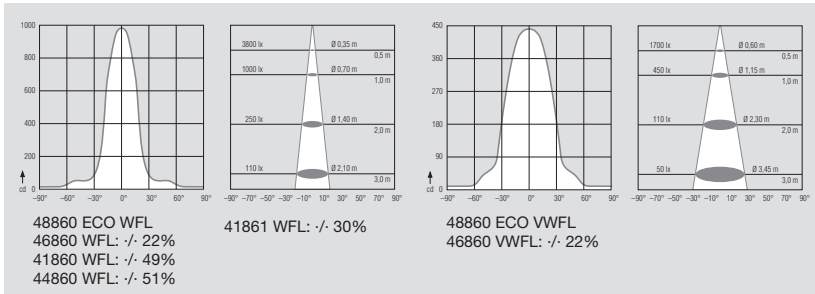
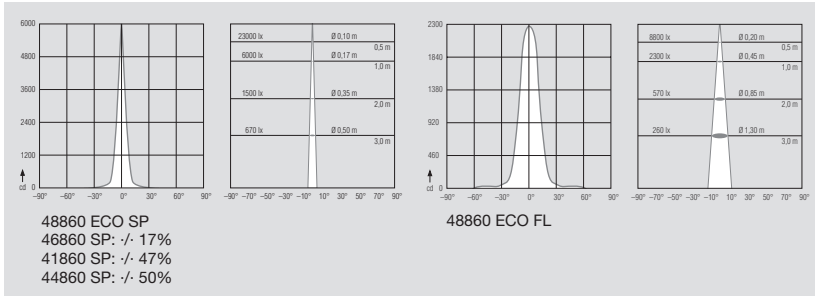
Tungsten-halogen lamps with reflectors | Luminous intensity distribution¹⁾ HALOSPOT® 48/70



¹⁾ The graphics show the basic distribution of light. They are not suitable for the purposes of planning a lighting system. Please ask for Eulumdat files or you can obtain them from www.mysoram.com.

Tungsten-halogen lamps with reflectors | Luminous intensity distribution¹⁾

DECOSTAR®

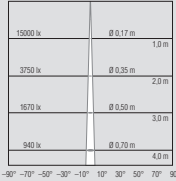
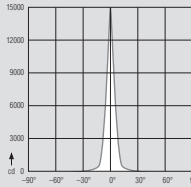


—HWW = Half-peak angle

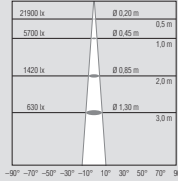
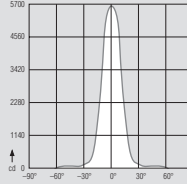
¹⁾ The graphics show the basic distribution of light. They are not suitable for the purposes of planning a lighting system. Please ask for Eulumdat files or you can obtain them from www.mvosram.com.

Tungsten-halogen lamps with reflectors | Luminous intensity distribution¹⁾

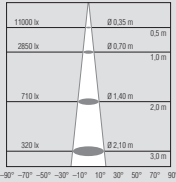
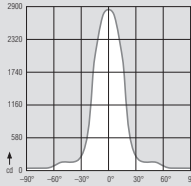
DECOSTAR®



48870 ECO SP
 46870 SP: +/- 16%
 41870 SP: +/- 45%
 44870 SP: +/- 48%

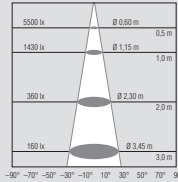
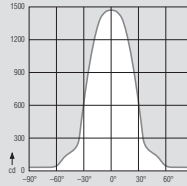


48870 ECO FL
 46870 FL: +/- 23%

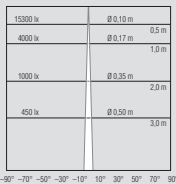
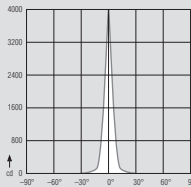


48870 ECO WFL
 46870 WFL: +/- 23%
 41870 WFL: +/- 47%
 44870 WFL: +/- 49%
 41871 WFL: +/- 37%

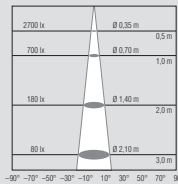
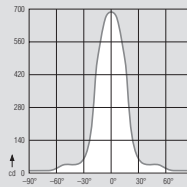
46871 WFL: +/- 55%



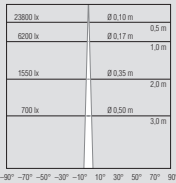
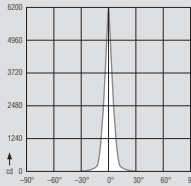
48870 ECO VWFL
 46870 VWFL: +/- 23%



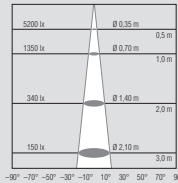
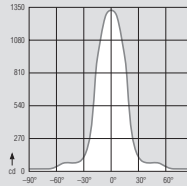
46890 SP
 44890 SP: +/- 20%



46890 WFL
 44890 WFL +/- 29%
 44888 WFL +/- 57%



46892 SP
 44892 SP: +/- 25%



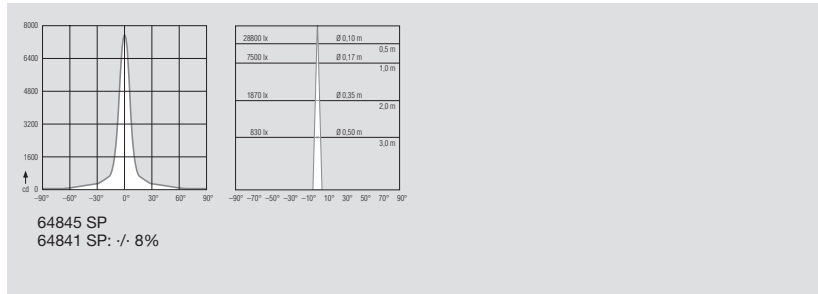
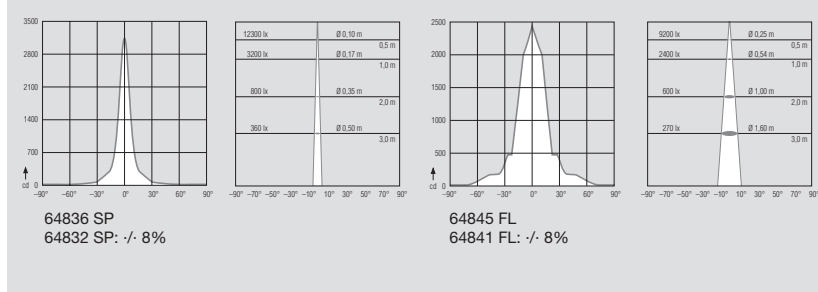
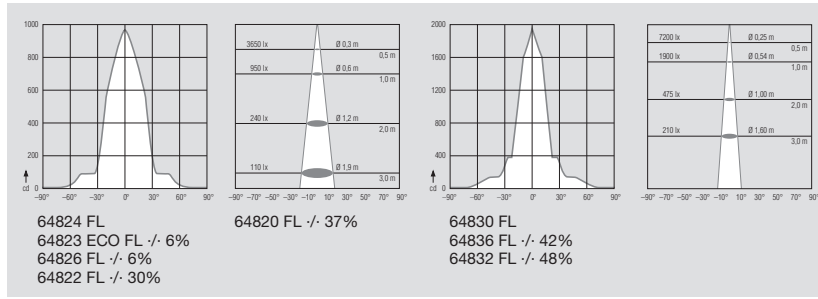
46892 WFL
 44892 WFL +/- 33%

—HHW = Half-peak angle

¹⁾ The graphics show the basic distribution of light. They are not suitable for the purposes of planning a lighting system. Please ask for Eulumdat files or you can obtain them from www.myosram.com.

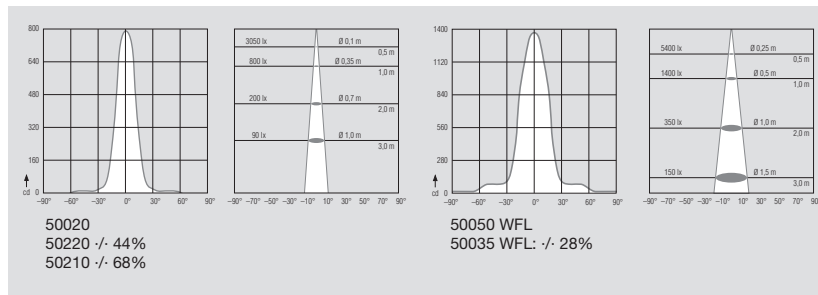
Tungsten-halogen lamps with reflectors | Luminous intensity distribution¹⁾

OSRAM HALOPAR®



Tungsten-halogen lamps with reflectors | Luminous intensity distribution¹⁾

MINISTAR®



—HWW = Half-peak angle

¹⁾ The graphics show the basic distribution of light. They are not suitable for the purposes of planning a lighting system. Please ask for Eulumdat files or you can obtain them from www.mysosram.com.



Compact fluorescent lamps

OSRAM DULUXSTAR® MINI TWIST	2.03
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The changeover made easy: OSRAM DULUXSTAR® MINI TWIST.

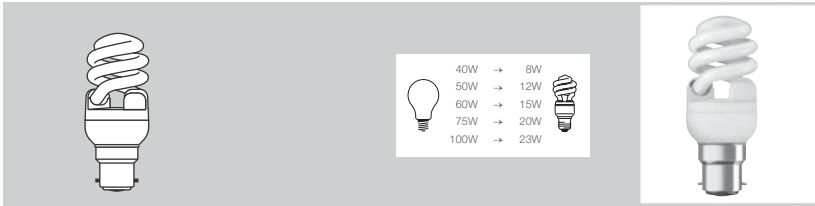
The environment needs us! We therefore offer the OSRAM DULUXSTAR® MINI TWIST so you can keep the shape you like best and still save up to 80% energy. They are ideal for illuminating bedside table lamps and floor lamps in all areas around the home. They are available in a range of wattages and colour temperatures to suit any application and their long life and low energy consumption means they deliver significant cost savings.

Compact: pin-base lamps.

Pin-base lamps cover a wide range of applications, both indoors and outdoors. Indoor lighting systems often include luminaires in which high ambient temperatures occur (narrow downlights, for example). To overcome this problem OSRAM has developed the OSRAM DULUX® CONSTANT. Its maximum luminous flux has been set so that it produces 90% of this maximum between 10 °C and 70 °C.

MANUFACTURER'S LAMP CROSS REFERENCE

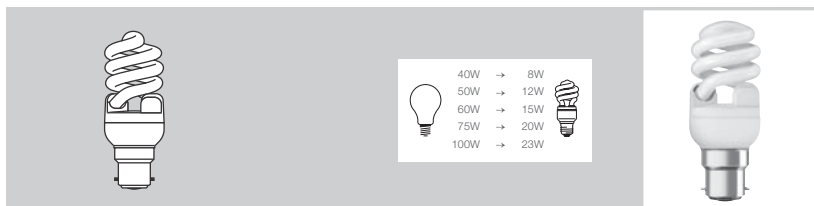
Osram	Sylvania	Philips	GE
DULUX S	Lynx-CFS	PL-S 2 Pins	Biax S
DULUX S/E	Lynx-CFSE	PL-S 4 Pins	Biax SE
DULUX D	Lynx-CFD	PL-C 2 Pins	Biax D
DULUX D/E	Lynx-CFDE	PL-C 4 Pins	Biax D
DULUX T	Lynx-CFT	PL-T 2 Pins	Biax T
DULUX T/E	Lynx-CFTE	PL-T 4 Pins	Biax TE
DULUX L	Lynx-CFL	PL-L 2 Pins	Biax L
DULUX L	Lynx-CFLE	PL-L 4 Pins	Biax LE
DULUX F	Lynx-CCF	-	-



Product reference	Product number		W	V	
OSRAM DULUXSTAR® MINI TWIST					
DST MTW 8W/827 220-240V	4052899108882	B15D	8	220-240	Warm White
DST MTW 8W/840 220-240V	4052899108943	B22D	8	220-240	Cool White
DST MTW 8W/840 220-240V	4052899108929	E27	8	220-240	Cool White
DST MTW 8W/865 220-240V	4052899108967	B22D	8	220-240	Daylight
DST MTW 8W/865 220-240V	4052899108905	E27	8	220-240	Daylight
DST MTW 8W/827 220-240V 2 PACK	4052899109605	B22D	8	220-240	Warm White
DST MTW 8W/827 220-240V 2 PACK	4052899109568	E14	8	220-240	Warm White
DST MTW 8W/827 220-240V 2 PACK	4052899109582	E27	8	220-240	Warm White
DST MTW 12W/840 220-240V	4052899109230	B22D	12	220-240	Cool White
DST MTW 12W/840 220-240V	4052899109216	E27	12	220-240	Cool White
DST MTW 12W/865 220-240V	4052899109254	B22D	12	220-240	Daylight
DST MTW 12W/865 220-240V	4052899109193	E27	12	220-240	Daylight
DST MTW 12W/827 220-240V 2 PACK	4052899109643	B22D	12	220-240	Warm White
DST MTW 12W/827 220-240V 2 PACK	4052899109629	E27	12	220-240	Warm White

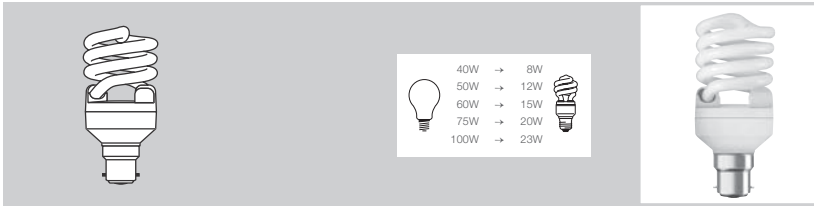






Product information continued		lm	d (mm)	l (mm)	
OSRAM DULUXSTAR® MINI TWIST					
DST MTW 8W/827 220-240V	4052899108882	435	45	93	6
DST MTW 8W/840 220-240V	4052899108943	435	50	90	20
DST MTW 8W/840 220-240V	4052899108929	435	45	91	12
DST MTW 8W/865 220-240V	4052899108967	420	50	90	12
DST MTW 8W/865 220-240V	4052899108905	420	45	91	12
DST MTW 8W/827 220-240V 2 PACK	4052899109605	435	50	90	4
DST MTW 8W/827 220-240V 2 PACK	4052899109568	435	45	95	4
DST MTW 8W/827 220-240V 2 PACK	4052899109582	435	45	91	4
DST MTW 12W/840 220-240V	4052899109230	660	50	101	12
DST MTW 12W/840 220-240V	4052899109216	660	50	102	12
DST MTW 12W/865 220-240V	4052899109254	650	50	101	12
DST MTW 12W/865 220-240V	4052899109193	650	50	102	12
DST MTW 12W/827 220-240V 2 PACK	4052899109643	660	50	101	4
DST MTW 12W/827 220-240V 2 PACK	4052899109629	660	50	102	4







Product reference	Product number		W	V	
OSRAM DULUXSTAR® MINI TWIST					
DST MTW 15W/827 220-240V	4052899146204	B22D	15	220-240	Warm White
DST MTW 15W/827 220-240V	4052899146242	E27	15	220-240	Warm White
DST MTW 15W/840 220-240V	4052899109315	B22D	15	220-240	Cool White
DST MTW 15W/840 220-240V	4052899109278	E27	15	220-240	Cool White
DST MTW 15W/865 220-240V	4052899109377	B22D	15	220-240	Daylight
DST MTW 15W/865 220-240V	4052899109292	E27	15	220-240	Daylight
DST MTW 15W/827 220-240V 2 PACK	4052899109704	B22D	15	220-240	Warm White
DST MTW 15W/827 220-240V 2 PACK	4052899109667	E27	15	220-240	Warm White
DST MTW 15W/865 220-240V 2 PACK	4052899109728	B22D	15	220-240	Daylight
DST MTW 15W/865 220-240V 2 PACK	4052899109681	E27	15	220-240	Daylight

Product information continued					
OSRAM DULUXSTAR® MINI TWIST					
DST MTW 15W/827 220-240V	4052899146204	900	55	105	6
DST MTW 15W/827 220-240V	4052899146242	900	55	106	6
DST MTW 15W/840 220-240V	4052899109315	900	55	105	12
DST MTW 15W/840 220-240V	4052899109278	900	55	106	12
DST MTW 15W/865 220-240V	4052899109377	870	55	105	6
DST MTW 15W/865 220-240V	4052899109292	870	55	106	6
DST MTW 15W/827 220-240V 2 PACK	4052899109704	900	55	105	4
DST MTW 15W/827 220-240V 2 PACK	4052899109667	900	55	106	4
DST MTW 15W/865 220-240V 2 PACK	4052899109728	870	55	105	4
DST MTW 15W/865 220-240V 2 PACK	4052899109681	870	55	106	4

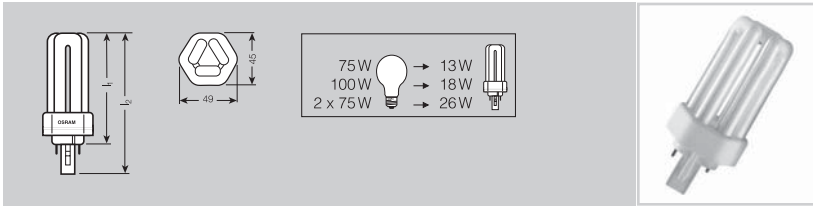


Product reference	Product number				
OSRAM DULUXSTAR® MINI TWIST					
DST MTW 20W/827 220-240V	4052899146228	B22D	20	220-240	Warm White
DST MTW 20W/827 220-240V	4052899146266	E27	20	220-240	Warm White
DST MTW 20W/840 220-240V	4052899109438	B22D	20	220-240	Cool White
DST MTW 20W/840 220-240V	4052899109391	E27	20	220-240	Cool White
DST MTW 20W/865 220-240V	4052899109452	B22D	20	220-240	Daylight
DST MTW 20W/865 220-240V	4052899109414	E27	20	220-240	Daylight
DST MTW 20W/865 220-240V 2 PACK	4052899146143	E27	20	220-240	Daylight
DST MTW 20W/827 220-240V 2 PACK	4052899109766	B22D	20	220-240	Warm White
DST MTW 20W/827 220-240V 2 PACK	4052899109742	E27	20	220-240	Warm White
DST MTW 20W/865 220-240V 2 PACK	4052899146167	B22D	20	220-240	Daylight
DST MTW 23W/840 220-240V	4052899109513	B22D	23	220-240	Cool White
DST MTW 23W/840 220-240V	4052899109476	E27	23	220-240	Cool White
DST MTW 23W/865 220-240V	4052899109537	B22D	23	220-240	Daylight
DST MTW 23W/865 220-240V	4052899109490	E27	23	220-240	Daylight
DST MTW 23W/827 220-240V 2 PACK	4052899109803	B22D	23	220-240	Warm White
DST MTW 23W/827 220-240V 2 PACK	4052899109780	E27	23	220-240	Warm White





Product information continued					
OSRAM DULUXSTAR® MINI TWIST					
DST MTW 20W/827 220-240V	4052899146228	1300	70	110	6
DST MTW 20W/827 220-240V	4052899146266	1300	70	111	6
DST MTW 20W/840 220-240V	4052899109438	1300	70	110	12
DST MTW 20W/840 220-240V	4052899109391	1300	70	111	12
DST MTW 20W/865 220-240V	4052899109452	1250	70	110	6
DST MTW 20W/865 220-240V	4052899109414	1250	70	111	6
DST MTW 20W/865 220-240V 2 PACK	4052899146143	1250	70	111	4
DST MTW 20W/827 220-240V 2 PACK	4052899109766	1300	70	110	4
DST MTW 20W/827 220-240V 2 PACK	4052899109742	1300	70	111	4
DST MTW 20W/865 220-240V 2 PACK	4052899146167	1250	70	110	4
DST MTW 23W/840 220-240V	4052899109513	1600	75	118	12
DST MTW 23W/840 220-240V	4052899109476	1600	75	119	12
DST MTW 23W/865 220-240V	4052899109537	1550	75	118	12
DST MTW 23W/865 220-240V	4052899109490	1550	75	119	12
DST MTW 23W/827 220-240V 2 PACK	4052899109803	1600	75	118	4
DST MTW 23W/827 220-240V 2 PACK	4052899109780	1600	75	119	4

OSRAM DULUX® T PLUS for conventional control gear (CCG)



Product reference	Product number	W		Ra
OSRAM DULUX® T PLUS for conventional control gear (CCG)				
DULUX T 13 W/830 PLUS	4050300446929	13	LUMILUX Warm White	1B
DULUX T 13 W/840 PLUS	4050300446905	13	LUMILUX Cool White	1B
DULUX T 18 W/830 PLUS	4050300333489	18	LUMILUX Warm White	1B
DULUX T 18 W/840 PLUS	4050300333465	18	LUMILUX Cool White	1B
DULUX T 26 W/830 PLUS	4050300342061	26	LUMILUX Warm White	1B
DULUX T 26 W/840 PLUS	4050300342047	26	LUMILUX Cool White	1B

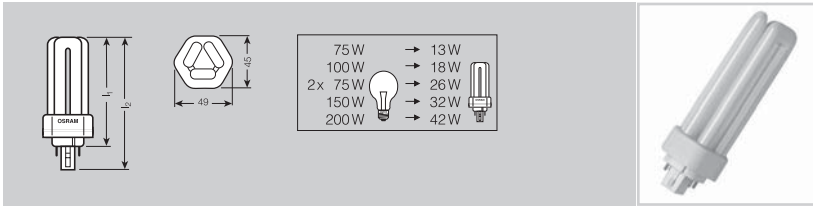
Product reference	lm	 ⁽¹⁾	$\frac{l_1 \text{ max.}}{[mm]}$	$\frac{l_2 \text{ max.}}{[mm]}$	IEC $\frac{l_1}{[mm]}$	
DULUX T 13 W/830 PLUS	900	GX24d-1	90	113	90	10
DULUX T 13 W/840 PLUS	900	GX24d-1	90	113	90	10
DULUX T 18 W/830 PLUS	1200	GX24d-2	100	123	110	10
DULUX T 18 W/840 PLUS	1200	GX24d-2	100	123	110	10
DULUX T 26 W/830 PLUS	1800	GX24d-3	115	138	130	10
DULUX T 26 W/840 PLUS	1800	GX24d-3	115	138	130	10

All the lamps in the successful OSRAM DULUX® T/E series have the following positive properties:

- Improved maintenance
- Longer lamp life and service life
- Reduced Mercury content
- Improved start-up behavior
- Integrated ignition assistance for faster starting



OSRAM DULUX® T 18 W PLUS lamps are suitable only for operating with 0.22 A control gear. This compact fluorescent lamp is an even shorter and more compact pin-base lamp with triple-turn tubes. It is ideal for miniaturized unconventional luminaires and downlights with shallow mounting depths and for new lighting systems.

- Approx. two thirds the length of an OSRAM DULUX® D of the same wattage.
- Only 20 to 25% of the power consumption of light bulbs of comparable brightness.
- The same rotationally symmetrical luminous intensity distribution as ordinary light bulbs.
- Pleasant warm light, excellent color rendering.
- Eight times the life of light bulbs of comparable brightness for long relamping intervals.
- Single-ended plug-in base with integrated starter and RF suppression capacitor.



Product reference	Product number	W		Ra
OSRAM DULUX® T/E PLUS for electronic control gear (ECG)				
DULUX T/E 13 W/830 PLUS	4050300 446981	13	LUMILUX Warm White	1B
DULUX T/E 13 W/840 PLUS	4050300 446967	13	LUMILUX Cool White	1B
DULUX T/E 18 W/830 PLUS	4050300 342245	18	LUMILUX Warm White	1B
DULUX T/E 18 W/840 PLUS	4050300 342221	18	LUMILUX Cool White	1B
DULUX T/E 26 W/830 PLUS	4050300 342306	26	LUMILUX Warm White	1B
DULUX T/E 26 W/840 PLUS	4050300 342283	26	LUMILUX Cool White	1B
DULUX T/E 32 W/830 PLUS	4050300 348582	32	LUMILUX Warm White	1B
DULUX T/E 32 W/840 PLUS	4050300 348568	32	LUMILUX Cool White	1B
DULUX T/E 42 W/830 PLUS	4050300 425641	42	LUMILUX Warm White	1B
DULUX T/E 42 W/840 PLUS	4050300 425627	42	LUMILUX Cool White	1B



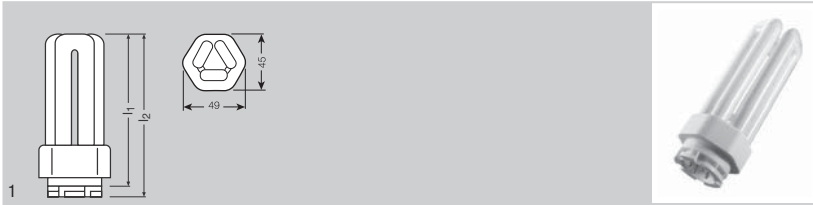
Product reference	lm		l_1 max. [mm]	l_2 max. [mm]	IEC l_1 [mm]	
DULUX T/E 13 W/830 PLUS	900	GX24q-1	90	106	90	10
DULUX T/E 13 W/840 PLUS	900	GX24q-1	90	106	90	10
DULUX T/E 18 W/830 PLUS	1200	GX24q-2	100	116	110	10
DULUX T/E 18 W/840 PLUS	1200	GX24q-2	100	116	110	10
DULUX T/E 26 W/830 PLUS	1800	GX24q-3	115	131	130	10
DULUX T/E 26 W/840 PLUS	1800	GX24q-3	115	131	130	10
DULUX T/E 32 W/830 PLUS	2400	GX24q-3	131	147	145	10
DULUX T/E 32 W/840 PLUS	2400	GX24q-3	131	147	145	10
DULUX T/E 42 W/830 PLUS	3200	GX24q-4	152	168	155	10
DULUX T/E 42 W/840 PLUS	3200	GX24q-4	152	168	155	10

For circuit diagrams see page 3.25

For QUICKTRONIC® electronic control gear see Section 8

When operated on an ECG, the lamp has ten times the life of a light bulb of the same brightness. OSRAM DULUX® T/E PLUS are compact fluorescent lamps for HF control gear and for dimmer systems. These innovative energy-saving lamps are designed for operation on batteries, solar cells and ac power supply. They are suitable for high and low voltage and can be fully dimmed. Their dimensions and wattages are identical to those of the standard OSRAM DULUX® T PLUS models.

- Approx. two thirds the length of an OSRAM DULUX® D/E of the same wattage.
- Luminous flux values from 1200 to 3200 lm.
- The same rotationally symmetrical luminous intensity distribution as ordinary light bulbs.
- Single-ended four-pin plug-in GX24q base with shortened base casing to prevent two-pin lamps being fitted in T/E PLUS holders.



Product reference	Product number	W	R _a	
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 _m 35°C		No.
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_a 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

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * Service life is defined as the time when 70% of the system luminous flux is still available.



Product reference	Product number	W	lm	R _a
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 ¹⁾	4008321511959	42	3200	80...89
DULUX T/E 42 W/840 XT ¹⁾	4008321511973	42	3200	80...89

Product reference			h 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 ¹⁾	LUMILUX Warm White	GX24q-4	153	10	1
DULUX T/E 42 W/840 XT ¹⁾	LUMILUX Cool White	GX24q-4	153	10	1

¹⁾ 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_a 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

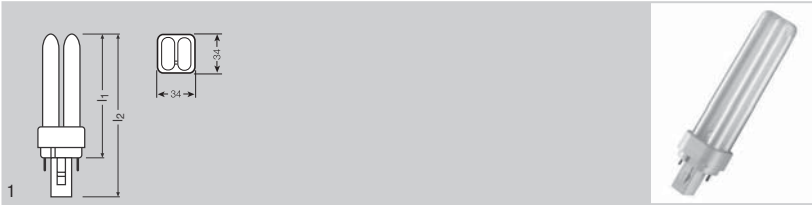
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- *Total cost of ownership: comprising investment, maintenance and relamping costs





Product reference	Product number	W	lm	Ra
DULUX D 10 W/827	40503000 08110	10	600	80...89
DULUX D 10 W/830	40503000 25681	10	600	80...89
DULUX D 10 W/840	40503000 10595	10	600	80...89
DULUX D 13 W/827	40503000 08127	13	900	80...89
DULUX D 13 W/830	40503000 25698	13	900	80...89
DULUX D 13 W/840	40503000 10625	13	900	80...89
DULUX D 13 W/865	4050300 487106	13	855	80...89
DULUX D 18 W/827 ¹⁾	40503000 11462	18	1200	80...89
DULUX D 18 W/830 ¹⁾	40503000 25704	18	1200	80...89
DULUX D 18 W/835 ¹⁾	40503000 28873	18	1200	80...89
DULUX D 18 W/840 ¹⁾	40503000 12056	18	1200	80...89
DULUX D 18 W/865 ¹⁾	4050300 487120	18	1140	80...89
DULUX D 26 W/827	40503000 11912	26	1800	80...89
DULUX D 26 W/830	40503000 25711	26	1800	80...89
DULUX D 26 W/835	40503000 28897	26	1800	80...89
DULUX D 26 W/840	40503000 12049	26	1800	80...89
DULUX D 26 W/865	4050300 486987	26	1710	80...89

Product reference				l max. (mm)		
DULUX D 10 W/827	LUMILUX INTERNA	G24d-1	G24d-1	87	10	1
DULUX D 10 W/830	LUMILUX Warm White	G24d-1	G24d-1	87	10	1
DULUX D 10 W/840	LUMILUX Cool White	G24d-1	G24d-1	87	10	1
DULUX D 13 W/827	LUMILUX INTERNA	G24d-1	G24d-1	115	10	1
DULUX D 13 W/830	LUMILUX Warm White	G24d-1	G24d-1	115	10	1
DULUX D 13 W/840	LUMILUX Cool White	G24d-1	G24d-1	115	10	1
DULUX D 13 W/865	LUMILUX Cool Daylight	G24d-1	G24d-1	115	10	1
DULUX D 18 W/827 ¹⁾	LUMILUX INTERNA	G24d-2	G24d-2	130	10	1
DULUX D 18 W/830 ¹⁾	LUMILUX Warm White	G24d-2	G24d-2	130	10	1
DULUX D 18 W/835 ¹⁾	LUMILUX White	G24d-2	G24d-2	130	10	1
DULUX D 18 W/840 ¹⁾	LUMILUX Cool White	G24d-2	G24d-2	130	10	1
DULUX D 18 W/865 ¹⁾	LUMILUX Cool Daylight	G24d-2	G24d-2	130	10	1
DULUX D 26 W/827	LUMILUX INTERNA	G24d-3	G24d-3	149	10	1
DULUX D 26 W/830	LUMILUX Warm White	G24d-3	G24d-3	149	10	1
DULUX D 26 W/835	LUMILUX White	G24d-3	G24d-3	149	10	1
DULUX D 26 W/840	LUMILUX Cool White	G24d-3	G24d-3	149	10	1
DULUX D 26 W/865	LUMILUX Cool Daylight	G24d-3	G24d-3	149	10	1

¹⁾ 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_a 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

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 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			l max. [mm]			No.
DULUX D/E 10 W/827	LUMILUX INTERNA	G24q-1	87	10	1	1
DULUX D/E 10 W/830	LUMILUX Warm White	G24q-1	87	10	1	1
DULUX D/E 10 W/840	LUMILUX Cool White	G24q-1	87	10	1	1
DULUX D/E 13 W/827	LUMILUX INTERNA	G24q-1	115	10	1	1
DULUX D/E 13 W/830	LUMILUX Warm White	G24q-1	115	10	1	1
DULUX D/E 13 W/835	LUMILUX White	G24q-1	115	10	1	1
DULUX D/E 13 W/840	LUMILUX Cool White	G24q-1	115	10	1	1
DULUX D/E 18 W/827	LUMILUX INTERNA	G24q-2	130	10	1	1
DULUX D/E 18 W/830	LUMILUX Warm White	G24q-2	130	10	1	1
DULUX D/E 18 W/835	LUMILUX White	G24q-2	130	10	1	1
DULUX D/E 18 W/840	LUMILUX Cool White	G24q-2	130	10	1	1
DULUX D/E 18 W/865	LUMILUX Cool Daylight	G24q-2	130	10	1	1
DULUX D/E 26 W/827	LUMILUX INTERNA	G24q-3	149	10	1	1
DULUX D/E 26 W/830	LUMILUX Warm White	G24q-3	149	10	1	1
DULUX D/E 26 W/835	LUMILUX White	G24q-3	149	10	1	1
DULUX D/E 26 W/840	LUMILUX Cool White	G24q-3	149	10	1	1
DULUX D/E 26 W/865	LUMILUX Cool Daylight	G24q-3	149	10	1	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_a 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

System guarantee

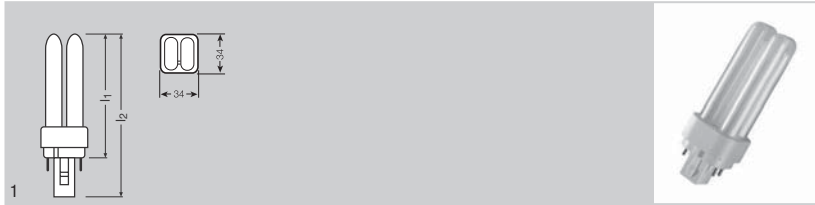
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * Service life is defined as the time when 70% of the system luminous flux is still available.



OSRAM DULUX® D/E XT



Product reference	Product number	W	lm	R _a
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			h 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_a 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

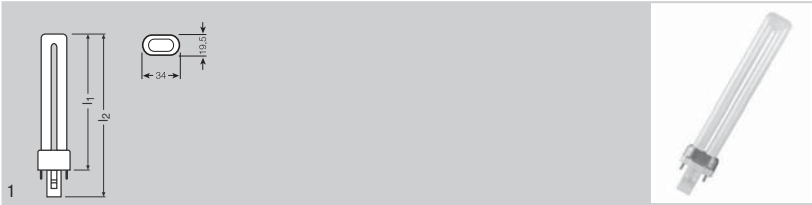
In the event of a breakage: www.osram.com/brokenlamps

System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- *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	4050300006010	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			l1 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

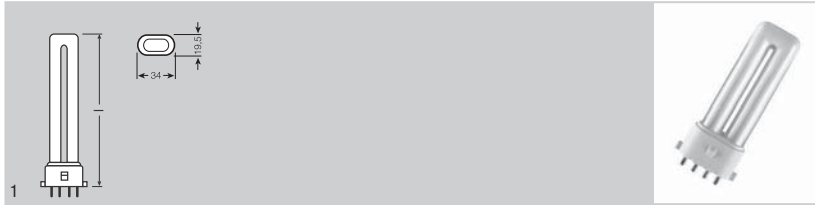
Safety information

In the event of a breakage: www.osram.com/brokenlamps

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 _a
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

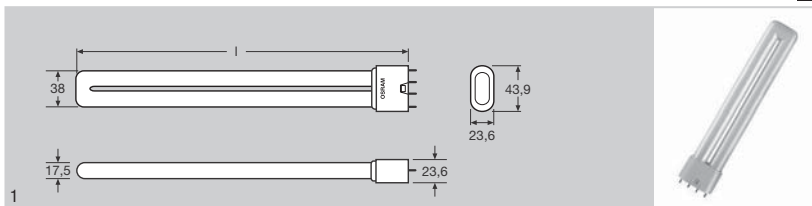
- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Hotels and restaurants

Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * 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 L 18 W/827 ¹⁾	4050300010748	18	1200	80...89
DULUX L 18 W/830 ¹⁾	4050300010731	18	1200	80...89
DULUX L 18 W/835 ¹⁾	4050300295893	18	1200	80...89
DULUX L 18 W/840 ¹⁾	4050300010724	18	1200	80...89
DULUX L 24 W/827 ¹⁾	4050300010779	24	1800	80...89
DULUX L 24 W/830 ¹⁾	4050300010762	24	1800	80...89
DULUX L 24 W/835 ¹⁾	4050300295916	24	1800	80...89
DULUX L 24 W/840 ¹⁾	4050300010755	24	1800	80...89
DULUX L 36 W/827 ¹⁾	4050300010809	36	2900	80...89
DULUX L 36 W/830 ¹⁾	4050300010793	36	2900	80...89
DULUX L 36 W/835 ¹⁾	4050300295930	36	2900	80...89
DULUX L 36 W/840 ¹⁾	4050300010786	36	2900	80...89
DULUX L 36 W/865 ¹⁾	4050300328263	36	2750	80...89
DULUX L 36 W/880 ¹⁾	4008321185891	36	2600	80...89
DULUX L 40 W/827 ²⁾	4050300322285	40	3500	80...89
DULUX L 40 W/830 ²⁾	4050300298884	40	3500	80...89
DULUX L 40 W/835 ²⁾	4050300295954	40	3500	80...89
DULUX L 40 W/840 ²⁾	4050300279909	40	3500	80...89
DULUX L 40 W/865 ²⁾	4050300592008	40	3325	80...89
DULUX L 40 W/880 ²⁾	4008321185914	40	3150	80...89
DULUX L 55 W/827 ²⁾	4050300315881	55	4800	80...89
DULUX L 55 W/830 ²⁾	4050300298917	55	4800	80...89
DULUX L 55 W/835 ²⁾	4050300295978	55	4800	80...89
DULUX L 55 W/840 ²⁾	4050300295879	55	4800	80...89
DULUX L 55 W/865 ²⁾	4050300553900	55	4550	80...89
DULUX L 55 W/880 ²⁾	4008321185938	55	4300	80...89
DULUX L 80 W/830 ²⁾	4050300665467	80	6500	80...89
DULUX L 80 W/840 ²⁾	4050300665481	80	6500	80...89
DULUX L 80 W/880 ²⁾	4008321185952	80	5850	80...89

Colored

Product reference			l [mm]		No.
DULUX L 18 W/827 ¹⁾	LUMILUX INTERNA	2G11	217	10	1
DULUX L 18 W/830 ¹⁾	LUMILUX Warm White	2G11	217	10	1
DULUX L 18 W/835 ¹⁾	LUMILUX White	2G11	217	10	1
DULUX L 18 W/840 ¹⁾	LUMILUX Cool White	2G11	217	10	1
DULUX L 24 W/827 ¹⁾	LUMILUX INTERNA	2G11	317	10	1
DULUX L 24 W/830 ¹⁾	LUMILUX Warm White	2G11	317	10	1
DULUX L 24 W/835 ¹⁾	LUMILUX White	2G11	317	10	1
DULUX L 24 W/840 ¹⁾	LUMILUX Cool White	2G11	317	10	1
DULUX L 36 W/827 ¹⁾	LUMILUX INTERNA	2G11	411	10	1
DULUX L 36 W/830 ¹⁾	LUMILUX Warm White	2G11	411	10	1
DULUX L 36 W/835 ¹⁾	LUMILUX White	2G11	411	10	1
DULUX L 36 W/840 ¹⁾	LUMILUX Cool White	2G11	411	10	1
DULUX L 36 W/865 ¹⁾	LUMILUX Cool Daylight	2G11	411	10	1
DULUX L 36 W/880 ¹⁾	LUMILUX SKYWHITE	2G11	411	10	1
DULUX L 40 W/827 ²⁾	LUMILUX INTERNA	2G11	533	10	1



Product reference					
			(mm)		No.
DULUX L 40 W/830 ²⁾	LUMILUX Warm White	2G11	533	10	1
DULUX L 40 W/835 ²⁾	LUMILUX White	2G11	533	10	1
DULUX L 40 W/840 ²⁾	LUMILUX Cool White	2G11	533	10	1
DULUX L 40 W/865 ²⁾	LUMILUX Cool Daylight	2G11	533	10	1
DULUX L 40 W/880 ²⁾	LUMILUX SKYWHITE	2G11	533	10	1
DULUX L 55 W/827 ²⁾	LUMILUX INTERNA	2G11	533	10	1
DULUX L 55 W/830 ²⁾	LUMILUX Warm White	2G11	533	10	1
DULUX L 55 W/835 ²⁾	LUMILUX White	2G11	533	10	1
DULUX L 55 W/840 ²⁾	LUMILUX Cool White	2G11	533	10	1
DULUX L 55 W/865 ²⁾	LUMILUX Cool Daylight	2G11	533	10	1
DULUX L 55 W/880 ²⁾	LUMILUX SKYWHITE	2G11	533	10	1
DULUX L 80 W/830 ²⁾	LUMILUX Warm White	2G11	565	10	1
DULUX L 80 W/840 ²⁾	LUMILUX Cool White	2G11	565	10	1
DULUX L 80 W/880 ²⁾	LUMILUX SKYWHITE	2G11	565	10	1
Colored					
DULUX L 24 W/67 ¹⁾	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_a 80-89)
- 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)
- 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

System guarantee

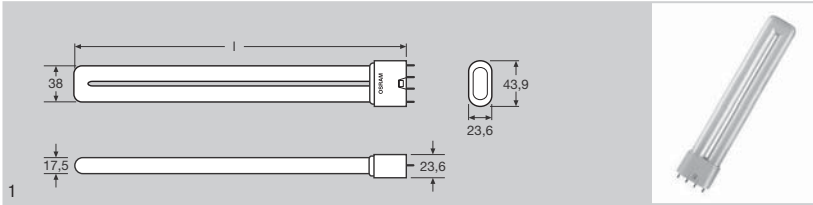
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * 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 _a
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			l [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_a 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® QTl 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

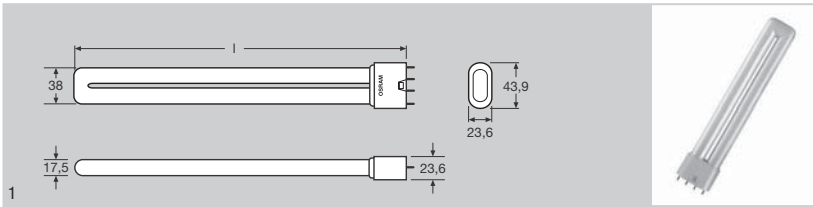
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * 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	R _a
DULUX L 18 W/930 ¹⁾	4050300018324	18	950	≥ 90
DULUX L 18 W/940 ¹⁾	4050300018560	18	950	≥ 90
DULUX L 18 W/954 ¹⁾	4050300018423	18	950	≥ 90
DULUX L 24 W/930 ¹⁾	4050300018386	24	1500	≥ 90
DULUX L 24 W/940 ¹⁾	4050300018584	24	1500	≥ 90
DULUX L 24 W/954 ¹⁾	4050300018447	24	1500	≥ 90
DULUX L 36 W/930 ¹⁾	4050300018393	36	2350	≥ 90
DULUX L 36 W/940 ¹⁾	4050300018607	36	2350	≥ 90
DULUX L 36 W/954 ¹⁾	4050300018461	36	2350	≥ 90
DULUX L 40 W/954 ²⁾	4050300315799	40	2950	≥ 90
DULUX L 55 W/930 ²⁾	4050300370705	55	4000	≥ 90
DULUX L 55 W/940 ²⁾	4050300197999	55	4000	≥ 90
DULUX L 55 W/954 ²⁾	4050300321400	55	4000	≥ 90

Product reference			l [mm]		
DULUX L 18 W/930 ¹⁾	LUMILUX DE LUXE Warm White	2G11	217	10	1
DULUX L 18 W/940 ¹⁾	LUMILUX DE LUXE Cool White	2G11	217	10	1
DULUX L 18 W/954 ¹⁾	LUMILUX DE LUXE Daylight	2G11	217	10	1
DULUX L 24 W/930 ¹⁾	LUMILUX DE LUXE Warm White	2G11	317	10	1
DULUX L 24 W/940 ¹⁾	LUMILUX DE LUXE Cool White	2G11	317	10	1
DULUX L 24 W/954 ¹⁾	LUMILUX DE LUXE Daylight	2G11	317	10	1
DULUX L 36 W/930 ¹⁾	LUMILUX DE LUXE Warm White	2G11	411	10	1
DULUX L 36 W/940 ¹⁾	LUMILUX DE LUXE Cool White	2G11	411	10	1
DULUX L 36 W/954 ¹⁾	LUMILUX DE LUXE Daylight	2G11	411	10	1
DULUX L 40 W/954 ²⁾	LUMILUX DE LUXE Daylight	2G11	533	10	1
DULUX L 55 W/930 ²⁾	LUMILUX DE LUXE Warm White	2G11	533	10	1
DULUX L 55 W/940 ²⁾	LUMILUX DE LUXE Cool White	2G11	533	10	1
DULUX L 55 W/954 ²⁾	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® QT_i 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

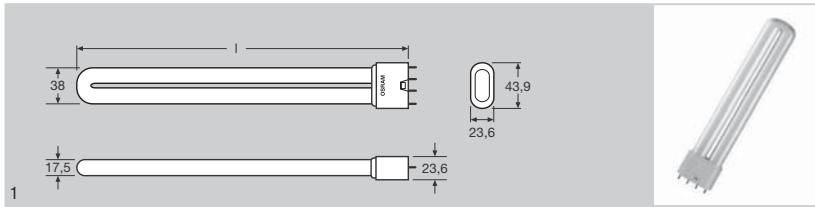
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * Service life is defined as the time when 70% of the system luminous flux is still available.

OSRAM DULUX® L SP



Product reference	Product number	W	lm	R _a
DULUX L 18 W/830 SP	4050300300276	18	1200 ¹⁾	80...89
DULUX L 18 W/840 SP	4008321280497	18	1200 ¹⁾	80...89
DULUX L 24 W/830 SP	4050300300238	24	1800 ¹⁾	80...89
DULUX L 24 W/840 SP	4008321280510	24	1800 ¹⁾	80...89
DULUX L 36 W/830 SP	4008321283757	36	2900 ¹⁾	80...89
DULUX L 36 W/840 SP	4008321283771	36	2900 ¹⁾	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

1) 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_a 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_i 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

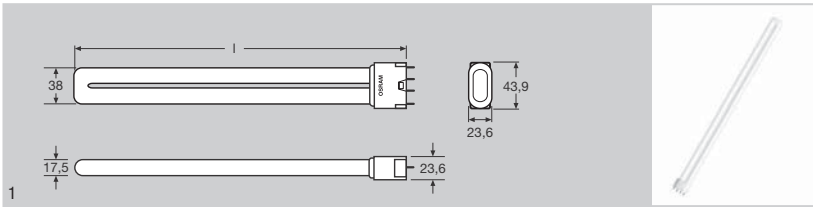
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References




- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * 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	4008321507792	16	LUMILUX Warm White
DULUX L 16 W/840 HE	4008321507815	16	LUMILUX Cool White
DULUX L 22 W/830 HE	4008321507839	22	LUMILUX Warm White
DULUX L 22 W/840 HE	4008321508638	22	LUMILUX Cool White
DULUX L 26 W/830 HE	4008321508584	26	LUMILUX Warm White
DULUX L 26 W/840 HE	4008321508713	26	LUMILUX Cool White
DULUX L 28 W/830 HE	4008321296719	28	LUMILUX Warm White
DULUX L 28 W/840 HE	4008321296757	28	LUMILUX Cool White



Product reference		$\frac{l}{\text{[mm]}}$	$\text{lm}_{25^\circ\text{C}}$	$\text{lm}_{35^\circ\text{C}}$		
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_a 80-89)
- Impressive luminous efficacy at an ambient temperature of 35°C
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QT_i 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

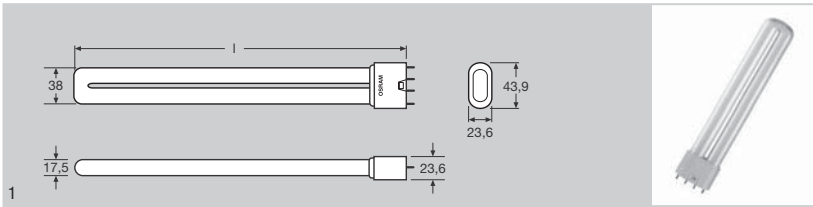
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * 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 L 18 W/830 XT ¹⁾	4008321507570	18	1200	80...89
DULUX L 18 W/840 XT ¹⁾	4008321507594	18	1200	80...89
DULUX L 24 W/830 XT ¹⁾	4008321507617	24	1800	80...89
DULUX L 24 W/840 XT ¹⁾	4008321507631	24	1800	80...89
DULUX L 36 W/830 XT ¹⁾	4008321507655	36	2900	80...89
DULUX L 36 W/840 XT ¹⁾	4008321507679	36	2900	80...89
DULUX L 55 W/830 XT ²⁾	4008321507693	55	4800	80...89
DULUX L 55 W/840 XT ²⁾	4008321507716	55	4800	80...89



Product reference					
DULUX L 18 W/830 XT ¹⁾	LUMILUX Warm White	2G11	217	10	1
DULUX L 18 W/840 XT ¹⁾	LUMILUX Cool White	2G11	217	10	1
DULUX L 24 W/830 XT ¹⁾	LUMILUX Warm White	2G11	317	10	1
DULUX L 24 W/840 XT ¹⁾	LUMILUX Cool White	2G11	317	10	1
DULUX L 36 W/830 XT ¹⁾	LUMILUX Warm White	2G11	411	10	1
DULUX L 36 W/840 XT ¹⁾	LUMILUX Cool White	2G11	411	10	1
DULUX L 55 W/830 XT ²⁾	LUMILUX Warm White	2G11	533	10	1
DULUX L 55 W/840 XT ²⁾	LUMILUX Cool White	2G11	533	10	1

1) EEC 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_a 80-89)
- Improved maintenance
- Dimmable (from 100 to 1% with QUICKTRONIC® QT_i 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

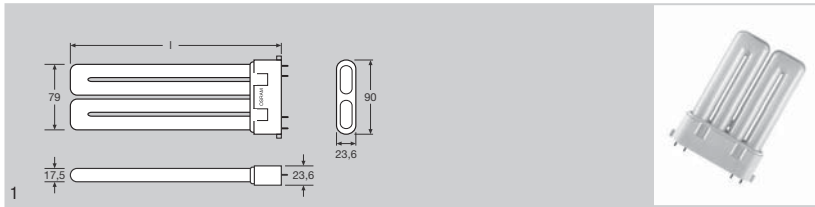
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- *Total cost of ownership: comprising investment, maintenance and relamping costs





Product reference	Product number	W	lm	R _a
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						
Product reference			l (mm)			No.
DULUX F 18 W/827	LUMILUX INTERNA	2G10	122	10	1	1
DULUX F 18 W/830	LUMILUX Warm White	2G10	122	10	1	1
DULUX F 18 W/840	LUMILUX Cool White	2G10	122	10	1	1
DULUX F 24 W/827	LUMILUX INTERNA	2G10	165	10	1	1
DULUX F 24 W/830	LUMILUX Warm White	2G10	165	10	1	1
DULUX F 24 W/840	LUMILUX Cool White	2G10	165	10	1	1
DULUX F 36 W/827	LUMILUX INTERNA	2G10	217	10	1	1
DULUX F 36 W/830	LUMILUX Warm White	2G10	217	10	1	1
DULUX F 36 W/840	LUMILUX Cool White	2G10	217	10	1	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_a 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

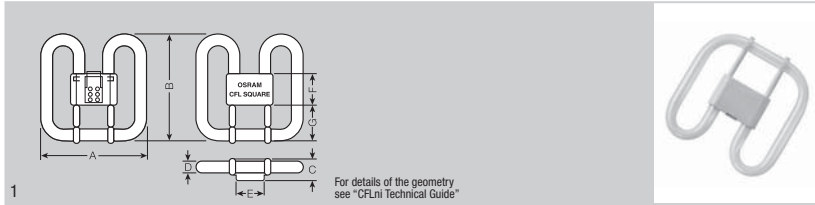
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * Service life is defined as the time when 70% of the system luminous flux is still available.

OSRAM CFL SQUARE® 2-Pin



For details of the geometry see "CFLni Technical Guide"

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 _a				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_a 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

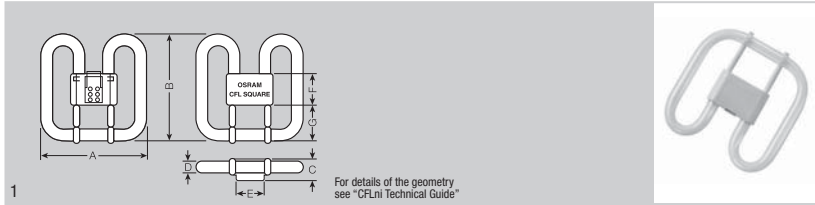
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

- * Service life is defined as the time when 70% of the system luminous flux is still available.

OSRAM CFL SQUARE® 4-Pin



For details of the geometry see "CFLni Technical Guide"

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 _a				No.
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_a 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

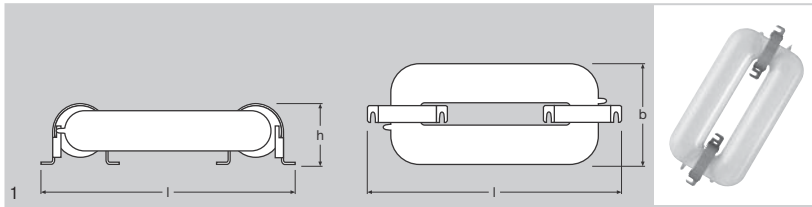
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * Service life is defined as the time when 70% of the system luminous flux is still available.

OSRAM ENDURA® The electrodeless fluorescent lamp



Product reference	Product number	W	lm	R _a
ENDURA 70 W/830 2-pole ¹⁾	4050300817293	70	6500 ²⁾	≥ 80
ENDURA 70 W/840 2-pole ¹⁾	4050300817286	70	6500 ²⁾	≥ 80
ENDURA 100 W/830 2-pole ¹⁾	4050300668420	100	8000 ²⁾	≥ 80
ENDURA 100 W/840 2-pole ¹⁾	4050300668437	100	8000 ²⁾	≥ 80
ENDURA 100 W/840 Reflector ¹⁾	4008321368034	100	8000 ²⁾	≥ 80
ENDURA 150 W/830 2-pole ¹⁾	4050300668444	150	12000 ³⁾	≥ 80
ENDURA 150 W/840 2-pole ¹⁾	4050300668451	150	12000 ³⁾	≥ 80

Product reference		l [mm]	h [mm]	b [mm]		 No.
ENDURA 70 W/830 2-pole ¹⁾	LUMILUX Warm White	315	75	139	1	1
ENDURA 70 W/840 2-pole ¹⁾	LUMILUX Cool White	315	75	139	1	1
ENDURA 100 W/830 2-pole ¹⁾	LUMILUX Warm White	315	75	139	1	1
ENDURA 100 W/840 2-pole ¹⁾	LUMILUX Cool White	315	75	139	1	1
ENDURA 100 W/840 Reflector ¹⁾	LUMILUX Cool White	315	75	139	1	1
ENDURA 150 W/830 2-pole ¹⁾	LUMILUX Warm White	415	75	139	1	1
ENDURA 150 W/840 2-pole ¹⁾	LUMILUX Cool White	415	75	139	1	1

¹⁾ With 2-pin connector
²⁾ With QT ENDURA 70-100/120-240 S
³⁾ With QT 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_a ≥ 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

References

- For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.
- * 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 operation W	Luminance cd/cm ² LF 827, 830, 840	Compensation Parallel capacitor ¹⁾ CCG operation 230V/50Hz µF	Series capacitor ²⁾ CCG operation µF
	for 50/60Hz V	for HF operation V	for 50/60Hz mA	for HF operation mA				
CFL SQUARE 16	103	—	195	—	—	—	—	—
CFL SQUARE 28	108	—	320	—	—	—	—	—
CFL SQUARE 38	110	—	430	—	—	—	—	—
DULUX S 5	35	—	180	—	—	2,5	2,2	—
DULUX S 7	47/45	—	175/180	—	—	2,6	2,1	—
DULUX S 9	60/59	—	170/180	—	—	2,8	2,0	—
DULUX S 11	91/—	—	155/—	—	—	2,7	1,7	—
DULUX D 10	64	—	190	—	—	4,0	2,2	1,4
DULUX D 13	91	—	175	—	—	4,0	1,8	1,4
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 5	—	27	—	190	7,5	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	—	80	—	210	20	4,5	—	—
DULUX D/E 26	—	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	—	80	—	300	28	6,0	—	—
DULUX T/E 32	—	100	—	320	35	6,5	—	—
DULUX T/E 42	—	135	—	320	46	7,0	—	—
DULUX T/E 57	—	182	—	320	62	7,0	—	—
DULUX T/E 70	—	219	—	320	77	7,0	—	—
DULUX L 18	58	50	375	320	19	2,1	4,2	2,7
DULUX L 24	87	75	345	300	27	2,1	3,6	2,7
DULUX L 36	106	90	435	360	39	2,8	4,4	3,4
DULUX L 40	—	126	—	320	45	2,3	—	—
DULUX L 55	—	101	—	550	61	3,2	—	—
DULUX L 80	—	145	—	555	86	3,7	—	—
DULUX L CONSTANT 40	—	126	—	320	45	2,3	—	—
DULUX L CONSTANT 55	—	101	—	550	61	3,2	—	—
DULUX L CONSTANT 80	—	145	—	555	86	3,7	—	—
DULUX 120 W HO CONSTANT	—	153	—	800	134	7	—	—
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 8.
For detailed technical information see the "Technical Guides".

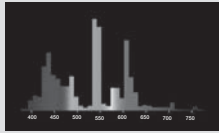


1) Design for cos phi = 0.95
Dielectric strength of the capacitors 250 V ac
Capacitance tolerance ± 10%.

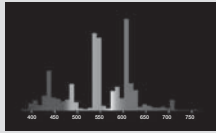
2) To maintain the specified operating and preheating values,
close-tolerance capacitors (± 2%) and series reactors
(± 1.5%) are required for series compensation.
Check the product ranges of leading manufacturers.
Dielectric strength of the capacitors 450 V ac.

Spectral power distribution of OSRAM DULUX® lamps with integrated control gear

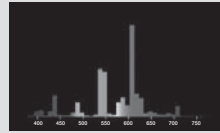
Visible range from 380 to 780 nm, relative spectral emission per 10 nm.



Color 865 LUMILUX®
Daylight



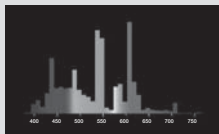
Color 840 LUMILUX®
Cool White



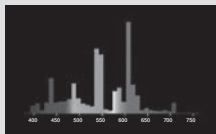
Color 827 LUMILUX®
Warm White

Spectral power distribution of OSRAM DULUX® pin-base lamps

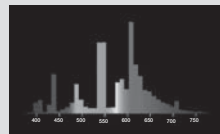
Visible range from 380 to 780 nm, relative spectral emission per 10 nm.



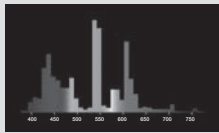
Color 954 LUMILUX® DE LUXE
Daylight



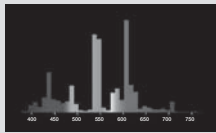
Color 940 LUMILUX® DE LUXE
Cool White



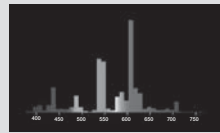
Color 930 LUMILUX® DE LUXE
Warm White



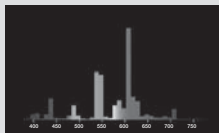
Color 865 LUMILUX®
Cool Daylight



Color 840 LUMILUX®
Cool White



Color 830 LUMILUX®
Warm White



Color 827 LUMILUX INTERNA®



Light colors and color rendering properties of fluorescent lamps to DIN 5035

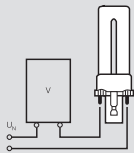
Light colors and color rendering properties of fluorescent lamps to DIN 5035

Group 1 very good	1 A Ra 90 ... 100	954 LUMILUX® DE LUXE Daylight 5400 K	940 LUMILUX® DE LUXE Cool White 3800 K	930 LUMILUX® DE LUXE Warm White 3000 K
	1 B Ra 80 ... 89	865 LUMILUX® Cool Daylight 6500 K	840 LUMILUX® Cool White 4000 K	830 LUMILUX® Warm White 3000 K
				827 LUMILUX INTERNA® 2700 K
				827 LUMILUX Warm White 2700 K

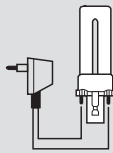
For an explanation of light colors see Section 4 Fluorescent.



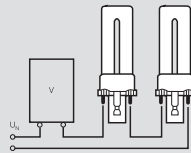
Circuit diagrams for conventional control gear



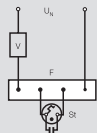
1
Single lamp with control gear
OSRAM DULUX® S 5W, 7W, 9W, 11W
OSRAM DULUX® D 10W, 13W, 18W, 26W
OSRAM DULUX® T 13W, 18W, 26W



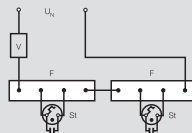
2
Single lamp with plug-in control gear
OSRAM DULUX® S 5W, 7W, 9W, 11W
OSRAM DULUX® D 10W, 13W
OSRAM DULUX® T 13W



3
Series connection with control gear
OSRAM DULUX® S 5W, 7W, 9W



4
Single lamp with starter St 111
or DEOS® St 171
OSRAM DULUX® L 18W, 24W, 36W
OSRAM DULUX® L 18W SP, 24W SP
OSRAM DULUX® F 18W, 24W, 36W



5
Series connection to 230V only
with starter St 151
OSRAM DULUX® L 18W
OSRAM DULUX® L 18W SP
OSRAM DULUX® F 18W

F = Four-pin lampholder
St = Starter
 U_N = Line voltage
V = Control gear

For circuit diagrams for HF operation see Section 8.

Bases IEC/EN 60061-1

For direct connection to ac power



E14
Sheet 7004-23



E27
Sheet 7004-21



B22d
Sheet 7004-10

For choke/starter operation



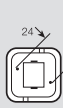
G23
Sheet 7004-69



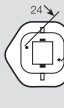
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Sheet 7004-78



G24d-2
Sheet 7004-78



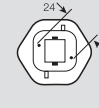
G24d-3
Sheet 7004-78



GX24d-1
Sheet 7004-78



GX24d-2
Sheet 7004-78



GX24d-3
Sheet 7004-78

For HF operation



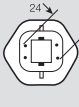
G24q-1
Sheet 7004-78



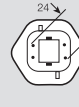
G24q-2
Sheet 7004-78



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



GX24q-5
Sheet 7004-78



GX24q-6
Sheet 7004-78



2G8-1
Sheet 7004-141

For HF operation



2G7
Sheet 7004-102



2G11
Sheet 7004-82



2G10
Sheet 7004-118



GR10q
Sheet 7004-77

For choke/starter operation



GR8
Sheet 7004-68

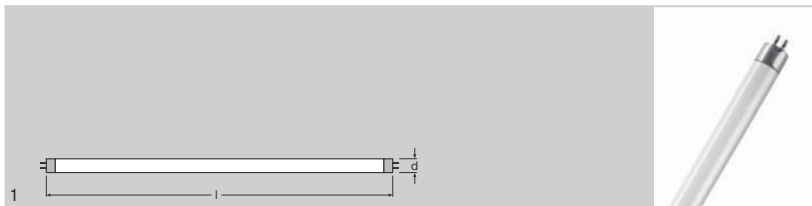




Fluorescent lamps

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LUMILUX® T5 HE HIGH EFFICIENCY, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		Ra	TUBE d [mm]	l [mm]		No.
HE 14 W/827 ¹⁾	4050300 645933	14	1200	1350	LUMILUX INTERNA	80...89	16	549	40 ²⁾	1
HE 14 W/830 ¹⁾	4050300 464824	14	1200	1350	LUMILUX Warm White	80...89	16	549	40 ²⁾	1
HE 14 W/835 ¹⁾	4050300 771991	14	1200	1350	LUMILUX White	80...89	16	549	20 ²⁾	1
HE 14 W/840 ¹⁾	4050300 464688	14	1200	1350	LUMILUX Cool White	80...89	16	549	40 ²⁾	1
HE 14 W/865 ¹⁾	4050300 464848	14	1100	1300	LUMILUX Cool Daylight	80...89	16	549	40 ²⁾	1
HE 14 W/880 ¹⁾	4008321 225009	14	1080	1150	LUMILUX SKYWHITE	80...89	16	549	20 ²⁾	1
HE 21 W/827 ¹⁾	4050300 645971	21	1900	2100	LUMILUX INTERNA	80...89	16	849	40 ²⁾	1
HE 21 W/830 ¹⁾	4050300 464800	21	1900	2100	LUMILUX Warm White	80...89	16	849	40 ²⁾	1
HE 21 W/835 ¹⁾	4050300 776149	21	1900	2100	LUMILUX White	80...89	16	849	20 ²⁾	1
HE 21 W/840 ¹⁾	4050300 464701	21	1900	2100	LUMILUX Cool White	80...89	16	849	40 ²⁾	1
HE 21 W/865 ¹⁾	4050300 464626	21	1750	2000	LUMILUX Cool Daylight	80...89	16	849	40 ²⁾	1
HE 21 W/880 ¹⁾	4008321 224989	21	1700	1850	LUMILUX SKYWHITE	80...89	16	849	20 ²⁾	1
HE 28 W/827 ¹⁾	4050300 646015	28	2600	2900	LUMILUX INTERNA	80...89	16	1149	40 ²⁾	1
HE 28 W/830 ¹⁾	4050300 464787	28	2600	2900	LUMILUX Warm White	80...89	16	1149	40 ²⁾	1
HE 28 W/835 ¹⁾	4050300 776552	28	2600	2900	LUMILUX White	80...89	16	1149	40 ²⁾	1
HE 28 W/840 ¹⁾	4050300 464725	28	2600	2900	LUMILUX Cool White	80...89	16	1149	40 ²⁾	1
HE 28 W/865 ¹⁾	4050300 464640	28	2400	2750	LUMILUX Cool Daylight	80...89	16	1149	40 ²⁾	1
HE 28 W/880 ¹⁾	4008321 153517	28	2350	2690	LUMILUX SKYWHITE	80...89	16	1149	20 ²⁾	1
HE 35 W/827 ¹⁾	4050300 646053	35	3320	3650	LUMILUX INTERNA	80...89	16	1449	40 ²⁾	1
HE 35 W/830 ¹⁾	4050300 464763	35	3320	3650	LUMILUX Warm White	80...89	16	1449	40 ²⁾	1
HE 35 W/835 ¹⁾	4050300 776415	35	3320	3650	LUMILUX White	80...89	16	849	20 ²⁾	1
HE 35 W/840 ¹⁾	4050300 464749	35	3320	3650	LUMILUX Cool White	80...89	16	1449	40 ²⁾	1
HE 35 W/865 ¹⁾	4050300 464664	35	3050	3500	LUMILUX Cool Daylight	80...89	16	1449	40 ²⁾	1
HE 35 W/880 ¹⁾	4008321 153531	35	3000	3450	LUMILUX SKYWHITE	80...89	16	1449	20 ²⁾	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 (Ra 80-89)
- Dimmable

Applications

- Public buildings
- Offices
- Shops
- Supermarkets and department stores
- Industry

Safety information

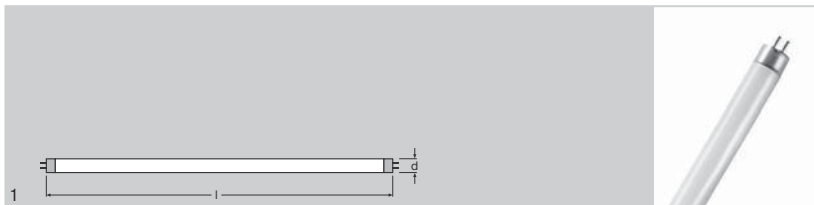
In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® T5 HO HIGH OUTPUT, tubular, G5 base



Product reference	Product number	W	lm	lm _{35°C}		R _a	TUBE d [mm]	l [mm]		No.
HO 24 W/827 ¹⁾	4050300646077	24	1750	2000	LUMILUX INTERNA	80...89	16	549	20 ²⁾	1
HO 24 W/830 ¹⁾	4050300453491	24	1750	2000	LUMILUX Warm White	80...89	16	549	40 ²⁾	1
HO 24 W/835 ¹⁾	4050300776439	24	1750	2000	LUMILUX White	80...89	16	549	20 ²⁾	1
HO 24 W/840 ¹⁾	4050300453477	24	1750	2000	LUMILUX Cool White	80...89	16	549	40 ²⁾	1
HO 24 W/865 ¹⁾	4050300453453	24	1600	1900	LUMILUX Cool Daylight	80...89	16	549	40 ²⁾	1
HO 24 W/880 ¹⁾	4008321081469	24	1550	1750	LUMILUX SKYWHITE	80...89	16	549	20 ²⁾	1
HO 39 W/827 ¹⁾	4050300646138	39	3100	3500	LUMILUX INTERNA	80...89	16	849	40 ²⁾	1
HO 39 W/830 ¹⁾	4050300453552	39	3100	3500	LUMILUX Warm White	80...89	16	849	40 ²⁾	1
HO 39 W/840 ¹⁾	4050300453538	39	3100	3500	LUMILUX Cool White	80...89	16	849	40 ²⁾	1
HO 39 W/865 ¹⁾	4050300453514	39	2850	3325	LUMILUX Cool Daylight	80...89	16	849	40 ²⁾	1
HO 49 W/827 ¹⁾	4050300796772	49	4310	4900	LUMILUX INTERNA	80...89	16	1449	20 ²⁾	1
HO 49 W/830 ¹⁾	4050300657158	49	4310	4900	LUMILUX Warm White	80...89	16	1449	40 ²⁾	1
HO 49 W/840 ¹⁾	4050300657134	49	4310	4900	LUMILUX Cool White	80...89	16	1449	40 ²⁾	1
HO 49 W/865 ¹⁾	4008321110732	49	4100	4600	LUMILUX Cool Daylight	80...89	16	1449	40 ²⁾	1
HO 49 W/880 ¹⁾	4008321907486	49	4050	4610	LUMILUX SKYWHITE	80...89	16	1449	20 ²⁾	1
HO 54 W/827 ¹⁾	4050300646176	54	4450	5000	LUMILUX INTERNA	80...89	16	1149	40 ²⁾	1
HO 54 W/830 ¹⁾	4050300453415	54	4450	5000	LUMILUX Warm White	80...89	16	1149	40 ²⁾	1
HO 54 W/835 ¹⁾	4050300776477	54	4450	5000	LUMILUX White	80...89	16	1149	20 ²⁾	1
HO 54 W/840 ¹⁾	4050300453392	54	4450	5000	LUMILUX Cool White	80...89	16	1149	40 ²⁾	1
HO 54 W/865 ¹⁾	4050300453378	54	4100	4750	LUMILUX Cool Daylight	80...89	16	1149	40 ²⁾	1
HO 54 W/880 ¹⁾	4008321070425	54	4000	4500	LUMILUX SKYWHITE	80...89	16	1149	20 ²⁾	1
HO 80 W/827 ¹⁾	4050300646213	80	6150	7000	LUMILUX INTERNA	80...89	16	1449	40 ²⁾	1
HO 80 W/830 ¹⁾	4050300515137	80	6150	7000	LUMILUX Warm White	80...89	16	1449	40 ²⁾	1
HO 80 W/840 ¹⁾	4050300515151	80	6150	7000	LUMILUX Cool White	80...89	16	1449	40 ²⁾	1
HO 80 W/865 ¹⁾	4050300515113	80	5700	6650	LUMILUX Cool Daylight	80...89	16	1449	40 ²⁾	1
HO 80 W/880 ¹⁾	4008321070449	80	5550	6400	LUMILUX SKYWHITE	80...89	16	1449	20 ²⁾	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.





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_a 80-89)
- Dimmable

Applications

- Industry
- Public buildings
- Offices
- Tunnels, subways
- Car parks

Safety information

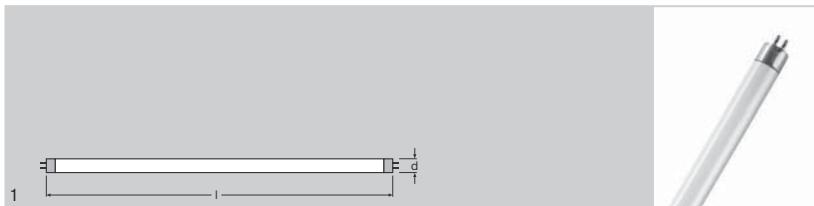
In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® T5 HE ES HIGH EFFICIENCY ENERGY SAVER, tubular, G5 base



Product reference	Product number	W	lm	lm _{35°C}		R _a	∅ TUBE d [mm]	l [mm]			No.
HE 13W/830 ES ¹⁾	4008321733818	13	1150	1350	LUMILUX Warm White	80...89	16	549	40 ²⁾	1	
HE 13W/840 ES ¹⁾	4008321733832	13	1150	1350	LUMILUX Cool White	80...89	16	549	40 ²⁾	1	
HE 13W/865 ES ¹⁾	4008321733856	13	1050	1300	LUMILUX Cool Daylight	80...89	16	549	40 ²⁾	1	
HE 19W/830 ES ¹⁾	4008321733931	19	1800	2100	LUMILUX Warm White	80...89	16	849	40 ²⁾	1	
HE 19W/840 ES ¹⁾	4008321733955	19	1800	2100	LUMILUX Cool White	80...89	16	849	40 ²⁾	1	
HE 19W/865 ES ¹⁾	4008321733979	19	1750	2000	LUMILUX Cool Daylight	80...89	16	849	40 ²⁾	1	
HE 25 W/827 ES ¹⁾	4008321516909	25	2450	2900	LUMILUX INTERNA	80...89	16	1149	40 ²⁾	1	
HE 25 W/830 ES ¹⁾	4008321516923	25	2450	2900	LUMILUX Warm White	80...89	16	1149	40 ²⁾	1	
HE 25 W/840 ES ¹⁾	4008321516947	25	2450	2900	LUMILUX Cool White	80...89	16	1149	40 ²⁾	1	
HE 25 W/865 ES ¹⁾	4008321516961	25	2260	2750	LUMILUX Cool Daylight	80...89	16	1149	40 ²⁾	1	
HE 32 W/827 ES ¹⁾	4008321517067	32	3100	3650	LUMILUX INTERNA	80...89	16	1449	40 ²⁾	1	
HE 32 W/830 ES ¹⁾	4008321517111	32	3100	3650	LUMILUX Warm White	80...89	16	1449	40 ²⁾	1	
HE 32 W/840 ES ¹⁾	4008321517166	32	3100	3650	LUMILUX Cool White	80...89	16	1449	40 ²⁾	1	
HE 32 W/865 ES ¹⁾	4008321517210	32	2870	3500	LUMILUX Cool Daylight	80...89	16	1449	40 ²⁾	1	

¹⁾ 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.
²⁾ Can also be supplied in boxes of 20 with sleeves.

NEW
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Achieve energy savings of up to 10% in existing systems by a simple lamp replacement ³⁾

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_a 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

System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

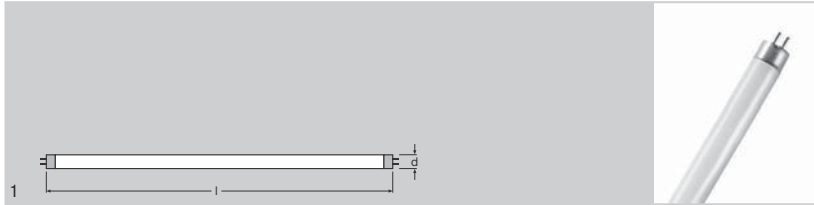
References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

³⁾ If operated on current-controlled ECGs



LUMILUX® T5 HO ES HIGH OUTPUT ENERGY SAVER, tubular, G5 base



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Product reference	Product number	W	lm	lm _{35°C}		R _a	TUBE d (mm)	l (mm)		No.
HO 20 W/830 ES ¹⁾	4008321734068	20	1650	2000	LUMILUX Warm White	80...89	16	549	40 ²⁾	1
HO 20 W/840 ES ¹⁾	4008321734082	20	1650	2000	LUMILUX Cool White	80...90	16	549	40 ²⁾	1
HO 20 W/865 ES ¹⁾	4008321734105	20	1600	1900	LUMILUX Cool Daylight	80...91	16	549	40 ²⁾	1
HO 34 W/830 ES ¹⁾	4008321734181	34	3250	3500	LUMILUX Warm White	80...92	16	849	40 ²⁾	1
HO 34 W/840 ES ¹⁾	4008321734204	34	3250	3500	LUMILUX Cool White	80...93	16	849	40 ²⁾	1
HO 34 W/865 ES ¹⁾	4008321734228	34	3050	3325	LUMILUX Cool Daylight	80...94	16	849	40 ²⁾	1
HO 45 W/827 ES ¹⁾	4008321958129	45	4310	4900	LUMILUX INTERNA	80...89	16	1449	40 ²⁾	1
HO 45 W/830 ES ¹⁾	4008321958136	45	4310	4900	LUMILUX Warm White	80...89	16	1449	40 ²⁾	1
HO 45 W/840 ES ¹⁾	4008321958143	45	4310	4900	LUMILUX Cool White	80...89	16	1449	40 ²⁾	1
HO 45 W/865 ES ¹⁾	4008321958150	45	4100	4600	LUMILUX Cool Daylight	80...89	16	1449	40 ²⁾	1
HO 50 W/827 ES ¹⁾	4008321958167	50	4450	5000	LUMILUX INTERNA	80...89	16	1149	40 ²⁾	1
HO 50 W/830 ES ¹⁾	4008321958174	50	4450	5000	LUMILUX Warm White	80...89	16	1149	40 ²⁾	1
HO 50 W/840 ES ¹⁾	4008321958181	50	4450	5000	LUMILUX Cool White	80...89	16	1149	40 ²⁾	1
HO 50 W/865 ES ¹⁾	4008321958198	50	4100	4750	LUMILUX Cool Daylight	80...89	16	1149	40 ²⁾	1
HO 73 W/827 ES ¹⁾	4008321958204	73	6150	7000	LUMILUX INTERNA	80...89	16	1449	40 ²⁾	1
HO 73 W/830 ES ¹⁾	4008321958211	73	6150	7000	LUMILUX Warm White	80...89	16	1449	40 ²⁾	1
HO 73 W/840 ES ¹⁾	4008321958228	73	6150	7000	LUMILUX Cool White	80...89	16	1449	40 ²⁾	1
HO 73 W/865 ES ¹⁾	4008321958235	73	5700	6650	LUMILUX Cool Daylight	80...89	16	1449	40 ²⁾	1

¹⁾ 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.
²⁾ 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 ³⁾

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_a 80-89)
- Dimmable

Applications

- Industry
- Public buildings
- Offices
- Tunnels, subways

Safety information

In the event of a breakage: 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

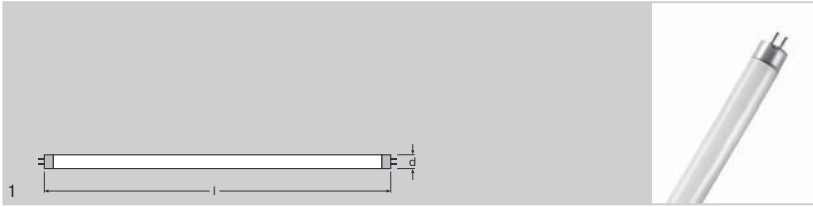
References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

³⁾ If operated on current-controlled ECGs



LUMILUX® T5 HO XT, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		R _a	Ø TUBE d [mm]	l [mm]		No.
HO 49 W/827 XT ^{1) 2)}	4008321 958488	49	4310	4900	LUMILUX INTERNA	80...89	16	1449	20	1
HO 49 W/830 XT ^{1) 2)}	4008321 958495	49	4310	4900	LUMILUX Warm White	80...89	16	1449	20	1
HO 49 W/840 XT ^{1) 2)}	4008321 958501	49	4310	4900	LUMILUX Cool White	80...89	16	1449	20	1
HO 49 W/865 XT ^{1) 2)}	4008321 958518	49	4100	4600	LUMILUX Cool Daylight	80...89	16	1449	20	1
HO 54 W/827 XT ¹⁾	4008321 958525	54	4450	5000	LUMILUX INTERNA	80...89	16	1149	20	1
HO 54 W/830 XT ¹⁾	4008321 958549	54	4450	5000	LUMILUX Warm White	80...89	16	1149	20	1
HO 54 W/840 XT ¹⁾	4008321 958556	54	4450	5000	LUMILUX Cool White	80...89	16	1149	20	1
HO 54 W/865 XT ¹⁾	4008321 958563	54	4100	4750	LUMILUX Cool Daylight	80...89	16	1149	20	1
HO 80 W/827 XT ¹⁾	4008321 958570	80	6150	7000	LUMILUX INTERNA	80...89	16	1449	20	1
HO 80 W/830 XT ¹⁾	4008321 958587	80	6150	7000	LUMILUX Warm White	80...89	16	1449	20	1
HO 80 W/840 XT ¹⁾	4008321 958594	80	6150	7000	LUMILUX Cool White	80...89	16	1449	20	1
HO 80 W/865 XT ¹⁾	4008321 958600	80	5700	6650	LUMILUX Cool Daylight	80...89	16	1449	20	1

1) 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.
2) Planned to be available from spring 2012.

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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 (R_a 80-89)
- Dimmable

Applications

- Industry
- Tunnels, subways

Safety information

In the event of a breakage: www.osram.com/brokenlamps

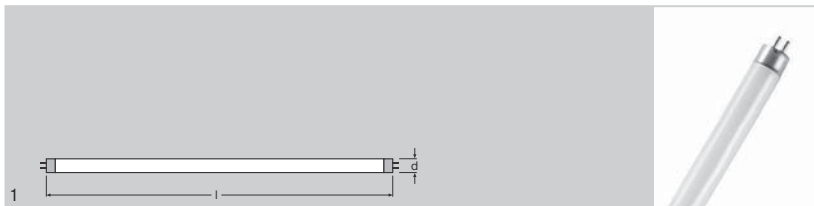
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® T5 HO CONSTANT, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		Ra	 TUBE d [mm]	 l [mm]		 No.
HO 24 W/830 CONSTANT ^{1) 2)}	4008321 074911	24	1900	2000	LUMILUX Warm White	80...89	16	549	20	1
HO 24 W/840 CONSTANT ^{1) 2)}	4008321 075451	24	1900	2000	LUMILUX Cool White	80...89	16	549	20	1
HO 24 W/865 CONSTANT ^{1) 2)}	4008321 075475	24	1840	1900	LUMILUX Cool Daylight	80...89	16	549	20	1
HO 39 W/830 CONSTANT ^{1) 2)}	4008321 075512	39	3400	3500	LUMILUX Warm White	80...89	16	849	20	1
HO 39 W/840 CONSTANT ^{1) 2)}	4008321 075550	39	3400	3500	LUMILUX Cool White	80...89	16	849	20	1
HO 39 W/865 CONSTANT ^{1) 2)}	4008321 075574	39	3225	3325	LUMILUX Cool Daylight	80...89	16	849	20	1
HO 49 W/830 CONSTANT ^{1) 2)}	4008321 958761	49	4450	4900	LUMILUX Warm White	80...89	16	1449	20	1
HO 49 W/840 CONSTANT ^{1) 2)}	4008321 958778	49	4450	4900	LUMILUX Cool White	80...89	16	1449	20	1
HO 49 W/865 CONSTANT ^{1) 2)}	4008321 958785	49	4235	4600	LUMILUX Cool Daylight	80...89	16	1449	20	1
HO 54 W/830 CONSTANT ^{1) 2)}	4008321 075611	54	4850	5000	LUMILUX Warm White	80...89	16	1149	20	1
HO 54 W/840 CONSTANT ^{1) 2)}	4008321 075659	54	4850	5000	LUMILUX Cool White	80...89	16	1149	20	1
HO 54 W/865 CONSTANT ^{1) 2)}	4008321 075673	54	4610	4750	LUMILUX Cool Daylight	80...89	16	1149	20	1
HO 80 W/830 CONSTANT ^{1) 2)}	4008321 075819	80	6800	7000	LUMILUX Warm White	80...89	16	1449	20	1
HO 80 W/840 CONSTANT ^{1) 2)}	4008321 080042	80	6800	7000	LUMILUX Cool White	80...89	16	1449	20	1
HO 80 W/865 CONSTANT ^{1) 2)}	4008321 080066	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_a 80-89)
- Dimmable

Applications

- Industry
- Street lighting
- Applications with extreme temperature requirements

Safety information

In the event of a breakage: www.osram.com/brokenlamps

System guarantee

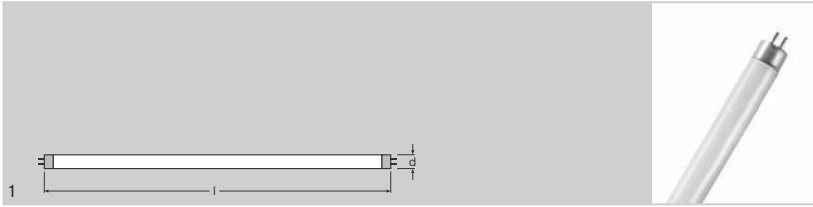
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® DE LUXE T5 HO HIGH OUTPUT, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		R _a	TUBE d [mm]	l [mm]		No.
HO 24 W/940 ¹⁾	4008321 233028	24	1400	1570		> 90	16	549	10	1
HO 24 W/965 ¹⁾	4008321 233042	24	1400	1570		> 90	16	549	10	1
HO 49 W/940 ¹⁾	4008321 234025	49	3500	3850		> 90	16	1449	10	1
HO 49 W/965 ¹⁾	4008321 233066	49	3450	3795		> 90	16	1449	10	1
HO 54 W/940 ¹⁾	4008321 233929	54	3800	4250		> 90	16	1149	10	1
HO 54 W/965 ¹⁾	4008321 233943	54	3800	4250		> 90	16	1149	10	1

¹⁾ 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_a >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

System guarantee

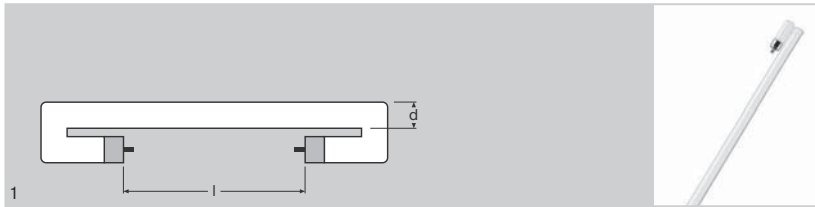
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® T5 SEAMLESS, G5 base



Product reference	Product number	W	lm	lm 35°C		R _a	TUBE d (mm)	H max. (mm)		No.
HE version										
HE 14W/830 SLS ¹⁾	4008321 957719	14	1200	1350	LUMILUX Warm White	80...89	16	481 ²⁾	25	1
HE 14W/840 SLS ¹⁾	4008321 957733	14	1200	1350	LUMILUX Cool White	80...89	16	481 ²⁾	25	1
HE 21W/830 SLS ¹⁾	4008321 957771	21	1900	2100	LUMILUX Warm White	80...89	16	781 ²⁾	25	1
HE 21W/840 SLS ¹⁾	4008321 957795	21	1900	2100	LUMILUX Cool White	80...89	16	781 ²⁾	25	1
HE 28W/830 SLS ¹⁾	4008321 957832	28	2600	2900	LUMILUX Warm White	80...89	16	1081 ²⁾	25	1
HE 28W/840 SLS ¹⁾	4008321 957856	28	2600	2900	LUMILUX Cool White	80...89	16	1081 ²⁾	25	1
HO version										
HO 24 W/830 SLS ¹⁾	4008321 409959	24	1750	2000	LUMILUX Warm White	80...89	16	481 ²⁾	25	1
HO 24 W/840 SLS ¹⁾	4008321 357250	24	1750	2000	LUMILUX Cool White	80...89	16	481 ²⁾	25	1
HO 24 W/865 SLS ¹⁾	4008321 410016	24	1600	1900	LUMILUX Cool Daylight	80...89	16	481 ²⁾	25	1
HO 39 W/830 SLS ¹⁾	4008321 409973	39	3100	3500	LUMILUX Warm White	80...89	16	781 ²⁾	25	1
HO 39 W/840 SLS ¹⁾	4008321 357373	39	3100	3500	LUMILUX Cool White	80...89	16	781 ²⁾	25	1
HO 39 W/865 SLS ¹⁾	4008321 410030	39	2850	3325	LUMILUX Cool Daylight	80...89	16	781 ²⁾	25	1
HO 54 W/830 SLS ¹⁾	4008321 409997	54	4450	5000	LUMILUX Warm White	80...89	16	1081 ²⁾	25	1
HO 54 W/840 SLS ¹⁾	4008321 357434	54	4450	5000	LUMILUX Cool White	80...89	16	1081 ²⁾	25	1
HO 54 W/865 SLS ¹⁾	4008321 410054	54	4100	4750	LUMILUX Cool Daylight	80...89	16	1081 ²⁾	25	1

¹⁾ Suitable for ECG operation only.
²⁾ 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_a 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

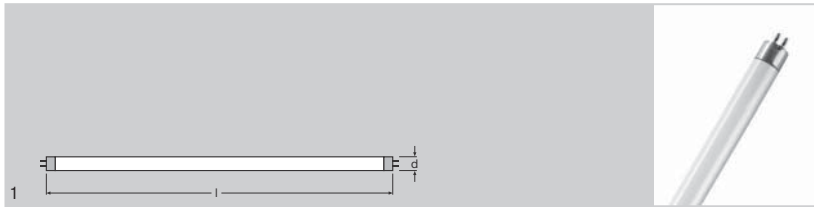
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

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 ¹⁾	4008321170705	14	930	970	Red	16	549	10	1	
HE 14 W/66 ²⁾	4008321170729	14	1550	1600	Green	16	549	10	1	
HE 14 W/67 ¹⁾	4008321170781	14	300	330	Blue	16	549	10	1	
HE 21 W/60 ¹⁾	4008321170682	21	1500	1550	Red	16	849	10	1	
HE 21 W/66 ¹⁾	4008321170743	21	2500	2650	Green	16	849	10	1	
HE 21 W/67 ¹⁾	4008321170804	21	500	540	Blue	16	849	10	1	
HE 28 W/60 ¹⁾	4008321161840	28	2100	2200	Red	16	1149	10	1	
HE 28 W/66 ¹⁾	4008321161864	28	3500	3700	Green	16	1149	10	1	
HE 28 W/67 ¹⁾	4008321161888	28	700	750	Blue	16	1149	10	1	
HE 35 W/60 ¹⁾	4008321133458	35	2650	2800	Red	16	1449	10	1	
HE 35 W/66 ¹⁾	4008321161925	35	4450	4700	Green	16	1449	10	1	
HE 35 W/67 ¹⁾	4008321161949	35	875	950	Blue	16	1449	10	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⁾ 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

System guarantee

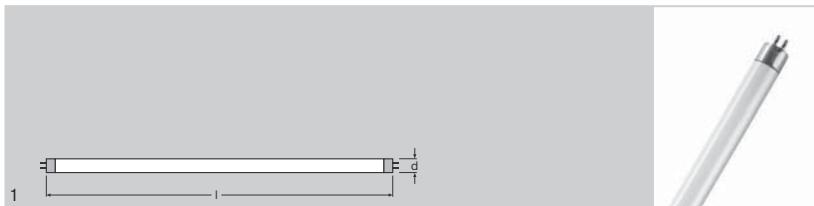
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



Colored T5 HO HIGH OUTPUT, tubular, G5 base



Product reference	Product number	W	lm	lm _{35°C}		TUBE d [mm]	L [mm]		No.	
Colored T5 HO HIGH OUTPUT, tubular, G5 base										
HO 24 W/60 ¹⁾	4008321171009	24	1500	1650	Red	16	549	10	1	
HO 24 W/66 ¹⁾	4008321170941	24	2500	2750	Green	16	549	10	1	
HO 24 W/67 ¹⁾	4008321170880	24	525	670	Blue	16	549	10	1	
HO 39 W/60 ¹⁾	4008321170989	39	2450	2700	Red	16	849	10	1	
HO 39 W/66 ¹⁾	4008321170927	39	4100	4475	Green	16	849	10	1	
HO 39 W/67 ¹⁾	4008321170866	39	850	1075	Blue	16	849	10	1	
HO 54 W/60 ¹⁾	4008321170965	54	3300	3650	Red	16	1149	10	1	
HO 54 W/66 ¹⁾	4008321170903	54	5550	6050	Green	16	1149	10	1	
HO 54 W/67 ¹⁾	4008321170842	54	1150	1475	Blue	16	1149	10	1	
HO 80 W/60 ¹⁾	4008321161963	80	4525	5000	Red	16	1449	10	1	
HO 80 W/66 ¹⁾	4008321161987	80	7650	8300	Green	16	1449	10	1	
HO 80 W/67 ¹⁾	4008321162007	80	1550	2025	Blue	16	1449	10	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.

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

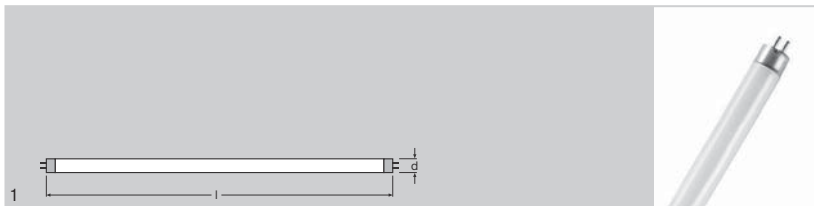
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

OSRAM NATURA® T5, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		TUBE d [mm]	l [mm]		No.
HE 28 W/76 ¹⁾	4008321581716	28	1950	2150	NATURA	16	1149	10	1
HO 54 W/76 ¹⁾	4008321581693	54	3400	3800	NATURA	16	1149	10	1

¹⁾ Suitable for ECG operation only. I 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_a = 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

System guarantee

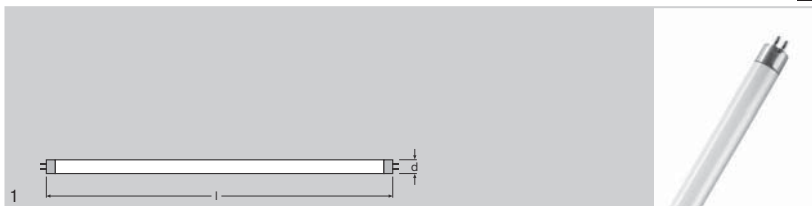
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® SPLIT control T5, tubular, G5 base



Product reference	Product number	W	lm	lm _{35°C}		R _a	TUBE d (mm)	l (mm)		No.
HE 28 W/840 SPS ¹⁾	4008321 233387	28	2540	2830	Cool White	80...89	16	1149	10	1
HO 54 W/840 SPS ¹⁾	4008321 233363	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

System guarantee

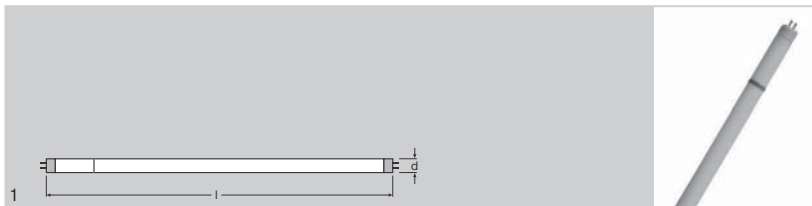
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® CHIP control® T5, tubular, G5 base



Product reference	Product number	W	lm	lm 35°C		TUBE d (mm)	l (mm)		No.
HE 28 W/62 CHIP CONTR 1)	4008321233424	28	1830	2040	Yellow	16	1149	10	1
HO 54 W/62 CHIP CONTR 1)	4008321233400	54	3140	3530	Yellow	16	1149	10	1

1) Suitable for ECG operation only. l 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
- 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

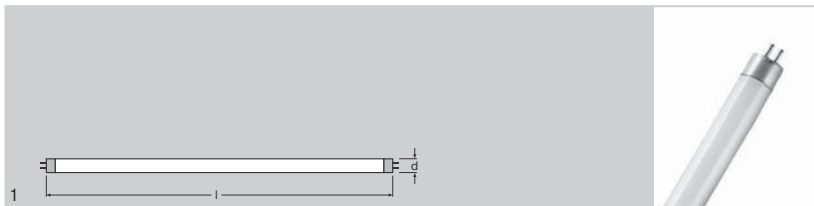
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® DE LUXE T5 short, tubular, G5 base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	l (mm)		No.
LUMILUX® DE LUXE T5 short, tubular, G5 base									
L 6 W/930	40503000 15880	6	260	LUMILUX DE LUXE Warm White	> 90	16	212	25	1
L 8 W/930	40503000 15897	8	380	LUMILUX DE LUXE Warm White	> 90	16	288	25	1
L 8 W/954	40503000 18232	8	380	LUMILUX DE LUXE Daylight	> 90	16	288	25	1
L 13 W/930	40503000 15903	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_a > 90)

Applications

- Shops
- Supermarkets and department stores
- Public buildings

Safety information

In the event of a breakage: www.osram.com/brokenlamps

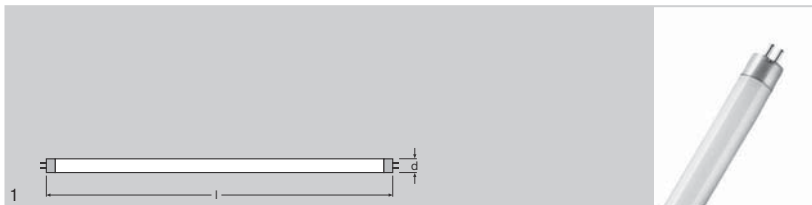
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® T5 short, tubular, G5 base



Product reference	Product number	W	lm		R _a	TUBE d [mm]	l [mm]		No.
LUMILUX® T5 short, tubular, G5 base									
L 6 W/830	4008321959874	6	300	LUMILUX Warm White	80...89	16	212	25	1
L 8 W/827	4050300008943	8	430	LUMILUX INTERNA	80...89	16	288	25	1
L 8 W/830	4008321959881	8	430	LUMILUX Warm White	80...89	16	288	25	1
L 8 W/840	4050300241623	8	430	LUMILUX Cool White	80...89	16	288	25	1
L 13 W/827	4050300008967	13	950	LUMILUX INTERNA	80...89	16	517	25	1
L 13 W/830	4008321959898	13	950	LUMILUX Warm White	80...89	16	517	25	1
L 13 W/840	4050300241647	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_a 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

System guarantee

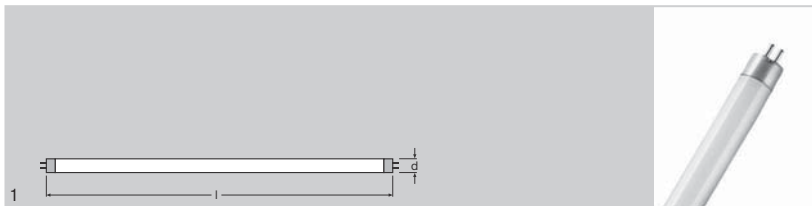
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



Basic T5 short, tubular, G5 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		No.
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

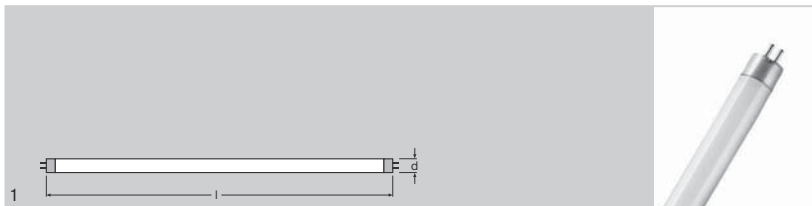
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

Emergency Lighting (LUMILUX®) T5 short, tubular, G5 base



Product reference	Product number	W	lm		R _a	TUBE d [mm]	l [mm]		No.
L 6 W/840 EL	4008321 325662	6	320	LUMILUX Cool White	80...89	16	212	25	1
L 8 W/840 EL	4008321 325846	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_a 80-89)

Applications

- Public buildings
- Industry
- Shops
- Supermarkets and department stores

Safety information

In the event of a breakage: www.osram.com/brokenlamps

System guarantee

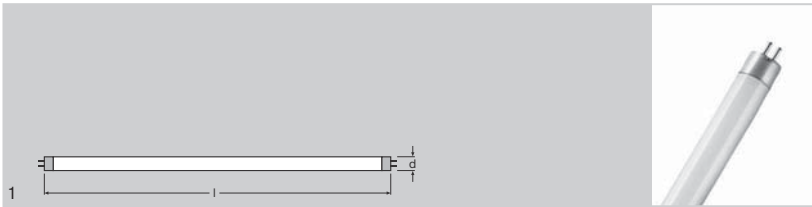
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



Emergency Lighting (Basic) T5 short, tubular, G5 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		No.
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

System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® T5 FC®, circular, 2Gx13 base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	d (mm)		No.
FC 22 W/827 ¹⁾	4050300646237	22	1900	LUMILUX INTERNA	80...89	16	225	12	1
FC 22 W/830 ¹⁾	4050300528489	22	1900	LUMILUX Warm White	80...89	16	225	12	1
FC 22 W/840 ¹⁾	4050300528465	22	1900	LUMILUX Cool White	80...89	16	225	12	1
FC 22 W/865 ¹⁾	4050300528441	22	1800	LUMILUX Cool Daylight	80...89	16	225	12	1
FC 40 W/827 ¹⁾	4050300646251	40	3400	LUMILUX INTERNA	80...89	16	300	12	1
FC 40 W/830 ¹⁾	4050300528540	40	3400	LUMILUX Warm White	80...89	16	300	12	1
FC 40 W/840 ¹⁾	4050300528526	40	3400	LUMILUX Cool White	80...89	16	300	12	1
FC 40 W/865 ¹⁾	4050300528502	40	3300	LUMILUX Cool Daylight	80...89	16	300	12	1
FC 55 W/827 ¹⁾	4050300646275	55	4200	LUMILUX INTERNA	80...89	16	300	12	1
FC 55 W/830 ¹⁾	4050300528601	55	4200	LUMILUX Warm White	80...89	16	300	12	1
FC 55 W/840 ¹⁾	4050300528588	55	4200	LUMILUX Cool White	80...89	16	300	12	1
FC 55 W/865 ¹⁾	4050300528564	55	3990	LUMILUX Cool Daylight	80...89	16	300	12	1

¹⁾ 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_a 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

System guarantee

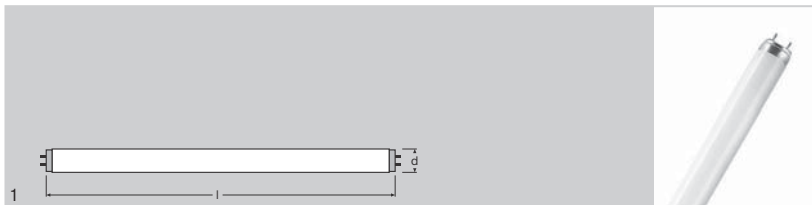
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® T8, tubular, G13 base



Product reference	Product number	W	lm		Ra	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	4050300446066	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 ²⁾	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 ²⁾	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	4050300518159	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 ¹⁾	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 ²⁾	1
L 36 W/830-1 ¹⁾	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 ²⁾	1
L 36 W/840-1 ¹⁾	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 ²⁾	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 ²⁾	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

¹⁾ These lamps are not intended for general illumination. They are suitable for applications such as lighting for means of public transport.
²⁾ Also available in industrial packs (... /IP) 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_a 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

System guarantee

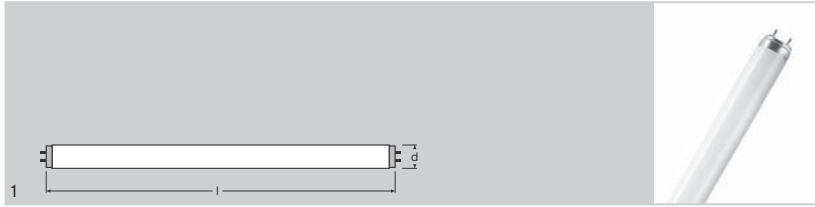
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® T8 ES ENERGY SAVER, tubular, G13 base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	l (mm)		No.
L 16 W/830 ES	4008321955791	16	1300 ¹⁾	LUMILUX Warm White	80...89	26	590	25	1
L 16 W/840 ES	4008321955777	16	1300 ¹⁾	LUMILUX Cool White	80...89	26	590	25	1
L 32 W/830 ES	4008321339652	32	3000 ¹⁾	LUMILUX Warm White	80...89	26	1200	25	1
L 32 W/840 ES	4008321339676	32	3000 ¹⁾	LUMILUX Cool White	80...89	26	1200	25	1
L 51 W/830 ES	4008321339713	51	4800 ¹⁾	LUMILUX Warm White	80...89	26	1500	25	1
L 51 W/840 ES	4008321339690	51	4800 ¹⁾	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 CO₂ 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_a 80-90)

Applications

- Public buildings
- Office lighting
- Industry
- Shops
- Supermarkets and department stores

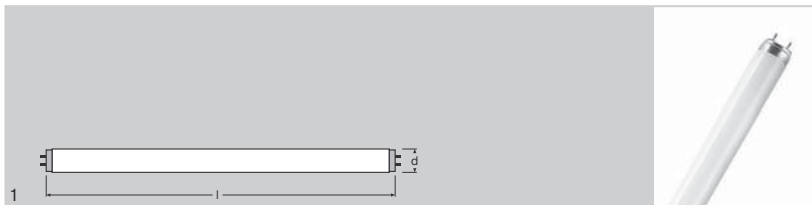
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® XT T8, tubular, G13 base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	l (mm)		No.
L 18 W/830 XT	4008321209085	18	1350	LUMILUX Warm White	80...89	26	590	25	1
L 18 W/840 XT	4008321209108	18	1350	LUMILUX Cool White	80...89	26	590	25	1
L 18 W/865 XT	4008321209122	18	1250	LUMILUX Cool Daylight	80...89	26	590	25	1
L 36 W/830 XT	4008321209146	36	3300	LUMILUX Warm White	80...89	26	1200	25	1
L 36 W/840 XT	4008321209160	36	3300	LUMILUX Cool White	80...89	26	1200	25	1
L 36 W/865 XT	4008321209221	36	3250	LUMILUX Cool Daylight	80...89	26	1200	25	1
L 58 W/830 XT	4008321209344	58	5200	LUMILUX Warm White	80...89	26	1500	25	1
L 58 W/840 XT	4008321209320	58	5200	LUMILUX Cool White	80...89	26	1500	25	1
L 58 W/865 XT	4008321923622	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_a 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
- Please note however that the fixture must be cleaned regularly to avoid loss of luminous flux

System guarantee

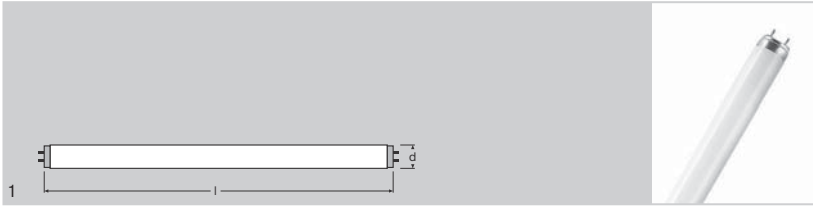
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® XXT T8, tubular, G13 base



Product reference	Product number	W	lm		R _a	TUBE d [mm]	l [mm]		No.
L 18 W/830 XXT	4008321 923646	18	1350	LUMILUX Warm White	80...89	26	590	25	1
L 18 W/840 XXT	4008321 923660	18	1350	LUMILUX Cool White	80...89	26	590	25	1
L 18 W/865 XXT	4008321 923684	18	1250	LUMILUX Cool Daylight	80...89	26	590	25	1
L 36 W/830 XXT	4008321 923707	36	3300	LUMILUX Warm White	80...89	26	1200	25	1
L 36 W/840 XXT	4008321 923721	36	3300	LUMILUX Cool White	80...89	26	1200	25	1
L 36 W/865 XXT	4008321 923745	36	3250	LUMILUX Cool Daylight	80...89	26	1200	25	1
L 58 W/830 XXT	4008321 923769	58	5200	LUMILUX Warm White	80...89	26	1500	25	1
L 58 W/840 XXT	4008321 923783	58	5200	LUMILUX Cool White	80...89	26	1500	25	1
L 58 W/865 XXT	4008321 923806	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_a 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
- Please note however that the fixture must be cleaned regularly to avoid loss of luminous flux

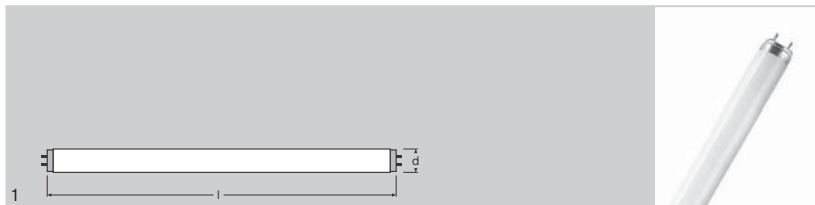
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

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	LUMILUX DE LUXE Daylight	> 90	26	438	25	1
L 16 W/930	4050300242361	16	950	LUMILUX DE LUXE Warm White	> 90	26	720	25	1
L 18 W/930	4050300011264	18	1100	LUMILUX DE LUXE Warm White	> 90	26	590	25	1
L 18 W/940	4050300011257	18	1200	LUMILUX DE LUXE Cool White	> 90	26	590	25	1
L 18 W/954	4050300018256	18	1150	LUMILUX DE LUXE Daylight	> 90	26	590	25	1
L 18 W/965	4008321111371	18	1150	LUMILUX DE LUXE Cool Daylight	> 90	26	590	25	1
L 30 W/930	4050300014432	30	1920	LUMILUX DE LUXE Warm White	> 90	26	895	25	1
L 36 W/930	4050300011318	36	2700	LUMILUX DE LUXE Warm White	> 90	26	1200	25	1
L 36 W/940	4050300011301	36	2900	LUMILUX DE LUXE Cool White	> 90	26	1200	25	1
L 36 W/954	4050300018263	36	2850	LUMILUX DE LUXE Daylight	> 90	26	1200	25	1
L 36 W/954-1	4050300024196	36	2600	LUMILUX DE LUXE Daylight	> 90	26	970	25	1
L 36 W/965	4008321111395	36	2850	LUMILUX DE LUXE Cool Daylight	> 90	26	1200	25	1
L 58 W/930	4050300011363	58	4350	LUMILUX DE LUXE Warm White	> 90	26	1500	25	1
L 58 W/940	4050300011356	58	4600	LUMILUX DE LUXE Cool White	> 90	26	1500	25	1
L 58 W/954	4050300018270	58	4550	LUMILUX DE LUXE Daylight	> 90	26	1500	25	1
L 58 W/965	4008321090034	58	4550	LUMILUX DE LUXE Cool Daylight	> 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

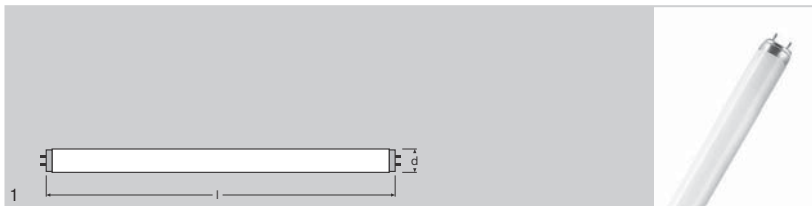
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

COLOR proof T8, tubular, G13 base



Product reference	Product number	W	lm		R _a				
L 18 W/950	4008321 423023	18	900	Daylight	98	26	590	10	1
L 36 W/950	4008321 423047	36	2150	Daylight	98	26	1200	10	1
L 58 W/950	4008321 423061	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 \leq 1.0 and MUV \leq 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

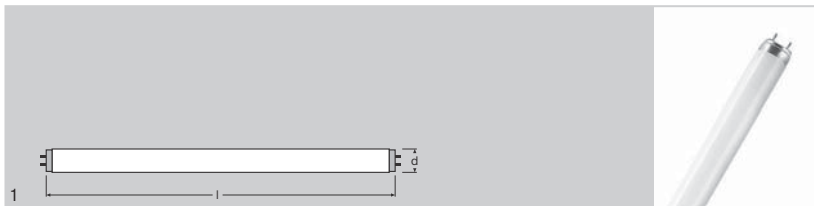
Safety information










In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

BIOLUX® T8, tubular, G13 base



Product reference	Product number	W	lm		R _a	 TUBE d [mm]	 l [mm]		 No.
L 18 W/965	4050300270807	18	1000		> 90	26	590	10	1
L 30 W/965	4050300302461	30	1600		> 90	26	895	10	1
L 36 W/965	4050300270821	36	2300		> 90	26	1200	10	1
L 58 W/965	4050300370613	58	3700		> 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_a > 90)

Applications

- Excellent for raising small animals

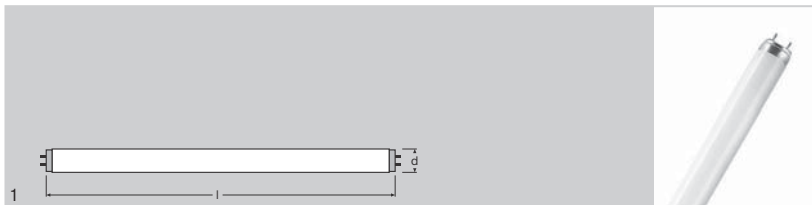
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

FLUORA® T8, tubular, G13 base



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

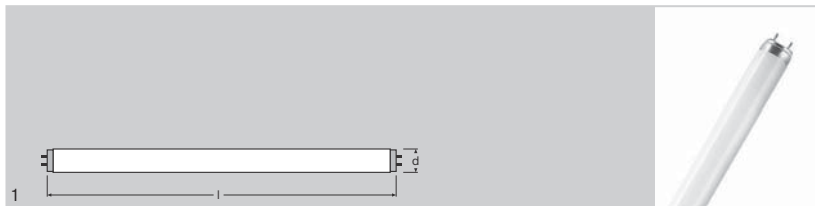
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

Colored T8, tubular, G13 base



Product reference	Product number	W	lm		TUBE d (mm)	l (mm)		No.
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

System guarantee

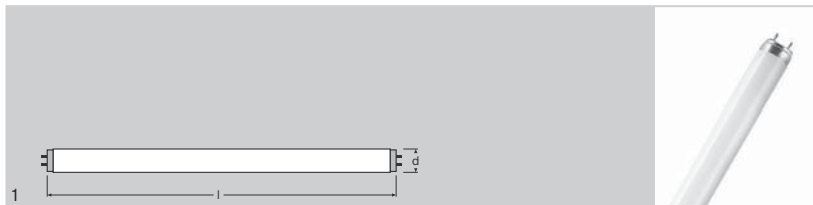
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



OSRAM NATURA® T8, tubular, G13 base



Product reference	Product number	W	lm		TUBE d (mm)	l (mm)		No.
OSRAM NATURA® T8, tubular, G13 base								
L 15 W/76	4050300018287	15	500	NATURA	26	438	10	1
L 18 W/76	4050300010519	18	750	NATURA	26	590	10	1
L 30 W/76	4050300010540	30	1300	NATURA	26	895	10	1
L 36 W/76	4050300010526	36	1800	NATURA	26	1200	10	1
L 36 W/76-1	4050300010557	36	1600	NATURA	26	970	10	1
L 58 W/76	4050300010533	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)

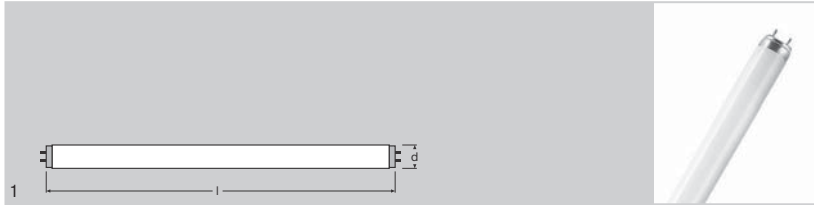
Safety information

- In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

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 232762	18	730	NATURA	26	590	12	1	
L 30 W/76 SPS	4008321 232786	30	1260	NATURA	26	895	12	1	
L 36 W/76 SPS	4008321 232809	36	1740	NATURA	26	1200	12	1	
L 58 W/76 SPS	4008321 232847	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)

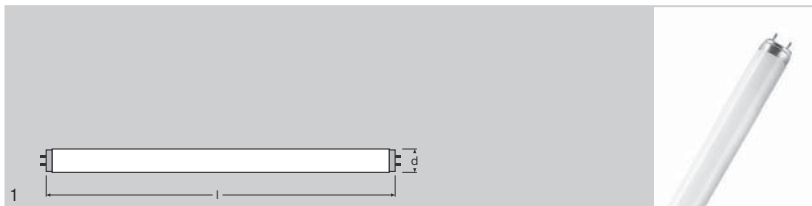
Safety information

- 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

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® SPLIT control T8, tubular, G13 base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	l (mm)		No.
L 18 W/840 SPS	4008321232885	18	1300	Cool White	80...89	26	590	12	1
L 36 W/840 SPS	4008321232823	36	3250	Cool White	80...89	26	1200	12	1
L 58 W/840 SPS	4008321232922	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_a 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

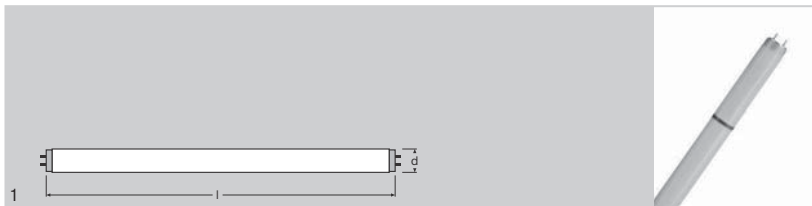
System guarantee

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® CHIP control® T8, tubular, G13 base



Product reference	Product number	W	lm		TUBE d [mm]	l [mm]		No.
L 18 W/62	4008321 232700	18	970	Yellow	26	590	12	1
L 36 W/62	4008321 232724	36	2300	Yellow	26	1200	12	1
L 58 W/62	4008321 232748	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
- 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

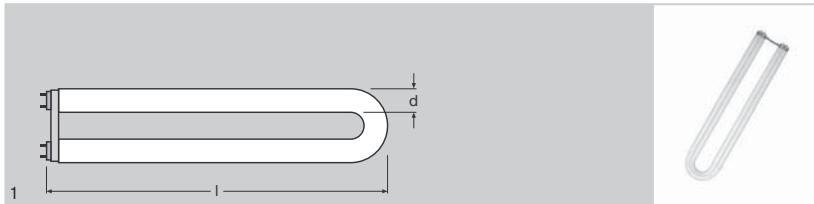
For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



U-shaped T8, 2G13 base



Product reference	Product number	W	lm		R _a				
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 cost-effective 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_a 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

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

LUMILUX® T9 C circular, G10Q base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	d (mm)		No.
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_a 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

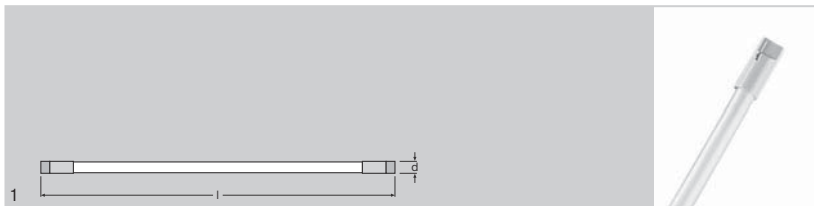
In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.



LUMILUX® T2 FM, tubular W4.3 x 8.5d base



Product reference	Product number	W	lm		R _a	TUBE d (mm)	l (mm)		No.
FM 6 W/730	4008321157546	6	330 ¹⁾	Warm White	70...79	7	218	20	1
FM 6 W/740	4008321157577	6	330 ¹⁾	Cool White	70...79	7	218	20	1
FM 6 W/760	4008321157607	6	310 ¹⁾	Cool Daylight	70...79	7	218	20	1
FM 8 W/730	4008321157638	8	540 ¹⁾	Warm White	70...79	7	320	20	1
FM 8 W/740	4008321157669	8	540 ¹⁾	Cool White	70...79	7	320	20	1
FM 8 W/760	4008321157690	8	500 ¹⁾	Cool Daylight	70...79	7	320	20	1
FM 11 W/730	4008321157720	11	750 ¹⁾	Warm White	70...79	7	422	20	1
FM 11 W/740	4008321157751	11	750 ¹⁾	Cool White	70...79	7	422	20	1
FM 11 W/760	4008321157782	11	680 ¹⁾	Cool Daylight	70...79	7	422	20	1
FM 13 W/730	4008321157836	13	930 ¹⁾	Warm White	70...79	7	523	20	1
FM 13 W/740	4008321157867	13	930 ¹⁾	Cool White	70...79	7	523	20	1
FM 13 W/760	4008321157898	13	860 ¹⁾	Cool Daylight	70...79	7	523	20	1

1) 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

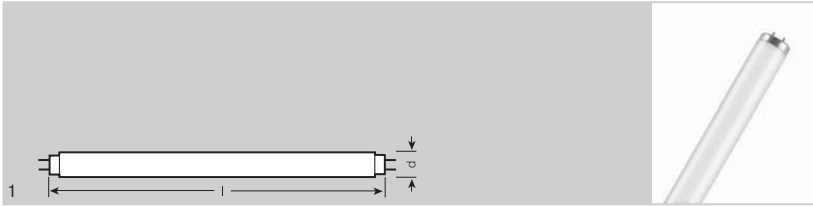
Safety information

In the event of a breakage: www.osram.com/brokenlamps

References

For more information on QUICKTRONIC® electronic control gear go to www.osram.com/QUICKTRONIC and Chapter 6.

SA-type T12, tubular, G13 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		No.
SA version									
L 20 W/640 SA	4050300018195	20	1200	Cool White	60...69	38	590	25	1
L 40 W/640 SA	4050300018331	40	2800	Cool White	60...69	38	1200	25	1
L 65 W/640 SA	4050300018201	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

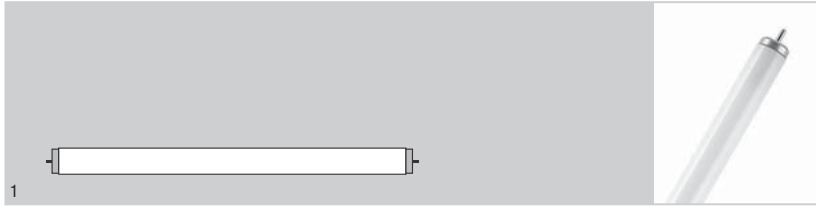
Applications

- Street lighting
- Industry

Safety information

In the event of a breakage: www.osram.com/brokenlamps

XL-type T12, tubular, Fa6 base



Product reference	Product number	W	lm		Ra	TUBE d (mm)	l (mm)		No.
XL version									
L 20 W/640 XL ¹⁾	4050300014630	20	940	Cool White	60...69	38	574	25	1
L 40 W/640 XL ¹⁾	4050300014654	40	2300	Cool White	60...69	38	1184	25	1
L 65 W/640 XL ¹⁾	4050300014616	65	4400	Cool White	60...69	38	1484	25	1

¹⁾ 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

Starters for single circuits on 230 V_{AC}



Product reference	Product number	 [mm]		 No.
ST 111 TRY25 ¹⁾	4050300854045	40	400	1
ST 111 HT TRY25 ²⁾	4050300854021	40	400	1
ST 111 GRP ¹⁾	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

¹⁾ Not suitable for L 70 W



²⁾ 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_{AC}

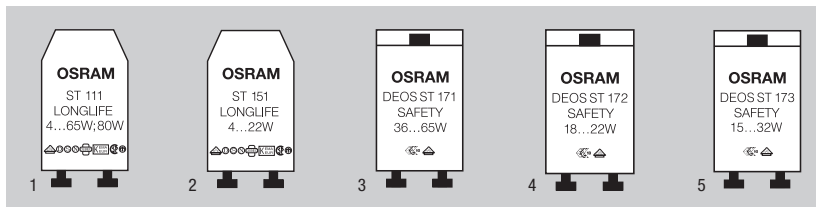


Product reference	Product number		 No.
ST 172 TRY25	4050300854069	200	1
ST 151 TRY25	4050300854083	400	2
ST 151 GRP	4050300012803	1200	2

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	I [mm]	No.	Icon
		6	13	16 ⁶⁾	20	W	32	W	40	65	24	W			
		8	W	W	W	W	W	W	80	W					
		W							W						
Single circuit on 230 V _{AC}															
ST 111 TRY25 ⁵⁾	4050300854045	X	X	X	X	X	X	X	X	X	X	X	40.3	1	25/400
ST 111 GRP ⁵⁾	4050300270166	X	X	X	X	X	X	X	X	X	X	X	40.3	1	1200
ST 111 HT TRY25 ³⁾⁵⁾	4050300854021	X	X	X	X	X	X	X	X	X	X	X	40.3	1	400
ST 171 TRY25	4050300854106							X	X	X ¹⁾	X	40.3	3	25/200	
ST 171 GRP	4050300422855							X	X	X ¹⁾	X	40.3	3	1200	
ST 173 TRY25	4050300854120		X	X	X	X					X	40.3	5	25/200	
Series circuit on 230 V _{AC}															
ST 151 TRY25	4050300854083	X ²⁾	X ²⁾	X ²⁾	X ²⁾						X ²⁾⁴⁾	40.3	2	25/400	
ST 151 GRP	4050300012803	X ²⁾	X ²⁾	X ²⁾	X ²⁾						X ²⁾⁴⁾	40.3	2	1200	
ST 172 TRY25	4050300854069			X ²⁾	X ²⁾						X ²⁾⁴⁾	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 $\geq 10,000$ switching operations to $\geq 60,000$ 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: $-20^{\circ}\text{C} \dots +80^{\circ}\text{C}$

1) Except L 65 W / ... UK 570 mm L 80 W / ...

2) Also for single operation on 110/127 V_{AC}


3) Temperature range -20°C to $+100^{\circ}\text{C}$

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	Cool Daylight		Daylight	Cool White		White	Warm White		INTERNA®	Special light colors
	WHITE® 880	865	965	954	840	940	835	830	930	827	
	8.000 K	6.500 K	6.500 K	3.400 K	4.000 K	4.000 K	3.500 K	3.000 K	3.000 K	2.700 K	
											
Offices and administrative buildings											
Offices, corridors	•				•		•	•			
Meeting rooms	•						•	•		•	
Industry, trade and commerce											
Electrical industry		•			•						
Textile industry		•	•	•							
Woodworking industry		•	•	•	•						
Graphics industry, laboratories		•	•	•	•						COLOR proof
Color matching				•							COLOR proof
Warehouses, transport depots					•						
Schools and lecture rooms											
Auditoriums, classrooms, kindergartens	•		•		•		•	•		•	
Libraries, reading rooms					•		•	•		•	
Retail outlets											
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	•	•	•	•	•	•		•	•	•	
Public buildings											
Restaurants, bars, hotels					•		•	•		•	
Theaters, concert halls, foyers										•	
Event rooms											
Exhibition halls and trade fairs	•				•			•			
Sports halls and multi-purpose halls	•				•		•	•			
Art galleries, museums		•		•	•	•			•		
Hospitals and surgeries											
Consulting and treatment rooms	•	•	•	•	•						
Hospital wards, waiting rooms	•		•			•			•		
Homes											
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 _a 60...69	R _a 70...79	R _a 80...89	R _a 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_a 90 to 100

8 = color rendering R_a 80 to 89

7 = color rendering R_a 70 to 79

6 = color rendering R_a 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)

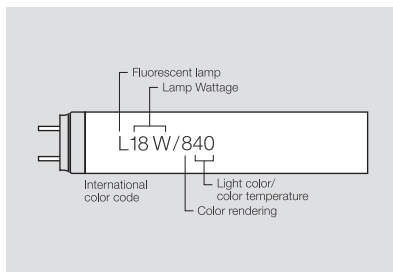
54 = LUMILUX® Daylight (5,400 K)

65 = LUMILUX® Cool Daylight (6,500 K)

80 = LUMILUX SKYWHITE® (8,000 K)

"Old" light color codes in the OSRAM range

Old		New	R _a	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 3.56 and 3.57.

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

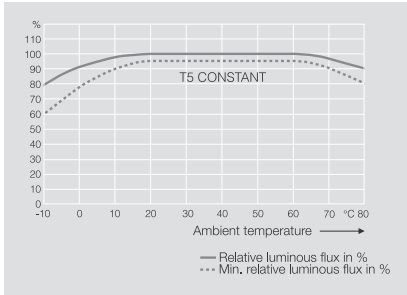
Luminous fluxes of T5 fluorescent lamps (16 mm), HE and HO fluorescent lamps					
	880	865	840	830	827
HE 14W	1150	1300	1350	1350	1350
HE 14W SLS	-	-	1350	1350	-
HE 21W	1850	2000	2100	2100	2100
HE 21W SLS	-	-	2100	2100	2100
HE 28W	2690	2750	2900	2900	2900
HE 28W SLS	-	-	2900	2900	-
HE 35W	3450	3500	3650	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 goniophotometers 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

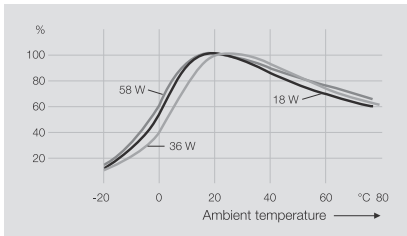
Temperature dependence

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.

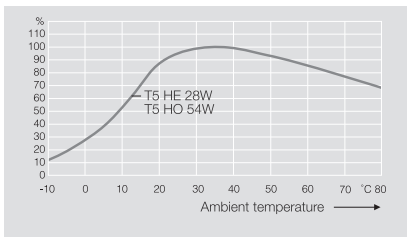
Circuits see circuit diagrams on page 3.55 and Section 9.



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 ¹⁾ Power factor ≈ 1 for CCG operation	Series capacitor for CCG Lead-lag circuit ²⁾
(Wattage)	(mm)	(A)	(V)	(Ω)	(mA) ⁴⁾	(cd/cm ²)	(μ F)	(μ 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	–	3.0	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	3.0	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 ³⁾	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	3.3/450
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 3.55

2) Lead-lag circuit as per circuit diagram 3 on page 3.55

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) ¹⁾	Lamp voltage UL after ignition ¹⁾	System wattage with control gear	Pre-heating current IEC 81	Luminance
		mA	V	W	mA	cd/cm ²
14 (HE) and 14 (HE) SLS	16	165	86	16.0 ⁴⁾	210	1.7
21 (HE) and 21 (HE) SLS	16	165	126	24.0 ⁴⁾	210	1.7
28 (HE), SPS, CHIP CONTROL and 28 (HE) SLS	16	170	166	32.0 ⁴⁾	210	1.7
35 (HE)	16	175	205	39.0 ⁴⁾	210	1.7
13 (HE) ES	16	185	69	13.0 ⁴⁾	210	1.7
19 (HE) ES	16	185	104	22.0 ⁴⁾	210	1.7
25 (HE) ES	16	180	143	29.0 ⁴⁾	210	1.7
32 (HE) ES	16	175	184	36.0 ⁴⁾	210	1.7
24 (HO) and 24 (HO) SLS	16	295	77	26.0 ⁴⁾	440	2.5
39 (HO) and 39 (HO) SLS	16	325	118	41.0 ⁴⁾	440	2.8
49 (HO) and 49 (HO) XT	16	255	195	53.0 ⁴⁾	330	2.3
54 (HO), 54 (HO) XT, SPS, CHIP CONTROL and 54 (HO) SLS	16	455	120	58.0 ⁴⁾	720	2.9
80 (HO) and 80 (HO) XT	16	530	152	83.0 ⁴⁾	765	3.2
20 (HO) ES	16	300	64	23.0 ⁴⁾	440	2.5
34 (HO) ES	16	340	99	37.0 ⁴⁾	440	2.8
45 (HO) ES	16	265	169	43.0 ⁴⁾	330	2.3
50 (HO) ES	16	485	101	54.0 ⁴⁾	720	3.0
73 (HO) ES	16	555	133	79.0 ⁴⁾	765	3.3
24 (HO CONSTANT)	16	295	77	26.0 ⁴⁾	440	2.7
39 (HO CONSTANT)	16	325	118	41.0 ⁴⁾	440	3.1
49 (HO CONSTANT)	16	255	195	53.0 ⁴⁾	330	2.4
54 (HO CONSTANT)	16	455	120	58.0 ⁴⁾	720	3.3
80 (HO CONSTANT)	16	530	152	88.5 ⁴⁾	765	3.6
22 (FC)	16	0.30	70	23.0 ⁵⁾	440	1.7
40 (FC)	16	0.32	126	43.0 ⁵⁾	440	2.1
55 (FC)	16	0.55	101	59.0 ⁵⁾	765	2.6
6 (FM)	7	0.10	51	7.5 ²⁾	120 ⁴⁾	2.5
8 (FM)	7	0.10	79	11.0 ²⁾	120 ⁴⁾	2.5
11 (FM)	7	0.10	110	13.0 ³⁾	120 ⁴⁾	2.5
13 (FM)	7	0.10	136	16.0 ³⁾	120 ⁴⁾	2.5

1) Values at 25 °C on the reference control gear

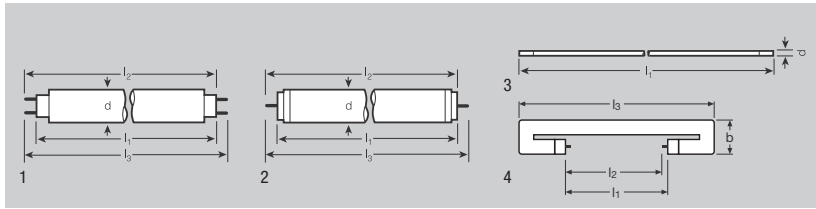
2) For system wattage with QT-ECO FM 1x6-8/220-240, see Section 9

3) For system wattage with QT-ECO FM 1x11-13/220-240, see Section 9

4) System wattage on QTI Gil

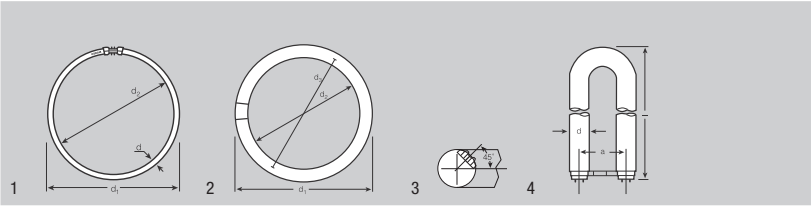
5) System wattage on QTP-M or QTP-FC

Dimensions for tubular fluorescent lamps with tolerances



W		l_1 [mm]	l_2 [mm]	l_3 [mm]	\varnothing d [mm]	No.
Tubular fluorescent lamps						
7, 16, 26 and 38 mm \varnothing , G5 base, W4.3 x 8.5d base						
6 (FM)	W4.3x8.5d	218.3 \pm 1.0	–	–	max. 7	3
8 (FM)	W4.3x8.5d	319.9 \pm 1.0	–	–	max. 7	3
11 (FM)	W4.3x8.5d	421.5 \pm 1.0	–	–	max. 7	3
13 (FM)	W4.3x8.5d	523.1 \pm 1.0	–	–	max. 7	3
4	G5	135.9	141.8 \pm 1.2	150.1	max. 16	1
6	G5	212.1	218 \pm 1.2	226.3	max. 16	1
8	G5	288.3	294.2 \pm 1.2	302.5	max. 16	1
13	G5	516.9	522.8 \pm 1.2	531.1	max. 16	1
14 (HE)	G5	549	554.9 \pm 1.2	563.2	max. 17	1
21 (HE)	G5	849	854.9 \pm 1.2	863.2	max. 17	1
24 (HO)	G5	549	554.9 \pm 1.2	563.2	max. 17	1
28 (HE), 25 (ES)	G5	1149	1154.9 \pm 1.2	1163.2	max. 17	1
35 (HE), 32 (ES)	G5	1449	1454.9 \pm 1.2	1463.2	max. 17	1
39 (HO)	G5	849	854.9 \pm 1.2	863.2	max. 17	1
49 (HO), 49 (HO) XT and 45 (HO) ES	G5	1449	1454.9 \pm 1.2	1463.2	max. 17	1
54 (HO), 54 (HO) XT and 50 (HO) ES	G5	1149	1154.9 \pm 1.2	1163.2	max. 17	1
80 (HO), 80 (HO) XT and 73 (HO) ES	G5	1449	1454.9 \pm 1.2	1463.2	max. 17	1
10	G13	470	475.9 \pm 1.2	484.2	max. 28	1
15	G13	437.4	443.3 \pm 1.2	451.6	max. 28	1
16	G13	720	725.9 \pm 1.2	734.2	max. 28	1
18, 16 (ES)	G13	589.8	595.7 \pm 1.2	604	max. 28	1
23	G13	970	975.9 \pm 1.2	984.2	max. 28	1
30	G13	894.6	900.5 \pm 1.2	908.8	max. 28	1
36, 32 (ES)	G13	1199.4	1203.3 \pm 1.2	1213.6	max. 28	1
36-1	G13	970	975.9 \pm 1.2	984.2	max. 28	1
38	G13	1047	1052.8 \pm 1.2	1061.2	max. 28	1
58, 51 (ES)	G13	1500	1505.9 \pm 1.2	1514.2	max. 28	1
70	G13	1763.8	1769.7 \pm 1.2	1778	max. 28	1
20/... SA	G13	589.8	595.7 \pm 1.2	604	max. 40.5	1
40/... SA	G13	1199.4	1203.3 \pm 1.2	1213.6	max. 40.5	1
40 K	G13	589.8	595.7 \pm 1.2	604	max. 40.5	1
65/... SA	G13	1500	1505.9 \pm 1.2	1514.2	max. 40.5	1
80	G13	1500	1505.9 \pm 1.2	1514.2	max. 40.5	1
100	G13	1763.8	1769.7 \pm 1.2	1778	max. 40.5	1
14 (HE SLS), 24 (HO SLS)	G5	min. 481	473.1 \pm 1.2	max. 582	max. 16	4
21 (HE SLS), 39 (HO SLS)	G5	min. 781	773.1 \pm 1.2	max. 882	max. 16	4
28 (HE SLS), 54 (HO SLS)	G5	min. 1081	1073.1 \pm 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 \pm 1.75	611	max. 40.5	2
40/... XL	Fa6	1183.5	1200.25 \pm 1.75	1220.5	max. 40.5	2
65/... XL	Fa6	1484	1500.85 \pm 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

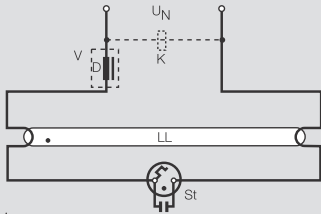


Fig. 1
Single lamp

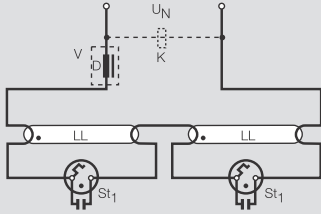


Fig. 2
Series circuit for two lamps
4 W, 6 W, 8 W, 15 W, 18 W, 20 W
and 22 W on 220 Vac only with starters
ST 151 + ST 172 (see page 3.44)

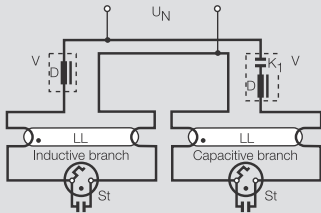


Fig. 3
Lead-lag circuit

STARTERLESS OPERATION

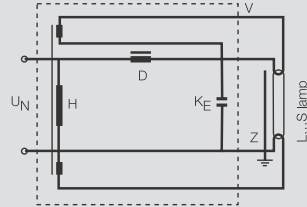


Fig. 4
Quick-start circuit, inductive

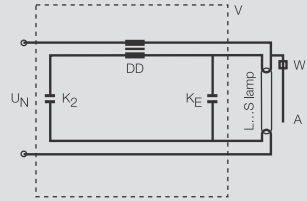


Fig. 5
Semi-resonant circuit

- 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 ¹⁾
 - UN = Line voltage
 - V = Control gear
 - W = High ohmic resistor (built into lamp base)
 - Z = Capacitor starting aid
- ¹⁾ Prolonged ignition times, especially at low voltage, can be shortened by rotating one of the starters through 180°

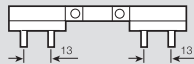
BASES IEC/EN 60061-1



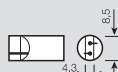
Fa6
Sheet 7004-55



G13
Sheet 7004-51



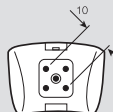
2G13
Sheet 7004-33



W 4,3 x 8,5d
Sheet 7004-115



G5
Sheet 7004-52



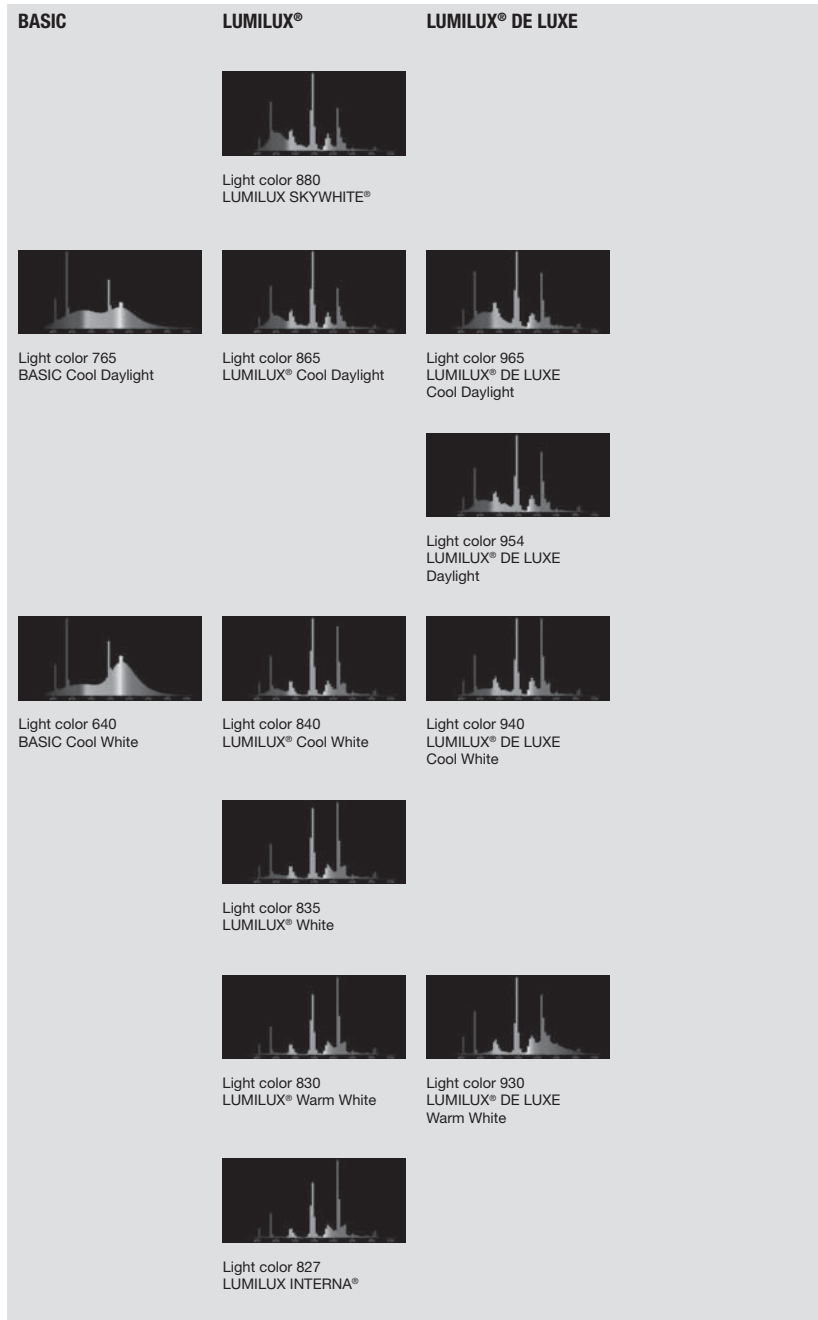
G10q
Sheet 7004-54



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)

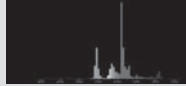


Light color 950 COLOR proof

Spectral power distribution of fluorescent lamps (other colors)



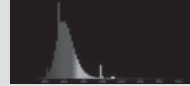
Light color 60
Red



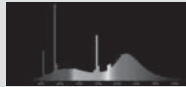
Light color 62
Yellow



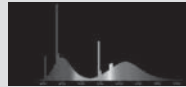
Light color 66
Green



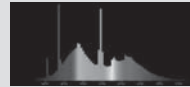
Light color 67
Blue



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	4.02
POWERBALL® Plus HCl®-T for enclosed fixtures	4.03
POWERBALL® HCl®-T Shoplight for enclosed fixtures	4.04
POWERBALL® HCl®-TC for enclosed fixtures	4.05
POWERBALL® Plus HCl®-TC for enclosed fixtures	4.06
POWERBALL® HCl®-TC Shoplight for enclosed fixtures	4.07
POWERBALL® HCl®-TS for enclosed fixtures	4.08
POWERBALL® HCl®-PAR20 for open and enclosed fixtures	4.09
POWERBALL® HCl®-PAR30 for open and enclosed fixtures	4.10
POWERBALL® HCl®-TF for enclosed fixtures	4.11
POWERBALL® HCl®-TX/P for open and enclosed fixtures	4.12
POWERBALL® HCl®-E/P for open and enclosed fixtures	4.13
POWERBALL® HCl®-ET for enclosed fixtures	4.14
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VIALOX® NAV®-T 4Y®	4.36
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Operating instructions	4.50
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POWERBALL® HCI®-T for enclosed fixtures



Product reference	Product number	W	lm		$\frac{d}{d_{max}}$ (mm)	$\frac{l}{l_{max}}$ (mm)	$\frac{LCL}{\bar{a}}$ (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.

POWERBALL® Plus HCl®-T for enclosed fixtures



Product reference	Product number	W	lm						
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 ¹⁾	4008321974303	50	l. p. ¹⁾	G12	19	100	56	12	1
NEW HCl-T 70W/930 WDL PB Plus	4008321974228	70	7800	G12	19	100	56	12	1

¹⁾ In preparation

HCl® metal halide lamps with POWERBALL® ceramic technology

Product benefits

- Higher efficiency in comparison to HCl®-T (page 4.02)
- Better lumen maintenance in comparison to HCl®-T (page 4.02)
- 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.



POWERBALL® HCI®-T Shoplight for enclosed fixtures



Product reference	Product number	W	lm							No.
HCI-T 35/930 WDL PB Shoplight	4008321681874	35	2800	G12	19	100	56	12	1	
HCI-T 70/930 WDL PB Shoplight	4008321678508	70	6300	G12	19	100	56	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
- 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.

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

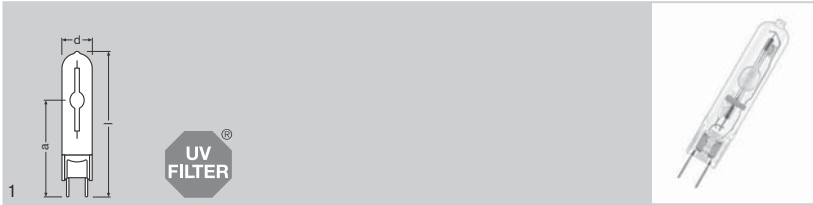
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Accent lighting
- Decorative lighting

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.



POWERBALL® Plus HCI®-TC for enclosed fixtures



Product reference	Product number	W	lm		d_{max} [mm]	l [mm]	LCL a [mm]		No.
HCI-TC 35W/930 WDL PB Plus	4008321974242	35	4000	G8.5	15	81	52	12	1
HCI-TC 50W/930 WDL PB Plus ¹⁾	4008321974280	50	l. p. ¹⁾	G8.5	15	81	52	12	1
HCI-TC 70W/930 WDL PB Plus	4008321974204	70	7800	G8.5	15	81	52	12	1

NEW
NEW
NEW

¹⁾ In preparation

HCI® metal halide lamps with POWERBALL® ceramic technology

Product benefits

- Higher efficiency in comparison to HCI®-TC (page 4.05)
- Better lumen maintenance in comparison to HCI®-TC (page 4.05)
- 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 \geq 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.

POWERBALL® HCI®-TC Shoplight for enclosed fixtures



Product reference	Product number	W	lm		d max. [mm]	l [mm]	LCL a [mm]		No.
HCI-TC 35/930 WDL PB Shoplight	4008321682017	35	2800	G8.5	15	81	52	12	1
HCI-TC 70/930 WDL PB Shoplight	4008321681812	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 ≥ 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.



POWERBALL® HCI®-TS for enclosed fixtures



Product reference	Product number	W	lm						
HCI-TS 70/830 WDL PB ¹⁾	4008321 688309	70	6800	RX7s	20	120	60	12	1
HCI-TS 70/942 NDL PB ¹⁾	4008321 688361	70	6500	RX7s	20	120	60	12	1
HCI-TS 150/830 WDL PB ¹⁾	4008321 679857	150	14500	RX7s-24	23	138	69	12	1
HCI-TS 150/942 NDL PB ¹⁾	4008321 679871	150	14400	RX7s-24	23	138	69	12	1

¹⁾ 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.

POWERBALL® HCI®-PAR20 for open and enclosed fixtures



Product reference	Product number	W	cd							No.
HCI-PAR20 35/830 WDL PB SP 10D	4008321970756	35	22000	10	E27	65	95	12	1	
HCI-PAR20 35/830 WDL PB FL 30D	4008321970794	35	5000	30	E27	65	95	12	1	
HCI-PAR20 35/942 NDL PB SP 10D	4008321970770	35	16000	10	E27	65	95	12	1	
HCI-PAR20 35/942 NDL PB FL 30D	4008321970817	35	4000	30	E27	65	95	12	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

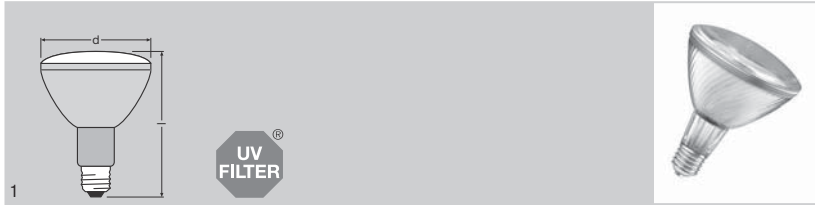
- Shop interiors, shop windows
- Shopping arcades
- Museums and exhibitions
- Industry
- Parks and gardens
- Buildings, monuments, bridges

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.



POWERBALL® HCI®-PAR30 for open and enclosed fixtures



Product reference	Product number	W	cd						
HCI-PAR30 35/830 WDL PB SP 10D	4008321970831	35	45000	10	E27	97	125	6	1
HCI-PAR30 35/830 WDL PB FL 30D	4008321970855	35	8000	30	E27	97	125	6	1
HCI-PAR30 35/942 NDL PB SP 10D	4008321970879	35	36000	10	E27	97	125	6	1
HCI-PAR30 35/942 NDL PB FL 30D	4008321970893	35	7000	30	E27	97	125	6	1
HCI-PAR30 70/930 WDL PB SP 10D	4008321970930	70	60000	10	E27	97	125	6	1
HCI-PAR30 70/930 WDL PB FL 30D	4008321971012	70	12000	30	E27	97	125	6	1
HCI-PAR30 70/830 WDL PB WFL 40D	4008321971036	70	8900	40	E27	97	125	6	1
HCI-PAR30 70/942 NDL PB SP 10D	4008321970954	70	70000	10	E27	97	125	6	1
HCI-PAR30 70/942 NDL PB FL 30D	4008321970978	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.

POWERBALL® HCI®-TF for enclosed fixtures



Product reference	Product number	W	lm						
HCI-TF 20/830 WDL PB	4008321 683045	20	1700	GU4.5	13	57	30	12	1
HCI-TF 35/930 WDL PB	4008321 683021	35	3400	GU4.5	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

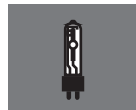
- POWERBALL® ceramic technology
- UV filter technology
- Warm white light 830 WDL and 930 WDL
- Average life of 12,000 hours
- Twist & Lock base

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.



POWERBALL® HCI®-TX/P for open and enclosed fixtures



Product reference	Product number	W	lm						
HCI-TX/P 35W/930 WDL PB	4008321 539366	35	3300	GU8.5	22	98	51.5	12	1
HCI-TX/P 35W/942 NDL PB	4008321 539380	35	3300	GU8.5	22	98	51.5	12	1
HCI-TX/P 70W/930 WDL PB	4008321 539403	70	7300	GU8.5	22	98	51.5	12	1
HCI-TX/P 70W/942 NDL PB	4008321 539427	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

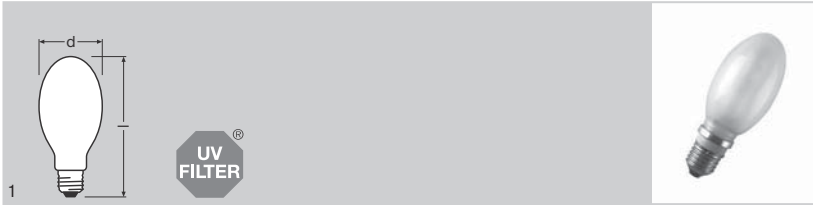
- POWERBALL® ceramic technology
- UV filter technology
- Approved for use in open and enclosed fixtures
- Warm white light 930 WDL and neutral white light 942 NDL
- Average life of 15,000 hours on electronic control gear
- Approx. 80% residual luminous flux after 12,000 hours
- Twist & Lock base
- CRI ≥ 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.



Product reference	Product number	W	lm					
HCI-E/P 35/830 WDL PB coated	4008321 692801	35	3200	E27	54	138	12	1
HCI-E/P 50/830 WDL PB coated	4008321 338488	50	4000	E27	54	138	12	1
HCI-E/P 70/830 WDL PB coated	4008321 692825	70	6700	E27	54	138	12	1
HCI-E/P 100/830 WDL PB coated	4008321 692849	100	8500	E27	54	138	12	1
HCI-E/P 150/830 WDL PB coated	4008321 692863	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

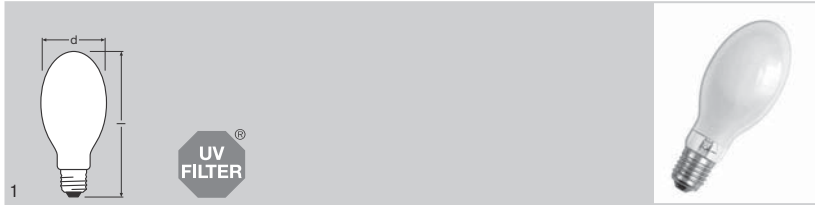
- Shop interiors, shop windows
- Shopping arcades
- Foyers, reception areas
- Museums and exhibitions
- Exhibition halls and trade fairs
- Streets
- Pedestrian zones, public squares
- Parks and gardens

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.



POWERBALL® HCI®-ET for enclosed fixtures



Product reference	Product number	W	lm					
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.

POWERBALL® HCI®-TT for enclosed fixtures



Product reference	Product number	W	lm		d max. [mm]	l [mm]	LCL a [mm]		
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

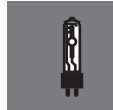
- Streets
- Factories and workshops
- Exhibition halls and trade fairs
- Car parks, courtyards
- Pedestrian zones, public squares
- Buildings, monuments, bridges

Note

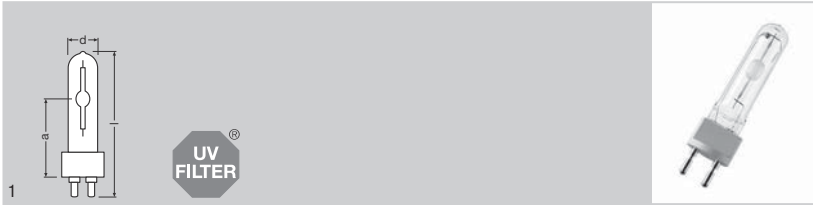
Where possible, use a timer igniter (switch-off time of at least 15 minutes). Otherwise, switch off the fixture for at least 15 minutes if a brief interruption has occurred to the power supply.

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.



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 ²⁾	4008321 524591	250	26600	G22	28	175	90	10	1
HCI-TM 250/930 WDL HR PB ¹⁾	4008321 959423	250	26600	GY22	28	175	90	10	1
HCI-TM 250/942 NDL MD PB ²⁾	4008321 524638	250	25300	G22	28	175	90	10	1
HCI-TM 250/942 NDL HR PB ¹⁾	4008321 959430	250	25300	GY22	28	175	90	10	1
HCI-TM 400/930 WDL PB ²⁾	4008321 524614	400	43000	G22	34	175	90	10	1
HCI-TM 400/930 WDL HR PB ¹⁾	4008321 959447	400	43000	GY22	34	175	90	10	1
HCI-TM 400/942 NDL PB ²⁾	4008321 524577	400	43000	G22	34	175	90	10	1
HCI-TM 400/942 NDL HR PB ¹⁾	4008321 959454	400	43000	GY22	34	175	90	10	1

¹⁾ Operate on NAV® control gear | In preparation | Operate only on suitable hot restrike igniters with an ignition voltage of up to 25 kV
²⁾ 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 NDL
- 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	lm cd	lm a	d max [mm]	l [mm]	1	No.
HQI-R 150/NDL/FO	4008321691262	150	5200 1850 ¹⁾	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 ND
- 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

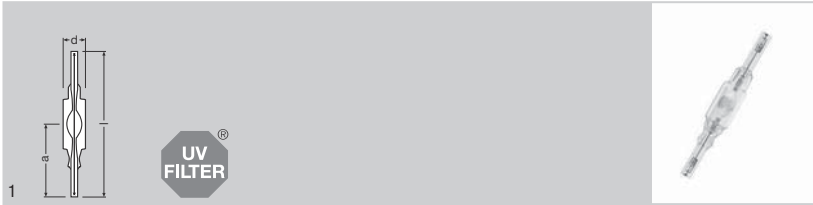
Note

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.

POWERSTAR® HQI®-TS EXCELLENCE for enclosed fixtures



Product reference	Product number	W	lm						
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

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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.



POWERSTAR® HQI®-TS EXCELLENCE COLOR for enclosed fixtures



Product reference	Product number	W							No.
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.

POWERSTAR® HQI®-TS for enclosed fixtures



Product reference	Product number	W	lm			l [mm]	LCL a [mm]		
HQI-TS 250/WDL	4008321 689177	250	22000	Fc2	25	162	82	12	1
HQI-TS 250/NDL	4008321 689153	250	20000	Fc2	25	162	82	12	1
HQI-TS 250/D	4008321 689139	250	21500	Fc2	25	162	82	12	1
HQI-TS 400/NDL ¹⁾	4008321 689214	400	36000	Fc2	33	206	103	12	2
HQI-TS 400/D ²⁾	4008321 689191	400	37000	Fc2	33	206	103	12	2

¹⁾ Operate only with NAV® control gear
²⁾ 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

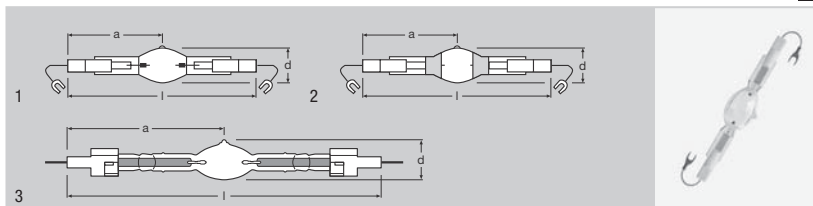
- POWERSTAR® quartz technology
- Warm white light WDL, neutral white light NDL and daylight D
- Approved for use only in enclosed fixtures
- UV filter technology

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 591944	1000	90000	K12s-36	36	187	93	10	2
HQI-TS 1000/D/S PRO	4008321 525475	1000	90000	K12s-36	36	187	93	10	2
HQI-TS 2000/NDL/S	4008321 525499	2000	225000	K12s-36	36	187	93	10	2
HQI-TS 2000/D/S	4050300 271682	2000	210000	K12s-36	36	187	93	10	1
HQI-TS 2000W/D/S High Flux ¹⁾	4008321 338310	2000	230000	K12s-36	36	187	93	10	1
HQI-TS 2000/D/S/DP ²⁾	4008321 772992 ³⁾	2000	220000	Cable	41	365	182	10	3

¹⁾ Operate only on 12.2A control gear
²⁾ Operate only on BHD L76
³⁾ 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

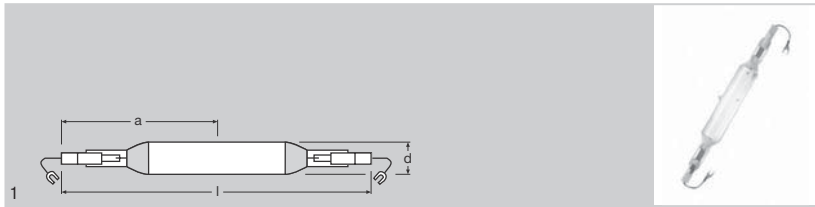
Product features

- 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		d_{max} [mm]	L [mm]	LCL a [mm]		No.
Clear									
HQI-TM 600/NDL ¹⁾	4008321 959461	600	55000	G22	34	180	90	10	1
HQI-TM 600/NDL HR ²⁾	4008321 959478	600	55000	GY22	34	180	90	10	1
HQI-TM 600/D ¹⁾	4008321 959485	600	58000	G22	34	180	90	10	1
HQI-TM 600/D HR ²⁾	4008321 959492	600	58000	GY22	34	180	90	10	1
HQI-TM 1000/NDL ³⁾	4008321 959508	1000	92000	G22	38	180	90	10	1
HQI-TM 1000/NDL HR ⁴⁾	4008321 959515	1000	92000	GY22	38	180	90	10	1
HQI-TM 1000/D	4008321 467553	1000	97000	G22	38	180	90	10	1
HQI-TM 1000/D HR ⁴⁾	4008321 959522	1000	97000	GY22	38	180	90	10	1

¹⁾ In preparation | Operate with NAV[®] control gear
²⁾ In preparation | Operate only on suitable hot restart igniters with an ignition voltage of up to 25 kV | Operate on NAV[®] control gear
³⁾ In preparation
⁴⁾ 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 NDL 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 528285	1000	110000	E40	76	345	220	6	1
HQI-T 1000/D	4008321 527035	1000	85000	E40	76	345	220	6	1
HQI-T 2000/N/E SUPER	4008321 979063	2000	240000	E40	100	430	265	4	2
HQI-T 2000/N/SN SUPER ¹⁾	4008321 979087	2000	240000	E40	100	430	265	4	2
HQI-T 2000/D	4008321 526809	2000	180000	E40	100	430	265	4	2
HQI-T 2000/N ¹⁾	4008321 665379	2000	205000	E40	100	430	265	4	2
HQI-T 2000/D/I ¹⁾	4008321 527011	2000	180000	E40	100	430	265	4	2

¹⁾ 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						
HQI-T 250/D/PRO ¹⁾	4008321677846	250	20000	E40	46	226	150	12	1
HQI-T 400/N ¹⁾	4008321526786	400	42000	E40	46	273	175	12	1
HQI-T 400 GREEN ²⁾	4008321526847	400	–	E40	46	273	175	12	1
HQI-T 400 BLUE ²⁾	4008321526861	400	–	E40	46	273	175	12	1
HQI-T 400 MAGENTA ²⁾	4008321526885	400	–	E40	46	273	175	12	1
HQI-BT 400/D/PRO ¹⁾	4008321677860	400	35000	E40	62	285	175	12	2

¹⁾ Operate with NAV® control gear

²⁾ 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						
					d max [mm]	l [mm]	LCL a [mm]		No.
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 NDL
- 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



POWERSTAR® HQI®-E/P, coated, for open and enclosed fixtures



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 ¹⁾	4008321677921	250	17000	E40	90	226	12	2
HQI-E/P 400/D coated ¹⁾	4008321677945	400	31000	E40	120	290	12	2

¹⁾ 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 ²⁾	4008321 677907	250	19000	E40	90	226	–	12	1
HQI-E 400/N clear ²⁾	4008321 526700	400	42000	E40	120	285	198	12	2
HQI-E 400/N coated ²⁾	4008321 526724	400	40000	E40	120	285	–	12	1
HQI-E 400/D/PRO ²⁾	4008321 677884	400	34000	E40	120	290	–	12	1
HQI-E 1000/N	4008321 528261	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 values significantly below the maximum permitted thresholds to IEC 61167 thanks to UV filter

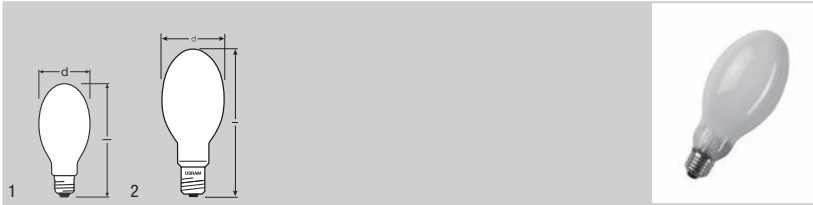
Product features

- POWERSTAR® quartz technology
- Approved for use only in enclosed fixtures
- Neutral white light ND.L 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 356024	50	4000	E27	71	156	24	1
NAV-E 70 SUPER 4Y	4008321 356048	70	6300	E27	71	156	24	1
NAV-E 100 SUPER 4Y	40503000 15774	100	10400	E40	76	183	12	2
NAV-E 150 SUPER 4Y	40503000 24370	150	17000	E40	91	226	12	2
NAV-E 250 SUPER 4Y	40503000 24387	250	31600	E40	91	226	12	2
NAV-E 400 SUPER 4Y	40503000 24394	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) $\geq 95\%$ after 16,000 hours (for $P \geq 70W$)
- 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		 d max [mm]	 l [mm]		 No.
NAV-E 50 4Y ¹⁾	4050300577678	50	3600	E27	71	156	24	1
NAV-E 70 4Y ¹⁾	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

¹⁾ 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 ¹⁾	4050300606033	50	3600	E27	71	156	24	1
NAV-E 70/l 4Y ¹⁾	4050300606019	70	5900	E27	71	156	24	1

¹⁾ 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

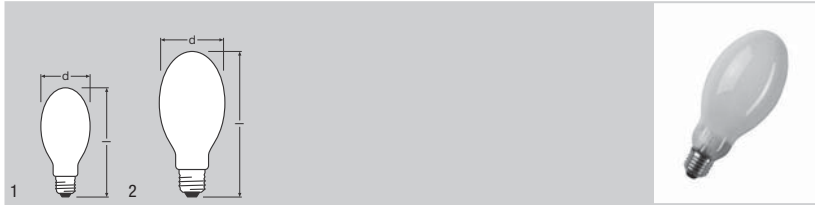
- All wattages are ErP-compliant

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		d max. (mm)	l (mm)		No.
NAV-E 50/E ¹⁾	40503000 15750	50	3600	E27	71	156	24	1
NAV-E 70/E ¹⁾	40503000 15767	70	5900	E27	71	156	24	1
NAV-E 100	400832 1087300	100	8800	E40	76	183	12	2
NAV-E 150	40503000 15613	150	14500	E40	91	226	12	2
NAV-E 250	40503000 15620	250	27000	E40	91	226	12	2
NAV-E 400	40503000 15637	400	48000	E40	122	290	12	2
NAV-E 1000	40503000 15644	1000	128000	E40	165	370	6	2

¹⁾ 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		d max. (mm)	l (mm)		No.
NAV-E 50/I ¹⁾	40503000 15583	50	3700	E27	71	156	24	1
NAV-E 70/I ¹⁾	40503000 15590	70	5900	E27	71	156	24	1

¹⁾ 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 345462	68	5600	E27	71	152	24	1
NAV-E 110	4050300 024318	110	8000	E27	76	170	40	1
NAV-E 210	4050300 015576	210	18000	E40	91	226	12	2
NAV-E 350	4050300 015651	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 ¹⁾	4050300024325	50	4200	E27	38	156	104	12	1
NAV-T 70 SUPER 4Y ¹⁾	4050300015736	70	6600	E27	38	156	104	12	1
NAV-T 100 SUPER 4Y ¹⁾	4050300015743	100	10700	E40	47	210	132	12	2
NAV-T 150 SUPER 4Y ¹⁾	4050300024400	150	17500	E40	47	210	132	12	2
NAV-T 250 SUPER 4Y ¹⁾	4050300024417	250	33000	E40	47	257	158	12	2
NAV-T 400 SUPER 4Y ¹⁾	40503000281179	400	56500	E40	47	285	175	12	2
NAV-T 600 SUPER 4Y ¹⁾	40503000275772	600	90000	E40	47	285	175	12	2

¹⁾ 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



VIALOX® NAV®-T (Standard), VIALOX® NAV®-T (TWIN ARC)



Product reference	Product number	W	lm				$\frac{l}{a}$ [mm]	LCL a [mm]			No.
VIALOX® NAV®-T (STANDARD)											
NAV-T 50	4008321337986	50	3800	E27			38	156	104	12	1
NAV-T 70	4050300255590	70	6000	E27			38	156	104	12	1
NAV-T 100	4008321087287	100	9000	E40			47	210	132	12	2
NAV-T 150	4050300015668	150	15000	E40			47	210	132	12	2
NAV-T 250	4050300015675	250	28000	E40			47	257	158	12	2
NAV-T 400	4050300015682	400	48000	E40			47	285	175	12	2
NAV-T 1000	4050300666549	1000	130000	E40/80			66	360	236	12	2
NAV-T 1000	4050300251417	1000	130000	E40			66	360	236	12	2
VIALOX® NAV®-T (TWIN ARC)											
NAV-T 150WS TT E40	4050300450827	150	14000	E40			47	210	132	12	2
NAV-T 250WS TT E40	4050300427690	250	27000	E40			47	257	158	12	2
NAV-T 400WS TT E40	4050300427713	400	48000	E40			47	285	175	12	2

VIALOX® NAV®-T (Standard) high-pressure sodium vapor lamps

Product features

- Lamp survival factor (LSF) $\geq 95\%$ after 12,000 hours (for $70\text{ W} \leq P \leq 400\text{ W}$)

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



VIALOX® NAV®-TS SUPER 4Y®



Product reference	Product number	W	lm		d_{max} (mm)	l (mm)	LCL a (mm)		 No.
NAV-TS 70 SUPER 4Y	4050300024301	70	6600	RX7s	20	120	60	12	1
NAV-TS 150 SUPER 4Y	4050300281667	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) \geq 95 % after 16,000 hours

Applications

- Industrial installations
- Car parks, courtyards
- Buildings, monuments, bridges



VIALOX® NAV®-TS (Standard)



Product reference	Product number	lm		d_{max} (mm)	LCL a (mm)		 No.
NAV-TS 250	4050300015705	28000	Fc2	23	103	12	1
NAV-TS 400	4050300015712	49000	Fc2	23	103	12	1

VIALOX® NAV®-TS (Standard) high-pressure sodium vapor lamps

Product features







- Lamp survival factor (LSF) \geq 95 % after 12,000 hours

Applications

- Industrial installations
- Car parks, courtyards
- Buildings, monuments, bridges

METAL HALIDE MI POWERARC LAMPS (NORTH AMERICAN SYSTEM)



Product reference	Product number	W	lm	t [h]	K		 d max [mm]	 l max [mm]	 LCL $\bar{\alpha}$ [mm]		 No.
POWERARC MI, clear											
MI175/U E40 CLEAR	4008321 379009	175	14400	10000	4200	E40	90	211	6	1	
MI 250/ U E40 CLEAR	4008321 379023	250	22000	10000	4200	E40	90	211	6	1	
MI 400/U 400W E40 CLEAR	4050300 335377	400	36000	20000	4000	E40	117	292	6	1	
MI 1000/U 1000W E40 CLEAR	4050300 335414	1000	110000	15000	4000	E40	178	390	6	1	
MI 1500/BU 1500W E40 CLEAR	4008321 379122	1500	170000	3000	4000	E40	178	390	6	1	
POWERARC MI, Coated											
MI 250/C/U 250W E40 COATED	4008321 379047	250	21500	10000	3800	E40	90	211	6	1	
MI 400/C/U 400W E40 COATED	4050300 335391	400	36000	20000	3700	E40	118	292	6	1	

POWERARC Metal Halide lamps are the ideal choice for today's cost conscious user. High lumen output throughout a relatively long life, along with good efficacy, together with a wide range of wattages, allow designers increased flexibility in optimising their lighting solutions.

Standard POWERARC Lamps

These lamps (designated MI) are best known for their exceptional "White" light - not too warm nor too cool. They are available with a clear envelope or coated, to suit the characteristics of the luminaire. All are designed for universal burning, however, performance details may change with orientation; consult the tables for details.



HQL® SUPER DE LUXE



Product reference	Product number	W	lm						No.
HQL 80 SUPER DE LUXE	40503000 15224	80	3400	E27	71	155	40	1	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						No.
HQL 50 DE LUXE	40503000 15132	50	2000	E27	56	130	40	1	1
HQL 80 DE LUXE	40503000 15149	80	4000	E27	71	155	40	1	1
HQL 125 DE LUXE	40503000 15156	125	6800	E27	76	168	40	1	1
HQL 250 DE LUXE	40503000 15163	250	14000	E40	91	226	12	1	1
HQL 400 DE LUXE	40503000 15170	400	24000	E40	122	285	12	1	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 ¹⁾	4050300015453	160	3100	E27	76	168	40	1
HWL 160 235 V ¹⁾	4050300216867	160	3100	E27	76	168	40	1
HWL 250 225 V ¹⁾	4008321161123	250	5600	E40	91	226	12	2
HWL 250 235 V ¹⁾	4008321159274	250	5600	E40	91	226	12	2
HWL 500 225 V ¹⁾	4050300015484	500	14000	E40	122	275	12	2
HWL 500 235 V ¹⁾	4050300216928	500	14000	E40	122	275	12	2

¹⁾ 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.

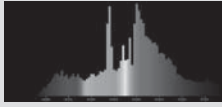
Applications

- Factory and hall lighting with low-cost installations
- Upgrading light fittings with high-wattage incandescent lamps
- Factories and workshops
- Pedestrian zones, public squares

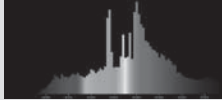
Relative spectral power distribution of discharge lamps

Visible range from 380 to 780 nm, relative spectral emission per 5 nm.

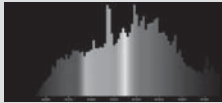
HCI®/HQI® lamps



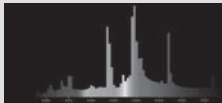
HCI®/930 SHOPLIGHT



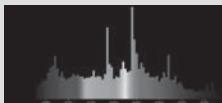
HCI®/830 WDL/930 WDL



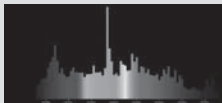
HCI®/942 NDL



HQI®-TS/WDL

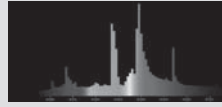


HQI®-TS/NDL

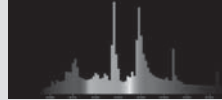


HQI®-TS/D

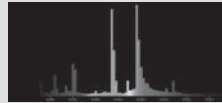
HQI® lamps



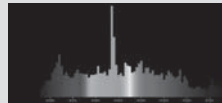
HQI®-T/WDL G12



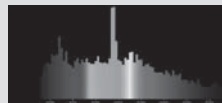
HQI®-T/NDL G12



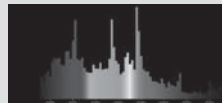
HQI®-T/N E40



HQI®-T/D E40

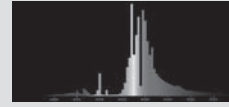


HQI®-TS/D/S CABLE

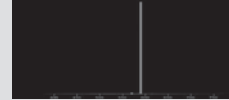


HQI®-TS Cool Daylight

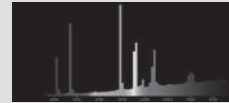
VIALOX® NAV® and SOX lamps, HWL® and HQL® lamps



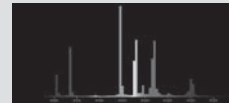
NAV®/NAV® SUPER 4Y®



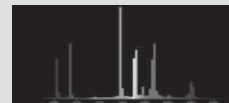
SOX



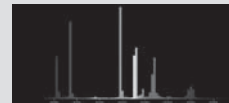
HWL®



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 μ F	Circuit diagram no. ²⁰⁾	Luminous flux lm	Luminous efficacy lm/W	Color rendering R _a	Color temperature K	Burning position ²¹⁾
POWERBALL® HCI®-T for enclosed fixtures									
HCI-T 35/830 WDL PB	0.5	37	6 ⁴⁾	2/7	3600	95	83	3000	universal
HCI-T 35W/930 WDL PB Plus	0.4	39	- ³⁾	7	4000	103	90	3000	universal
HCI-T 35/942 NDL PB	0.5	37	6 ⁴⁾	2/7	3500	92	90	4200	universal
HCI-T 50W/930 WDL PB Plus ¹⁾	0.5	50	- ³⁾	7	5300 ²²⁾	106 ²²⁾	90	3000	universal
HCI-T 70/830 WDL PB	1.0	72	12 ⁴⁾	2/7	7300	100	88	3000	universal
HCI-T 70W/930 WDL PB Plus	0.9	73	- ³⁾	7	7800	107	91	3000	universal
HCI-T 70/942 NDL PB	1.0	72	12 ⁴⁾	2/7	6800	93	94	4200	universal
HCI-T 100/830 WDL PB	1.1	96	12 ⁴⁾	2/7	9500	99	86	3000	universal
HCI-T 100/942 NDL PB	1.2	96	12 ⁴⁾	2/7	9300	97	94	4200	universal
HCI-T 150/830 WDL PB	1.8	142	20 ⁴⁾	2/7	15000	106	88	3000	universal
HCI-T 150/942 NDL PB	1.8	146	20 ⁴⁾	2/7	14500	99	96	4200	universal
POWERBALL® HCI®-TM for enclosed fixtures									
HCI-TM 250/930 WDL MD PB ²⁾	3.1	245	32 ⁴⁾	2	26600	109	92	3000	universal
HCI-TM 250/930 WDL HR PB ⁹⁾	3.1	245	32 ⁴⁾	2	26600	109	92	3000	universal
HCI-TM 250/942 NDL MD PB ²⁾	3.0	252	32 ⁴⁾	2	25300	100	96	4200	universal
HCI-TM 250/942 NDL HR PB ⁹⁾	3.0	252	32 ⁴⁾	2	25300	100	96	4200	universal
HCI-TM 400/930 WDL PB ²⁾	4.6	396	45 ⁴⁾	2	43000	109	92	3000	universal
HCI-TM 400/930 WDL HR PB ⁹⁾	4.6	396	45 ⁴⁾	2	43000	109	92	3000	universal
HCI-TM 400/942 NDL PB ²⁾	4.6	410	45 ⁴⁾	2	43000	105	96	4200	universal
HCI-TM 400/942 NDL HR PB ⁹⁾	4.6	410	45 ⁴⁾	2	43000	105	96	4200	universal
POWERBALL® HCI®-TC for enclosed fixtures									
HCI-TC 20/830 WDL PB	0.2	20	- ³⁾	7	1700	85	81	3000	universal
HCI-TC 35/830 WDL PB	0.5	38	6 ⁴⁾	2/7	3500	92	83	3000	universal
HCI-TC 35W/930 WDL PB Plus	0.4	39	- ³⁾	7	4000	103	90	3000	universal
HCI-TC 35/942 NDL PB	0.5	39	6 ⁴⁾	2/7	3400	87	90	4200	universal
HCI-TC 50W/930 WDL PB Plus ¹⁾	0.5	50	- ³⁾	7	5300 ²²⁾	106 ²²⁾	90	3000	universal
HCI-TC 70/830 WDL PB	1.0	72	12 ⁴⁾	2/7	6900	96	89	3000	universal
HCI-TC 70W/930 WDL PB Plus	0.9	73	- ³⁾	7	7800	107	91	3000	universal
HCI-TC 70/942 NDL PB	1.0	74	12 ⁴⁾	2/7	6600	89	95	4200	universal
POWERBALL® HCI®-TF for enclosed fixtures									
HCI-TF 20/830 WDL PB	0.2	20	- ³⁾	7	1700	85	85	3000	universal
HCI-TF 35/930 WDL PB	0.5	39	- ³⁾	7	3400	87	90	3000	universal
POWERBALL® HCI®-T Shoplight for enclosed fixtures									
HCI-T 35/930 WDL PB Shoplight	0.5	39	6 ⁴⁾	2/7	2800	72	93	3000	universal
HCI-T 70/930 WDL PB Shoplight	1.0	73	12 ⁴⁾	2/7	6300	86	94	3000	universal
POWERBALL® HCI®-TC Shoplight for enclosed fixtures									
HCI-TC 35/930 WDL PB Shoplight	0.5	38	6 ⁴⁾	2/7	2800	74	93	3000	universal
HCI-TC 70/930 WDL PB Shoplight	1.0	73	12 ⁴⁾	2/7	6300	86	95	3000	universal
POWERBALL® HCI®-TS for enclosed fixtures									
HCI-TS 70/830 WDL PB	1.0	72	12 ⁴⁾	2/7	6800	94	88	3000	p45
HCI-TS 70/942 NDL PB	1.0	74	12 ⁴⁾	2/7	6500	88	95	4200	p45
HCI-TS 150/830 WDL PB	1.8	144	20 ⁴⁾	2/7	14500	101	90	3000	p45
HCI-TS 150/942 NDL PB	1.8	138	20 ⁴⁾	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 ϕ > 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 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 4.54 21) See operating instructions: "Photometric and electrical data" 22) Provisional value

Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz μ F	Circuit diagram no. ²⁰⁾	Luminous flux lm	Luminous efficacy lm/W	Color rendering R _a	Color temperature K	Burning position ²¹⁾
POWERBALL® HCI®-TT for enclosed fixtures									
HCI-TT 50/830 WDL PB ¹⁾	0.8	53	10 ⁴⁾	2	5000	94	> 80	3000	universal
HCI-TT 70/830 WDL PB	0.9	74	12 ⁴⁾	2	7000	95	86	3000	universal
HCI-TT 100/830 WDL PB	1.2	96	12 ⁴⁾	2	10000	104	82	3000	universal
HCI-TT 150/830 WDL PB	1.8	148	20 ⁴⁾	2	14500	107	83	3000	universal
HCI-TT 250/830 WDL PB	2.8	249	32 ⁴⁾	2	26000	104	87	3000	universal
POWERBALL® HCI®-E/P for open and enclosed fixtures									
HCI-E/P 35/830 WDL PB coated	0.5	38	6 ⁴⁾	2/7	3200	84	85	3000	universal
HCI-E/P 50/830 WDL PB coated	0.8	52	10 ⁴⁾	2/7	4000	77	> 80	3000	universal
HCI-E/P 70/830 WDL PB coated	1.0	73	12 ⁴⁾	2/7	6700	92	88	3000	universal
HCI-E/P 100/830 WDL PB coated	1.2	96	12 ⁴⁾	2/7	8500	89	88	3000	universal
HCI-E/P 150/830 WDL PB coated	1.8	145	20 ⁴⁾	2/7	13700	94	93	3000	universal
POWERBALL® HCI®-TX/P for open and enclosed fixtures									
HCI-TX/P 35/930 ³⁾	0.44	39	-	7	3300	85	93	3000	universal
HCI-TX/P 35/942 ³⁾	0.44	39	-	7	3300	85	96	4200	universal
HCI-TX/P 70/930 ³⁾	0.86	73	-	7	7300	100	93	3000	universal
HCI-TX/P 70/942 ³⁾	0.86	73	-	7	7300	100	96	4200	universal
POWERBALL® HCI®-PAR for open and enclosed fixtures									
HCI-PAR20 35/830 WDL PB SP 10D	0.53	39	6 ⁴⁾	2/7	22000 ⁶⁾	-	84	3000	universal
HCI-PAR20 35/830 WDL PB FL 30D	0.53	39	6 ⁴⁾	2/7	5000	-	84	3000	universal
HCI-PAR20 35W/942 NDL PB SP 10D	0.53	39	6 ⁴⁾	2/7	16000 ⁶⁾	-	> 90	4200	universal
HCI-PAR20 35W/942 NDL PB FL 30D	0.53	39	6 ⁴⁾	2/7	4000 ⁶⁾	-	> 90	4200	universal
HCI-PAR30 35/830 WDL PB SP 10D	0.53	39	6 ⁴⁾	2/7	45000 ⁶⁾	-	83	3000	universal
HCI-PAR30 35/830 WDL PB FL 30D	0.53	39	6 ⁴⁾	2/7	8000 ⁶⁾	-	83	3000	universal
HCI-PAR30 35W/942 NDL PB SP 10D	0.53	39	6 ⁴⁾	2/7	36000 ⁶⁾	-	> 90	4200	universal
HCI-PAR30 35W/942 NDL PB FL 30D	0.53	39	6 ⁴⁾	2/7	7000 ⁶⁾	-	> 90	4200	universal
HCI-PAR30 70/930 WDL PB SP 10D	0.98	72	12 ⁴⁾	2/7	60000	-	95	3000	universal
HCI-PAR30 70/930 WDL PB FL 30D	0.98	72	12 ⁴⁾	2/7	12000	-	95	3000	universal
HCI-PAR30 70/830 WDL PB WFL 40D	0.98	72	12 ⁴⁾	2/7	8900 ⁶⁾	-	85	3000	universal
HCI-PAR30 70W/942 NDL PB SP 10D	0.98	72	12 ⁴⁾	2/7	70000 ⁶⁾	-	> 90	4200	universal
HCI-PAR30 70W/942 NDL PB FL 30D	0.98	72	12 ⁴⁾	2/7	13000 ⁶⁾	-	> 90	4200	universal
POWERSTAR® HQI®-R for enclosed fixtures									
HQI-R 150/NDL/FO	1.8	150	20 ⁴⁾	2/7	11000 ⁶⁾	73	85	4200	p15
POWERSTAR® HQI®-T with G12 base for enclosed fixtures									
HQI-T 70/NDL	1.0	75	12 ⁴⁾	2/7	5800	77	84	4200	universal ⁵⁾
HQI-T 70/WDL	1.0	75	12 ⁴⁾	2/7	5300	71	76	3000	universal ⁵⁾
HQI-T 150/NDL	1.8	150	20 ⁴⁾	2/7	13000	87	85	4200	universal ⁵⁾
HQI-T 150/WDL	1.8	150	20 ⁴⁾	2/7	13000	87	77	3000	universal ⁵⁾

1) In preparation 2) Operate on NAV[®] control gear 3) Operate only on electronic control gear 4) Typical value at rated voltage and cos ϕ \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 4.54 21) See operating instructions: "Photometric and electrical data"

Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz μF	Circuit diagram no. ²⁰⁾	Luminous flux lm	Luminous efficacy lm/W	Color rendering R_a	Color temperature K	Burning position ²¹⁾
POWERSTAR® HQI®-TS EXCELLENCE for enclosed fixtures									
HQI-TS 70/WDL EXCELLENCE	1.0	78	12 ⁴⁾	2/7	6200	80	75	3000	p45
HQI-TS 70/NDL EXCELLENCE	1.0	78	12 ⁴⁾	2/7	6500	83	85	4200	p45
HQI-TS 70/D EXCELLENCE	1.0	78	12 ⁴⁾	2/7	6200	80	80	5600	p45
HQI-TS 70/CD EXCELLENCE	0.9	75	12 ⁴⁾	2/7	5500	73	78	6500	p45
HQI-TS 150/WDL EXCELLENCE	1.8	150	20 ⁴⁾	2/7	12000	80	75	3000	p45
HQI-TS 150/NDL EXCELLENCE	1.8	150	20 ⁴⁾	2/7	12500	83	85	4200	p45
HQI-TS 150/D EXCELLENCE	1.8	150	20 ⁴⁾	2/7	13500	90	80	5600	p45
HQI-TS 150/CD EXCELLENCE	1.8	150	20 ⁴⁾	2/7	11500	77	80	6500	p45
POWERSTAR® HQI®-TS EXCELLENCE COLOR for enclosed fixtures									
HQI-TS 70/BL EXCELLENCE	1	78	12 ⁴⁾	2/7	-	-	-	mono-chromatic	p45
HQI-TS 70/MG EXCELLENCE	1	78	12 ⁴⁾	2/7	-	-	-	mono-chromatic	p45
HQI-TS 70/GN EXCELLENCE	1	78	12 ⁴⁾	2/7	-	-	-	mono-chromatic	p45
HQI-TS 150/BL EXCELLENCE	1.9	146	20 ⁴⁾	2/7	-	-	-	mono-chromatic	p45
HQI-TS 150/MG EXCELLENCE	1.9	146	20 ⁴⁾	2/7	-	-	-	mono-chromatic	p45
HQI-TS 150/GN EXCELLENCE	1.9	146	20 ⁴⁾	2/7	-	-	-	mono-chromatic	p45
POWERSTAR® HQI®-TS for enclosed fixtures									
HQI-TS 250/WDL UVS	2.8	250	32 ⁴⁾	2	22000	88	80	3200	p45
HQI-TS 250/NDL UVS	3.0	250	32 ⁴⁾	2	20000	82	88	4200	p45
HQI-TS 250/D PRO	3.0	250	32 ⁴⁾	2	20000	82	93	5500	p45
HQI-TS 400/NDL ⁷⁾	4.1	400	45 ⁴⁾	2	36000	90	88	4200	p45
HQI-TS 400/D PRO ²⁾	4.1	400	45 ⁴⁾	2	37000	90	93	5500	p45
HQI-TS 400/D PRO ¹⁰⁾	3.6	350	35 ⁴⁾	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 4.54 21) See operating instructions: "Photometric and electrical data"



Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz μF	Circuit diagram no. ²¹⁾	Luminous flux lm	Luminous efficacy lm/W	Color rendering R _a	Color temperature K	Burning position ²²⁾
POWERSTAR® HQI®-TS without outer bulb for enclosed fixtures									
HQI-TS 1000/NDL/S	9.7	1000	85 ⁴⁾	2	90000	90	> 85	4400	p15
HQI-TS 1000/D/S	9.5	1000	85 ⁴⁾	2	90000	90	90	6100	p15/s15
HQI-TS 2000/NDL/S	11.5	1920	60 ⁴⁾	2/3	225000	117	> 85	4400	p15
HQI-TS 2000/D/S	11.3	1950	60 ⁴⁾	2/3	210000	106	90	6100	p15
HQI-TS 2000/D/S High Flux ⁸⁾	12.2	2060	70 ⁴⁾	2/3	230000	112	90	6200	p15
HQI-TS 2000/N/L	10.3	2150	60 ⁴⁾	2/3	230000	107	≥ 65	4100	p15
HQI-TS 2000/D/S/DP	11.6	2020	70	2/3	220000	109	90	6100	p15
POWERSTAR® HQI®-TM for enclosed fixtures									
HQI-TM 600/NDL ¹⁾²⁾	4.0	620	65 ⁴⁾	2	55000	89	85	4500	universal
HQI-TM 600/NDL HR ¹⁾²⁾⁹⁾	4.0	620	65 ⁴⁾	2	55000	89	85	4500	universal
HQI-TM 600/D ¹⁾²⁾	4.2	630	60 ⁴⁾	2	58000	92	90	6100	universal
HQI-TM 600/D HR ¹⁾²⁾⁹⁾	4.2	630	60 ⁴⁾	2	58000	92	90	6100	universal
HQI-TM 1000/NDL ¹⁾	8.9	1000	85 ⁴⁾	2	92000	92	85	4500	universal
HQI-TM 1000/NDL HR ¹⁾⁹⁾	8.9	1000	85 ⁴⁾	2	92000	92	85	4500	universal
HQI-TM 1000/D	8.4	1000	85 ⁴⁾	2	97000	97	90	6100	universal
HQI-TM 1000/D HR ¹⁾⁹⁾	8.4	1000	85 ⁴⁾	2	97000	97	90	6100	universal
POWERSTAR® HQI®-T for enclosed fixtures, 1000 W and higher									
HQI-T 1000/N	9.1	1000	85 ⁴⁾	2	110000	110	65	3500	p30
HQI-T 1000/D	8.9	1000	85 ⁴⁾	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 ¹²⁾	9.4	2000	37	2	240000	120	65	4400	p60
HQI-T 2000/D	10.2	2050	60 ⁴⁾	2	180000	88	90	7250	p30
HQI-T 2000/N ¹²⁾	9.0	2000	37 ⁴⁾	1	205000	103	65	4200	p30
HQI-T 2000/D/1 ¹²⁾	10.3	2050	60 ⁴⁾	1	180000	88	90	7250	p30
POWERSTAR® HQI®-T for enclosed fixtures									
HQI-T 250/D PRO ²⁾	3.0	250	32 ⁴⁾	2	21500	82	90	5500	universal ¹³⁾
HQI-BT 400/D PRO ²⁾	4.0	420	45 ⁴⁾	2	35000	83	90	5500	universal
HQI-BT 400/D ¹⁰⁾	3.5	360	35 ⁴⁾	2	27000	75	90	6000	universal
HQI-T 400/N ²⁾	4.0	430	45 ⁴⁾	2	42000	98	65	3500	p45
HQI-T 400/N ¹⁰⁾	3.6	380	35 ⁴⁾	2	34000	89	65	4000	p45
HQI-T 400 BLUE ¹⁰⁾	4.0	400	35 ⁴⁾	2	-	-	-	monochromatic	p55
HQI-T 400 GREEN ¹⁰⁾	4.0	400	35 ⁴⁾	2	-	-	-	monochromatic	p55
HQI-T 400 MAGENTA ¹⁰⁾	4.2	400	35 ⁴⁾	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 $\cos \varphi \geq 0.9$ 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 4.54 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 μ F	Circuit diagram no. ²¹⁾	Lumi-nous flux lm	Lumi-nous effi-cacy lm/W	Color ren-dering R _a	Color tem-perature K	Burn-ing position ²²⁾
POWERSTAR® HQI®-E/P, clear, for open and enclosed fixtures									
HQI-E/P 70/WDL clear	0.9	78	12 ⁴⁾	2/7	6600	85	70	3000	universal
HQI-E/P 70/NDL clear	0.9	78	12 ⁴⁾	2/7	6600	85	80	4200	universal
HQI-E/P 100/WDL clear	1.2	100	12 ⁴⁾	2/7	7700	77	70	3000	universal
HQI-E/P 100/NDL clear	1.2	100	12 ⁴⁾	2/7	7700	77	80	4200	universal
HQI-E/P 150/WDL clear	1.8	150	20 ⁴⁾	2/7	12000	80	70	3000	universal
HQI-E/P 150/NDL clear	1.8	150	20 ⁴⁾	2/7	12000	80	80	4200	universal
POWERSTAR® HQI®-E/P, coated, for open and enclosed fixtures									
HQI-E/P 70/WDL coated	0.9	78	12 ⁴⁾	2/7	6200	79	70	3000	universal
HQI-E/P 70/NDL coated	0.9	78	12 ⁴⁾	2/7	6200	79	80	4200	universal
HQI-E/P 100/WDL coated	1.2	100	12 ⁴⁾	2/7	7300	73	70	3000	universal
HQI-E/P 100/NDL coated	1.2	100	12 ⁴⁾	2/7	7300	73	85	4200	universal
HQI-E/P 150/WDL coated	1.8	150	20 ⁴⁾	2/7	11400	76	70	3000	universal
HQI-E/P 150/NDL coated	1.8	150	20 ⁴⁾	2/7	11400	76	86	4200	universal
HQI-E/P 250/D coated ²⁾	3.0	250	32 ⁴⁾	2	17000	71	90	5200	universal
HQI-E/P 400/D coated ²⁾	3.9	420	45 ⁴⁾	2	31000	74	90	5000	universal
HQI-E/P 400/D coated ¹⁰⁾	3.5	380	35 ⁴⁾	2	25000	71	90	5200	universal
POWERSTAR® HQI®-E, clear and coated, for enclosed fixtures									
HQI-E 400/N CLEAR ²⁾	4.0	440	45 ⁴⁾	2	42000	95	65	4000	h45
HQI-E 400/N CLEAR ¹⁰⁾	3.4	380	35 ⁴⁾	2	34000	90	65	4600	h45
HQI-E 250/D PRO ²⁾	3.0	250	32 ⁴⁾	2	19000	78	90	5200	universal ¹³⁾
HQI-E 400/D PRO ²⁾	4.0	420	45 ⁴⁾	2	34000	79	90	5200	universal
HQI-E 400/D ¹⁰⁾	3.6	360	35 ⁴⁾	2	26000	72	90	5700	universal
HQI-E 400/N ²⁾	4.0	400	45 ⁴⁾	2	40000	91	65	3800	h45
HQI-E 400/N ¹⁰⁾	3.4	380	35 ⁴⁾	2	34000	90	65	4400	h45
HQI-E 1000/N	9.5	1000	85 ⁴⁾	2	100000	95	65	3800	h45
VIALOX® NAV®-E SUPER 4Y®									
NAV-E 50 SUPER 4Y ¹⁾	0.8	50	10 ⁴⁾	2	3800	76	≤ 25	2000	universal
NAV-E 70 SUPER 4Y ¹⁾	1.0	70	12 ⁴⁾	2	6300	90	≤ 25	2000	universal
NAV-E 100 SUPER 4Y ¹⁵⁾	1.2	100	12 ⁴⁾	2	10200	102	≤ 25	2000	universal
NAV-E 150 SUPER 4Y ¹⁵⁾	1.8	150	20 ⁴⁾	2	17000	113	≤ 25	2000	universal
NAV-E 250 SUPER 4Y ¹⁵⁾	3.0	250	32 ⁴⁾	2	31100	124	≤ 25	2000	universal
NAV-E 400 SUPER 4Y ¹⁵⁾	4.4	400	45 ⁴⁾	2	55500	139	≤ 25	2000	universal
VIALOX® NAV®-E 4Y®									
NAV-E 50 4Y	0.8	50	10 ⁴⁾	2	3500	70	≤ 25	2000	universal
NAV-E 70 4Y	1.0	70	12 ⁴⁾	2	5600	80	≤ 25	2000	universal
NAV-E 150 4Y	1.8	150	20 ⁴⁾	2	14500	97	≤ 25	2000	universal
NAV-E 250 4Y	3.0	250	32 ⁴⁾	2	27000	108	≤ 25	2000	universal
NAV-E 400 4Y	4.4	400	45 ⁴⁾	2	48000	120	≤ 25	2000	universal
VIALOX® NAV®-E 4Y®, with integrated ignition unit									
NAV-E 50/I 4Y ^{7) 16)}	0.8	50	10 ⁴⁾	1	3500	70	≤ 25	2000	universal
NAV-E 70/I 4Y ^{7) 16)}	1.0	70	12 ⁴⁾	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 $\phi > 0.9$ 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 4.54 22) See operating instructions: "Photometric and electrical data"

Technical data

Product reference	Lamp current A	Lamp wattage W	Compensation capacitor at 50 Hz μF	Circuit diagram no. ²⁰⁾	Luminous flux lm	Luminous efficacy lm/W	Color rendering R_a	Color temperature K	Burning position ²¹⁾
VIALOX® NAV®-E (Standard)									
NAV-E 50/E	0.8	50	10 ⁴⁾	2	3500	70	≤ 25	2000	universal
NAV-E 70/E	1.0	70	12 ⁴⁾	2	5600	80	≤ 25	2000	universal
NAV-E 100	1.2	100	12 ⁴⁾	2	8500	85	≤ 25	2000	universal
NAV-E 150	1.8	150	20 ⁴⁾	2	14500	97	≤ 25	2000	universal
NAV-E 250	3.0	250	32 ⁴⁾	2	27000	108	≤ 25	2000	universal
NAV-E 400	4.4	400	45 ⁴⁾	2	48000	120	≤ 25	2000	universal
NAV-E 1000	10.3	1000	100 ⁴⁾	2	128000	128	≤ 25	2000	universal
VIALOX® NAV®-E, with integrated ignition unit									
NAV-E 50/l ^{7) 16)}	0.8	50	10 ⁴⁾	1	3500	70	≤ 25	2000	universal
NAV-E 70/l ^{7) 16)}	1.0	70	12 ⁴⁾	1	5600	80	≤ 25	2000	universal
VIALOX® NAV®-E Plug-in (substitute for mercury vapor lamp)									
NAV-E 68	0.8	68	8 ⁴⁾	-	5400	80	≤ 25	2000	universal
NAV-E 110	1.3	110	10 ⁴⁾	1	8000	73	≤ 25	2000	universal
NAV-E 210	2.3	210	18 ⁴⁾	1	18000	86	≤ 25	2000	universal
NAV-E 350	3.6	350	25 ⁴⁾	1	34000	97	≤ 25	2000	universal
VIALOX® NAV®-T SUPER 4Y®									
NAV-T 50 SUPER 4Y ¹⁵⁾	0.8	50	10 ⁴⁾	2	4400	88	≤ 25	2000	universal
NAV-T 70 SUPER 4Y ¹⁵⁾	1.0	70	12 ⁴⁾	2	6600	94	≤ 25	2000	universal
NAV-T 100 SUPER 4Y ¹⁵⁾	1.2	100	12 ⁴⁾	2	10700	107	≤ 25	2000	universal
NAV-T 150 SUPER 4Y ¹⁵⁾	1.8	150	20 ⁴⁾	2	17500	116	≤ 25	2000	universal
NAV-T 250 SUPER 4Y ¹⁵⁾	3.0	250	32 ⁴⁾	2	33200	133	≤ 25	2000	universal
NAV-T 400 SUPER 4Y ¹⁵⁾	4.4	400	45 ⁴⁾	2	56500	141	≤ 25	2000	universal
NAV-T 600 SUPER 4Y ¹⁵⁾	4.2	600	65 ⁴⁾	2	90000	150	≤ 25	2000	universal
VIALOX® NAV®-T 4Y®									
NAV-T 70 4Y	1.0	70	12 ⁴⁾	2	6000	86	≤ 25	2000	universal
NAV-T 150 4Y	1.8	150	20 ⁴⁾	2	15000	100	≤ 25	2000	universal
NAV-T 250 4Y	3.0	250	32 ⁴⁾	2	28000	112	≤ 25	2000	universal
NAV-T 400 4Y	4.4	400	45 ⁴⁾	2	48000	120	≤ 25	2000	universal
VIALOX® NAV®-T (Standard)									
NAV-T 50	0.8	50	10 ⁴⁾	2	3700	74	≤ 25	2000	universal
NAV-T 70	1.0	70	12 ⁴⁾	2	6000	86	≤ 25	2000	universal
NAV-T 100	1.2	100	12 ⁴⁾	2	9000	90	≤ 25	2000	universal
NAV-T 150	1.8	150	20 ⁴⁾	2	15000	100	≤ 25	2000	universal
NAV-T 250	3.0	250	32 ⁴⁾	2	28000	112	≤ 25	2000	universal
NAV-T 400	4.4	400	45 ⁴⁾	2	48000	120	≤ 25	2000	universal
NAV-T 1000	10.6	960	100 ⁴⁾	2	130000	130	≤ 25	2000	universal
VIALOX® NAV®-TS SUPER 4Y®									
NAV-TS 70 SUPER 4Y	1.0	70	12 ⁴⁾	2	6800	97	≤ 25	2000	p45
NAV-TS 150 SUPER 4Y	1.8	150	20 ⁴⁾	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 $\cos \phi \geq 0.9$ 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 4.54 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 μ F	Circuit dia-gram no. ²⁰⁾	Lumi-nous flux lm	Lumi-nous effi-cacy lm/W	Color ren-dering R _a	Color tem-perature K	Burn-ing position ²¹⁾
PLANTASTAR®									
PLANTASTAR 250 inter	3.0	250	32 ⁴⁾	2	33200	133	-	-	universal
PLANTASTAR 400 ¹⁷⁾	4.4	400	45 ⁴⁾	2	56500	141	-	-	universal
PLANTASTAR 600 ¹⁷⁾	4.2	600	65 ⁴⁾	2	89000	148	-	-	universal
PLANTASTAR 600/400	3.6	600	18 ⁴⁾	2	87000	145	-	-	universal
VIALOX® NAV®-TS (Standard)									
NAV-TS 250	3.0	250	32 ⁴⁾	2	25500	102	≤ 25	2000	p45
NAV-TS 400	4.4	400	45 ⁴⁾	2	48000	120	≤ 25	2000	p45
Low-pressure sodium lamps – SOX									
SOX 18	0.4	18	5 ⁴⁾	4/5/6	1800 ¹⁸⁾	100	-	-	h150
SOX 35	0.6	36	20 ⁴⁾	4/5/6	4600 ¹⁸⁾	128	-	-	h110
SOX 55	0.6	57	20 ⁴⁾	4/5/6	8100 ¹⁸⁾	142	-	-	h110
SOX 90	0.9	91	26 ⁴⁾	4/5/6	13500 ¹⁸⁾	148	-	-	p20
SOX 135	0.9	135	20 ⁴⁾	4/5/6	22500 ¹⁸⁾	167	-	-	p20
SOX 180	0.9	185	20 ⁴⁾	4/5/6	32000 ¹⁸⁾	174	-	-	p20
HQL® SUPER DE LUXE									
HQL 50 SUPER DE LUXE	0.6	50	7 ⁴⁾	1	1600	32	60	3200	universal
HQL® DE LUXE									
HQL 50 DE LUXE	0.6	50	7 ⁴⁾	1	2000	40	54	3400	universal
HQL 80 DE LUXE	0.8	80	8 ⁴⁾	1	4000	50	54	3400	universal
HQL 125 DE LUXE	1.2	125	10 ⁴⁾	1	6800	54	54	3400	universal
HQL 250 DE LUXE	2.2	250	18 ⁴⁾	1	14000	56	52	3400	universal
HQL 400 DE LUXE	3.3	400	25 ⁴⁾	1	24000	60	50	3400	universal
HQL® (Standard)									
HQL 50	0.6	50	7 ⁴⁾	1	1800	36	50	4200	universal
HQL 80	0.8	80	8 ⁴⁾	1	3800	48	50	4200	universal
HQL 125	1.2	125	10 ⁴⁾	1	6300	50	50	4200	universal
HQL 250	2.2	250	18 ⁴⁾	1	13000	52	46	4000	universal
HQL 400	3.3	400	25 ⁴⁾	1	22000	55	44	4000	universal
HQL 700	5.4	700	40 ⁴⁾	1	40000	57	43	4000	universal
HQL 1000	7.5	1000	60 ⁴⁾	1	57000	57	43	4000	universal
HQL®-R DE LUXE									
HQL R 80 DE LUXE	0.8	80	8 ⁴⁾	1	3000	38	56	3400	universal
HWL®									
HWL 160 225 V ¹⁹⁾	0.8	175	- ⁴⁾	-	3100	18	62	3600	hs30
HWL 160 235 V ¹⁹⁾	0.8	175	- ⁴⁾	-	3100	18	62	3600	hs30
HWL 250 225 V ¹⁹⁾	1.2	270	- ⁴⁾	-	5600	21	58	3800	hs45
HWL 250 235 V ¹⁹⁾	1.2	270	- ⁴⁾	-	5600	21	58	3800	hs45
HWL 500 225 V ¹⁹⁾	2.4	530	- ⁴⁾	-	14000	27	60	4000	hs45
HWL 500 235 V ¹⁹⁾	2.3	530	- ⁴⁾	-	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 $\cos \varphi \geq 0.9$ 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 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 4.54 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® ≥ 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°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.

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/1
- NAV[®]-E 50/1 4Y[®]
- NAV[®]-E 70/1 4Y[®]
- NAV[®]-E 50/1
- NAV[®]-E 70/1
- 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[®]: $\cos \varphi \approx 1$
- HCI[®], HQI[®] and HQL[®]: $\cos \varphi \approx 0.5$ to 0.7
- NAV[®]: With chokes $\cos \varphi \approx 0.5$
- SOX, SOX-E: $\cos \varphi \approx 0.3$ (SOX 18: $\cos \varphi \approx 0.9$)

For the PFC capacitors required check the manufacturer's specifications. For examples see pages 4.43 to 4.49.

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 CCG 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 HCI® 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® 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® 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® HCI®-TS ..., POWERSTAR® HQI®-TS ... and VIALOX® NAV®-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®-TS and HCI®-TS can be found in IEC 61167, Annex B.6. NAV®-TS ... lamps should be treated similarly.

Color shift

HCI® and HQI® 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 (HCI®, HQI®, NAV® and HQL®) 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, HCI®, HQI®, NAV® and HQL® 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 4.50).

OSRAM System+ Guarantee for HCI®/HQI®/NAV® lamps and POWERTRONIC® ECGs



POWERTRONIC® control gear from OSRAM enables high intensity discharge lamps to be operated with perfect results and a high degree of intelligence.

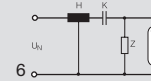
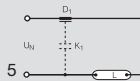
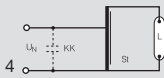
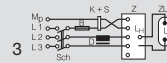
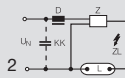
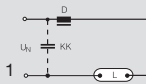
For system operation you get an extended guarantee on the POWERTRONIC® ECG and on the relevant HCI®/HQI®/NAV® lamp.

For detailed usage and guarantee conditions and a registration form go to www.osram.com/system-guarantee.



Circuit diagrams

These **circuit diagrams** refer to the lamps listed on pages 4.43 to 4.49



- B = 6 A fuse, slow-acting
- D = Choke
- D₁ = Choke with tap
- H = Hybrid control gear
- KK = Compensation capacitor
- K₁ = 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_N = Line voltage
- Z = Install igniter close to the lamp
- ZL = Ignition 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 8.

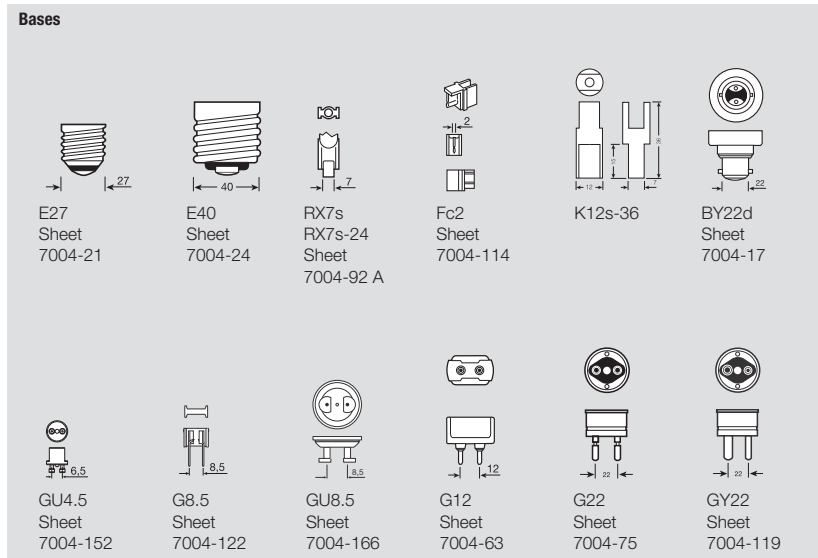
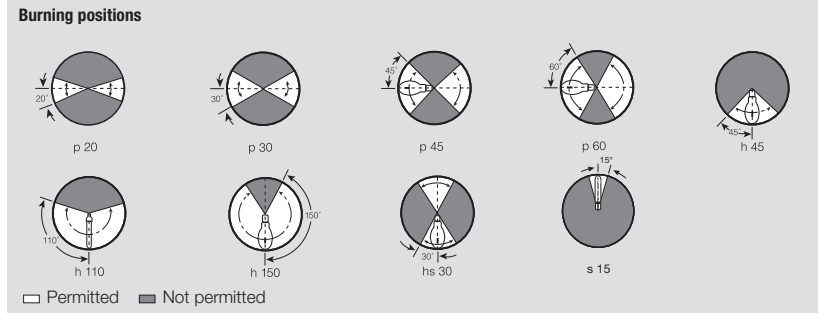
Chokes, lampholders, capacitors, high-reactance transformers and igniters are available from electrical suppliers.



Light colors and color rendering properties – Burning positions – Bases

Light colors				
Color rendering index (R _a)		Light color over 5,000 K	Light color about 4,000 K	Light color under 3,400 K
Class 1	1 A	POWERSTAR® HQI®/D	POWERBALL® HCl®/942/NDL	POWERBALL® HCl®/930/WDL
	Very good	R _a 90-100		
	Good	1 B	POWERSTAR® HQI®/NDL	POWERBALL® HCl®/830/WDL
		R _a 80-89	POWERSTAR® HQI®/CD	
Class 2	2 A			POWERSTAR® HQI®/WDL
		R _a 70-79		
	2 B		POWERSTAR® HQI®/N	HQL® SUPER DE LUXE
		R _a 60-69	HWL®	
Class 3	R _a 40-59		HQL®	HQL® DE LUXE
Class 4	R _a 20-39			VIALOX® NAV®
				VIALOX® NAV® 4Y®
				VIALOX® NAV® SUPER 4Y®

For details of color temperature see page 5.47










General lighting service lamps

CLASSIC P	5.02
CONCENTRA® SPOT R50	5.02
CONCENTRA® SPOT R63	5.03
CONCENTRA® SPOT R80	5.03
SPECIAL LINESTRA®	5.04
Bases IEC/EN 60061-1	5.04
Spectral power distribution	5.05

CLASSIC P



Product reference	Product number	W	lm					
CLAS P CL 15 ¹⁾	4050300005881	15	100	E14	45	78	50	1
CLAS P CL 25 ¹⁾	4050300005904	25	210	E14	45	78	100	1
CLAS P CL 40 ¹⁾	4050300005928	40	400	E14	45	78	100	1
CLAS P CL 15 ¹⁾	4050300008462	15	100	E27	45	73	50	2
CLAS P CL 25 ¹⁾	4050300322704	25	210	E27	45	73	50	2
CLAS P CL 40 ¹⁾	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 R50



Product reference	Product number	W	cd							
CONC R50 40	4050300322315	40	410	30	E14	50	85	63	25	1

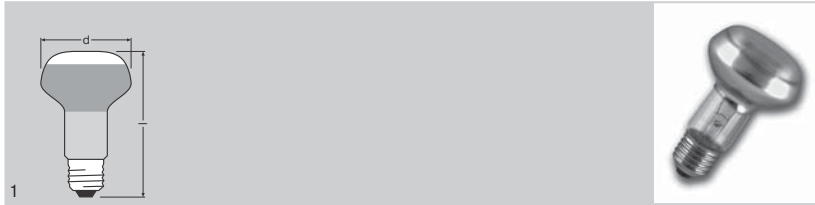
CONCENTRA® SPOT R50 provides a focused beam for accent lighting in rooms and other areas.




Efficient alternatives

HALOGEN ECO PRO CLASSIC Better incandescent light

LED lamps The light of the future – available today (see www.osram.com)

CONCENTRA® SPOT R63



Product reference	Product number	W	cd	°		d (mm)	l (mm)			No.
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

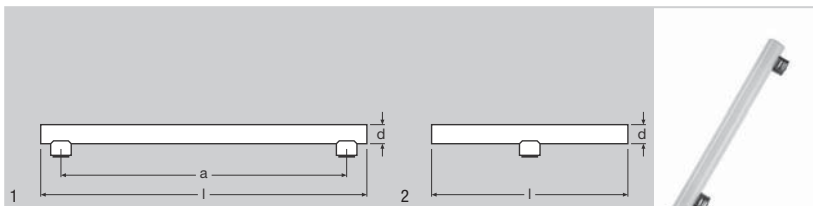








Product reference	Product number	W	cd	°		d (mm)	l (mm)			No.
CONC R80 40	4050300066042	40	150	50	E27	80	114	90	25	1
CONC R80 60	4050300066059	60	260	50	E27	80	114	90	25	1
CONC R80 75	4050300066066	75	345	50	E27	80	114	90	25	1
CONC R80 100	4050300066073	100	500	50	E27	80	114	90	25	1

CONCENTRA® SPOT R80 provides a focused beam for accent lighting in rooms and other large areas.



SPECIAL LINESTRA®



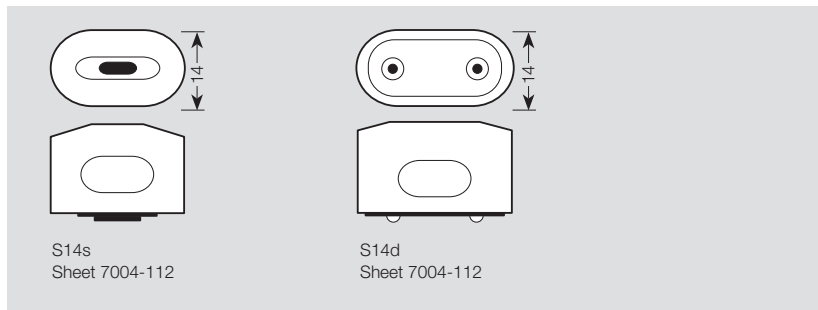
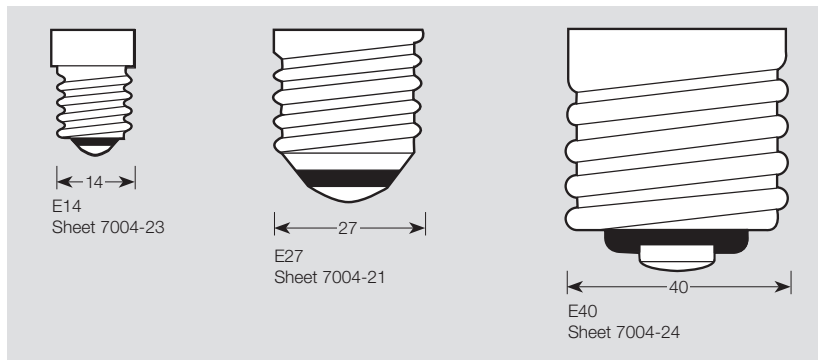
Product reference	Product number	W	lm						
					d [mm]	l [mm]	a [mm]		No.
SPC. LIN 1603 ¹⁾	4050300317106	35	270	S14s	30	300	242	25	1
SPC. LIN 1604 ¹⁾	4050300319919	60	420	S14s	30	500	442	25	1
SPC. LIN 1104 ¹⁾	4050300317618	120	840	S14s	30	1000	942	16	1
SPC. LIN 1613 ¹⁾	4050300317595	35	240	S14d	30	300	–	25	2
SPC. LIN 1614 ¹⁾	4050300319933	60	420	S14d	30	500	–	25	2

¹⁾ Banned from 1.9.2013 as per EU phase-out plan

These tubular lamps produce a beautiful soft light, ideal for mirror lighting.



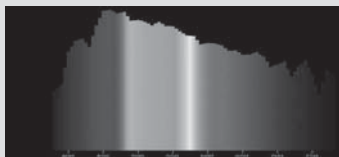
Bases IEC/EN 60061-1



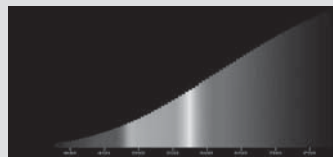
Spectral power distribution

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.





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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



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 world-wide. 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.

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.





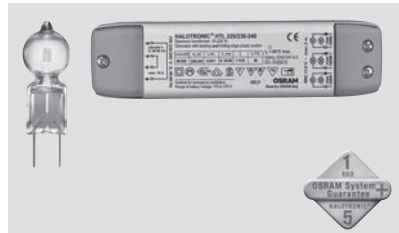
Quality in the palm of your hand

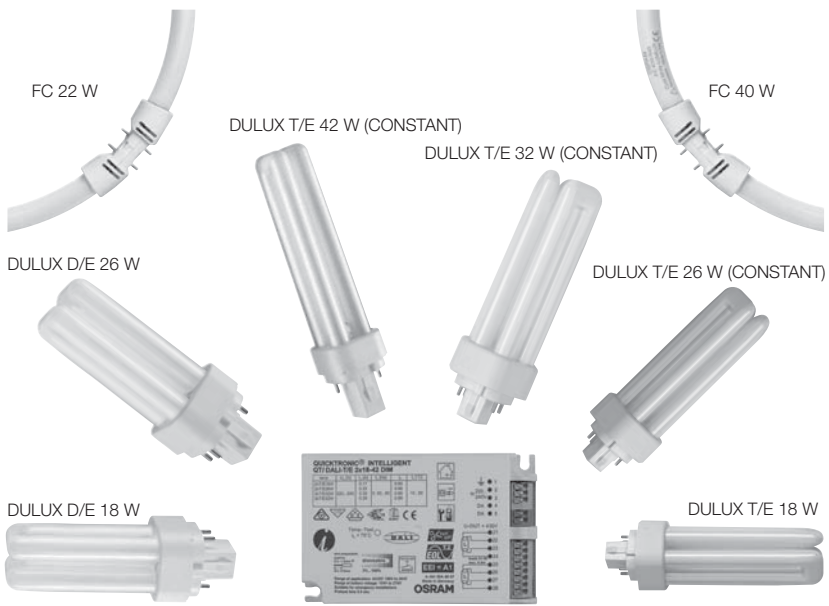
The multi-level system guarantee from OSRAM

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





E C G

OSRAM Guarantee

3

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

Lamp

OSRAM System Guarantee

E C G

5

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. Here you will also find further information and conditions relating to Guarantee Level 2.

Lamp

OSRAM System Guarantee

E C G

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, LUMILIX® fluorescent lamps, HCl®/HQ® 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. Here you will also find further information and conditions relating to Guarantee Level 3.

Premium Guarantee

5

LMS

Lamp

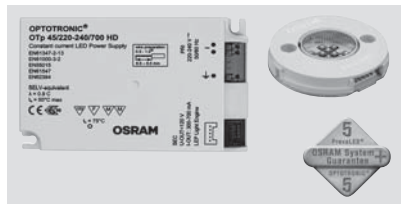
OSRAM System Guarantee

E C G

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, LUMILIX® fluorescent lamps, HCl®/HQ® 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. 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

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.

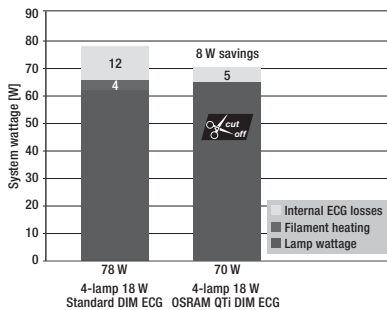
Lowest standby consumption on the DALI ECG market.

- 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.

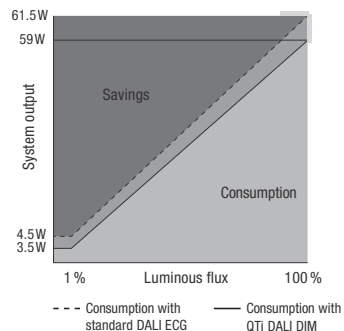
- **Full dimming functionality** even with amalgam and **energy saver** lamps
- **NEW:** Large number of additional ECG/lamp combinations (OSRAM DULUX L...HE, XT)
- Life of up to 100,000 hours (for a definition of life see page 6.111, section 13)
- Suitable for fixtures of protection class I
- Effective 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)



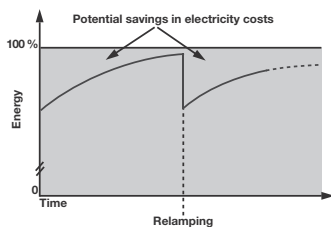
Values related to the same luminous flux (Ballast Lumen Factor) (BLF) for all QT*i* DIM=1.0

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 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

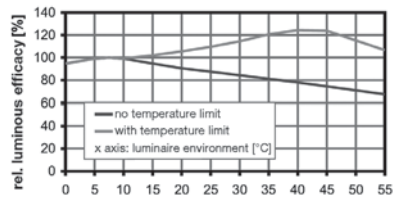
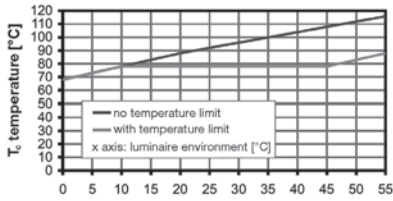


For a 2xHO 49-W fixture additional savings over the life of the lamps of € 20 can be achieved simply by adjusting the planning factor (0.8):

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

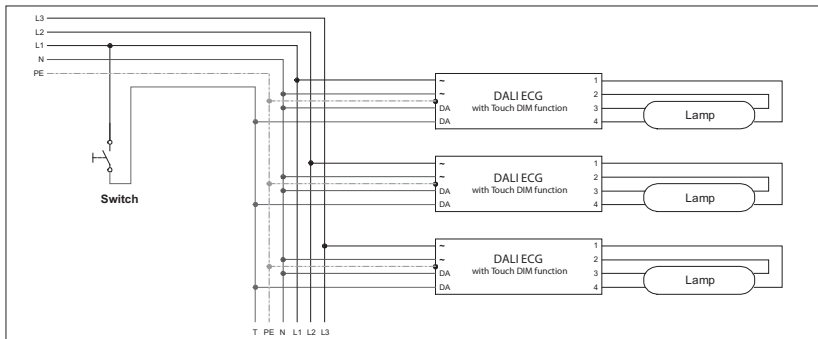


The benefits are a significant increase in the luminous efficacy (lm/W) of hot fixtures and a reduced thermal load on the fixture components

- End of Life (EoL) disconnection according to Test 2 (asymmetrical power test)
- DALI standard as per IEC 60929 and IEC 62386

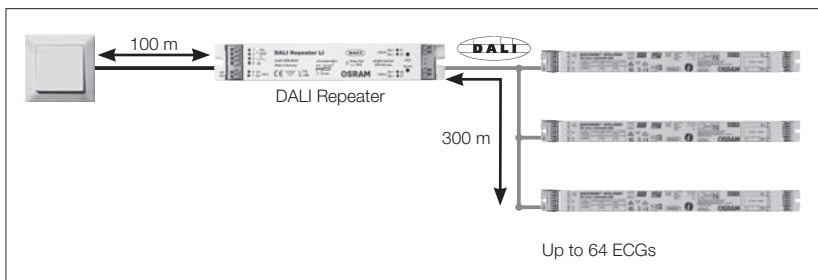
QTi DALI – DALI or Touch DIM® in one unit

- Touch DIM® – dimming without a dimmer thanks to direct connection to conventional momentary-action switches



Double click to store the switch-on value

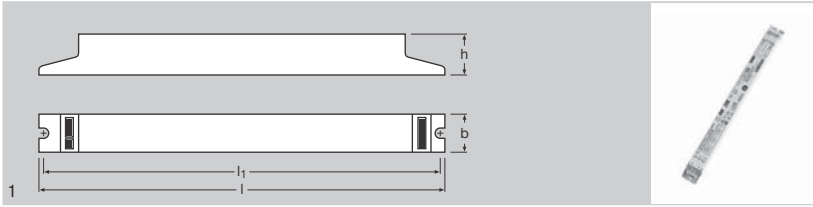
- Operation of more than 4 and up to 64 DALI ECGs via repeaters



- Touch DIM® Sensor – light management without a controller thanks to direct connection of a combined light and motion sensor









QUICKTRONIC® INTELLIGENT QT_i DALI DIM for T5 lamps



Product reference	Product number		lm	A	W SYSTEM	λ	T _a	
QTI DALI 1x14/24 DIM	4050300870380	1xHE 14 1200x1	0.07	15.4	0.95	+10...+50 ¹⁾	154...276	
		1xHO 24 1750x1	0.11	25.3	0.98			
QTI DALI 1x21/39 DIM	4050300870366	1xDL 40 3500x1	0.18	41.8	0.98	+10...+50 ¹⁾	154...276	
		1xHE 21 1900x1	0.11	23.1	0.95			
		1xHO 39 3100x1	0.18	41.8	0.98			
QTI DALI 1x28/54 DIM	4050300870809	1xDL 55 4800x1	0.26	59	0.99	+10...+50 ¹⁾	154...276	
		1xHE 28 2600x1	0.14	30.1	0.97			
		1xHO 54 4450x1	0.26	56.8	0.99			
QTI DALI 1x35/49/80 DIM	4050300870342	1xDL 80 6000x1	0.40	88	0.99	+10...+50 ¹⁾	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	86.1	0.99			
QTI DALI 2x14/24 DIM	4050300870861	2xDL 24 1800x2	0.22	49	0.98	+10...+50 ¹⁾	154...276	
		2xHE 14 1200x2	0.14	30.6	0.95			
		2xHO 24 1750x2	0.22	49.3	0.98			
QTI DALI 2x21/39 DIM	4050300870489	2xDL 40 3500x2	0.36	82	0.97	+10...+50 ¹⁾	154...276	
		2xHE 21 1900x2	0.21	45	0.95			
		2xHO 39 3100x2	0.36	82	0.98			
QTI DALI 2x28/54 DIM	4050300870502	2xDL 55 4800x2	0.51	115	0.99	+10...+50 ¹⁾	154...276	
		2xHE 28 2600x2	0.27	60.2	0.97			
QTI DALI 2x35/49 DIM	4050300870465	2xHE 35 3300x2	0.33	74.5	0.98	+10...+50 ¹⁾	154...276	
		2xHO 49 4300x2	0.45	103.6	0.99			
QTI DALI 2x35/49/80 DIM	4050300870441	2xDL 80 6000x2	0.74	165	0.99	+10...+50 ¹⁾	154...276	
		2xHE 35 3300x2	0.34	74	0.98			
		2xHO 49 4300x2	0.46	101	0.99			
		2xHO 80 6150x2	0.74	165	0.99			
QTI DALI 3x14/24 DIM	4008321069955	3xDL 24 1800x3	0.32	73	0.99	+10...+50 ¹⁾	154...276	
		3xHE 14 1200x3	0.20	45.3	0.97			
		3xHO 24 1750x3	0.32	73.4	0.99			
QTI DALI 4x14/24 DIM	4008321070036	4xDL 24 1800x4	0.43	98	0.99	+10...+50 ¹⁾	154...276	
		4xHE 14 1200x4	0.27	60.4	0.97			
		4xHO 24 1750x4	0.43	97.6	0.99			
Product reference	kHz ECG	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l_1}{[mm]}$			
QTI DALI 1x14/24 DIM	53...120	360	30	21	350	273	20	1
QTI DALI 1x21/39 DIM	44...120	360	30	21	350	305	20	1
QTI DALI 1x28/54 DIM	44...120	360	30	21	350	268	20	1
QTI DALI 1x35/49/80 DIM	44...120	360	30	21	350	278	20	1
QTI DALI 2x14/24 DIM	53...120	425	30	21	415	370	20	1
QTI DALI 2x21/39 DIM	44...120	425	30	21	415	370	20	1
QTI DALI 2x28/54 DIM	44...120	423	30	21	415	370	20	1
QTI DALI 2x35/49 DIM	44...120	423	30	21	415	370	20	1
QTI DALI 2x35/49/80 DIM	44...120	423	30	21	415	370	20	1
QTI DALI 3x14/24 DIM	40...100	360	40	21	350	420	20	1
QTI DALI 4x14/24 DIM	40...100	360	40	21	350	380	20	1

1) -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: 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

DALI product features

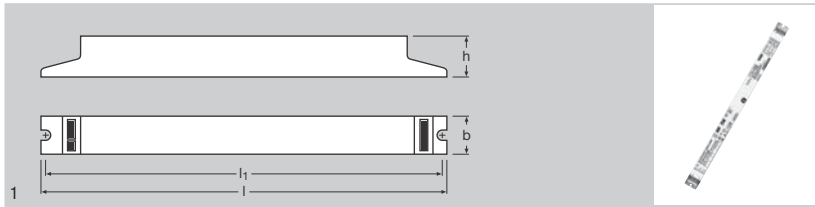
- Control via the DALI interface
- Compliance with the DALI standard to IEC 60929 and IEC 62386
- The control input is protected against overvoltage and polarity reversal in all OSRAM ECGs

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_i DALI DIM for T8 lamps









Product reference	Product number		lm	A	W SYSTEM	λ	T _a	ΔV min...max
QT _i DALI 1x18 DIM	4050300870403	1xDL 18	1x1200	0.08	18	0.97	+10...+50 ¹⁾	154...276
		1xL 18	1x1350	0.08	16.3	0.97	-20...+50 ¹⁾	
QT _i DALI 1x36 DIM	4050300870427	1xDL 36	1x2900	0.16	36	0.97	+10...+50 ¹⁾	154...276
		1xL 36	1x2700	0.16	36	0.98	-20...+50 ¹⁾	
QT _i DALI 1x58 DIM	4050300870823	1xDL 58	1x5000	0.25	56	0.99	-20...+50 ¹⁾	154...276
QT _i DALI 2x18 DIM	4050300870526	2xDL 18	2x1200	0.16	37	0.97	+10...+50 ¹⁾	154...276
		2xL 18	2x1350	0.16	36.5	0.97	-20...+50 ¹⁾	
QT _i DALI 2x36 DIM	4050300870885	2xDL 36	2x2900	0.31	69	0.98	+10...+50 ¹⁾	154...276
		2xL 36	2x2700	0.30	69	0.98	-20...+50 ¹⁾	
QT _i DALI 2x58 DIM	4050300870847	2xL 58	2x5000	0.47	108	0.99	-20...+50 ¹⁾	154...276
QT _i DALI 3x18 DIM	4008321069979	3xDL 18	3x1200	0.24	53.6	0.98	+10...+50 ¹⁾	154...276
		3xL 18	3x1350	0.24	53.6	0.98	-20...+50 ¹⁾	
QT _i DALI 4x18 DIM	4008321070050	4xDL 18	4x1200	0.31	69.3	0.98	+10...+50 ¹⁾	154...276
		4xL 18	4x1350	0.31	69.3	0.98	-20...+50 ¹⁾	

Product reference	$\frac{kHz}{ECG}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l_1}{[mm]}$			
QT _i DALI 1x18 DIM	51...120	360	30	21	350	305	20	1
QT _i DALI 1x36 DIM	48...120	360	30	21	350	271	20	1
QT _i DALI 1x58 DIM	46...120	360	30	21	350	273	20	1
QT _i DALI 2x18 DIM	51...120	425	30	21	415	370	20	1
QT _i DALI 2x36 DIM	48...120	423	30	21	415	370	20	1
QT _i DALI 2x58 DIM	46...120	423	30	21	415	370	20	1
QT _i DALI 3x18 DIM	40...100	360	40	21	350	420	20	1
QT _i DALI 4x18 DIM	40...100	360	40	21	350	374	20	1

1) -20°C operation possible for all QT_i (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 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

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_i DALI DIM for CFL OSRAM DULUX D/E, T/E



Product reference	Product number		lm	A	W SYSTEM	λ	T _a		
QT _i DALI-T/E 1x18-57 DIM ¹⁾	4008321060808	1xDL 24	1x1200	0.12	26	0.96	+10...+50 ²⁾	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			
QT _i DALI-T/E 2x18-42 DIM ¹⁾	4008321060822	2xDL 24	2x1200	0.22	51	0.97	+10...+50 ²⁾	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									
QT _i DALI-T/E 1x18-57 DIM ¹⁾	42...130	123	79	33	129.5	67	227	20	1
QT _i DALI-T/E 2x18-42 DIM ¹⁾	42...130	123	79	33	129.5	67	247	20	1

¹⁾ Combination with strain relief possible - see ECG accessories – Strain relief
²⁾ -20°C operation possible for all QT_i (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 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

DALI product features

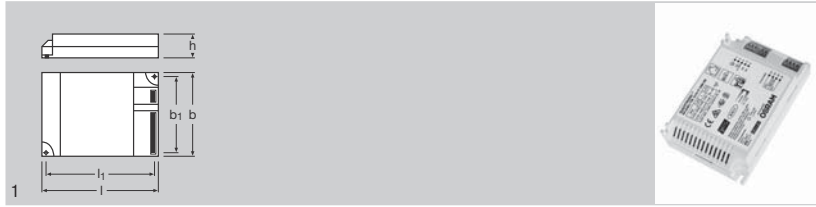
- Control via the DALI interface
- Compliance with the DALI standard to IEC 60929 and IEC 62386
- The control input is protected against overvoltage and polarity reversal in all OSRAM ECGs

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 327383	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 327406	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 EEL: 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

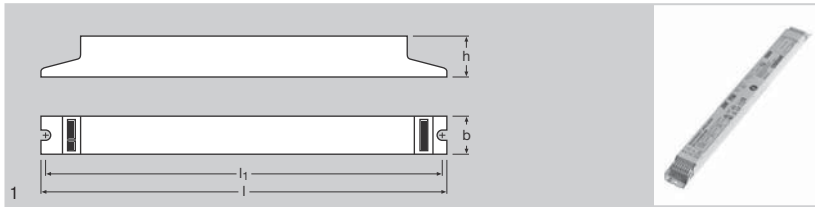
Applications

- 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 QT_i DIM (1-10 V) for T5 lamps









Product reference	Product number							
QTI 1x14/24 DIM	4050300870922	1xHE 14	1x1200	0.07	15.4	0.96	+10...+50 ¹⁾	154...276
		1xHO 24	1x1750	0.11	26	0.98		
		1xDL 40	1x3500	0.18	41.8	0.98	+10...+50 ¹⁾	154...276
QTI 1x21/39 DIM	4050300870564	1xHE 21	1x1900	0.11	23.1	0.96		
		1xHO 39	1x3100	0.18	41.8	0.98		
		1xDL 55	1x4800	0.26	59	0.99	+10...+50 ¹⁾	154...276
QTI 1x28/54 DIM	4050300870588	1xHE 28	1x2600	0.14	30.1	0.97		
		1xHO 54	1x4450	0.26	56.8	0.99		
		1xDL 80	1x6000	0.40	88	0.99	+10...+50 ¹⁾	154...276
QTI 1x35/49/80 DIM	4050300870540	1xHE 35	1x3300	0.17	37.8	0.96		
		1xHO 49	1x4300	0.24	53.4	0.98		
		1xHO 80	1x6150	0.39	86.1	0.99		
		2xDL 24	2x1800	0.22	49	0.98	+10...+50 ¹⁾	154...276
QTI 2x14/24 DIM	4050300870946	2xHE 14	2x1200	0.14	30.6	0.96		
		2xHO 24	2x1750	0.22	50	0.96		
		2xDL 40	2x3500	0.36	82	0.97	+10...+50 ¹⁾	154...276
QTI 2x21/39 DIM	4050300870694	2xHE 21	2x1900	0.21	45	0.96		
		2xHO 39	2x3100	0.36	82	0.96		
		2xDL 55	2x4800	0.51	115	0.99	+10...+50 ¹⁾	154...276
QTI 2x28/54 DIM	4050300870717	2xHE 28	2x2600	0.27	60.2	0.27		
		2xHO 54	2x4450	0.51	115	0.98		
		2xHE 35	2x3300	0.33	74.5	0.95	+10...+50 ¹⁾	154...276
QTI 2x35/49 DIM	4050300870670	2xHO 49	2x4300	0.45	103.6	0.97		
		2xDL 80	2x6000	0.74	165	0.99	+10...+50 ¹⁾	154...276
QTI 2x35/49/80 DIM	4050300870984	2xHE 35	2x3300	0.34	74	0.95		
		2xHO 49	2x4300	0.46	103	0.97		
		2xHO 80	2x6150	0.74	165	0.99		
		3xDL 24	3x1800	0.32	73	0.99	+10...+50 ¹⁾	154...276
QTI 3x14/24 DIM	4008321069719	3xHE 14	3x1200	0.20	45.3	0.97		
		3xHO 24	3x1750	0.32	74	0.99		
		4xDL 24	4x1800	0.43	98	0.99	+10...+50 ¹⁾	154...276
QTI 4x14/24 DIM	4008321069993	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 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

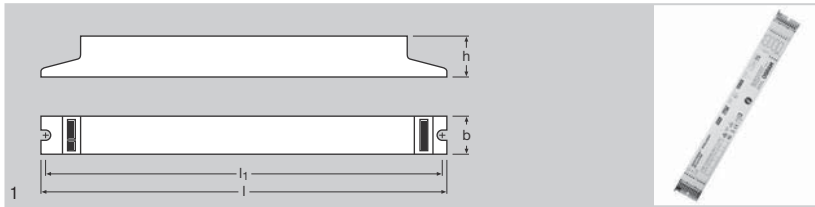
- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for $T = 65^\circ\text{C}$ at T_0)
- 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 QT_i DIM (1-10 V) for T8 lamps











Product reference	Product number		lm	A	W SYSTEM	λ	T _a	$\Delta V_{\text{min-max}}$
QT _i 1x18 DIM	4050300870601	1xDL 18	1x1200	0.08	19	0.97	+10...+50 ¹⁾	154...276
		1xL 18	1x1350	0.08	19	0.97	-20...+50 ¹⁾	
QT _i 1x36 DIM	4050300870625	1xDL 36	1x2900	0.16	36	0.97	+10...+50 ¹⁾	154...276
		1xL 36	1x3350	0.16	36	0.97	-20...+50 ¹⁾	
QT _i 1x58 DIM	4050300870908	1xL 58	1x5000	0.25	56	0.99	-20...+50 ¹⁾	154...276
QT _i 2x18 DIM	4050300870960	2xDL 18	2x1200	0.16	37	0.97	+10...+50 ¹⁾	154...276
		2xL 18	2x1350	0.16	37	0.97	-20...+50 ¹⁾	
QT _i 2x36 DIM	4050300870755	2xDL 36	2x2900	0.31	69	0.98	+10...+50 ¹⁾	154...276
		2xL 36	2x3350	0.31	69	0.98	-20...+50 ¹⁾	
QT _i 2x58 DIM	4050300870731	2xL 58	2x5000	0.47	108	0.99	-20...+50 ¹⁾	154...276
QT _i 3x18 DIM	4008321069931	3xDL 18	3x1200	0.24	53.6	0.98	+10...+50 ¹⁾	154...276
		3xL 18	3x1350	0.24	53.6	0.98	-20...+50 ¹⁾	
QT _i 4x18 DIM	4008321070012	4xDL 18	4x1200	0.31	69.3	0.98	+10...+50 ¹⁾	154...276
		4xL 18	4x1350	0.31	69.3	0.98	-20...+50 ¹⁾	

Product reference	kHz_{ECG}	l [mm]	b [mm]	h [mm]			
QT _i 1x18 DIM	51...120	360	30	21	275	20	1
QT _i 1x36 DIM	48...120	360	30	21	280	20	1
QT _i 1x58 DIM	46...120	360	30	21	270	20	1
QT _i 2x18 DIM	51...120	425	30	21	370	20	1
QT _i 2x36 DIM	48...120	425	30	21	370	20	1
QT _i 2x58 DIM	46...120	425	30	21	370	20	1
QT _i 3x18 DIM	40...100	360	40	21	390	20	1
QT _i 4x18 DIM	40...100	360	40	21	401	20	1

1) -20°C operation possible for all QT_i (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

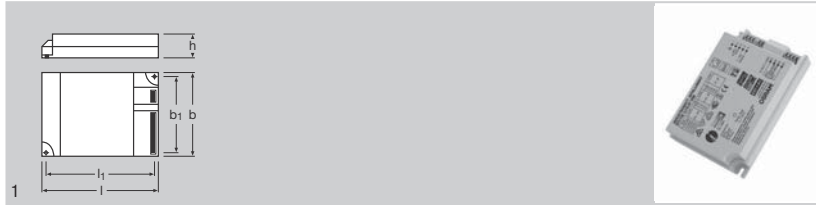
- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for $T = 65^\circ\text{C}$ at T_0)
- 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 QT_i DIM (1-10 V) for CFL OSRAM DULUX D/E, T/E



Product reference	Product number		lm	A	W SYSTEM	λ	T _a	V (min-max)	kHz ECG
QTI-T/E 1x18-57 DIM ¹⁾	4008321060860	1xDT/E 18	1x1200	0.09	20	0.95	+10...+50 ²⁾	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	1x3200	0.21	47	0.99			
		1xDT/E 42 CONSTANT	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 ¹⁾	4008321060846	2xDT/E 18	2x1200	0.17	38	0.95	+10...+50 ²⁾	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	2x3200	0.39	90	0.99			
		2xDT/E 42 CONSTANT	2x3200	0.39	90	0.99			
		1xDL 24	1x1200	0.12	26	0.96			
		1xDL 40	1x3500	0.20	45	0.98			
Product reference		l [mm]	b [mm]	h [mm]	l_1 [mm]	b_1 [mm]			
QTI-T/E 1x18-57 DIM ¹⁾		123	79	33	129.5	67	234	20	1
QTI-T/E 2x18-42 DIM ¹⁾		123	79	33	129.5	67	250	20	1

1) Combination with strain relief possible - see EGG accessories - Strain relief
 2) -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

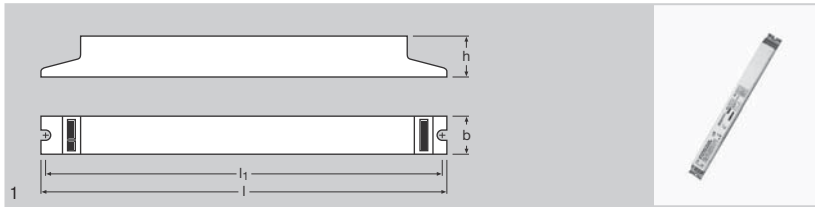
- Same luminous flux with direct and alternating current
- Perfect hot restrike for applications with motion sensors
- Dimming of amalgam lamps without flickering or reduced lifespan
- Very high efficiency thanks to cut-off technology
- Life of up to 100,000 hours (for $T = 65^\circ\text{C}$ at T_0)
- 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		lm	A	W SYSTEM	λ	T _a	ΔV min...max
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 EEI: 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

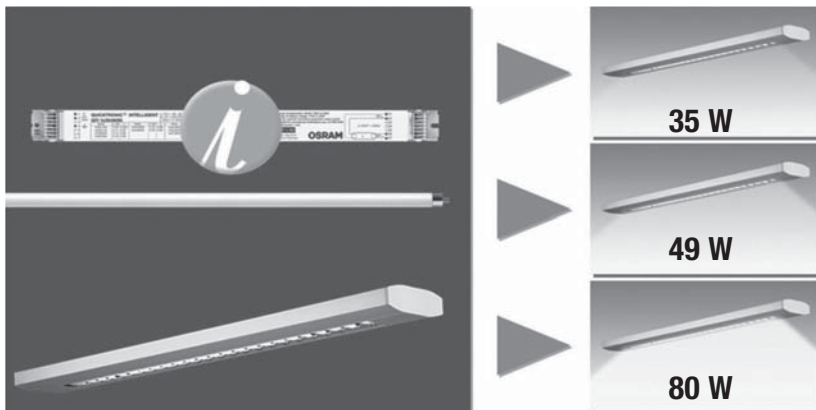
Product benefits

- 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

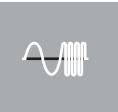
For tubular fluorescent lamps T5/ø 16 mm:

- **QUICKTRONIC® INTELLIGENT QT_i**, 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 6.111, section 13)
- For fixtures of protection classes I and II
- For T5 SEAMLESS lamps
- For T5 energy saver lamps
- **QUICKTRONIC® INTELLIGENT DUALPOWER ECG QT_i 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





FC 22 W
FC 40 W

DULUX F 18 W
DULUX F 24 W
DULUX F 36 W



DULUX L 18 W
DULUX L 24 W
DULUX L 36 W
DULUX L 40 W



DULUX D/E 26 W



DULUX T/E 26 W (CONSTANT)
DULUX T/E 32 W (CONSTANT)
DULUX T/E 42 W (CONSTANT)

L 18 W
L 36 W



24 W HO
39 W HO



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**

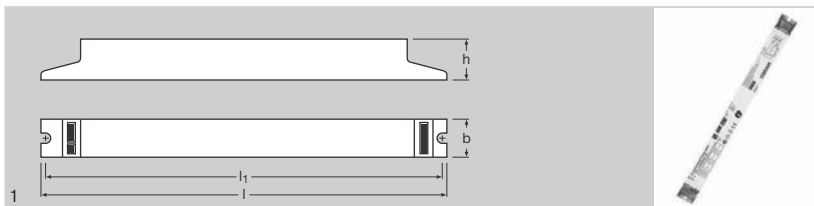
The electronic alternative to LLG. For OSRAM DULUX® S/E, D/E, T/E, T5, T8 from 4 to 26 W

• **DULUXTRONIC®**

The ECG with integrated lampholder for OSRAM DULUX® S/E, D/E, T/E from 5 to 18 W








QUICKTRONIC® INTELLIGENT QT*i* for T5 lamps



Product reference	Product number		Im	A	W SYSTEM	λ	Ta	
QTI 1x14/24/21/39 GII	4008321 383334	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		
QTI 1x28/54/35/49 GII	4008321 383358	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		
QTI 1x35/49/80 GII	4008321 383372	1xDL 28 HE	1x2700	0.14	28	0.95	-20...+50	176...276
		1xHE 35	1x3300	0.17	38	0.97		
		1xHO 49	1x4300	0.24	53	0.97		
		1xHO 80	1x6150	0.38	85	0.98		
QTI 2x14/24/21/39 GII	4008321 383396	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		
QTI 2x28/54/35/49 GII	4008321 383419	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		
QTI 2x35/49/80 GII	4008321 658951	2xDL 28 HE	2x2700	0.27	56	0.96	-20...+55	176...276
		2xHE 32 ES	2x3150	0.33	70	0.97		
		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		
QTI-DP 1x28/35/LED	4008321 646521	2xHO 80	2x6150	0.7	165	0.99	-20...+50	176...276
		2xDL 80	2x6000	0.7	165	0.99		
		1xHE 25 ES	2450	0.13	29	0.97		
		1xHE 32 ES	3100	0.16	36	0.98		
		1xHE 28	2600	0.14	32	0.97		
		1xHE 35	3300	0.17	39	0.98		
LED 350 mA / 5.0 - 6.5 W		≤ 0.12		0.40c				
LED 24 V / ≤ 6.0 W			≤ 0.11	0.40c				
Product reference		$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{h}{[mm]}$			
QTI 1x14/24/21/39 GII	42...85	360	30	21	350	210	20	1
QTI 1x28/54/35/49 GII	42...85	360	30	21	350	235	20	1
QTI 1x35/49/80 GII	42...85	360	30	21	350	240	20	1
QTI 2x14/24/21/39 GII	42...85	360	30	21	350	250	20	1
QTI 2x28/54/35/49 GII	42...85	423	30	21	415	270	20	1
QTI 2x35/49/80 GII	42...85	423	30	21	415	-	20	1
QTI-DP 1x28/35/LED	85	423	30	21	415	285	20	1






QUICKTRONIC® INTELLIGENT QT_i 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_c)
- 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

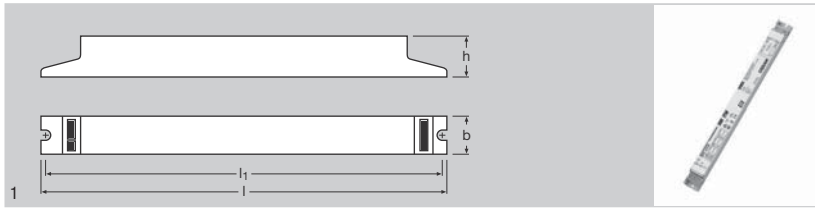
QUICKTRONIC® INTELLIGENT DUAL POWER QT_i-DP for T5 lamps and LEDs

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_c)
- 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		lm	A	W SYSTEM	λ	
QTP5 1x14-35	4008321 329035	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	26.5	0.95	
QTP5 1x24-39	4008321 329110	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 329370	1xHO 49	1x4300	0.24	53	0.95	176...276
QTP5 1x54	4008321 329394	1xHO 54	1x4450	0.26	59	0.98	176...276
QTP5 1x80	4008321 329059	1xHO 80	1x6150	0.38	86	0.98	176...276
QTP5 2x14-35	4008321 329073	1xDL 80	1x6000	0.38	86	0.98	
		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	
QTP5 2x24-39	4008321 329417	2xDL 28 HE	2x2800	0.26	56	0.98	
		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 329431	2xHO 49	2x4300	0.49	106	0.99	176...276
QTP5 2x54	4008321 329097	2xHO 54	2x4450	0.50	115	0.99	176...276
QT-FQ 2x80	4050300 825564	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 484598	3xHE 14	3x1200	0.22	48	0.95	176...276
		4xHE 14	4x1200	0.28	63	0.97	

Product reference	kHz ECG	$\frac{l}{(mm)}$	$\frac{b}{(mm)}$	$\frac{h}{(mm)}$	$\frac{l}{(mm)}$			
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

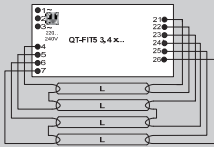
Product characteristics

- 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

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1)



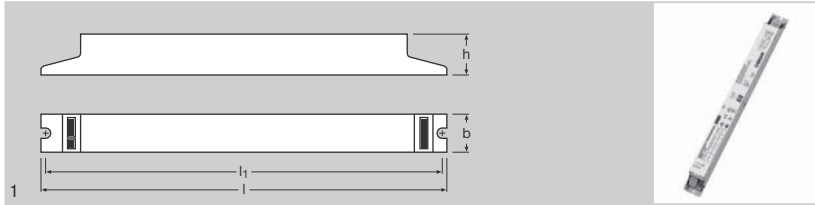
Product reference	Product number		lm	A	W SYSTEM	λ	T _a	\overline{V} min.,max.
QT-FIT5 1x14-35 ¹⁾	4008321 971234	1xHE 14	1200	0.08	16	0.95	60	198 ~264
		1xHE 21	1900	0.11	23	0.95	60	198 ~264
		1xHE 28	2600	0.14	31	0.96	60	198 ~264
		1xHE 35	3320	0.17	38	0.97	60	198 ~264
		1xHE 13 ES	1150	0.07	15	0.95	60	198 ~264
		1xHE 19 ES	1800	0.09	22	0.95	60	198 ~264
		1xHE 25 ES	2450	0.13	28	0.96	60	198 ~264
QT-FIT5 2x14-35 ¹⁾	4008321 971258	2xHE 14	2x1200	0.15	32	0.98	60	198 ~264
		2xHE 21	2x1900	0.22	46	0.98	60	198 ~264
		2xHE 28	2x2600	0.28	61	0.98	60	198 ~264
		2xHE 35	2x3500	0.35	78	0.98	60	198 ~264
		2xHE 13 ES	2x1150	0.13	29	0.95	60	198 ~264
		2xHE 19 ES	2x1800	0.19	43	0.98	60	198 ~264
		2xHE 25 ES	2x2450	0.25	56	0.98	60	198 ~264
QT-FIT5 3x14, 4x14 ¹⁾	4008321 971210	3xHE 14	3x1200	0.22	49	0.98	50	198 ~264
		3xHE 13 ES	3x1150	0.19	43	0.98	60	198 ~264
		4xHE 14	4x1200	0.28	63	0.98	50	198 ~264
		4xHE 13 ES	4x1150	0.25	56	0.98	60	198 ~264
QT-FIT5 1x49	4008321 832139	1xHE 49	4310	0.24	54	0.98	50	198 ~ 264
QT-FIT5 2x49	4008321 832153	2xHE 49	2x4310	0.47	106	0.98	50	198 ~ 264
QT-FIT5 1x54	4008321 812537	1xHE 54	4450	0.25	59	0.98	50	198 ~ 264
QT-FIT5 2x54	4008321 812551	2xHE 54	2x4450	0.49	115	0.98	50	198 ~ 264
Product reference	kHz ECG	l [mm]	b [mm]	h [mm]	l ₁ [mm]			No.
QT-FIT5 1x14-35	40 ~ 50	280	30	21	270	160	20	1
QT-FIT5 2x14-35	40 ~ 50	280	30	21	270	185	20	1
QT-FIT5 3x14, 4x14	40 ~ 50	280	40	21	270	220	20	1
QT-FIT5 1x49	40 ~ 50	280	30	21	270	165	20	1
QT-FIT5 2x49	40 ~ 50	280	30	21	270	185	20	1
QT-FIT5 1x54	40 ~ 50	280	30	21	270	160	20	1
QT-FIT5 2x54	40 ~ 50	280	30	21	270	190	20	1

¹⁾ In preparation

Product characteristics

- 50,000 hours lifetime
- Lamp start with optimized filament preheating within 2 s
- Suitable for lighting with very high switching cycles
- Reliable lamp ignition between -15°C...+50°C
- Suitable for luminaries of protection class I
- CELMA Energy Efficiency Index A2
- Automatic safety shut-down in case of a defect or at the end of the lamp's life (EoL T.2)
- Automatic restart after lamp replacement
- Suitable for DC installations

QUICKTRONIC® PROFESSIONAL QTP8 for T8 lamps



Product reference	Product number		lm	A	W SYSTEM	λ	T _a	$\frac{OV}{min-max}$
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	3x1300	0.26	56	0.99	-25...+50	154...276
		4xL 18	4x1300	0.32	73	0.99	-25...+50	

Product reference	kHz ECG	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l}{[mm]}$			
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

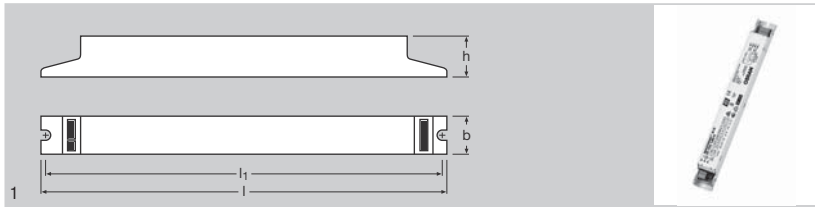
QUICKTRONIC® PROFESSIONAL QTP8 for T8 lamps

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_a)
- 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		Im	A	W SYSTEM	λ	Ta	ΔV min-max
QT-FIT8 1x18	4008321294180	1xL 18	1x1350	0.09	19	0.95	-15...+50	198...264
QT-FIT8 1x36	4008321294203	1xL 36	1x3200	0.16	36	0.96	-15...+50	198...264
QT-FIT8 1x58-70	4008321294227	1xL 58	1x5000	0.24	54	0.96	-15...+50	198...264
		1xL 70	1x5900	0.28	62	0.96		
QT-FIT8 2x18	4008321294241	2xL 18	2x1350	0.16	36	0.98	-15...+50	198...264
QT-FIT8 2x36	4008321294265	2xL 36	2x3200	0.32	71	0.98	-15...+50	198...264
QT-FIT8 2x58-70	4008321294289	2xL 58	2x5000	0.48	109	0.98	-15...+50	198...264
		2xL 70	2x5900	0.55	124	0.98		
QT-FIT8 3x18, 4x18	4008321294302	3xL 18	3x1350	0.25	54	0.97	-15...+50	198...264
		4xL 18	4x1350	0.33	74	0.99		
QT-FIT8 3x36 ¹⁾	4008321512055	3xL 36	3x3500	0.48	105	0.99	-15...+50	198...264

Product reference	$\frac{kHz}{ECG}$	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	$\frac{l}{[mm]}$	$\frac{g}{[mm]}$	$\frac{h}{[mm]}$	$\frac{h}{[mm]}$	No.
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 ¹⁾	40...50	280	40	28	270	253	20	1	

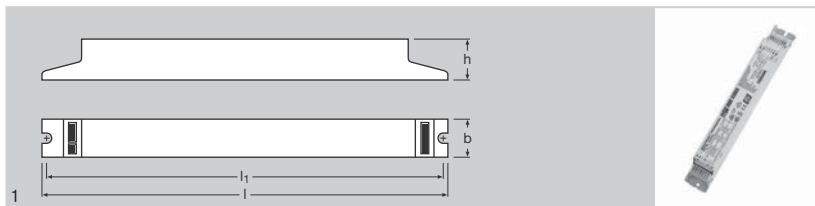
¹⁾ In preparation

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	λ	T _a	
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		
QTP-DL 2x36-40	4008321117922	2xDF 24	2x1700	0.22	49	0.98		
		2xDL 36	2x2900	0.33	68	0.99	-20...+50	176...276
		2xDL 40	2x3650	0.21	90	0.99		
QTP-DL 2x55 GII	4008321390158	2xDF 36	2x2800	0.33	68	0.99		
		2xDL 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

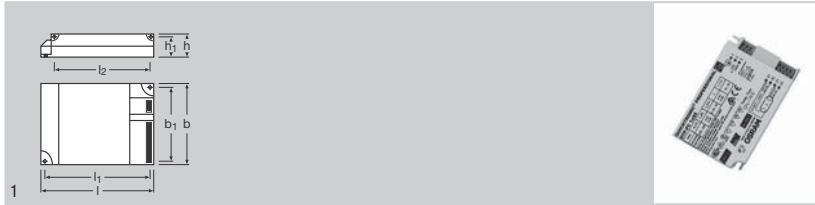
Product reference	kHz ECG	l [mm]	b [mm]	h [mm]	l_1 [mm]			
QTP-DL 1x18-24	45...50	239	30	28	229	185	20	1
QTP-DL 1x36-40	45...60	239	30	28	229	190	20	1
QTP-DL 2x18-24	41...46	239	40	28	229	230	20	1
QTP-DL 2x36-40	45...60	280	40	28	270	290	20	1
QTP-DL 1x55 GII	40...50	280	30	21	270	160	20	1
QTP-DL 2x55 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		Im	A				
QTP-D/E 1x10-13 ¹⁾	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		
QTP-D/E 2x10-13 ¹⁾	4008321181596	1xDT/E 13	1x900	0.07	15	0.95		
		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		
QTP-T/E 1x18, 2x18 ¹⁾	4008321537065	2xDS/E 9	2x600	0.09	18	0.92 c		
		2xDT/E 13	2x900	0.13	29	0.95		
		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 ¹⁾	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 ¹⁾	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		
		1xH0 24	1x1750	0.12	25	0.95		
1xH0 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 ¹⁾	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							
		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	1x5000	0.30	67	0.97		
		+ 40						
		2xFC 22	2x1800	0.22	49	0.97		
		2xH0 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	1x5000	0.36	70	0.97		
		+ 40						
		2xFC 22	2x3200	0.36	54	0.97		
		2xFC 40	2x3200	0.36	88	0.97		
		2xH0 24	2x3500	0.23	54	0.97		
		2xL 36	2x3200	0.30	70	0.97		

Product reference									
QTP-D/E 1x10-13 ¹⁾	44	93	58	29	96	48	100	20	1
QTP-D/E 2x10-13 ¹⁾	44	123	79	33	129.5	67	190	20	1
QTP-T/E 1x18, 2x18 ¹⁾	40...50	103	67	31	110	57	140	20	1
QTP-T/E 1x26-42, 2x26 ¹⁾	40...50	103	67	31	110	57	140	20	1
QTP-M 1x26-42 ¹⁾	47	103	67	31	110	57	135	20	1
QTP-M 2x26-32 ¹⁾	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

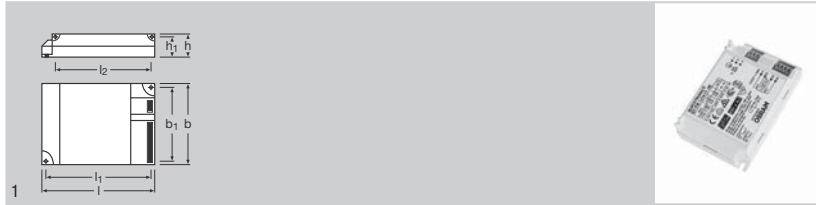
¹⁾ Combination with strain relief possible – see ECG accessories – Strain relief

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	λ	Ta		
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	16.8	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									
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

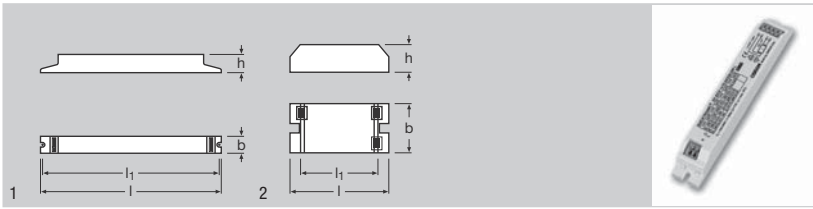
QUICKTRONIC® QT-TE for CFL OSRAM DULUX T/E HE

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	λ	T _a	
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	6.5	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	6.5	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							
QT-ECO 1x18-24/220-240 S	4050300 638560	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		
QT-ECO 1x26/220-240 S	4008321 065971	1xDD/E 26	1x1600	0.18	23.5	0.60 c	-15...+50	176...254
QT-ECO 2x5-11/220-240 S	4050300 821504	2xDT/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	4050300 803982	2xDD/E 18	2x1150	0.18	36	0.95	-15...+50	176...254
QT-ECO TE 2x26/220-240	4050300 804002	2xDT/E 18	2x1150	0.18	36.5	0.95	-15...+50	176...254
		2xDD/E 26	2x1750	0.25	53	0.95	-15...+50	176...254
QT-ECO FM 1x6-8/220-240	4050300 797502	2xDT/E 26	2x1750	0.25	53	0.95		
		1xFM 6	1x330	0.06	7.5	0.60 c	-15...+50	176...254
QT-ECO FM 1x11-13/220-240	4050300 799780	1xFM 8	1x540	0.07	10	0.60 c	-15...+50	176...254
		1xFM 11	1x750	0.10	13	0.60 c	-15...+50	176...254
		1xFM 13	1x930	0.12	16	0.60 c		
Product reference								
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

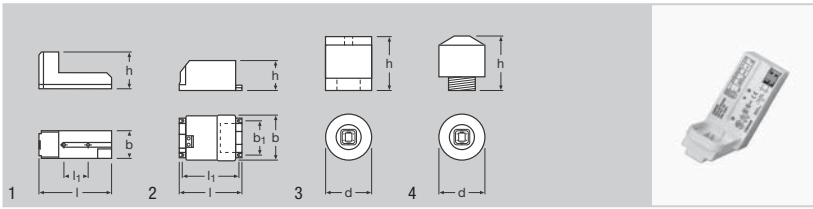


Product characteristics

- 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 181473	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 181459	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 181497	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 181510	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 181534	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 406404	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 421384	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 421421	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



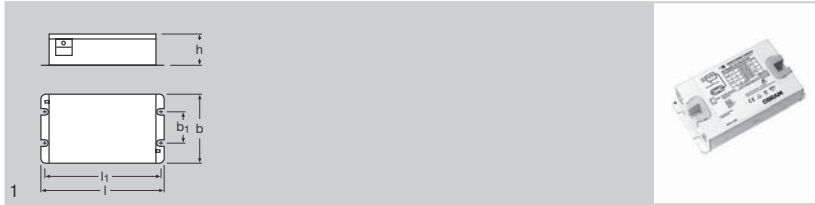
DULUXTRONIC® DT-S/E, DT-D/E, DT-T/E – with integrated lampholder

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								
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 ²⁾			
QT ENDURA 100-150/120-240 S	4050300662589	1xENDURA 100	1x11000	0.59	154	0.95 ²⁾	-40...+50	120-240	176...275
		1xENDURA 150	1x12000	0.66	159	0.95			
Product reference									
QT ENDURA 70-100/120-240 S		250 ¹⁾	181	100	43	170	950	5	1
QT ENDURA 100-150/120-240 S		250 ¹⁾	181	100	43	170	1140	5	1

1) ±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).

3DIM DALI
StepDIM
AstroDIM

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_{AC} 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*:

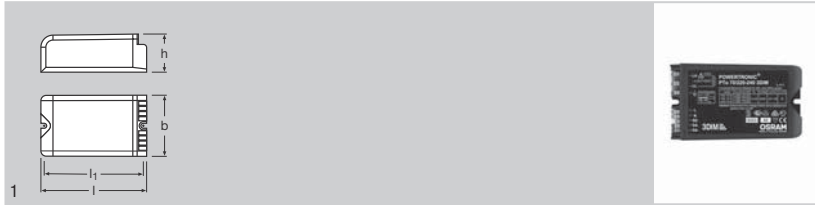
- 5 years on PT ECGs in conjunction with OSRAM HQI®, HCl® and NAV® lamps.
- 3 years on PT ECGs.

* For conditions and details go to www.osram.com/system-guarantee

** Selected lamps such as HCl®-T/TT, NAV®-E ...





POWERTRONIC® OUTDOOR PTo for HID lamps for outdoor applications



Product reference	Product number	T _a	A	W	CONTROL	W
PTo 35/220-240	4008321 956323	-25...+60	0.19	39	-	-
PTo 50/220-240 3DIM	4008321 956347	-25...+55	0.24	50	3DIM, DALI, StepDIM, AstroDIM	70...100
PTo 70/220-240 3DIM	4008321 959355	-25...+55	0.35	73	3DIM, DALI, StepDIM, AstroDIM	60...100
PTo 100/220-240 3DIM	4008321 956361	-25...+55	0.49	97	3DIM, DALI, StepDIM, AstroDIM	60...100
PTo 150/220-240 3DIM	4008321 956385	-25...+55	0.7	147	3DIM, DALI, StepDIM, AstroDIM	60...100

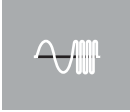
Product reference	T _c	kV START	I _{max}	I [mm]	b [mm]	h [mm]	l ₁ [mm]	Light bulb icon	No.
PTo 35/220-240	75	4.5	1.5	133	77	48	123	20	1
PTo 50/220-240 3DIM	75	4.5	1.5	133	77	48	123	20	1
PTo 70/220-240 3DIM	75	4.5	1.5	133	77	48	123	20	1
PTo 100/220-240 3DIM	75	4.5	1.5	158	94	42	148	10	1
PTo 150/220-240 3DIM	85	4.5	1.5	158	94	42	148	10	1

Product characteristics

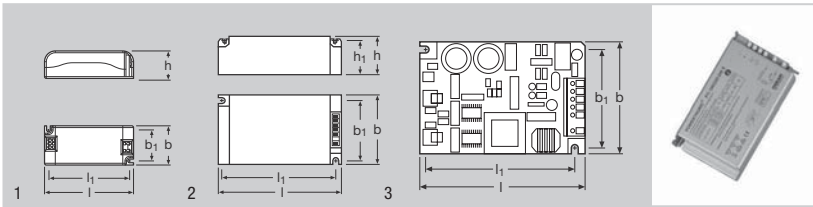
- Energy Efficiency Index EEI: A2
- Supply voltage: 220 to 240 V
- Line voltage: 198 to 264 V
- Line frequency: 50 to 60 Hz
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- RI suppression: to EN 55015 (A1: 2007) up to 300 MHz
- Safety: to EN 61347-2-12
- Luminous flux factor 1 compared with 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 _a	A	W	kHz ECG	T _c	kV START	
PTi 20/220-240 S	4008321353290	-25...+60	0.11	20	0.100	80	3.0	0.5
PTi 20/220-240 B	4008321391490	-25...+65	0.11	20	0.100	105	3.0	0.5
PTi 35/220-240 S MINI	4008321955906	-25...+50	0.19	39	0.100	80	3.0	0.5
PTi 35/220-240 B MINI	4008321955913	-25...+55	0.19	39	0.100	105	3.0	0.5
PTi 35/220-240 S	4008321073112	-25...+65	0.19	39	0.165	85	4.5	1.5
PTi 35/220-240 B	4008321123589	-25...+65	0.19	39	0.165	85	4.5	1.5
PTi 2x35/220-240 S	4008321372642	-25...+60	0.37	2*39	0.165	80	4.5	1.5
PTi 70/220-240 S	4008321049629	-25...+55	0.36	73	0.165	85	4.5	1.5
PTi 70/220-240 B	4008321123565	-25...+60	0.36	73	0.165	85	4.5	1.5
PTi 2x70/220-240 S	4008321910028	-25...+55	0.70	2*73	0.165	90	4.5	1.5
PTi 100/220-240 S	4008321926630	-25...+55	0.49	97	0.165	80	4.5	1.5
PTi 150/220-240 S	4008321188090	-25...+55	0.72	147	0.165	85	4.5	1.5

Product reference	l [mm]	b [mm]	h [mm]	l ₁ [mm]	b ₁ [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_c and t_a

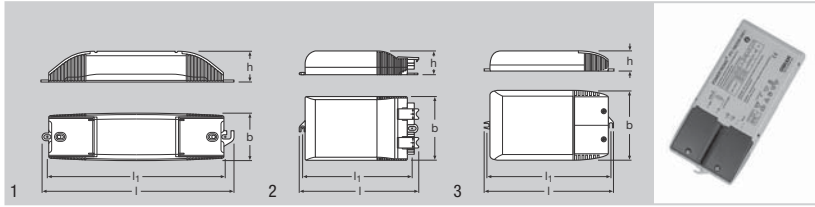
Product characteristics

- 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
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






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 _a	A	W	kHz ECG	T _c	kV START
PTi 20/220-240 I	4008321 404763	-25...+60	0.11	20	0.100	75	3.0
PTi 35/220-240 I	4008321 099488	-25...+65	0.20	39	0.165	80	4.5
PTi 2x35/220-240 I	4008321 372666	-25...+55	0.37	2*39	0.165	70	4.5
PTi 35/220-240 SNAP	4008321 955920	-25...+65	0.19	39	0.20	80	4.5
PTi 70/220-240 I	4008321 099501	-25...+50	0.36	73	0.165	80	4.5
PTi 2x70/220-240 I	4008321 910042	-25...+50	0.70	2*73	0.165	75	4.5
PTi 70/220-240 SNAP	4008321 955937	-25...+50	0.36	73	0.20	80	4.5
PTi 100/220-240 I	4008321 926654	-25...+55	0.49	97	0.165	70	4.5
PTi 150/220-240 I	4008321 915535	-25...+50	0.72	147	0.165	75	4.5

Product reference	 I _{max}	 l [mm]	 b [mm]	 h [mm]	 l ₁ [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

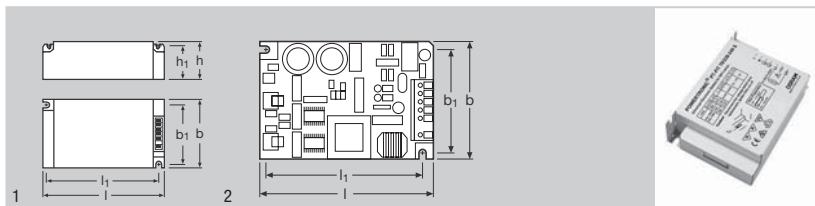
- Energy Efficiency Index EEI: A2
- Rated voltage: 220-240 V
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015/CISPR 15
- Safety: to EN 61347-2-12
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
-   

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 _a	A	W	kHz ECG	T _c	kV START
PT-FIT 35/220-240 S	4008321 386625	-15...+65	0.19	39	0.200	85	4.5
PT-FIT 35/220-240 B	4008321 498731	-15...+70	0.19	39	0.200	90	4.5
PT-FIT 50/220-240 S	4008321 648693	-15...+60	0.24	50	0.200	85	4.5
PT-FIT 50/220-240 B	4008321 648716	-15...+65	0.24	50	0.200	90	4.5
PT-FIT 70/220-240 S	4008321 386649	-15...+55	0.36	73	0.200	85	4.5
PT-FIT 70/220-240 B	4008321 498717	-15...+60	0.36	73	0.200	90	4.5

Product reference	 max.	 (mm)	 (mm)	 (mm)	 (mm)	 (mm)			 No.
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 ECG	T _c	kV START	
PT-FIT 35/220-240 I	4008321 377661	-15...+60	0.19	39	0.200	75	4.5	
PT-FIT 50/220-240 I	4008321 648679	-15...+50	0.24	50	0.200	75	4.5	
PT-FIT 70/220-240 I	4008321 377685	-15...+45	0.36	73	0.200	75	4.5	
Product reference								
PT-FIT 35/220-240 I	1.5	155	83	32	163	270	20	1
PT-FIT 50/220-240 I	1.5	155	83	32	163	270	20	1
PT-FIT 70/220-240 I	1.5	155	83	32	163	270	20	1

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



Inrush current limiter EBN-OS for POWERTRONIC® ECGs



Product reference	Product number	T _a	V	W	l (mm)	b (mm)	h (mm)	9	100
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 6.105)
- 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 MULTITECO controller. Both transformers are suitable for emergency power installations.

For more information on DALI see page 9.38; for usable components see section 9.

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 MULTITECO 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

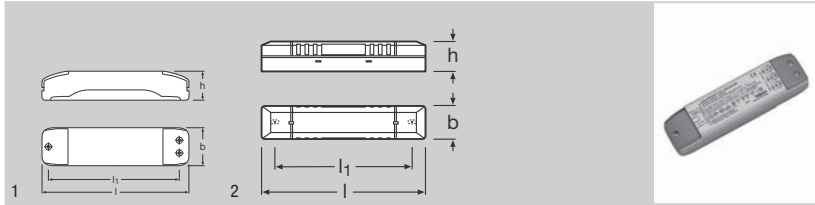


Prescribed dimmer for HALOTRONIC®	
HTL 105/230-240	
HTL 225/230-240	
HTM 70/230-240	
HTM 105/230-240	
HTM 150/230-240	
HTN 75/230-240 I	
ET-PARROT 70/220-240 I	
ET-PARROT 105/220-240 I	
ET-PARROT 150/220-240 I	
 with trailing-edge phase dimmer	
 with trailing-edge phase dimmer or leading-edge phase dimmer for inductive loads	
Dimmers for ohmic loads are not suitable.	

* For conditions and details go to www.osram.com/system-guarantee



HALOTRONIC® electronic transformers -PROFESSIONAL- HTi, HTL



Product reference	Product number	λ	T_a	A	V	V _{min-max}	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 ¹⁾	230-240	176-275	35...105	≈40	
HTL 225/230-240	4008321927026	>0.95	-20...+50	0.90 ¹⁾	230-240	176-275	50...225	≈50	
Product reference	V _{OUT}		l [mm]	b [mm]	h [mm]	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

1) 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

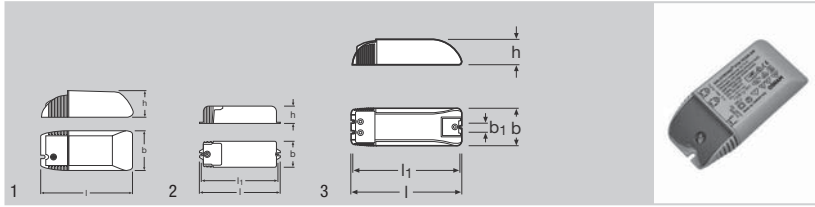
Product characteristics

- 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	λ	T_a	A	V	W	kHz ECG	V_{OUT}
HTM 70/230-240	4050300442310	0.99	0...+50	0.27 ¹⁾	230-240	20...70	≈52	11.2 (70W) 11.2 (20W)
HTM 105/230-240	4050300442334	0.99	0...+45	0.41 ¹⁾	230-240	35...105	≈43	11.3 (105W) 11.4 (35W)
HTM 150/230-240	4050300581415	0.99	0...+45	0.57 ¹⁾	230-240	50...150	≈40	11.4 (150W) 11.5 (50W)
HTN 75/230-240 I	4008321073037	>0.95	0...+50	0.32 ¹⁾	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	108	52	33	–	–	110	20	1
HTM 105/230-240	Trailing-edge or Leading-edge	108	52	33	–	–	125	20	1
HTM 150/230-240	Trailing-edge or Leading-edge	153	54	36	146	15	185	10	3
HTN 75/230-240 I	Trailing-edge phase	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

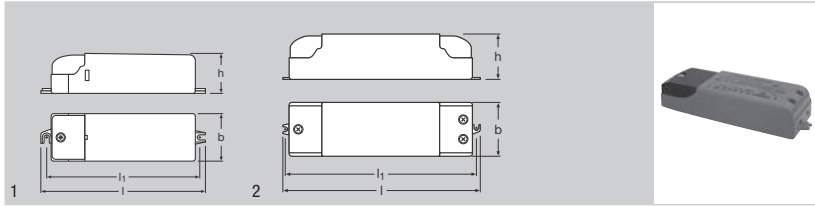
- Line frequency: 50 to 60 Hz
- RI suppression: to EN 55015 (A1: 2007) / CISPR 15, EN 55022
- Line harmonics: to EN 61000-3-2
- Immunity: to EN 61547
- Safety: to EN 61347
- Electrical isolation from the primary and secondary side
-
-
-

Applications

- Effect and accent lighting
- Living rooms
- Object lighting
- Conference rooms
- Restaurants
- Recessed and surface-mounted furniture fixtures
- Shop lighting
- Event rooms



ET-REDBACK® low voltage electronic transformers



Product reference	Product number	λ	T_a	A	V	W	kHz ECG	V_{OUT}
ET-REDBACK	4008321 125798	1	0...+45	0.30 1)	220-240	20...70	≈50	11.3 (70W) 11.4 (20W)
ET-REDBACK with Flex and Plug (Primary lead)	4008321 178701	1	0...+40	0.45 ¹⁾	220-240	35...105	≈40	11.5 (105W) 11.5 (35W)
ET-REDBACK with Flex and Plug and Lampholder (Primary and Secondary leads)	4008321 178725	1	0...+40	0.65 1)	220-240	50...150	≈40	11.5 (150W) 11.2 (50W)

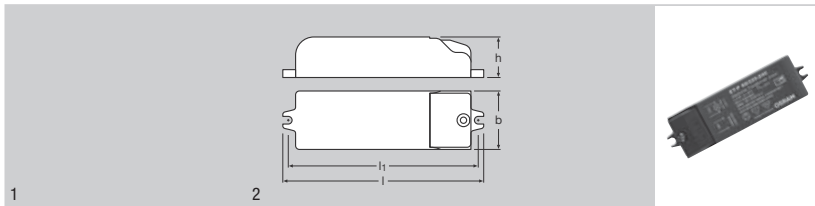
Product reference		l [mm]	b [mm]	h [mm]	l_1 [mm]			
ET-REDBACK 70/220-240 I	Trailing-edge or Leading-edge phase	128	38	31	119	115	50	1
ET-REDBACK 105/220-240 I	Trailing-edge or Leading-edge phase	128	38	31	119	130	50	1
ET-REDBACK 150/220-240 I	Trailing-edge or Leading-edge phase	154	44	38	149	180	20	2

1) RMS

NEW



ET-P60



Product reference	Product number	λ	T_a	A	V	W	kHz ECG	V_{OUT}
ET - P60/220-240 EAN 10	4008321 518385	1	0...+45	0.27 ¹⁾	220-240	20...60	≈ 50 - 60	11.9 (60W) 12.0 (20W)
ET - P60/220-240 EAN 40	4008321 518392							

Product reference		l [mm]	b [mm]	h [mm]	l_1 [mm]			
ET - P60/220-240	Trailing-edge or Leading-edge phase	128	38	31	119	115	50	1

1) 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-REDBACK®



Product reference	Product number	T_a	V	W	CONTROL		
HTI DALI 315 DIM	4008321957344	0...+45	230-240	20-315	DALI or Touch DIM/ Touch DIM Sensor		
Product reference		W	I [mm]	b [mm]	h [mm]		
HTI DALI 315 DIM	Trailing-edge phase	0...100 %	153	54	36	110	25

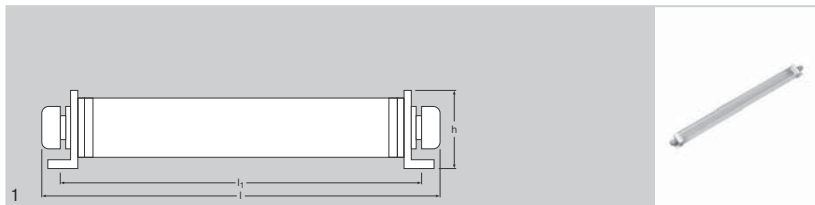
Product benefits

- 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-REDBACK® 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]	IP	Box	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

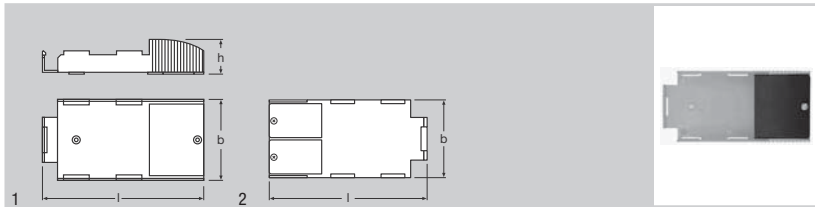
Outdoor lighting applications in which relatively high protection against moisture for the ECG is needed, e.g. outdoor displays

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]	 g	 No.	 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, QTl (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.



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



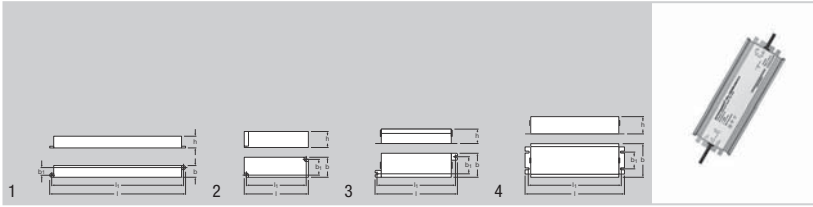
LED modules and control gear, application overview*

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 ²⁾	OT RGB SEQUENCER ²⁾	OT DMX RGB DIM ²⁾	OT DMX 3x1 RGB DIM ²⁾	OT DMX 3x2,5 DIM	OT DMX 3x2,5 PCB DIM	OT DMX 9x2 DIM SO	OT DMX 3x350 DIM LI	OT DMX 6x350/700 DIM SO	OT DMX 12x350/700 DIM SO	OTI DALI DIM ²⁾	OTI DALI DIM LI	OTI 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 _{IN}	Hz	protection class
OTe 15/220-240/12 P	4008321974433	12 V LED modules	15	198...264 ¹⁾	50-60	I/II
OTe 30/220-240/12 P	4008321974440	12 V LED modules	30	198...264 ¹⁾	50-60	I/II
OTe 60/220-240/12 P	4008321974457	12 V LED modules	60	198...264 ¹⁾	50-60	I
OTe 120/220-240/12 P	4008321974464	12 V LED modules	120	198...264 ¹⁾	50-60	I
OT 60/220-240/12 P ³⁾		12 V LED modules				
OT 120/220-240/12 P ³⁾		12 V LED modules				

Product reference	IP	V _{OUT}	T _a	l [mm]	b [mm]	h [mm]			No.
OTe 15/220-240/12 P	IP65	12.5 ²⁾	-25...+55	229	20	20	60	1	1
OTe 30/220-240/12 P	IP65	12.5 ²⁾	-25...+55	136	42	33	40	2	2
OTe 60/220-240/12 P	IP65	12.5 ²⁾	-25...+55	170	53	38	20	3	3
OTe 120/220-240/12 P	IP65	12.5 ²⁾	-25...+55	208	72	38	10	4	4
OT 60/220-240/12 P ³⁾									
OT 120/220-240/12 P ³⁾									

1) Permitted voltage range
 2) ± 0.5 V
 3) 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

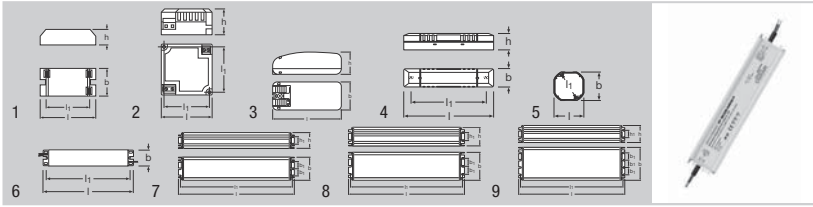
OTe 60/220-240/12 P

- 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 _{IN}	Hz	protection class
OT 8/200-240/24	4008321040169	24 V LED modules	8	180...254 ¹⁾	50-60	I/II
OT 20/120-240/24 S	4050300662626	24 V LED modules	20	108...254 ¹⁾	50-60	I/II
OT 20/220-240/24	4050300681811	24 V LED modules	20	198...254 ¹⁾	50-60	II
OT 75/220-240/24	4050300817477	24 V LED modules	75	198...254 ¹⁾	50-60	I/II
OT 6/200-240/24 CE	4008321113269	24 V LED modules	6	180...254 ¹⁾	50-60	I/II
OT 75/220-240/24 E	4008321362476	24 V LED modules	75	198...254 ¹⁾	50-60	I
OT 80/220-240/24 P	4008321981684	24 V LED modules	80	198...264 ¹⁾	50-60	II
OT 120/220-240/24 P	4008321981707	24 V LED modules	120	198...264 ¹⁾	50-60	I
OT 240/220-240/24 P	4008321981721	24 V LED modules	240	198...264 ¹⁾	50-60	I
OT 50/220-240/24 ⁵⁾	4052899905566	24 V LED modules	50	198 ~264	50-60	II

Product reference	IP	V _{OUT}	T _a	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$			No.
OT 8/200-240/24	IP20	24 ²⁾	-20...+50	80	40	22	50	1	
OT 20/120-240/24 S	IP20	24 ²⁾	-20...+50	60	60	31	30	2	
OT 20/220-240/24	IP20	24 ²⁾	-20...+50	109	50	35	20	3	
OT 75/220-240/24	IP20	24 ³⁾	-20...+50	220	47	44	10	4	
OT 6/200-240/24 CE	IP65	24 ⁴⁾	-20...+50	51	50	22	20	5	
OT 75/220-240/24 E	IP64	24 ³⁾	-25...+60	241	43	30	10	6	
OT 80/220-240/24 P	IP67	24 ³⁾	-25...+55	250	50	34	10	7	
OT 120/220-240/24 P	IP67	24 ³⁾	-25...+55	250	60	39	10	8	
OT 240/220-240/24 P	IP67	24 ³⁾	-25...+55	250	80	39	8	9	
OT 50/220-240/24 ⁵⁾	IP20	24	-25...+45	242	40	16	-	-	

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

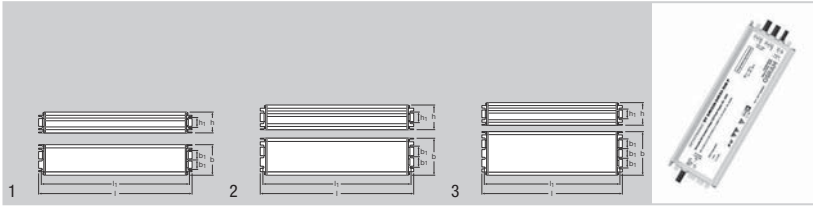
- SELV equivalent
- High surge protection up to 3 kV (L-N) / 6 kV (L/N-PE)
- High IP protection (IP67)
- Flexible mounting concept
- 2 output channels for optional distribution of the output power
- Suitable for outdoor applications

OT 50/220-240/24

- SELV equivalent
- Integrated Cable clamp
- Very thin housing design – Ideal for tight spaces
- Suitable for indoor applications



OPTOTRONIC® control gear - 1-10 V interface



Product reference	Product number		W	V _{IN}	Hz	protection class			
OT 80/220-240/24 DIM P	4008321981677	24 V LED modules	80	198...264 ¹⁾	50-60	I/II			
OT 120/220-240/24 DIM P	4008321981691	24 V LED modules	120	198...264 ¹⁾	50-60	I			
OT 240/220-240/24 DIM P	4008321981714	24 V LED modules	240	198...264 ¹⁾	50-60	I			
Product reference	IP	V _{OUT}	CONTROL	T _a	I [mm]	b [mm]	h [mm]		No.
OT 80/220-240/24 DIM P	IP67	24 ²⁾	1-10 V	-25...+55	250	50	34	10	1
OT 120/220-240/24 DIM P	IP67	24 ²⁾	1-10 V	-25...+55	250	60	39	10	2
OT 240/220-240/24 DIM P	IP67	24 ²⁾	1-10 V	-25...+55	250	80	39	8	3

1) Permitted voltage range
2) +1.0V-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

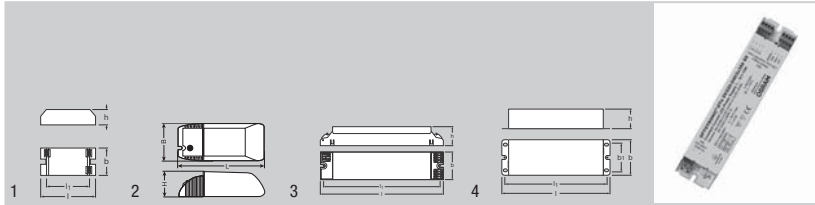
- SELV equivalent
- High surge protection up to 3 kV (L-N) / 6 kV (L/N-PE)
- Dimmable via isolated 1-10 V interface
- High IP protection (IP67)
- Slim housing and flexible mounting concept
- Suitable for outdoor applications


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 _{IN}	Hz	protection class	IP
OT 9/10-24/350 DIM	4050300888897	350 mA LED modules	6.5	9...32 ¹⁾	0	–	IP20
OT 9/200-240/350	4050300888262	350 mA LED modules	6.5	180...254 ¹⁾	50-60	I/II	IP20
OT 9/200-240/350 DIM	4008321187321	350 mA LED modules	6.5	180...254 ¹⁾	50-60	I/II	IP20
OTe 13/220-240/350 SD	4008321519795	350 mA LED modules	12	198...264 ¹⁾	50-60 ⁴⁾		IP20
OTe 25/220-240/2x350 SD	4008321523686	350 mA LED modules	24	198...264 ¹⁾	50-60 ⁴⁾		IP20
OTe 90/220-240/4x350 E	4008321637345	350 mA LED modules	81	198...264 ¹⁾	50-60	I	IP64

Product reference									
OT 9/10-24/350 DIM	350 ²⁾	0...24.5	Poti	-20...+50	80	40	22	50	1
OT 9/200-240/350	350 ²⁾	0...25	–	-20...+50	80	40	22	50	1
OT 9/200-240/350 DIM	350 ²⁾	2...25	Poti	-20...+55	108	53	33	20	2
OTe 13/220-240/350 SD	350 ²⁾	34	StepDIM	-20...+55	182	41	28	20	3
OTe 25/220-240/2x350 SD	2x350 ²⁾	34	StepDIM	-20...+55	182	41	28	20	3
OTe 90/220-240/4x350 E	4x350 ³⁾	58	–	-25...+55	238	89	46	6	4

¹⁾ Permitted voltage range
²⁾ ±5%
³⁾ ±10%
⁴⁾ 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

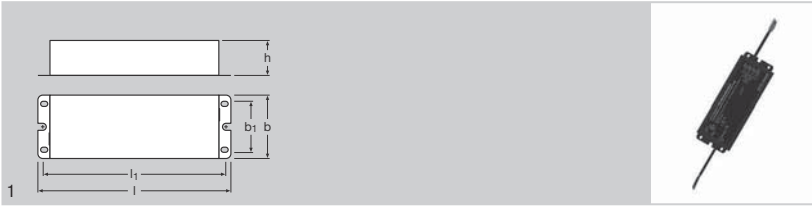
- SELV equivalent
- 2 output channels
- StepDIM interface: switch between two predefined output currents by means of an external switch or PIR sensor
- Slim housing with separate push-in terminals
- Suitable for indoor applications

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 (2x350 mA = 700 mA) by connecting two channels in parallel
- Suitable for outdoor applications



OPTOTRONIC® control gear - 500 mA



Product reference	Product number							
OTe 90/220-240/4x500 E	4008321651600	500 mA LED modules	90	198...264 ¹⁾	I	IP64	4x500 ²⁾	
Product reference								
OTe 90/220-240/4x500 E	< 45 ³⁾	–	-25...+55	238	89	46	6	1

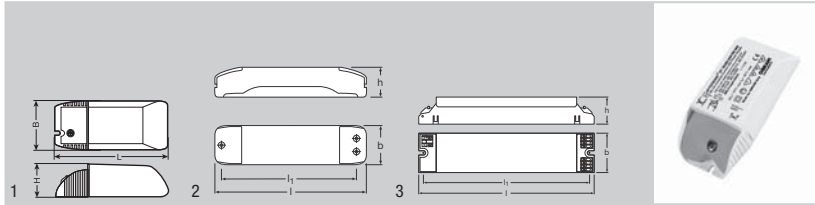
¹⁾ Permitted voltage range
²⁾ Per channel ± 10%
³⁾ Maximum 52 V per channel

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 _{IN}	Hz	pro-tection class	IP
OT 18/200-240/700 DIM	4008321139320	700 mA LED modules	17	180...254 ¹⁾	50-60	I / II	IP20
OTe 35/220-240/700	4008321691248	700 mA LED modules	35	195...264 ¹⁾	50-60	I/II	IP20
OTe 35/220-240/700 SD	4008321989543	700 mA LED modules	35	195...264 ¹⁾	50-60 ⁵⁾		IP20
OTe 70/220-240/2x700 SD	4008321989567	700 mA LED modules	70	195...264 ¹⁾	50-60 ⁵⁾		IP20

Product reference	I [mA]	V _{OUT}	CONTROL	T _a	l [mm]	b [mm]	h [mm]		No.
OT 18/200-240/700 DIM	0...700 ²⁾	2.0...25	Potentiometer	-20...+50	108	53	33	20	1
OTe 35/220-240/700	700 ²⁾	25...50	—	-25...+45	170	44	34	10	2
OTe 35/220-240/700 SD	700 ³⁾	16...50	StepDIM	-25...+50	182	41	28	20	3
OTe 70/220-240/2x700 SD	2x700 ³⁾	16...54	StepDIM	-25...+50	280	40	28 ⁴⁾		3

¹⁾ Permitted voltage range
²⁾ ±5 %
³⁾ ±10 %
⁴⁾ Data not available at time of going to press
⁵⁾ 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

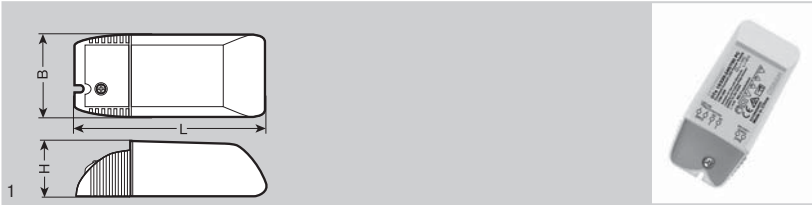
- SELV equivalent
- StepDIM interface: switch between two predefined output currents by means of an external switch or PIR sensor
- Suitable for indoor applications

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 _{IN}	Hz	pro-tection class	IP
OTe 9/220-240/350 PC	4008321978387	350 mA LED modules	10 ³⁾	195...264 ¹⁾	50-60	I/II	IP20
OTe 9/220-240/700 PC	4008321688842	700 mA LED modules	10 ³⁾	195...264 ¹⁾	50-60	I/II	IP20
OTe 15/220-240/350 PC	4008321700346	350 mA LED modules	16 ⁴⁾	195...264 ¹⁾	50-60	I/II	IP20
OTe 15/220-240/700 PC	4008321677341	700 mA LED modules	16 ⁴⁾	195...264 ¹⁾	50-60	I/II	IP20
OTe 20/220-240/350 PC	4008321978349	350 mA LED modules	20 ⁵⁾	195...264 ¹⁾	50-60	I/II	IP20
OTe 20/220-240/700 PC	4008321978363	700 mA LED modules	20 ⁵⁾	195...264 ¹⁾	50-60	I/II	IP20

Product reference	I [mA]	V _{OUT}	CONTROL	T _a	l [mm]	b [mm]	h [mm]			No.
OTe 9/220-240/350 PC	350 ²⁾	17...29	Leading-edge and trailing edge	-20...+50	109	53	33	20	1	1
OTe 9/220-240/700 PC	700 ²⁾	7.5...14	Leading-edge and trailing edge	-20...+50	109	53	33	20	1	1
OTe 15/220-240/350 PC	350 ²⁾	28...45.5	Leading-edge and trailing edge	-20...+45	109	53	33	20	1	1
OTe 15/220-240/700 PC	700 ²⁾	14.3...23	Leading-edge and trailing-edge	-20...+45	109	53	33	20	1	1
OTe 20/220-240/350 PC	350 ²⁾	45...57	Leading-edge and trailing-edge	-20...+45	109	53	33	20	1	1
OTe 20/220-240/700 PC	700 ²⁾	22.5...26.5	Leading-edge and trailing-edge	-20...+45	109	53	33	20	1	1

1) Permitted voltage range
 2) ±5 %
 3) Partial load 6...10 W
 4) For partial load see the data sheet
 5) Partial load 16...20 W
 6) 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

* Check osram.com.au for listing



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, ...)

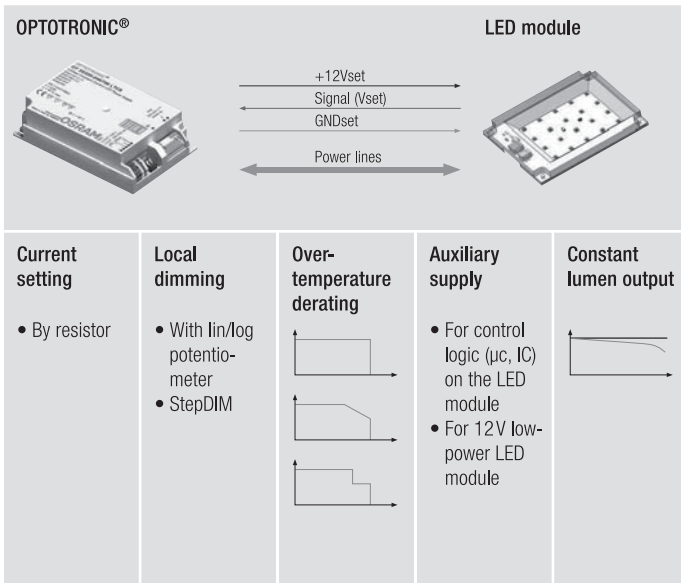
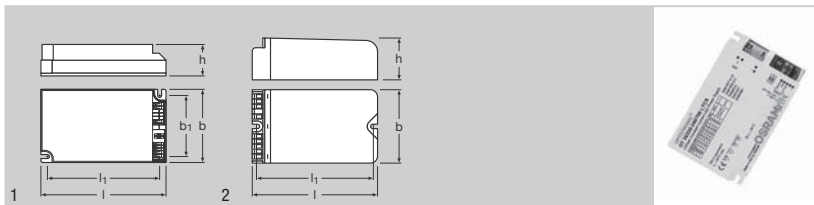


Figure 1: LEDset application features

For more information and typical applications go to www.osram.com/ledset

OPTOTRONIC® control gear - LEDset



Product reference	Product number		W	V _{IN}	Hz	pro-tection class	IP
OT 35/220-240/700 LTCS	4008321664419	350-700 mA LED modules	35	195...264 ¹⁾	50-60	I/II	IP20
OT 45/220-240/700 LTCS	4008321664433	350-700 mA LED modules	45	195...264 ¹⁾	50-60	I/II	IP20
OT 50/220-240/700 LT E	4008321774255	350-700 mA LED modules	54	195...264 ¹⁾	50-60	I/II	IP20 ³⁾
OT 90/220-240/700 LT E	4008321664976	350-700 mA LED modules	90	195...264 ¹⁾	50-60	I/II	IP20 ³⁾
OT 150/220-240/700 LT E ⁴⁾		350-700 mA LED modules					

Product reference	I [mA]	V _{OUT}	CONTROL	T _a	l [mm]	b [mm]	h [mm]			No.
OT 35/220-240/700 LTCS	100...700 ²⁾	24...87	LEDset	-25...+50	123	79	33	20	1	1
OT 45/220-240/700 LTCS	100...700 ²⁾	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 ²⁾	64...260	LEDset	-30...+55	133	77	48	20	2	2
OT 150/220-240/700 LT E ⁴⁾										

¹⁾ Permitted voltage range
²⁾ ± 5% (350-700 mA)
³⁾ Suitable for luminaires of protection class IP54
⁴⁾ 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	DALI StepDIM AstroDIM	StepDIM	AstroDIM	DALI 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

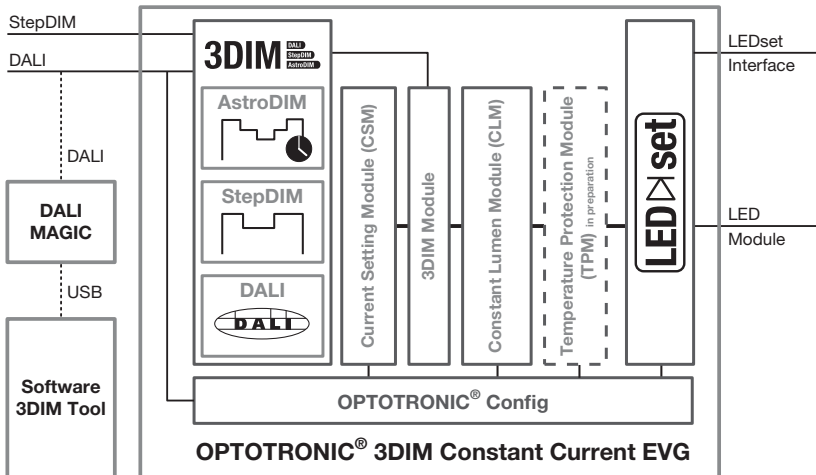
- Automatic dimming via an integrated timer, predefined periods and dim levels can be changed via the software

DALI

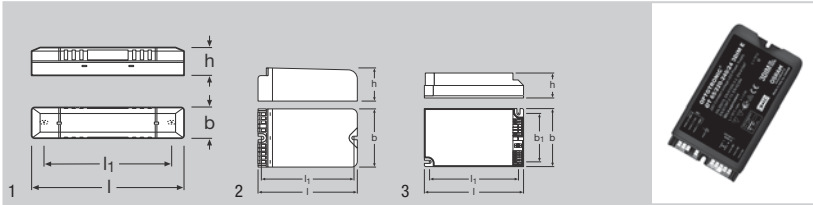
- Suitable for integration in bidirectional telemanagement systems

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 _{IN}	Hz	pro-tection class	IP		
OTi DALI 75/220-240/24	4008321 371560	24 V LED modules	75	198...254 ¹⁾	50/60	I/II	IP20		
OT 65/220-240/24 3DIM E	4008321 964403	24 V LED modules	65	198...264 ¹⁾	50/60	I/II	IP20 ³⁾		
OT DALI 45/220-240/700 LTCS	4008321 978240	350-700 mA LED modules	45	195...264 ¹⁾	0/50/60	I/II	IP20		
OT 50/220-240/700 3DIMLT E	4008321 664464	350-700 mA LED modules	54	195...264 ¹⁾	50/60	I/II	IP20 ³⁾		
OT 90/220-240/700 3DIMLT E	4008321 664471	350-700 mA LED modules	90	195...264 ¹⁾	50/60	I/II	IP20 ³⁾		
OT 150/220-240/700 3DIMLT E ⁴⁾		350-700 mA LED modules							
Product reference	I [mA]	V _{OUT}	CONTROL	T _a	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 ²⁾	38...120	DALI	-25...+50	123	79	33	20	3
OT 50/220-240/700 3DIMLT E	75...700 ²⁾	38...120	3DIM/LEDset	-30...+60	133	77	48	20	2
OT 90/220-240/700 3DIMLT E	75...700 ²⁾	65...260	3DIM/LEDset	-30...+55	133	77	48	20	2
OT 150/220-240/700 3DIMLT E ⁴⁾									

¹⁾ Permitted voltage range
²⁾ ± 5% (350-700 mA)
³⁾ Suitable for luminaires of protection class IP54
⁴⁾ 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)

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

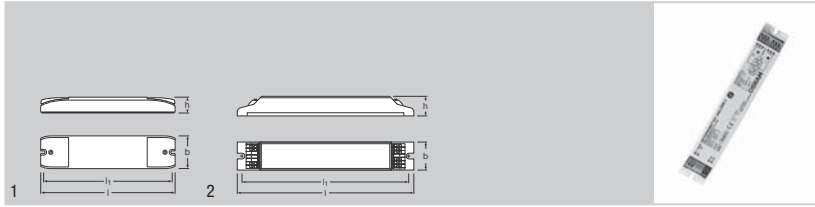
OT 90/220-240/700 3DIMLT E





- 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 061195	DALI LED dimmer	10 V LED modules	50	10...24	DALI
			24 V LED modules	120		
OTi DALI DIM LI	4008321 624437	DALI LED dimmer	10 V LED modules	40	10...24	DALI
			24 V LED modules	96		
OTi DALI 2x700 CS	4008321 694317	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

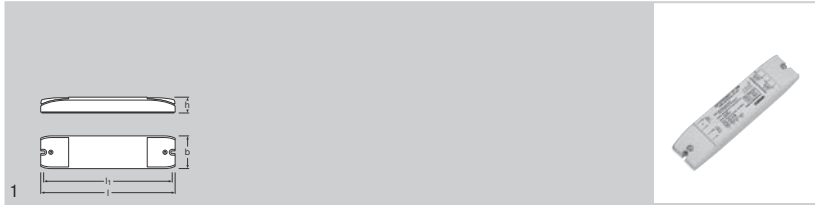
OTi DALI DIM LI












- 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 @350mA...66W @700mA
- 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

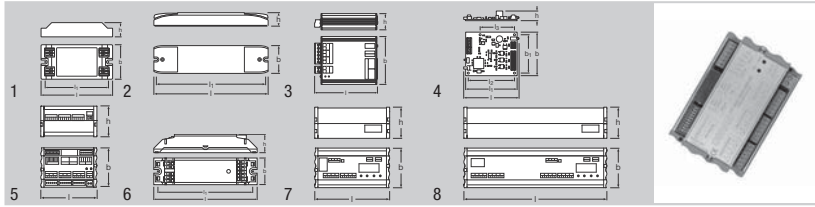
- Intelligent electronic constant-voltage 3-channel 1-10 V dimmer
- Maximum operating output voltage of 2 A per channel
- Cable clamp housing for independent mounting
- Dimming range 0.1 to 100 %
- The control input is separate from the output in accordance with SELV requirements
- Reversible overload, 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 _a	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	56.5	12	7
OT DMX 12x350/700 DIM SO	-10...40	1	12	180 360	272	75.4	56.5	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 3x2.5 A DIM

OT DMX 3x2.5 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 9x2 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 3x350 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 6x350/700 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 12x350/700 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	4050300870380	360x30x21	15.4	1x1200
HE 14 W	2	QTI DALI 2x14/24 DIM	4050300870861	425x30x21	30.6	2x1200
HE 14 W	3	QTI DALI 3x14/24 DIM	4008321069955	360x40x21	45.3	3x1200
HE 14 W	4	QTI DALI 4x14/24 DIM	4008321070036	360x40x21	60.4	4x1200
HE 14 W	1	QTI 1x14/24 DIM	4050300870922	360x30x21	15.4	1x1200
HE 14 W	2	QTI 2x14/24 DIM	4050300870946	423x30x21	30.6	2x1200
HE 14 W	2	QTI 2x14/24 DIM	4050300870946	423x30x21	30.6	2x1200
HE 14 W	3	QTI 3x14/24 DIM	4008321069719	360x40x21	45.3	3x1200
HE 14 W	4	QTI 4x14/24 DIM	4008321069993	360x40x21	60.4	4x1200
HE 14 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	16	1x1200
HE 14 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	16	1x1275
HE 14 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	16	1x1275
HE 14 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	31	2x1200
HE 14 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	32	2x1275
HE 14 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	34	2x1250
HE 14 W	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	17	1x1200
HE 14 W	1	QTP5 1x14-35	4008321329035	280x30x21	16	1x1200
HE 14 W	2	QTP5 2x14-35	4008321329073	360x30x21	30	2x1200
HE 14 W	3	QTP5 3x14, (4x14)	4008321484598	280x40x21	48	3x1200
HE 14 W	4	QTP5 (3x14), 4x14	4008321484598	280x40x21	63	4x1200
HE 14 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	15	1x1150
HE 14 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	15	1x1150
HE 14 W SLS	1	QTI DALI 1x14/24 DIM	4050300870380	360x30x21	15.4	1x1200
HE 14 W SLS	2	QTI DALI 2x14/24 DIM	4050300870861	425x30x21	30.6	2x1200
HE 14 W SLS	1	QTI 1x14/24 DIM	4050300870922	360x30x21	15.4	1x1200
HE 14 W SLS	2	QTI 2x14/24 DIM	4050300870946	423x30x21	30.6	2x1200
HE 14 W SLS	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	31	1x1200
HE 14 W SLS	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	31	2x1200
HE 14 W SLS	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	17	1x1200
HE 21 W	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	23.1	1x1900
HE 21 W	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	45	2x1900
HE 21 W	1	QTI 1x21/39 DIM	4050300870564	360x30x21	23.1	1x1900
HE 21 W	2	QTI 2x21/39 DIM	4050300870694	425x30x21	45	2x1900
HE 21 W	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	24	1x1900
HE 21 W	1	QTI 1x28/54/35/49 GII	4008321383358	360x30x21	24	1x1900
HE 21 W	1	QTI 1x35/49/80 GII	4008321383372	360x30x21	25	1x1900
HE 21 W	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	45	2x1900
HE 21 W	2	QTI 2x28/54/35/49 GII	4008321383419	360x30x21	45	2x1900
HE 21 W	2	QTI 2x35/49/80 GII	4008321658951	425x30x21	49	2x2000
HE 21 W	1	QTI-DP 1x28/35/LED	4008321646521	425x30x21	24	1x1900
HE 21 W	1	QTP5 1x14-35	4008321329035	280x30x21	24	1x1900
HE 21 W	2	QTP5 2x14-35	4008321329073	360x30x21	45	2x1900
HE 21 W	1	QT-ECO 1x18-21/220-240 S	4050300794907	80x40x22	23	1x1800
HE 21 W SLS	1	QTI DALI 1x21/39 DIM	4050300870366	360x30x21	23.1	1x1900
HE 21 W SLS	2	QTI DALI 2x21/39 DIM	4050300870489	425x30x21	45	2x1900
HE 21 W SLS	1	QTI 1x21/39 DIM	4050300870564	360x30x21	23.1	1x1900
HE 21 W SLS	2	QTI 2x21/39 DIM	4050300870694	425x30x21	45	2x1900
HE 21 W SLS	1	QTI 1x14/24/21/39 GII	4008321383334	360x30x21	24	1x1900
HE 21 W SLS	2	QTI 2x14/24/21/39 GII	4008321383396	360x30x21	45	2x1900
HE 21 W SLS	1	QTI-DP 1x28/35/LED	4008321646521	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 383334	360x30x21	29	1x2500
HE 25 W ES	1	QTI 1x28/54/35/49 GII	4008321 383358	360x30x21	29	1x2500
HE 25 W ES	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	56	2x2500
HE 25 W ES	2	QTI 2x35/49/80 GII	4008321 658951	425x30x21	57	2x2500
HE 25 W ES	1	QTI-DP 1x28/35/LED	4008321 646521	425x30x21	29	1x2450
HE 25 W ES	1	QTP5 1x14-35	4008321 329035	280x30x21	27	1x2450
HE 25 W ES	2	QTP5 2x14-35	4008321 329073	360x30x21	54	2x2450
HE 32 W ES	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	36	1x3150
HE 32 W ES	1	QTI 1x28/54/35/49 GII	4008321 383358	360x30x21	36	1x3150
HE 32 W ES	1	QTI 1x35/49/80 GII	4008321 383372	360x30x21	36	1x3150
HE 32 W ES	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	68	2x3150
HE 32 W ES	2	QTI 2x28/54/35/49 GII	4008321 383419	360x30x21	68	2x3150
HE 32 W ES	2	QTI 2x35/49/80 GII	4008321 658951	425x30x21	70	2x3150
HE 32 W ES	1	QTI-DP 1x28/35/LED	4008321 646521	425x30x21	36	1x2900
HE 32 W ES	1	QTP5 1x14-35	4008321 329035	280x30x21	34	1x3100
HE 32 W ES	2	QTP5 2x14-35	4008321 329073	360x30x21	68	2x3100
HO 24 W	1	QTI DALI 1x14/24 DIM	40503008 70380	360x30x21	25.3	1x1750
HO 24 W	2	QTI DALI 2x14/24 DIM	40503008 70861	425x30x21	49.3	2x1750
HO 24 W	3	QTI DALI 3x14/24 DIM	4008321 069955	360x40x21	73.4	3x1750
HO 24 W	4	QTI DALI 4x14/24 DIM	4008321 070036	360x40x21	97.6	4x1750
HO 24 W	1	QTI 1x14/24 DIM	40503008 70922	360x30x21	26	1x1750
HO 24 W	2	QTI 2x14/24 DIM	40503008 70946	423x30x21	50	2x1750
HO 24 W	3	QTI 3x14/24 DIM	4008321 069719	360x40x21	74	3x1750
HO 24 W	4	QTI 4x14/24 DIM	4008321 069993	360x40x21	98	4x1750
HO 24 W	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	26	1x1750
HO 24 W	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	50	2x1750
HO 24 W	1	QTP5 1x24-39	4008321 329110	280x30x21	26	1x1750
HO 24 W	2	QTP5 2x24-39	4008321 329417	360x30x21	49	2x1750
HO 24 W	1	QTP-M 1x26-42	4008321 329134	103x67x31	25	1x1750
HO 24 W	2	QTP-M 2x26-32	4008321 329158	123x79x33	49	2x1750
HO 24 W	2	QT-M 2x26-42/220-240 S	4008321 110022	123x79x33	54	2x3500
HO 24 W	1	QT-ECO 1x18-24/220-240 S	40503006 38560	80x40x22	20	1x1600
HO 24 W	1	QT-ECO 1x18-24/220-240 L	40503006 60417	150x22x22	20	1x1600
HO 24 W SLS	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	26	1x1750
HO 24 W SLS	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	50	2x1750
HO 24 W CONSTANT	1	QTI DALI 1x14/24 DIM	40503008 70380	360x30x21	25.3	1x1900
HO 24 W CONSTANT	2	QTI DALI 2x14/24 DIM	40503008 70861	425x30x21	49.3	2x1900
HO 24 W CONSTANT	3	QTI DALI 3x14/24 DIM	4008321 069955	360x40x21	73.4	3x1900
HO 24 W CONSTANT	4	QTI DALI 4x14/24 DIM	4008321 070036	360x40x21	97.6	4x1900
HO 24 W CONSTANT	1	QTI 1x14/24 DIM	40503008 70922	360x30x21	26	1x1900
HO 24 W CONSTANT	2	QTI 2x14/24 DIM	40503008 70946	423x30x21	50	2x1900
HO 24 W CONSTANT	3	QTI 3x14/24 DIM	4008321 069719	360x40x21	74	3x1900
HO 24 W CONSTANT	4	QTI 4x14/24 DIM	4008321 069993	360x40x21	98	4x1900
HO 24 W CONSTANT	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	26	1x1900
HO 24 W CONSTANT	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	50	2x1750
HO 24 W CONSTANT	1	QTP5 1x24-39	4008321 329110	280x30x21	26	1x1900
HO 24 W CONSTANT	2	QTP5 2x24-39	4008321 329417	360x30x21	49	2x1900
HO 24 W CONSTANT	1	QTP-M 1x26-42	4008321 329134	103x67x31	25	1x1900
HO 24 W CONSTANT	2	QTP-M 2x26-32	4008321 329158	123x79x33	49	2x1900
HO 24 W CONSTANT	2	QT-M 2x26-42/220-240 S	4008321 110022	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	56.8	1x4450
HO 54 W	2	QTI DALI 2x28/54 DIM	4050300870502	423x30x21	115	2x4450
HO 54 W	1	QTI 1x28/54 DIM	4050300870588	360x30x21	56.8	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 DALI 1x28/54 DIM	4050300870809	360x30x21	56.8	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	56.8	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	56.8	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	56.8	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	86.1	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	86.1	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	86.1	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	86.1	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	40503008 70342	360x30x21	86.1	1x6150
HO 80 W XT	2	QTI DALI 2x35/49/80 DIM	40503008 70441	423x30x21	165	2x6150
HO 80 W XT	1	QTI 1x35/49/80 DIM	40503008 70540	360x30x21	86.1	1x6150
HO 80 W XT	2	QTI 2x35/49/80 DIM	40503008 70984	425x30x21	165	2x6150
HO 80 W XT	1	QTI 1x35/49/80 GII	4008321 383372	360x30x21	85	1x6150
HO 80 W XT	2	QTI 2x35/49/80 GII	4008321 658951	425x30x21	167	2x6150
HO 80 W XT	2	QTI 2x35/49/80/220-240	4008321 174291	425x30x21	165	2x6150
HO 80 W XT	1	QTP5 1x80	4008321 329059	360x30x21	86	1x6150
HO 80 W XT	2	QT-FQ 2x80	40503008 25564	423x30x21	175	2x6300
HO 45 W ES	1	QTI DALI 1x35/49/80 DIM	40503008 70342	360x30x21	53.4	1x4600
HO 45 W ES	2	QTI DALI 2x35/49/80 DIM	40503008 70441	423x30x21	101.0	2x4600
HO 45 W ES	1	QTI 1x35/49/80 DIM	40503008 70540	360x30x21	53.4	1x4600
HO 45 W ES	2	QTI 2x35/49/80 DIM	40503008 70984	425x30x21	101.0	2x4600
HO 45 W ES	1	QTI 1x28/54/35/49 GII	4008321 383358	360x30x21	48	1x4300
HO 45 W ES	2	QTI 2x28/54/35/49 GII	4008321 383419	360x30x21	98	2x4300
HO 45 W ES	1	QTI 1x35/49/80 GII	4008321 383372	360x30x21	48	1x4300
HO 45 W ES	2	QTI 2x35/49/80 GII	4008321 658951	425x30x21	95	2x4300
HO 45 W ES	2	QTI 2x35/49/80/220-240	4008321 174291	425x30x21	101.0	2x4600
HO 45 W ES	1	QTP5 1x49	4008321 329370	280x30x21	49	1x4300
HO 45 W ES	2	QTP5 2x49	4008321 329431	360x30x21	100	2x4400
HO 50 W ES	1	QTI DALI 1x28/54 DIM	40503008 70809	360x30x21	59	1x4800
HO 50 W ES	2	QTI DALI 2x28/54 DIM	40503008 70502	423x30x21	115	2x4800
HO 50 W ES	1	QTI 1x28/54 DIM	40503008 70588	360x30x21	59	1x4800
HO 50 W ES	2	QTI 2x28/54 DIM	40503008 70717	425x30x21	115	2x4800
HO 50 W ES	1	QTI 1x28/54/35/49 GII	4008321 383358	360x30x21	54	1x4450
HO 50 W ES	2	QTI 2x28/54/35/49 GII	4008321 383419	360x30x21	108	2x4450
HO 50 W ES	1	QTP5 1x54	4008321 329394	280x30x21	54	1x4450
HO 50 W ES	2	QTP5 2x54	4008321 329097	360x30x21	108	2x4450
HO 73 W ES	1	QTI DALI 1x35/49/80 DIM	40503008 70342	360x30x21	88	1x6650
HO 73 W ES	2	QTI DALI 2x35/49/80 DIM	40503008 70441	423x30x21	165	2x6400
HO 73 W ES	1	QTI 1x35/49/80 DIM	40503008 70540	360x30x21	88	1x6650
HO 73 W ES	2	QTI 2x35/49/80 DIM	40503008 70984	425x30x21	165	2x6400
HO 73 W ES	1	QTI 1x35/49/80 GII	4008321 383372	360x30x21	79	1x6150
HO 73 W ES	2	QTI 2x35/49/80 GII	4008321 658951	425x30x21	157	2x6150
HO 73 W ES	2	QTI 2x35/49/80/220-240	4008321 174291	425x30x21	165	2x6400
HO 73 W ES	1	QTP5 1x80	4008321 329059	360x30x21	79	1x6150
HO 73 W ES	2	QT-FQ 2x80	40503008 25564	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	4008321060808	123x79x33	26	1x1800
FC 22 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	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	4008321069933	360x40x21	98	4x1750
FC 22 W	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	26	1x1750
FC 22 W	2	QTI-T/E 2x18-42 DIM	4008321060846	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	4008321060822	123x79x33	70	1x5000
FC 22 + 40 W	1	QTI-T/E 2x18-42 DIM	4008321060846	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	4008321060808	123x79x33	45	1x3200
FC 40 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	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	4008321060860	123x79x33	45	1x3200
FC 40 W	2	QTI-T/E 2x18-42 DIM	4008321060846	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	6.5	1x270
L 6 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	6.5	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	40503006 38584	80x40x22	10.5	1x450
L 8 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	10.5	1x450
L 8 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	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	40503006 38584	80x40x22	12	1x650
L 10 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	12	1x650
L 10 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	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	40503006 38584	80x40x22	15	1x950
L 13 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	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	4008321 117861	239x30x28	17	1x950
L 15 W	2	QTP-DL 2x18-24	4008321 117885	239x40x28	32	2x950
L 15 W	1	QT-ECO 1x18-24/220-240 S	40503006 38560	80x40x22	17	1x950
L 15 W	1	QT-ECO 1x18-24/220-240 L	40503006 60417	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	40503006 38584	80x40x22	16	1x1100
L 16 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	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	40503008 70403	360x30x21	16.3	1x1350
L 18 W	2	QTI DALI 2x18 DIM	40503008 70526	425x30x21	36.5	2x1350
L 18 W	3	QTI DALI 3x18 DIM	4008321 069979	360x40x21	53.6	3x1350
L 18 W	4	QTI DALI 4x18 DIM	4008321 070050	360x40x21	69.3	4x1350
L 18 W	1	QTI 1x18 DIM	40503008 70601	360x30x21	19	1x1350
L 18 W	2	QTI 2x18 DIM	40503008 70960	425x30x21	37	2x1350
L 18 W	3	QTI 3x18 DIM	4008321 069931	360x40x21	53.6	3x1350
L 18 W	4	QTI 4x18 DIM	4008321 070012	360x40x21	69.3	4x1350
L 18 W	1	HF 1x18 DIM	40503003 19254	360x30x30	19	1x1300
L 18 W	2	HF 2x18 DIM	40503003 50950	423x30x30	36	2x1350
L 18 W	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	19	1x1350
L 18 W	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	37	2x1350
L 18 W	1	QTP8 1x18	4008321 131584	360x30x30	18	1x1350
L 18 W	2	QTP8 2x18	4008321 131607	423x30x30	35	2x1350
L 18 W	3	QTP8 3x/4x18	4008321 131706	423x40x30	56	3x1300
L 18 W	4	QTP8 3x/4x18	4008321 131706	423x40x30	73	4x1300
L 18 W	1	QT-FIT8 1x18	4008321 294180	280x30x28	19	1x1350
L 18 W	2	QT-FIT8 2x18	4008321 294241	360x30x28	36	2x1350
L 18 W	3	QT-FIT8 3x/4x18	4008321 294302	280x40x28	54	3x1350
L 18 W	4	QT-FIT8 3x/4x18	4008321 294302	280x40x28	74	4x1350
L 18 W	1	QTP-DL 1x18-24	4008321 117861	239x30x28	18	1x1300
L 18 W	2	QTP-DL 2x18-24	4008321 117885	239x40x28	37	2x1300
L 18 W	1	QTP-M 1x26-42	4008321 329134	103x67x31	19	1x1350
L 18 W	2	QTP-M 2x26-32	4008321 329158	123x79x33	36	2x1350
L 18 W	1	QT-ECO 1x18-24/220-240 S	40503006 38560	80x40x22	19	1x1250
L 18 W	1	QT-ECO 1x18-24/220-240 L	40503006 60417	150x22x22	19	1x1250
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	4008321 131584	360x30x30	21	1x1100
L 18 W U	1	QT-ECO 1x18-24/220-240 S	40503006 38560	80x40x22	19.5	1x1100
L 18 W U	1	QT-ECO 1x18-24/220-240 L	40503006 60417	150x22x22	19.5	1x1100
L 18 W XT	1	QT-FIT8 1x18	4008321 294180	280x30x28	19	1x1350



Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W	Lamp luminous flux
L 18 W XT	2	QT-FIT8 2x18	4008321 294241	360x30x28	36	2x1350
L 18 W XT	3	QT-FIT8 3x18, (4x18)	4008321 294302	280x40x28	54	3x1350
L 18 W XT	4	QT-FIT8 (3x18), 4x18	4008321 294302	280x40x28	74	4x1350
L 18 W XT	1	QTi 1x14/24/21/39 GII	4008321 383334	360x30x21	19	1x1350
L 18 W XT	1	QTi 1x18 DIM	40503008 70601	360x30x21	19	1x1350
L 18 W XT	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	37	2x1350
L 18 W XT	2	QTI 2x18 DIM	40503008 70960	425x30x21	37	2x1350
L 18 W XT	3	QTI 3x18 DIM	4008321 069931	360x40x21	53.6	3x1350
L 18 W XT	4	QTI 4x18 DIM	4008321 070012	360x40x21	69.3	4x1350
L 18 W XT	1	QTI DALI 1x18 DIM	40503008 70403	360x30x21	16.3	1x1350
L 18 W XT	2	QTI DALI 2x18 DIM	40503008 70526	423x30x21	36.5	2x1350
L 18 W XT	3	QTI DALI 3x18 DIM	4008321 1652249	360x40x21	53.6	3x1350
L 18 W XT	4	QTI DALI 4x18 DIM	4008321 1652263	360x40x21	69.3	4x1350
L 18 W XT	1	QTP8 1x18	4008321 131584	360x30x30	18	1x1350
L 18 W XT	2	QTP8 2x18	4008321 131607	423x30x30	35	2x1350
L 18 W XT	4	QTP8 (3x18), 4x18	4008321 131706	423x40x30	73	4x1300
L 18 W XT	3	QTP8 3x18, (4x18)	4008321 131706	423x40x30	56	3x1300
L 18 W XT	1	QTP-DL 1x18-24	4008321 117861	239x30x28	18	1x1300
L 18 W XT	2	QTP-DL 2x18-24	4008321 117885	239x40x28	37	2x1300
L 18 W XT	1	QTP-M 1x26-42	4008321 1615398	103x67x31	19	1x1350
L 18 W XT	2	QTP-M 2x26-32	4008321 1615411	123x79x33	36	2x1350
L 18 W XXT	1	QT-FIT8 1x18	4008321 294180	280x30x28	19	1x1350
L 18 W XXT	2	QT-FIT8 2x18	4008321 294241	360x30x28	36	2x1350
L 18 W XXT	3	QT-FIT8 3x18, (4x18)	4008321 294302	280x40x28	54	3x1350
L 18 W XXT	4	QT-FIT8 (3x18), 4x18	4008321 294302	280x40x28	74	4x1350
L 18 W XXT	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	19	1x1350
L 18 W XXT	1	QTI 1x18 DIM	40503008 70601	360x30x21	19	1x1350
L 18 W XXT	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	37	2x1350
L 18 W XXT	2	QTI 2x18 DIM	40503008 70960	425x30x21	37	2x1350
L 18 W XXT	3	QTI 3x18 DIM	4008321 069931	360x40x21	53.6	3x1350
L 18 W XXT	4	QTI 4x18 DIM	4008321 070012	360x40x21	69.3	4x1350
L 18 W XXT	1	QTI DALI 1x18 DIM	40503008 70403	360x30x21	16.3	1x1350
L 18 W XXT	2	QTI DALI 2x18 DIM	40503008 70526	423x30x21	36.5	2x1350
L 18 W XXT	3	QTI DALI 3x18 DIM	4008321 1652249	360x40x21	53.6	3x1350
L 18 W XXT	4	QTI DALI 4x18 DIM	4008321 1652263	360x40x21	69.3	4x1350
L 18 W XXT	1	QTP8 1x18	4008321 131584	360x30x30	18	1x1350
L 18 W XXT	2	QTP8 2x18	4008321 131607	423x30x30	35	2x1350
L 18 W XXT	4	QTP8 (3x18), 4x18	4008321 131706	423x40x30	73	4x1300
L 18 W XXT	3	QTP8 3x18, (4x18)	4008321 131706	423x40x30	56	3x1300
L 18 W XXT	1	QTP-DL 1x18-24	4008321 117861	239x30x28	18	1x1300
L 18 W XXT	2	QTP-DL 2x18-24	4008321 117885	239x40x28	37	2x1300
L 18 W XXT	1	QTP-M 1x26-42	4008321 1615398	103x67x31	19	1x1350
L 18 W XXT	2	QTP-M 2x26-32	4008321 1615411	123x79x33	36	2x1350
L 20 W	1	HF 1x18/230-240 DIM	40503003 19254	360x30x30	19	1x1000
L 20 W	2	HF 2x18/230-240 DIM	40503003 350950	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	QTP-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	VVG			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	VVG			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	VVG			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	VVG			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	VVG			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	QTI 1x18 DIM	4050300870601	360x30x21	19	1x1200
DULUX L 18 W	2	QTI 2x18 DIM	4050300870960	425x30x21	37	2x1200
DULUX L 18 W	3	QTI 3x18 DIM	4008321069931	360x40x21	53.6	3x1200
DULUX L 18 W	4	QTI 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	4008321329134	103x67x31	35	1x2800
DULUX L 36 W	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2800
DULUX L 36 W	2	QTP-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	4008321329134	103x67x31	35	1x2800
DULUX L 36 W XT	2	QTP-M 2x26-32	4008321329158	123x79x33	68	2x2800
DULUX L 36 W XT	2	QTP-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	4008321060834	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	26.5	1x2800
DULUX L 28 W HE	2	QTP5 2x14-35	4008321329073	360x30x21	56	2x2800
DULUX F 18 W	1	VVG			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	40503008 070380	360x30x21	25	1x1700
DULUX F 24 W	2	QTI DALI 2x14/24 DIM	40503008 070861	423x30x21	49	2x1700
DULUX F 24 W	3	QTI DALI 3x14/24 DIM	4008321 069955	360x40x21	73.4	3x1700
DULUX F 24 W	4	QTI DALI 4x14/24 DIM	4008321 070036	360x40x21	97.6	4x1700
DULUX F 24 W	1	QTI 1x14/24 DIM	40503008 070922	360x30x21	25	1x1700
DULUX F 24 W	2	QTI 2x14/24 DIM	40503008 070946	423x30x21	49	2x1700
DULUX F 24 W	3	QTI 3x14/24 DIM	4008321 069719	360x40x21	74	3x1700
DULUX F 24 W	4	QTI 4x14/24 DIM	4008321 069955	360x40x21	97.6	4x1800
DULUX F 24 W	1	QTP-DL 1x18-24	40083211 17861	239x30x28	26	1x1700
DULUX F 24 W	2	QTP-DL 2x18-24	40083211 17885	239x40x28	49	2x1700
DULUX F 24 W	1	QTP-M 1x26-42	4008321 329134	103x67x31	25	1x1650
DULUX F 24 W	2	QTP-M 2x26-32	4008321 329158	123x79x33	48	2x1650
DULUX F 24 W	2	QTP-M 2x26-42/220-240 S	40083211 10022	123x79x33	54	2x1700
DULUX F 24 W	1	QT-ECO 1x18-24/220-240 S	40503006 38560	80x40x22	22.5	1x1500
DULUX F 24 W	1	QT-ECO 1x18-24/220-240 L	40503006 60417	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	40503008 070427	360x30x21	36	1x2900
DULUX F 36 W	2	QTI DALI 2x36 DIM	40503008 070885	423x30x21	69	2x2900
DULUX F 36 W	1	QTI 1x36 DIM	40503008 070625	360x30x21	36	1x2900
DULUX F 36 W	2	QTI 2x36 DIM	40503008 070555	425x30x21	69	2x2900
DULUX F 36 W	1	QTI 1x14/24/21/39 GII	4008321 383334	360x30x21	34	1x2750
DULUX F 36 W	2	QTI 2x14/24/21/39 GII	4008321 383396	360x30x21	66	2x2800
DULUX F 36 W	1	QTP-DL 1x36-40	40083211 17908	239x30x28	35	1x2800
DULUX F 36 W	2	QTP-DL 2x36-40	40083211 17922	280x40x28	68	2x2800
DULUX F 36 W	1	QTP-M 1x26-42	4008321 329134	103x67x31	35	1x2700
DULUX F 36 W	2	QTP-M 2x26-32	4008321 329158	123x79x33	68	2x2700
DULUX F 36 W	2	QT-M 2x26-42/220-240 S	40083211 10022	123x79x33	70	2x2700
DULUX S/E 5 W	1	QT-ECO 1x4-16/220-240 S	40503006 38584	80x40x22	7.5	1x250
DULUX S/E 5 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	7.5	1x250
DULUX S/E 5 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	80x40x22	12	2x250
DULUX S/E 5 W	1	DT-S/E 5-11/220-240 S	40083211 81459	75x55x34	7	1x250
DULUX S/E 5 W	1	DT-S/E 5-11/220-240 L	40083211 81473	89x40x45	7	1x250
DULUX S/E 7 W	1	QT-T/E 1x14-17/220-240 HE	4008321 327345	103x67x30	8	1x400
DULUX S/E 7 W	1	QT-ECO 1x4-16/220-240 S	40503006 38584	80x40x22	9	1x400
DULUX S/E 7 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	9	1x400
DULUX S/E 7 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	80x40x22	15	2x400
DULUX S/E 7 W	1	DT-S/E 5-11/220-240 S	40083211 81459	75x55x34	9	1x400
DULUX S/E 7 W	1	DT-S/E 5-11/220-240 L	40083211 81473	89x40x45	9	1x400
DULUX S/E 9 W	1	QTP-D/E 1x10-13	40083211 81572	93x58x29	9.5	1x600
DULUX S/E 9 W	2	QTP-D/E 2x10-13	40083211 81596	123x79x33	18	2x600
DULUX S/E 9 W	1	QT-ECO 1x4-16/220-240 S	40503006 38584	80x40x22	10	1x600
DULUX S/E 9 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	10	1x600
DULUX S/E 9 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	80x40x22	18	2x550
DULUX S/E 9 W	1	DT-S/E 5-11/220-240 S	40083211 81459	75x55x34	10.5	1x600
DULUX S/E 9 W	1	DT-S/E 5-11/220-240 L	40083211 81473	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	4008321 181572	93x58x29	14	1x900
DULUX S/E 11 W	2	QTP-D/E 2x10-13	4008321 181596	123x79x33	28	2x950
DULUX S/E 11 W	1	QT-ECO 1x4-16/220-240 S	40503006 38584	80x40x22	13	1x900
DULUX S/E 11 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	13	1x900
DULUX S/E 11 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	80x40x22	24	2x700
DULUX S/E 11 W	1	DT-S/E 5-11/220-240 S	4008321 181459	75x55x34	13.5	1x900
DULUX S/E 11 W	1	DT-S/E 5-11/220-240 L	4008321 181473	89x40x45	13.5	1x900
DULUX D/E 10 W	1	QTP-D/E 1x10-13	4008321 181572	93x58x29	12	1x600
DULUX D/E 10 W	2	QTP-D/E 2x10-13	4008321 181596	123x79x33	21	2x600
DULUX D/E 10 W	1	QT-ECO 1x4-16/220-240 S	40503006 38584	80x40x22	11.5	1x600
DULUX D/E 10 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	11.5	1x600
DULUX D/E 10 W	2	QT-ECO 2x5-11/220-240 S	40503008 21504	80x40x22	20	2x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 L	4008321 181497	95x40x64	12	1x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 C	4008321 181510	68x59x59	12	1x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 P	4008321 181534	72x59x59	12	1x600
DULUX D/E 13 W	1	QTP-D/E 1x10-13	4008321 181572	93x58x29	15	1x900
DULUX D/E 13 W	2	QTP-D/E 2x10-13	4008321 181596	123x79x33	29	2x900
DULUX D/E 13 W	1	QT-ECO 1x4-16/220-240 S	40503006 38584	80x40x22	14	1x850
DULUX D/E 13 W	1	QT-ECO 1x4-16/220-240 L	40503006 60370	150x22x22	14	1x850
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 L	4008321 181497	95x40x64	15.5	1x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 C	4008321 181510	68x59x59	15.5	1x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 P	4008321 181534	72x59x59	15.5	1x900
DULUX D/E 18 W	1	QTI DALI-T/E 1x18-57 DIM	4008321 060808	123x79x33	20	1x1200
DULUX D/E 18 W	2	QTI DALI-T/E 2x18-42 DIM	4008321 060822	123x79x33	38	2x1200
DULUX D/E 18 W	1	QTI-T/E 1x18-57 DIM	4008321 060860	123x79x33	20	1x1200
DULUX D/E 18 W	2	QTI-T/E 2x18-42 DIM	4008321 060846	123x79x33	38	2x1200
DULUX D/E 18 W	1	QTP-T/E 1x18	4008321 181701	103x67x31	19	1x1200
DULUX D/E 18 W	2	QTP-T/E 2x18	4008321 181619	123x79x33	38	2x1200
DULUX D/E 18 W	1	QT-ECO 1x18-21/220-240 S	40503007 94907	80x40x22	19	1x1150
DULUX D/E 18 W	2	QT-ECO T/E 2x18/220-240	40503008 03982	150x41x28	36	2x1150
DULUX D/E 18 W	1	DT-T/E 18/230-240 L	40503004 06404	95x40x64	20	1x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 C	40503004 21384	68x59x59	20	1x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 P	40503004 21421	72x59x59	20	1x1200
DULUX D/E 18 W XT	1	QTP-T/E 1x18	4008321 181701	103x67x31	19	1x1200
DULUX D/E 18 W XT	2	QTP-T/E 2x18	4008321 181619	123x79x33	38	2x1200
DULUX D/E 18 W XT	1	QTI DALI 1x18 DIM	40503008 70403	360x30x21	19	1x1200
DULUX D/E 18 W XT	2	QTI DALI 2x18 DIM	40503008 70526	425x30x21	38	2x1200
DULUX D/E 18 W XT	1	QTI 1x18 DIM	40503008 70601	360x30x21	19	1x1200
DULUX D/E 18 W XT	2	QTI 2x18 DIM	40503008 70960	425x30x21	38	2x1200
DULUX D/E 26 W	1	QTI DALI-T/E 1x18-57 DIM	4008321 060808	123x79x33	29	1x1800
DULUX D/E 26 W	2	QTI DALI-T/E 2x18-42 DIM	4008321 060822	123x79x33	56	2x1800
DULUX D/E 26 W	1	QTI-T/E 1x18-57 DIM	4008321 060860	123x79x33	29	1x1800
DULUX D/E 26 W	2	QTI-T/E 2x18-42 DIM	4008321 060846	123x79x33	56	2x1800
DULUX D/E 26 W	1	QTP-T/E 1x26-42, 2x26	4008321 537089	103x67x31	28	1x1750
DULUX D/E 26 W	2	QTP-T/E 1x26-42, 2x26	4008321 537089	103x67x31	54	2x1750
DULUX D/E 26 W	1	QTP-M 1x26-42	4008321 329134	103x67x31	27	1x1750
DULUX D/E 26 W	2	QTP-M 2x26-32	4008321 329158	123x79x33	53	2x1750
DULUX D/E 26 W	2	QT-M 2x26-42/220-240 S	4008321 1110022	123x79x33	54	2x1800
DULUX D/E 26 W	1	QT-ECO 1x26/220-240 S	4008321 065971	80x40x22	23.5	1x1600
DULUX D/E 26 W	2	QT-ECO T/E 2x26/220-240	40503008 04002	150x41x28	53	2x1750



Summary of lamp/ECG combinations

Lamp	Ip	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	4008321537089	103x67x31	28	1x1750
DULUX D/E 26 W XT	2	QTP-T/E 1x26-42, 2x26	4008321537089	103x67x31	54	2x1750
DULUX D/E 26 W XT	1	QTP-M 1x26-42	4008321329134	103x67x31	27	1x1750
DULUX D/E 26 W XT	2	QTP-M 2x26-32	4008321329158	123x79x33	53	2x1750
DULUX D/E 26 W XT	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1800
DULUX D/E 26 W XT	1	QT-ECO 1x26/220-240 S	4008321065971	80x40x22	23.5	1x1600
DULUX D/E 26 W XT	2	QT-ECO T/E 2x26/220-240	4050300804002	150x41x28	53	2x1750
DULUX T/E 11 W HE	1	QT-T/E 1x14-17/220-240 HE	4008321327345	103x67x30	13.5	1x830
DULUX T/E 11 W HE	2	QT-T/E 2x14-17/220-240 HE	4008321327369	103x67x30	26.2	2x830
DULUX T/E 14 W HE	1	QT DALI-T/E 1x14-17 DIM HE	4008321327383	123x79x33	17	1x1050
DULUX T/E 14 W HE	2	QT DALI-T/E 2x14-17 DIM HE	4008321327406	123x79x33	33	2x1050
DULUX T/E 14 W HE	1	QT-T/E 1x14-17/220-240 HE	4008321327345	103x67x30	17.1	1x1050
DULUX T/E 14 W HE	2	QT-T/E 2x14-17/220-240 HE	4008321327369	103x67x30	32.7	2x1050
DULUX T/E 17 W HE	1	QT DALI-T/E 1x14-17 DIM HE	4008321327383	123x79x33	21	1x1250
DULUX T/E 17 W HE	2	QT DALI-T/E 2x14-17 DIM HE	4008321327406	123x79x33	39	2x1250
DULUX T/E 17 W HE	1	QT-T/E 1x14-17/220-240 HE	4008321327345	103x67x30	16.8	1x1250
DULUX T/E 17 W HE	2	QT-T/E 2x14-17/220-240 HE	4008321327369	103x67x30	39.3	2x1050
DULUX T/E 13 W	1	QTP-D/E 1x10-13	4008321181572	93x58x29	15	1x900
DULUX T/E 13 W	2	QTP-D/E 2x10-13	4008321181596	123x79x33	29	2x900
DULUX T/E 13 W	1	QT-ECO 1x4-16/220-240 S	4050300638584	80x40x22	14	1x800
DULUX T/E 13 W	1	QT-ECO 1x4-16/220-240 L	4050300660370	150x22x22	14	1x800
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 L	4008321181497	95x40x64	15.5	1x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 C	4008321181510	68x59x59	15.5	1x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 P	4008321181534	72x59x59	15.5	1x900
DULUX T/E 18 W	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	20	1x1200
DULUX T/E 18 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	38	2x1200
DULUX T/E 18 W	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	20	1x1200
DULUX T/E 18 W	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	38	2x1200
DULUX T/E 18 W	1	QTP-T/E 1x18	4008321181701	103x67x31	19	1x1200
DULUX T/E 18 W	2	QTP-T/E 2x18	4008321181619	123x79x33	38	2x1200
DULUX T/E 18 W	1	QT-ECO 1x18-21/220-240 S	4050300794907	80x40x22	19	1x1150
DULUX T/E 18 W	2	QT-ECO T/E 2x18/220-240	4050300803982	150x41x28	36.5	2x1150
DULUX T/E 18 W	1	DT-T/E 18/230-240 L	4050300406404	95x40x64	20	1x1200
DULUX T/E 18 W	1	DT-T/E 18/230-240 C	4050300421384	68x59x59	20	1x1200
DULUX T/E 18 W	1	DT-T/E 18/230-240 P	4050300421421	72x59x59	20	1x1200
DULUX T/E 26 W	1	QTI DALI-T/E 1x18-57 DIM	4008321060808	123x79x33	29	1x1800
DULUX T/E 26 W	2	QTI DALI-T/E 2x18-42 DIM	4008321060822	123x79x33	56	2x1800
DULUX T/E 26 W	1	QTI-T/E 1x18-57 DIM	4008321060860	123x79x33	29	1x1800
DULUX T/E 26 W	2	QTI-T/E 2x18-42 DIM	4008321060846	123x79x33	56	2x1800
DULUX T/E 26 W	1	QTP-T/E 1x26-42, (2x26)	4008321537089	103x67x31	28	1x1750
DULUX T/E 26 W	2	QTP-T/E (1x26-42), 2x26	4008321537089	103x67x31	54	2x1750
DULUX T/E 26 W	1	QTP-M 1x26-42	4008321329134	103x67x31	27	1x1750
DULUX T/E 26 W	2	QTP-M 2x26-32	4008321329158	123x79x33	53	2x1750
DULUX T/E 26 W	2	QT-M 2x26-42/220-240 S	4008321110022	123x79x33	54	2x1800
DULUX T/E 26 W	1	QT-ECO 1x26/220-240 S	4008321065971	80x40x22	23.5	1x1600
DULUX T/E 26 W	2	QT-ECO T/E 2x26/220-240	4050300804002	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	QT-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

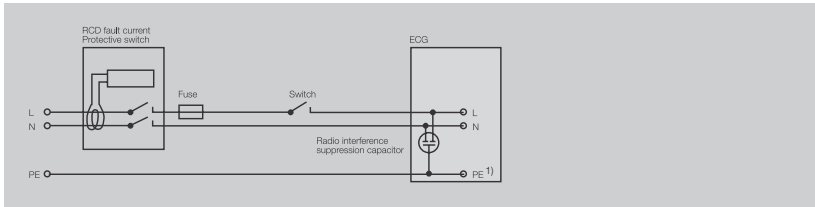


Summary of lamp/ECG combinations

POWERTRONIC®						
Lamp	lp	ECG type	EAN	L/W/H	System wattage in watts with ECG	
HCI-E/P, HCI-T	1	PTo 35/220-240	4008321 956323	133x77x48	43	
NAV-E, NAV-T, HCI-TT, HCI-E/P	1	PTo 50/220-240 3DIM	4008321 956347	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 959355	133x77x48	80	
NAV-E, NAV-T, HCI-TT, HCI-E/P	1	PTo 100/220-240 3 DIM	4008321 956361	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 956385	158x94x42	160	
HCI-TF, HCI-TC	1	PTi 20/220-240 S	4008321 353290	97x43x30	23	
	1	PTi 20/220-240 I	4008321 404763	204x50x32	23	
	1	PTi 20/220-240 B	4008321 391490	94x40x27	23	
HCI-T, HCI-E/P, HCI-TC, HCI-TF, HCI-PAR	1	PTi 35/220-240 S	4008321 073112	110x75x30	43	
	1	PTi 35/220-240 I	4008321 099488	155x83x32	43	
	1	PTi 35/220-240 B	4008321 123589	110x73x28	43	
	1	PTi 35/220-240 S MINI	4008321 955906	97x43x30	43	
	1	PTi 35/220-240 B MINI	4008321 955913	94x40x27	43	
	1	PTi 35/220-240 SNAP	4008321 955920	155x83x31	43	
	1	PT-FIT 35/220-240 S	4008321 386625	110x75x30	43	
	1	PT-FIT 35/220-240 I	4008321 377661	155x83x32	43	
	1	PT-FIT 35/220-240 B	4008321 498731	110x75x29	43	
	2	PTi 2x35/220-240 S	4008321 372642	165x90x32	86	
	2	PTi 2x35/220-240 I	4008321 372666	223x96x32	86	
HCI-T, HCI-TC, HCI-E/P	1	PT-FIT 50 220-240 S	4008321 648693	110x75x30	55	
	1	PT-FIT 50 220-240 I	4008321 648679	155x83x32	55	
	1	PT-FIT 50 220-240 B	4008321 648716	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 049629	110x75x30	80	
	1	PTi 70/220-240 I	4008321 099501	155x83x32	80	
	1	PTi 70/220-240 B	4008321 123565	110x73x28	80	
	1	PTi 70/220-240 SNAP	4008321 955937	155x83x31	80	
	1	PT-FIT 70/220-240 S	4008321 386649	110x75x30	80	
	1	PT-FIT 70/220-240 I	4008321 377685	155x83x32	80	
	1	PT-FIT 70/220-240 B	4008321 498717	110x75x29	80	
	2	PTi 2x70/220-240 S	4008321 910028	165x90x30	159	
	2	PTi 2x70/220-240 I	4008321 910042	223x96x32	159	
HCI-T, HCI-E/P, HQI E/P	1	PTi 100/220-240 S	4008321 926630	150x85x31	106	
	1	PTi 100/220-240 I	4008321 926654	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 188090	150x85x31	160	
	1	PTi 150/220-240 I	4008321 191535	212x96x33	160	

HALOTRONIC®						
Lamp	ECG type	EAN	L/W/H	System wattage in watts	Load range	Dimmer
Low-voltage halogen	HTI DALI 105/230-240 DIM	4008321 420633	170/44/34	111	35-105W	
	HTL 105/230-240	4008321 927019	170/44/34	111	35-105W	
	HTL 225/230-240	4008321 927026	170/44/34	234	50-225W	
	HTM 70/230-240	4050300 442310	108/52/33	74	20-70W	
	HTM 105/230-240	4050300 442334	108/52/33	111	35-105W	
	HTM 150/230-240	4050300 581415	153/54/36	157	50-150W	
	HTN 75/230-240 I	4008321 073037	104/33/22	79	20-75W	
	ET-PARROT 70/220-240 I	4008321 111593	128/38/31	74	20-70W	
	ET-PARROT 105/220-240 I	4008321 111579	128/38/31	111	35-105W	
	ET-PARROT 150/220-240 I	4008321 622563	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



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 PToS, 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 Ω .
(This corresponds to a 15 m long cable with a diameter of 1.5 mm² 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 Ω , the permitted values are reduced by 10%, and by 20% for a line impedance of 200 m Ω)



Inrush currents for ECGs measured at $U_N = 230 V_{AC}$

ECG	Ip/A	T _H /μs	Maximum no. of ECGs on circuit breakers		ECG	Ip/A	T _H /μs	Maximum no. of ECGs on circuit breakers	
			10 A	16 A				10 A	16 A
QUICKTRONIC® INTELLIGENT dimmable (DALI/DIM) for T5 and T8 fluorescent lamps					QUICKTRONIC® INTELLIGENT QTI				
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 2x14/24/21/39 GII	53	190	8	13
QTI (DALI) 1x35/49/80 DIM	30	225	12	19	QTI 2x28/54/35/49 GII	53	190	8	13
QTI (DALI) 1x36 DIM	25	175	17	28	QTI 2x35/49/80 GII	39	230	5	9
QTI (DALI) 1x58 DIM	25	175	17	28	QTI-DP 1x28/35/LED	24	230	17	28
QUICKTRONIC® T5 for HO (T5) fluorescent lamps									
QTI (DALI) 2x14/24 DIM	35	180	12	19	QTP5 1x14-35	24	230	17	28
QTI (DALI) 2x18 DIM	35	180	12	19	QTP5 1x24-39	24	230	17	28
QTI (DALI) 2x21/39 DIM	45	205	8	13	QTP5 1x49	24	230	17	28
QTI (DALI) 2x28/54 DIM	45	205	8	13	QTP5 1x54	40	200	12	19
QTI (DALI) 2x35/49 DIM	45	205	8	13	QTP5 1x80	40	200	12	19
QTI (DALI) 2x36 DIM	45	205	8	13	QTP5 2x14-35	40	200	12	19
QTI (DALI) 2x58 DIM	45	205	8	13	QTP5 2x24-39	40	200	12	19
QTI (DALI) 2x35/49/80 DIM	60	230	5	9	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 _H /μs	Maximum no. of ECGs on circuit breakers		ECG	Ip/A	T _H /μs	Maximum no. of ECGs on circuit breakers	
			10A	16A				10A	16A
QUICKTRONIC® DIMMABLE with 1-10 V interface for T8 fluorescent lamps					QUICKTRONIC® PROFESSIONAL for FC (T5) ring lamps				
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	QUICKTRONIC® for OSRAM DULUX® L				
HF 1x58/230-240 DIM	20	210	17	28	QTP-DL 1x18-24	13	320	17	28
QUICKTRONIC® PROFESSIONAL for T8 fluorescent lamps					QTP-DL 1x36-40	13	320	17	28
QTP8 1x18/230-240	14	140	36	59	QTP-DL 1x55 Gen II	24	230	17	28
QTP8 1x36/230-240	17	155	25	41	QUICKTRONIC® DALI and QUICKTRONIC® DIMMABLE with 1-10 V interface for T/E compact fluorescent lamps				
QTP8 1x58/230-240	20	210	17	28	QTP-DL 2x18-24	13	320	17	28
QUICKTRONIC® QT-FIT8 for T8 fluorescent lamps					QTP-DL 2x36-42	23	250	12	19
QT-FIT8 1x18	15	200	17	28	QTP-DL 2x55 Gen II	28	230	8	13
QT-FIT8 1x36	15	200	17	28	QUICKTRONIC® DALI-T/E 1x18-57 DIM				
QT-FIT8 1x58-70	15	200	17	28	QTi (DALI)-T/E 1x18-57 DIM	30	225	12	19
QT-FIT8 2x18	15	200	8	13	QUICKTRONIC® DALI-T/E 2x18-42 DIM				
QT-FIT8 2x36	28	230	8	13	QTi (DALI)-T/E 2x18-42 DIM	45	205	8	13
QT-FIT8 2x58-70	28	230	8	13					
QT-FIT8 3x18, 4x18	28	230	8	13					
QT-FIT8 3x36	28	220	8	13					



Inrush currents for ECGs measured at $U_N = 230 V_{AC}$

ECG	I_p/A	$T_H/\mu s$	Maximum no. of ECGs on circuit breakers		ECG	I_p/A	$T_H/\mu s$	Maximum no. of ECGs on circuit breakers																																					
			10A	16A				10A	16A																																				
QUICKTRONIC® MULTIWATT QT-M					DULUXTRONIC® for OSRAM DULUX® S/E, D/E, T/E with integrated lampholder																																								
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																																				
QTP-M 2x26-42/220-240 S	28	230	8	13	DT-T/E 18/230-240	3,5	590	15	25																																				
QUICKTRONIC® for OSRAM DULUX® S/E, D/E and T/E					POWERTRONIC®																																								
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																																				
QUICKTRONIC® ECONOMIC					PTi 150/220-240 3DIM																																								
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																																				
QUICKTRONIC® for FM (T2) fluorescent lamps					PTi 2x70/220-240 S/I																																								
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																																								
					PT-FIT 50/220-240 S/I/B																																								
					PT-FIT 70/220-240 S/I/B																																								
					By using EBN-OS the number of POWERTRONIC® ECGs per circuit breaker can be increased significantly. See also page 6.48.																																								
					<table border="1"> <thead> <tr> <th>ECG type</th> <th>No. without EBN-OS on 16 A circuit breaker, type B</th> <th>Approx. no. with EBN-OS on 16 A circuit breaker, type B</th> </tr> </thead> <tbody> <tr><td>PTi 20/220-240</td><td>33</td><td>82</td></tr> <tr><td>PTi 35/220-240 MINI</td><td>28</td><td>70</td></tr> <tr><td>PTi 35/220-240</td><td>26</td><td>65</td></tr> <tr><td>PTi 70/220-240</td><td>13</td><td>32</td></tr> <tr><td>PTi 100/220-240</td><td>8</td><td>20</td></tr> <tr><td>PTi 150/220-240</td><td>7</td><td>17</td></tr> <tr><td>PTi 2x35/220-240</td><td>13</td><td>32</td></tr> <tr><td>PTi 2x70/220-240</td><td>7</td><td>17</td></tr> <tr><td>PT-FIT 35/220-240</td><td>26</td><td>65</td></tr> <tr><td>PT-FIT 50/220-240</td><td>13</td><td>32</td></tr> <tr><td>PT-FIT 70/220-240</td><td>13</td><td>32</td></tr> </tbody> </table>					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
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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
HALOTRONIC®		
HTI DALI 105	23	38
HTI DALI 150	10	16
HTL 105	23	38
HTL 225	11	18
HTM 70	37	59
HTM 105	23	38
HTM 150	16	26
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	I _p /A	T _H /µs (measured at 50% I _{peak})	Maximum no. of ECGs on circuit breakers	
			10A	16A

OPTOTRONIC® control gear – 12V

OTe 120/220-240/12 P	22	35	3	6
OTe 15/220-240/12 P	17	15 ¹⁾	3	1)
OTe 30/220-240/12 P	26	370 ¹⁾	3	1)
OTe 60/220-240/12 P	35	420	4	8

OPTOTRONIC® control gear – 24V

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

OPTOTRONIC® control gear – 350mA

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

OPTOTRONIC® control gear – 500mA

OT 42/220-240/500 E	33	180	7	12
OTe 90/220-240/4x500 E	40	300	6	10

OPTOTRONIC® control gear – 700mA

OT 18/200-240/700 DIM	15	170	30	48
OT 90/220-240/700 LT E	40	330 ¹⁾	3	1)
OT 42/220-240/700 E	33	180	7	12
OTe 35/220-240/700	10	250	30	50

OPTOTRONIC® control gear – 1-10 V interface

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

OPTOTRONIC® control gear – DALI/3DIM

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 ¹⁾	3	1)
OT 90/220-240/700 3DIMLT E	40	330 ¹⁾	3	1)

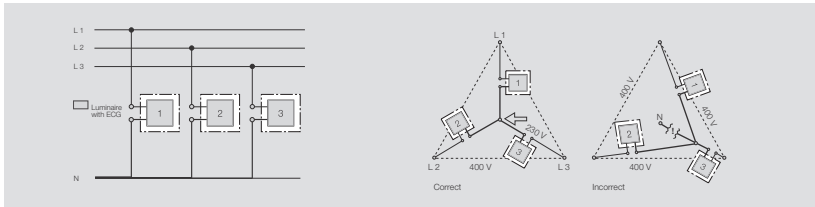
OPTOTRONIC® control gear – LEDset

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 ¹⁾	3	1)
OT 90/220-240/700 LT E	40	330 ¹⁾	3	1)

¹⁾ 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

Overvoltages/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 Ⓞ) 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 ¹⁾
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® ³⁾	275 V	176 V
OPTOTRONIC®	— ⁴⁾	— ⁴⁾
POWERTRONIC® ²⁾	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® ³⁾	< 0.5 s	< 0.5 s
OPTOTRONIC®	— ⁴⁾	— ⁴⁾
POWERTRONIC® ²⁾	—	—

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 $\cos \varphi$ 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 $\cos \theta$.

$$\cos \theta = \frac{P_{\text{eff}}}{P_{\text{app}}} = \cos \varphi \cdot \cos \theta$$

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 $\cos \theta$ of more than 0.95 and therefore a power factor $\cos \theta$ 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 mm².

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:

OPTOTRONIC® control gear – 12V	
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
OPTOTRONIC® control gear – 24V	
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
OPTOTRONIC® control gear – 350mA	
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
OPTOTRONIC® control gear – 500mA	
OT 42/220-240/500 E	2 m
OTe 90/220-240/4x500 E	10 m

OPTOTRONIC® control gear – 700mA	
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
OPTOTRONIC® control gear – 1-10V interface	
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
OPTOTRONIC® control gear – DALI/3DIM	
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
OPTOTRONIC® control gear – LEDset	
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, hifi 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. 9.13 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 6.49) or dimming modules (see page 6.53). 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. 6.74).

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 6.54).

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

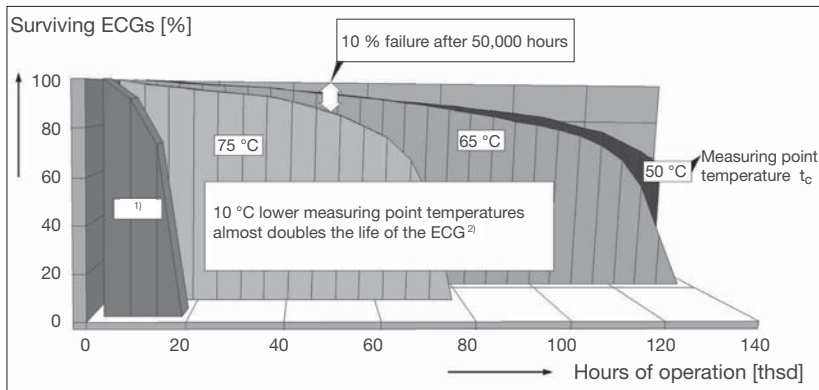
The failure rate of electronic components depends not only on the component specification and quality but also very considerably on the operating temperature. OSRAM's ECGs are designed so that at the maximum permissible ECG temperature (t_c max.) a failure rate of fewer than 2 per thousand ECGs per 1000 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%

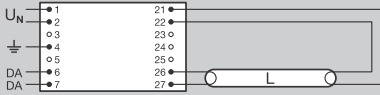
Subject to change without notice. Errors and omission excepted. This catalog information supersedes all previous information.

Special applications, such as operation in corrosive atmospheres, strong vibrations, impermissible voltage conditions etc., may necessitate further protection measures.

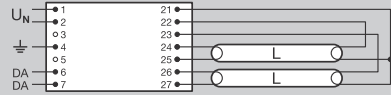


1) If the maximum permissible temperature at the t_c point is exceeded the failure rate may increase dramatically.
2) For more precise information please refer to the product data sheet

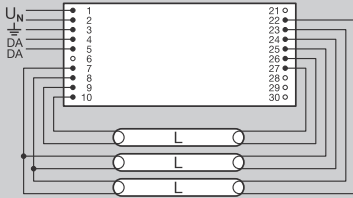
Wiring diagrams for dimmable (DALI) ECGs



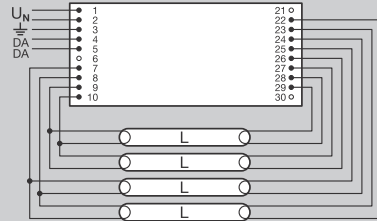
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QTi DALI 1x28/54 DIM, QTi DALI 1x35/49/80 DIM,
QTi DALI 1x18 DIM, QTi DALI 1x36 DIM,
QTi DALI 1x58 DIM



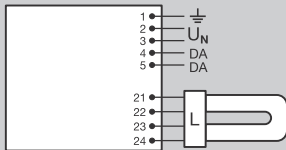
QTi DALI 2x14/24 DIM, QTi DALI 2x21/39 DIM,
QTi DALI 2x28/54 DIM, QTi DALI 2x35/49 DIM,
QTi DALI 2x35/49/80 DIM, QTi DALI 2x18 DIM,
QTi DALI 2x36 DIM, QTi DALI 2x58 DIM



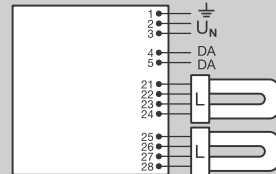
QTi DALI 3x14/24 DIM
QTi DALI 3x18 DIM



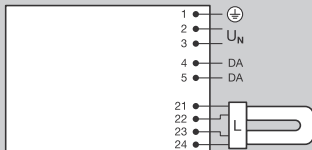
QTi DALI 4x14/24 DIM
QTi DALI 4x18 DIM



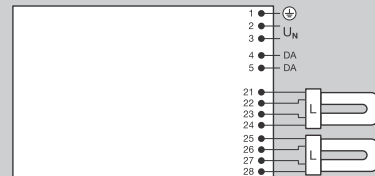
QTi DALI-T/E 1x18-57 DIM



QTi DALI-T/E 2x18-42 DIM

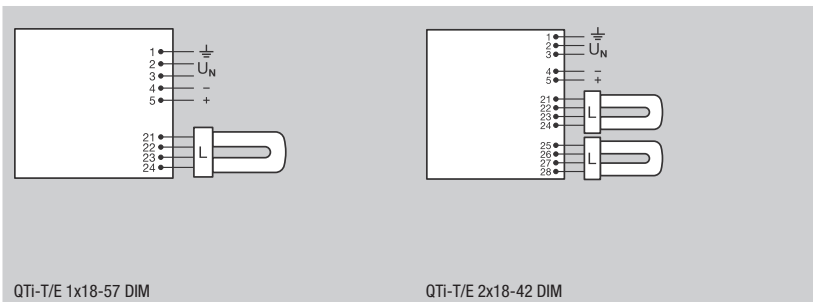
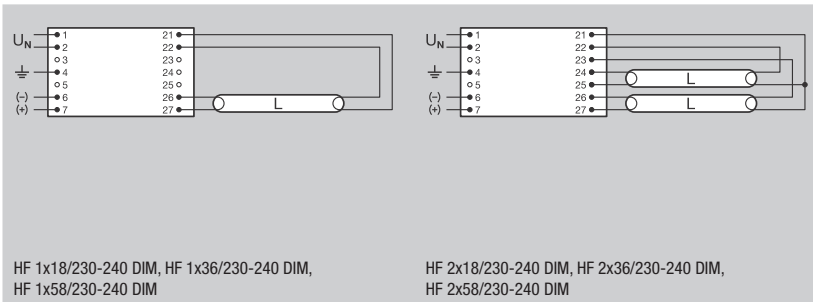
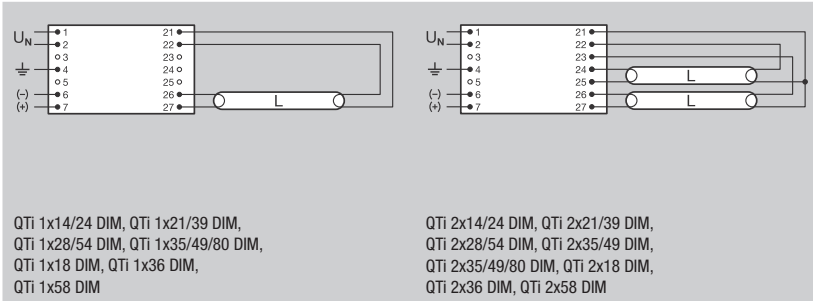
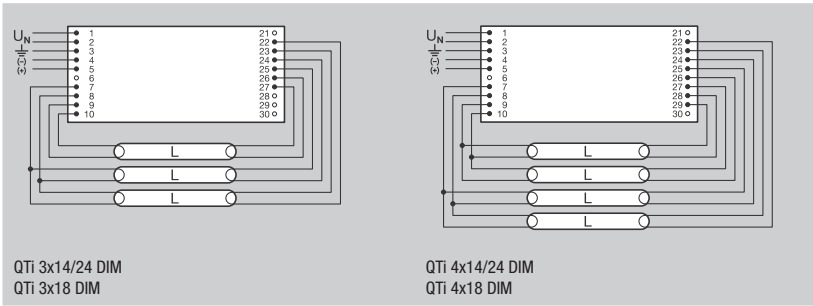


QT DALI-T/E 1x14-17 DIM HE

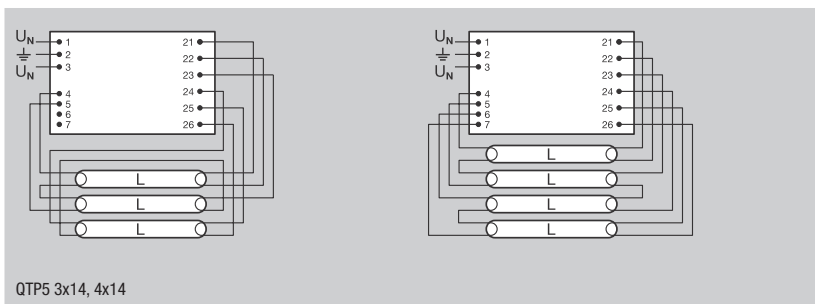
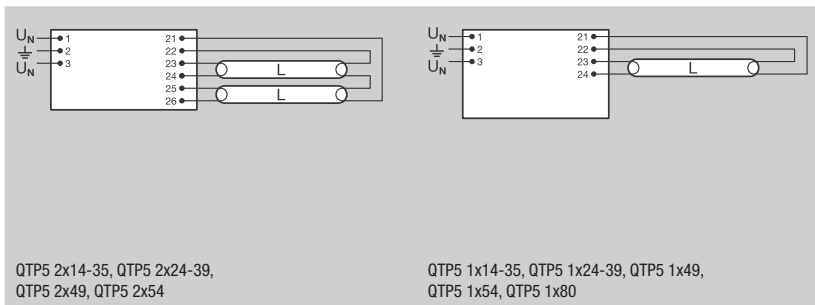
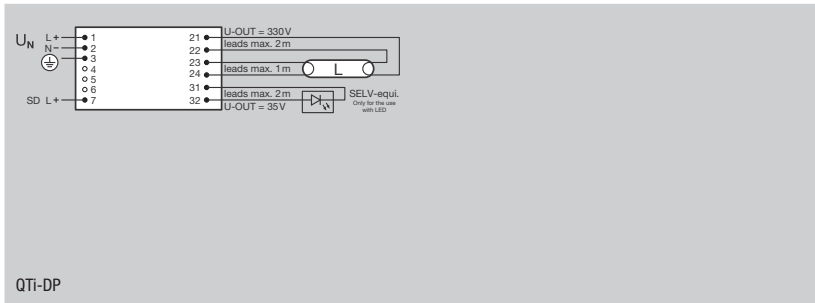
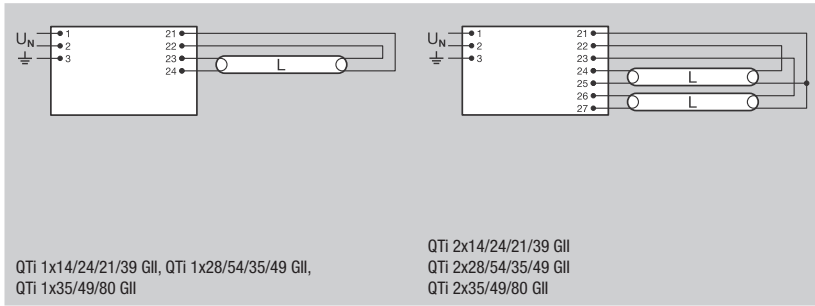


QT DALI-T/E 2x14-17 DIM HE

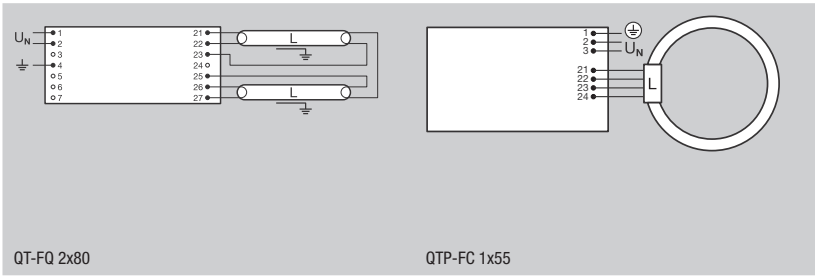
Wiring diagrams for dimmable (1-10 V) ECGs



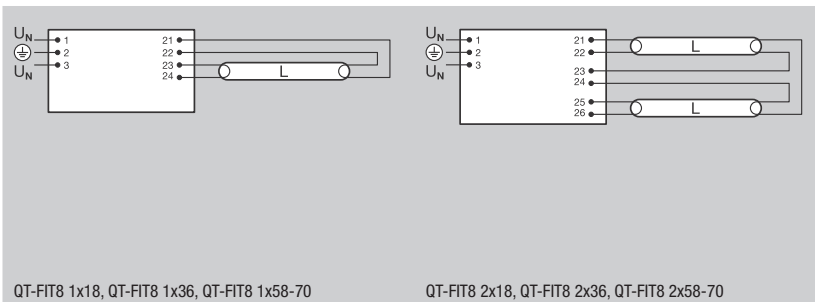
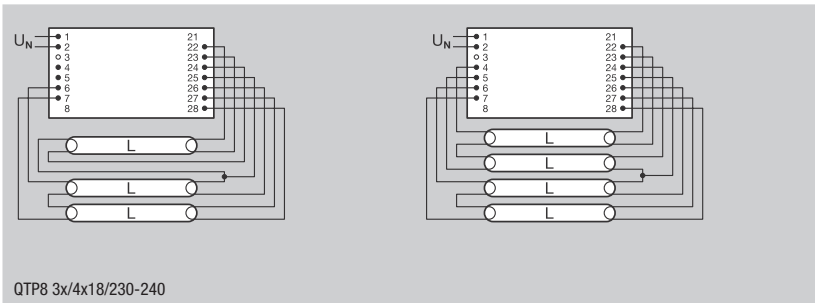
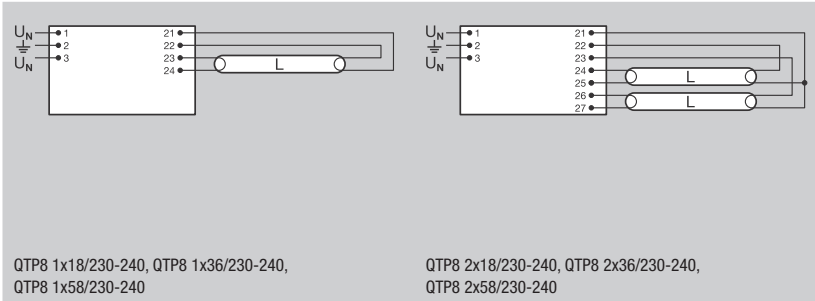
Wiring diagrams for non-dimmable (T5) ECGs



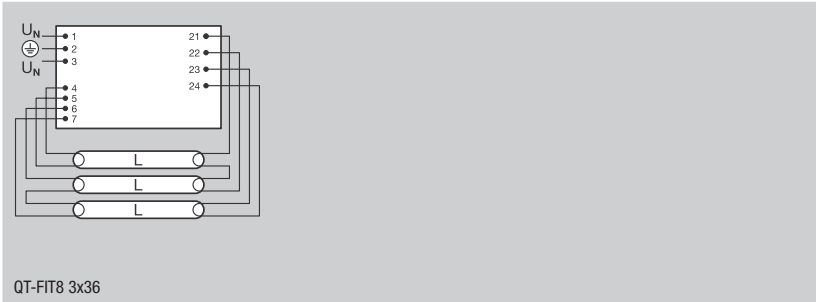
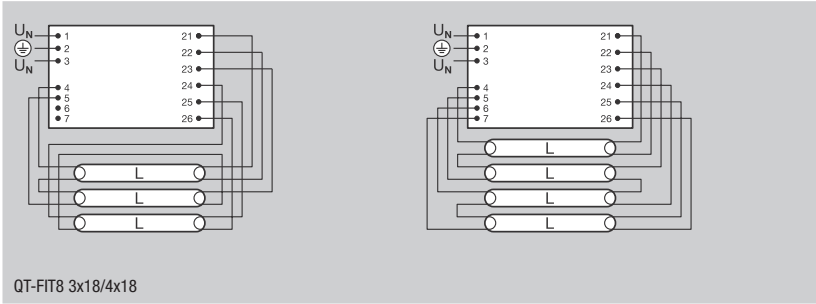
Wiring diagrams for non-dimmable (T5) ECGs



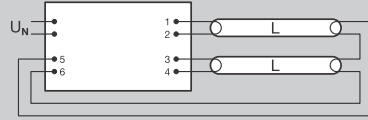
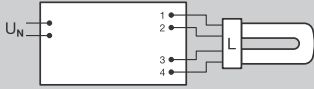
Wiring diagrams for non-dimmable (T8) ECGs



Wiring diagrams for non-dimmable (T8) ECGs

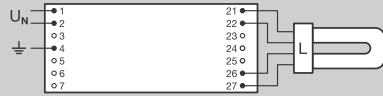
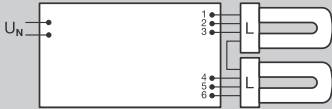


Wiring diagrams for non-dimmable (CFL) ECGs



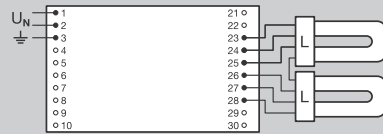
QT-ECO 1x18-21/220-240 S, QT-ECO 1x18-24/220-240 L,
 QT-ECO 1x18-24/220-240 S, QT-ECO 1x26/220-240 S,
 QT-ECO 1x4-16/220-240 L, QT-ECO 1x4-16/220-240 S

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

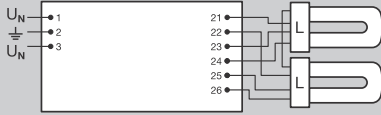


QTP-DL 1x55 GII

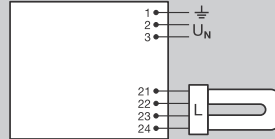
QTP-DL 2x18-24
 QTP-DL 2x36-40



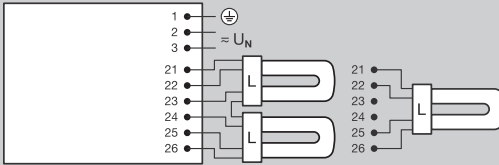
Wiring diagrams for non-dimmable (CFL) ECGs



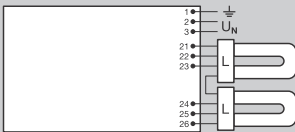
QTP-DL 2x55 GII



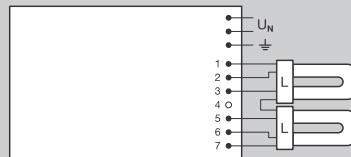
QTP-D/E 1x10-13



QTP-T/E 1x26-42, 2x26
QTP-T/E 1x18, 2x18



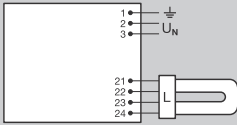
QTP-D/E 2x10-13



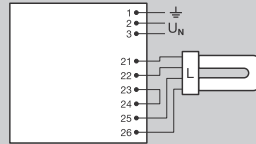
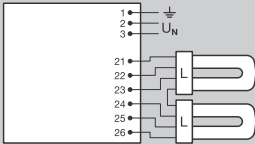
QT-M 2x26-42/220-240 S



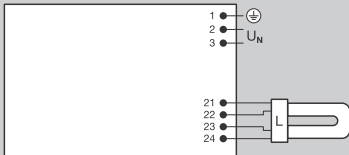
Wiring diagrams for non-dimmable (CFL) ECGs



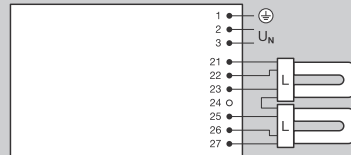
QTP-M 1x26-42 S



QTP-M 2x26-32 S



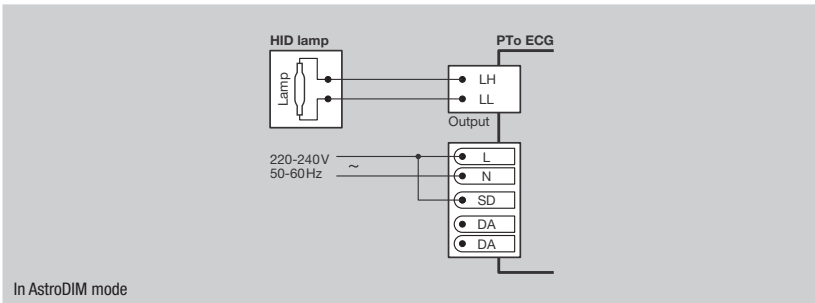
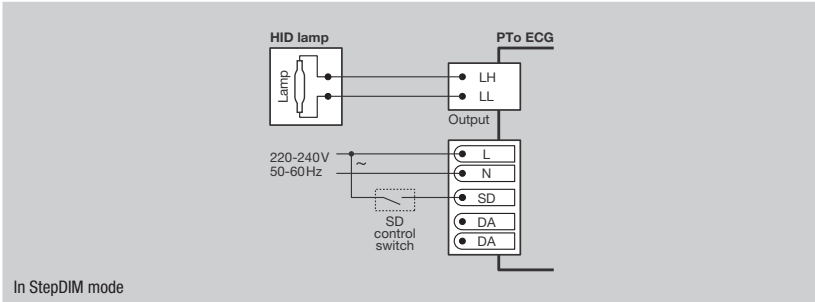
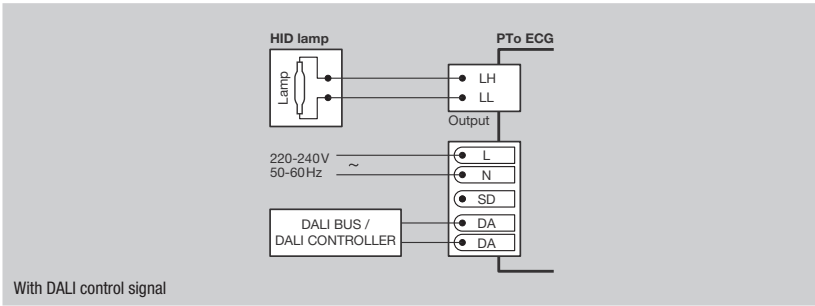
QT-T/E 1x14-17 HE



QT-T/E 2x14-17 HE



Wiring diagram for PTo ... 3DIM



Overview of ECGs (cable lengths in meters, wiring by PIN)

		Wiring													
		sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	Type					
QUICKTRONIC® INTELLIGENT DALI/1-10 V interface															
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					
		Wiring													
		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
QUICKTRONIC® (DALI)															
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
		Wiring													
		sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type				
QUICKTRONIC® DALI/1-10 V interface for T/E (T4/Ø 12 mm) fluorescent lamps															
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				
		Wiring													
		sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	Type					
QUICKTRONIC® INTELLIGENT															
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				
QUICKTRONIC® DE LUXE DIMMABLE												
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		
QUICKTRONIC® for T5 lamps												
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		
Wiring												
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
Wiring												
sequence PIN 21 PIN 22 PIN 23 PIN 24 PIN 25 PIN 26 PIN 27 PIN 28 Type												
QUICKTRONIC® PROFESSIONAL												
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 ¹⁾	21-31	1	1	1.5	1.5	1.5	1.5	1.5	1.5		W1	
QUICKTRONIC® FIT 8												
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	-	-		-	
Wiring												
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	-	-	-



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
QUICKTRONIC® for compact fluorescent lamps										
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
	Wiring sequence	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	Type
QUICKTRONIC® for compact fluorescent lamps										
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
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps										
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
QUICKTRONIC® for T2 (FM) lamps										
QT-ECO FM 1x6-8	1-4	1	1	0.5	0.5					
QT-ECO FM 1x11-13	1-4	1	1	0.5	0.5					



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

M:1 Type Metalluk
S:1 Stelvio MRT15
W:1 Type WAGO 250
W1: Type WAGO 251 mini
W2: Type WAGO 251

Errors and omissions are exempt.

6.123



Index and general information

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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 F

Unit of measurement: lumen [lm]

Luminous flux F is all the radiated power emitted by a light source evaluated with the spectral sensitivity of the eye and the photometric radiation equivalent km.

Luminous intensity I

Unit of measurement: candela [cd]

Generally speaking, a light source emits its luminous flux F in different directions and at different intensities.

Luminous intensity is the luminous flux radiated in a particular direction (solid angle Ω).

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 m².

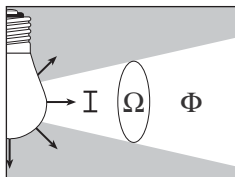
Luminance L

Unit of measurement: candela per square meter [cd/m²]

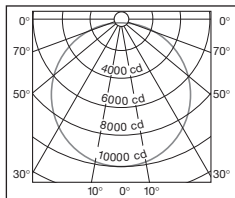
The luminance L of a light source or an illuminated area is a measure of the impression of brightness.

Light and radiation

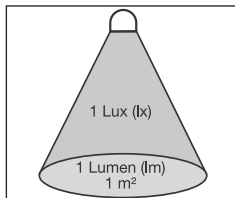
Light is taken to mean the electromagnetic radiation that the human eye perceives as brightness, in other words that part of the spectrum that can be seen. This is the radiation between 380 and 780 nm, a tiny fraction of the known spectrum of electromagnetic radiation.



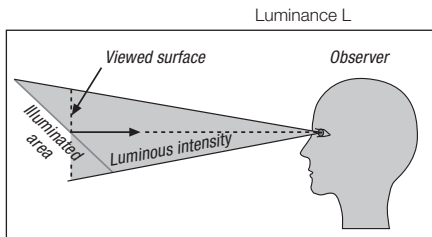
Luminous I intensity is a measure of the luminous flux F emitted in solid angle Ω .



Polar diagram



Illuminance E



Luminance L

The most important photometric formulae:

Luminous intensity I [cd]
Illuminance E [lx]

Luminous flux [lm] Solid angle Ω [sr]
Luminous flux falling on area [lm] Illuminated area [m ²]

Luminance L [cd/m ²]
Luminous efficacy η [lm/W]

Luminous intensity [cd] Viewed luminous area [m ²]
Generated luminous flux [lm] Electrical power consumed [W]

Luminous efficacy ☒

Unit of measurement: lumen per watt [lm/W]

Luminous efficacy ☒ 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" (Ra).

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 Ra 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 Ra value of 100 displays all colors exactly as they appear under the reference light source. The lower the Ra 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.

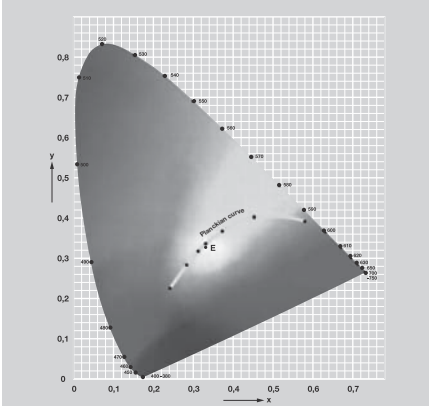
Average life

The average life of a lamp is an average of the lives of individual lamps operated under standard conditions (50% failure = average rated life).

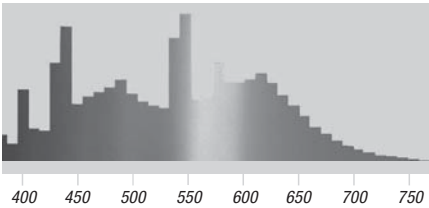
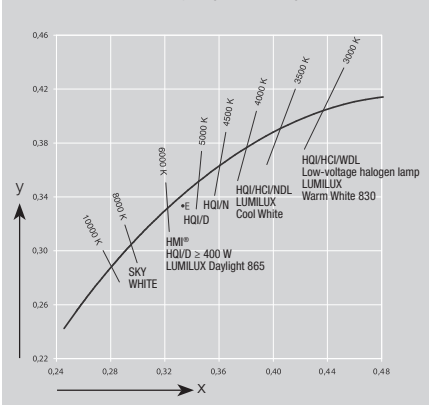
Service life

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[®] fluorescent lamp.

The radiation is very evenly distributed over the entire visible range.

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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 lamps¹⁾. Since the start of 2010 LED lamps that can be operated in standardised 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
Lightcycle: www.lightcycle.de
German Ministry for the Environment, Nature and Reactor Safety: www.bmu.de
German Central Association of Electrical Engineering and the Electronics Industry: www.zvei.org
Stiftung Elektro-Altgeräte Register: www.stiftung-ear.de
German Environment Office: www.uba.de
European Lamp Companies Federation: www.elcfed.org

RoHS Directive: 2002/95/EC Greatly reduced mercury content

This EU directive has defined the use of certain hazardous substances since July 1, 2004. 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 21.01.2006 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 240 V.

For CE labeling see notes on page 7.10
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 down. 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.

1. 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).

2. 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	EVERSUN	INSECTA	OUT KIT
4arXS HSD	FC	LED MOOD STONE	PARATHOM
ACCUTRONIC	FH	LEDtag	PICOLINE
aluPAR	FLATLITE	LIGHT@DAY	PLANON
AQUALED	FLORALUX	LINEARlight-DRAGON	PLANTALUX
AQUALED DRAGON	FLORA-P	LINEARlight Flex	PLANTASTAR
AS	FLORASET	LINESTRA	POWERBALL
BELLALUX	FLUORA	LINEX	POWERBALL HCI
BELLALUX SOFT	FM	LiteGen	POWERSTAR
BILUX	FQ	LITEPACK	POWERSTAR HCI
BILUX ALLSEASON	GIGANT	Lok-it!	POWERSTAR HQI
BILUX-AS	Golden DRAGON	LUMILINE	POWERTRONIC
BILUX HALOROAD	HALOLINE	LUMILUX	PrevaLED
BIOLUX	HALOLUX	LUMILUX BRIK	PURITEC
BoxLED	HALOLUX CERAM	LUMILUX DUO	QUICKTRONIC
CENTRA	HALOMAX	LUMILUX ECOLINE	RUBYSTAR
CHIP control	HALONEA	LUMILUX FLATLITE	SharXS
CIRCOLUX	HALONESTRA	LUMILUX INTERNA	SICCATHERM
COINlight	HALOPIN	LUMILUX SPLIT	SIDELED
COINLIGHT-OSTAR	HALOROAD	LUMINESTRA	SIG
CONCENTRA	HALOSPOT	LUMISTAR	SILVERSTAR
COOL BLUE	HALOSTAR	LUMISTICK	SIRATEC
COPILOT	HALOSTAR STARLITE	LUNETTA	SIRIUS
DECOPIN	HALOTHERM	MARKERlight	SLIMLITE
DECOSPOT	HALOTRONIC	MINISTAR	SQUARE
DECOSTAR	HALOTRONIC MOUSE	MINIWATT	STUDIOLINE
DECOSTAR MULTISPOT	HBO	MINIXEN	SUPERLUX
DEOS	HCI	MOODSPOT	SUPRATEC
DIADEM	HLX	NAV	THERATHERM
DOT-it	HMI	NIGHT BREAKER	TOPLED
DRAGONchain	HMP	NIGHT RACER	Touch DIM
DRAGONeye	HNS	OPTOTRONIC	TRUCKSTAR
DRAGONpuck	HPL	OSRAM ALLSEASON	ULTRA-VITALUX
DRAGONSTAR	HQI	OSRAM DULLUX	ULTRAMED
DRAGONtape	HQL	OSRAM ECOPACK	VIALOX
DRAGON-X	HQV	OSRAM HALOPAR	VIP
DULUX BRIK	HSD	OSRAM HALOROAD	VITALUX
DULUX COMPACTLINE	HSR	OSRAM LUMINESCENT	XBO
DULUX SENSOR	HTI	OSRAM NATURA	XENAELECTRON
DULUXTRONIC	HTM MOUSE	OSRAM SNAPIN LITE	XENARC
DULED	HWL	OSRAM SOFTLITE	X-RACER
ENDURA	HXP	OSTAR	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 = ±15°
	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
	RCM (Regulatory Compliance Mark)
	Do not cover








Symbols in the tables

Symbols used in all chapters



 Power in W	 Base
 Voltage in V	 Average period of use/life
 Current in A	 Burning position
 Operating frequency in Hz	 Light color
 Color temperature in K	 Color
 Luminous flux in lm at 35 °C	 Color rendering index
 Luminous flux in lm	 Protection class
 Luminous intensity in cd	 Dimmable
 Power factor/wavelength	 Control
 Diameter d in mm	 Number of control outputs
 Diameter d ₁ in mm	 Ambient temperature range in °C
 Length l in mm	 Type of protection
 Length l ₁ in mm	 Rated current in mA
 Length l ₁ max. in mm	 Standard pack in pcs.
 Width b in mm	 Fig. no.
 Height h in mm	Halogen lamps
 Light center length (LCL) in mm	 Fuse, quick-acting, in A
 Spacing a in mm	Compact fluorescent lamps
 Focal length a in mm	 Length l max. in mm
 Beam angle in °	 Length l max. to IEC in mm
	 Length l ₁ max. to IEC in mm

 Length l ₂ max. in mm
 Rated number of switching cycles
 Luminous flux in lm 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 l ₂ in mm
 Length l ₃ in mm
 Diameter to IEC in mm

Discharge lamps

 Max. diameter d in mm
 Aperture luminous flux b in lm

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
--

For more than a century, OSRAM has led the way.

Still to this day, we stand apart from the rest. Unique in our ability to provide the entire value chain - from components and light engines to electronic control gear, light management systems, luminaires and complete lighting solutions.

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