OEM LED Catalogue

April 2014

PHILIPS

Highlights

LED Systems (Indoor)
Future-proof, high quality and progressive LED Technology

LED Systems (Outdoor)
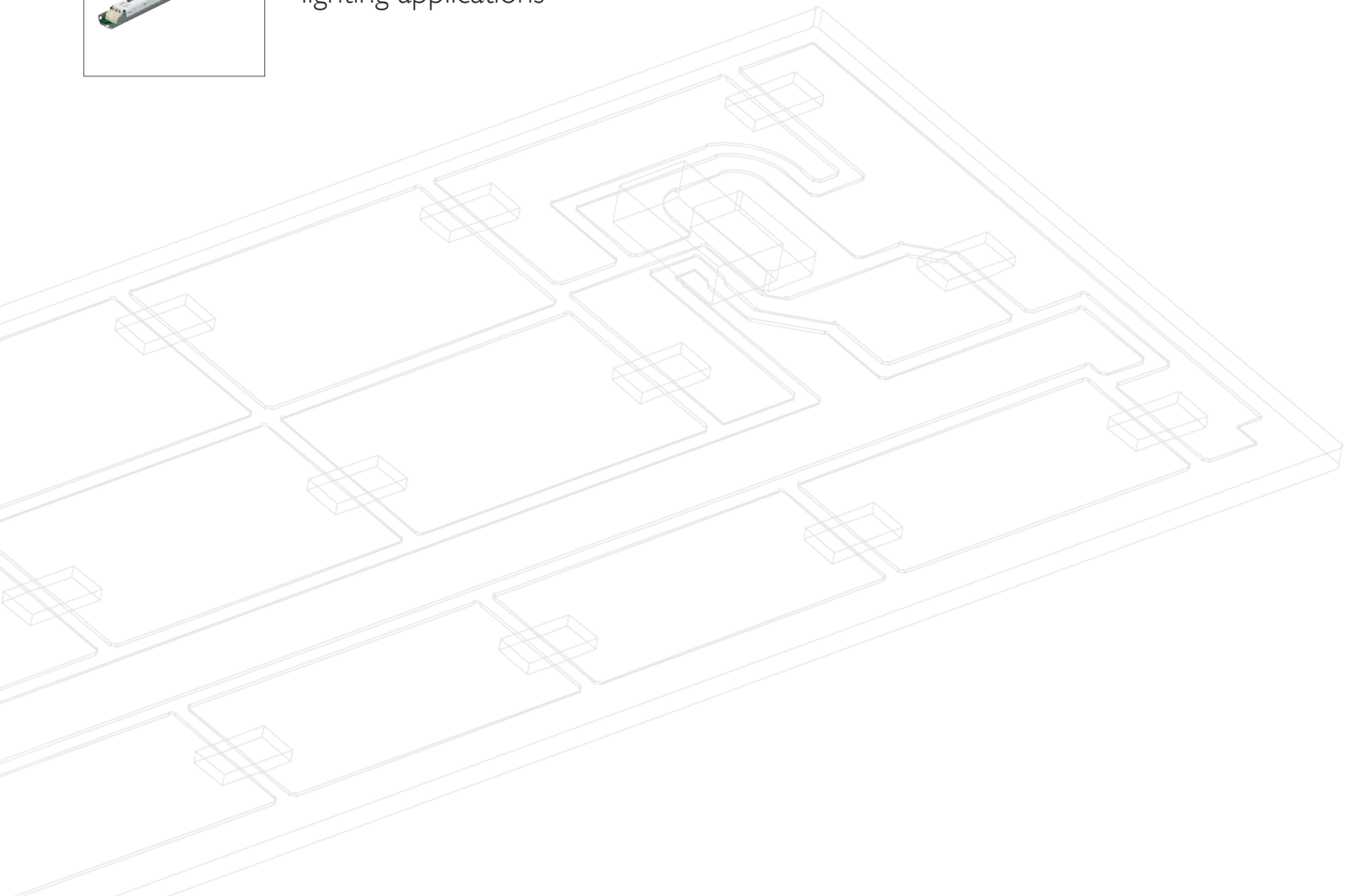Reliable, future-proof and progressive LED technology

LED Drivers (Indoor)
Professional drivers for indoor lighting applications

Welcome

Welcome to the OEM LED Catalogue for the Asia Pacific region –
April 2014 issue. As the global leader in sustainable lighting solutions
we strive to develop innovations that not only allow you to integrate leading
LED technology into your fixtures, but also work with you to stay at the
forefront of the lighting industry and bring meaningful innovations to your
customers. The feedback from you, our OEM partners on this complete and
dedicated catalogue of Philips LED portfolio has been extremely positive
and with the fast pace of development we plan to bring this catalogue to you
every 6 months. In addition we have also launched a new OEM Asia website
that gives you access to a vast array of important and up to date information
on the latest LED technology including Design-In guides, technical data
sheets, photometrics and more.

Visit now: www.philips.com/OEMasia

To ensure we provide you with the best LED lighting expertise and
understanding, we have installed the 'Design-In' engineering capacity within
the Philips organization at the local and regional levels. These 'Design-In'
experts will guide you in choosing the best LED products that suit your
needs and work with you to integrate this into your fixtures. Please contact
your local Philips OEM representative to find out more.

I look forward to working with you again in 2014.

Chalermpong Darongsuwan
Head of OEM Channel, Growth Markets
(Asean & Pacific, Japan, India, Russia &
Central Asia, Middle East & Turkey, Africa)

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01. LED systems (modules + drivers + cables)

02. LED Drivers

NUVENTIX

AVC

Wisefull

SUNON

Alux·Luxar
Reflektoren

ACL
REFLEKTOREN

JORDAN

Nata

Value-Added Reseller

FUTURE
Lighting Solutions
Making LED Lighting Solutions Simple

Rijksmuseum
Amsterdam, the Netherlands
In close cooperation with the Rijksmuseum, Philips took on the detailling, fabrication and implementation of the light racks and lighting design, which has a strong focus on the visitor experience and the conservation of the artworks. The Philips Fortimo LED Spotlight Module Tight Beam is combined with LUXEON S LEDs to maintain the desired rich warmth, rendering pinks, reds, ochres and yellows brilliantly whilst the green and blue tones stand out equally as well.

01 Fortimo LED systems

High quality, future-proof and smart LED technology

Indoor

01. LED systems
(modules + drivers + cables)

Just released!

NEW!

Class-leading Performance -
Fortimo Down Light Module DLMGen5

Gen5 stands for 5th generation of upgrades of the Fortimo LED DLM range. For the Fortimo LED DLM Gen5 upgrade, Philips has chosen to use the Philips LumiLeds Luxeon M inside. This upgrade enables to make higher lumen package available without changing the design of the module. As energy efficacy advances in LEDs are made and new bins become available, these are incorporated into the Fortimo LED Modules, offering continuously higher efficacies, without changing the dimensions, shape or lumen output of the system. With this upgrade, Fortimo LED DLM remains the ideal LED system solution for high-quality, low-glare downlights.

Breakthrough LED Value -
CertaFlux Down Light System DLM-FS

Philips DLM-FS module takes the final barriers out of LED downlight conversion. The innovative design with integrated heat sink and reflector makes OEM Design-In simple and allows for a fast and efficient development. The breakthrough system costs means that DLM-FS fixtures get the edge over conventional competitors and demonstrate clear value over CFLni downlighting solutions.

Economical Linear LED System - CertaFlux LED Line

The CertaFlux LED Line is a new and economic solution consisting of linear white light LED modules with high value, and good energy efficiency for replacement for T8 linear fluorescent lamps. These cost effective systems are completed with the EBL drivers, which is optimized for a fast return on investment. The ease of design-in enables a fast development of luminaire. The CertaFlux is a smart choice in LED lighting solutions with high efficiency and good reliability.

Next Generation Shop Lighting - Fortimo LED SLM Gen4

The Fortimo LED SLM portfolio will be taken to the next level. The central promise of the Fortimo concept is constant innovation within a fixed format. The 4th generation of SLM product will provide again a significant efficacy improvement by using new ChipOnBoard LED technology. Fortimo LED SLM Gen4 Module efficacies can go beyond 130Lm/W.

Intense Whites - Rich Colours - Fortimo LED SLM CrispWhite

This new unique LED solution embraces, within one light source, a combination of clean, crisp white light with deep, rich colours. White appears vivid and bright, whilst the other colours appear warm, saturated and intense, resulting in an extremely convincing and attractive display.

Fortimo Down Light Module
DLM Gen5

NEW!
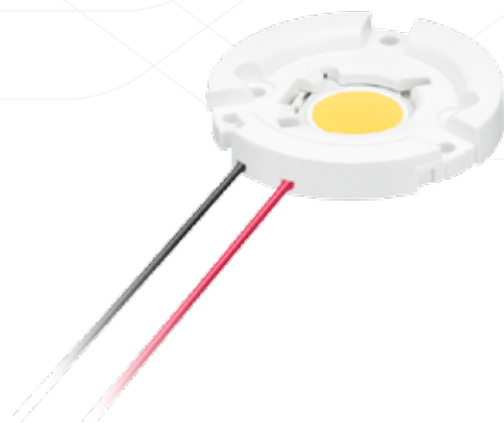
Indoor | Downlight systems

Fortimo LED DLM Gen5 further reduces total cost of ownership by offering higher efficiency, as well as enables to address to high ceiling applications with 5000 lm package. With this upgrade, Fortimo LED DLM remains the ideal LED system solution for high-quality, low-glare downlights.

Applications:
For use in luminaires for:
- Offices
- Public buildings
- Hotel lobbies and receptions
- Retail

Features:
- Lumen packages ranging from 1100 to 5000 lm, with the choice of 3000 or 4000 K
- System offering with 5-year warranty
- CE, ENEC, RoHS and REACH-compliant

Benefits:
- Industry-leading energy efficiency with high-quality white light as well as easy glare control due to diffused light
- Addressing to high ceiling applications with 5000 lm package
- Wide choice of high-quality LED drivers with different form factors and dimming protocols

What is new in the Fortimo LED DLM Gen5 range?

The Philips LumiLeds Luxeon M have been increasing the performance since the introduction of the first generation of Fortimo LED DLM in 2008. In the Fortimo LED DLM Gen5 range this is translated into the following changes.
- Lower power consumption which enables lower power drivers to be compatible
- Up to 9% higher module efficiency
- Availability of 5000 lm version for high ceiling applications.

Philips Xitanium LED drivers

Philips has a full and ever increasing range of Xitanium LED drivers for indoor lighting modules. This range is characterized by high efficiency, light weight, central DC operation, SELV and hot wiring possibility. Xitanium LED drivers come in fixed light output or DALI dimmable (TD) and Trailing edge (TE) dimming versions. Xitanium LED 25/17/12W drivers have the ultimate flexibility in that they can be simply altered from being an independent driver to a built in driver.

Product specification

With Philips Xitanium 12W driver fixed output	Light output	Module power	Module efficacy	System efficacy	CCT	CRI	Color consitency	B50L70 @ Tc life	Tc life LED module	Input voltage	Power factor	Order code
	lm	W	lm/W	lm/W	K	Ra	SDCM	hours	°C	V	Pf	(12NC)
Fortimo LED DLM 1100 11W/830 Gen5	1100	11	100	79	3000	>80	3	50,000	70	220-240	> 0.9	9290 008 72203
Fortimo LED DLM 1100 10W/840 Gen5	1100	10	110	87	4000	>80	3	50,000	70	220-240	> 0.9	9290 008 72303

With Philips Xitanium 25W driver fixed output	Light output	Module power	Module efficacy	System efficacy	CCT	CRI	Color consitency	B50L70 @ Tc life	Tc life LED module	Input voltage	Power factor	Order code
	lm	W	lm/W	lm/W	K	Ra	SDCM	hours	°C	V	Pf	(12NC)
Fortimo LED DLM 2000 21W/830 Gen5	2000	21	95	81	3000	>80	3	50,000	70	220-240	> 0.9	9290 008 72403
Fortimo LED DLM 2000 19W/840 Gen5	2000	19	105	90	4000	>80	3	50,000	70	220-240	> 0.9	9290 008 72503

With Philips Xitanium 50W driver fixed output	Light output	Module power	Module efficacy	System efficacy	CCT	CRI	Color consitency	B50L70 @ Tc life	Tc life LED module	Input voltage	Power factor	Order code
	lm	W	lm/W	lm/W	K	Ra	SDCM	hours	°C	V	Pf	(12NC)
Fortimo LED DLM 3000 32W/830 Gen5	3000	32	94	81	3000	>80	3	50,000	70	220-240	> 0.9	9290 008 72603
Fortimo LED DLM 3000 29W/840 Gen5	3000	29	103	89	4000	>80	3	50,000	70	220-240	> 0.9	9290 008 72703

With Philips Xitanium 50W driver fixed output	Light output	Module power	Module efficacy	System efficacy	CCT	CRI	Color consitency	B50L70 @ Tc life	Tc life LED module	Input voltage	Power factor	Order code
	lm	W	lm/W	lm/W	K	Ra	SDCM	hours	°C	V	Pf	(12NC)
Fortimo LED DLM 5000 55W/830 Gen5	5000	55	91	80	5000	>80	3	50,000	70	220-240	> 0.9	929000876106
Fortimo LED DLM 5000 50W/840 Gen5	5000	50	100	87	5000	>80	3	50,000	70	220-240	> 0.9	929000876206

Driver and cable combination	A	B	C	12NC
Xitanium 12W 0.3-1A 16V I 230V	✓	✗	✓	9290 006 59303
Xitanium 17W 0.3-1A 24V TD/I 230V	✓	✗	✓	9290 008 64103
Xitanium 25W 0.3-1 A 36V I 230V	✓	✓	✓	9290 008 33703
Xitanium 25W 0.3-1A 36V TD/I	✓	✓	✓	9290 008 63703
Xitanium 25W 0.3-1A 36V TD/Is	✓	✗	✓	9290 004 04803
Xitanium 36W LH 0.3-1A 48V I 230V	✓	✓	✓	9290 008 38903
Xitanium 36W/s 0.3-1A 48V 230V	✓	✓	✓	9290 008 39003
Xitanium 50W 0.3-1A 62V 230V	✓	✓	✓	9290 006 36303
Xitanium 50W 0.3-1A 62V TD/TE 230V	✓	✓	✓	9290 006 61203
Xitanium 50W LH 0.3-1A 62V TD/TE/I 230V	✓	✓	✓	9290 006 17103
Xitanium 50W SH 0.3-1A 62V I 230V	✓	✓	✓	9290 006 17403
Xitanium 50W SH 0.3-1A 62V TD/TE/I 230V	✓	✓	✓	9290 006 17203
Xitanium 50W/s 0.3-1A 62V 230V	✓	✓	✓	9290 006 36403
Xitanium 75W SH 0.3-1A 110V I 230V	✓	✓	✓	9290 008 53803
Xitanium EM 3W 50mA 50V 3H 230V (emergency driver)	✓	✓	✓	9290 006 32503

retail   office   hospitality   supermarkets

For further information visit the website:

www.philips.com/OEMasia

Fortimo Down Light System
DLM Integrated

Indoor | Downlight systems

A new generation of downlight modules that is fully backward compatible with existing DLM fixtures, heatsinks and reflectors, and future-proof with the DLM product family. This module has an integrated driver inside the module thus making it the simplest solution for LED downlight 1100lm and 2000lm applications. Importantly this solution offers the fastest payback to OEM and end-users.

Applications:
• Lobbies
• Public areas
• Corridors
• General lighting

Features:
• Now comes in an integrated driver module version
• Best in lumen per dollar
• Future Proof
• 1100lm and 2000lm, 3000K, 4000K, and 5000K

Benefits:
• Created for ease of Design-In for OEMs
• Low investment for OEMs, fast payback
• Use existing DLM fixtures for this & future versions

Product specification

	Light output	System power	System efficacy	Correlated color temperature	Color rendering index	Lifetime	Order code
	lm	W	lm/W	K	Ra	Hrs (L70B50)	(12NC)
Fortimo DLM-Int 1100lm 15W/830 220-240V	1100	15	73	3000	80	25,000	929000818380
Fortimo DLM-Int 1100lm 14W/840 220-240V	1100	14	79	4000	80	25,000	929000818480
Fortimo DLM-Int 1100lm 13W/850 220-240V	1100	13	85	5000	80	25,000	929000818780
Fortimo DLM-Int 2000lm 28W/830 220-240V	2000	28	71	3000	80	25,000	929000818580
Fortimo DLM-Int 2000lm 27W/840 220-240V	2000	27	74	4000	80	25,000	929000818680
Fortimo DLM-Int 2000lm 25W/850 220-240V	2000	25	80	5000	80	25,000	929000818880

* The lifetime of the module depends on the heat-sink designed by the OEM. For more details consult the Design-In Guide
1. at Tcase of 70°C

retail   office   hospitality   supermarkets

Fortimo Down Light System
LED Disk Gen4

Indoor | Downlight systems

Featuring the newest energy-efficient LED technology, the Fortimo LED disk modules are easy to design-in, thanks to the integrated driver and built-in beam angle, and it combines a long lifetime with excellent warm light quality at very affordable cost. Their small form factor offers luminaire makers maximum freedom of design.

Applications:
- Ideal for replacing halogen, CFL or incandescent solutions in various applications:
- Hospitality, healthcare and cruise ship applications: corridors, service areas, lobbies, lounges, restaurants, reception areas, waiting rooms
- Retail applications: corridors, changing rooms
- Office applications: corridors, meeting rooms

Features:
- Integrated driver and dimmable
- High quality light with color rendering index of 80
- Built-in beam angle 85 degrees
- Available in warm white and cool white
- Longer lifetime
- Dimmable version available for LED Disk G3 (leading edge)

Benefits:
- Small LED module – easy to use, freedom of design
- Compact form factor allows miniaturization
- Superior light quality and performance from affordable LED module
- High energy efficiency with a long lifetime

Product specification

Type	Lumen output*	Wattage	Efficacy module and driver	Correlated color temperature	Color consistency	Color rendering index	Input volt-age	Power factor	Total harmonic distortion	Lifetime (B50L70)[1]	Order code
	lm	W	lm/W	K	SDCM	Ra	V	Pf	%	hours	(12NC)
Fortimo LED Disk 800lm/827 dim 230V G3	800	11.7	68	2700	5	80	220-240	>0.9	<32	25,000[1]	929000844108
Fortimo LED Disk 800lm/830 dim 230V G3	800	11.7	68	3000	5	80	220-240	>0.9	<32	25,000[1]	929000844208
Fortimo LED Disk 850lm/840 dim 230V G3	850	11.2	76	4000	5	80	220-240	>0.9	<32	25,000[1]	929000844308
Fortimo LED Disk 900lm/850 dim 230V G3	900	11.7	77	5000	5	80	220-240	>0.9	<32	25,000[1]	929000844480
Fortimo LED Disk 800lm 827 230V G4	800	11.6	69	2700	5	>80	220-240	0.9	≤40	25,000[1]	929000891980
Fortimo LED Disk 800lm 830 230V G4	800	11.6	69	3000	5	>80	220-240	0.9	≤40	25,000[1]	929000892080
Fortimo LED Disk 850lm 840 230V G4	850	11.6	73	4000	5	>80	220-240	0.9	≤40	25,000[1]	929000892180
Fortimo LED Disk 900lm 850 230V G4	900	11.6	78	5000	5	>80	220-240	0.9	≤40	25,000[1]	929000892280

* variation in input voltage may lead to change in lumen output.
[1.] at Tcase of 70°C

retail   office   hospitality   supermarkets

For further information visit the website:

www.philips.com/OEMasia

CertaFlux Down Light System
DLM-FS L3+

NEW!

Indoor | Downlight systems

Philips DLM-FS module takes the final barriers out of LED downlight conversion. The innovative design with integrated heat sink and reflector makes OEM Design-In simple and allows for a fast and efficient development. The breakthrough system costs means that DLM-FS fixtures get the edge over conventional competitors and demonstrate clear value over CFLni down lighting solutions.

12 products – endless possibilities
The DLM-FS portfolio is currently available in 4 Inch and 6 Inch ceiling cutout and in 3000K, 4000K and 5000K color temperatures.

Applications:
- Office: Meeting rooms, entries, receptions, building facilities
- Hospitality: Corridors, functional areas
- Retail: Circulation areas, back of house, toilets

Features:
- Integrated Philips 220-240v driver
- Integrated heat-sink which acts as a primary reflector
- Integrated diffuser
- Two sizes , fitting many existing downlight cutout sizes
- 4'' (Ø120mm), 600lm or 1000lm
- 6'' (Ø170mm), 1000lm or 2000lm
- Available in 3000K, 4000K and 5000K
- 15,000 and 25,000 hours lifetime versions available

Benefits:
- OEMs only need to add rim & accessories while still able to differentiate in design
- Lowest investment for OEMs, fast payback
- Fastest way for OEMS to build an LED downlight

Fixture Concepts using DLM-FS
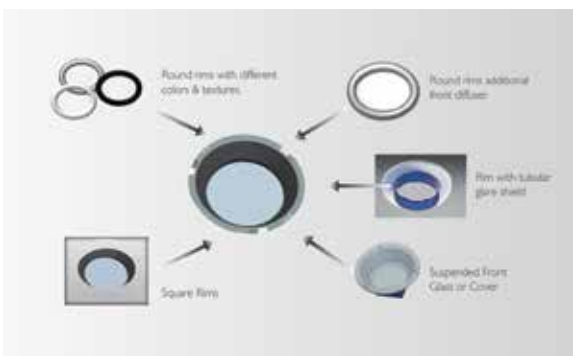
Product specification

12NC Code	Light output	CCT	CRI	Input voltage	Frequency	Wattage Typical	Beam Angle	Lifetime (B50L70)	Size, fits to ceiling cutout	Optimum Ambient Temp	Order code
	lm	K	Ra	VAC	HZ	(@ 230v AC 50Hz)v	FWHM	Hrs			(12NC)
DLM-FS 4" 600/830	600	3000	80	220-240	50/60	9	98°	15,000	4"	25°C	929000888980
DLM-FS 4" 600/840	600	4000	80	220-240	50/60	9	98°	15,000	4"	25°C	929000889080
DLM-FS 4" 600/850	600	5000	80	220-240	50/60	9	98°	15,000	4"	25°C	929000889180
DLM-FS 4" 1000/830	1000	3000	80	220-240	50/60	14	98°	15,000	4"	25°C	929000872880
DLM-FS 4" 1000/840	1000	4000	80	220-240	50/60	14	98°	15,000	4"	25°C	929000872980
DLM-FS 4" 1000/850	1000	5000	80	220-240	50/60	14	98°	15,000	4"	25°C	929000873080
DLM-FS 6" 1000/830	1000	3000	80	220-240	50/60	14	98°	15,000	6"	25' C	929000889280
DLM-FS 6" 1000/840	1000	4000	80	220-240	50/60	14	98°	15,000	6"	25' C	929000889380
DLM-FS 6" 1000/850	1000	5000	80	220-240	50/60	14	98°	15,000	6"	25' C	929000889480
DLM-FS 6" 2000/830	2000	3000	80	220-240	50/60	28	98°	15,000	6"	25' C	929000873180
DLM-FS 6" 2000/840	2000	4000	80	220-240	50/60	27	98°	15,000	6"	25' C	929000873280
DLM-FS 6" 2000/850	2000	5000	80	220-240	50/60	27	98°	15,000	6"	25' C	929000873380

Complete portfolio also available in 25K hours lifetime.

retail   office   hospitality   supermarkets

For further information visit the website:

www.philips.com/OEMasia

CertaFlux Down Light System
DLM-FS L2+

NEW!

Indoor | Downlight systems

This system allows OEMs to make downlight fixtures with a high degree of differentiated designs. And because the components are designed with cost in mind the OEM can effectively make a competitive luminaire for their customers.

The DLM-FS module would be integrated into a downlight fixture that can be used in a variety of indoor down lighting applications such as found commonly in hotel lobbies, schools, meeting rooms, restaurants and cafes, etc.

The product portfolio covers a lumen range of 1000 lm and 2000lm with color temperatures of 3000K, 4000K, and 5000K.

Applications:
Downlights in
- Retail shops
- Super & Hyper markets
- Offices
- Hotel lobbies & meeting rooms

Features:
- Bare Level 2 PCB LED module with a separate driver
- Optimized for cost
- Efficiency levels surpassing conventional CFLs

Benefits:
- Enables OEMs to create very cost competitive downlight fixtures
- Using Philips LED components helps OEMs add value and differentiate their portfolio offer.

Product specification

Certaflux Downlight System	Light output	CRI	CCT	Input voltage	Frequency	Wattage (@230v AC 50Hz)	Lifetime	Order code
	Typ	Ra	K	V	Hz		B50L70	(12NC)
DLM-FS-A L2+ 1000/830	1000	80	3000	220-240	50/60	14	15K - 25K* hours	9290 008 78980
DLM-FS-A L2+ 1000/840	1000	80	4000	220-240	50/60	14	15K - 25K* hours	9290 008 79080
DLM-FS-A L2+ 1000/850	1000	80	5000	220-240	50/60	14	15K - 25K* hours	9290 008 79180
DLM-FS-A L2+ 2000/830	2000	80	3000	220-240	50/60	28	15K hours	9290 008 79280
DLM-FS-A L2+ 2000/840	2000	80	4000	220-240	50/60	28	15K hours	9290 008 79380
DLM-FS-A L2+ 2000/850	2000	80	5000	220-240	50/60	28	15K hours	9290 008 79480
DLM-FS-E L2+ 2000/830	2000	80	3000	220-240	50/60	26	25K hours	9290 008 79780
DLM-FS-E L2+ 2000/840	2000	80	4000	220-240	50/60	26	25K hours	9290 008 79880

* The lifetime of the module depends on the heat-sink designed by the OEM, and can be improved up to 25K hours. For more details consult the Design-In Guide.

For further information visit the website:

www.philips.com/OEMasia

Fortimo Spot Light Module
SLM Gen4

NEW!

Indoor | Spotlight systems

The Fortimo LED SLM portfolio will be taken to the next level. The central promise of the Fortimo concept is constant innovation within a fixed format. The 4th generation of SLM product will provide again a significant efficacy improvement by using new ChipOnBoard LED technology. Fortimo LED SLM Gen4 Module efficacies can go beyond 130Lm/W.

Applications:
- Retail: shop windows, wall-washing, accent and display lighting, track lighting, mini-downlighting, mini floodlighting
- Hospitality: lobbies, reception areas, restaurants, bars, elevators
- Recreation: museums, galleries, theaters and other public places
- Office: corridors, working space, receptions, meeting rooms

Features:
- Light quality and minimum maintenance
- Available in multiple CCT and CRI versions
- Excellent lumen maintenance
- Long lifetime: 50,000 hrs
- Perfect color consistency
- SDCM of <3
- Full portfolio available

Benefits:
- No re-lamping, minimum maintenance
- Reduced energy costs, thanks to improved efficacy
- Enabling passive cooling up to 3000lm.
- Fully backwards compatible with SLM Gen3

What's new in Fortimo LED SLM Generation 4?

- Chip-On-Board (COB) technology, enabling amazing system efficiencies of over 100 lm/W
- Extended Tc up to 85°C possible
- New lower power driver combinations available
- Smaller LES enabling narrow beam

Product specification

Type	LES	Light output	Module power	Module efficacy	System efficacy	Correlated color temperature	Color rendering index	Lumen maintenance @50 k hrs	Tc life module	Order code
	mm	lm	W	lm/W	lm/W	K	Ra	%	°C	(12NC)
Fortimo LED SLM 1100lm 827 L9 G4	9	1010	11	95	82	2700	82	70	75	TBA
Fortimo LED SLM 1100lm 830 L9 G4	9	1090	11	102	89	3000	82	70	75	9290 009 01306
Fortimo LED SLM 1100lm 840 L9 G4	9	1150	11	108	94	4000	82	70	75	9290 009 01406
Fortimo LED SLM 1100lm 927 L13 G4	13	980	10	97	84	2700	97	70	75	TBA
Fortimo LED SLM 1100lm 830 L13 G4	13	1260	10	124	108	3000	82	70	75	9290 009 01606
Fortimo LED SLM 1100lm 840 L13 G4	13	1410	10	139	121	4000	82	70	75	9290 009 01706
Fortimo LED SLM 2000lm 830 L13 G4	13	1970	18	110	96	3000	82	70	75	9290 009 01806
Fortimo LED SLM 2000lm 840 L13 G4	13	2220	18	124	108	4000	82	70	75	9290 009 01906
Fortimo LED SLM 2000lm 927 L13 G4	13	1540	18	86	75	2700	97	70	75	9290 009 02006
Fortimo LED SLM 2000lm 930 L13 G4	13	1590	18	89	78	3000	97	70	75	9290 009 02106
Fortimo LED SLM 2000lm 940 L13 G4	13	1730	18	97	84	4000	97	70	75	9290 009 02206
Fortimo LED SLM 3000lm 830 L15 G4	15	3060	26	118	103	3000	82	70	75	9290 009 02306
Fortimo LED SLM 3000lm 840 L15 G4	15	3270	26	126	110	4000	82	70	75	9290 009 02406
Fortimo LED SLM 3000lm 927 L15 G4	15	2390	26	92	80	2700	97	70	75	9290 009 02506
Fortimo LED SLM 3000lm 930 L15 G4	15	2470	26	95	83	3000	97	70	75	9290 009 02606
Fortimo LED SLM 3000lm 940 L15 G4	15	2680	26	103	90	4000	97	70	75	9290 009 02706
Fortimo LED SLM 4500lm 830 L19 G4	19	4860	42	115	100	3000	82	70	75	9290 009 02806
Fortimo LED SLM 4500lm 840 L19 G4	19	5200	42	123	107	4000	82	70	75	9290 009 02906
Fortimo LED SLM 4500lm 927 L19 G4	19	3790	42	90	78	2700	97	70	75	9290 009 03006
Fortimo LED SLM 4500lm 930 L19 G4	19	3930	42	93	81	3000	97	70	75	9290 009 03106
Fortimo LED SLM 4500lm 940 L19 G4	19	4270	42	101	88	4000	97	70	75	9290 009 03206

Module Type	LED Driver	Order code (12NC)
SLM 1100lm	Xitanium 20W/m 0.15-0.5A 48V 230V	9290 008 93806
	Xitanium 25W LH 0.3-1A 36V I 230V	9290 008 33703
	Xitanium 25W LH 0.3-1A 36V TD/Is 230V	9290 008 63703
SLM 2000 & 3000lm	Xitanium 36W/m 0.3-1A 48V 230V	9290 008 81806
	Xitanium 36W/s 0.3-1A 48V 230V	9290 008 39003
	Xitanium 36W LH 0.3-1A 48V I 230V	9290 008 38903
	Xitanium 36W LH 0.3-1A 48V TD/I 230V	9290 008 70806
SLM 4500lm	Xitanium 50W 0.7-1.5A 44V 230V	9290 008 71908
	Xitanium 50W LH 0.7-1.5A 48V TD/I 230V	9290 008 63803

retail   hospitality   supermarkets

Zhaga

Rijksmuseum
Amsterdam, the Netherlands

In close cooperation with the Rijksmuseum, Philips took on the detailing, fabrication and implementation of the light racks (designed by Wilmotte & Associés and Arup, engineered by Bronnenberg), further enhancing the design and customising the LED lighting solutions. The light racks feature 3,800 fixtures that house the Philips Fortimo LED Spotlight Module Tight Beam and LUXEON S LEDs from Philips Lumileds inside.

The light racks also feature no less than 1.8 km of Fortimo strips for uplighting powered via Xitanium LED drivers.

Painting "Nachtwacht" by Rembrandt van Rijn

Fortimo Spot Light Module
SLM Tight Beam

Indoor | Spotlight systems

The brand new product SLM Tight Beam enables narrow beams (< 10 deg) in combination with very compact reflector design, thanks to its small Light Emitting Surface (LES). It delivers industry-leading punch to enable a high center beam intensity. Its uniform and sharp beam pattern creates a crisp single shadow which highly enhances the contrast of the merchandise. This makes it highly suited for retail and hospitality applications.

Applications:

- Retail: shop windows, wall-washing, accent and display lighting, track lighting, mini floodlighting
- Hospitality: lobbies, reception areas, restaurants, bars, elevators
- Recreation: museums, galleries, theaters and other public places

Features:

- High color rendering up to 85
- Tight color consistency: <3 SDCM
- Excellent lumen maintenance: 70% at 50,000 hrs at Tc 75°C
- Long lifetime: 50,000 hrs
- Color temperature: 3000 K

Benefits:

- More attractive and desirable merchandise due to **extremely high punch** enabled by a small light emitting surface
- Allows compact luminaire design, provide high Central Beam Candela power to have merchandise look at its best
- No re-lamping, minimum maintenance
- High lumen/Watt efficacy performance of 67 on module level
- Closer illumination possible thanks to minimized UV and IR

Product specification

Type	Light output	Module Power	Module Efficacy	Correlated color temperature	Color rendering index	Lumen maintenance @50 k hrs	Initial color consistency	Tc life	B50L70 @ max Tc life
	lm	W	lm/W	K	Ra	%	SDCM	°C	hours
Fortimo LED SLM 1100 17 W/827 L9 G2	1100	16.5	67	2700	85	70	3	75	50,000
Fortimo LED SLM 1100 17 W/830 L9 G2	1100	16.5	67	3000	85	70	3	75	50,000
Fortimo LED SLM 1100 19 W/930 L9 G2	1100	18.0	61	3000	93	70	3	75	50,000
Fortimo LED SLM 1100 19 W/840 L9 G2	1100	13.0	85	4000	85	70	3	75	50,000

Product Description		Housing	Built-in	Independent	Dimming	12V	SELV	EOC codes	Order code (12NC)
SLM 1100/TB[1]	Xitanium 25 W 0.3-0.7 A 36 V I 230 V	Linear housing	✓	✓	NO	✓	✓	8727900 900965 00	9290 006 00203
	Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V	Linear housing	✓	✓	YES:TE	✓	✓	8727900 907308 00	9290 006 00303
	Xitanium 25 W 0.3-1 A 36 V TD/I 230 V	Linear *	✓	✓	YES:TD	✓	✓	8727900 914344 00	9290 006 00403
	Xitanium 25 W 0.3-1 A 36 V TD/Is 230 V	Linear small **	✓	✓	YES:TD	✗	✓	8727900 914351 00	9290 006 85803

Cable recommendation	A	B	C	D	E
Fortimo LED SLM 1100 17 W/830 L9 G2	+	+	+	+	+

A: Fortimo LED SLM Cable 60 cm   **12NC:** 929000619203
B: Fortimo LED SLM Cable 60 cm 12 V   **12NC:** 929000632903
C: Fortimo LED SLM Cable 25 cm   **12NC:** 929000614703
D: Fortimo LED SLM Cable 60 cm 12 V /I **12NC:** 929000672803
E: Fortimo LED SLM Cable 60 cm /I   **12NC:** 929000695403

retail   hospitality   supermarkets

For further information visit the website:

www.philips.com/OEMasia
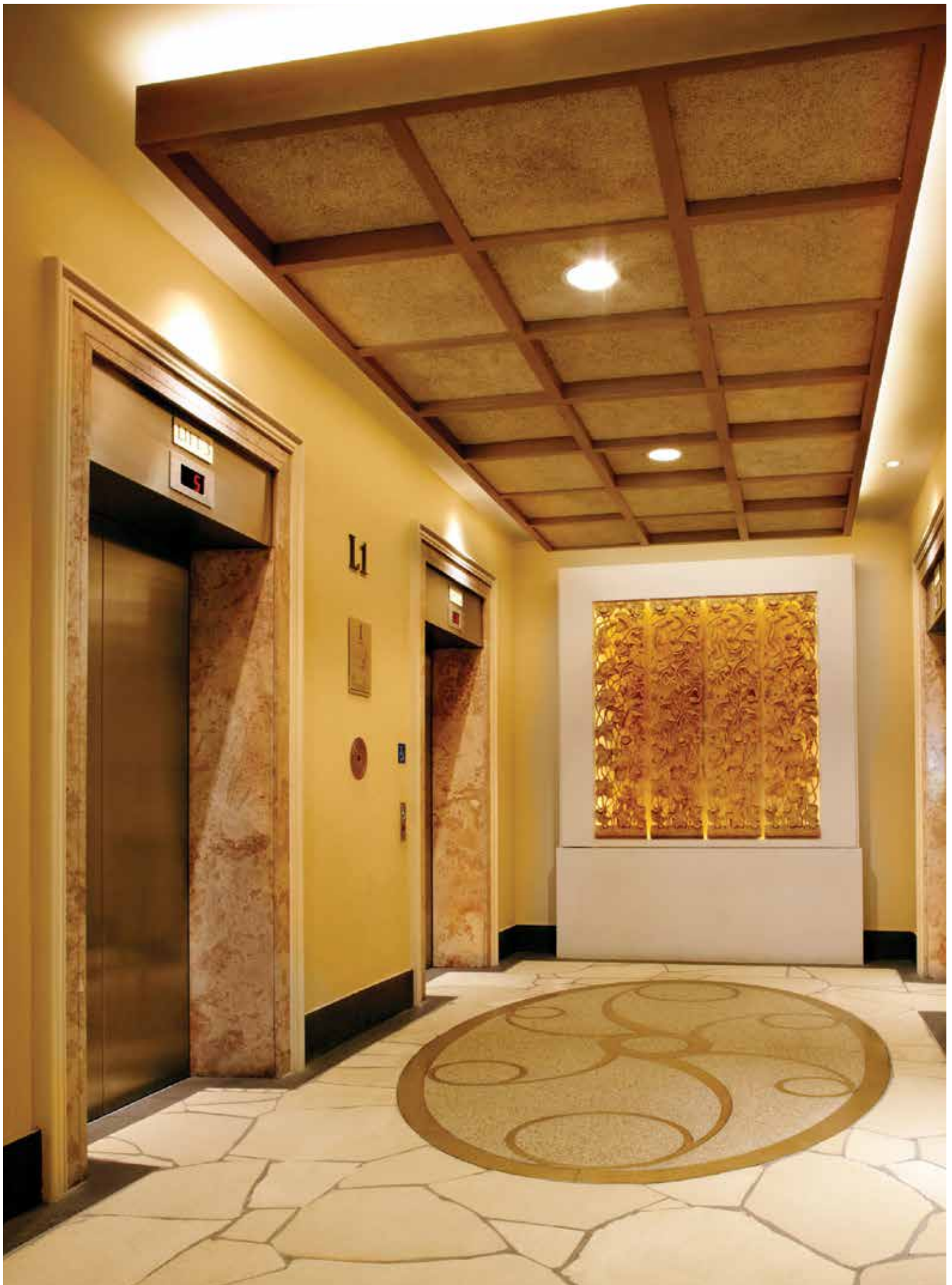
CertaFlux Spotlight System
SLM SD

NEW!

Indoor | Spotlight systems

CertaFlux LED SLM SD provides a quality alternative for halogen, compact fluorescent and even compact HID fixtures, with a reasonable price and the benefit of using LED technology. Two main applications for CertaFlux LED SLM SD module are spot lighting and general downlighting. CertaFlux LED SLM SD offers energy efficiency combined with miniaturization, good light quality and beam controllability. Both spot light and downlight fixtures will benefit from this product line.

Applications:
- Retail: shop windows, accent and display lighting, track lighting, mini downlighting
- Hospitality: lobbies, reception areas, restaurants, bars, elevators
- Recreation: museums, galleries, theaters and other public places

Features:
- One box solution: COB+Cable+driver all from Philips and all in one box; one order with one 12nc code for a complete solution
- Specially developed driver optimizing the module performance
- Breakthrough in cost effectiveness

Benefits:
- High Tc-point of 75°C to reach optimal lifetime specifications
- CB/CE, CQC, RoHS certificated for fast and easy luminaire approbation
- Thermal and Optical components are available from complimentary partners

Product specification

Type	Light output	Module Power	Module Efficacy	System Efficiency	Correlated color temperature	Color rendering index	Lumen maintenance @20 k hrs	Initial color consistency	Tc life	Units per package	Order code
	lm	W	lm/W	(lm/W)	K	Ra	%*	SDCM	°C		(12NC)
CertaFlux LED SLM SD 2700 30W/830 L19	2700	30	90	79	3000	>80	70	<3	75	12	9290 008 74280
CertaFlux LED SLM SD 2900 30W/840 L19	2900	30	96	84	4000	>80	70	<3	75	12	9290 008 74780
CertaFlux LED SLM SD 4100 46W/830 L19	4100	46	89	78	3000	>80	70	<3	75	12	9290 008 74880
CertaFlux LED SLM SD 4500 46W/840 L19	4500	46	97	85	3000	>80	70	<3	75	12	9290 008 74980

* @Tc=75C with 1 switch per day

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retail   hospitality   supermarkets

For further information visit the website:

www.philips.com/OEMasia

Introducing CrispWhite technology with
Fortimo LED SLM CrispWhite

Product specification

Type	LES	flux typ	Drive current	Voltage	Power	max Pthermal	Efficacy	System efficacy	Cie x	Cie y	CRI (typical)	R9 typ
CrispWhite 3000	15	2970	950	35.5	34	25.0	88	77	0.430	0.395	92	60
CrispWhite 4000	19	3760	1200	35.2	42	31.2	89	77	0.430	0.395	92	60

Experience intense
CrispWhite brings you

In retail lighting quality of light has always been a very important factor in the choice of a lighting system. Retailers recognise the important role good lighting can play in directing customers in to their stores and are very much aware of the choices they can make for a light source with a particular colour temperature and colour rendering.

But whereas the warm light appearance is very much desired for colours, there is still a preference for white to be undeniably white and not off-white, creamy or yellowish in appearance.

Ideally they would like to have that unique combination of bright cool white together with warm saturated colours to let the merchandise stand out.

White

Need for fresh cool whites

Colour

Need for warm saturated colours

IMAGINE 2 in 1

Imagine there was a single LED light source with a unique combination of bright, sparkling and clean whites together with beautifully warm, brilliant colours.

whites and rich colours

both in a single LED solution

Ideal for white
4000 K

+

Ideal for colour
3000 K

=

NEW!
Best of
Both Worlds

Fortimo SLM CrispWhite:

A new optimised light spectrum for LED sources, which gives a new colour experience.

Seeing is believing!

This new unique LED solution embraces, within one light source, a combination of clean, crisp white light with deep, rich colours. White appears vivid and bright, whilst the other colours appear warm, saturated and intense, resulting in an extremely convincing and attractive display.

Introducing
CrispWhite
technology with
**Fortimo
LED SLM
CrispWhite**

Fortimo Linear Module Line
LED Line LV Gen2 (isolated)

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Indoor | Linear light systems

Fortimo LED Line systems are designed to replace fluorescent lighting in new luminaires. The Fortimo LED Line systems are designed to produce pure white light for general lighting applications with high efficiency level, surpassing T5. The non-isolated part of the Fortimo LED Line portfolio is meant for building Class I, closed luminaires, whereby there is no possibility of accidentally touching the live parts in the system. A non-isolated system has the advantage of being more efficient, cheaper and the driver has shorter dimensions. The isolated drivers in the low voltage systems enable European Class II approbation on open louver luminaires.

Applications:
- General lighting applications in office, retail, industry
- 2R, 3R are ideal for applications requiring diffuse light
- 1R is ideal for applications requiring beam shaping
- This low voltage range enables European Class II approbation

Features:
- Module efficiency up to 150 lm/W
- Quick mounting of modules with only 1 screw
- Introduction of push-in connectors increasing flexibility and enabling usage of bulk wiring and automated wiring
- Higher Tc up to 70° C
- High quality of white light

Benefits:
- Increased energy efficiency
- Improved luminaire manufacturability
- Improved temperature management
- Applicable for all fluorescent luminaires
- Smart systems with Xitanium drivers
- Part of Philips guarantee scheme

Product specification

Fortimo LED Line system LV (isolated)		Light output	Module efficacy	Power consumption	Color rendering index	Color consistency	Lumen depreciation B50L70	Case Temp Lifetime	Order code
		lm	lm/W	W	Ra	SDCM	hrs		(12NC)
1R	Fortimo LED Line 1ft 1100lm 830 1R LV2	1065	132	8.1	80	3.5	50,000	70	9290 008 57803
	Fortimo LED Line 1ft 1100lm 835 1R LV2	1085	134	8.1	80	3.5	50,000	70	9290 008 57903
	Fortimo LED Line 1ft 1100lm 840 1R LV2	1110	137	8.1	80	3.5	50,000	70	9290 008 58003
	Fortimo LED Line 1ft 1100lm 850 1R LV2	1130	140	8.1	80	3.5	50,000	70	9290 008 58103
	Fortimo LED Line 1ft 1100lm 865 1R LV2	1110	137	8.1	80	3.5	50,000	70	9290 008 58203
	Fortimo LEDline 2ft 2200lm 830 1R LV2	2135	133	16.2	80	3.5	50,000	70	9290 008 80706
	Fortimo LEDline 2ft 2200lm 835 1R LV2	2180	135	16.2	80	3.5	50,000	70	9290 008 80806
	Fortimo LEDline 2ft 2200lm 840 1R LV2	2225	138	16.2	80	3.5	50,000	70	9290 008 80906
	Fortimo LEDline 2ft 2200lm 850 1R LV2	2265	141	16.2	80	3.5	50,000	70	9290 008 81006
3R	Fortimo LED Line 1ft 650lm 830 3R LV2	605	134	4.6	80	3.5	50,000	70	9290 008 55803
	Fortimo LED Line 1ft 650lm 835 3R LV2	640	139	4.6	80	3.5	50,000	70	9290 008 55903
	Fortimo LED Line 1ft 650lm 840 3R LV2	650	143	4.6	80	3.5	50,000	70	9290 008 56003
	Fortimo LED Line 1ft 650lm 850 3R LV2	665	144	4.6	80	3.5	50,000	70	9290 008 56103

Drivers 1st recommendation				1R systems	3R systems	
	Power level		Dimensions	LED Line 1ft 1100lm 1R	LED Line 1ft 650lm 3R	Order code (12NC)
DALI	Xitanium 75W 0.7-2.0A 54V TD 230V		425x30x25mm	3,4,5,6,7,8	5,6,7,8,9,10,11,12	9290 006 92103
	Xitanium 36W 0.3-1.0A 54V TD 230V		425x30x25mm	2,3,4	2,3,4,5,6	9290 008 32303
1-10V	Xitanium 75W 0.7-2.0A 54V 1-10V 230V		425x30x25mm	3,4,5,6,7,8	5,6,7,8,9,10,11,12	9290 008 63503
	Xitanium 36W 0.3-1.0A 54V 1-10V 230V		360x30x25mm	2,3,4	2,3,4,5,6	9290 008 54003
Fixed Output	Xitanium 75W 0.7-2.0A 54V 120-277V		425x30x25mm	3,4,5,6,7,8	5,6,7,8,9,10,11,12	9290 008 63403
	Xitanium 36W 0.3-1.0A 54V 120-230V		360x30x25mm	2,3,4	2,3,4,5,6	9290 008 53903

Fortimo LED Line 1R HV2

Zhaga

retail   office   supermarkets   schools
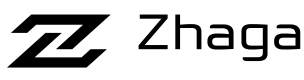
Fortimo Linear Module Line
LED Line HV Gen2 (non-isolated)

Indoor | Linear light systems

Fortimo LED Line systems are designed to replace fluorescent lighting in new luminaires. The Fortimo LED Line systems are designed to produce pure white light for general lighting applications with high efficiency level, surpassing T5. The non-isolated part of the Fortimo LED Line portfolio is meant for building Class I, closed luminaires, whereby there is no possibility of accidentally touching the live parts in the system. A non-isolated system has the advantage of being more efficient, cheaper and the driver has shorter dimensions. The isolated drivers in the low voltage systems enable European Class II approbation on open louver luminaires.

Applications:
- General lighting applications in office, retail, industry
- 2R, 3R are ideal for applications requiring diffuse light
- 1R is ideal for applications requiring beam shaping
- This low voltage range enables European Class II approbation

Features:
- Module efficiency up to 150 lm/W
- Quick mounting of modules with only 1 screw
- Introduction of push-in connectors increasing flexibility and enabling usage of bulk wiring and automated wiring
- Higher Tc up to 70° C
- High quality of white light

Benefits:
- Increased energy efficiency
- Improved luminaire manufacturability
- Improved temperature management
- Applicable for all fluorescent luminaires
- Smart systems with Xitanium drivers
- Part of Philips guarantee scheme

Product specification

Fortimo LED Line system HV (non-isolated)	Light output	Module efficacy	Power consumption	Color rendering index	Color consistency	Lumen depreciation B50L70	Case Temp Lifetime	Order code
	lm	lm/W	W	Ra	SDCM	hrs		(12NC)
Fortimo LED Line 1ft 1100lm 830 1R HV2	1065	132	8.1	80	3.5	50,000	70	9290 008 58303
Fortimo LED Line 1ft 1100lm 840 1R HV2	1110	137	8.1	80	3.5	50,000	70	9290 008 58403
Fortimo LED Line 2ft 2200lm 830 1R HV2	2135	132	16.2	80	3.5	50,000	70	9290 008 59003
Fortimo LED Line 2ft 2200lm 835 1R HV2	2180	135	16.2	80	3.5	50,000	70	9290 008 62903
Fortimo LED Line 2ft 2200lm 840 1R HV2	2225	138	16.2	80	3.5	50,000	70	9290 008 59103
Fortimo LED Line 2ft 2200lm 850 1R HV2	2265	141	16.2	80	3.5	50,000	70	9290 008 59203
Fortimo LED Line 2ft 2200lm 865 1R HV2	2225	138	16.2	80	3.5	50,000	70	9290 008 59303
Fortimo LED Line 1ft 650lm 830 3R HV2	605	134	4.6	80	3.5	50,000	70	9290 008 62603
Fortimo LED Line 1ft 650lm 840 3R HV2	650	143	4.6	80	3.5	50,000	70	9290 008 62703
Fortimo LED Line 1ft 1100lm 830 3R HV2	1060	143	7.4	80	3.5	50,000	70	9290 008 56603
Fortimo LED Line 1ft 1100lm 840 3R HV2	1105	150	7.4	80	3.5	50,000	70	9290 008 56803

Drivers 1st recommendation			1R systems		2R systems	3R systems		
Non-isolated LED drivers (HV)	Commercial name	Dimensions	LED Line 1 ft 1100 lm 1R*	LED Line 2 ft 2200 lm 1R*	LED Line 2 ft 1250 lm 1R*	LED Line 1 ft 650 lm 3R	LED Line 1 ft 1100 lm 3R	Driver order code (12NC)
DALI	Xitanium 75W 0.12-0.4A 215V TD 230V	360x30x22mm	4,5,6	2,3	4,5,6	5,6,8,10,12	4,5,6	9290 006 92103
	Xitanium 36W 0.12-0.4A 110V TD 230V	360x30x22mm	2,3	1	2,3	3,4,6	2,3	9290 008 32303
	Xitanium 17W 0.12-0.4A 54V TD 230V	360x30x22mm	1	n/a	1	1,2	1	9290 008 63503
1-10V	Xitanium 75W 0.2-0.4A 200V 1-10V 230V	360x30x22mm	4,5,6	2,3	4,5,6	5,6,8,10,12	4,5,6	9290 008 54003
	Xitanium 36W 0.12-0.4A 100V 1-10V 230V	360x30x22mm	2,3	1	2,3	3,4,6	2,3	9290 008 63403
	Xitanium 17W 0.12-0.4A 54V 1-10V 230V	360x30x22mm	1	n/a	1	1,2	1	9290 008 53903
Fixed Output	Xitanium 75W 0.12-0.4A 215V 230V	280x30x22mm	4,5,6	2,3	4,5,6	5,6,8,10,12	4,5,6	9290 008 63403
	Xitanium 36W 0.12-0.4A 110V 230V	280x30x22mm	2,,3	1	2,3	3,4,6	2,3	9290 008 53903

* Remark: the following combinations of 1R modules are possible:
- 5 ft: 75W non-isolated driver + 2x Fortimo LED Line 2 ft 2200 lm 1R HV2 + 1x Fortimo LED Line 1 ft 1100 lm 1R HV2
- 3 ft: 36W non-isolated driver + 1x Fortimo LED Line 2 ft 2200 lm 1R HV2 + 1x Fortimo LED Line 1 ft 1100 lm 1R HV2

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For further information visit the website:

www.philips.com/OEMasia

Fortimo Linear Module Line
LED Line High Flux

Indoor | Linear light systems

The Fortimo LED Line High Flux systems consist of linear white light LED modules with high flux, high energy efficiency, and high quality of light. These smart systems are completed with the Xitanium drivers, which enable easy generation management and offer the flexibility to meet the broad variety of application requirements. The Fortimo LED Line High Flux systems are designed to replace fluorescent lighting in higher application heights, such as trunking, high bay and battens in warehouses, factories and large retail environments.

Applications:
- Fortimo LED Line high flux system are ideal for application at higher application heights where more light is needed, such as trunking, battens, high-bay applications.
- Typical segments are warehouses, factories, big retail stores, cold storage

Features:
- Lumen levels up to 2000 lm/ft
- Efficiency levels surpassing T5 systems
- High quality white light
- Long lifetime - 50,000 hours

Benefits:
- Enabling luminaires for high application heights
- High energy efficiency
- Flexible specification due to smart Xitanium drivers

Product specification

High Voltage	Light output lm	Module efficacy lm/W	Power consumption W	Color rendering index Ra	Color consistency SDCM	Lumen depreciation B50L70 hrs	Case Temp Lifetime C	Order code (12NC)
1R								
Fortimo LED Line HF 1ft 2000lm 830 1R HV1W	1885	122	15.4	80	3.5	50,000	75	9290 008 59403
Fortimo LED Line HF 1ft 2000lm 840 1R HV1W	2005	130	15.4	80	3.5	50,000	75	9290 008 59603
Fortimo LED Line HF 1ft 2000lm 865 1R HV1W	2005	132	15.4	80	3.5	50,000	75	9290 008 59803
Fortimo LED Line HF 2ft 4000lm 830 1R HV1W	3765	122	30.8	80	3.5	50,000	75	9290 008 60603
Fortimo LED Line HF 2ft 4000lm 840 1R HV1W	4005	130	30.8	80	3.5	50,000	75	9290 008 60703
Fortimo LED Line HF 2ft 4000lm 865 1R HV1W	4010	132	30.8	80	3.5	50,000	75	9290 008 76406

Low Voltage	Light output lm	Module efficacy lm/W	Power consumption W	Color rendering index Ra	Color consistency SDCM	Lumen depreciation B50L70 hrs	Case Temp Lifetime C	Order code (12NC)
1R								
Fortimo LED Line HF 2ft 4000lm 830 1R LV1W	3765	122	30.8	80	3.5	50,000	75	9290 008 60103
Fortimo LED Line HF 2ft 4000lm 835 1R LV1W	3925	129	30.8	80	3.5	50,000	75	9290 008 60203
Fortimo LED Line HF 2ft 4000lm 840 1R LV1W	4005	130	30.8	80	3.5	50,000	75	9290 008 60303
Fortimo LED Line HF 2ft 4000lm 850 1R LV1W	4085	134	30.8	80	3.5	50,000	75	9290 008 60403

Non-isolated LED drivers (HV)			1R systems		
Dimming type	Commercial name	Dimensions	LED Line 1ft 2000lm 1R* (1750lm)**	LED Line 2ft 4000lm 1R* (3500lm)**	Order code (12NC)
DALI	Xitanium 75 W 0.12-0.4 A 215 V TD 230 V	360x30x22mm	4,5,6	2,3	9290 008 52103
	Xitanium 36 W 0.12-0.4 A 110 V TD 230 V	360x30x22mm	2,3	1	9290 008 52203
	Xitanium 17 W 0.12-0.4 A 54 V TD 230 V	360x30x22mm	1	n/a	9290 006 84703
1-10V	Xitanium 75 W 0.2-0.4 A 200 V 1-10V 230 V	360x30x22mm	4,5,6	2.3	9290 006 38203
	Xitanium 36 W 0.12-0.4 A 100 V 1-10V 230 V	360x30x22mm	2.3	1	9290 006 73803
	Xitanium 17 W 0.12-0.4 A 54 V 1-10V 230 V	360x30x22mm	1	n/a	9290 006 84803
Fixed Output	Xitanium 75 W 0.12-0.4 A 215 V 230 V	280x30x22mm	4,5,6	2.3	9290 008 14403
	Xitanium 36 W 0.12-0.4 A 110 V 230 V	280x30x22mm	2.3	1	9290 008 14503

* Remark: the following combinations of 1R modules are possible: - 5 ft: 75 W non-isolated driver + 2x Fortimo LED Line 2 ft 4000 lm 1R HV2 + 1x Fortimo LED Line 1 ft 2000 lm 1R HV2 - 3 ft: 36 W non-isolated driver + 1x Fortimo LED Line 2 ft 4000 lm 1R HV2 + 1x Fortimo LED Line 1 ft 2000 lm 1R HV2

Isolated LED drivers (LV)			1R systems	
Dimming type	Commercial name	Dimensions	LED Line 2ft 4000lm 1R	Order code (12NC)
DALI	Xitanium 75 W 0.7-2 A 54VTD 230V	425x30x25 mm	1,2	9290 006 92103
	Xitanium 36 W 0.3-1 A 54VTD 230V	425x30x25 mm	1	9290 008 32303
1-10V	Xitanium 75 W 0.7-2 A 54V 1-10V 230V	425x30x25 mm	1,2	9290 008 63503
	Xitanium 36 W 0.3-1 A 54V 1-10V 230V	360x30x25 mm	1	9290 008 54003
Fixed Output	Xitanium 75 W 0.7-2 A 54V 230V	425x30x25 mm	1,2	9290 008 63403
	Xitanium 36 W 0.3-1 A 54V 230V	360x30x25 mm	1	9290 008 53903

office industry supermarkets

Zhaga

Fortimo Linear Module Line
LED Line Square

Indoor | Linear light systems

The Fortimo LED Line Square systems consist of white light LED modules with square outer dimensions delivering high energy efficiency and high quality of homogeneous light. These smart systems are completed with the Xitanium drivers, which enable easy generation management and offer the flexibility to meet various application requirements. The Fortimo LED Line Square systems are designed to replace fluorescent lighting in recessed, surface mounted and suspended office luminaires.

Applications:

- Fortimo LED Line Square systems are ideal for office applications where the luminaires require a very homogeneous exit surface window
- Typcal applications are recessed, surface mounted and suspended office luminaires
- Ideal replacement in e.g. a 600x600 for 4x14 W, 4x18 W, 3x14 W, 3x18 W, 4x24 W and 4x28 W

Features:

- Homogeneous exit windows from luminaires with depth of 4.5 cm
- Module efficiency up to 145 lm/W
- Quick mounting of modules with only 1 screw
- Push-in connectors with high flexibility and enabling usage of bulk wiring and automated wiring
- Tc up to 80°C
- High quality of white light

Benefits:

- Enabling a very homogeneous shallow luminaires
- High energy efficiency
- Improved luminaire manufacturability
- Outer dimensions are Zhaga compliant
- Flexible specification due to smart Xitanium drivers

Product specification

Fortimo LED Lines SQ		Light output	Module efficacy	Power consumption	Color rendering index	Color consistency	Lumen depreciation B50L70	Case Temp Lifetime	Order code
		lm	lm/W	W	Ra	SDCM	hrs	C	(12NC)
1R	Fortimo LED line 1 ft 1250 lm 830 SQ HV/LV	1207	140	8.6	80	3.5	50,000	80	9290 008 70506
	Fortimo LED line 1 ft 1250 lm 840 SQ HV/LV	1250	145	8.6	80	3.5	50,000	80	9290 008 70606
	Fortimo LED line 1 ft 1250 lm 865 SQ HV/LV	1250	145	8.6	80	3.5	50,000	80	9290 008 70706

Non-isolated LED drivers (HV)				SQ systems	
Dimming type	Commercial name		Dimensions	LED Line 1ft 1250lm SQ	Order code (12NC)
DALI	Xitanium 75 W 0.12-0.4 A 215 V TD 230 V		360x30x22mm	3,4,6,8	9290 008 52103
	Xitanium 36 W 0.12-0.4 A 110 V TD 230 V		360x30x22mm	2,4	9290 008 52203
	Xitanium 17 W 0.12-0.4 A 54 V TD 230 V		360x30x22mm	1	9290 006 84703
1-10V	Xitanium 75 W 0.2-0.4 A 200 V 1-10V 230 V		360x30x22mm	6,8	9290 006 38203
	Xitanium 36 W 0.12-0.4 A 100 V 1-10V 230 V		360x30x22mm	2,4	9290 006 73803
	Xitanium 17 W 0.12-0.4 A 54 V 1-10V 230 V		360x30x22mm	1	9290 006 84803
Fixed Output	Xitanium 75 W 0.12-0.4 A 215 V 230 V		280x30x22mm	3,4,6,8	9290 008 14403
	Xitanium 36 W 0.12-0.4 A 110 V 230 V		280x30x22mm	2,4	9290 008 14503

Isolated LED drivers (LV)				SQ systems	
Dimming type	Commercial name		Dimensions	LED Line 1ft 1250lm SQ	Order code (12NC)
DALI	Xitanium 75 W 0.7-2 A 54VTD 230V		425x30x25 mm	4,5,6,7,8	9290 006 92103
	Xitanium 36 W 0.3-1 A 54VTD 230V		425x30x25 mm	2,3,4	9290 008 32303
1-10V	Xitanium 75 W 0.7-2 A 54V 1-10V 230V		425x30x25 mm	4,5,6,7,8	9290 008 63503
	Xitanium 36 W 0.3-1 A 54V 1-10V 230V		360x30x25 mm	2,3,4	9290 008 54003
Fixed Output	Xitanium 75 W 0.7-2 A 54V 230V		425x30x25 mm	4,5,6,7,8	9290 008 63403
	Xitanium 36 W 0.3-1 A 54V 230V		360x30x25 mm	2,3,4	9290 008 53903

Fortimo LED Line Square SQ HV-LV

Fortimo LED Line Square SQ HV-LV System

retail   office   supermarkets   schools

For further information visit the website:

www.philips.com/OEMasia

CertaFlux LED Line

NEW!

Indoor | Linear light systems

The CertaFlux LED Line is a new and economic solution consisting of linear white light LED modules with high value, and good energy efficiency for replacement for T8 linear fluorescent lamps. These cost effective systems are completed with the EBL drivers, which is optimized for a fast return on investment. The ease of design-in enables a fast development of luminaire. The CertaFlux LED Line System is a high-voltage solution, the design complies with European Class 1 requirement for indoor lighting applications. The CertaFlux is a smart choice in LED lighting solutions with high efficiency and good reliability. Customers can expect a return on their investment within 1.5 years.

Applications:
- The Philips CertaFlux LED Line System is ideal for the replacement of T8 fluorescent, especially in the applications troffer, waterproof and battens, therefore CertaFlux LED Line systems can be used in offices, supermarket/hypermarkets and factories

Features:
- Lumen levels up to 1550 lm and 2200 lm
- Efficiency levels surpassing T8 systems
- High quality white light
- 25,000 hrs system lifetime

Benefits:
- Good energy efficiency solution at attractive initial investment
- Good light quality
- A reliable linear LED system
- Smart system with LED module and driver

Product specification

Type	Light output	Module efficacy	Color temp	Color rendering index	Color consistency	Lumen depreciation B50L70	Case Temp Lifetime	Order code
	lm	lm/W	CCT	Ra	SDCM	hrs		(12NC)
CertaFlux Led Line 2ft 1550Lm 2 1R 840	1550	110	4000	80	5			9290 008 87380
CertaFlux Led Line 2ft 1550Lm 2 1R 865	1550	110	6500	80	5			9290 008 87480
CertaFlux Led Line 2ft 2200Lm 2 1R 840	2200	118	4000	80	5			9290 008 87580
CertaFlux Led Line 2ft 2200Lm 2 1R 865	2200	118	6500	80	5			9290 008 87680

Driver Specification	Power consumption	Output current	Output voltage	Lifetime	Order code
	W	(mA)	V	hrs	(12NC)
LED driver 20W 280mA 69V 230V	20	280	69	25,000	9290 008 87180
LED driver 30W 400mA 69V 230V	30	400	69	25,000	9290 008 53408
LED driver 40W 280mA 132V 230V	40	280	132	25,000	9290 008 87280

Driver Mapping	Number of Module	
	CertaFlux Led Line 2ft 1550Lm	CertaFlux Led Line 2ft 2200Lm
LED driver 20W 280mA 69V 230V		1
LED driver 30W 400mA 69V 230V	2	
LED driver 40W 280mA 132V 230V		2

Driver & Core LED Line Combinations and Applications			
System components	Total lumen output	System efficiency	Reference Fluo solution
2x Core LED Line + 20W peak design	2200	108	1x28W or 36W 1x36W
2x Core LED Line + 30W peak design	3100	100	3x14W or 18W 1x36W
4x Core LED Line + 40W peak design	4400	108	4x14W or 18W 2x28W or 36W

Zhaga

office   industry   supermarkets

For further information visit the website:
www.philips.com/OEMasia

CertaFlux Linear Light System
LLS Gen2

The CertaFlux LED Linear System (LLS) is a "Ready-to-apply" LED module solution with high energy efficiency and low initial investment. As the name suggests, it is a fully integrated solution to replace 3×18W and 2×36W fittings including the LED modules, driver, light guidance and diffusion.

Applications:
- Offices
- Public buildings

Features:
- 2300lm and 3400lm output on luminaire level
- Available in 4000K and 6500K
- Lifetime of 25k hrs and 35k hrs

Benefits:
- High efficacy, 72lm/W, 50% energy saving vs T8 solution
- Very easy design
- Meeting office norm requirements (CRI>80, UGR>20)

Product specification

Type	Color temperature	System	System power	Module efficacy typical	Lifetime	Approbation	Order code
	K	lm	W	lm/W	K hrs		(12NC)
LED Line integrated 2x2 2300Lm 840 1	4000	2300	31.6	72.8	25	only CQC	9290 008 69212
LED Line integrated 2x2 2300Lm 865 1	6500	2300	31.6	72.8	25	only CQC	9290 008 69312

Type	Color temperature	System	System power	Module efficacy typical	Lifetime	Approbation	Order code
	K	lm	W	lm/W	K hrs		(12NC)
CertaFlux LLS 1x4 2300lm 840 A	4000	2300	31	>70	25	CB	9290 008 88180
CertaFlux LLS 1x4 2300lm 865 A	6500	2300	31	>70	25	CB	9290 008 88280
CertaFlux LLS 1x4 2300lm 840 V	4000	3400	41	>80	25	CB	9290 008 88580
CertaFlux LLS 1x4 2300lm 865 V	6500	3400	41	>80	25	CB	9290 008 88680

Linear Module Line Soft Diffuser

The LED Line Cover 2ft and 4ft soft-diffuse is an accessory to the Fortimo LED Line 1R systems and enables the luminaire manufacturers to design open louver luminaires and battens with high quality of white light with minimum re-design of the conventional luminaire – specifically T8. This accessory enables an open luminaire to be European Class I certified. At the same time it protects the LEDs against dust and enables cleaning of the cover.

Applications:
- Open luminaires for general lighting in linear applications in office, retail, industry
- Designed for T8 replacement

Features:
- Optical efficiency ~83%
- Dimensions: 2ft, 4ft long and 3cm in height
- Protects LEDs against dust, insects
- Wiring through end-caps
- Available in 2 ft and 4 ft length for 1R Fortimo and Core LED lines HV

Benefits:
- Ideal combination of diffuse light and optical efficiency
- ENEC approbation: high voltage-protected – OEM can easily turn an open-louver luminaire into a European Class I solution
- Total system (module, driver, cable and diffuser) DEKRA-certified

Product specification

Type	Order code
	(12NC)
LED Line Cover 2ft soft-diffuse	9290 008 44903
LED Line Cover 4ft soft-diffuse	9290 008 76806

office   schools

For further information visit the website:

www.philips.com/OEMasia
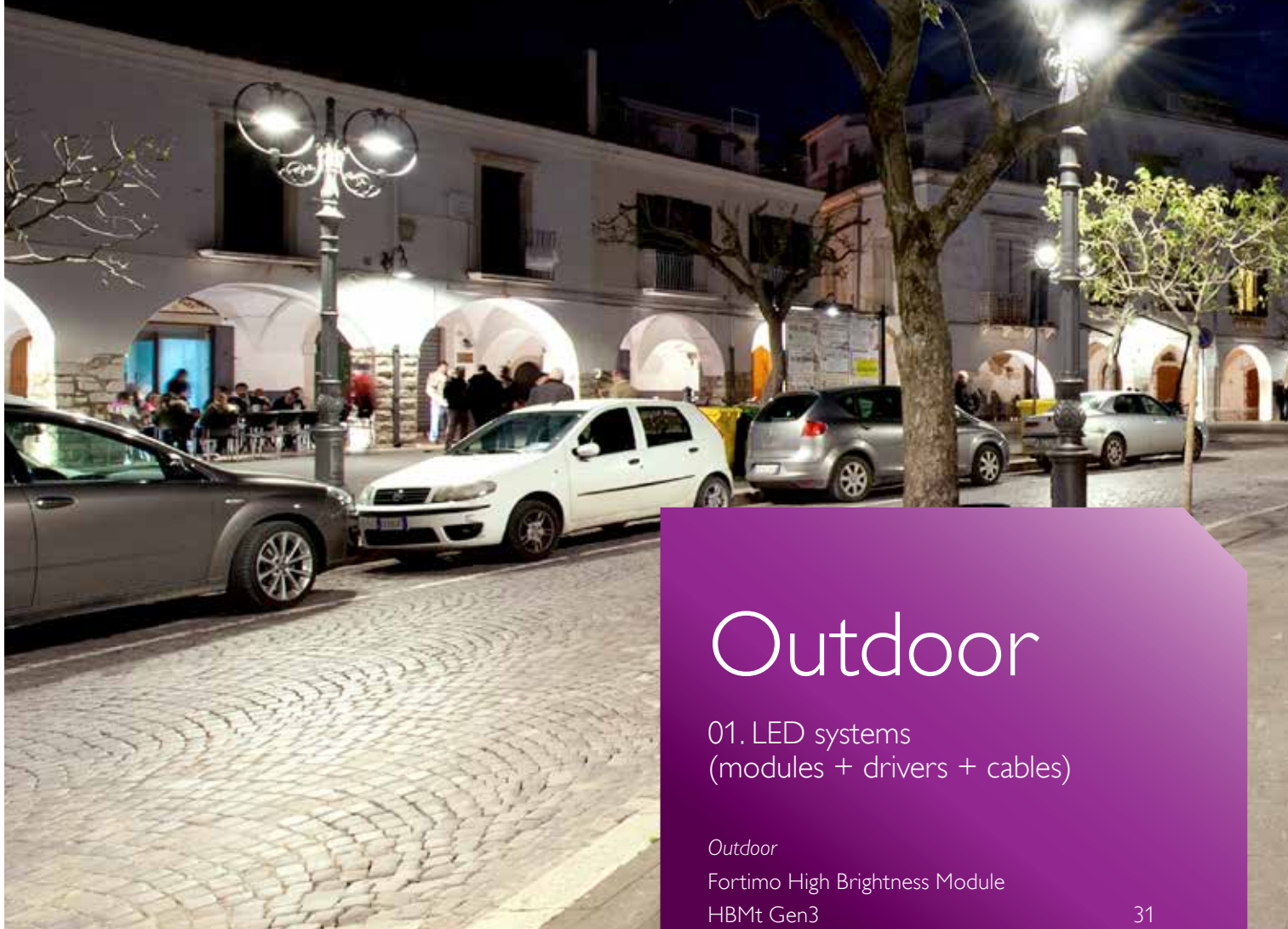
Outdoor

01. LED systems
(modules + drivers + cables)

Fortimo High Brightness Module
HBMt Gen3

Outdoor

Fortimo LED HBMt is an easy to design-in, compact LED module for white light applications. Fortimo LED HBMt will offer a choice of 4000 lm and 6000 lm in the same compact form factor.

Applications:
For use in luminaires for:
• Flood and Area lighting
• Urban street lighting
• Tunnel
• High bay and Industrial lighting

Features:
• Excellent module efficacy
• Outstanding thermal performance
• Color temperature 4100 K & 5700 K
• Color rendering index 70 Ra

Benefits:
• LED "lamp" – high lumen output from a small area
• Luminaire design is based on traditional reflector optics
• Future-proof concept
• Reduced time to market and simplified supply chain
• Full commitment to make Fortimo LED HBMt module Zhaga compliant

Product specification

Type	Module power	Module current	Module efficacy typical	Light output	Color temperature	Color rendering index	Tcase	Color consistency	Order code
	W	mA	lm/W	lm	K	min.R_a	°C	ANSI	(12NC)
Fortimo LED HBMt 2500/740 Gen3	19	350	132	2500	4000	70	85	<7	9290 008 82906
Fortimo LED HBMt 4000/740 Gen3	31	530	129	4000	4000	70	85	<7	9290 008 82806
Fortimo LED HBMt 4000/757 Gen3	31	530	129	4000	5700	70	85	<7	9290 008 82606
Fortimo LED HBMt 6000/740 Gen3	47	530	128	6000	4000	70	85	<7	9290 008 82706
Fortimo LED HBMt 6000/757 Gen3	47	530	128	6000	5700	70	85	<7	9290 008 82506
Fortimo LED HBMt 4000/840 Gen3	32	550	125	4000	4000	80	85	<7	9290 008 82406
Fortimo LED HBMt 6000/840 Gen3	49	550	122	6000	4000	80	85	<7	9290 008 82306

HBMt 4000

HBMt 6000

Zhaga

outdoor   industry

www.philips.com/OEMasia

Fortimo FastFlex Module
FastFlex Gen2

Flexible system design and brilliant optical control

Philips FastFlex LED module offers high-quality, reliable, easy-to-use outdoor LED illumination for roads and urban street lighting.

FastFlex is a lens-based LED lighting system. The proposition consists of two key building blocks – an LED board and an optical lens. Combined with Xitanium LED Xtreme drivers, the system provides optimal protection against harsh outdoor conditions. The modules are mechanically ideal for hassle-free manufacturing, and can be pre-assembled for rapid production. The system delivers outstanding optical control and flexible system design.

Applications:
- Road lighting
- Urban street lighting
- Tunnel
- High bay

Features:
- Modular approach to luminaire design; choice of 4 optical distributions
- LUXEONT LEDs in CCT 4000 K, CRI 70 or 80
- Patented interface between lens, module and mounting surface
- High Tcase 75°C
- Lean supply chain

Benefits:
- Perfectly match each project's needs
- Flexible system design
- Easy factory assembly and reliable lifetime performance
- Low cost of thermal management
- Minimal scrap and outdated component cost

Product specification at 530 mA (Rset current)

Product type	Light output	Module power	Module efficacy typical	Color temperature	Color rendering index	Color consistency	Thermal load	Max voltage	Tcase	Lumen maintenance B10L80	Lumen maintenance B50L70	Lifetime 90% survivals
	lm	W	lm/W	K	min. Ra	SDCM	W	V	°C	hrs	hrs	hrs
FastFlex LED board 2x8/740 Gen 2	3036	23.5	129	4000	70	<7	14.6	47	75	50,000	>50,000	50,000
FastFlex LED board 2x8/840 Gen 2	2870	23.5	122	4000	80	<7	15.0	47	75	50,000	>50,000	50,000

Light output is specified for the complete module, including lens optical losses of 4%
± 10% tolerance is applicable to lumen/watt performance characteristics
FastFlex LED module has a 5 year system warranty in combination with approved LED drivers

Recommended Xitanium LED drivers

Number of FastFlex LED modules (any type)	Max output current (mA)	Driver	Driver Order Code (12NC)
1	700	Xitanium 40W 0.7A Prog+ GL-J sXt	9290 007 08803
1	1,000	Xitanium 75W 0.1 – 1.05A Prog+ sXt	9290 007 08903
2	700	Xitanium 75W 0.7A Prog+ GL-Z sXt	9290 007 10103
2	1,000	Xitanium 150W 0.1 –1.05A Prog+ sXt	9290 007 09003
3	530	Xitanium 100W 0.53A Prog+ GL-Z sXt	9290 007 10403
3	700	Xitanium 150W 0.70A Prog+ 230V-H sXt	9290 007 10503
4	700	Xitanium 150W 0.70A Prog+ 230V-H sXt	9290 007 10503
5	610	Xitanium 150W 0.70A Prog+ 230V-H sXt	9290 007 10503

For all possible module-driver combinations, please visit our website www.philips.com/fastflex
For Xitanium LED driver specifications, please visit www.philips.com/xitanium

Ordering

FastFlex LED module Gen 2	Order Code (12NC)
FastFlex LED board 2x8/740 Gen 2	9290 008 73706
FastFlex LED board 2x8/840 Gen 2	9290 008 73606
FastFlex lens 2x8/II-X Gen 2	9290 008 73806
FastFlex lens 2x8/III-X Gen 2	9290 008 73906
FastFlex lens 2x8/IV-X Gen 2	9290 0087 4006
FastFlex lens 2x8/V Gen 2	9290 008 74106
FastFlex module clip[1]	9290 008 10003
Cable Fortimo 7PA to 6wire - 600m	9290 008 03903

outdoor   industry

For further information visit the website:

www.philips.com/OEMasia

CertaFlux Protected Light Module
PLM Gen2

NEW!

Outdoor

CertaFlux PLM is an integrated and easy to design system offering heat sink and optics with good protection on IP and Surge. CertaFlux PLM is the first module to adopt mid power LEDs and glass lenses for outdoor applications. The complete IP66 system is mechanically ideal for hassle-free manufacturing, and can be pre-assembled for rapid production with high flexibility of luminaire design.

Applications:
- Streelight
- Tunnel light
- Other outdoor applications

Features:
- Integrated module solution with heat sink and optics
- Complete IP system with connectors, cable and connectivity to Philips drivers

Benefits:
- Complete system design with LED module, driver and connector
- Easy design-in and factory assembly
- Reliable lifetime performance

Product specification

Type	Module power	Module efficacy typical	System efficacy	Light output	Color temperature	Color rendering index	Tcase	Color consistency	Lifetime	Order code
	W	lm/W	lm/W	lm	K	min.R$_a$	°C	SDCM	hrs	(12NC)
CertaFlux PLM 3000lm 740/II Gen1	26.5	113	103	3000	4000	70	65	7	35,000	929000895808
CertaFlux PLM 3000lm 850/II Gen1	26.5	113	103	3000	5000	80	65	7	35,000	929000901108

Recommended Driver mapping

Number of PLM Module (Any type)	Driver	Drive Order Code
1	Xitanium 50W 0.70A 230V I67	929000846808
2	Xitanium 75W 0.70A 230V I67	929000897208
3	Xitanium 150W 0.70A 230V I67	929000897108
4	Xitanium 150W 0.70A 230V I67	929000897108
5	Xitanium 150W 0.70A 230V I67	929000897108

Ordering

PLM Gen2	Order Code (12NC)
CertaFlux PLM 2/3 multi-connector	929000895908
CertaFlux PLM 4/5 multi-connector	929000896008

outdoor

industry

For further information visit the website:

www.philips.com/OEMasia

02 | LED drivers

LED technology for the
dynamic new market

Indoor

02. LED Drivers

I: Independent housing design
TE: Trailing Edge dimming
TD: Touch & DALI dimming
s: Small version
SH: Square independent Housing
LH: Linear independent Housing

Just released!

NEW!

Affordable and reliable LED Drivers -
CertaDrive LED Drivers

Affordable LED driver range offering Philips reliability. The CertaDrive range is compatible with COB and mid-power LEDs from any LED manufacturer. Initially available in 10-20W range between 350-700mA and complete range soon to be available up to 60W.

COMING APRIL 2014!

See page: 41

Flexible SELV Outdoor Driver solution -
Xitanium Constant Current SELV

Philips constant current SELV (Safety Extra Low Voltage) drivers provide ideal driver solution for LED modules connection in parallel. AOC (Adjustable Output Current) function offers the excellent flexibility of current setting in an extremely easy way. Thanks to the IP rated housing design, the driver could also be used in the open gearbox environment, which is required for certain outdoor applications.

See page: 49

Xitanium LED Drivers

Indoor | Downlight & Spotlight

Dimmable, fixed output and fixed current LED drivers. Power ratings and related operating windows from 12 W to 75 W. Various housing designs: Linear housed form factors for tracks in '3 in 1' design, Conventional HID housings for down- and spotlighting, SH housing for independent use with strain relief and loop through. Almost all drivers feature the following specifications: Operating window, SELV, Improved ripple current, Temperature derating, Hot wiring, 12 V output for active cooling or decorative effects, and Central DC operation.

Applications:
- Public buildings (airports, cinemas, theaters, exhibition halls)
- High-end shops
- Retail (supermarkets, bakery/butcher's shops, leather goods, etc.)

Features:
- Wide range from DALI Programmable to Non-Dimmable
- Adjustable output current via RSet
- Universal WAGO connectors
- 50,000 hours lifetime
- Available in High Voltage and Low Voltage versions
- High Efficiency up to 92%

Benefits:
- Philips offers complete Indoor Driver portfolio
- High reliability leads to better peace of mind
- Highest energy saving by design and dimming possibilities
- High level of flexibility by window output

HV non-dimmable window

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (12NC)
Xitanium 110W SH 0.3-1A 160V I 230V	5	220x83x35	n.a	0.3-1	80-161	Yes	No	929000839203

SELV DALI dimmable and programmable window

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central Operation	SELV	Order code (12NC)
Xitanium 50 W 0.3-1 A 62 V TD/TE 230 V	3	141x75x32	100-10%	0.3-1	31-62	Yes	Yes	929000661203
Xitanium 50 W LH 0.3-1 A 62 V TD/I 230 V	2	190x46x32	100-10%	0.3-1	31-62	Yes	Yes	929000863803
Xitanium 50 W SH 0.3-1 A 62 V TD/TE/I 230 V	4	220x83x35	100-10%	0.3-1	31-62	Yes	Yes	929000617203
Xitanium 25 W 0.3-1 A 36 V TD/I 230 V	1	170x46x32	100-10%	0.3-1	18-36	Yes	Yes	929000600403
Xitanium 25W LH 0.3-1.0A 36 V TD/Is 230 V	5	150x46x32	100-10%	0.3-1	18-36	Yes	Yes	929000863703
Xitanium 17W 0.3-1A 54V TD/Is 230 V	5	150x46x32	100-10%	0.3-1	27-54	Yes	Yes	929000864103

retail   office   supermarkets   hospitality   schools

For further information visit the website:

www.philips.com/OEMasia

Xitanium LED Drivers *(Continued)*

SELV Trailing Edge dimmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Central Operation	SELV	Order code
	mm		A	V			(12NC)
Xitanium 17 W 0.3-0.7 A 24 V TE/I 230 V	190x46x32	100-10%	0.3-0.7	12-24	Yes	Yes	929000600103
Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V	190x46x32	100-10%	0.3-0.7	18-36	Yes	Yes	929000600303

SELV Trailing Edge dimmable fixed current

Product specification

	Housing	Housing	Dimming range	Output current range	Output voltage range	Central Operation	SELV	Order code
	type	mm		A	V			(12NC)
Xitanium 10 W 0.70 A 14 V DIM	1	120x45x20	100-20%	0.7	14	Yes	Yes	913710053667
Xitanium 30 W 0.70 A 42 V DIM (C)	2	150x40x28	100-20%	0.7	42	Yes	Yes	913710053867
Xitanium LD-R 30 W 700 mA (C)	3	150x40x28	100-20%	0.7	42	Yes	Yes	913713220162

For recommended dimmers, please see page 44

Window Current - Fixed Output

Product specification

	Housing	Housing	Dimming range	Output current range	Output voltage range	Central DC operation	SELV	Order code
	type	mm		A	V			(12NC)
Xitanium 12 W 0.3-1 A 16 V I 230 V	1	150x46x32	n.a.	0.3-1	2.5-16	Yes	Yes	929000659303
Xitanium 17 W LH 0.3-0.7 A 24 V I 230 V	2	190x46x32	n.a.	0.3-0.7	12-24	Yes	Yes	929000853603
Xitanium 25 W LH 0.3-0.7 A 36 V I 230 V	2	190x46x32	n.a.	0.3-0.7	18-36	Yes	Yes	929000833703
Xitanium 36W LH 0.3-1A 48V I 230V	1	190x46x32	n.a.	0.3-1	24-48	Yes	Yes	929000838903
Xitanium 36W/s 0.3-1A 48V 230V	3	110x75x32	n.a.	0.3-1	24-48	Yes	Yes	929000839003
Xitanium 50 W/s 0.3-1 A 62 V 230 V	3	110x75x32	n.a.	0.3-1	31-62	Yes	Yes	929000853603
Xitanium 50 W 0.3-1 A 62 V I 230 V	4	141x75x32	n.a.	0.3-1	31-62	Yes	Yes	929000860803
Xitanium 50 W SH 0.3-1 A 62 V I 230 V	5	220x83x35	n.a.	0.3-1	31-62	Yes	Yes	929000853703
Xitanium 75 W SH 0.3-1 A 110 V I 230 V	5	220x83x35	n.a.	0.3-1	55-110	Yes	Yes	929000853803
LED Driver 36W 0.3-1A 48V 230V	3	104x68x32	n.a.	0.3-1	24-48	Yes	Yes	929000871808
LED Driver 50W 0.7-1.5A 44V 230V	3	104x68x32	n.a.	0.7-1.5	18-44	Yes	Yes	929000871908

SELV non-dimmable fixed current

Product specification

	Housing	Housing	Dimming range	Output current range	Output voltage range	Central DC operation	SELV	Order code
	type	mm		A	V			(12NC)
LED Driver 30W/s 700mA 40V 230V	2	104x68x32	n.a.	0.7	33-40	No	Yes	929000883206
LED Driver 30W 700mA 40V I 230V	1	125x68x32	n.a.	0.7	33-40	No	Yes	929000883306
LED Driver 40W 1050mA 40V I 230V	1	125x68x32	n.a.	1.05	33-40	No	Yes	929000883106
LED Driver 40W/s 1050mA 40V 230V	2	104x68x32	n.a.	1.05	33-40	No	Yes	929000883006
LED Driver 56W 1400mA 40V 230V	1	125x68x32	n.a.	1.4	33-40	No	Yes	929000880508
LED Driver 56W/s 1400mA 40V 230V	2	104x68x32	n.a.	1.4	33-40	No	Yes	929000880608
Xitanium 25 W 820 mA 32 V I 230 V	3	190x46x32	n.a.	0.82	32	No	No	929000692603

For further information visit the website:

www.philips.com/OEMasia

CertaDrive LED Drivers

Affordable LED driver range offering Philips reliability. The CertaDrive range is compatible with COB and mid-power LEDs from any LED manufacturer.
Initially available in 10-20W range between 350-700mA and complete range soon to be available up to 60W.

Applications:
- Public buildings (airports, cinemas, theaters, exhibition halls)
- Retail (supermarkets, shops, etc.)
- Office

Features:
- High reliability
- 30,000 hours lifetime
- Luminaire design flexibility to keep stable/constant lumen output and light quality levels
- Fast Time to Market
- One supplier for professional general lighting LED drivers
- Affordable LED drivers

Benefits:
- Driver design based on Philips' experience and knowledge of conventional fluorescent & HID technologies
- Various power/wattage drivers that are related to the lumen packages/applications - Fixed output drivers
- Independent-version housing design for stand-alone installations

Down Light & Spot Light

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	SELV	Order code (12NC)
CertaDrive 15W 0.35A 42V I 230V	1	115x45x19	n.a.	0.35	30-42	Yes	929000898106
CertaDrive 20W 0.5A 40V I 230V	1	115x45x19	n.a.	0.5	28-40	Yes	929000898006
CertaDrive 20W 0.7A 28V I 230V	1	115x45x19	n.a.	0.7	20-28	Yes	929000897906
CertaDrive 10W 0.5A 20V I 230V	1	115x45x19	n.a.	0.5	14-20	Yes	TBD
CertaDrive 15W 0.3A 50V I 230V	1	115x45x19	n.a.	0.3	35-50	Yes	TBD
CertaDrive 15W 0.5A 30V I 230V	1	115x45x19	n.a.	0.5	21-30	Yes	TBD
CertaDrive 15W 0.7A 21V I 230V	1	115x45x19	n.a.	0.7	15-21	Yes	TBD
CertDrive 20W 0.3A 66V I 230V	1	115x45x19	n.a.	0.3	48-66	Yes	TBD
CertaDrive 30W 0.7A 42V I 230V*	2	104x68x32	n.a.	0.7	30-42	Yes	TBD
CertaDrive 40W 0.9A 44V I 230V*	2	104x68x32	n.a.	0.9	31-44	Yes	TBD
CertaDrive 40W 1.05A 38V I 230V*	2	104x68x32	n.a.	1.05	26-38	Yes	TBD

* Available from July 1 2014

Linear

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC Operation	SELV	Order code (12NC)
LED driver 20W 280mA 69V 230V	138x25x22	n.a.	280	64-76	No	No	9290 008 87180
LED driver 30W 400mA 69V 230V	150x40x28	n.a.	400	64-76	No	No	9290 008 53408
LED driver 40W 280mA 132V 230V	150x40x28	n.a.	280	118-145	No	No	9290 008 87280

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For further information visit the website:

www.philips.com/OEMasia

Xitanium LED Drivers

Indoor | Linear

Non-isolated and isolated drivers to support HV and LV linear office systems. HV systems for highest efficiency, lowest cost and smallest dimensions. LV systems for simpler approbation process and ease of design-in. Power ratings: 17 W, 36 W and 75 W. All T5 form factor but various length. Programmable, Rset (1-10 V and fixed output) and fixed current versions. Pre-programmed versions for 4-10 LED modules (strips/lines). Central DC operation on all linear office LED drivers.

Applications:
For use in luminaires for:
- Offices
- Industrial
- Warehousing
- Retail / Hypermarkets
- Public buildings

Features:
- Wide range from DALI Programmable to Non-Dimmable
- Adjustable output current via RSet
- Universal WAGO connectors
- 50,000 hours lifetime
- Available in High Voltage and Low Voltage versions
- High Efficiency up to 92%

Benefits:
- High voltage systems for highest efficiency and lowest cost
- Low voltage systems for simpler approval process and ease of design-in
- Philips offers complete Indoor Driver portfolio
- High reliability leads to better piece of mind
- Highest energy saving by design and dimming possibilities

Also check our design-in guide for more technical details on www.philips.com/xitanium

High Voltage Non Isolated

DALI Dimmable and Programmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 75 W/0.12-0.4 A 200 V TD 230 V	360x30x22	100-10%	0.12-0.4	100-200	929000852103
Xitanium 36 W/0.12-0.4 A 100 V TD 230 V	360x30x22	100-10%	0.12-0.4	50-100	929000852203
Xitanium 17 W/0.12-0.4 A 54 V TD 230 V	360x30x22	100-10%	0.12-0.4	27-54	929000684703
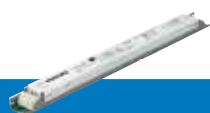
1-10V dimmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 75 W/0.2-0.4 A 200 V 1-10 V 230 V	360x30x22	100-10%	0.2-0.4	100-200	929000638203
Xitanium 36 W/0.12-0.4 A 100 V 1-10 V 230 V	360x30x22	100-10%	0.12-0.4	50-100	929000673803
Xitanium 17 W/0.12-0.4 A 54 V 1-10 V 230 V	360x30x22	100-10%	0.12-0.4	27-54	929000684803

Non-dimmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 75W/0.12-0.4A 215V 230V	280 x 30 x 22	n.a.	0.12 - 0.4	100 - 215V	9290 008 14403
Xitanium 36W/0.12-0.4A 110V 230V	280 x 30 x 22	n.a.	0.12 - 0.4	50 - 110V	9290 008 14503

For further information visit the website:

www.philips.com/OEMasia

Xitanium LED Drivers *(Continued)*

Non-dimmable fixed current

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 40W 280mA 142V 230V	280x30x22	n.a.	0.28	116 - 142	9290 008 05103
Xitanium 20W 280mA 71V PCB 230V	140 x 42 x 25	n.a.	0.28	56 - 71	9290 008 15803
Xitanium 30W 0.8A 39V 230V	280x30x22	n.a.	0.8	35 - 39	9290 008 38808
Xitanium 30W 400mA 76V 230V	280x30x22	n.a.	0.4	64 - 76	9290 008 30603

Low Voltage Isolated

Dimmable and Programmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 75 W 0.7-2 A 54 V TD 230 V	425x30x22	100-5%	0.7-2	27-54	929000692103
Xitanium 36W 0.3-1A 54V TD 230V	425x30x22	100-5%	0.3-1	27-54	929000832303

1-10V dimmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 75 W 0.7-2 A 54 V 1-10 V 230 V	425x30x22	100-5%	0.7-2	27-54	929000863503
Xitanium 36W 0.3-1A 54V 1-10V 230V	425x30x22	100-5%	0.3-1	27-54	929000854003

Non-dimmable window

Product specification

	Housing	Dimming range	Output current range	Output voltage range	Order code
	mm		A	V	(12NC)
Xitanium 55 W 0.84-1.5 A 42 V 120-277 V	360x30x22	n.a.	0.84-1.5	28-36	929000696103
Xitanium 75W 0.7-2 A 54V 230V	425x30x22	n.a.	0.7-2	27-54	929000863403
Xitanium 36W 0.3-1 A 54V 230V	360x30x22	n.a.	0.3-1	27-54	929000853903

retail   office   supermarkets   industry   schools

For further information visit the website:

www.philips.com/OEMasia

LED Drivers recommended dimmer list

Legend		
x - y	Dimmable with x-y lamps down to a minimum dimlevel of at least 10%, typical 2%	
x - y	Dimmable with x-y lamps down to a minimum dimlevel higher than 10%, or minor flicker may occur at certain dimlevels	
	Combination shows undesirable dimming behavior	
	Combination not tested	

Brand	Type #	Type	Load	Xitanium 5W 350mA 30V LE/TE 9290 008 xxxxx	Xitanium 10W 350mA 30V LE/TE 9290 008 75108	Xitanium 10W 500mA 20V LE/TE 9290 008 62308	Xitanium 10W 700mA 14V LE/TE 9290 008 76008	Xitanium 20W 350mA 60V LE/TE 9290 008 xxxxx	Xitanium 9W 0.7A 12V TE DIM 929008838703	Xitanium LED Driver 10W/0.70A-14V DIM 913710053666	Xitanium LED Driver 10W/0.70A-14V DIM 929000466203	Xitanium LED Driver 30W/0.70A-42V DIM 913710053866	Xitanium 17W 0.3-0.7A 24V TE/I 230V 929000600103	Xitanium 25W 0.3-0.7A 36V TE/I 230V 929000600303
				LE/TE	LE/TE	LE/TE	LE/TE	LE/TE	TE	TE	TE	TE	TE	TE
Berker	286610	RL	20-500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Berker	285710	RC												
Berker	286710	RC												
Berker	283010	RL	400W											
Busch-Jaeger	2200	R	60-400W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Busch-Jaeger	2247U	RL	500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Busch-Jaeger	6513U-103	RC	40-420W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Busch-Jaeger	6523U	RL	2-100W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Busch-Jaeger	6591U	RLC	420W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Busch-Jaeger	2250U	R	600W											
Crabtree	DV21912	RL	400W											
Elko	315GLE	RC	40-315W	1 - 10	1 - 10	1 - 10	1 - 10	1 - 4						
Elko	315GLE/2-pol	RC	40-315W	1 - 10	1 - 10	1 - 10	1 - 10	1 - 4						
Elko	400GLI	RL	40-400W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Elko	420GLE	RLC	20-420W	1 - 10	1 - 6	1 - 6	1 - 6							
Elko	RS16/400	RL	400W											
Elko	CCTEL11013	RL	400W											
Everflourish	EFE700DC [IKEA]	RC	20-300W	1 - 9	1 - 6	1 - 6	1 - 6	1 - 4						
Everflourish	EF700DA [Sencys]	R	50-300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Feller	40600.RC.F.61	RC	20-600W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
GIRA	2260 00 /I00	RL	20-500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
GIRA	1176 00 /I03	RLC	50-420W	1 - 10	1 - 6	1 - 6	1 - 6							
GIRA	0493 09 /I01	RC	20-420W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
GIRA	0307 00	RC												
GIRA/Insta	030200 10	R	60-600W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Hager	EV004	RLC	500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Hager	EV011	RLC	500W	1 - 6	1 - 6	1 - 6	1 - 6	1 - 4						
Jung	225TDE	RC	20-525W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Jung	225NVDE	RL	20-500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Jung	243EX	RC	20-360W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Jung	266GDE	R	60-600W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Lauritz Knudsen	506da109	RL	300W											
LeGrand	67081	RLC	40-300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
LeGrand	67084	RLC	40-400W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
LeGrand	67085	RL	40-300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
LeGrand	78401	RLC	40-400W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Merten	MTN572299	R	60-600W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Merten	MTN572599	RL	20-500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Merten	5771	RC	600W											
Micromatic	LED 500 [GIRA]	RL	20-500W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Micromatic	Universal [GIRA]	RLC	50-420W	1 - 10	1 - 6	1 - 6	1 - 6							
Micromatic	EL420 [GIRA]	RC	20-420W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Niko	310-01900	RLC	5-325W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Niko	310-01901	RLD	200W											
Niko	310-02800	RLC	2-100W	1 - 7	1 - 6	1 - 6	1 - 6	1 - 4						
Niko	310-01600	RL	50-400W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Niko	310-09013	R	60-300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
PEHA	433HAB	RC	20-315W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
PEHA	433HAN	R	60-300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
PEHA	435HAN	RL	60-600W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Philips	Q42M1	LE	300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Philips	Q82M11	LE	630W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Philips	UID8670	RL	2-100W											
Relco	RTS 65 R	RL	50-300W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Siemens	5TC8284	RC	20-525W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Siemens	5TC8256	R	50-400W	1 - 10	1 - 6	1 - 6	1 - 6	1 - 4						
Schneider	ATD315	RC												
Schneider	CCT011263	RL	500W											
Varilight	P400	RL	400W											
Viko	KARRE	Rl	600W											
Vimar	20162	RC	500W											
Vimar	20160	RL	500W											

Multi Storey Car Park
Warwick University, United Kingdom
LED lighting with Fortimo LED LLM and light control with Xitanium Programmable LED driver maximise energy saving while providing higher perceived light levels to improve safety in the parking facility.

OEM: Holophane Europe Ltd
OEM products: Parkpack® LED, Aeris™ LED, Denver™ Wall Elite LED

Outdoor

02. LED Drivers

Xitanium Constant Current Xtreme

Outdoor

Philips Xitanium Xtreme LED drivers provide constant current output, optimal for a single string of LEDs. With exceptional operating efficiency, our drivers significantly reduce energy costs. The Xitanium Xtreme portfolio offers both central and standalone dimming protocols, further increasing the energy savings and CO_2 reductions achieved with LED lighting. The fully programmable drivers deliver all dimming options and a range of currents in a single driver. System reliability is maximized with intelligent temperature monitoring of the LED light engine. The full portfolio offers maximum flexibility with customizable operating settings, delivering optimal performance tailored for each design.

Applications:
- Residential areas
- Street and road lighting
- Tunnels
- Under-canopy lighting
- Parking
- Architectural illumination

Features:
- Adjustable output current
- Xtreme standard: long lifetime, robust protection against moisture, vibration and temperature extremes
- Module temperature protection
- Multiple dimming protocols

Benefits:
- Robust protection against moisture, vibration and temperature extremes
- Peace of mind on product performance
- Design flexibility: one driver can be programmed for different luminaire designs - choose the current that is optimal for your LED PCB
- Improved logistics
- Future-proof, prepared for LED efficacy upgrades
- Additional energy savings through dimming

DALI Programmable

Product specification

	Housing	Output current range	Output voltage range	Output power	Type of dimming	Dimming range	Efficiency range, max load	Input voltage range	Power factor, 100% load	Tc life	Lifetime @ Tc life, 90% survivals	Certifications	Order code
	type	mA	V	W		%	%	Vac		°C	hrs		(12NC)
Xitanium 150 W 0.1-1.05 A GL Prog+ sXt	1	100-1050	70-148	30-150	1-10V/DALI/Amp Dim/ Dynadimmer/FTBD	100-10	≥ 93	120-277	≥ 0.97	80	50,000	cUL, CSA, CE, ENEC	929000709003
Xitanium 150 W 0.35-0.7 A GL Prog sXt	1	350-700	125-280	30-150	1-10V/DALI/ Dynadimmer	100-10	≥ 93	120-277	≥ 0.97	80	50,000	cUL, CSA, CE, ENEC, KS	929000702202
Xitanium 150 W 0.20-0.35 A Prog+ GL-H sXt	2	200-350	212-425	30-150	1-10V/DALI/Amp Dim/ Dynadimmer/FTBD	100-10	≥ 93	120-277	≥ 0.95	80	50,000	cUL, CSA, CE, ENEC	929000707513
Xitanium 100W 0.53A Prog+ GL-Z sXt	4	100-530	94-189	50-100	1-10 V/DALI/AmpDim/ Dynadimmer/FTBD	100-10	≥ 88	120-277	≥ 0.90	80	50,000	cUL, CSA, CE, ENEC	929000710403
Xitanium 100W 0.70A Prog+ GL-Z sXt	4	100-700	71-143	50-100	1-10 V/DALI/AmpDim/ Dynadimmer/FTBD	100-10	≥ 92	120-277	≥90	80	50000	cUL, CSA, ENEC, CE	929000708703
Xitanium 125 W 0.35-0.7 A JPN Prog+ sXt	1	350-700	125-235	30-125	1-10V/DALI/Amp Dim/ Dynadimmer/FTBD	100-10	≥ 91	100-277	≥ 0.95	80	48,000	PSE	929000705802
Xitanium 75W 1.05A Prog+ GL-F sXt	1	100-1050	36-75	30-75	1-10V/DALI/Amp Dim/ Dynadimmer/FTBD	100-10	≥ 92	120-277	≥ 0.97	80	50,000	cUL, CSA, CE, ENEC	929000708903
Xitanium 75W 0.70A Prog GL-F sXt	1	350-700	80-152	30-75	1-10V/DALI/ Dynadimmer	100-10	≥ 92	120-277	≥ 0.97	80	50,000	cUL, CSA, CE, ENEC, KS	929000702302
Xitanium 75 W 0.35-0.7 A JPN Prog+ sXt	1	350-700	80-140	30-75	1-10V/DALI/Amp Dim/ Dynadimmer/FTBD	100-10	≥ 91	120-277	≥ 0.95	80	50,000	PSE	929000705702
Xitanium 40W 0.70A Prog+ GL-J sXt	3	100-700	29-57	20-40	1-10V/DALI/AmpDim/ Dynadimmer/FTBD	100-10	≥ 88	120-277	≥ 0.90	80	50,000	cUL, CSA, CE, ENEC	929000708803
Xitanium 40W 0.53A Prog+ GL-J sXt	3	100-530	38-77	20-40	1-10 V/DALI/AmpDim/ Dynadimmer/FTBD	100-10	≥ 88	120-277	≥ 0.90	80	50,000	cUL, CSA, CE, ENEC	929000710303
Xitanium 27W 1.0A Prog 230V-J sXt	3	100-1000	10-38	2-27	DALI/Dynadimmer/ FTBD/LineSwitch	100-10	85	230	≥98	80	50000	ENEC, CE	929000712303

Xitanium Constant Current Xtreme *(Continued)*

1-10V Dimmable

	Housing	Output current range	Output voltage range	Output power	Type of dimming	Dimming range	Efficiency range, max load	Input voltage range	Power factor, 100% load	Tc life	Lifetime @Tc life, 90% survivals	Certifications	Order code
	Type	mA	V	W		%	%	Vac		°C	hrs		(12NC)
Xitanium 250W 0.70A 1-10V 230V sXt	3	700	178-357	125-250	1-10V	100-10	≥ 93	220-240	≥ 0.95	70	50,000	CE, CQC	929000838508
Xitanium 150W 1.5 A 1-10V INT sXt	1	1500	30-100	45-150	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000707902
Xitanium 150W 1.050 A 1-10V INT sXt	1	1050	40-140	42-150	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000704702
Xitanium 150W 1.050 A 1-10V 230V sXt	1	1050	40-140	42-150	1-10V	100-10	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	929000704712
Xitanium 150W 0.70 A 1-10V INT sXt	1	700	60-210	42-150	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	913710844102
Xitanium 150W 0.70 A 1-10V 230V sXt	1	700	60-210	42-150	1-10V	100-10	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	913701211603
Xitanium 150W 0.70A PWM GL-F sXt	1	700	107-214	75-150	PWM	100-10	≥ 93	120-277	≥ 0.95	75	50,000	cUL, CSA, CE, ENEC, CQC	929000709280
Xitanium 150W 0.53 A 1-10V INT sXt	1	530	120-280	64-150	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000702402
Xitanium 150W 0.35 A 1-10V INT sXt	1	530	120-425	42-150	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000700302
Xitanium 150W 0.35 A 1-10V 230V sXt	1	350	120-425	42-150	1-10V	100-10	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	913701218202
Xitanium 150W 0.41 A 1-10V 230V sXt	1	410	100-360	42-150	1-10V	100-10	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	929000706803
Xitanium 75W 0.70 A 1-10V INT sXt	1	700	30-105	21-75	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000701802
Xitanium 75W 0.7 A 1-10V INT -Y sXt	2	700	54-107	38-75	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000708013
Xitanium 75W 0.70 A 1-10V 230V sXt	1	700	30-105	21-75	1-10V	100-10	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	929000705503
Xitanium 75W 0.35 A 1-10V INT sXt	1	350	60-210	21-75	1-10V	100-10	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	929000701702
Xitanium 75W 0.70A AOCM 1-10V GL-Y sXt	2	700	54-107	38-75	1-10V	100-10	≥ 92	120-277	≥ 0.95	75	50,000	cUL, CSA, CE, ENEC	929000708003
Xitanium 75W 0.70A 1-10V INT-Y sXt	2	700	54-107	38-75	1-10V	100-10	≥ 92	120-277	≥ 0.95	75	50,000	cUL, CSA	929000709113
Xitanium 75W 0.53A 1-10V INT-Y sXt	2	530	71-143	38-75	1-10V	100-10	≥ 92	120-277	≥ 0.95	75	50,000	cUL, CSA	929000711413
Xitanium 75W 0.53A AOCM 1-10V INT-Y sXt	2	530	71-143	38-75	1-10V	100-10	≥ 92	120-277	≥ 0.95	75	50,000	cUL, CSA	929000711513
Xitanium 40W 0.70A 1-10V INT-J sXt	4	700	12-56	12.5-40	1-10V	100-10	89	120-277	≥95	80	50000	cUL, CSA	929000711913

Non-dimmable

	Housing	Output current range	Output voltage range	Output power	Efficiency range, max load	Input voltage range	Power factor, 100% load	Tc life	Lifetime @Tc life, 90% survivals	Certifications	Order code
	Type	mA	V	W	%	Vac		°C	hrs		(12NC)
Xitanium 150 W 0.70 A INT sXt	1	700	60-210	42-150	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	913710842602
Xitanium 150 W 0.70 A 230 V sXt	1	700	60-210	42-150	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	913710859002
Xitanium 150 W 0.35 A INT sXt	1	350	120-425	42-150	≥ 92	120-277	≥ 0.98	75	50,000	cUL, CSA	913710833202
Xitanium 150 W 0.35 A 230 V sXt	1	350	120-425	42-150	≥ 92	220-240	≥ 0.98	75	50,000	CE, ENEC	913710850002
Xitanium 150W 0.53A 230V-F cXt	1	530	140-280	75-150	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000864908
Xitanium 150W 0.70A 230V-F cXt	1	700	100-210	70-150	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000865008
Xitanium 75W 0.70A 230V-Y cXt	2	700	50-107	35-75	≥ 91	220-240	≥ 0.95	70	50,000	CQC, CE	929000865208
Xitanium 50W 0.70A 230V-J cXt	3	700	36-72	25-50	≥ 89	220-240	≥ 0.95	70	50,000	CQC, CE	929000865408

outdoor   parking   industry

Xitanium Constant Current Xtreme *(Continued)*

Outdoor

The new range of dedicated IP67 drivers have been introduced to offers more flexibility in both design and installation. The increased dust and water protection means this range of drivers can be installed in the pole or exposed in the air without any additional protection.

Applications:
- Street and road lighting
- Tunnels
- Residential areas
- Under-canopy lighting
- Parking
- Architectural illumination

Features:
- Long lifetime, extremely robust protection
- Integrated surge protection: 4KV
- High efficiency up to 94%

Benefits:
- IP67 (DEKRA certified), additional protection against water and dust.
- Robust design to withstand temperature extremes and vibration.
- Installation flexibility: driver can be installed in the pole or outside of the gearbox directly without any additional protection
- Design flexibility: full power range offering (50W -250W) enables easy design in better cost efficiency
- Self-protection mechanism when ambient temperature goes higher than Tc max

Non-dimmable

Product specification

	Housing	Output current range	Output voltage range	Output power	Type of dimming	Efficiency range, max load	Input voltage range	Power factor, 100% load	Tc life	Lifetime @ Tc life, 90% survivals hrs	Certifications	Order code
	type	mA	V	W		%	Vac		°C			(12NC)
Xitanium 250W 0.70A 1-10V 230V-8C I67	1	700	178-357	125-250	1-10V	≥ 93	220-240	≥ 0.95	70	50,000	CQC, CE	929000838408 (w/ connector)
Xitanium 250W 0.70A 1-10V 230V-8 I67	1	700	178-357	125-250	1-10V	≥ 93	220-240	≥ 0.95	70	50,000	CQC, CE	929000847008 (w/o connector)
Xitanium 150W 0.35A 230V-6C I67	2	350	215-425	75-150	n.a.	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000838608 (w/ connector)
Xitanium 150W 0.35A 230V-6 I67	2	350	215-425	75-150	n.a.	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000845708 (w/o connector)
Xitanium 150W 0.53A 230V-6C I67	2	530	140-280	75-150	n.a.	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000845808 (w/ connector)
Xitanium 150W 0.53A 230V-6 I67	2	530	140-280	75-150	n.a.	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000845908 (w/o connector)
Xitanium 150W 0.70A 230V-6C I67	2	700	100-210	70-150	n.a.	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000846008 (w/ connector)
Xitanium 150W 0.70A 230V-6 I67	2	700	100-210	70-150	n.a.	≥ 94	220-240	≥ 0.95	80	50,000	CQC, CE	929000846108 (w/o connector)
Xitanium 75W 0.35A 230V-3C I67	3	350	107-210	38-75	n.a.	≥ 91	220-240	≥ 0.95	70	50,000	CQC, CE	929000838208 (w/ connector)
Xitanium 75W 0.35A 230V-3 I67	3	350	107-210	38-75	n.a.	≥ 91	220-240	≥ 0.95	70	50,000	CQC, CE	929000846208 (w/o connector)
Xitanium 75W 0.70A 230V-3C I67	3	350	50-107	35-75	n.a.	≥ 91	220-240	≥ 0.95	70	50,000	CQC, CE	929000846508 (w/ connector)
Xitanium 75W 0.70A 230V-3 I67	3	350	50-107	35-75	n.a.	≥ 91	220-240	≥ 0.95	70	50,000	CQC, CE	929000846608 (w/o connector)
Xitanium 50W 0.35A 230V-2C I67	4	350	72-140	25-50	n.a.	≥ 89	220-240	≥ 0.95	70	50,000	CQC, CE	929000838308 (w/ connector)
Xitanium 50W 0.35A 230V-2 I67	4	350	72-140	25-50	n.a.	≥ 89	220-240	≥ 0.95	70	50,000	CQC, CE	929000846708 (w/o connector)
Xitanium 50W 0.70A 230V-2C I67	4	700	36-72	25-50	n.a.	≥ 90	220-240	≥ 0.95	70	50,000	CQC, CE	929000846808 (w/ connector)
Xitanium 50W 0.70A 230V-2 I67	4	700	36-72	25-50	n.a.	≥ 90	220-240	≥ 0.95	70	50,000	CQC, CE	929000846908 (w/o connector)

outdoor   parking   industry

For further information visit the website:

www.philips.com/OEMasia

Xitanium Constant Current SELV

Outdoor

Philips constant current SELV (Safety Extra Low Voltage) drivers provide ideal driver solution for LED modules connection in parallel. AOC (Adjustable Output Current) function offers the excellent flexibility of current setting in an extremely easy way. Thanks to the IP rated housing design, the driver could be also used in the open gearbox environment, which is required for certain outdoor applications.

Applications:
- Street and road lighting
- Tunnels
- Residential areas
- Under-canopy lighting
- Parking
- Architectural illumination

Features:
- Long lifetime, extremely robust protection
- Integrated surge protection: 4KV
- High efficiency up to 94%
- AOC meter integrated
- IP65 rating
- SELV Drivers

Benefits:
- IP rated housing, additional protection against water and dust
- Robust design to withstand temperature extremes and vibration.
- Installation flexibility: driver can be installed in the pole or outside of the gearbox directly without any additional protection
- Design flexibility: full power range offering (50W -250W) enables easy design in better cost efficiency
- Self-protection mechanism when ambient temperature goes higher than Tc max
- SELV-operating voltages ensure safety even if wiring or LED boards become damaged
- AOC enables easy output current change
- Square form factor with compact size for easier design-in

Low Voltage - Adjustable Output Current

1

2

Product specification

	Housing	Output current range	Output voltage range	Output power	AOC	Efficiency range, max load	Input voltage range	Power factor	Tc life	Lifetime with 90% survivals	Certifications	Order code
	type	mA	V	W		(%)	Vac	100% load	(°C)	hrs		(12NC)
Xitanium 200W 2.8-5.6A AOC 230V-7C IP65	1	2.8-5.6	18-72	100-200	Yes	≥ 91	220-240	≥ 0.95	70	50,000	CE, CB, CQC	929000885208 (w/ connector)
Xitanium 200W 2.8-5.6A AOC 230V-7 IP65	1	2.8-5.6	18-72	100-200	Yes	≥ 91	220-240	≥ 0.95	70	50,000	CE, CB, CQC	929000885308 (w/o connector)
Xitanium 150W 2.45-4.9A AOC 230V-5C IP65	2	2.45-4.9	18-66	75-150	Yes	≥ 91	220-240	≥ 0.95	70	50,000	CE, CB, CQC	929000885408 (w/ connector)
Xitanium 150W 2.45-4.9A AOC 230V-5 IP65	2	2.45-4.9	18-66	75-150	Yes	≥ 91	220-240	≥ 0.95	70	50,000	CE, CB, CQC	929000885508 (w/o connector)
Xitanium 100W 2.1-4.2A AOC 230V-5C IP65	2	2.1-4.2	12-50	50-100	Yes	≥ 91	220-240	≥ 0.95	70	50,000	CE, CB, CQC	929000885608 (w/ connector)
Xitanium 100W 2.1-4.2A AOC 230V-5 IP65	2	2.1-4.2	12-50	50-100	Yes	≥ 91	220-240	≥ 0.95	70	50,000	CE, CB, CQC	929000885708 (w/o connector)

For further information visit the website:

www.philips.com/OEMasia

CertaDrive Constant Voltage

Outdoor

Philips Constant Voltage Outdoor LED drivers deliver a highly stable output voltage and are SELV (Safety Extra Low Voltage) compliant. These drivers are the perfect choice for enabling easy modular connection of multiple LED PCBs in parallel. The Constant Voltage Outdoor category offers excellent reliability and ensures a simplified installation process. Robust design reduces maintenance and lowers the cost of ownership over the application lifetime.

Applications:
- Refrigerated display lighting
- Signage applications - channel letter and contour lighting
- Architectural and decorative lighting

Features:
- Stable output voltage
- Robust protection against moisture
- Minimum 50,000 hrs lifetime
- IP65 rated

Benefits:
- SELV-operating voltages ensure safety even if wiring or LED boards become damaged
- Easy installation with simple parallel wiring
- Excellent reliability

CertaDrive Constant Voltage
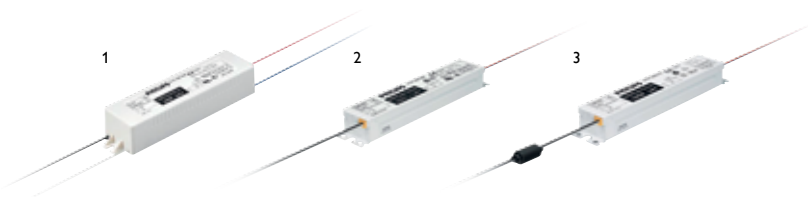
Product specification

	Housing	Output current range	Output voltage range	Output power	Type of dimming	Input voltage range	Power factor	Lifetime with 90% survivals	Certifications	Order code
	type	mA	V	W		Vac	100% load	hrs		(12NC)
LED Power Driver Outdoor 100-240V 100W 24V	3	4100	24.3	100	n.a.	100-240	>0.90	50000	CE	913700621091
LED Power Driver Outdoor 100-240V 60W 24V	2	2500	24.3	60	n.a.	100-240	>0.90	50000	UL, CSA, CE	913700620991
LED Power Driver Outdoor 100-240V 60W 12V	2	5000	12	60	n.a.	100-240	>0.90	50000	UL, CSA, CE	913710052466
LED Power Driver Outdoor 100-240V 20W 24V	1	850	24.3	20	n.a.	100-240	>0.90	50000	UL, CSA, CE, PSE	913700620891
LED Power Driver (O) 100-240V 100W-24V (Japan)	3	4100	24.3	100	n.a.	100-240	>0.90	50000	PSE	929000485303

outdoor

Xitanium Constant Current

Outdoor DC Input

Philips Xitanium Constant Current DC Input Outdoor LED drivers are designed for off-grid solutions running on battery (direct current) power. The drivers incorporate dimming intelligence, which translates the scarce energy collected by the solar system or wind turbine into the best possible system performance and reliability.

Applications:
- The system is designed for outdoor off-grid applications where electricity from the grid is not available or is very unreliable

Features:
- Programmable LumiStep dimming protocol
- Pulse Width Modulation (PWM)
- Minimum 50,000 hrs lifetime
- Thermal module and battery protection

Benefits:
- Integrated dimming results in lower overall system cost due to smaller panel/generator and battery
- Excellent reliability
- Eliminates application energy costs and carbon impact

Xitanium Constant Current DC Programmable

Product specification

	Output current	Output voltage	Type of dimming	Dimming range	Input voltage range (DC)	Lifetime with 90% survivals	Order code
	mA	V		%	V	hrs	(12NC)
Xitanium 40 W 0.2-0.7 A LS 12-24 V	200-700	40-100	Programmable LumiStep	100-10	10.5-32	50,000	929000611903
Xitanium 70 W 0.2-0.7 A LS 12-24 V	200-700	40-100	Programmable LumiStep	100-10	10.5-32	50,000	929000612003

outdoor

Xitanium Surge Protector

Outdoor

The Philips Surge Protection Device (SPD) 277 V is the ideal solution to the challenge of using LEDs in Outdoor lighting. The SPD clamps the voltage at the terminals of the luminaire, protecting the complete system against multiple nominal surges of up to 10 kV / 5 kA. For maximum level of protection, the SPD can withstand a single hit of 10 kV / 10 kA. The device also eliminates the need for all luminaire internal components – wires, connectors, wire nuts, etc. – to be designed to withstand 10 kV. Essential for LED systems installed in high-risk areas, the advantages of using the SPD are not limited only to LED systems. The product can be used in any new or existing lighting solution, regardless of technology.

Applications:
- Highways
- Rural roads
- Parking lots
- Area lighting

Features:
- Resistant to peaks and surges of up to 10 kA / 10 kV
- Suitable for Class I and Class II luminaires
- Xtreme standard: long lifetime, robust protection against moisture, vibration and temperature extremes
- Can be used with all lighting technologies

Benefits:
- Maximize the lifetime value of outdoor lighting applications
- No downtime due to calamities (storms, lightning strikes, etc.)
- Lower maintenance costs
- Easy to apply in new or existing installations
- Peace of mind on product performance

Product specification

	Line Voltage	Protection level Up (L-N)	Protection level Up (LN-earth)	Open circuit voltage	Nominal surge current IN	Number of surges, nominal current	Maximum surge current IMAX	Number of surges, maximum current	Isolation classification	Lifetime @Tc life, 90% survivals	Suitable for outdoor use?	Order code
	V	kV	kV	kV		(Comm/Diff. mode)	kA			hrs		(12NC)
Surge Protection Device 277 V	100-277	≤ 1.6	≤ 2.5	10	1 kA 3 kA 5 kA	100/100 100/100 45/35	10	Comm. mode: 1 Diff. mode: 1	Suitable for Class I & Class II	100,000	Yes	929000665202

outdoor   parking

CONCEPTS AND DEVELOPMENTS

In this section we have a look at what is cooking in the kitchen and highlight a number of innovative projects Philips is working on and considering to bring to the market, that are either in an early concept phase or have progressed further in to a development phase.

Unlock your full

Discover the universal driver solution for all outdoor

Outdoor lighting in the past

New innovations:
Smarter Light

Market needs

Benefits:

Driver
- Proven reliability
- Universal, flexible software settings
- Versatile use due to multiple dimming options
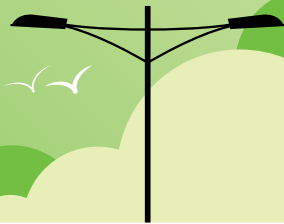
Module
- High performance
- Long lifetime

Where possible compliant with latest standards like DALI and Zhaga.

potential

LED needs

Accelerate for LED

LED
opportunities

- White light
- Lifetime and reliability
- Intelligent lighting point

Complexity? **Future proof?** **Configuration?**

Concerns

Destination

Philips LED modules and drivers
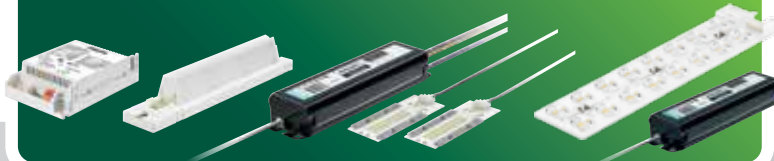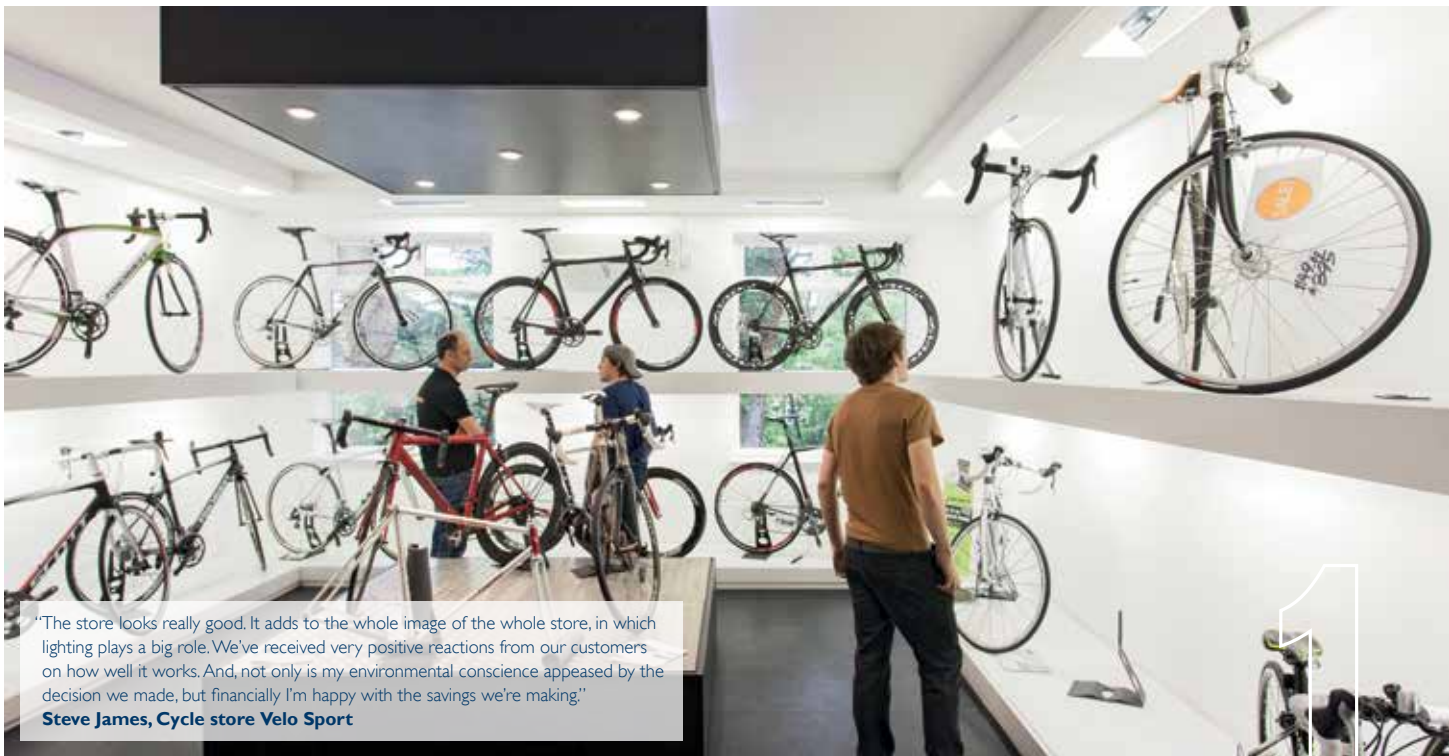
"The store looks really good. It adds to the whole image of the whole store, in which lighting plays a big role. We've received very positive reactions from our customers on how well it works. And, not only is my environmental conscience appeased by the decision we made, but financially I'm happy with the savings we're making."
Steve James, Cycle store Velo Sport

1

Cycle store Velo Sport, London UK
Cycle store owner opts for energy-saving lighting solution which is good for the conscience and good for business.

Customer
Cycle store Velo Sport
Location
Putney, London UK
OEM/Luminaires
Illuma Highlux 100 LED
Philips products
Fortimo LED SLM 2000 lm
Philips account manager
Ross Robotham

2

Waitrose, UK
This first fully illuminated Waitrose store using 100 % Philips LED technology throughout is a breakthrough in terms of supplying both excellent lighting quality but also significantly reducing energy cost.

Customer
Waitrose
Location
Stratford-upon-Avon, United Kingdom
OEM/Luminaires
Edge Lighting Services Ltd / VA1-L, VA2-L, VP2-L, VP3-L, VH3-L
Philips products
Fortimo SLM, Fortimo LED Lines, Master LEDtube (T-LED) and Xitanium LED drivers
Philips account manager
Ross Robotham

3

The municipality of Venosa, Italy
The Lanterna design is the result of the collaboration between Neri and I-DEA, giving a customised product incorporating the Fortimo LED LLM 3000 lm and the Xitanium 75 W LED driver. The result is a luminaire perfectly matching the environment while giving a warm and pleasant white light.

Customer
Municipality of Venosa
Location
Venosa, Italy
OEM/Luminaires
Neri S.p.A. Grall SN905LED Lanterna
Philips products
Fortimo LED LLM 3000/740 730
Xitanium 75 W 0.35-0.70 A 1-10 V 230 V sXt
Philips account manager
Paolo Montagnoli

"Using state of the art Philips Fortimo LED technology provides high quality reliable lighting using less energy and thereby reducing the stores impact on the environment."
Toby Marlow / General Manager, Sustainable Development Waitrose

"Philips Lighting and Northern Lights delivered a lighting solution with MASTER LED lighting for the Jamie's Italian restaurants, creating warm and intimate dimmed lighting while being cost effective to meet and maintain energy performance criteria"

4 Santa Corona church, Vicenza, Italy
Fortimo LED SLM provides a low maintenance and energy-saving solution for this medieval church with fixtures installed up to 17 meters high.

Customer
Santa Corona church
Location
Vicenza, Italy
OEM/Luminaires
ACOS 100, ACOS 60
Philips products
Fortimo LED SLM Gen 2 1100 lm/830
Fortimo LED SLM Gen 2 2000 lm/830
Fortimo LED LLM 1800 lm
Xitanium 50 W/s 0.3-1A 62V 230 V
Philips account manager
Diego Scomersich

5 Jamie's Italian, UK
'Warm' and intimate dimmed light by the MASTER LED DimTone range was the perfect answer to fit the need for a lighting solution that required mains voltage with integral control gear and a broad compatibility with dimming control systems.

Customer
Jamie's Italian
Location
York and Bluewater Shopping Centre, UK
OEM/Luminaires
Northern Lights, specially manufactured bespoke luminaire
Philips products
Philips MASTER LEDbulb DimTone 8-W
Philips MASTER LEDcandle 4-W
Philips account manager
Ross Robotham

"The result is a clear architectural and environmental appreciation of the ancient village, lighting the streets and squares without changing the natural sense of colours... The beauty of the light reveals the beauty of the place."
Architect Elisabetta Pescuma, Public Works and Environment Director, Municipality of Venosa

"Interestingly, subsequent analysis showed that LED sources contributed in reducing the project costs and were absolutely respectful to the works of art."
Nereo Bianchi, CEO Turn lights

03 MASTER LEDlamps

See what light can do

03. MASTER LEDlamps

MASTER LEDspot MV GU10

4W   8W

Dimmable

Delivering a warm, halogen-like accent beam, MASTER LEDspot MV is a perfect fit for spot lighting (track, corridors, lift lobbies, display cases and cabinets) in the hospitality industry. It is particularly suitable to public areas where the light is on 24/7, such as lobbies, corridors and stairwells. MASTER LEDspot MV delivers huge energy savings and minimizes maintenance cost without any compromise on brightness, enabling hospitality owners to achieve a return on their investment within one year.

Benefits:
- Up to 80% energy saving compared with halogen lamps
- Retrofittable
- Lower maintenance costs

Features:
- Low energy consumption: 4 W → 35 W, 6W → 50W, 8 W → 50 W+ (230 V-240 V)
- Dimmable
- Compatible with an extensive range of dimmers
- Lifetime of 25,000 to 40,000 hours
- Clearly defined beam spread
- UV- and IR-free light for less heat and protection for heat-sensitive objects

Applications:
- Suitable for indoor applications in open luminaires (with an open/free air gap of min. 10 mm)
- For accent and general lighting (e.g. hotels, shops and offices)

Product specification

MASTER LEDspot MV GU10	Wattage	Comparable Halogen wattage	Socket	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W		cd	°	hrs		lm	lm/W		Ra	K	(12NC)
D 4-35 W GU10 2700K 25D	4	35	GU10	700	25	25,000	yes	180	45	10	>80	2700	929000212602
D 4-35 W GU10 2700K 40D	4	35	GU10	350	40	25,000	yes	180	45	10	>80	2700	929000212702
D 4-35 W GU10 3000K 25D	4	35	GU10	700	25	25,000	yes	180	45	10	>80	3000	929000212802
D 4-35 W GU10 3000K 40D	4	35	GU10	350	40	25,000	yes	180	45	10	>80	3000	929000212902
D 6-50W GU10 2700K 25D	6	50	GU10	1000	25	40,000	yes	300	50	10	>80	2700	929000225902
D 6-50W GU10 2700K 40D	6	50	GU10	600	40	40,000	yes	300	50	10	>80	2700	929000226002
D 6-50W GU10 3000K 25D	6	50	GU10	1100	25	40,000	yes	320	54	10	>80	3000	929000226102
D 6-50W GU10 3000K 40D	6	50	GU10	600	40	40,000	yes	320	54	10	>80	3000	929000226202
D 6-50W GU10 4000K 25D	6	50	GU10	1100	25	40,000	yes	320	54	10	>80	4000	929000226302
D 6-50W GU10 4000K 40D	6	50	GU10	600	40	40,000	yes	320	54	10	>80	4000	929000226402
D 8-50 W+ GU10 2700K 25D	8	50+	GU10	1800	25	40,000	yes	430	54	6	>80	2700	929000213638
D 8-50 W+ GU10 2700K 40D	8	50+	GU10	900	40	40,000	yes	430	54	6	>80	2700	929000213738
D 8-50 W+ GU10 3000K 25D	8	50+	GU10	1900	25	40,000	yes	450	56	6	>80	3000	929000213838
D 8-50 W+ GU10 3000K 40D	8	50+	GU10	950	40	40,000	yes	450	56	6	>80	3000	929000213938
D 8-50 W+ GU10 4000K 25D	8	50+	GU10	1900	25	40,000	yes	450	56	6	>80	4000	929000214038
D 8-50 W+ GU10 4000K 40D	8	50+	GU10	950	40	40,000	yes	450	56	6	>80	4000	929000214138

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.

office   hospitality   retail

For further information visit the website:

www.philips.com/OEMasia

MASTER LEDspot LV MR16 GU5.3

6.5/7W

Dimmable

Benefits:
- Up to 80% energy saving compared with halogen lamp
- Broad compatibility with transformers
- Long lifetime
- 80% energy saving
- No IR and UV radiation; ideal to illuminate heat sensitive objects
- Air movement mechanism (fanless)
- Minimizes maintenance costs
- Short pay-back time

Features:
- Low energy consumption: 6.5 W → 35 W, 7 W → 50 W (12 V)
- Dimmable
- Patented intelligent driver
- Retrofittable with low-voltage MR16 halogen lamps with GU5.3 socket

Applications:
- Ideal for accent lighting in hotels, hospitals, shops and museums (e.g. floors, elevators, displays) in open luminaires (with an open/free air gap of min. 10 mm)

Product specification

MASTER LEDspot LV MR16 GU5.3	Wattage	Comparable Halogen Wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(12NC)
MASTER LED 6.5-35W 2700K MR16 24D Dim	6.5	35	GU5.3	MR16	1550	24	40,000	yes	300	46	10	>80	2,700	929000236408
MASTER LED 6.5-35W 3000K MR16 24D Dim	6.5	35	GU5.3	MR16	1550	24	40,000	yes	300	46	10	>80	3,000	929000236508
MASTER LED 6.5-35W 4000K MR16 24D Dim	6.5	35	GU5.3	MR16	1650	24	40,000	yes	320	49	10	>80	4,000	929000236608
MASTER LED 6.5-35W 2700K MR16 36D Dim	6.5	35	GU5.3	MR16	850	36	40,000	yes	300	46	10	>80	2,700	929000236708
MASTER LED 6.5-35W 3000K MR16 36D Dim	6.5	35	GU5.3	MR16	850	36	40,000	yes	300	46	10	>80	3,000	929000236808
MASTER LED 6.5-35W 4000K MR16 36D Dim	6.5	35	GU5.3	MR16	900	36	40,000	yes	320	49	10	>80	4,000	929000236908
MASTER LED 7-50W 2700K MR16 24D Dim	7	50	GU5.3	MR16	1950	24	40,000	yes	380	54	10	>80	2,700	929000237308
MASTER LED 7-50W 3000K MR16 24D Dim	7	50	GU5.3	MR16	1950	24	40,000	yes	380	54	10	>80	3,000	929000237408
MASTER LED 7-50W 4000K MR16 24D Dim	7	50	GU5.3	MR16	2050	24	40,000	yes	400	57	10	>80	4,000	929000237508
MASTER LED 7-50W 2700K MR16 36D Dim	7	50	GU5.3	MR16	1050	36	40,000	yes	380	54	10	>80	2,700	929000237608
MASTER LED 7-50W 3000K MR16 36D Dim	7	50	GU5.3	MR16	1050	36	40,000	yes	380	54	10	>80	3,000	929000237708
MASTER LED 7-50W 4000K MR16 36D Dim	7	50	GU5.3	MR16	1100	36	40,000	yes	400	57	10	>80	4,000	929000237808
MASTER LED 7-50W 2700K MR16 60D Dim	7	50	GU5.3	MR16	360	60	40,000	yes	380	54	10	>80	2,700	929000237908
MASTER LED 7-50W 3000K MR16 60D Dim	7	50	GU5.3	MR16	360	60	40,000	yes	380	54	10	>80	3,000	929000238008
MASTER LED 7-50W 4000K MR16 60D Dim	7	50	GU5.3	MR16	380	60	40,000	yes	400	57	10	>80	4,000	929000238108

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.

Non-Dimmable

Delivering a warm, halogen-like accent beam, MASTER LEDspot LV is an ideal retrofit solution for spot and general lighting applications in the hospitality industry. It is particularly suited to public areas such as receptions, lobbies, corridors, stairwells and washrooms, where the light is on all the time. The robustly designed MASTER LEDspot offers a choice of beam angles for a clearly defined beam spread.

4W   5.5W   6.5W

Benefits:
- Up to 80% energy saving compared with halogen lamp
- Broad compatibility with transformers

Features:
- Low energy consumption: 4 W → 20 W, 5.5 W → 35 W (12 V), 6.5 W → 50 W (12V)
- Non-dimmable
- Patented intelligent driver
- Retrofittable with low-voltage MR16 halogen lamps with GU5.3 socket

Applications:
- Ideal for accent lighting in hotels, hospitals, shops and museums (e.g. floors, elevators, displays) in open luminaires (with an open/free air gap of min. 10 mm)

Product specification

MASTER LEDspot LV MR16 GU5.3	Wattage	Comparable Halogen Wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W	Ra	K	(12NC)
4-20 W 2700K MR16 24D	4	20	GU5.3	MR16	1000	24	45,000	no	210	52	>80	2700	929000193808
4-20 W 3000K MR16 24D	4	20	GU5.3	MR16	1100	24	45,000	no	220	55	>80	2700	929000194108
4-20 W 4000K MR16 24D	4	20	GU5.3	MR16	1150	24	45,000	no	240	60	>80	2700	929000194408
5.5-35W 2700 K MR16 24D	5.5	35	GU5.3	MR16	1500	24	25,000	no	300	54	>80	2700	929000194708
5.5-35W 2700 K MR16 36D	5.5	35	GU5.3	MR16	1000	36	25,000	no	300	54	>80	2700	929000193908
5.5-35W 3000 K MR16 24D	5.5	35	GU5.3	MR16	1550	24	25,000	no	310	56	>80	3000	929000194208
5.5-35W 3000 K MR16 36D	5.5	35	GU5.3	MR16	1030	36	25,000	no	315	56	>80	3000	929000194508
6.5-50 W 2700 K MR16 24D	6.5	50	GU5.3	MR16	2000	24	25,000	no	380	58	>80	2700	929000195008
6.5-50 W 2700 K MR16 36D	6.5	50	GU5.3	MR16	1200	36	25,000	no	380	58	>80	2700	929000195308
6.5-50 W 3000 K MR16 24D	6.5	50	GU5.3	MR16	2030	24	25,000	no	390	60	>80	3000	929000195608
6.5-50 W 3000 K MR16 36D	6.5	50	GU5.3	MR16	1250	36	25,000	no	390	60	>80	3000	929000195108

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.

hospitality   retail

For further information visit the website:

www.philips.com/OEMasia

Essential MR16

2.6W

Non-Dimmable

Delivering a warm, halogen-like accent beam, Essential MR16 is an ideal retrofit solution for spot and general lighting applications in the hospitality industry.
It is particularly suited to public areas such as receptions, lobbies, corridors, stairwells and washrooms, where the light is on all the time.

Benefits:
- Up to 80% energy saving compared with halogen lamp
- Broad compatibility with transformers

Features:
- Low energy consumption: 2.6 W → 20 W, 4.2 W →35 W, 5 W → 50W
- Non-dimmable
- Patented intelligent driver
- Retrofittable with low-voltage MR16 halogen lamps with GU5.3 socket

Applications:
- Ideal for accent lighting in hotels, hospitals, shops and museums (e.g. floors, elevators, displays) in open luminaires (with an open/free air gap of min. 10 mm)

Essential MR16	Wattage	Comparable Halogen Wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(12NC)
Essential LED 2.6-20 2700K MR16 24D	2.6	20	GU5.3	MR16	600	24	15,000	no	135	52	10	> 80	2700	929000232708
Essential LED 2.6-20 6500K MR16 24D	2.6	20	GU5.3	MR16	750	24	15,000	no	170	65	10	> 70	6500	929000232808

| Essential (E1)	Voltage	Comparable Halogen Wattage	Socket	Flux	Beam intensity	Beam angle	Lifetime	Dimmable	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	(V AC)	W		lm	cd	°	hrs		lm	lm/W		Ra	K	(12NC)
Essential LED 4.2-35 2700K MR16	12	35	GU5.3	240	1100	24	15,000	no	240	57	10	> 80	2700	929000250408
Essential LED 4.2-35 6500K MR16	12	35	GU5.3	285	1150	24	15,000	no	285	67	10	> 70	6500	929000250608
Essential LED 5-50 2700K MR16	12	50	GU5.3	355	1100	24	15,000	no	355	50	10	> 80	2700	929000237038
Essential LED 5-50 6500K MR16	12	50	GU5.3	410	1150	24	15,000	no	410	82	10	> 70	6500	929000237138

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For further information visit the website:

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MASTER LEDspot LV AR111 G53

15W
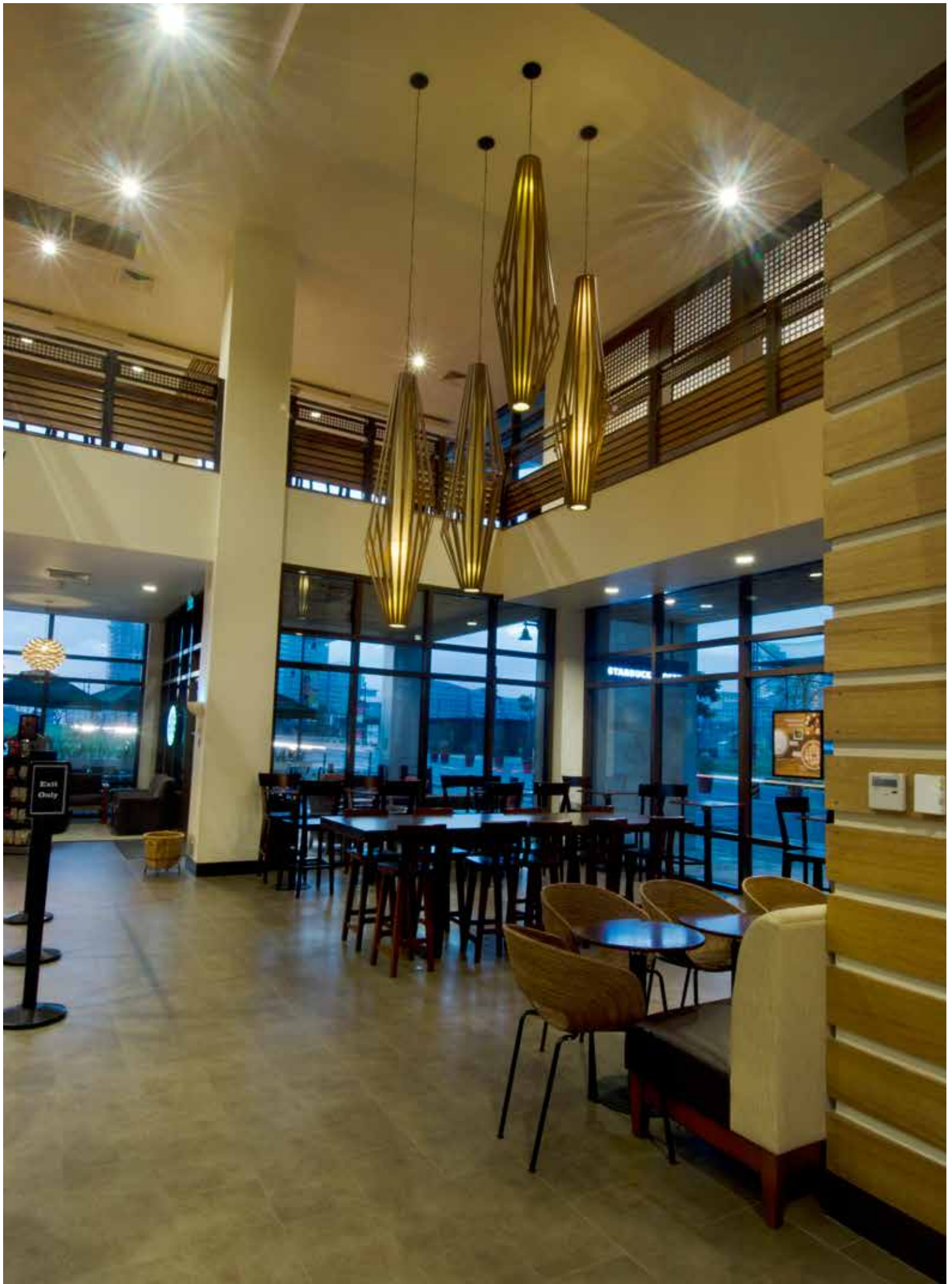
Dimmable

Delivering a warm, halogen-like accent beam, MASTER LEDspot AR111 is an ideal retrofit solution for spot and general lighting applications in the hospitality and retail industry. It is particularly suitable for general lighting where the light is on all the time, such as creative accent lighting applications in shops, restaurants, hotels, and especially for galleries, exhibitions and museums. The robustly designed MASTER LEDspot AR111 offers various beam angles for a clearly defined beam spread.

Benefits:
• Up to 80% energy saving compared with halogen lamps
• Broad compatibility with transformers
• Retrofittable

Features:
• Lower energy consumption: 15 → 75 W (12 V)
• Dimmable
• Patented intelligent driver
• Long lifetime
• Low energy consumption
• Clearly defined beam spread
• UV- and IR-free light for less heat and protection for heat-sensitive objects

Applications:
• For galleries, museums, exhibitions, lobbies, corridors, stairwells, washrooms, reception areas

Product specification

MASTER LEDspot LV AR111 G53	Wattage	Comparable Halogen wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(12NC)
MASTER LED 15W AR111 2700K 24D	15	75	G53	AR111	4560	24	45,000	yes	830	55	6	>80	2700	929000204502
MASTER LED 15W AR111 2700K 40D	15	75	G53	AR111	1660	40	45,000	yes	830	55	6	>80	2700	929000204602

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.

MASTER LEDspot LV 21W AR111	Wattage	Comparable CDM wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable	Lumen	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(12NC)
MASTER LED 21W AR111 3000K 15D	21	35	G53	AR111	10000	15	20000	no	1300	62	6	>80	3000	929000244408
MASTER LED 21W AR111 4000K 15D	21	35	G53	AR111	10500	15	20000	no	1350	64	6	>80	4000	929000244508
MASTER LED 21W AR111 3000K 36D	21	35	G53	AR111	3400	36	20000	no	1300	62	6	>80	3000	929000244608
MASTER LED 21W AR111 4000K 36D	21	35	G53	AR111	3600	36	20000	no	1350	64	6	>80	4000	929000244708

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www.philips.com/OEMasia

MASTER LEDspots PAR

7W　　12W　　17W OD　　18W

Dimmable and Non-Dimmable

With its robust design and warm-white beam of light, these new-generation PAR lamps are ideal for general lighting and spot lighting in the hospitality industry. There is a choice of dimmable and non-dimmable versions. They are especially suitable for public areas such as lobbies, corridors and stairwells, where the light is always on. Compatible with existing fixtures with an E27 holder and designed for retrofit replacement of halogen/incandescent lamps, MASTER LEDspot PAR delivers huge energy savings and minimizes maintenance cost without any reduction in brightness.

Benefits:
- Up to 80% energy saving compared to halogen lamps
- Retrofittable and compatible with existing fixtures with E27 holder
- Lower maintenance costs

Features:
- Low energy consumption: 7 W → 50 W, 12 W → 75 W, 17 W → 100 W, 18W → 100W
- Lifetime of 45,000 hours
- Dimmable (except PAR38 OD)
- UV- and IR-free light for less heat and protection for heat-sensitive objects
- Free of mercury and hazardous materials

Applications:
- PAR20, PAR30 and PAR38 for indoor use in open luminaires (ventilated, min. 10 mm free air gap)
- PAR38 OD for outdoor use (please check the packaging guidelines for outdoor installation requirements)
- Especially suitable for public areas like lobbies, corridors and stairwells

Product specification

MASTER LEDspot PAR	Wattage	Comparable incandescent wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(12NC)
D 7-50 W 2700 K PAR20 25D	7	50	E27	PAR20	1000	25	45,000	yes	250	36	6	>80	2700	929000174402
D 12-75 W 2700 K 230 V PAR30S 25D	12	75	E27	PAR30S	2250	25	45,000	yes	630	53	6	>80	2700	929000197308
17-100 W 2700 K 230 V PAR38 OD	17	100	E27	PAR38	3500	25	25,000	no	810	48	6	>80	2700	929000197502
D 18-100 W 2700 K 230 V PAR38 25D	18	100	E27	PAR38	3400	25	45,000	yes	810	45	6	>80	2700	929000197408

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.

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MASTER LEDspot LV MR11 GU4

4W

Non-Dimmable

Delivering a warm, halogen-like accent beam, MASTER LEDspot LV is an ideal retrofit solution for spot and general lighting applications in the hospitality industry. It is particularly suited to public areas such as receptions, lobbies, corridors, stairwells and washrooms, where the light is on all the time. The robustly designed MASTER LEDspot offers a choice of beam angles for a clearly defined beam spread.

Benefits:
- CRI80, 2700K truly enhances the presentation of silver jewelry, adding sparkle to the items on display
- Up to 80% energy saving compared with halogen lamps
- With low-voltage MR11 halogen lamps with GU4 socket
- Lower maintenance costs

Features:
- Low energy consumption: 4 W → 20 W (12 V)
- Non-dimmable
- Clearly defined beam spread
- UV- and IR-free light for less heat and protection for heat-sensitive objects
- Retrofittable

Applications:
- Ideal to create eye-catching displays (for e.g. in jewelry stores)

Product specification

| MASTER LEDspot LV MR11 GU4	Wattage	Comparable Halogen Wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(12NC)
4-20 W GU4 2700 K 24D	4	20	GU4	MR11	580	24	25,000	no	140	35	12	>80	2700	929000178408

hospitality　retail

For further information visit the website:

www.philips.com/OEMasia
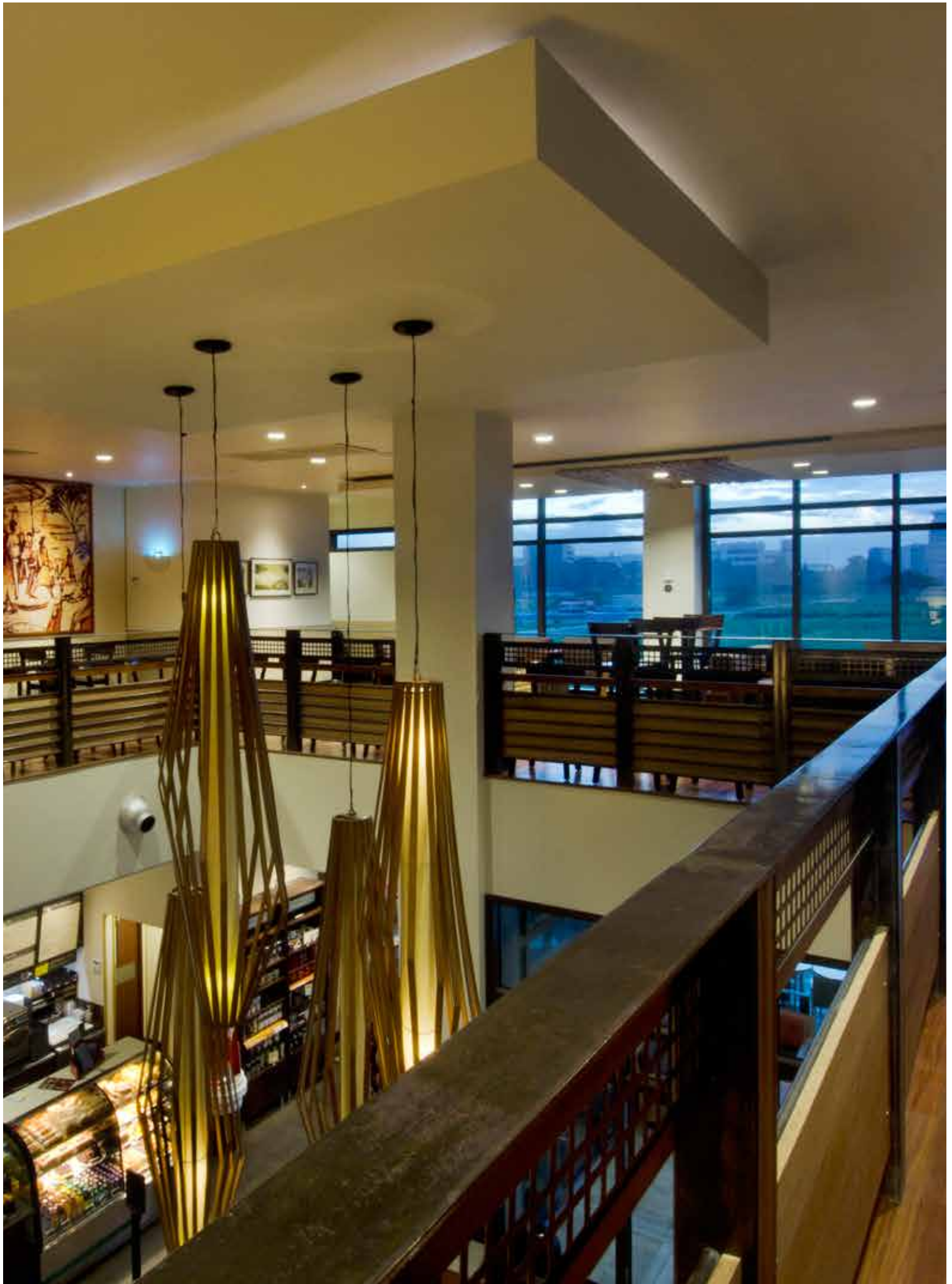
MASTER LEDbulb

Dimmable

MASTER LEDbulb 7-40W, 12-60W and 13-75W delivers a dimmable glow effect for a welcoming, warm atmosphere, making it ideal for general lighting applications in the hospitality industry. Its unique design radiates warm light in all directions, making it a true alternative to the incandescent lamp.

It is particularly suitable for public areas such as lobbies, corridors, stairwells, where the light is always on.

Benefits:
- Dimmable with leading edge dimmers
- Up to 80% energy saving compared with traditional incandescent lamps
- Easy (retrofit) replacement
- Lower maintenance costs

Features:
- Low energy consumption: 7 W → 40 W, 12 W → 60 W, 13 → 75 W
- Dimmable
- Compatible with an extensive range of dimmers
- Warm white light
- Lifetime of 25,000 hours
- UV- and IR-free light

Applications:
- Suitable for general lighting/ambiance creation in e.g. hotels, restaurants, shops and offices

Product specification

MASTER LEDbulb	Wattage	Comparable incandescent Wattage	Socket	Bulb shape	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			°	hrs		lm	lm/W		Ra	K	(12NC)
D 7-40 W E27 2700 K	7	40	E27	A60	>300	25,000	yes	470	59	6	>80	2700	929000247902
D 12-60 W E27 2700 K	12	60	E27	A60	>300	25,000	yes	806	67	6	>80	2700	929000248202
D 13-75 W E27 2700 K	13	75	E27	A67	>300	25,000	yes	1050	62	6	>80	2700	929000242802

* Please refer to the site www.philips.com/oemmasterledlamps for the latest information about dimming MASTER LEDlamps.

hospitality   retail   supermarket   office

For further information visit the website:

www.philips.com/OEMasia

MASTER LED Candles

Dimmable

Delivering incandescent-like sparkling light effects, Novallure LED candle are ideal for general and decorative lighting in the hospitality industry, as well as in home environments. Mounted in full view in chandeliers, wall sconces or modern luminaires, the clear glass bulbs fit all existing fixtures with an E14 socket. Drawing upon inputs from chandelier makers and designed to enhance the aesthetic appeal of the chandelier or luminaire, not only when lit but also when not, these lamps come in a classical slender shape with a unique, eye-catching lens design. They produce a beautiful sparkling warm light that delivers huge energy savings and minimizes maintenance cost.

Benefits:
- Warm white light
- Up to 80% energy saving
- Lower maintenance costs

Features:
- Low energy consumption: 4 W → 25 W
- Retrofittable with existing E14 holders
- Lifetime of 20,000 hours
- Available in clear
- Free of mercury and hazardous materials

Applications:
- For indoor applications in open luminaires (open/free air gap of min. 10 mm)
- Applications in hotels, restaurants, homes and historical buildings

Product specification

Novallure candles and lusters	Wattage	Comparable incandescent Wattage	Socket	Bulb shape	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Color rendering index	Color temp.	Order code
	W	W			hrs		lm	lm/W		Ra	K	(12NC)
D 4 W E14 2700 K 230 V B35 CL	4	25	E14	B35	20,000	yes	250	62	10	>80	2700	929000240408
D 4 W E14 2700 K 230 V BA35 CL	4	25	E14	BA35	20,000	yes	250	62	10	>80	2700	929000240602

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.

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For further information visit the website:

www.philips.com/OEMasia

MASTER LEDtube Standard

Standard

EMP050

For APR excluding Japan

Philips MASTER LEDtube Standard and Performance, the new generation of energy-saving tube lighting. Philips MASTER LEDtube integrates a LED light source into a traditional fluorescent form factor. Its unique design creates a perfectly uniform visual appearance which cannot be distinguished from traditional fluorescent. This product offers a fast and efficient way to grow your business and leverage market interest for LED.

Benefits:
- Reduced operational cost thanks to lower energy consumption
- Lower maintenance cost thanks to 2-3 times longer lifetime than fluorescent lamps
- Fastest and easiest way to upgrade existing luminaire to LED technology

Features:
- Replacement of T8 fluorescent lamps by meeting basic lighting requirement
- More than 50% less energy consumption comparing to fluorescent lamps
- Extra-long life of 40,000 hours
- Full safety features and EM Protector safety device
- No mercury

Applications:
- Retail
- Office
- Industry
- School
- Hospital
- Public

Product specification

MASTER LEDtube GA 200	Wattage	Equivalent Fluorescent Wattage	Voltage	Cap base	Lenght	Beam Angle	Lifetime	Lumen output	Color temp.	CRI (min.)	Order code
	W	W	V		mm		hrs	lm	K		(12NC)
MSTR TLED INT STD 600mm 10W840 T8	10	18	100-240	G13	600	140	40,000	825	4000	80	929000295208
MSTR TLED INT STD 600mm 10W865 T8	10	18	100-240	G13	600	140	40,000	825	6500	80	929000295308
MSTR TLED INT STD 900mm 15W840 T8	15	30	100-240	G13	900	140	40,000	1265	4000	80	929000295408
MSTR TLED INT STD 900mm 15W865 T8	15	30	100-240	G13	900	140	40,000	1265	6500	80	929000295508
MSTR TLED INT STD 1200mm 19W840 T8	19	36	100-240	G13	1200	140	40,000	1650	4000	80	929000295908
MSTR TLED INT STD 1200mm 19W865 T8	19	36	100-240	G13	1200	140	40,000	1650	6500	80	929000296008
MSTR TLED INT STD 1500mm 24W840 T8	24	58	100-240	G13	1500	140	40,000	2065	4000	80	929000296108
MSTR TLED INT STD 1500mm 24W865 T8	24	58	100-240	G13	1500	140	40,000	2065	6500	80	929000296208
Accessories MASTER LEDtube											
Protector EMP 050											929000489718

supermarket   office   parking   warehouse and cold store   retail

For further information visit the website:

www.philips.com/OEMasia

MASTER LEDtube Performance

Performance

EMP050

For APR excluding Japan

Benefits:
• Reduced operational cost thanks to lower energy consumption
• Lower maintenance cost thanks to 3-4 times longer lifetime than fluorescent lamps
• Fastest and easiest way to upgrade existing luminaire to LED technology

Features:
• Replacement of T8 fluorescent lamps with excellent lighting quality
• 50% less energy consumption comparing to fluorescent lamps
• Extreme-long life of 50,000 hours
• Full safety features and EM Protector safety device
• No mercury

Applications:
• Retail
• Office
• Industry
• School
• Hospital
• Public

Product specification

MASTER LEDtube GA 200	Wattage	Equivalent Fluorescent Wattage	Voltage	Cap base	Length	Beam Angle	Lifetime	Lumen output	Color temp.	CRI (min.)	Order code
	W	W	V		mm		hrs	lm	K		(12NC)
MAS LEDtube PERF 600mm 10.5W840 T8 I	10.5	18	100-240	G13	600	140	50,000	1050	4000	83	929000280408
MAS LEDtube PERF 600mm 10.5W865 T8 I	10.5	18	100-240	G13	600	140	50,000	1050	6500	83	929000280508
MAS LEDtube PERF 1200mm 21W840 T8 I	21	36	100-240	G13	1200	140	50,000	2100	4000	83	929000280708
MAS LEDtube PERF 1200mm 21W865 T8 I	21	36	100-240	G13	1200	140	50,000	2100	6500	83	929000280908
MSTR TLED INT PERF 900mm 17W840T8	17	30	100-240	G13	900	140	50,000	1560	4000	83	929000293308
MSTR TLED INT PERF 900mm 17W865T8	17	30	100-240	G13	900	140	50,000	1560	6500	83	929000293408
MSTR TLED INT PERF 1500mm 28W840T8	28	58	100-240	G13	1200	140	50,000	2650	4000	83	929000293508
MSTR TLED INT PERF 1500mm 28W865T8	28	58	100-240	G13	1200	140	50,000	2650	6500	83	929000293608
MAS LEDtube PERF 1200mm 25W840 T8 I	25	36	100-240	G13	1200	140	50,000	2500	4000	83	929000281708
MAS LEDtube PERF 1200mm 25W865 T8 I	25	36	100-240	G13	1200	140	50,000	2500	6500	83	929000281908
Accessories MASTER LEDtube											
Protector EMP 050											929000489718

For Japan only

Performance

EMP050   EMP051

Benefits:
• Reduced operational cost thanks to lower energy consumption
• Lower maintenance cost thanks to 3-4 times longer lifetime than fluorescent lamps
• Fastest and easiest way to upgrade existing luminaire to LED technology

Features:
• Replacement of T8 fluorescent lamps with excellent lighting quality
• 50% less energy consumption comparing to fluorescent lamps
• Extreme-long life of 50,000 hours
• Full safety features and EM Protector safety device
• No mercury

Applications:
• Retail
• Office
• Industry
• School
• Hospital
• Public

Product specification

MASTER LEDtube GA 200	Wattage	Equivalent Fluorescent Wattage	Voltage	Cap base	Lenght	Beam Angle	Lifetime	Lumen output	Color temp.	CRI (min.)	Order code
	W	W	V		mm		hrs	lm	K		(12NC)
MSTR TLED INT PERF 580mm 11W840 T8 JP C	11	20	100-240	G13	580	140	50,000	1050	4000	80	929000292418
MSTR TLED INT PERF 580mm 11W850 T8 JP C	11	20	100-240	G13	580	140	50,000	1050	5000	80	929000292518
MSTR TLED INT PERF 580mm 11W865 T8 JP C	11	20	100-240	G13	580	140	50,000	1050	6500	80	929000292618
MSTR TLED INT PERF 1200mm 21W840 T8 JP C	21	40	100-240	G13	1200	140	50,000	2100	4000	80	929000280718
MSTR TLED INT PERF 1200mm 21W850 T8 JP C	21	40	100-240	G13	1200	140	50,000	2100	5000	80	929000280818
MSTR TLED INT PERF 1200mm 21W865 T8 JP C	21	40	100-240	G13	1200	140	50,000	2100	6500	80	929000280918

supermarket   office   parking   warehouse and cold store   retail

For further information visit the website:

www.philips.com/OEMasia

Essential LEDtube

Essential

Benefits:
- Reduced operational cost thanks to lower energy consumption
- Lower maintenance cost thanks to 2-3 times longer lifetime than fluorescent lamps
- Fastest and easiest way to upgrade existing luminaire to LED technology; safer product and installation process

Features:
- Replacement of T8 fluorescent lamps with excellent lighting quality
- 50% less energy consumption comparing to fluorescent lamps
- Extreme-long life of 30,000 hours
- Install with Main connection
- No mercury

Applications:
- Retail
- Office
- Industry
- School
- Hospital
- Public

Product specification

Essential TLED	Wattage	Comparable Halogen Wattage	Socket	Length	Beam angle	Lumen output	Lifetime	Efficacy	Color rendering index	Color temp.	Order code
	W	W		mm	°	lm	hrs	lm/W	Ra	K	(12NC)
ESSENTIAL LEDtube 1200mm 20W840	20	36	G13	1200	165	1600	30,000	80	80	4000	929000296608
ESSENTIAL LEDtube 1200mm 20W865	20	36	G13	1200	165	1600	30,000	80	80	6500	929000296708
ESSENTIAL LEDtube 1200mm 20W830	20	36	G13	1200	165	1500	30,000	75	80	3000	929000298008
ESSENTIAL LEDtube 600mm 10W840	10	18	G13	600	165	800	30,000	80	80	4000	929000296808
ESSENTIAL LEDtube 600mm 10W865	10	18	G13	600	165	800	30,000	80	80	6500	929000296908
ESSENTIAL LEDtube 600mm 10W830	10	18	G13	600	165	750	30,000	75	80	3000	929000297908

Essential TLED	Wattage	Voltage	Socket	Length	Beam angle	Lumen output	Lifetime	Color rendering index	Color temp.	Pcs per BOX	Lamp Weight	Model Number
	W	V		mm	°	lm	hrs	Ra	K		g	
ESSENTIAL LEDtube 1200mm 25W830 T8 I	25	220-240	G13	1200	160	2000	30,000	80	3000	10	350	929000282208
ESSENTIAL LEDtube 1200mm 25W840 T8 I	25	220-240	G13	1200	160	2100	30,000	80	4000	10	350	929000282008
ESSENTIAL LEDtube 1200mm 25W865 T8 I	25	220-240	G13	1200	160	2100	30,000	80	6500	10	350	929000282108
ESSENTIAL LEDtube 600mm 12.5W830 T8 I	12.5	220-240	G13	600	160	1000	30,000	80	3000	10	180	929000282508
ESSENTIAL LEDtube 600mm 12.5W840 T8 I	12.5	220-240	G13	600	160	1050	30,000	80	4000	10	180	929000282308
ESSENTIAL LEDtube 600mm 12.5W865 T8 I	12.5	220-240	G13	600	160	1050	30,000	80	6500	10	180	929000282408

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For further information visit the website:

www.philips.com/OEMasia

"I was born in Fezna 50 years ago. After marrying my husband I live in a different settlement, but my entire family lives along the same road. The new lighting system means we can now safely visit each other in the evenings, and not just during the day."

1 **Tafilatet Valley Oases in Fezna, Morocco**
Fortimo LED LLM modules and intelligent Xitanium LED drivers were installed, both in solar and on-grid solutions.

Client
Municipality Fezna
Location
Tafilalet Oases area, Morocco
OEM/Luminaires
Ecolite, CEMDAG CL1001
Philips products
Fortimo LED LLM, Xitanium LED drivers
Philips account manager
Dr. Mohammed Khalil

2 **Mavecon Verona, Italy**
Fortimo LED DLM: the perfect solution, combining superb light quality with low energy consumption.

Customer
Mavecon
Location
Verona, Italy
OEM/Luminaires
KEP and RA Dixit LED - Ivela
Philips products
Fortimo LED DLM 2000/3000 lm
Philips account manager
Adriana Rubino Torrado

The combination of selected lighting solutions, T5 luminaires and the Nemo LED with Fortimo LED DLM 2000 lm inside, delivered the best solution on energy efficiency as well as on high quality of light.

"Fortimo LED DLM lighting makes it possible to achieve superb visual effects whilst bringing down energy consumption and maintenance costs."
Alessio Colombo, Mavecon shop development manager

3 **Biltema, Sweden**
Nemo LED with Fortimo LED DLM 2000 lm inside delivers the best solution on energy efficiency as well as on high quality of light.

Customer
Biltema
Location
Helsingborg, Sweden
OEM / Luminaires
Nokalux, Solar Light / Nemo LED
Philips products
Fortimo LED DLM 2000 lm
Philips account manager
Andrés Andersson Lirón

4 **Rijksmuseum Amsterdam, the Netherlands**

Customer
Rijksmuseum
Location
Amsterdam, the Netherlands
Philips products
Philips StyliD
Fortimo LED Spotlight Module Tight Beam
Fortimo LED Strip
Xitanium LED Indoor drivers
Philips Dynalite DALI system

5 **Multi Storey Car Park, Warwick University, United Kingdom**
The combination of LED lighting and Fortimo LED LLM modules maximises energy saving while providing higher perceived light levels to improve safety in the parking facility.

Client
Warwick University
Location
Warwick, United Kingdom
OEM
Holophane Europe Ltd
OEM products
Parkpack® LED, Aeris™ LED, Denver™ Wall Elite LED
Philips products
Xitanium LED drivers, Fortimo LLM LED modules
Philips account manager
Jasper Hijink

"We chose LED lighting as it allows the art to be viewed in the best light possible bringing out all the colors and details that the artist intended us to see."
Tim Zeedijk, Head of Exhibitions at the Rijksmuseum

The combination of LED lighting and controls maximises energy saving while providing higher perceived light levels to improve safety in the parking facility.

The Fortimo building blocks

For further information visit the website:

www.philips.com/OEMasia

High quality of white light

Quality of light encompasses many different light technical aspects, ranging from colour rendition, colour temperature and colour stability to evenly distributed beam patterns and high levels of lumen maintenance. Whether you are looking for a LED solution offering good quality of light for a mainstream application, in line with any relevant European norms, whereby CRI 80 and 5 SDCM is good enough, or whether you are looking for a high quality specification of light, for colour critical or colour enhanced applications in Retail, the Fortimo range has solutions in all categories. Crisp White technology is the latest addition to the Fortimo family, which will shortly be applied in the Fortimo LED SLM family. Crisp White makes whites appear pure and bright, while simultaneously enhancing and presenting deep, rich colours. An ideal light source for Retailers selling fashion!

From sharply controlled beams for spotlighting in museums, to the comfortable, diffuse light distributions created from remote phosphor for downlighting, the Fortimo range covers it all.

And not just at the beginning, but maintained over the life of the installation as well. The Philips brand stands for high quality standards in all products and services brought to the market, and this also applies to LED Systems. The Fortimo range is designed and manufactured to meet the highest and most stringent light quality levels, with tightly controlled tolerances, to ensure that the quality of light produced from the modules is of the highest possible standard.

This consistent high quality of light approach is underpinned and made possible by having clearly defined and strictly adhered to Quality processes embedded throughout all the different phases. Product design includes, amongst others, building in safety features for reliable lifetime and overheating, specifying light technical tolerances for colour temperature, colour stability, colour rendition and lumen output. There are strict criteria defined for the selection of the many component suppliers Philips works with. The manufacturing processes include in-line testing of key light parameters that are critical to quality of light, as well as statistical process control and 100% safety testing for ENEC certification.

All these procedures ensure that the Fortimo quality of light is one of the highest available on the market today.

Smart system approach

Philips Fortimo LED systems offer peace of mind, as they always include a choice of Xitanium LED drivers, which are the brains behind the Fortimo system. Modules and drivers are developed together as a system, designed around each other for maximum performance. Xitanium LED drivers are reliable, flexible and intelligent and offer many smart features and advantages for luminaire manufacturers. The flexible operating window enables OEMs to keep using the same driver when a new Fortimo LED module upgrade occurs. As long as the power and voltage coordinates fall within the specified window, any LED Light engine will work with a particular Xitanium LED driver. It also means that lumen packages can remain the same with LED

module upgrades, without having to change the driver. Xitanium LED drivers are built around certain applications, such as spotlighting, downlighting, linear (low voltage and high voltage), or outdoor lighting and each type has its own set of drivers, covering a range of lumen packages, with a unique window relevant to that particular application.

The Xitanium LED driver portfolio offers a wide range of choice for both Fortimo and other LED modules, depending on which application is to be addressed. It covers both Indoor and Outdoor drivers, in fixed light output, dimmable 1-10V and DALI/TD versions, in various shapes and sizes. There is an abundance of choice in the portfolio. Intelligent systems.

Xitanium LED drivers (DALI/TD versions) offer intelligence by their ability to be programmed to alter the specifications of a LED system to the OEMs own wishes. This can either be done by using

the Philips MultiOne configurator tool, or via an Rset outside the driver. This is particularly useful when customized luminaires are needed, or differentiation is wanted. The ability to set your own lumen output, in combination with a higher or lower efficiency is a much appreciated feature.

Xitanium LED drivers can offer many additional features, designed in to the portfolio to offer additional peace of mind about the lifetime of a LED system. The constant light output feature is, for example, valued by Outdoor lighting manufacturers, who want a maintained lumen output over the life of the LED system. Additional features include DC emergency, low ripple current, hot wiring and thermal derating for point LED sources ensuring the LED module does not become overheated, leading to short life.

Visit our website for all your product information downloads

For further information visit the website:

www.philips.com/OEMasia

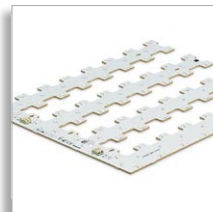For further information visit the website:

www.philips.com/OEMasia

Lighting definitions explained

Legend technical specifications	Symbol	Definition
Backwards compatible		It can work with an older product or technology
Beam angle	(°)	Exit angle of the light beam
Central beam candela		Power emitted by a light source in a particular direction. A common candle emits light with a luminous intensity of roughly one candela
Chip on board	COB	Refers to the semiconductor assembly technology wherein the microchip or die is directly mounted on and electrically interconnected to its final circuit board, instead of undergoing traditional assembly or packaging as an individual IC.
Correlated colour temperature	K	CCT; describes whether white light appears warm (reddish), neutral or cool (bluish)
Colour rendering index	Ra	CRI; the ability to reproduce the colours of various objects fainthfully in reference to an ideal lightsource
Colour consistency (initial)	SDCM	Standard Deviation of colour Matching; describing the difference between two colours. Eg. A difference of 1-3 SDCM is virtually imperceptible; a difference of 4 or more is readily visable
Dimmable average lifetime 10 % failure	hrs	Lifetime in hours, defined by reaching 10 % failures (ie. 90 % survivors) when dimmed
Dimming range	%	Dimming range in which the system will perfom as specified
Driver power factor	%	Indicating how effective the driver converts electric current to usefull power output
Efficiency range max load		Efficiency when operation at maximum power (not dimmed)
EOC code		European Order Code
Frequency	Hz	See line frequency
Housing colour		Colour of housing
Input Voltage	V	Voltage required as input for the product
IP Classification		Ingress protection defined in terms of object size and water beam protected against
Inrush current peak		Highest current the capacitative components operate at start up
Lifetime	hrs	Lifetime in hours, associated with specific conditions (eg. lumen maintenance, Tc, failure)
Lifetime 10 % failure	hrs	Lifetime in hours, defined by reaching 10 % failures (ie. 90 % survivors) for a population
Light output	lm	Output of luminous flux
Lumen maintenance @ 50 k hrs	%	% of the original lumen flux remaining after indicated (life-)time for a defined population; eg. B50/L70 indicates 50 % of the population retaining 70 % of the orginal light output
Luminous Flux	lm	Total energy emitted by a lightsource across the visible wavelengths of light
Module efficacy	lm/W	Efficiency module; lumen output per Watt input
Module power	W	Energy required to operate the module
Module temperature control		Protective feature with which the driver is regulating down the module power when a certain critical temperature of the module is passed
Passive cooling		Cooling without power consumption
Power factor	Pf	see: driver power factor
Relative Humidity	%	Portion of water vapor in a mixture of air and watervapor
System efficacy	lm/W	Efficiency module + driver
System power	W	Energy required to operate the system
Tc life driver	°C	Temperature of indicated point on the product on which the lifetime is based
Tc life module	°C	Temperature of indicated point on the product on which the lifetime is based
Total harmonic distortion	%	Indication of the influence of the lighting products on frequencies of other equipment
Zhaga		Zhaga is an industry-wide cooperation between companies aimed at enabling the interchangeability of LED light sources made by different manufacturers

Notes

OEM LED Catalogue