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August 2013

Issue 5

Fortimo® LED catalogue

For today, for tomorrow

PHILIPS

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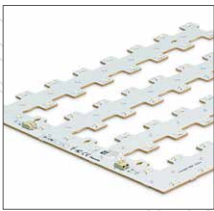
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Innovation that matters!



At Philips, we are always looking at ways to innovate. Innovation in products, services, logistics, communication, etc... We try to base these innovations on a thorough analysis of the needs of people. Technology should be supportive, an enabler that brings us the required benefits we seek.

And, at Philips, we love to share these innovations with our partners and customers. One of our latest innovations is in the field of communication. Making it possible to "Follow us" and our innovations closely via our digital subscription center. This allows you to personalize the information you would like to receive from Philips, by choosing which subscriptions you would like from our newsletters, catalogues, magazines, etc.

Simply go to our website www.philips.com/technology and subscribe to the communications that you would like to receive. It's designed around your needs. Give it a try!

Enjoy reading!

Peter Halmans
Marketing Director

Philips Lighting Europe Technology webinar program



The Philips Lighting OEM channel has developed a product and technology webinar program for luminaire manufacturers across Europe. A series of monthly webinars, each lasting half an hour, is currently running, to help keep Product managers, R&D and Technical departments updated on the frequent changes in the Philips Lighting OEM Europe product portfolio.

The webinars include Fortimo and Xitanium new product introductions, a quarterly product phase in, phase out webinar, lighting controls, OLEDs and other technology associated subjects. The majority of the webinars are in English, although there will be occasional local language versions. The webinars are hosted by Philips Lighting OEM Product Managers, who are also available for questions at the end of the session. All webinars are recorded and placed on the Philips Lighting website for a limited period.

For more information on the actual program of upcoming webinars and to register, please visit www.philips.com/techlearning and click on the webinar button. Or you can contact Annetta Kelso at Annetta.kelso@philips.com

www.philips.com/techlearning



Fortimo building blocks

Learn and explore more about
our Fortimo LED Technology at:
www.philips.com/technology

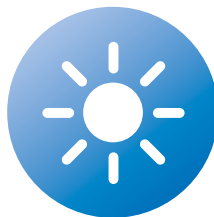


High quality of light

"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. 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."

Peter Duine, Market Innovation Program Leader

Quality of Light



Smart System

Future Proof



Future proof system

"The Philips 'future proof' promise for Fortimo LED systems, introduced back in 2008 has been widely welcomed in the market, as it is an enabler for LED system innovation coupled, with a certain stability of LED module form factor and lumen package. This allows luminaire manufacturers to switch easily between one Fortimo LED module generation and the next, with minimal disruption and cost to their luminaire design and production processes."

Annetta Kelso, Senior Marketing Manager LED Systems Europe



Smart systems

"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. Xitanium LED drivers are reliable, flexible and intelligent and offer many smart features and advantages for luminaire manufacturers. The flexible operating window allows OEMs to keep using the same driver when a new Fortimo LED module upgrade occurs. 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. A Fortimo module in combination with a Xitanium LED driver is a truly smart system choice."

Guus van Schijndel, Product Market Manager Europe, Xitanium LED Indoor drivers

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Rijksmuseum, aktuellen Lieferumfang entnehmen Sie bitte der Artikelbeschreibung in unserem Onlineangebot =>>

Amsterdam, the Netherlands

In close cooperation with the Rijksmuseum, Philips took on the detailing, 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.

See Fortimo LED Spotlight Module Tight Beam on page 21, Fortimo LED Strip on page 29 and Xitanium LED indoor drivers page 40.



01

Fortimo LED systems

High quality, future-proof and smart LED technology



Indoor

01. Fortimo LED systems (modules + drivers + cables)

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Just released!

Indoor

Quality white light with a simple twist - Fortimo LED Twistable DLM Gen3 dimmable



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The Fortimo Twistable Gen3 dimmable modules are easy to install and use, thanks to the integrated driver concept, combines a long lifetime at very affordable price. The Gen3 versions are introduced in two lumen packages (1100 lm and 2000 lm) and two color temperatures (3000 K and 4000 K).

What's new in Gen3?

The Fortimo LED Twistable DLM Gen3 dimmable modules are a very attractive LED downlight solution (with a strong Total Cost of Ownership proposition against CFL 2x18 W and 2x26 W) in the wholesale channel and semi-professional applications. The Fortimo LED Twistable DLM Gen3 dimmable modules have a leading edge DIM platform and a lifetime of 50 K hrs at Tcase 55 degrees. The dimensions are same as the Twistable DLM Gen2 versions with same optical window.

Compact solution for down light - Fortimo LED disk 800 lm dimm Gen3



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Easy to design-in, compact and cost effective integrated LED downlight module with high quality of light. Customers in the hospitality, office and retail segment want to reduce their energy consumption and maintenance cost, without compromising on light quality. Luminaire manufacturers can help them do that with a standardised LED solution. The Fortimo LED disk 800 lm Gen3 dimmable, is ideal for compact downlights requiring high quality light, thanks to the latest energy efficient LED technology, integrated driver and optics. The small form factor offers luminaire makers maximum freedom of design. Designing small compact downlights with long lifetime and high quality of light, creates new possibilities for the market.

Order your sample in our sample webshop!



sample webshop



www.philips.com/oemwebshop

Bright and vivid - Fortimo LED SLM Gen3 4500 lm

The third generation of the Fortimo LED SLM system is the ideal solution for highly efficient spot and downlighting fixtures. It is specifically designed for the retail market and stands out in light quality and beam control, showcasing retail merchandise in bright and vivid light. Our current portfolio of 2000 and 3000 lm is now expanded with a 4500 lm range. The Fortimo LED SLM 4500 Gen3 is seen as the ideal alternative for CDM 70 W and elite 50 W in spot and downlight applications. This new range is compatible with the complete Xitanium 50 W driver range.



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Narrow and compact - Fortimo LED SLM Tight Beam

Range extension: colours 827 & 840

The Fortimo LED SLM Tight Beam 1100 lm enables the creation of extremely narrow and uniform beams with the highest punch possible for accent lighting fixtures. After the launch of the first Fortimo LED SLM Tight Beam systems with colours 830 and 930, this product range has now been extended with all relevant colour temperatures including 827 and 840. This enables the use of this system in many spotlighting applications.

This product is used in the new Rijksmuseum, see for project details page 6 and 20



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Just released!

Indoor

Designed for luminaire manufacturability - Fortimo LED Line Gen2



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This second generation of Fortimo LED Lines further improves the Total Cost of Ownership of the LED luminaires compared to fluorescent luminaires. First of all, the module efficacy is increased with approx. 10 % up to 150 lm/W. Secondly, the Fortimo LED Lines are designed for manufacturability; reducing mounting time, increasing flexibility in cables using standard wiring and enabling robot wiring. Last of all, the Tc is increased to enable higher T ambients or less heat sinking. On top of these improvements in TCO, the range will be extended with the 1 ft 1100 lm 1R HV and the isolated drivers.

Enabling homogeneous office luminaires - Fortimo LED Line SQ



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The Fortimo LED Line Square systems are designed to replace fluorescent lighting in recessed, surface mounted and suspended office luminaires which require a homogeneous exit window, such as the 600x600 / 2x2 troffers. The Fortimo LED Line Square enables homogeneous exit windows in luminaires from 4.5 cm depth. Also these types follow the characteristics of the Fortimo LED Line family optimised on TCO with module efficacy up to 145 lm/W and designed for manufacturability.

Order your sample in our sample webshop!



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Designed for luminaire manufacturability - Fortimo LED Lines High Flux

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, big retail stores with typical solutions as 2x80 W and 2x58 W. These types bring 2000 lm/ft with efficiencies up to 130 lm/W.

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Easy to design-in, flexibility of choice - Fortimo LED Integrated spot Gen2

Featuring the latest energy-efficient LED technology, the Fortimo LED Integrated spot module offers high quality light with excellent colour rendering and a long lifetime. This module is ideal for smart LED redesigns of existing low voltage 50 W halogen fixtures thanks to the integrated driver, optics and heat sink. This makes life easy and allows a fast time to market. The Fortimo LED Integrated spot Gen2 will be dimmable (leading edge) and will have an extended lifetime of 50,000 hours. The Fortimo LED Integrated spot module is ideal for recessed, ceiling, suspended and wall surface spot luminaires requiring high quality light.

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Fortimo LED DLM Gen4

Indoor | Downlight & Spotlight systems

Fortimo LED DLM Gen4 reduces total cost of ownership by offering higher energy efficiency and a higher Tc, as well as enabling compatibility with lower-power drivers. In addition, the Fortimo LED DLM Gen4 module is 55 % lighter in weight than the current generation. With this upgrade, Fortimo LED DLM remains the ideal LED system solution for high-quality, low-glare downlights.

Benefits:

- Industry-leading energy efficiency with high-quality white light, as well as easy glare control due to diffused light
- More compact heat sink design possible due to 5 °C increase in Tc (Tc=70 °C) and higher efficiency
- Wide choice of high-quality LED drivers with different form factors and dimming protocols

Features:

- Wide lumen packages from 1100 to 3000 lm with choices of 3000 K and 4000 K
- Up to 55 % reduction in weight comparing to earlier generations
- System offering with 5 years warranty
- CE, ENEC, ROHS and Reach compliant

Applications:

- For use in luminaires for:
- Offices
 - Public buildings
 - Hotel lobbies and receptions
 - Retail
 - Urban outdoor lighting

Product specification

	Light output	Module power	Module efficacy	System efficacy	Correlated colour temperature	Colour rendering index	Colour consistency	Tc life module	L70B50 @ Tc life	Order code
	lm	W	lm/W	lm/W	K	Ra	SDCM	°C	hrs	(EOC)
Fortimo LED DLM 1100 12 W/830 Gen4	1100	12	94	75	3000	>80	3	70	50,000	8718291 234678 00
Fortimo LED DLM 1100 11 W/840 Gen4	1100	11	103	82	4000	>80	3	70	50,000	8718291 234692 00
Fortimo LED DLM 2000 22 W/830 Gen4	2000	22	91	78	3000	>80	3	70	50,000	8718291 234715 00
Fortimo LED DLM 2000 20 W/840 Gen4	2000	20	100	86	4000	>80	3	70	50,000	8718291 234739 00
Fortimo LED DLM 3000 34 W/830 Gen4	3000	34	88	77	3000	>80	3	70	50,000	8718291 234753 00
Fortimo LED DLM 3000 32 W/840 Gen4	3000	32	94	82	4000	>80	3	70	50,000	8718291 234777 00



Compatible drivers	Order code (EOC)	Compatible driver	Order code (EOC)
Fortimo LED DLM 1100 lm Gen4	Xitanium 12 W 0.75-1 A 16 V I 230V	Fortimo LED DLM 2000 lm Gen4	Xitanium 25 W 0.3-0.7A 36V 230V
	Xitanium 17 W LH 0.3-1 A 24V TD/Is 230V		Xitanium 25 W 0.3-0.7A 36V TE /I 230V
Fortimo LED DLM 3000 lm Gen4	Xitanium 36 W LH 0.3-1 A 48 V I 230V	Xitanium 25 W 0.3-1A 36V TD/I	8727900 914344 00
	Xitanium 50 W 0.3-1 A 62V 230V	Xitanium 25 W 0.3-1A 36V TD/Is	8727900 914351 00
	Xitanium 50 W/s 0.3-1 A 62V 230V	Xitanium 36 W LH 0.3-1A 48V I 230V	8719290 008389 03
	Xitanium 50 W SH 0.3-1 A 62V I 230V	Xitanium 50 W 0.3-1A 62V 230V	8718291 137825 00
	Xitanium 50 W 0.3-1 A 62V TD/TE 230V	Xitanium 50 W/s 0.3-1A 62V 230V	8718291 137818 00
	Xitanium 50 W SH 0.3-1 A 62V TD/TE/I 230V	Xitanium 50 W SH 0.3-1 A 62V I 230V	8718291 137801 00
	Xitanium 50 W LH 0.3-1 A 62V TD/TE/I 230V	Xitanium 50 W 0.3-1A 62V TD/TE 230V	8718291 157120 00
		Xitanium 50 W SH 0.3-1A 62V TD/TE/I 230V	8718291 119487 00
		Xitanium 50 W LH 0.3-1A 62V TD/TE/I 230V	8718291 119470 00



Driver and cable combination	A	B
Fortimo LED DLM 1100 12 W/830 Gen4	+	+
Fortimo LED DLM 1100 11 W/840 Gen4	+	+
Fortimo LED DLM 2000 22 W/830 Gen4	+	+
Fortimo LED DLM 2000 20 W/840 Gen4	+	+
Fortimo LED DLM 3000 34 W/830 Gen4	+	+
Fortimo LED DLM 3000 32 W/840 Gen4	+	+

A Fortimo LED DLM cable (25 cm) EOC: 8718291 156581 00
B Fortimo LED DLM cable (60 cm) EOC: 8727900 879896 00



sample webshop



For further information visit the website:

www.philips.com/technology

Fortimo LED DLM Food

Indoor | Downlight & Spotlight systems

Thanks to its optimised spectrum and latest LEDs technology, the Fortimo LED DLM Food system brings out the colour of fresh foods in supermarket and food stores and makes fresh food even more appealing. Meanwhile, the new Fortimo LED DLM 3000 lm Food modules reduce the energy bill by up to 50 %. The full range of Fortimo LED DLM Food modules now enables many fresh food application areas and brings the possibility of a total switch from conventional light sources to LED technology.

Benefits:

- Especially designed for food illumination with optimised optical spectrum to make fresh food more attractive
- Gives retailers a Total Cost of Ownership with attractive payback time
- Embrace peace of mind due to future proof and system guarantees
- Perfectly mixed light, resulting in uniform colours and good colour consistency

Features:

- Available in 3000 lm, 3000 K and 4000 K
- Low energy consumption: up to 50 % less than White SON lamps
- No UV and heat emission
- Guaranteed performance and proven system reliability with a lifetime rated at 50,000 hrs (70 % lumen maintenance)
- System warranty of 5 years
- ENEC, UL and CE compliant

Applications:

- Supermarkets as well as food and flower stores

Product specification

	Light output	System power	System efficacy	Correlated colour temperature	Colour rendering index	Lifetime	Order code
	lm	W	lm/W	K	Ra	hrs	(EOC)
Fortimo LED DLM module 3000 Food30	2700	43	65	3000	75	50,000	8718291 206392 00
Fortimo LED DLM module 3000 Food40	2700	41	75	4000	75	50,000	8718291 206378 00



Drivers	Order code (EOC)
Fortimo LED DLM modules 3000	Fortimo Food LED Driver 8727900 865783 00



Cable recommendation	A	B
Fortimo LED DLM module 3000 Food30	+	+
Fortimo LED DLM module 3000 Food40	+	+
Fortimo LED DLM driver 2000 50 W/Food 120-277 V	+	+

A: LED DLM cable 25 cm
B: LED DLM cable 60 cm

Order code: 8718291 156581 00
Order code: 8727900 879896 00



For further information visit the website:

www.philips.com/technology

Fortimo LED DLM integrated (DLM-Int)

Indoor | Downlight & Spotlight systems

Philips has combined progressive LED innovations with Xitanium drivers to create the Fortimo LED DLM integrated (DLM-Int) system. This new generation of downlight modules is mechanically compatible with existing DLM fixtures, heat sinks and reflectors. It is also future-proof, doing away with prohibitive product development costs. Integrated drivers inside the modules make the Fortimo LED DLM integrated system a convenient, easy to install, solution for LED downlight applications, while offering a fast payback to OEMs and end-users.

Benefits:

- Fast payback
- An energy efficient alternative up to 2x26W CFLni
- Allows compact designs
- Allows OEMs to use most existing fixtures, heat sinks and reflectors
- No start-up time required
- Reliable and requires minimal maintenance
- Simple and easy to install

Features:

- Breakthrough LED energy savings
- Good quality quality white LED light
- 1100 and 2000 lm
- Colour Rendering Index (CRI) 80
- Efficient thermal design
- 25,000 hrs lifetime
- Colour temperatures of 3000 K and 4000 K
- Integrated driver
- Class I module

Applications:

- Hospitality: reception areas, corridors, boardrooms and restaurants
- Office: reception areas, lobbies, corridors, meeting rooms, open plan/cell offices, break out/pantry areas
- Retail: supermarkets, bakeries, clothing shops and shoe stores



Product specification

	Light output	System power	System efficacy	Correlated colour temperature	Colour rendering index	Lifetime	Colour consistency	Input voltage	Power factor	THD	Frequency	Beam angle	Tcase	Order code
	lm	W	lm/W	K	Ra	Hrs	SDCM	VAC	Pf					(EOC)
Fortimo DLM-Int 1100 lm 15 W/830 220-240 V	1100	15	73	3000	80	25,000	5	220-240	>0.90	<20 %	50Hz/60Hz	100°	65°	8718291 228912 00
Fortimo DLM-Int 1100 lm 14 W/840 220-240 V	1100	14	79	4000	80	25,000	5	220-240	>0.90	<20 %	50Hz/60Hz	100°	65°	8718291 228998 00
Fortimo DLM-Int 2000 lm 28 W/830 220-240 V	2000	28	71	3000	80	25,000	5	220-240	>0.90	<20 %	50Hz/60Hz	100°	65°	8718291 229056 00
Fortimo DLM-Int 2000 lm 27 W/840 220-240 V	2000	27	74	4000	80	25,000	5	220-240	>0.90	<20 %	50Hz/60Hz	100°	65°	8718291 229070 00

All DLM integrated modules have an integrated driver. No cable needed.

sample webshop



Fortimo LED DLM Twistable Gen3 dimmable

Indoor | Downlight & Spotlight systems

Fortimo LED Twistable DLM modules Gen3 are cost effective, integrated, Zhaga compliant modules for LED general lighting. The modules are best suited for semi professional applications and the wholesale channel. These modules are easy to install, are serviceable and offer energy efficiency. They are available in two colour temperatures - 3000 K and 4000 K. The complete system, comprising a Philips Fortimo LED Twistable DLM Gen3 module with integrated driver, delivers energy-efficient, low maintenance and high-quality light.

Benefits:

- Easy to install thanks to integrated driver and holder system
- Freedom of design
 - Maintain and upgrade at ease
 - Future upgradability
- Saves up to 40 % energy compared to compact fluorescent solutions
- High quality white LED light with CRI 80
- Zhaga compliant
- Matching heatsinks, reflectors and lampholders available at complementary partners
- Dimmable, leading edge platform (backward compatible TE)

Features:

- Available in 1100 lm and 2000 lm in colour temperatures 3000 K and 4000 K
- Guaranteed lumen maintenance: 70 % @ 50,000 hrs at Tcase 55 °C
- Green and good efficiency
 - Efficacy: > 70 lm/W
 - Smart investment: TCO < 1.5 years
- Class I module

Applications:

- Ideal alternative to 50 W LV halogen and up to 2 x 18 W / 2 x 26 W CFLni downlights
- Hospitality & cruise ships: corridors, reception areas, lobbies, lounges, restaurants, cabins
- Retail: corridors, dressing rooms
- Office: corridors, reception areas, waiting areas
- Public areas



TDLM 1100 lm



TDLM 2000 lm

Generation 3

Product specification

Type	Lumen output @230	Colour temp.	Efficacy module + driver	Colour consistency	Colour rendering index	Input voltage	Power factor	Total harmonic distortion	Frequency	Wattage	Lifetime	Order code
	lm	K	lm/W	SDCM	Ra	V	Pf	%	Hz	W		(EOC)
Fortimo Twistable DLM 1100 lm 830 Gen3 dim	1100	3000	71	5	80	220-240	0.9	20	47-63	16	25 k hrs @ Tcase 65 °C / 50 k hrs @ Tcase 55 °C	87182916 88846 00
Fortimo Twistable DLM 1100 lm 840 Gen3 dim	1100	4000	82	5	80	220-240	0.9	20	47-63	15	25 k hrs @ Tcase 65 °C / 50 k hrs @ Tcase 55 °C	87182916 88860 00
Fortimo Twistable DLM 2000 lm 830 Gen3 dim	2000	3000	70	5	80	220-240	0.9	20	47-63	30	25 k hrs @ Tcase 65 °C / 50 k hrs @ Tcase 55 °C	87182916 88884 00
Fortimo Twistable DLM 2000 lm 840 Gen3 dim	2000	4000	77	5	80	220-240	0.9	20	47-63	28	25 k hrs @ Tcase 65 °C / 50 k hrs @ Tcase 55 °C	87182916 88907 00

Generation 1 is not available for ordering anymore.

All TDLM have an integrated driver. No cable needed.

Recommended lampholders:

- The modules need to be twisted in a Stucchi or BJB lampholders
- 2 wires L, N connect direct to the lampholders
- Lamp holders can be ordered @ complementary partners Stucchi or BJB

More info see design-in guide on our website www.philips.com/technology



Complementary partners

For more information about the holders, visit:
www.aagstucchi.it
www.BJB.com

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For further information visit the website:

www.philips.com/technology

Lexel LED DLM

Indoor | Downlight & Spotlight systems

A flexible LED lighting solution creating thousands of shades of white and colours from a single source, designed for general lighting applications in the professional market. System consists of a LED module and a dedicated LED driver, with an (optional) cable, designed for use in new luminaires.

Benefits:

- Create various lighting atmospheres with a single light source
- Colour quality and consistency over time and among modules
- Uniform colours even in shadows
- Enable a faster luminaire creation process
- Easy use of active cooling solutions by extra 12V output connector on LED driver
- Access to the latest LED technology without significant R&D investments
- Very high optical luminaire efficiency
- Comfortable, pleasant light without heat or UV
- Long lifetime of 50,000 hrs

Features:

- Selection of white and coloured shades
- Comfortable light
- Future-proof, easy-to-use module
- Easy mounting features for heat sink and optics

Applications:

- Shops: shop windows, wall-washers, leisure areas, focus islands and shop-in-shop concepts
- Offices: presentation areas such as reception, boardrooms and restaurants
- Hospitality: lobbies, reception areas, restaurants, bars, elevator halls
- Recreation: museums, galleries, theaters and other places of interest

Product specification

Lexel LED DLM system	Light output	Module power	Module efficacy	System power	System efficacy	Correlated colour temperature	Colour rendering index	Lumen maintenance @50 K hrs	Colour consistency initial @ 10 K hrs	Tc life module	Control interface	Dimming range	Order code (EOC)
	lm	W	lm/W	W	lm/W	K	Ra	%	SDCM	°C	°C	%	(EOC)
Lexel LED DLM 1100 lm	1000	24	42	34	30	2700-6500	>80	70	5/6	65	DALI, DMX/RDM	100-0	8727900 813227 00
Lexel LED DLM 2000 lm	2000	40	48	50	38	2700-6500	>80	70	5/6	65	DALI, DMX/RDM	100-0	8718291 139355 00



Drivers	Order code (EOC)
Lexel LED DLM 1100 lm	Lexel LED DLM Driver DALI/DMX 8727900 885750 00
Lexel LED DLM 2000 lm	Lexel LED DLM Driver DALI/DMX 8727900 885750 00



Cable recommendation	A	B
Lexel LED DLM driver 1100 DALI/DMX	+	+

A: LED DLM cable 25 cm EOC: 8718291 156581 00
B: LED DLM cable 60 cm EOC: 8727900 879896 00



For further information visit the website:

www.philips.com/technology

Fortimo LED disk 800 lm dimm Gen3



Indoor | Downlight & Spotlight systems

Easy to design-in, compact and cost effective integrated LED downlight module with high quality of light. Customers in the hospitality, office and retail segment want to reduce their energy consumption and maintenance cost, without compromising on light quality. Luminaire manufactures can help them do that with a standardised LED solution. The Fortimo LED disk 800 lm Gen3 dimmable, is ideal for compact downlights requiring high quality light, thanks to the latest energy efficient LED technology, integrated driver and optics. The small form factor offers luminaire makers maximum freedom of design. Designing small compact downlights with long lifetime and high quality of light, creates new possibilities for the market.

Benefits:

- Easy to design-in, direct connection to the mains
- Compact design (all in module)
- High light quality and performance
- High energy efficiency combined with long lifetime (50 K hrs @Tc 60 °C)
- Cost effective solution

Features:

- Integrated driver (direct connection to the mains) and optics (85° beam angle)
- Available in 2700 K, 3000 K and 4000 K colour temperatures
- High quality of light with colour rendering index larger than 80
- Cost efficient dimming platform (Leading Edge)
- Designed to be used in Class I and Class II luminaires

Applications:

- Ideal for small compact downlights in home, hospitality, retail and cruise ship type of applications



Product specification

Type	Light output	System power	System efficacy	Correlated colour temperature	Colour rendering index	Colour consistency	Beam angle	Input Voltage	Tc life module	Order code
	lm	W	lm/W	K	Ra	SDCM	°	V	hrs	(EOC)
Fortimo LED Disk 800 lm/827 dim G3	800	12	68	2700	80	5	85	230	50,000 @ Tc 60 °C	87182916 86408 00
Fortimo LED Disk 800 lm/830 dim G3	800	12	68	3000	80	5	85	230	50,000 @ Tc 60 °C	87182916 86422 00
Fortimo LED Disk 800 lm/840 dim G3	850	11	72	4000	80	5	85	230	50,000 @ Tc 60 °C	87182916 86446 00



For further information visit the website:

www.philips.com/technology

Fortimo LED SLM Gen2

Indoor | Downlight & Spotlight systems

The second generation Fortimo LED SLM, designed specifically for the retail market, provides high quality white light, showcasing retail merchandise in the most bright and vivid light. This upgrade clearly will help to make retail environments look even more attractive, inspiring customers and help drive purchases.

Benefits:

- High quality of light and clean light distribution due to optical dome
- More attractive and desirable merchandise due to high punch
- Improved energy saving up to 86 lm/W on system level
- No re-lamping
- Minimum maintenance

Features:

- New product range with improved colour rendering up to 95
- Improved colour consistency: <3 SDCM
- Excellent lumen maintenance: 70 % at 50,000 hours at Tc 75 °C
- Long lifetime: 50,000 hrs
- Different colour temperature options: 2700, 3000, 3500 and 4000 K

Applications:

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

Product specification

Type	Light output	Module power	Module efficacy	System efficacy	Correlated colour temperature	Colour rendering index	Lumen maintenance @50 k hrs	Colour consistency	Tc life module	B50L70 @ max Tc life	Order code
	lm	W	lm/W	lm/W	K	Ra	%	SDCM	°C	hrs	(EOC)
Fortimo LED SLM 800 10 W/827 L13 G2	800	10.0	80	66	2700	85	70	3	75	50,000	8718291 206811 00
Fortimo LED SLM 800 10 W/830 L13 G2	800	9.5	84	70	3000	85	70	3	75	50,000	8718291 207078 00
Fortimo LED SLM 800 9 W/835 L13 G2	800	8.5	94	77	3500	85	70	3	75	50,000	8718291 207153 00
Fortimo LED SLM 800 8 W/840 L13 G2	800	7.5	107	86	4000	85	70	3	75	50,000	8718291 207238 00
Fortimo LED SLM 800 13 W/927 L13 G2	800	13.0	62	52	2700	95	70	3	75	50,000	8718291 207252 00
Fortimo LED SLM 800 12 W/930 L13 G2	800	11.5	70	58	3000	95	70	3	75	50,000	8718291 207290 00
Fortimo LED SLM 1100 15 W/827 L13 G2	1100	14.5	76	65	2700	85	70	3	75	50,000	8718291 207313 00
Fortimo LED SLM 1100 14 W/830 L13 G2	1100	13.5	81	69	3000	85	70	3	75	50,000	8718291 207337 00
Fortimo LED SLM 1100 13 W/835 L13 G2	1100	12.5	88	74	3500	85	70	3	75	50,000	8718291 207351 00
Fortimo LED SLM 1100 12 W/840 L13 G2	1100	11.5	96	80	4000	85	70	3	75	50,000	8718291 207375 00
Fortimo LED SLM 1100 20 W/927 L13 G2	1100	19.5	56	49	2700	95	70	3	75	50,000	8718291 207399 00
Fortimo LED SLM 1100 18 W/930 L13 G2	1100	18.0	61	53	3000	95	70	3	75	50,000	8718291 207412 00
Fortimo LED SLM 2000 26 W/827 L19 G2	2000	25.5	78	69	2700	85	70	3	75	50,000	8718291 186274 00
Fortimo LED SLM 2000 23 W/835 L19 G2	2000	22.5	89	77	3500	85	70	3	75	50,000	8718291 186380 00
Fortimo LED SLM 2000 35 W/927 L19 G2	2000	34.5	58	52	2700	95	70	3	75	50,000	8718291 186298 00
Fortimo LED SLM 3000 42 W/827 L19 G2	3000	42	71	64	2700	85	70	3	75	50,000	8718291 186809 00
Fortimo LED SLM 3000 40 W/835 L19 G2	3000	40	75	68	3500	85	70	3	75	50,000	8718291 186823 00

Drivers		Order code (EOC)
Fortimo LED SLM 800-1100	Xitanium 25 W 0.3-0.7 A 36 V I 230 V	8727900 900965 00
	Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V	8727900 907308 00
	Xitanium 25 W 0.3-1 A 36 V TD/I 230 V	8727900 914344 00
	Xitanium 25 W 0.3-1 A 36 V TD/Is 230 V	8727900 914351 00
Fortimo LED SLM 1100	Xitanium 36 W LH 0.3-1A 48 V I 230 V	8718291 666448 00
Fortimo LED SLM 2000-3000	Xitanium 50 W/s 0.3-1 A 62 V 230 V	8718291 137818 00
	Xitanium 50 W 0.3-1 A 62 V 230 V	8718291 137825 00
	Xitanium 50 W SH 0.3-1 A 62 V I 230 V	8718291 137801 00
	Xitanium 50 W 0.3-1 A 62 V TD/TE 230 V	8718291 157120 00
	Xitanium 50 W LH 0.3-1 A 62 V TD/TE/I 230 V	8718291 119470 00
	Xitanium 50 W SH 0.3-1 A 62 V TD/TE/I 230 V	8718291 119487 00



Driver and cable combination	A	B	C	D	E
Xitanium 25 W 0.3-0.7 A 36 V I 230 V	+	+	+	+	+
Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V	+	+	+	+	+
Xitanium 25 W 0.3-1 A 36 V TD/I 230 V	+	+	+	+	+
Xitanium 25 W 0.3-1 A 36 V TD/Is 230 V	+	-	+	-	+
Xitanium 36 W LH 0.3-1A 48 V I 230 V	+	+	+	+	+
Xitanium 50 W/s 0.3-1 A 62 V 230 V	+	+	+	-	-
Xitanium 50 W 0.3-1 A 62 V 230 V	+	+	+	-	-
Xitanium 50 W SH 0.3-1 A 62 V I 230 V	+	+	+	+	+
Xitanium 50 W 0.3-1 A 62 V TD/TE 230 V	+	+	+	-	-
Xitanium 50 W LH 0.3-1 A 62 V TD/TE/I 230 V	+	+	+	+	+
Xitanium 50 W SH 0.3-1 A 62 V TD/TE/I 230 V	+	+	+	+	+

- A: Fortimo LED SLM Cable 60 cm
- B: Fortimo LED SLM Cable 60 cm 12V
- C: Fortimo LED SLM Cable 25 cm
- D: Fortimo LED SLM Cable 60 cm 12V //
- E: Fortimo LED SLM Cable 60 cm //

- EOC: 8727900 954234 00
- EOC: 8727900 954241 00
- EOC: 8727900 921526 00
- EOC: 8718291 194576 00
- EOC: 8718291 210993 00





Fortimo LED SLM Gen3

Indoor | Downlight & Spotlight systems

The third generation of the Fortimo LED SLM system is the ideal solution for highly efficient and compact downlight luminaires. This new generation is equipped with completely new Chip-On-Board (COB) LED technology. This technology enables the creation of the most efficient LED system for downlight applications available from Philips.

Benefits:

- Powerful, compact and uniform light sources, enabling great beam control and small beam angles
- The highest brightness in the market due to a small Light Emitting Surface (LES), enabling the tightest beams
- Improved energy saving up to 100 lm/W on system level
- New lower power driver combinations available
- The CRI 90 versions come with high R9 value, deeply enhancing red colours of merchandise

Features:

- Chip-On-Board (COB) technology, enabling amazing system efficiencies of over 100 lm/W
- Colour rendering up to > 90
- Colour consistency < 3SDCM
- DALI dimming for scene setting and further energy savings
- Long lifetime: 50,000 hrs
- Different colour temperature options: 3000 and 4000 K
- 2000 lm, 3000 lm and 4500 lm available in the same form factor

Applications:

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

Product specification

Type	Light output	Module power	Module efficacy	System efficacy	Correlated colour temperature	Colour rendering index	Lumen maintenance @50 k hrs	Colour consistency	Tc life module	B50L70 @ max Tc life	Order code
	lm	W	lm/W	lm/W	K	Ra	%	SDCM	°C	hrs	(EOC)
Fortimo LED SLM 2000 19 W/830 L19 G3	2000	19.0	105	91	3000	>80	70	3	75	50,000	8718291 253723 00
Fortimo LED SLM 2000 18 W/840 L19 G3	2000	17.5	114	98	4000	>80	70	3	75	50,000	8718291 253747 00
Fortimo LED SLM 2000 23 W/930 L19 G3	2000	22.5	89	77	3000	>90	70	3	75	50,000	8718291 253761 00
Fortimo LED SLM 3000 28 W/830 L19 G3	3000	28.0	107	92	3000	>80	70	3	75	50,000	8718291 253785 00
Fortimo LED SLM 3000 26 W/840 L19 G3	3000	26.0	115	98	4000	>80	70	3	75	50,000	8718291 253808 00
Fortimo LED SLM 3000 33 W/930 L19 G3	3000	33.0	91	79	3000	>90	70	3	75	50,000	8718291 253822 00
Fortimo LED SLM 4500 45 W/830 L22 G3	4500	44.9	100	86	3000	>80	70	3	75	50,000	8718291 691150 00
Fortimo LED SLM 4500 43 W/840 L22 G3	4500	43.2	104	86	4000	>80	70	3	75	50,000	8718291 691174 00
Fortimo LED SLM 4000 45 W/930 L22 G3	4000	44.9	89	77	3000	>90	70	3	75	50,000	8718291 691136 00



Drivers	Order code (EOC)
Fortimo LED SLM 2000 lm Gen3 (2000/930 excluded)	Xitanium 25 W 0.3-0.7 A 36 V I 230V 8727900 900965 00
	Xitanium 25 W 0.3-0.7 A 36 V TE/I 230V 8727900 907308 00
Fortimo LED SLM 2000 lm Gen3	Xitanium 25 W 0.3-1 A 36 V TD/I 230V 8727900 914344 00
	Xitanium 25 W 0.3-1 A 36 V TD/ls 230V 8727900 914351 00
Fortimo LED SLM 2000/3000 lm Gen3	Xitanium 36 W LH 0.3-1 A 48 V I 230V 8718291 666448 00
Fortimo LED SLM 3000/4500 lm Gen3*	Xitanium 50 W/s 0.3-1 A 62 V 230V 8718291 137818 00
	Xitanium 50 W SH 0.3-1 A 62 V I 230V 8718291 137801 00
	Xitanium 50 W 0.3-1 A 62 V 230V 8718291 137825 00
	Xitanium 50 W 0.3-1 A 62 V TD/TE 230V 8718291 157120 00
	Xitanium 50 W LH 0.3-1 A 62 V TD/TE/I 230V 8718291 119470 00
	Xitanium 50 W SH 0.3-1 A 62 V TD/TE/I 230V 8718291 119487 00

* Fortimo LED SLM 4000 45 W/930 L22 G3 module is included in the 4500 lm range

Driver and cable combination	A	B	C	D	E
Xitanium 25 W 0.3-0.7 A 36 V I 230V	+	+	+	+	+
Xitanium 25 W 0.3-0.7 A 36 V TE/I 230V	+	+	+	+	+
Xitanium 25 W 0.3-1 A 36 V TD/I 230V	+	+	+	+	+
Xitanium 25 W 0.3-1 A 36 V TD/ls 230V	+	-	+	-	+
Xitanium 36 W LH 0.3-1 A 48 V I 230V	+	+	+	+	+
Xitanium 50 W/s 0.3-1 A 62 V 230V	+	+	+	-	-
Xitanium 50 W 0.3-1 A 62 V 230V	+	+	+	-	-
Xitanium 50 W SH 0.3-1 A 62 V I 230V	+	+	+	+	+
Xitanium 50 W 0.3-1 A 62 V TD/TE 230V	+	+	+	-	-
Xitanium 50 W LH 0.3-1 A 62 V TD/TE/I 230V	+	+	+	+	+
Xitanium 50 W SH 0.3-1 A 62 V TD/TE/I 230V	+	+	+	+	+

A: Fortimo LED SLM Cable 60 cm
 B: Fortimo LED SLM Cable 60 cm 12V
 C: Fortimo LED SLM Cable 25 cm
 D: Fortimo LED SLM Cable 60 cm 12V /I
 E: Fortimo LED SLM Cable 60 cm /I

EOC: 8727900 954234 00
 EOC: 8727900 954241 00
 EOC: 8727900 921526 00
 EOC: 8718291 194576 00
 EOC: 8718291 210993 00



Zhaga



For further information visit the website:

www.philips.com/technology

Die Herstellerhinweise auf dieser Seite sind verbindlich. Druckfehler und Irrtümer vorbehalten!

Rijksmuseum, aktuellen Lieferumfang entnehmen Sie bitte der Artikelbeschreibung in unserem Onlineangebot ==>>

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 Philips StyliD 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.

See Fortimo LED Spotlight Module Tight Beam page 21, Fortimo LED Strip page 29 and Xitanium LED indoor drivers page 40.



Painting "Nachtwacht" by Rembrandt van Rijn

Fortimo LED SLM Tight Beam



Indoor | Downlight & Spotlight systems

SLMTight 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.

Benefits:

- More attractive and desirable merchandise due to **extremely high punch** enabled by a small light emitting surface
- Allows compact luminaire design, provides high Central Beam Candela power to have merchandise look at its best
- No re-lamping, minimum maintenance
- High efficacy performance of 85 lm/W on module level.
- Closer illumination possible thanks to minimised UV and IR

Features:

- High colour rendering up to 93
- Tight colour consistency: < 3 SDCM
- Excellent lumen maintenance: 70 % at 50,000 hrs at Tc 75 °C
- Long lifetime: 50,000 hrs
- Colour temperatures: 827, 830, 840 and 930

Applications:

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

Product specification

Type	Light output		Module Power	Module Efficacy	Colour		Lumen maintenance @50 k hrs	Initial colour consistency		Tc life	B50L70 @ max Tc life	Units per package	Order code (EOC)
	lm	W			lm/W	K		Ra	SDCM				
Fortimo LED SLM 1100 18 W/827 L9 G2	1100	17.0	65	2700	85	70	3	75	50,000	10	8718291 247173 00		
Fortimo LED SLM 1100 17 W/830 L9 G2	1100	16.5	67	3000	85	70	3	75	50,000	10	8718291 187080 00		
Fortimo LED SLM 1100 14 W/840 L9 G2	1100	13.0	85	4000	85	70	3	75	50,000	10	8718291 247210 00		
Fortimo LED SLM 1100 19 W/930 L9 G2	1100	18.0	61	3000	93	70	3	75	50,000	10	8718291 215219 00		



Drivers	Order code (EOC)
Fortimo LED SLM 1100	Xitanium 25 W 0.3-0.7 A 36 V I 230 V 8727900 900965 00
	Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V 8727900 907308 00
	Xitanium 25 W 0.3-1 A 36 V TD/I 230 V 8727900 914344 00
	Xitanium 25 W 0.3-1 A 36 V TD/Is 230 V 8727900 914351 00



Cable recommendation	A	B	C	D	E
Xitanium 25 W 0.3-0.7 A 36 V I 230 V	+	+	+	+	+
Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V	+	+	+	+	+
Xitanium 25 W 0.3-1 A 36 V TD/I 230 V	+	+	+	+	+
Xitanium 25 W 0.3-1 A 36 V TD/Is 230 V	+	-	+	-	+

- A: Fortimo LED SLM Cable 60 cm EOC: 8727900 954234 00
 B: Fortimo LED SLM Cable 60 cm 12 V EOC: 8727900 954241 00
 C: Fortimo LED SLM Cable 25 cm EOC: 8727900 921526 00
 D: Fortimo LED SLM Cable 60 cm 12 V /I EOC: 8718291 194576 00
 E: Fortimo LED SLM Cable 60 cm /I EOC: 8718291 210993 00



For further information visit the website:

www.philips.com/technology

Fortimo LED Integrated spot Gen2



Indoor | Downlight & Spotlight systems

Customers in the retail and hospitality segments, as well as consumers at home, want to reduce their energy consumption and maintenance costs, without compromising on light quality. Now, luminaire manufacturers can help them do that, with a standardised LED solution that is affordable, easy to design-in, and future-proof. Featuring the latest energy-efficient LED technology, the Fortimo LED Integrated spot module Gen2 offers high-quality light with good colour rendering and a long lifetime. This module is ideal for smart LED redesigns of existing low-voltage 50 W halogen fixtures thanks to the integrated driver, optics and heat sink. This makes life easy and allows a fast time-to-market. The Fortimo LED Integrated spot module Gen2 is ideal for recessed, ceiling, suspended and wall surface spot luminaires requiring high-quality light.

Benefits:

- LED technology
- Easy to design-in, based on the all in one solution
- Flexibility of choice, one design concept with nine solutions
- High quality of warm, neutral and cold light
- Cost effective, no additional components needed

Features:

- Integrated system contains, driver (direct connection to the mains), optics and cooling
- Cost efficient dimmable (LE) making use of the legacy dimmers
- Available in 2700 K, 3000 K and 4000 K colour temperatures
- Available in 15°, 24° and 36° beam angles
- High energy efficiency combined with long lifetime (50,000 hrs)
- Class I module

Applications:

- Ideal for replacing recessed and suspended halogen spot luminaires in home, hospitality and retail applications

Product specification

Type	Lumen output	Power consumption	System Efficacy	Colour Temp	Beam angle	Beam intensity	Colour Rendering Index	Colour consistency	Input voltage	B50L70 @ T Ambient 25° C	Units per package	Order code
	lm	W	lm/W	K	°	cd	Ra	SDCM	V	hrs		(EOC)
NEW Fortimo integrated spot 600 827 15D 230 V G2	600	13	46	2700	15	4200	80	5	230	50,000	10	8718291 251804 00
NEW Fortimo integrated spot 600 827 24D 230 V G2	600	13	46	2700	24	2000	80	5	230	50,000	10	8718291 251828 00
NEW Fortimo integrated spot 600 827 36D 230 V G2	600	13	46	2700	36	1100	80	5	230	50,000	10	8718291 251842 00
NEW Fortimo integrated spot 600 830 15D 230 V G2	640	13	51	3000	15	4600	80	5	230	50,000	10	8718291 251866 00
NEW Fortimo integrated spot 600 830 24D 230 V G2	640	13	51	3000	24	2200	80	5	230	50,000	10	8718291 251880 00
NEW Fortimo integrated spot 600 830 36D 230 V G2	640	13	51	3000	36	1200	80	5	230	50,000	10	8718291 251903 00
NEW Fortimo integrated spot 600 840 15D 230 V G2	640	13	51	4000	15	4600	80	5	230	50,000	10	8718291 251927 00
NEW Fortimo integrated spot 600 840 24D 230 V G2	640	13	51	4000	24	2200	80	5	230	50,000	10	8718291 251941 00
NEW Fortimo integrated spot 600 840 36D 230 V G2	640	13	51	4000	36	1200	80	5	230	50,000	10	8718291 251965 00



Drivers 1st recommendation	
Fortimo Integrated spot module	Not applicable, driver and heatsink included



Cable recommendation	
None (cables connected to modules)	



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

Coming soon

Fortimo Downlight & Spotlight systems



COMING SOON

03
Pre-launch
Phase

Fortimo LED DLM Gen5

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 PhilipsLumiLeds 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 in to 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.

What's new?

- Efficacy increase
- High lumen package (5000 lm)

Benefits:

- Industry-leading energy efficiency with high-quality white light as well as easy glare control due to diffused light
- Ideal solution for high ceiling applications.
- Wide choice of high-quality LED drivers with different form factors and dimming protocols

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

Applications:

For use in luminaires for:

- Offices
- Public buildings
- Hotel lobbies and receptions
- Retail
- Urban outdoor lighting



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.



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.





Fortimo LED Line Gen2

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.

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*

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

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

* Guarantee scheme only applicable if the Fortimo LED Lines are in ordered in multiples of 32pcs.

Product specification

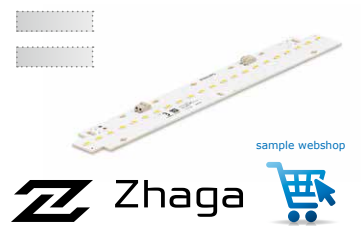
	High voltage systems	Light output lm	Module efficacy lm/W	Power consumption W	Colour rendering		Lumen depreciation B50L70 K hrs	Case temp. lifetime C	Order code (EOC)
					Ra	SDCM			
NEW	1R Fortimo LED Line 1 ft 1100 lm 830 1R HV2	1.065	132	8,1	80	3,5	50	70	87182917 06397 00
	1R Fortimo LED Line 1 ft 1100 lm 840 1R HV2	1.110	137	8,1	80	3,5	50	70	87182917 06410 00
	1R Fortimo LED Line 2 ft 2200 lm 830 1R HV2	2.135	132	16,2	80	3,5	50	70	87182917 06915 00
	1R Fortimo LED Line 2 ft 2200 lm 840 1R HV2	2.225	138	16,2	80	3,5	50	70	87182917 06977 00
NEW	2R Fortimo LED Line 2 ft 1250 lm 830 2R HV1	1.165	120	9,8	80	3,5	50	58	87182911 90042 00
	2R Fortimo LED Line 2 ft 1250 lm 840 2R HV1	1.250	129	9,8	80	3,5	50	58	87182911 90189 00
NEW	3R Fortimo LED Line 1 ft 650 lm 830 3R HV2	605	134	4,6	80	3,5	50	56	87182917 04188 00
	3R Fortimo LED Line 1 ft 650 lm 840 3R HV2	650	143	4,6	80	3,5	50	56	87182917 04416 00
	3R Fortimo LED Line 1 ft 1100 lm 830 3R HV2	1.060	143	7,4	80	3,5	50	70	87182917 04539 00
	3R Fortimo LED Line 1 ft 1100 lm 840 3R HV2	1.105	150	7,4	80	3,5	50	70	87182917 04638 00

Drivers 1st recommendation			1R systems		2R systems	3R systems		Order code (EOC)
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 2R	LED Line 1 ft 650 lm 3R	LED Line 1 ft 1100 lm 3R	
DALI	Xitanium 75 W 0.12-0.4 A 215 V TD 230 V	360x30x22 mm	4,5,6	2,3	4,5,6	5,6,8,10,12	4,5,6	8718291 684022 00
	Xitanium 36 W 0.12-0.4 A 110 V TD 230 V	360x30x22 mm	2,3	1	2,3	3,4,6	2,3	8718291 684046 00
	Xitanium 17 W 0.12-0.4 A 54 V TD 230 V	360x30x22 mm	1	n/a	1	1,2	1	87182911 98048 00
1-10V	Xitanium 75 W 0.2-0.4 A 200 V 1-10 V 230 V	360x30x22 mm	4,5,6	2,3	4,5,6	5,6,8,10,12	4,5,6	87182911 63800 00
	Xitanium 36 W 0.12-0.4 A 100 V 1-10 V 230 V	360x30x22 mm	2,3	1	2,3	3,4,6	2,3	87182911 87202 00
	Xitanium 17 W 0.12-0.4 A 54 V 1-10 V 230 V	360x30x22 mm	1	n/a	1	1,2	1	87182911 98062 00
Fixed Output	Xitanium 75 W 0.12-0.4 A 215 V 230 V	280x30x22 mm	4,5,6	2,3	4,5,6	5,6,8,10,12	4,5,6	87182912 28097 00
	Xitanium 36 W 0.12-0.4 A 110 V 230 V	280x30x22 mm	2,3	1	2,3	3,4,6	2,3	87182912 28110 00

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

	Low voltages	Light output lm	Module efficacy lm/W	Power consumption W	Colour rendering		Lumen depreciation B50L70 K hrs	Case temp. lifetime C	Order code (EOC)
					Ra	SDCM			
1R	Fortimo LED Line 1 ft 1100 lm 830 1R LV2	1.065	132	8,1	80	3,5	50	70	87182917 06298 00
	Fortimo LED Line 1 ft 1100 lm 840 1R LV2	1.110	137	8,1	80	3,5	50	70	87182917 06335 00
3R	Fortimo LED Line 1 ft 650 lm 830 3R LV2	605	134	4,6	80	3,5	50	56	87182917 04454 00
	Fortimo LED Line 1 ft 650 lm 840 3R LV2	650	143	4,6	80	3,5	50	56	87182917 04492 00

Drivers 1st recommendation			1R systems	3R systems	Order code (EOC)
Isolated LED drivers (LV)	Power level	Dimensions	LED Line 1 ft 1100 lm 1R	LED Line 1 ft 650 lm 3R	
DALI	Xitanium 75 W 0.7-2 A 54 V TD 230 V	425x30x25 mm	4,5,6,7,8	6,7,8,9,10,11,12	87182912 11884 00
	Xitanium 36 W 0.3-1 A 54 V TD 230 V	425x30x25 mm	2,3	2,3,4,5,6	87182916 57422 00
1-10V	Xitanium 75 W 0.7-2 A 54 V 1-10 V 230 V	425x30x25 mm	4,5,6,7,8	6,7,8,9,10,11,12	8718291 696445 00
	Xitanium 36 W 0.3-1 A 54 V 1-10 V 230 V	360x30x25 mm	2,3	2,3,4,5,6	8718291 684060 00
Fixed Output	Xitanium 75 W 0.7-2 A 54 V 230 V	425x30x25 mm	4,5,6,7,8	6,7,8,9,10,11,12	8718291 696414 00
	Xitanium 36 W 0.3-1 A 54 V 230 V	360x30x25 mm	2,3	2,3,4,5,6	8718291 684084 00





Fortimo 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 (future proof) 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, big retail stores.

Benefits:

- Enabling luminaires for high application heights
- High energy efficiency
- Flexible specification due to smart Xitanium drivers
- Part of Philips guarantee scheme*

Features:

- Lumen levels up to 2000 lm/ft
- Efficiency levels surpassing T5 systems
- High quality white light
- Long lifetime

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

* Guarantee scheme only applicable if the Fortimo LED Lines are ordered in multiples of 32 pcs.

Product specification

High voltage	Light output lm	Module efficacy lm/W	Power consumption W	Colour rendering Ra	Colour consistency SDCM	Lumen depreciation B50L70 @ Tc 58°C hrs	Case temp. lifetime C	Order code (EOC)
1R Fortimo LED Line 1 ft 2000 lm 830 1R HV1	1885	122	15.4	80	3.5	50,000	75	87182916 95004 00
1R Fortimo LED Line 1 ft 2000 lm 840 1R HV1	2005	130	15.4	80	3.5	50,000	75	87182916 95028 00
1R Fortimo LED Line 2 ft 4000 lm 830 1R HV1	3765	122	30.8	80	3.5	50,000	75	87182916 95127 00
1R Fortimo LED Line 2 ft 4000 lm 840 1R HV1	4005	130	30.8	80	3.5	50,000	75	87182916 95141 00

Low voltage	Light output lm	Module efficacy lm/W	Power consumption W	Colour rendering Ra	Colour consistency SDCM	Lumen depreciation B50L70 @ Tc 58°C hrs	Case temp. lifetime C	Order code (EOC)
1R Fortimo LED Line 2 ft 4000 lm 830 1R LV1	3765	122	30.8	80	3.5	50,000	75	87182916 95066 00
1R Fortimo LED Line 2 ft 4000 lm 840 1R LV1	4005	130	30.8	80	3.5	50,000	75	87182916 95080 00

Non-isolated LED drivers (HV)			1R systems		
Dimming type	Commercial name	Dimensions	LED Line 1 ft 2000 lm 1R* (1750 lm)	LED Line 2 ft 4000 lm 1R* (3500 lm)	Order code (EOC)
DALI	Xitanium 75 W 0.12-0.4 A 215 V TD 230 V	360x30x22 mm	4,5,6	2,3	8718291 684022 00
	Xitanium 36 W 0.12-0.4 A 110 V TD 230 V	360x30x22 mm	2,3	1	8718291 684046 00
	Xitanium 17 W 0.12-0.4 A 54 V TD 230 V	360x30x22 mm	1	n/a	87182911 98048 00
1-10V	Xitanium 75 W 0.2-0.4 A 200 V 1-10 V 230 V	360x30x22 mm	4,5,6	2,3	87182911 63800 00
	Xitanium 36 W 0.12-0.4 A 100 V 1-10 V 230 V	360x30x22 mm	2,3	1	87182911 87202 00
	Xitanium 17 W 0.12-0.4 A 54 V 1-10 V 230 V	360x30x22 mm	1	n/a	87182911 98062 00
Fixed Output	Xitanium 75 W 0.12-0.4 A 215 V 230 V	280x30x22 mm	4,5,6	2,3	87182912 28097 00
	Xitanium 36 W 0.12-0.4 A 110 V 230 V	280x30x22 mm	2,3	1	87182912 28110 00

* 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 2 ft 4000 lm 1R	Order code (EOC)
DALI	Xitanium 75 W 0.7-2 A 54 V TD 230 V	425x30x25 mm	1,2	87182912 11884 00
	Xitanium 36 W 0.3-1 A 54 V TD 230 V	425x30x25 mm	1	87182916 57422 00
1-10V	Xitanium 75 W 0.7-2 A 54 V 1-10 V 230 V	425x30x25 mm	1,2	8718291 696445 00
	Xitanium 36 W 0.3-1 A 54 V 1-10 V 230 V	360x30x25 mm	1	8718291 684060 00
Fixed Output	Xitanium 75 W 0.7-2 A 54 V 230 V	425x30x25 mm	1,2	8718291 696414 00
	Xitanium 36 W 0.3-1 A 54 V 230 V	360x30x25 mm	1	8718291 684084 00



Fortimo 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 (future proof) 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.

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
- Part of Philips guarantee scheme*

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

Applications:

- Fortimo LED Line Square systems are ideal for office applications where the luminaires require a very homogeneous exit surfac 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 and 3x18 W

* Guarantee scheme only applicable if the Fortimo LED Lines are ordered in multiples of 44 pcs.

Product specification

Fortimo LED Lines SQ	Light output lm	Module efficacy lm/W	Power consumption W	Colour rendering Ra	Colour consistency SDCM	Lumen depreciation B50L70 @ Tc 58°C hrs	Case temp. lifetime C	Order code (EOC)
Fortimo LED Line 1 ft 1250 lm 830 SQ HV/LV	1207	140	8.6	80	3.5	50,000	80	87182917 02917 00
Fortimo LED Line 1 ft 1250 lm 840 SQ HV/LV	1250	145	8.6	80	3.5	50,000	80	87182917 02931 00
Fortimo LED Line 1 ft 1250 lm 865 SQ HV/LV	1250	145	8.6	80	3.5	50,000	80	87182917 02955 00



Non-isolated LED drivers (HV)			SQ systems	
Dimming type	Commercial name	Dimensions	LED Line 1 ft 1250 lm SQ	Order code (EOC)
DALI	Xitanium 75 W 0.12-0.4 A 215 V TD 230 V	360x30x22 mm	6,8	8718291 684022 00
	Xitanium 36 W 0.12-0.4 A 110 V TD 230 V	360x30x22 mm	2,4	8718291 684046 00
	Xitanium 17 W 0.12-0.4 A 54 V TD 230 V	360x30x22 mm	1	87182911 98048 00
1-10V	Xitanium 75 W 0.2-0.4 A 200 V 1-10 V 230 V	360x30x22 mm	6,8	87182911 63800 00
	Xitanium 36 W 0.12-0.4 A 100 V 1-10 V 230 V	360x30x22 mm	2,4	87182911 87202 00
	Xitanium 17 W 0.12-0.4 A 54 V 1-10 V 230 V	360x30x22 mm	1	87182911 98062 00
Fixed Output	Xitanium 75 W 0.12-0.4 A 215 V 230 V	280x30x22 mm	6,8	87182912 28097 00
	Xitanium 36 W 0.12-0.4 A 110 V 230 V	280x30x22 mm	2,4	87182912 28110 00



Isolated LED drivers (LV)			SQ systems	
Dimming type	Commercial name	Dimensions	LED Line 1 ft 1250 lm SQ	Order code (EOC)
DALI	Xitanium 75 W 0.7-2 A 54 V TD 230 V	425x30x25 mm	4,5,6,7,8	87182912 11884 00
	Xitanium 36 W 0.3-1 A 54 V TD 230 V	425x30x25 mm	2,3,4	87182916 57422 00
1-10V	Xitanium 75 W 0.7-2 A 54 V 1-10 V 230 V	425x30x25 mm	4,5,6,7,8	87182916 96445 00
	Xitanium 36 W 0.3-1 A 54 V 1-10 V 230 V	360x30x25 mm	2,3,4	87182916 84060 00
Fixed Output	Xitanium 75 W 0.7-2 A 54 V 230 V	425x30x25 mm	4,5,6,7,8	87182916 96414 00
	Xitanium 36 W 0.3-1 A 54 V 230 V	360x30x25 mm	2,3,4	87182916 84084 00



Fortimo LED strip LV system

Indoor | Linear light systems

The Fortimo LED strip system consists of linear white light LED modules, with high energy efficiency and high quality of light, Xitanium drivers and cables. It is intended for luminaire manufacturers who want to replace linear fluorescent applications with new luminaire shapes and concepts of designer LED solutions. It is now finally possible to design new luminaires, which offer the energy efficiency levels of T5 luminaires, combined with the design freedom to make entirely new shapes, due to the scalability of the 'notched' LED strip concept.

Benefits:

- High quality of white light, meeting European norms
- Shorter version is added to increase design flexibility
- Class II luminaires are enabled
- Fortimo LED strip can be connected together in various orientations to make seamless light lines, 3D luminaires or other new shapes
- Fortimo LED strips fall under the Philips future proof promise, whereby future LED energy efficiency upgrades do not change the LED strip dimensions, lumen output or colour temperature

Features:

- Range extension with Low Voltage LED strip of 280 mm and 102 mm length
- Supported by isolated Xitanium LED drivers

Applications:

- For use in Class II luminaires for direct lighting in offices, banks, schools, public buildings, supermarkets
- Cell offices and meeting rooms
- Open plan offices
- Reception areas and corridors

Product specification

Module	Light output	Module efficacy	Power consumption	Colour rendering index	Colour consistency	B50L70 @ Tc 55°C	LED Strip voltage Vf	Order code
	lm	lm/W	W	Ra	SDCM	K hrs	DC	(EOC)
Fortimo LED strip 1 ft 650 lm 830 LV2	610	126	4.9	80	3.5	50	32.5	87182912 30397 00
Fortimo LED strip 1 ft 650 lm 840 LV2	650	132	4.9	80	3.5	50	32.5	87182912 30410 00
Fortimo LED strip 1 ft 650 lm 865 LV2	660	135	4.9	80	5.0	50	32.5	87182912 30434 00
Fortimo LED strip 102 mm 375 lm 830 LV1	340	110	3.1	80	3.5	50	34.2	87182912 30359 00
Fortimo LED strip 102 mm 375 lm 840 LV1	360	116	3.1	80	3.5	50	34.2	87182912 30373 00



Isolated LED drivers (LV)					
Dimming type	Commercial name	Dimensions	LED Strip 102 mm 375 lm LV1 # modules	LED Strip 1 ft 650 lm LV2 # modules	Order code (EOC)
DALI	Xitanium 75 W 0.7-2A 54V TD 230V	425x30x25 mm	9-20	5-12	87182912 11884 00
	Xitanium 36 W 0.3-1A 54V TD 230V	425x30x25 mm	4-10	3-6	87182916 57422 00
1-10V	Xitanium 75 W 0.7-2A 54V 1-10V 230V	425x30x25 mm	9-20	5-12	87182916 96445 00
	Xitanium 36 W 0.3-1A 54V 1-10V 230V	360x30x25 mm	4-10	3-6	87182916 84060 00
Fixed Output	Xitanium 75 W 0.7-2A 54V 230V	425x30x25 mm	9-20	5-12	87182917 01637 00
	Xitanium 36 W 0.3-1A 54V 230V	360x30x25 mm	4-10	3-6	87182916 84084 00



Cable recommendation
No cable provided with low voltage systems



sample webshop



For further information visit the website:

www.philips.com/technology

Philips Core LED Line

The Core LED Line System is a new solution in the linear LED systems product range, allowing for the replacement for linear fluorescent lamps in general lighting. The system is optimised for a fast return on investment. It offers good quality white light with good energy efficiency, clearly surpassing T8. The ease of design-in enables a fast luminaire development. New developed Xitanium drivers complete the system offer with high product reliability - underpinned by a 3-year Philips guarantee.

Benefits:

- Good quality linear LED Lighting at low initial investment
- Good energy efficiency
- Easy design-in – no additional heat sink needed
- Part of Philips guarantee scheme

Features:

- Efficiency levels surpassing T8 systems
- CRI >80 and 3.5 SDCM
- 35,000 hrs lifetime

Applications:

- Philips Core LED Line system are ideal for replacement of T8 fluorescent luminaires
- Ideal for the applications waterproof and battens
- Also applicable for other applications in office, retail, industry

Product specification

Module	Light output at 400 mA	Module at 400 mA	Power consumption	Light output at 280 mA**	Light output at 280 mA*	Power consumption	Lumen depreciation B50L70 @ Tc 67°C	Order code
	lm	lm/W	W	lm	lm/W	W	hrs	(EOC)
Core LED Line 2 ft 1550 lm 840 1R HV	1550	114	13.9	1100	118	9,3	35,000	87182912 3061800



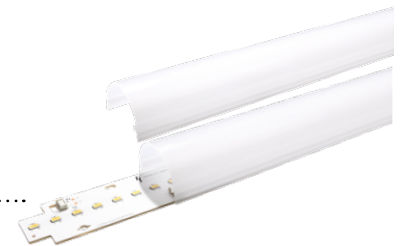
Drivers 1st recommendation			
Peak designs for LED Line (Non-isolated - High Voltage)		Core LED Line 2 ft 1550 lm	Order code (EOC)
Fixed Output	Xitanium 75 W 0.12-0.4 A 215 V 230 V	4, 5	87182912 28097 00
Fixed Output	Xitanium 36 W 0.12-0.4 A 110 V 230 V	2	87182912 28110 00
Peak Design	Xitanium 40 W 280 mA 142 V 230 V	4*	87182912 13185 00
Peak Design	Xitanium 30 W 400 mA 76 V 230 V	2	87182912 25034 00
Peak designs for LED Line (Isolated - Low Voltage)		LED Line 1 ft 650 3R	Order code (EOC)
Peak Design	Xitanium 30 W 0.8 A 39 V 230 V*	2	87182912 28097 00



Cable recommendation
No specific cables are needed

*Lm output 1100 lm per module

LED Line Cover 2 ft soft-diffuse



The LED Line Cover 2 ft soft-diffuse is an accessory for the Fortimo LED Line and Core LED Line systems. The aim of the diffuser is to enable the luminaire manufacturers to design open louver luminaires with the LED Line systems with minimum re-design of conventional luminaires. The diffuser will serve 3 main functions needed for open luminaires. First of all it creates diffuse light out of the LED Line 1R systems. Secondly, it protects touching from the high voltage. Finally it will also protect the LEDs from dust and makes it easier to clean the diffuser:

Benefits:

- Enables high quality of diffuse white light from open luminaires with minimum re-design of the conventional luminaire
- Enables European Class I luminaires without making a closed luminaire
- Enables dust free and easy cleanable LED solution

Features:

- Diffuses the pixilation of LEDs up to a pitch of 2.5 cm
- Protects against High Voltage approved as European Class I
- Protects against dust

Applications:

- For use in open luminaires which conventionally are done with louvers
- Office recessed, office surface mounted, trunking, batten



Fortimo LED decorative modules

Indoor | Miniaturised

Featuring the newest energy-efficient LED technology, Fortimo LED decorative modules offer high-quality light with high colour rendering and a long lifetime. Their small footprint and different shapes give luminaire makers maximum freedom of design. Fortimo LED decorative modules are ideal for sleek designs of wall-mounted luminaires, pendant lighting, floor-standing luminaires and desk lamps for home applications requiring high-quality light, the 'design' factor and the perfect ambiance.

Benefits:

- Compact form factor allows miniaturisation and new designs
- High light quality and performance
- High energy efficiency with a long lifetime

Features:

- High-quality light with a good colour rendering index (CRI 85)
- Excellent colour consistency of 4 SDCM – allows multiple modules to be integrated into one luminaire design
- Available in warm (2700 K) and neutral white (4000 K) colour temperatures
- Spot and diffused/mixed light versions
- Possibility to regulate light level in combination with a dimmable LED driver

Applications:

- Ideal for replacing halogen and incandescent luminaires in home, hospitality and other decorative applications

Product specification

Type	Lumen output	Module power	Module efficacy	Correlated colour temperature	Colour rendering index	Colour consistency	Input Voltage	Lumen maintenance @ 50 k hrs	Lifetime @ max Tc 65°C	Dimming range	Order code
	lm	W	lm/W	K	Ra	SDCM	V	%	hrs	%	(EOC)
Fortimo LED deco mini spot 300 827	300	6.5	45	2700	85	4	10	70	>20,000	25-100	8718291 158356 00
Fortimo LED deco mini downlight 300 827	300	6.5	45	2700	85	4	10	70	>20,000	25-100	8718291 158394 00
Fortimo LED deco mini strip 300 40D 827	300	6.5	45	2700	85	4	10	70	>20,000	25-100	8718291 158431 00
Fortimo LED deco mini strip 300 100D 827	300	6.5	45	2700	85	4	10	70	>20,000	25-100	8718291 158479 00



Drivers 1st recommendation	
Fortimo LED decorative modules	Xitanium 9 W 0.7 A 12 V TE DIM
	Xitanium 10 W 0.70 A 14 V DIM
	Xitanium 10 W 0.50 A 20 V DIM
	Xitanium 30 W 0.70 A 42 V DIM
	Xitanium LD-R 30 W 700 mA

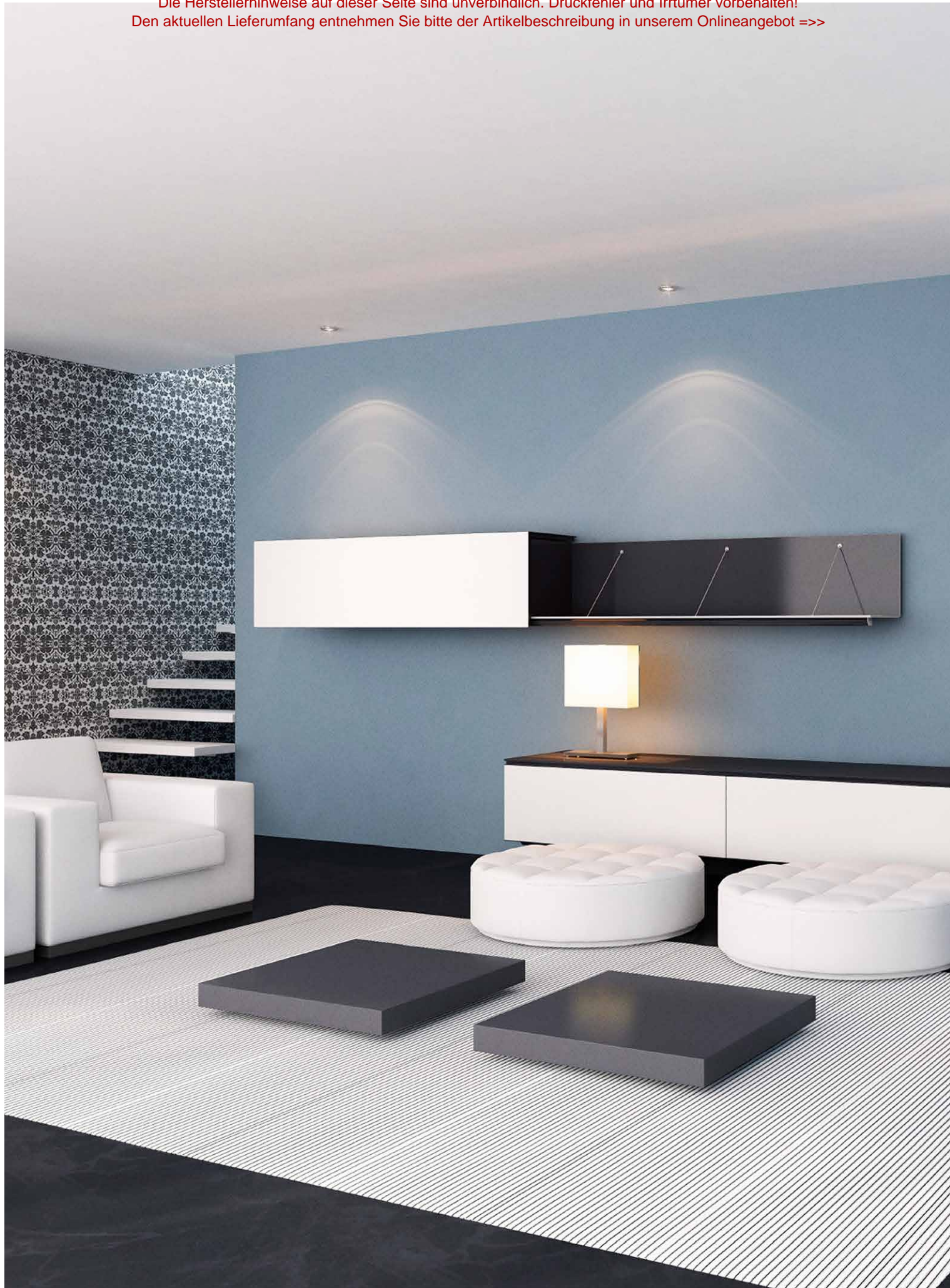


Cable recommendation	
None (cables connected to modules)	



For further information visit the website:

www.philips.com/technology



Die Herstellerhinweise auf dieser Seite sind unverbindlich. Druckfehler und Irrtümer vorbehalten!

Municipality of Venosa Venosa, Italy

A total of 420 customised Lanterna luminaires, equipped with the Fortimo LED LLM 3000 lm, have been installed. The Lanterna design incorporates the Fortimo LED LLM and the Xitanium 75 W LED driver.

OEM: Neri S.p.A.

OEM products: Grall SN905LED Lanterna

See Fortimo LED LLM 3000 lm modules on page 37



Outdoor

01. Fortimo LED systems (modules + drivers + cables)

Just released! Outdoor	35
<i>High brightness systems</i>	
Fortimo LED high brightness module (HBMt) Gen2	36
<i>Linear light systems</i>	
Fortimo LED linear light module (LLM) Gen3	37
Fortimo LED linear light module (LLM) Solar Gen3	38
Coming soon	39

Just released!

Outdoor



Order your sample in
our sample webshop!

An easy to design-in, compact LED module for white light - Fortimo LED HBMt 2500 lm

The module offers a new, lower lumen package, expanding the current portfolio range. Mechanical and optical performance is identical to the already-released products, simplifying and accelerating design-in. The new module enables flexible system design – the Rset LED current is printed on the product, allowing the customer to fine-tune the lumen package, perfectly matching the application needs. The system is optimised for best value with the Xitanium 75 W 0.70 A AOCM 1-10 V GL-Y sXt driver. For OEMs looking for more system flexibility, the module will also be compatible with a variety of Xitanium Prog+ LED drivers. Fortimo LED HBMt is a highly efficient LED module for Outdoor lighting applications, offering easy entry into LED lighting for traditional lighting OEMs.



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LED breakthrough in comfortable white light - Fortimo LED LLM 6000 lm Gen3

The latest addition offers a higher lumen package than was previously available in the Fortimo LED LLM portfolio. The Fortimo future proof promise is kept, with no changes in the optical or mechanical specifications. The module will deliver the same efficient, high-quality diffuse white light as the already released products in the family. Depending on the luminaire design, the Fortimo LED LLM 6000 lm module may be used on the 4500 lm Gen2 heatsink, simplifying and accelerating the design-in process. The system is developed for use with the Fortimo cable and the Xitanium 150 W 1.05 A Prog+ GL-F sXt driver. Constant Light Output (CLO) feature must be programmed into the driver to ensure 100 % lumen maintenance at end of life.



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Fortimo LED high brightness module (HBMt) Gen2



Outdoor | High brightness systems

Fortimo LED high brightness module Gen2 (HBMt) is an elegant solution for OEMs looking to incorporate LEDs into their product portfolio. The compact rectangular light engine with non-integrated driver enables different light distributions using a metal reflector. The same form factor offers multiple lumen packages, leveraging a single design into a full portfolio to better meet end-user needs.

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

Features:

- Outstanding thermal performance
- Module efficiency of up to 115 lm/W
- Colour temperature 4000 K and 5700 K
- Colour rendering index Ra 70

Applications:

- Road lighting
- Urban street lighting
- Flood and area lighting
- High-bay
- Tunnels

Product specification

Type	Module power	Module efficacy typical	Light output	Correlated colour temperature	Colour rendering index	Tcase	Thermal load	Max input voltage	Colour consistency	Lifetime 90 % survivals	Order code
	W	lm/W	lm	K	min. Ra	°C	W	V	SDCM	hrs	(EOC)
NEW Fortimo LED HBMt 2500 22 W/740	22	114	2500	4000	70	85	14.5	53	< 7	50,000	8718291 681724 00
NEW Fortimo LED HBMt 2500 22 W/757	22	114	2500	5700	70	85	14	53	< 7	50,000	8718291 681762 00
Fortimo LED HBMt 4000 35 W/740	35	114	4000	4000	70	85	24	90	< 7	50,000	8718291 214069 00
Fortimo LED HBMt 4000 35 W/757	35	114	4000	5700	70	85	23	90	< 7	50,000	8718291 214106 00
Fortimo LED HBMt 6000 54 W/740	54	111	6000	4000	70	85	36	118	< 7	50,000	8718291 214021 00
Fortimo LED HBMt 6000 54 W/757	54	111	6000	5700	70	85	35	118	< 7	50,000	8718291 214083 00

Note: +/-10 % tolerance is applicable to lumen/watt performance characteristics



Drivers 1st recommendation	
Fortimo LED HBMt	Xtanium 75 W 0.35-0.7 A GL Prog sXt
2 Fortimo LED HBMt modules	Xtanium 150 W 0.35-0.7 A GL Prog sXt



Cable recommendation	A	B
Xtanium 75 W 0.35-0.7 A GL Prog sXt	+	
Xtanium 150 W 0.35-0.7 A GL Prog sXt		+

A: Cable Fortimo 7PA to 6 Wire - 600 mm EOC: 8718291 214120 00
B: Cable Fortimo 7PA to 6 Wire - 600 mm x2 EOC: 8718291 214120 00



sample webshop



For further information visit the website:

www.philips.com/technology

Fortimo LED linear light module (LLM) Gen3



Outdoor | Linear light systems

Fortimo LED LLM Gen3 provides high quality natural white light and makes people feel safe and comfortable. The Fortimo LED LLM system consists of a light module and an electronic driver, designed for use in existing or new luminaires together with a heat sink and reflector.

Benefits:

- Comfortable, glare-free white light
- Reduced light pollution (no sky glow)
- Significant energy savings and reduced CO₂ emissions
- Suitable for dimming and telemanagement systems
- Luminaire design is based on traditional reflector optics
- Future-proof concept

Features:

- Latest high-power LEDs for outstanding performance
- Extreme system efficiency
- Choice of warm (3000 K) or neutral (4000 K) white light
- Excellent colour consistency, CRI > 70
- Entire Fortimo LED LLM module portfolio has identical physical characteristics and optical distribution
- Dedicated drivers with Constant Light Output
- Multiple system dimming options for additional energy savings, including DALI, 1-10V and Dynadimmer
- High system reliability

Applications:

- Residential areas
- Urban street lighting
- Parks
- City centers
- Parking lots
- Squares
- Cycle - footpaths

Product specification

Type	Light output	Module power initial	Module power @ 50 K hrs	Module efficacy initial	Thermal load, initial	Correlated colour temperature	Colour rendering index	Colour consistency	Lumen maintenance @50 K hrs	Order code (EOC)
	lm	W	W	lm/W	W	K	Ra	SDCM	%	
Fortimo LED LLM 1100/730 12 W Gen3	1100	12	15	92	8	3000	70	<7	100	8718291 253402 00
Fortimo LED LLM 1100/740 10 W Gen3	1100	10	13	110	7	4000	70	<7	100	8718291 253440 00
Fortimo LED LLM 1800/730 19 W Gen3	1800	19	24	95	13	3000	70	<7	100	8718291 253532 00
Fortimo LED LLM 1800/740 17 W Gen3	1800	17	21	106	11	4000	70	<7	100	8718291 253556 00
Fortimo LED LLM 3000/730 33 W Gen3	3000	33	41	91	23	3000	70	<7	100	8718291 253570 00
Fortimo LED LLM 3000/740 30 W Gen3	3000	30	37	100	20	4000	70	<7	100	8718291 253594 00
Fortimo LED LLM 4500/730 48 W Gen3	4500	48	59	94	33	3000	70	<7	100	8718291 253617 00
Fortimo LED LLM 4500/740 44 W Gen3	4500	44	56	102	29	4000	70	<7	100	8718291 253631 00
Fortimo LED LLM 6000/730 65 W Gen3	6000	65	79	92	46	3000	70	<7	100	8718291 681656 00
Fortimo LED LLM 6000/740 58 W Gen3	6000	58	70	103	39	4000	70	<7	100	8718291 681694 00



Drivers 1st recommendation	Order code (EOC)	
Fortimo LED LLM 1100 lm - 1800 lm	Xitanium 35 W 0.20-0.70 A 230 V Otd	8718291 120032 00
	Xitanium 35 W 0.20-0.70 A LS6 230 V Otd	8718291 120049 00
	Xitanium 35 W 0.20-0.70 A LS8 230 V Otd	8718291 120056 00
Fortimo LED LLM 3000 lm - 4500 lm	Xitanium 75 W 0.35-0.70 A 1-10V 230 V sXt + integrated cable	8727900 925678 00
Fortimo LED LLM 6000 lm	Xitanium 150 W 1.05 A Prog + GL-F sXt	8718291 211983 00



Cable recommendation	A	B
Xitanium 35 W 0.20-0.70 A 230 V Otd	+	
Xitanium 35 W 0.20-0.70 A LS6 230 V Otd	+	
Xitanium 35 W 0.20-0.70 A LS8 230 V Otd	+	
Xitanium 150W 1.05 A Prog+ GL-F sXt		+

A: Cable Fortimo 1100/1800 5pin to 7pin EOC: 8718291 254225 00
B: Cable Fortimo 7PA to 6wire - 600 mm EOC: 8718291 214120 00



sample webshop



For further information visit the website:

www.philips.com/technology

Fortimo LED linear light module (LLM) Solar Gen3

Outdoor | Linear light systems

The Fortimo LED LLM Solar system (linear module, 12/24 V DC driver and cable) represents a breakthrough in energy efficient, LED-based lighting. The system provides sustainable and affordable off-grid lighting solutions for places where, until now, light was unthinkable. The off-grid system also helps conserve natural resources everywhere.

Benefits:

- Comfortable, glare-free white light
- Reduced light pollution (no sky glow)
- No carbon emissions and no energy bills
- Suitable for dimming and telemanagement systems
- Future-proof concept
- Easy to design into existing or new luminaires
- Integrated dimming results in lower overall system cost (smaller panel/generator and battery)

Features:

- Latest high-power LEDs for outstanding performance
- Excellent module and system efficiency
- Choice of warm (3000 K) or neutral (4000 K) white light
- High system reliability, including excellent lumen maintenance, thermal module and battery protection
- Dimming with programmable LumiStep

Applications:

- Residential areas
- City centres
- Street lighting
- Parks
- Stadiums
- Security lighting

Product specification

Type	Light output lm	Power module W	System power W	System efficacy lm/W	Correlated colour temperature K	Colour rendering index Ra	System lifetime, 70 % lumen maintenance hrs	Order code (EOC)
Fortimo LED LLM 1800/730 19 W Gen3	1800	19	20	89	3000	70	50,000	8718291 253532 00
Fortimo LED LLM 1800/740 17 W Gen3	1800	17	19	95	4000	70	50,000	8718291 253556 00
Fortimo LED LLM 3000/730 33 W Gen3	3000	33	36	83	3000	70	50,000	8718291 253570 00
Fortimo LED LLM 3000/740 30 W Gen3	3000	30	32	95	4000	70	50,000	8718291 253594 00



Drivers recommendation	Order code (EOC)
Fortimo LED LLM 1800 lm - 3000 lm Gen3	Xitanium 40 W 0.2-0.7 A LS 12-24 V 8727900 925593 00



Cable recommendation	A
Xitanium 40 W 0.2-0.7 A LS 12-24 V (Solar driver)	+

A: Cable Fortimo solar 7pin to 7pin

EOC: 8718291 254249 00



For further information visit the website:

www.philips.com/technology

Coming soon

Outdoor LED systems



COMING SOON

03
Pre-launch
Phase

FastFlex LED module Gen2

FastFlex LED module offers a flexible LED lighting solution for road and street lighting. The modular concept allows for perfect luminaire creation based on application needs. The module's flexible light output and performance characteristics mean the luminaire can be optimised for best lumen/watt or best value, and the range of optics can create a complete portfolio from a single light engine design. FastFlex LED module is designed to minimise the impact of thermal and physical stresses, ensuring a robust and reliable solution.

The proposition consists of 2 key building blocks – a 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.

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

Features:

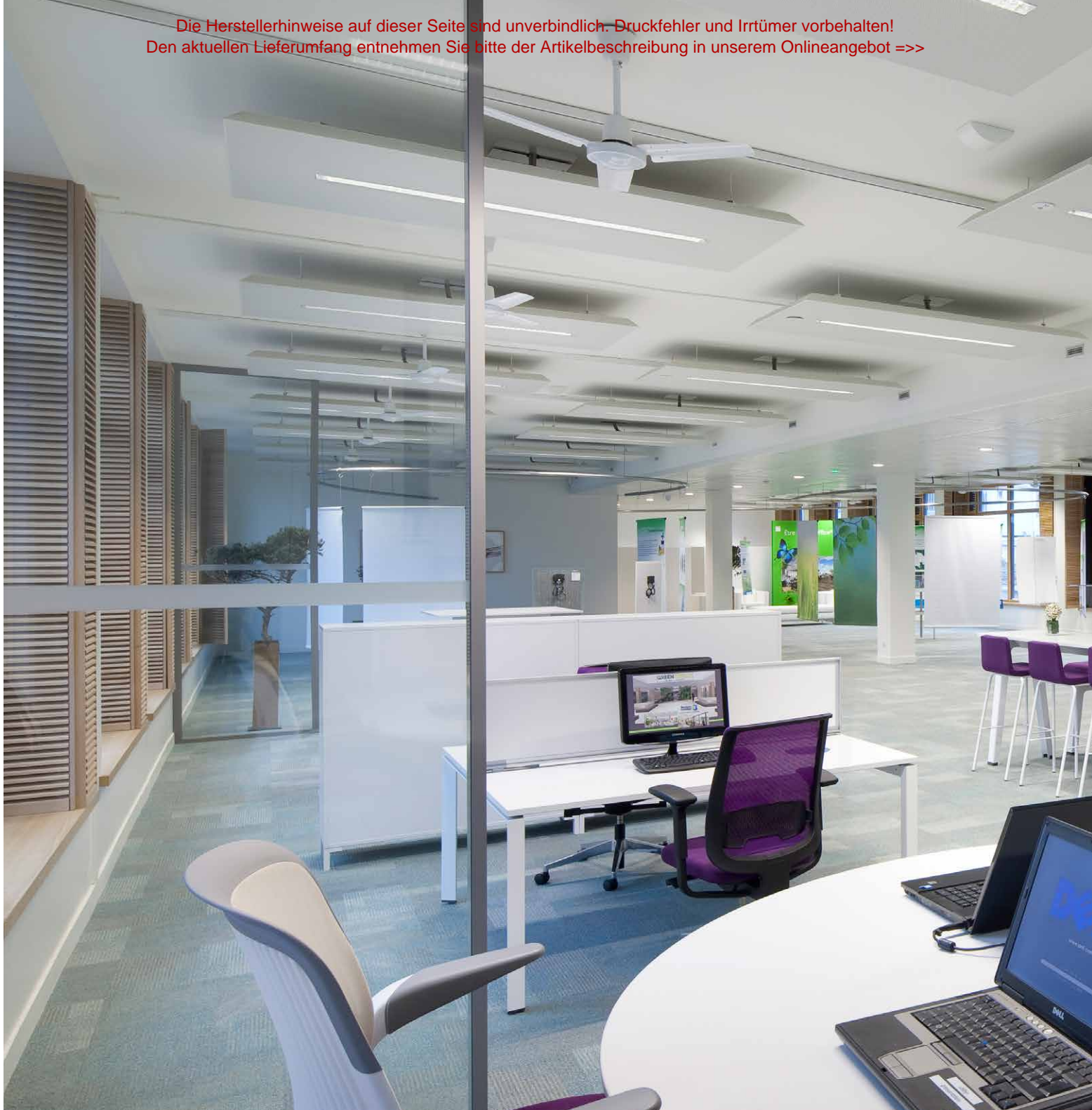
- Modular approach to luminaire design; choice of 4 optical distributions
- LUXEONT LEDs in CCT 4000 K, CRI 70 or 80
- Patented interface between lens, module and mounting surface
- High Tcase 75 °C
- Lean supply chain

Applications:

- Road lighting
- Urban street lighting



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02 Xitanium LED drivers

Enabling future proof LED technology
for the dynamic LED market



Indoor

02. Xitanium LED Drivers

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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!

Indoor

Xtanium LED drivers

Linear office LED drivers with 1% DIM and new programmable features

Xtanium 36 W 0.12-0.4 A 110VTD 230 V

Xtanium 75 W 0.12-0.4 A 215VTD 230 V



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The new 36 W and 75 WTD Xtanium LED drivers are designed with the professional office application in mind. These versions feature DALI- and Touch & DIM protocols and can be programmed with the Philips MultiOne configurator Tool. Next to the output current (AOC), module temperature protection (MTP) and constant light output (CLO) new programmable features like DC DIM (DC emergency at specific dim level) and corridor mode are now added. Due to the use of a new microchip a low dim level of 1 % can be reached. These 'window' LED drivers will come in conventional T5 housing design and feature push-in connectors.

First Philips LED Emergency kit for linear LED modules - TrustSight LED Emergency kit



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This is the first Philips LED Emergency kit for Europe that is designed to operate linear LED modules. The Emergency driver, supported by its 7.2 V NiMH battery pack(s), will back up and take over from the standard Xtanium LED driver in case the regular 230 V mains is no longer available. During this situation it will operate (part of) the Linear LED modules in the luminaire in a dimmed mode. TrustSight LED 40-80 mA 2.6 W has a jumper selectable output to support 33 V and 66 V LED modules at respectively 80 mA and 40 mA. The kit comes in 2 different versions to cover applications where 1 hr operation time is sufficient or high risk task areas where even 3 hrs of operation time are mandatory. A switched line input via the standard Xtanium LED driver enables system testing from a central point in the building at any convenient moment.

Programmable low power spot- and downlight drivers -

Xitanium 25 W LH 0.3-1 A 36 VTD/Is 230 V

Xitanium 17 W LH 0.3-1 A 24 VTD/Is 230 V

Recently the programmable Xitanium LED driver range has been extended with a 17 WTD/Is driver to support 1100 lm DLM Gen4. In meanwhile also the 25 WTD/Is driver has been upgraded. Both products feature dimming up to 1 % and a WAGO output connector next to the standard JST connector to enable easy connection with any LED module or LED PCB. The LH form factor is ideal for track luminaires and a detachable strain relief supports independent use with wire diameters up to 10 mm.



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The flexible high power spot- and downlight driver -

Xitanium 75 W SH 0.3-1 A 110 V I 230 V

Just below the highest in range now also the 75 W Xitanium LED driver is available. This driver supports flexible current setting up to 1A via Rset2. Various LED modules or PCB's can be operated via the WAGO output connector; which is available next to the standard JST connector. The SH form factor offers strain relief for all connections and loop through functionality for mains wiring. A 12V output is available to enable active cooling.



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The flexible medium power spot- and downlight driver -

Xitanium 36 W/s 0.3-1 A 48 V 230 V

The Xitanium 36W LED driver is now also available in a square form factor. Various LED modules or LED PCB's can be connected to the WAGO output connector. The standard JST connector supports 2000 and 3000 lm DLM Gen4 / SLM Gen3. A 12V output is available to enable active cooling. Current setting up to 1A is supported via Rset2.



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The flexible low power spot- and downlight driver -

Xitanium 17 W LH 0.3-1 A 24 V I 230 V

The Xitanium 17 W LED driver has been upgraded to offer more flexibility. It features a WAGO connector next to the standard JST connector for easy connection to any LED module or LED PCB. At the same time it has an increased maximum output current of 1A and wires with a diameter up to 10 mm are supported by the improved strain relief. Current setting can be done via Rset2.



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Xitanium LED Drivers - Linear Lighting

Indoor | Linear office drivers

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 factors, but various lengths. Programmable, Rset (1-10 V and fixed output) and fixed current versions. Central DC operation on all linear office LED drivers.

Benefits:

- High reliability
 - 5 years warranty
- Luminaire design flexibility to keep stable/constant lumen output and light quality levels
 - LED generation mgt
 - LED complexity mgt
 - Lower R&D costs
 - Faster Time to Market
- High efficiencies up to 92%
- One supplier for professional general lighting LED drivers

Features:

- Driver design based on Philips experience and knowledge of conventional fluorescent technology
- The reliability of the LED solution is further enhanced by specific features that protect the connected LED module, like: reduced ripple current, thermal derating, all drivers feature central DC operation
- Application oriented operating windows offer luminaire design flexibility. The operating windows are stacked so that a wide number of LEDs can be operated

Wide portfolio

- Various power/wattage drivers that are related to the operating windows/ lumen packages/ applications
- Fixed output, dimmable (DALI, TE, 0/1-10 V) & programmable drivers
- Form factors derived from conventional T5 ballasts
- New form factors for retail/track lighting
- EMEA/APR voltages (230 V) and specific NA voltages (120/277 V)

Applications:

- Offices
- Industry
- Retail

HV (non-isolated) LED drivers



DALI dimmable & programmable

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
Xitanium 75 W/0.15-0.4 A 200 V TD 230 V*	360x30x22	100-10 %	0.15-0.4	100-200	8718291 168188 00
NEW Xitanium 75 W/0.12-0.4 A 215 V TD 230 V	360x30x22	100-1 %	0.12-0.4	100-215	8718291 684022 00
Xitanium 36 W/0.12-0.4 A 100 V TD 230 V*	360x30x22	100-10 %	0.12-0.4	50-100	8718291 187165 00
NEW Xitanium 36 W/0.12-0.4 A 110 V TD 230 V	360x30x22	100-1 %	0.12-0.4	50-110	8718291 684046 00
Xitanium 17 W/0.12-0.4 A 54 V TD 230 V	360x30x22	100-10 %	0.12-0.4	27-54	8718291 198048 00

* Will be phased out by September 2013

Module recommendations

Driver type	Suitable module
Xitanium 75 W/0.15-0.4 A 200 V TD 230 V	Fortimo LED Line HV systems
Xitanium 75 W/0.12-0.4 A 215 V TD 230 V	Fortimo LED Line HV systems
Xitanium 36 W/0.12-0.4 A 100 V TD 230 V	Fortimo LED Line HV systems
Xitanium 36 W/0.12-0.4 A 110 V TD 230 V	Fortimo LED Line HV systems
Xitanium 17 W/0.12-0.4 A 54 V TD 230 V	Fortimo LED Line HV systems

For driver and cable combinations please check Fortimo linear systems.



1-10 V dimmable

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
Xitanium 75 W/0.2-0.4 A 200 V 1-10 V 230 V	360x30x22	100-10 %	0.2-0.4	100-200	8718291 163800 00
Xitanium 36 W/0.12-0.4 A 100 V 1-10 V 230 V	360x30x22	100-10 %	0.12-0.4	50-100	8718291 187202 00
Xitanium 17 W/0.12-0.4 A 54 V 1-10 V 230 V	360x30x22	100-10 %	0.12-0.4	27-54	8718291 198062 00

Module recommendations

Driver type	Suitable module
Xitanium 75 W/0.2-0.4 A 200 V 1-10 V 230 V	Fortimo LED Line HV systems
Xitanium 36 W/0.12-0.4 A 100 V 1-10 V 230 V	Fortimo LED Line HV systems
Xitanium 17 W/0.12-0.4 A 54 V 1-10 V 230 V	Fortimo LED Line HV systems

For driver and cable combinations please check Fortimo linear office systems.



Fixed output

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
Xitanium 75 W/0.15-0.4 A 200 V 230 V*	360x30x22	n.a.	0.15-0.4	100-200	8718291 547426 00
Xitanium 36 W/0.12-0.4 A 100 V 230 V*	360x30x22	n.a.	0.12-0.4	50-100	8718291 187226 00
Xitanium 75 W/0.12-0.4 A 215 V 230 V	280x30x22	n.a.	0.12-0.4A	100-215V	8718291 228097 00
Xitanium 36 W/0.12-0.4 A 110 V 230 V	280x30x22	n.a.	0.12-0.4A	50-110 V	8718291 228110 00

* Will be phased out per September 2013

Module recommendations

Driver type	Suitable module
Xitanium 75 W/0.15-0.4 A 200 V 230 V	Fortimo LED line
Xitanium 36 W/0.12-0.4 A 100 V 230 V	Fortimo LED line
Xitanium 75 W/0.12-0.4 A 215 V 230 V	Fortimo LED line and Philips Core LED Line
Xitanium 36 W/0.12-0.4 A 110 V 230 V	Fortimo LED line and Philips Core LED Line

For driver and cable combinations please check Fortimo linear office systems.



Pre-programmed drivers DALI dimmable & programmable

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
Xitanium 75 W/160 mA 200 V TD 230 V*	360x30x22	100-10 %	0.16	100-200	8718291 212287 00
Xitanium 75 W/200 mA 200 V TD 230 V*	360x30x22	100-10 %	0.25	100-200	8718291 152552 00
Xitanium 75 W/240 mA 200 V TD 230 V*	360x30x22	100-10 %	0.24	100-200	8718291 152569 00
Xitanium 75 W/280 mA 200 V TD 230 V*	360x30x22	100-10 %	0.28	100-200	8718291 152576 00
Xitanium 75 W/320 mA 200 V TD 230 V*	360x30x22	100-10 %	0.32	100-200	8718291 152583 00
Xitanium 75 W/360 mA 200 V TD 230 V*	360x30x22	100-10 %	0.36	100-200	8718291 152590 00

* Will be phased out per September 2013

LV (isolated) LED drivers



DALI dimmable & programmable

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
Xitanium 75 W/0.7-2 A 54 V TD 230 V	425x30x26	100-1 %	0.7-2	27-54	8718291 211884 00
NEW Xitanium 36 W/0.3-1 A 54 V TD 230 V	425x30x26	100-1 %	0.3-1	27-54	87182916 57422 00

1-10 V dimmable

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
Xitanium 75 W/0.7-2 A 54 V 1-10 V 230 V*	425x30x26	100-10 %	0.7-2	27-54	8718291 211860 00
NEW Xitanium 75 W/0.7-2 A 54 V 1-10 V 230 V	425x30x26	100-10 %	0.7-2	27-54	8718291 696445 00
NEW Xitanium 36 W/0.3-1 A 54 V 1-10 V 230 V	360x30x26	100-10 %	0.3-1	27-54	8718291 684060 00

* Will be phased out by September 2013



Fixed output

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Order code (EOC)
NEW Xitanium 75 W/0.7-2 A 54 V 230 V	425x30x26	n.a.	0.7-2	27-54	8718291 701637 00
Xitanium 55 W/0.84-1.5 A 36 V 120-277 V*	360x30x26	n.a.	0.84-1.5	28-36	87182912 04381 00
NEW Xitanium 36 W/0.3-1 A 54 V 230 V	360x30x26	n.a.	0.3-1	27-54	8718291 684084 00

* Will be phased out by September 2013

For further information visit the website:

www.philips.com/technology

Xitanium LED Drivers Downlight & Spotlight drivers

Indoor | Downlight & Spotlight drivers

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 following specifications: Operating window, SELV, Improved ripple current, Temperature derating, Hot wiring, 12 V output for active cooling or decorative effects, Central DC operation.

Benefits:

- High reliability
 - 5 years warranty
- Luminaire design flexibility to keep stable/constant lumen output and light quality levels
 - LED generation mgt
 - LED complexity mgt
 - Lower R&D costs
 - Faster Time to Market
- High efficiencies up to 92 %
- One supplier for professional general lighting LED drivers

Features:

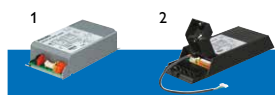
- Driver design based on Philips experience and knowledge of conventional fluorescent & HID technologies
- The reliability of the LED solution is further enhanced by specific features that protect the connected LED module, like: hot wiring, reduced ripple current, thermal derating, almost all drivers feature central DC operation
- Application oriented operating windows offer luminaire design flexibility. The operating windows are stacked so that a wide number of LEDs can be operated
- Wide portfolio
 - Various power/wattage drivers that are related to the operating windows/ lumen packages/applications
 - Fixed output, dimmable (DALI, TE, 0/1-10 V) & programmable drivers
 - Form factors derived from conventional ballasts
 - New form factors for retail/track lighting
 - EMEA/APR voltages (230 V) and specific NA voltages (120/277 V)

Applications:

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

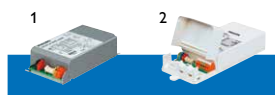
HV LED drivers

DALI dimmable



	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Fortimo LED driver 1100-3000 TD	1	138x74x32	100-10 %	0.2-0.7	20-80	No	No	8727900 842975 00
Fortimo LED driver 1100-3000 TD/I	2	224x83x35	100-10 %	0.2-0.7	20-80	No	No	8727900 862706 00

Fixed output



	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Fortimo LED driver 1100-3000	1	138x74x32	n.a.	0.2-0.7	20-80	No	No	8727900 920857 00
Xitanium 45 W 200-700 mA 80 V I 230 V	2	220x83x35	n.a.	0.2-0.7	20-80	No	No	8727900 920833 00

For further information visit the website:

www.philips.com/technology

SELV LED drivers



DALI dimmable & programmable

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Xitanium 50 W 0.3-1 A 62 VTD/TE/ 230 V	3	141x75x32	100-10 %	0.3-1	31-62	Yes	Yes	8718291 157120 00
Xitanium 50 W LH 0.3-1 A 62 VTD/TE/I/ 230 V	2	190x46x32	100-1 %	0.3-1	31-62	Yes	Yes	8718291 710950 00
Xitanium 50 W SH 0.3-1 A 62 VTD/TE/I/ 230 V	4	220x83x35	100-10 %	0.3-1	31-62	Yes	Yes	8718291 119487 00
Xitanium 25 W 0.3-1 A 36 VTD/I/ 230 V	1	170x46x32	100-10 %	0.3-1	18-36	Yes	Yes	8727900 914344 00
Xitanium 25 W LH 0.3-1 A 36 VTD/Is 230 V	5	150x46x32	100-1 %	0.3-1	18-36	Yes	Yes	8728291 708032 00
Xitanium 17 W LH 0.3-1 A 24 VTD/Is 230 V	2	190x46x32		0.3-1	12-25	Yes	Yes	8718291 668060 00

These drivers are compatible with Fortimo LED DLM/SLM range.
For LED module and cable combinations please check chapter Fortimo LED DLM/SLM systems.



Trailing edge dimmable

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Xitanium 17 W 0.3-0.7 A 24 V TE/I 230 V	190x46x32	100-20 %	0.3-0.7	12-24	Yes	Yes	8727900 907292 00
Xitanium 25 W 0.3-0.7 A 36 V TE/I 230 V	190x46x32	100-20 %	0.3-0.7	18-36	Yes	Yes	8727900 907308 00

These drivers are compatible with Fortimo LED DLM/SLM range.
For LED module and cable combinations please check chapter Fortimo LED DLM/SLM systems.



Fixed current trailing edge dimmable

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Xitanium LD-R 30 W 700 mA	4	150x40x28	100-20 %	0.7	42	No	Yes	8727900 843316 00
Xitanium 30 W 0.70 A 42 V DIM	3	150x40x28	100-20 %	0.7	42	No	Yes	8710163 064185 30
Xitanium 10 W 0.50 A 20 V DIM	2	120x45x20	100-20 %	0.5	20	No	Yes	8727900 834734 00
Xitanium 10 W 0.70 A 14 V DIM	2	120x45x20	100-20 %	0.7	14	No	Yes	8710163 064161 30
Xitanium 9 W 0.7A 12V TE DIM	1	100x40x21	100-10 %	0.7	16	No	Yes	8718291 245018 00

Module recommendations

Driver type	Suitable module
Xitanium LD-R 30 W 700 mA	Fortimo LED decoratives
Xitanium 30 W 0.70 A 42 V DIM	Fortimo LED decoratives
Xitanium 10 W 0.50 A 20 V DIM	Fortimo LED decoratives
Xitanium 10 W 0.70 A 14 V DIM	Fortimo LED decoratives
Xitanium 9 W 0.7A 12V TE DIM	Fortimo LED decoratives

For driver and cable combinations please check the Fortimo decorative systems.



Fixed output

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Xitanium 110 W SH 0.3-1 A 160 V I 230 V	5	220x83x35	n.a.	0.3-1	80-160	Yes	Yes	8718291 259367 00
Xitanium 75 W SH 0.3-1 A 110 V I 230 V	5	220x83x35	n.a.	0.3-1	55-110	Yes	Yes	8718291 676256 00
Xitanium 25 W LH 0.3-1 A 36 V I 230 V	2	190x46x32	n.a.	0.3-1	18-36	Yes	Yes	8727900 900965 00
Xitanium 50 W SH 0.3-1 A 62 V I 230 V	5	220x83x35	n.a.	0.3-1	31-62	Yes	Yes	8718291 676218 00
Xitanium 50 W 0.3-1 A 62 V 230 V	4	141x75x32	n.a.	0.3-1	31-62	Yes	Yes	8718291 137825 00
Xitanium 50 W/s 0.3-1 A 62 V 230 V	3	110x75x32	n.a.	0.3-1	31-62	Yes	Yes	8718291 676157 00
Xitanium 36 W LH 0.3 - 1 A 48 V I 230 V	2	190x46x32	n.a.	0.3-1	24-48	Yes	Yes	8718291 666448 00
Xitanium 36 W/s 0.3-1 A 48 V 230 V	3	110x75x31	n.a.	0.3-1	24-48	Yes	Yes	8718291 695851 00
Xitanium 17 W LH 0.3-1 A 24 V I 230 V	2	190x46x32	n.a.	0.3-1	25-12	Yes	Yes	8718291 668060 00
Xitanium 12 W 0.3-1 A 16 V I 230 V	1	150x46x32	n.a.	0.3-1	2.5-16	Yes	Yes	8718291 163701 00

These drivers are compatible with Fortimo LED DLM/SLM range.
For LED module and cable combinations please check chapter Fortimo LED DLM/SLM systems.



Fixed current; fixed output

Product specification

	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Xitanium 25 W 820 mA 32 V I 230 V	190x46x32	n.a.	0.82	32	No	No	87182911 97218 00

Accessories



Product name	Order code (EOC)
JST to push-in adapter	8718291 245254 00
Xitanium LH Loop-through adaptor	(tbc)

For further information visit the website:

www.philips.com/technology

LED Emergency drivers

Indoor | Emergency drivers

For indoor applications without central emergency power, local emergency lighting is required. Philips LED emergency solutions are designed to operate LED modules on battery power. In the event of a mains voltage failure, the LED emergency driver immediately switches from battery charge mode to illumination mode and takes over the function of the standard LED driver. In order to comply with relevant standards the LED emergency kits are CE and ENEC-certified.

Benefits:

- Compatible with existing LED drivers and modules
- Complete system solution with LED driver, bi-colour LED, battery and wiring
- Easy to install in a new design, and easy to upgrade an existing luminaire design

Features:


- Emergency driver and battery charger in one
- Long battery lifetime
- Status indication
- CE- and ENEC-certified
- RoHS- and REACH-compliant

Applications:


- 'Prestigious' office spaces
- Industrial environments
- Public buildings
- High-end shops and retail environments

LED Emergency drivers

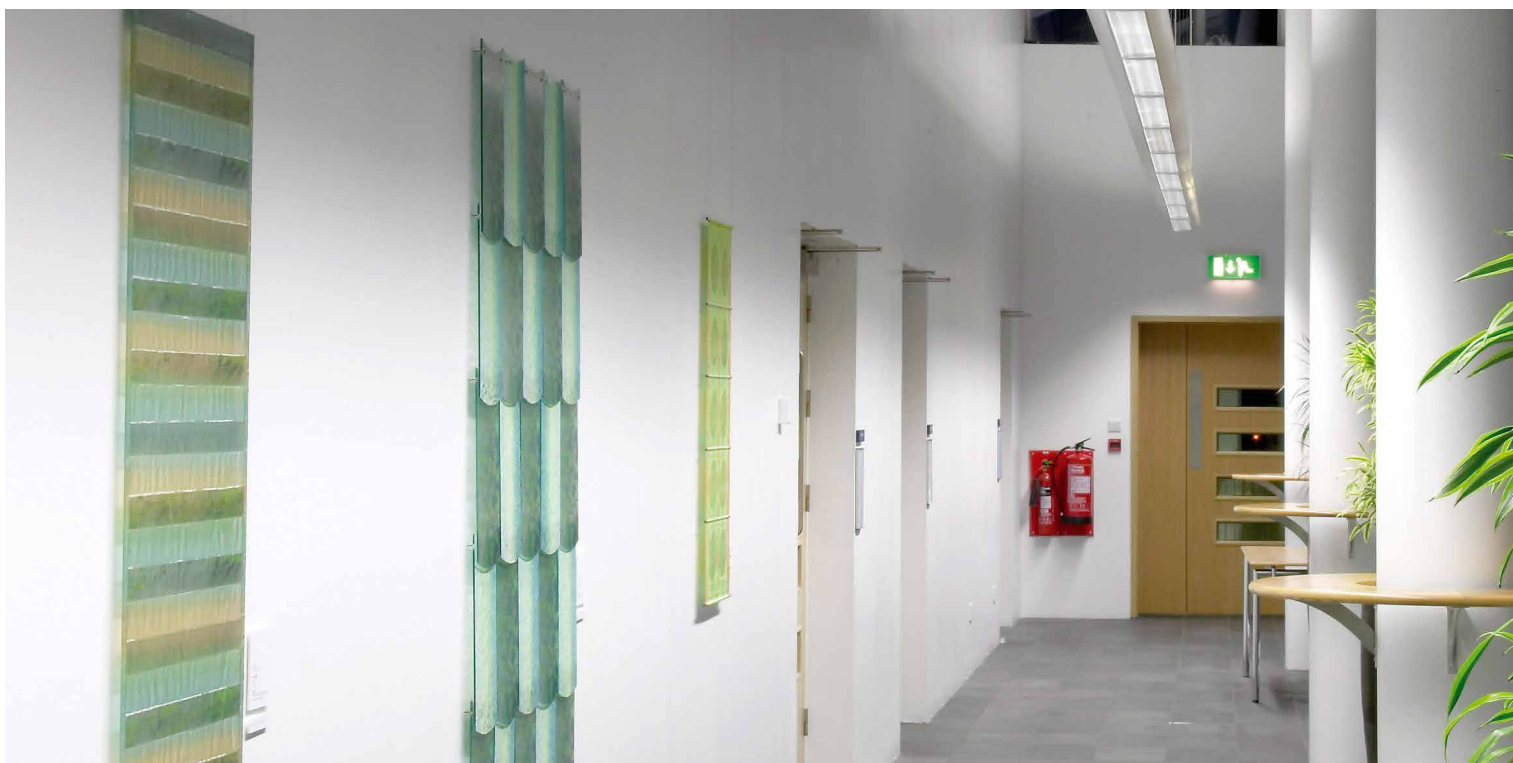
Product specification



	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
Xitanium EM 3 W 50mA 50V 3H 230V	135x34x55	n.a.	n.a.	n.a.	n.a.	n.a.	8718291 152859 00



	Housing mm	Dimming range	Output current range A	Output voltage range V	Central DC operation	SELV	Order code (EOC)
TrustSight LED 40-80mA 2.6W 1hr F	360x30x22	n.a.	40-80	33-66	n.a.	n.a.	8718291 697824 00
TrustSight LED 40-80mA 2.6W 3hr F	360x30x22	n.a.	40-80	33-66	n.a.	n.a.	8718291 697848 00



Die Herstellerhinweise auf dieser Seite sind unverbindlich. Druckfehler und Irrtümer vorbehalten!

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

See Fortimo LED LLM modules on page 38 and Xitanium LED programmable drivers on page 53.



Outdoor

02. Xitanium LED Drivers

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Just released!

Outdoor



Order your sample in our sample webshop!

Outdoor drivers

Complete control

Xitanium 100 W 0.7 A Prog+ GL-Z sXt

Xitanium 75 W 0.53 A AOCM 1-10V 230V-Y sXt

The latest introductions to the Xitanium LED Xtreme driver family complete the Outdoor portfolio by offering AOCM and Programmable drivers with output currents up to 530 mA or 700 mA.

The AOCM drivers offer full Adjustable Output Current (AOC) functionality, integrated Module Temperature Protection (MTP), and 1-10V dimming. A carefully selected feature set that gives design-in and dimming flexibility combined with LED module protection, ensuring piece-of-mind in harsh outdoor conditions.

The Xitanium Programmable LED drivers perfectly fit the luminaire manufacturer's needs, with programmable operating specifications, reduced SKU complexity and quicker time to market. For end users, the drivers offer multiple integrated dimming options, telemanagement-ready DALI interface and module replacement signal for easy maintenance.

Having the same functionality in two different output current versions, enables the luminaire manufacturer to better tune their LED lighting solution and find the ideal balance between cost and efficiency. The 530 mA versions deliver a higher output voltage making it possible to operate more LEDs vs. the 700 mA version. This makes it the right choice for systems that require the highest efficiency and with less thermal stress on the LEDs. The 700 mA drivers allow for a reduced number of LEDs and higher lumen output per LED, reducing total system costs.

The Xtreme standard for LED drivers delivers high reliability with robust specifications for moisture, vibration and extreme temperature protection.



See page: 53



See page: 53

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 CO₂ 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 maximised with intelligent temperature monitoring of the LED light engine. The full portfolio offers maximum flexibility with customisable operating settings, delivering optimal performance tailored for each design.

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

Features:

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

Applications:

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

Single output current



Product specification

	Output current range mA	Output voltage range V	Output power W	Type of dimming	Module temperature control	Efficiency range, max load %	Input voltage range Vac	Inrush current peak A	Inrush current width to 50 % µs	Power factor, 100 % load	Power factor, dimmed 50 %	Tc life °C	Lifetime @ Tc life, 90 % survivals hrs	Order code (EOC)
Xitanium 150 W 0.35 A 230 V sXt	350	120-425	42-150	n.a.	no	≥ 92	220-240	130	165	≥ 0.98	≥ 0.96	67	80,000	8727900 801330 00
Xitanium 150 W 0.70 A 230 V sXt	700	60-210	42-150	n.a.	no	≥ 92	220-240	130	165	≥ 0.98	≥ 0.96	67	80,000	8727900 809176 00

Dimmable: Single output current



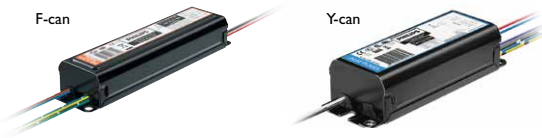
Product specification

	Output current range mA	Output voltage range V	Output power W	Type of dimming	Dimming range %	Module temperature control	Efficiency range, max load %	Input voltage range Vac	Inrush current peak A	Inrush current width to 50 % µs	Power factor, 100 % load	Power factor, dimmed 50 %	Tc life °C	Lifetime @ Tc life, 90 % survivals hrs	Order code (EOC)
Xitanium 75 W 0.70 A 1-10 V 230 V sXt	700	30-107	21-75	1-10V	100-10	no	≥ 92	220-240	106	160	>0.98	≥ 0.93	67	80,000	8718291 150619 00
Xitanium 150 W 0.35 A 1-10 V 230 V sXt	350	120-425	42-150	1-10V	100-10	no	≥ 92	220-240	130	165	≥ 0.98	≥ 0.96	67	80,000	8727900 928822 00
Xitanium 150 W 0.70 A 1-10 V 230 V sXt	700	60-210	42-150	1-10V	100-10	no	≥ 92	220-240	130	165	≥ 0.98	≥ 0.96	67	80,000	8718291 150084 00
Xitanium 150 W 1.05 A 1-10 V 230 V sXt	1050	40-140	42-150	1-10V	100-10	no	≥ 93	120-277	105	160	> 0.98	≥ 0.96	67	80,000	8718291 23439 00

sample webshop



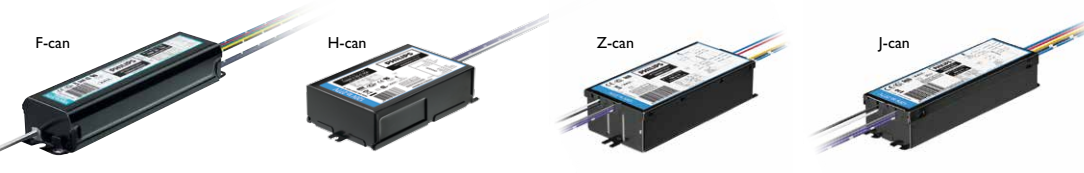
Dimmable: Adjustable output current



Product specification

	Housing type	Output current range mA	Output voltage range V	Output power W	Type of dimming	Dimming range %	Module temperature protection	Efficiency range, max load %	Input voltage range Vac	Inrush current peak A	Inrush current width to 50 % μs	Power factor, 100 % load	Power factor, dimmed 50 %	Tc life °C	Lifetime @ Tc life, 90 % survivals hrs	Order code (EOC)
Step AOC with 1-10V dimming																
Xitanium 75 W .35/.41/.53 A 1-10V 230 V sXt	F-can	350/410/530	60-140	21-75	1-10V	100-10	yes	≥92	220-240	130	140	≥0.99	≥0.98	67	80,000	8727900 924916 00
Xitanium 150 W .35/.41/.53 A 1-10V 230 V sXt	F-can	350/410/530	115-280	42-150	1-10V	100-10	yes	≥92	220-240	130	140	≥0.99	≥0.97	67	80,000	8727900 924930 00
Step AOC with LumiStep dimming																
Xitanium 75 W .35/.41/.53 A LS 230V sXt	F-can	350/410/530	60-140	21-75	LumiStep	100-50	yes	≥ 92	220-240	130	140	≥ 0.99	≥ 0.98	67	80,000	8727900 924923 00
Xitanium 150 W .35/.41/.53 A LS 230V sXt	F-can	350/410/530	115-280	42-150	LumiStep	100-50	yes	≥ 92	220-240	130	140	≥ 0.99	≥ 0.97	67	80,000	8727900 924947 00
AOC with 1-10V dimming																
Xitanium 75 W 0.53 A AOCM 1-10V 230V-Y sXt	Y-can	100-530	71-142	20-75	1-10V	100-10	yes	≥ 92	220-240	82	100	≥ 0.98	≥ 0.95	69	100,000	8718291 691532 00
Xitanium 75 W 0.7 A AOCM 1-10V GL-Y sXt	Y-can	100-700	54-107	20 -75	1-10V	100-10	yes	≥ 91	120-277	100	160	≥ 0.98	≥ 0.96	70	100,000	87182912 20534 00

Programmable



Product specification

	Housing type	Output current range (mA)	Output voltage range (V)	Output power (W)	Type of dimming	Dimming range (%)	Module Temp. Protection	Efficiency range, max load (%)	Input voltage range (Vac)	Inrush current peak (A)	Inrush current width to 50 % (μs)	Power factor, 100 % load	Power factor, dimmed 50 %	Tc life (°C)	Lifetime @ Tc life, 90 % survivals* (hrs)	Order code EOC
Xitanium 40 W 0.53A Prog+ GL-J sXt	J-can	100-530	38-77	15-40	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 88	120-277	65	100	≥ 0.96	≥ 0.92	74	100,000	8718291 245056 00
Xitanium 40 W 0.7A Prog+ GL-J sXt	J-can	100-700	29-57	20-40	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 88	120-277	65	100	≥ 0.97	≥ 0.93	74	100,000	8718291 245032 00
Xitanium 75 W 0.7A Prog+ GL-Z sXt	Z-can	100-700	54-107	38-75	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 90	120-277	80	150	≥ 0.97	≥ 0.93	68	100,000	8718291 245155 00
Xitanium 75 W 0.35-0.7A GL Prog sXt	F-can	350-700	80-152	30-75	1-10V/DALI/ Dynadimmer	100-10	yes	≥ 92	120-277	108	140	≥ 0.97	≥ 0.92	71	100,000	8718291 118879 00
Xitanium 75 W 0.35-0.7A GL Prog+ sXt	F-can	350-700	80-152	30-75	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 92	120-277	108	140	≥ 0.95	≥ 0.92	70	100,000	8718291 149958 00
Xitanium 75 W 1.05A Prog+ GL-F sXt	F-can	100-1050	36-75	25-75	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 90	120-277	100	160	≥ 0.97	≥ 0.94	70	100,000	8718291 212003 00
Xitanium 100 W 0.53A Prog+ GL-Z sXt	Z-can	100-530	94-189	35-100	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 92	120-277	80	150	≥ 0.97	≥ 0.94	66	100,000	8718291 245179 00
Xitanium 100 W 0.7 A Prog+ GL-Z sXt	Z-can	100-700	71-143	35-100	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 92	120-277	80	150	≥ 0.97	≥ 0.94	66	100,000	8718291 245193 00
Xitanium 150 W 0.20-0.35A Prog+ GL-H sXt	H-can	200-350	212-425	30-150	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 93	120-277	118	140	≥ 0.98	≥ 0.94	70	100,000	8718291 183686 00
Xitanium 150 W 0.70A Prog+ 230-H sXt	H-can	100-700	140-280	50-150	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 92	198-264	125	115	≥ 0.98	≥ 0.95	67	100,000	8718291 230458 00
Xitanium 150 W 0.35-0.7A GL Prog sXt	F-can	350-700	125-280	30-150	1-10V/DALI/ Dynadimmer	100-10	yes	≥ 93	120-277	108	140	≥ 0.97	≥ 0.94	71	100,000	8727900 783513 00
Xitanium 150 W 0.35-0.7A GL Prog+ sXt	F-can	350-700	125-280	30-150	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 93	120-277	108	140	≥ 0.95	≥ 0.94	70	100,000	8718291 149965 00
Xitanium 150 W 1.05A Prog+ GL-F sXt	F-can	100-1050	70-148	30-150	1-10V/AmpDim DALI/Dynadimmer	100-10	yes	≥ 92	120-277	110	150	≥ 0.97	≥ 0.95	70	100,000	8718291 211983 00

Module recommendations

Driver type	Suitable module
Xitanium 40 W 0.7A Prog+ GL-J sXt	Fortimo LED LLM Gen3
Xitanium 75 W 0.35-0.7 A GL Prog sXt	Fortimo LED LLM Gen3 Fortimo LED HBMt
Xitanium 150 W 0.35-0.7 A GL Prog sXt	Fortimo LED HBMt

For complete system combinations please go to the online module driver matching tool:
www.lighting.philips.co.uk/subsites/oem/tools/gear-selection-tool/index.wpd

For further information visit the website:

www.philips.com/technology

sample webshop



Xitanium Constant Current Outdoor

Outdoor

Long-lasting and low maintenance, LED-based light sources are an excellent solution for outdoor environments. For optimal performance, LED luminaires require reliable drivers which match the long lifetime of the LEDs. Xitanium Constant Current Outdoor product family offers a selection of LED drivers with lower output voltages in a range of convenient form-factors and wattages. The Xitanium Outdoor drivers are SELV (Safety Extra Low Voltage) compliant, enabling easy LED light engine design.

Benefits:

- SELV operating voltages ensure safety even if wiring or LED boards become damaged
- Excellent reliability
- Wide range of form-factors and wattages to match all application needs

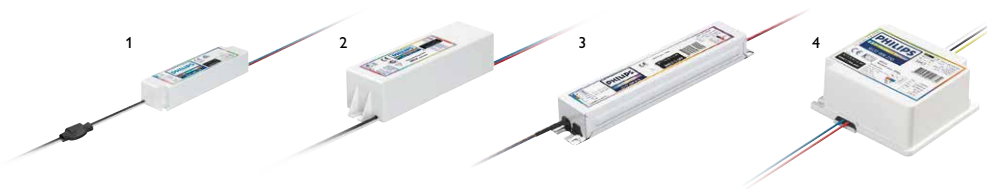
Features:

- Portfolio includes wide choice of output current
- Robust protection against moisture and vibration
- Minimum 50,000 hrs lifetime

Applications:

- Signage applications - channel letter and contour lighting
- Architectural lighting
- Emergency and security lighting

Single output current



Product specification

	Housing type	Output current mA	Output voltage V	Type of dimming	Input voltage range Vac	Power factor 100 % load	Lifetime with 90 % survivals hrs	Order code (EOC)
LED Driver Outdoor 12 W/0.35 A-33 V 230 V	1	350	2.6-33.0	n.a.	220-240	>0.90	50,000	8711500 930453 00
LED Driver Outdoor 17 W/0.70 A-24 V 230 V	1	700	2.6-24.6	n.a.	220-240	>0.90	50,000	8711500 930965 00
Xitanium 30 W 0.70 A 230 V Otd	2	700	18.0-42.0	n.a.	220-240	>0.95	50,000	8727900 936896 00
LED Driver Outdoor 40 W/1.75 A-24 V 230 V	4	1,750	5.6-24.0	n.a.	207-264	>0.90	50,000	8711500 912732 00
LED Driver Outdoor 67 W/2.80 A-24 V 230 V	3	2,800	2.6-25.0	n.a.	220-240	>0.90	50,000	8711500 931207 00
LED Driver Outdoor 80 W/3.15 A-24 V 230 V	3	3,150	2.6-25.0	n.a.	220-240	>0.90	50,000	8711500 931245 00

sample webshop



For further information visit the website:

www.philips.com/technology

Xitanium Constant Voltage Outdoor

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.

Benefits:

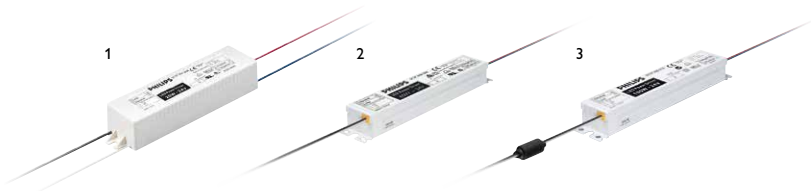
- SELV operating voltages ensure safety even if wiring or LED boards become damaged
- Easy installation with simple parallel wiring
- Excellent reliability

Features:

- Stable output voltage
- Robust protection against moisture
- Minimum 50,000 hrs lifetime

Applications:

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



Product specification

	Housing type	Output current mA	Output voltage V	Type of dimming	Input voltage range Vac	Power factor 100 % load	Lifetime with 90 % survivals hrs	Order code (EOC)
LED Power Driver Outdoor 100-240 V 20 W 24 V	1	850	24.3	n.a.	100-240	>0.90	50,000	8711500 911940 00
LED Power Driver Outdoor 100-240 V 60 W 24 V	2	2500	24.3	n.a.	100-240	>0.90	50,000	8711500 911469 00
LED Power Driver Outdoor 100-240 V 100 W 24 V	3	4100	24.3	n.a.	100-240	>0.90	50,000	8711500 911964 00

sample webshop



For further information visit the website:

www.philips.com/technology

Xitanium Constant Current DC Input Outdoor

Outdoor

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. Originally optimised for use with Fortimo LED LLM modules, the drivers can be used in different light engines.

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

Features:

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

Applications:

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

Dimmable: Adjustable output current



Product specification

	Output current mA	Output voltage V	Type of dimming	Dimming range %	Temperature protection	Input voltage range (DC) V	Lifetime with 90 % survivals hrs	Order code (EOC)
Xitanium 40 W 0.2-0.7 A LS 12-24 V	200-700	40-100	Programmable LumiStep	100-10	yes	10.5-32	50,000	8727900 925593 00
Xitanium 70 W 0.2-0.7 A LS 12-24 V	200-700	40-100	Programmable LumiStep	100-10	yes	10.5-32	50,000	8727900 925609 00

Module recommendations

Driver type	Suitable module
Xitanium 40 W 0.2-0.7 A LS 12-24 V	Fortimo LED LLM

For complete system combinations please go to the online module driver matching tool:
www.lighting.philips.co.uk/subsites/oem/tools/gear-selection-tool/index.wpd

sample webshop



For further information visit the website:

www.philips.com/technology

Philips Surge Protection Device

Outdoor

The Philips Surge Protection Device (SPD) 277V 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.

Benefits:

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

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

Applications:

- Highways
- Rural roads
- Parking lots
- Area lighting



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 (Comm/Diff. mode)	Maximum surge current I _{MAX} kA	Number of surges, maximum current	Isolation classification	Lifetime @T _c life, 90 % survivals hrs	Suitable for outdoor use?	Order code (EOC)
	V	kV	kV	kV								
Surge Protection Device 277V	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	8718291 161806 00

sample webshop



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www.philips.com/technology

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

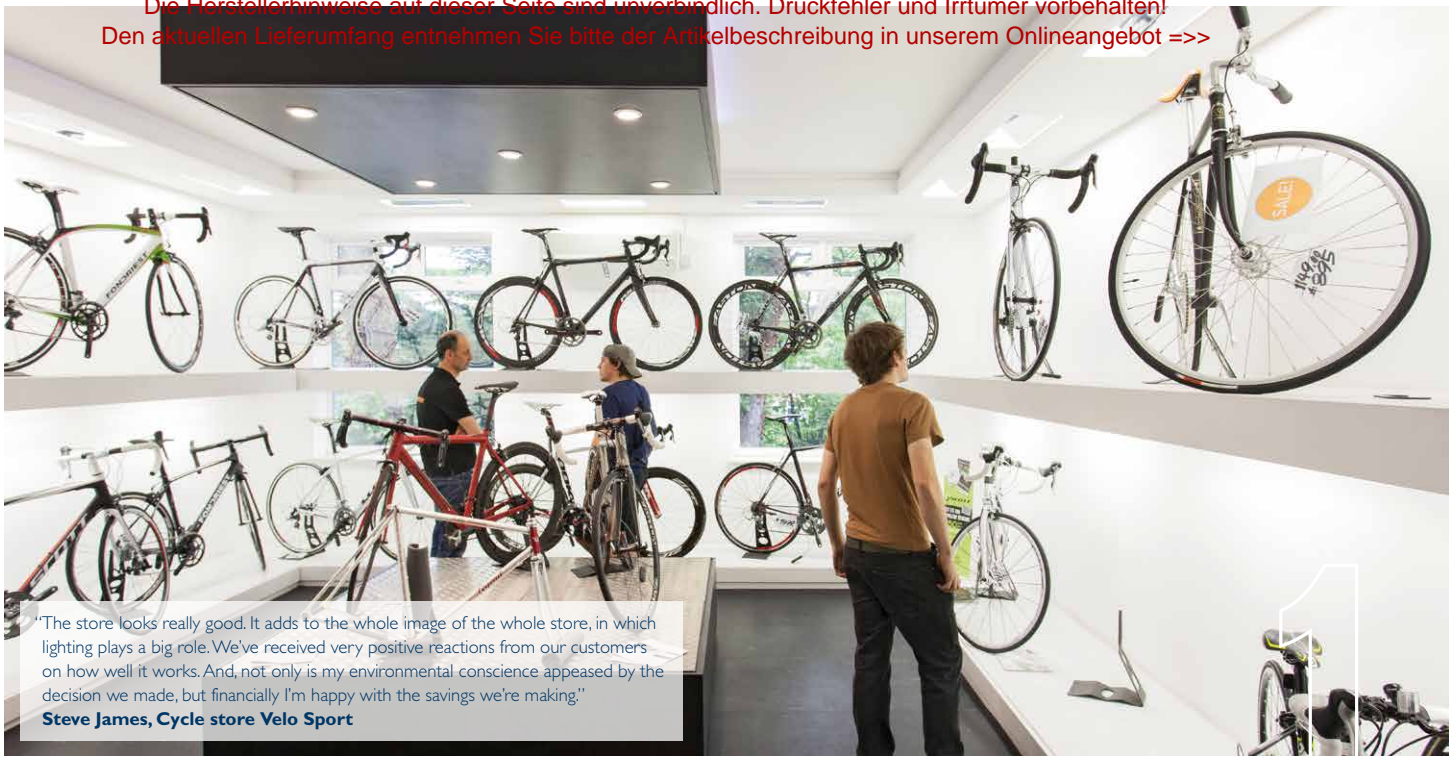
Complexity? Future proof? Configuration?

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 230V 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 230V

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

Discover the luminaires available on the market with our technology inside.

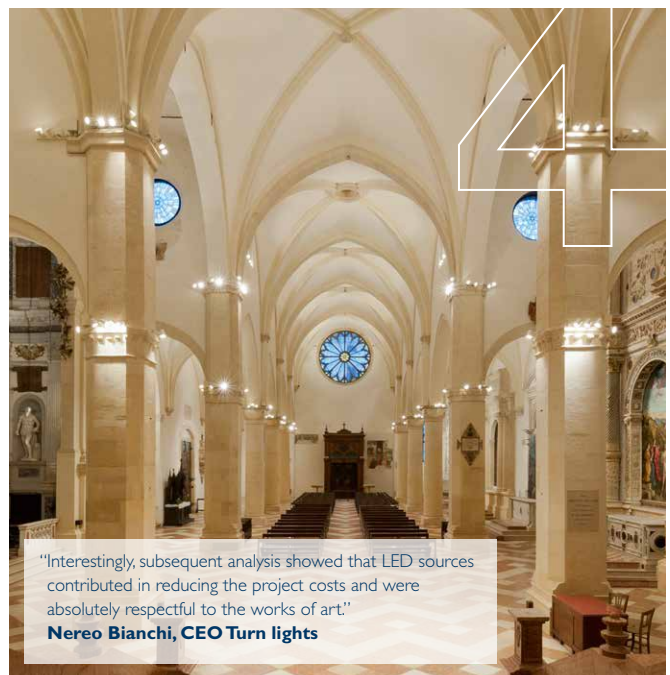


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"The result is a clear architectural and environmental appreciation of the ancient village, lighting the streets and squares without changing the natural sense of colours... The beauty of the light reveals the beauty of the place."

Architect Elisabetta Pescuma, Public Works and Environment Director, Municipality of Venezia



"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

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Jamie's Italian
York and Bluewater Shopping Centre, UK

'Warm' and intimate dimmed light created by the MASTER
LEDbulb DimTone range and MASTER LEDcandles, delivering
energy savings up to 80 %.

OEM: Northern Lights

OEM products: Specially manufactured bespoke luminaire



03

MASTER LEDlamps

See what light can do



03. MASTER LEDlamps

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MASTER LEDspot MV GU10



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, stairwells. MASTER LEDspot MV delivers huge energy savings and minimises maintenance cost without any compromise on brightness, enabling hospitality owners to achieve a return on their investment within one year:

Benefits:

- DimTone dimming: the light gets warmer when dimmed
- Up to 80 % energy saving compared with halogen lamps
- Retrofittable
- Lower maintenance costs

Features:

- Low energy consumption: 4 W → 35 W, 6 W → 50 W, 8 W → 50 W, 8 W → 50 W+ (230 V-240 V)
- Dimmable
- Compatible with an extensive range of dimmers
- Lifetime of 25,000 to 40,000 hrs
- 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	Colour rendering index	Colour temp.	Order code
	W	W											
8-50 W+ DimTone GU10 2700 K 25D	8	50+	GU10	1800	25	40,000	yes ¹⁾	430	54	6	>80	2700	8718291 682431 00
8-50 W+ DimTone GU10 2700 K 40D	8	50+	GU10	900	40	40,000	yes ¹⁾	430	54	6	>80	2700	8718291 682455 00
D 8-50 W CRI90 GU10 2700 K 25D	8	50	GU10	1400	25	40,000	yes ¹⁾	330	41	6	90	2700	8718291 682271 00
D 8-50 W CRI90 GU10 2700 K 40D	8	50	GU10	700	40	40,000	yes ¹⁾	330	41	6	90	2700	8718291 682295 00
D 8-50 W+ GU10 2700 K 25D	8	50+	GU10	1800	25	40,000	yes ¹⁾	430	54	6	>80	2700	8718291 682318 00
D 8-50 W+ GU10 2700 K 40D	8	50+	GU10	900	40	40,000	yes ¹⁾	430	54	6	>80	2700	8718291 682332 00
D 8-50 W+ GU10 3000 K 25D	8	50+	GU10	1900	25	40,000	yes ¹⁾	450	56	6	>80	3000	8718291 682356 00
D 8-50 W+ GU10 3000 K 40D	8	50+	GU10	950	40	40,000	yes ¹⁾	450	56	6	>80	3000	8718291 682370 00
D 8-50 W+ GU10 4000 K 25D	8	50+	GU10	1900	25	40,000	yes ¹⁾	450	56	6	>80	4000	8718291 682394 00
D 8-50 W+ GU10 4000 K 40D	8	50+	GU10	950	40	40,000	yes ¹⁾	450	56	6	>80	4000	8718291 682417 00

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.
¹⁾ MASTER LEDspot MV 8-50 W+ provides High Performance Dimming

Product specification

MASTER LEDspot MV GU10	Wattage	Comparable Halogen wattage	Socket	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Colour rendering index	Colour temp.	Order code
	W	W											
D 4-35W GU10 2700 K 25D	4	35	GU10	700	25	40,000	yes ¹⁾	180	45	10	>80	2700	8718291 192343 00
D 4-35W GU10 2700 K 40D	4	35	GU10	350	40	40,000	yes ¹⁾	180	45	10	>80	2700	8718291 192367 00
D 4-35W GU10 3000 K 25D	4	35	GU10	700	25	40,000	yes ¹⁾	180	45	10	>80	3000	8718291 192381 00
D 4-35W GU10 3000 K 40D	4	35	GU10	350	40	40,000	yes ¹⁾	180	45	10	>80	3000	8718291 192404 00
D 4-35W GU10 4000 K 25D	4	35	GU10	760	25	40,000	yes ¹⁾	200	50	10	>80	4000	8718291 192428 00
D 4-35W GU10 4000 K 40D	4	35	GU10	380	40	40,000	yes ¹⁾	200	50	10	>80	4000	8718291 192442 00
D 6-50W GU10 2700 K 25D	6	50	GU10	1000	25	40,000	yes ¹⁾	300	50	10	>80	2700	8718291 210672 00
D 6-50W GU10 2700 K 40D	6	50	GU10	600	40	40,000	yes ¹⁾	300	50	10	>80	2700	8718291 210733 00
D 6-50W GU10 3000 K 25D	6	50	GU10	1100	25	40,000	yes ¹⁾	320	54	10	>80	3000	8718291 210696 00
D 6-50W GU10 3000 K 40D	6	50	GU10	600	40	40,000	yes ¹⁾	320	54	10	>80	3000	8718291 210757 00
D 6-50W GU10 4000 K 25D	6	50	GU10	1100	25	40,000	yes ¹⁾	320	54	10	>80	4000	8718291 210719 00
D 6-50W GU10 4000 K 40D	6	50	GU10	600	40	40,000	yes ¹⁾	320	54	10	>80	4000	8718291 210771 00

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.
¹⁾ MASTER LEDspot MV 4-35/6-50 W+ provides High Performance Dimming

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www.philips.com/technology

MASTER LEDspot LV AR111 G53



10/15 W

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: 10 W → 50 W, 15 → 75 W (12 V)
- Dimmable
- Patented intelligent driver
- Lifetime of 45,000 hrs
- 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	Colour rendering index	Colour temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(EOC)
AR111 2700 K 24D	10	50	G53	AR111	3360	24	45,000	yes	600	60	6	>80	2700	8718291 192046 00
AR111 2700 K 40D	10	50	G53	AR111	1220	40	45,000	yes	600	60	6	>80	2700	8718291 192060 00
AR111 3000 K 24D	10	50	G53	AR111	3470	24	45,000	yes	620	62	6	>80	3000	8718291 192084 00
AR111 3000 K 40D	10	50	G53	AR111	1270	40	45,000	yes	620	62	6	>80	3000	8718291 192107 00
AR111 2700 K 24D	15	75	G53	AR111	4560	24	45,000	yes	830	55	6	>80	2700	8718291 192121 00
AR111 2700 K 40D	15	75	G53	AR111	1660	40	45,000	yes	830	55	6	>80	2700	8718291 192145 00
AR111 3000 K 24D	15	75	G53	AR111	4700	24	45,000	yes	860	57	6	>80	3000	8718291 192169 00
AR111 3000 K 40D	15	75	G53	AR111	1700	40	45,000	yes	860	57	6	>80	3000	8718291 192183 00

* 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/technology

MASTER LEDspot PAR



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, 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 deliver huge energy savings and minimise 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, 18 W → 100 W
- Lifetime of 25,000 hrs to 45,000 hrs
- 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 wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Colour rendering index	Colour temp.	Order code (EOC)
	W	W							lm	lm/W		Ra	K	
D 7-50 W 2700 K PAR20 25D	7	50	E27	PAR20	1000	25	45,000	yes	250	36	6	>80	2700	8727900 93398700
D 7-50 W 2700 K PAR20 40D	7	50	E27	PAR20	450	40	45,000	yes	250	36	6	>80	2700	8727900 93406900
D 7-50 W 3000 K PAR20 25D	7	50	E27	PAR20	1050	25	45,000	yes	260	37	6	>80	3000	8727900 93400700
D 7-50 W 3000 K PAR20 40D	7	50	E27	PAR20	500	40	45,000	yes	260	37	6	>80	3000	8727900 93408300
D 7-50 W 4000 K PAR20 25D	7	50	E27	PAR20	1200	25	45,000	yes	280	40	6	>80	4000	8727900 93402100
D 7-50 W 4000 K PAR20 40D	7	50	E27	PAR20	550	40	45,000	yes	280	40	6	>80	4000	8727900 93410600
D 12-75 W 2700 K 230V PAR30S 25D	12	75	E27	PAR30S	2250	25	45,000	yes	630	53	6	>80	2700	8718291 11927200
D 17-100 W 2700 K 230 V PAR38 OD	17	100	E27	PAR38	3500	25	25,000	no	810	48	6	>80	2700	8718291 11931900
D 18-100 W 2700 K 230 V PAR38 25D	18	100	E27	PAR38	3400	25	45,000	yes	810	45	6	>80	2700	8718291 11929600

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

For further information visit the website:

www.philips.com/technology

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MASTER LEDspot LV MR16 GU5.3



Dimmable

Benefits:

- Up to 80 % energy saving compared with halogen lamp
- Broad compatibility with transformers
- Long lifetime
- No IR- and UV radiation; ideal to illuminate heat sensitive objects
- Air movement mechanism (active fan cooling) with very low sound levels
- Minimises maintenance costs
- Short pay-back time

Features:

- Low energy consumption: 7 W → 35 W, 10 W → 50 W (12 V)
- Dimmable
- Patented intelligent driver
- Air movement mechanism (active fan cooling) with very low sound levels
- 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	Wattage	Comparable Halogen Wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Colour rendering index	Colour temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(EOC)
NEW D 7-35W 2700 K MR16 24D	7	35	GU5.3		2140	24	40,000	yes ¹⁾	350	50	10	>80	2700	8718291 654476 00
NEW D 7-35W 2700 K MR16 36D	7	35	GU5.3		1180	36	40,000	yes ¹⁾	350	50	10	>80	2700	8718291 655381 00
NEW D 7-35W 2700 K MR16 60D	7	35	GU5.3		320	60	40,000	yes ¹⁾	350	50	10	>80	2700	8718291 655442 00
NEW D 7-35W 3000 K MR16 24D	7	35	GU5.3		2200	24	40,000	yes ¹⁾	350	50	10	>80	3000	8718291 654490 00
NEW D 7-35W 3000 K MR16 36D	7	35	GU5.3		1210	36	40,000	yes ¹⁾	350	50	10	>80	3000	8718291 655404 00
NEW D 7-35W 3000 K MR16 60D	7	35	GU5.3		340	60	40,000	yes ¹⁾	350	50	10	>80	3000	8718291 655466 00
NEW D 7-35W 4000 K MR16 24D	7	35	GU5.3		2340	24	40,000	yes ¹⁾	380	54	10	>80	4000	8718291 655367 00
NEW D 7-35W 4000 K MR16 36D	7	35	GU5.3		1230	36	40,000	yes ¹⁾	380	54	10	>80	4000	8718291 655428 00
NEW D 7-35W 4000 K MR16 60D	7	35	GU5.3		1230	60	40,000	yes ¹⁾	380	54	10	>80	4000	8718291 655480 00
D 10-50W 2700 K MR16 24D	10	50	GU5.3		2720	24	30,000	yes ¹⁾	470	47	10	>80	2700	8718291 210511 00
D 10-50W 2700 K MR16 36D	10	50	GU5.3		1500	36	30,000	yes ¹⁾	470	47	10	>80	2700	8718291 210573 00
D 10-50W 3000 K MR16 24D	10	50	GU5.3		2840	24	30,000	yes ¹⁾	490	49	10	>80	3000	8718291 210535 00
D 10-50W 3000 K MR16 36D	10	50	GU5.3		1560	36	30,000	yes ¹⁾	490	49	10	>80	3000	8718291 210597 00
D 10-50W 4000 K MR16 24D	10	50	GU5.3		3010	24	30,000	yes ¹⁾	495	50	10	>80	4000	8718291 210559 00
D 10-50W 4000 K MR16 36D	10	50	GU5.3		1580	36	30,000	yes ¹⁾	495	50	10	>80	4000	8718291 210610 00

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

¹⁾ MASTER LEDspot MV 7-35/10-50 W+ provides High Performance Dimming

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:

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

Features:

- Low energy consumption: 4 W → 20 W (12 V)
- 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	Wattage	Comparable Halogen Wattage	Socket	Bulb shape	Beam intensity	Beam angle	Lifetime	Dimmable	Lumen output	Efficacy	Units per pack	Colour rendering index	Colour temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(EOC)
4-20 W 2700 K MR16 24D	4	20	GU5.3	MR16	1000	24	45,000	no	210	53	10	>80	2700	8718291 193784 00
4-20 W 2700 K MR16 36D	4	20	GU5.3	MR16	600	36	45,000	no	210	53	10	>80	2700	8718291 192220 00
4-20 W 3000 K MR16 24D	4	20	GU5.3	MR16	1100	24	45,000	no	220	55	10	>80	3000	8718291 193807 00
4-20 W 3000 K MR16 36D	4	20	GU5.3	MR16	660	36	45,000	no	220	55	10	>80	3000	8718291 192268 00
4-20 W 4000 K MR16 24D	4	20	GU5.3	MR16	1150	24	45,000	no	240	60	10	>80	4000	8718291 192282 00
4-20 W 4000 K MR16 36D	4	20	GU5.3	MR16	700	36	45,000	no	240	60	10	>80	4000	8718291 192305 00

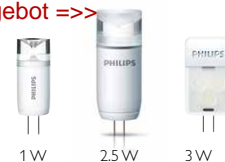
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For further information visit the website:

www.philips.com/technology

MASTER LEDcapsule LV



Non-Dimmable

The MASTER LEDcapsule radiates warm light in all directions, making it a true alternative for the halogen capsule. It is particularly suitable for task lighting and decorative applications in homes, shops, hotels and restaurants. Compatible with existing fixtures with G4 holders and designed for retrofit replacement of halogen capsules, MASTER LEDcapsule delivers huge energy savings and minimises maintenance costs without any compromise on light quality. The patented intelligent driver in the 2.5-10 W version enables broad compatibility with existing electromagnetic and electronic halogen transformers.

Benefits:

- Up to 75% energy saving compared with halogen lamps
- Broad compatibility with transformers
- Lower maintenance costs

Features:

- Low energy consumption: 1 W → 5 W, 2.5 W → 10 W, 3 W → 20 W (12V)
- Patented intelligent driver (2.5-10 W only)
- Removable lens cover (2.5-10 W only)
- Warm white light
- Lifetime of 20,000 to 25,000 hrs
- UV- and IR-free light for less heat and protection for heat-sensitive objects

Applications:

- Application areas: hotels, restaurants, bars, cafés (lobbies, corridors, stairwells, washrooms, reception areas), under cabinet applications, etc.
- Applications only applicable on the 1 W version:
 - Excludes patented intelligent driver to achieve smaller size and weight
 - Works with Magnetic Transformers
 - Works with a restricted set of Electronic Transformers
 - The suggested maximum number of 1 W capsules of: Certaline 60 = 12 pieces, Primaline 70 = 6 pieces

Product specification

MASTER LEDcapsule LV G4	Wattage	Comparable Halogen Wattage	Socket	Beam angle	Lifetime	Dimmable	Lumen output	Efficacy	Units per pack	Colour rendering index	Colour temp.	Order code
	W	W		°	hrs		lm	lm/W		Ra	K	(EOC)
G4 2700 K	1	5	G4	360	25,000	no	50	50	12	>80	2700	8718291 192022 00
G4 2700 K	2.5	10	G4	360	25,000	no	100	40	12	>80	2700	8718291 155355 00
G4 2700 K	3	20	G4	360	20,000	no	170	40	12	>80	2700	8718291 242833 00

MASTER LEDspot LV MR11 GU4



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:

- CRI 90 truly enhances the presentation of gold jewelry, bringing colours to life
- CRI 80, 3000 K 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
- CRI 90
- 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	Colour rendering index	Colour temp.	Order code
	W	W			cd	°	hrs		lm	lm/W		Ra	K	(EOC)
4-20 W GU4 2700 K 24D	4	20	GU4	MR11	580	24	25,000	no	140	35	12	>80	2700	8718291 11923400
4-20 W GU4 3000 K 24D	4	20	GU4	MR11	650	24	25,000	no	150	38	12	>80	3000	8718291 19224400
4-20 W GU4 4000 K 24D	4	20	GU4	MR11	700	24	25,000	no	150	38	12	>80	4000	8718291 11925800
4-20 W CRI90 MR11 2700 K 24D	4	20	GU4	MR11	720	24	25,000	no	125	31	12	>90	2700	8718291 19220600

sample webshop



For further information visit the website:

www.philips.com/technology

MASTER LEDbulb



Dimmable

MASTER LEDbulb 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 warmlight in all directions, making it a true alternative to the incandescent lamp. They are particularly suitable for public areas such as lobbies, corridors, stairwells, where the light is always on. Compatible with existing fixtures with an E27 holder and designed for retrofit replacement of incandescent bulbs, MASTER LEDbulb delivers huge energy savings and minimises maintenance cost without any compromise on light quality. They can be used together with most leading-edge dimmers, enabling further efficiencies while helping to create the desired atmosphere.

Benefits:

- DimTone dimming: the light gets warmer when dimmed
- 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 → 40 W, 8 W → 40 W, 12 W → 60 W, 13 → 75 W, 14 → 75 W, 20 → 100 W
- Dimmable (DimTone for 8 W bulb)
- Compatible with an extensive range of dimmers
- Warm white light
- Lifetime of 25,000 hrs
- 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	Colour rendering index	Colour temp.	Order code
	W	W			°	hrs		lm	lm/W		Ra	K	(EOC)
D 7-40 W E27 2700 K	7	40	E27	A60	>340	25,000	yes	470	67	6	>80	2700	8718291 671961 00
D 7-40 W B22 2700 K	7	40	B22	A60	>340	25,000	yes	470	67	6	>80	2700	8718291 671985 00
D 8-40 W DimTone E27 2700 K	8	40	E27	A60	>250	25,000	yes, DimTone	470	59	6	>80	2700	8718291 192008 00
D 8-40 W DimTone B22 2700 K	8	40	B22	A60	>250	25,000	yes, DimTone	470	59	6	>80	2700	8718291 191988 00
D 12-60 W E27 2700 K	12	60	E27	A60	>340	25,000	yes	806	67	6	>80	2700	8727900 672005 00
D 12-60 W B22 2700 K	12	60	B22	A60	>340	25,000	yes	806	67	6	>80	2700	8727900 672029 00
D 13-75 W E27 2700 K	13	75	E27	A67	>300	25,000	yes	1055	62	6	>80	2700	8727900 663508 00
D 13-75 W B22 2700 K	13	75	B22	A67	>300	25,000	yes	1055	62	6	>80	2700	8727900 663522 00
D 20-100 W E27 2700 K	20	100	E27	A67	>340	25,000	yes	1520	76	6	>80	2700	8718291 671923 00
D 20-100 W B22 2700 K	20	100	B22	A67	>340	25,000	yes	1520	76	6	>80	2700	8718291 671947 00

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

sample webshop



MASTER LEDcandle and MASTER LEDluster



Dimmable

Delivering incandescent-like sparkling light effects, MASTER LEDcandle and luster bulbs are ideal for general and decorative lighting in the hospitality industry, as well as in home environments. Mounted in full view in chandeliers, wall scones or modern luminaires, the clear or frosted glass bulbs fit all existing fixtures with an E14 and E27 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 warm light that delivers huge energy savings and minimises maintenance cost.

Benefits:

- Warm white light
- Up to 80 % energy saving
- The flame shaped candle perfectly complements the modern LED candles
- Lower maintenance costs

Features:

- Low energy consumption: 3 W → 15 W
- Retrofittable with existing E14 and E27 holders
- Lifetime of 20,000 hrs
- Available in clear and frosted versions
- 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

MASTER LED candles and lusters	Wattage	Comparable incandescent Wattage	Socket	Bulb shape	Lifetime	Dimmable*	Lumen output	Efficacy	Units per pack	Colour rendering index	Colour temp.	Order code (EOC)
	W	W					lm	lm/W		Ra	K	
D 4W E14 2700 K 230V BA35 CL	4	25	E14	BA35	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 210634 00
D 4W E14 2700 K 230V B35 CL	4	25	E14	B35	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 193708 00
D 4W E14 2700 K 230V B35 FR	4	25	E14	B35	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 192527 00
D 4W B15 2700 K 230V B35 CL	4	25	B15	B35	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 192503 00
D 4W E14 2700 K 230V P45 CL	4	25	E14	P45	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 193722 00
D 4W E14 2700 K 230V P45 FR	4	25	E14	P45	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 192541 00
D 4W E27 2700 K 230V P45 CL	4	25	E27	P45	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 192565 00
D 4W E27 2700 K 230V P45 FR	4	25	E27	P45	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 192589 00
D 4W B22 2700 K 230V P45 CL	4	25	B22	P45	20,000	yes ¹⁾	250	63	10	>80	2700	8718291 210658 00

* Please refer to the site www.philips.com/masterledlamps for the latest information about dimming MASTER LEDlamps.
¹⁾ Possible green effect at lowest dimming levels, depending on the dimmer. See also application guidelines.



For further information visit the website:

www.philips.com/technology

MASTER LEDtube GA Performance/300/110



Benefits:

- Reduced operational cost
- Lower maintenance cost
- Unique safety in installation and application

Features:

- Only 50 % energy consumption compared to fluorescent tubes
- Extra-long lifetime up to 50,000 hrs
- Retrofit to existing T8 lamps on EM ballast installations
- No mercury
- The Protection Starter (EMP050) and the three safety fuses in the tube secure safety

Applications:

- Outdoor
- Supermarkets
- Office
- Parking
- Warehouse and cold store

Product specification

MASTER LEDtube PERFORMANCE	Wattage	Comparable wattage	Voltage	Cap base	Exit window	Lifetime	Lumen output	Compatibility	Units per pack	Colour rendering index	Colour temp.	EMP050 included	Order code
	W	W	V		°	hrs	lm				K		(EOC)
NEW PERF 1500 mm	31	58		G13	140		3100	EM & Mains		85	4000	yes	8718291 238720 00
NEW PERF 1500 mm	31	58		G13	140		3100	EM & Mains		85	6500	yes	8718291 238744 00
NEW PERF 1500 mm ROT	31	58		G13	140		3100	EM & Mains		85	3000	yes	8718291 238409 00
NEW GA300 600 mm	11	18		G13	140		1050	EM & Mains		85	4000	yes	8718291 238720 00
GA300 600 mm	11	18		G13	140		1050	EM & mains		85	6500	yes	8718291 238744 00
NEW GA300 600 mm ROT	11	18		G13	140		1050	EM & mains		85	4000	yes	8718291 662297 00
GA300 1200 mm	22	36		G13	140		2100	EM & mains		85	4000	yes	8718291 238409 00
GA300 1200 mm	22	36		G13	140		2100	EM & mains		85	6500	yes	8718291 238423 00
NEW GA300 1200 mm ROT	22	36		G13	140		2100	EM & mains		85	4000	yes	8718291 662310 00
GA110 600 mm	10	18		G13	140		825	EM & mains		85	4000	yes	8718291 238768 00
GA110 600 mm	10	18		G13	140		825	EM & mains		85	6500	yes	8718291 238782 00
NEW GA110 600 mm ROT	10	18		G13	140		2000	EM & mains		85	4000	yes	8718291 662334 00
GA110 900 mm	15	30		G13	140		1250	EM & mains		85	4000	yes	8718291 238843 00
GA110 900 mm	15	30		G13	140		1250	EM & mains		85	6500	yes	8718291 238867 00
GA110 1200 mm	19	36		G13	140		1650	EM & mains		85	4000	yes	8718291 238447 00
GA110 1200 mm	19	36		G13	140		1650	EM & mains		85	6500	yes	8718291 238461 00
NEW GA110 1200 mm ROT	19	36		G13	140		2000	EM & mains		85	4000	yes	8718291 662358 00
GA110 1500 mm	24	58		G13	140		2000	EM & mains		85	4000	yes	8718291 238485 00
GA110 1500 mm	24	58		G13	140		2000	EM & mains		85	6500	yes	8718291 238508 00
NEW GA110 1500 mm ROT	24	58		G13	140		2000	EM & mains		85	4000	yes	8718291 662372 00
Accessories MASTER LEDtube										Minimum order quantity	Units per pack	Order code (EOC)	
EMP050										40	10	8718291 157205 00	

sample webshop



For further information visit the website:

www.philips.com/technology



"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."

Discover the luminaires available on the market with our technology inside.

www.philips.com/technology

1 Tafilalet 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.



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"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

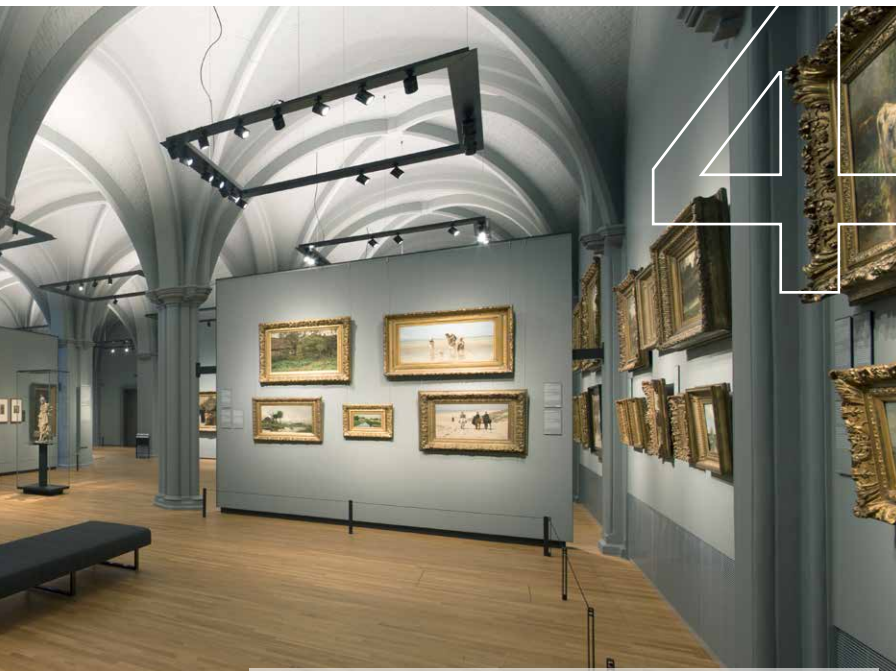
Parkpack® LED, Aeris™ LED, Denver™ Wall Elite LED

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



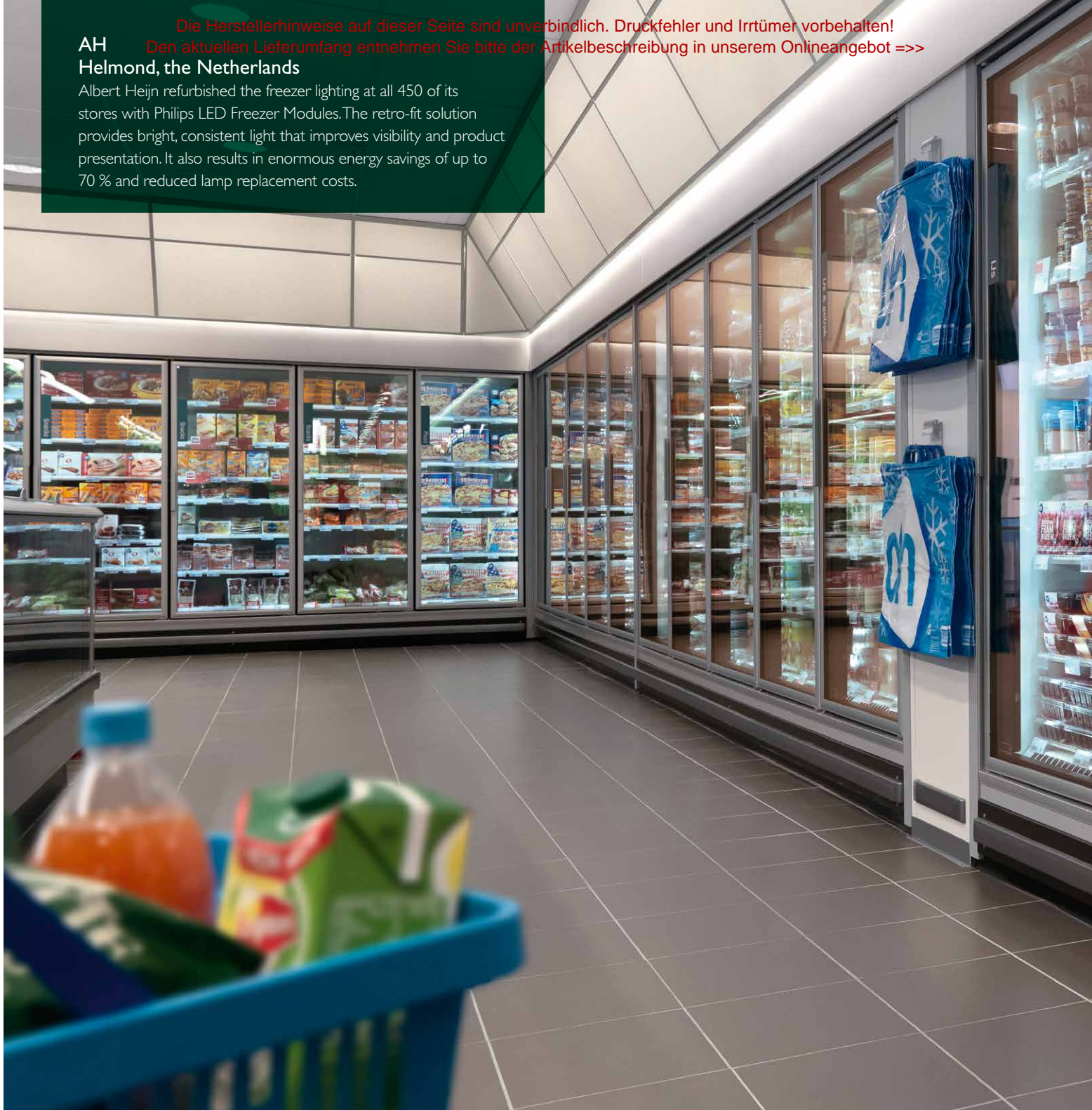
The combination of LED lighting and controls maximises energy saving while providing higher perceived light levels to improve safety in the parking facility.

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Helmond, the Netherlands

Albert Heijn refurbished the freezer lighting at all 450 of its stores with Philips LED Freezer Modules. The retro-fit solution provides bright, consistent light that improves visibility and product presentation. It also results in enormous energy savings of up to 70 % and reduced lamp replacement costs.



04 | Display lighting

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04. Display lighting

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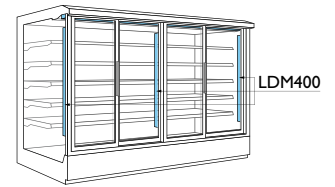
MASTER LEDtube SA

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Affinium LED display modules



Full-height glass door lighting

Philips LED lighting for refrigeration cases is a sustainable and energy-efficient way to create an enjoyable shopping experience for customers – while at the same time supporting retailers' brand values. LDM400 modules can be vertically integrated in full-height glass-door refrigeration cabinets.

Benefits:

- Excellent Total Cost of Ownership with attractive payback times
- Improved visibility and presentation of the fresh food on display; uniform light distribution throughout the entire cabinet

Features:

- Energy savings up to 80 % of an 12 W LED module compared with a TL 58 W
- Extra savings can even be achieved by savings on cooling and reduced driver losses
- Accessoires, like mounting profiles, clips and drivers accomplish the system
- 5-year Philips warranty for the modules in combination with the Philips LED power driver

Applications:

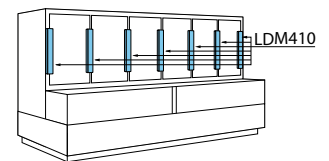
- Full-height glass doors and mullions (vertical integration)
- Especially suitable for closed coolers with glass doors to prevent energy wastage

LDM400

Product specification

Vision-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)	Value-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)
1500 mm		18 8718291 246497 00	22 8718291 243403 00	1200 mm	8 8718291 247715 00	9 8718291 247753 00	
1500 mm CTR	30 8727900 910995 00			1500 mm	9 8718291 247630 00	12 8718291 247678 00	15 8718291 243441 00
1500 mm SD	21 8727900 911008 00			1700 mm	12 8718291 246572 00	14 8718291 247371 00	
1700 mm		21 8718291 246435 00					
1700 mm CTR	31 8727900 911091 00						
1700 mm SD	25 8727900 911107 00						

Affinium LED display modules



Half-height glass door lighting

Philips LED lighting for refrigeration cases is a sustainable and energy-efficient way to create an enjoyable shopping experience for customers – while at the same time supporting retailers' brand values. LDM410 modules can be vertically integrated in half-height glass-door refrigeration cabinets.

Benefits:

- Excellent Total Cost of Ownership with attractive payback times
- Improved visibility and presentation of the fresh food on display; uniform light distribution throughout the entire cabinet

Features:

- Energy savings up to 80 %
- Superb optical features; Side asymmetrical 15°, Center 15° both directions
- Accessoires, like mounting profiles, clips and drivers accomplish the system
- Products are dimmable
- 5-year Philips warranty for the modules in combination with the Philips LED power driver

Applications:

- Half-height glass doors and mullions (vertical integration)
- Especially suitable for closed coolers with glass doors to prevent energy wastage

LDM410

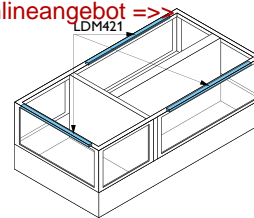
Product specification

Vision-plus	Cool White 5600 K Order code W (EOC)	Neutral White 4000 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)	Value-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)
				600 mm			
				750 mm	8 8718291 248484 00	9 8718291 248521 00	
				850 mm			
				950 mm	8 8718291 248095 00	10 8718291 248293 00	

For further information visit the website:

www.philips.com/technology

Affinium LED display modules



Island freezer lighting

Philips LED lighting for refrigeration cases is a sustainable and energy-efficient way to create an enjoyable shopping experience for customers – while at the same time supporting retailers' brand values. LDM421 modules can be used for island freezer lighting.

Benefits:

- Excellent Total Cost of Ownership with attractive payback times
- Improved visibility and presentation of the merchandise in the island freezer; uniform light distribution throughout the entire cabinet

Features:

- The range includes Vision-plus for high lighting levels (1100 lux); Value-plus for regular lighting levels (750 lux)
- Energy savings up to 60 %
- The range includes Vision-plus for high lighting levels (1900 lux); Value-plus for regular lighting levels (1300 lux)
- Superb optical features; narrow symmetrical 40°
- Products are dimmable
- 5-year Philips warranty for the modules in combination with the Philips LED power driver

Applications:

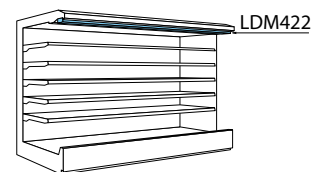
- Island freezer lighting
- Especially suitable for closed coolers with glass doors to prevent energy wastage

Product specification

Vision-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)	Vision-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)		
600 mm	15	8718291 246152 00	17	8718291 246176 00	600 mm	9	8718291 244448 00	11	8718291 244462 00
850 mm	20	8718291 246114 00	22	8718291 246138 00	850 mm	13	8718291 244363 00	15	8718291 244387 00
1200 mm	28	8718291 243632 00	33	8718291 243656 00	1200 mm	18	8718291 243700 00	22	8718291 243748 00

LDM421

Affinium LED display modules



Canopy lighting

Philips LED lighting for refrigeration cases is a sustainable and energy-efficient way to create an enjoyable shopping experience for customers – while at the same time supporting retailers' brand values. LDM422 modules can be integrated in the canopy of a refrigeration case.

Benefits:

- Excellent Total Cost of Ownership with attractive payback times

Features:

- The range includes Vision-plus for high lighting levels (1300 lux); Value-plus for regular lighting levels (900 lux)
- Energy savings up to 50 %
- Superb optical features; mid-asymmetrical 80°
- Products are dimmable
- 5-year Philips warranty for the modules in combination with the Philips LED power driver

Applications:

- Canopy lighting in freezer and coolers
- Especially suitable for closed coolers with glass doors to prevent energy wastage

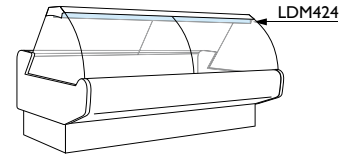
Product specification

Vision-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)			
600 mm	14	8718291 154129 00	9	8718291 245735 00	11	8718291 245759 00
850 mm	18	8718291 154105 00	20	8718291 245452 00	22	8718291 245537 00
1200 mm	27	8718291 154082 00	28	8718291 245377 00	33	8718291 245391 00

LDM422

Value-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)	LED authentic white (Food) Order code W (EOC)	LED Rose (Meat) Order code W (EOC)					
600 mm	8	8718291 154211 00	9	8718291 245599 00	11	8718291 245612 00	12	8718291 183167 00	12	8727900 944327 00
850 mm	13	8718291 154167 00	13	8718291 245551 00	15	8718291 245575 00	16	8718291 183143 00	15	8727900 944310 00
1200 mm	18	8718291 154143 00	18	8718291 245414 00	22	8718291 245438 00	24	8718291 183129 00	23	8727900 944303 00

Affinium LED display modules



Well/serve-over lighting

Philips LED lighting for refrigeration cases is a sustainable and energy-efficient way to create an enjoyable shopping experience for customers – while at the same time supporting retailers' brand values. LDM424 modules can be used for well counters (under combined cabinets) or serve-over counters.

Benefits:

- Excellent Total Cost of Ownership with attractive payback times
- Improved visibility and presentation of the fresh food in the open well or serve-over counter; uniform light distribution throughout the entire cabinet

Features:

- The range includes Vision-plus for high lighting levels (1400 lux); Value-plus for regular lighting levels (800 lux)
- Energy savings up to 80 %
- Superb optical features; wide symmetrical 140°
- Products are dimmable
- 5-year Philips warranty for the modules in combination with the Philips LED power driver

Applications:

- For well and serve-over lighting in freezers and coolers
- Ties in perfectly with the current trend for closed wells with glass tops to prevent energy wastage

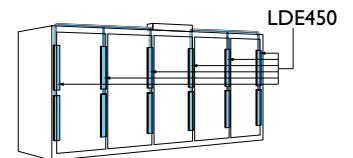
Product specification

Vision-plus	Cool White 5700 K Order code W (EOC)	Neutral White 4100 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)	LED authentic white (Food) Order code W (EOC)	Meat - Cool White Red Order code W (EOC)
250 mm		8 8718291 249078 00	8 8718291 249115 00	6 8718291 183563 00	6 8718291 183471 00
900 mm		17 8718291 248934 00	21 8718291 248958 00	18 8718291 183457 00	17 8718291 183358 00
1150 mm		20 8718291 245636 00	26 8718291 245650 00	24 8718291 183433 00	23 8718291 183396 00

LDM424

Value-plus	Cool White 5600 K Order code W (EOC)	Neutral White 4000 K Order code W (EOC)	Warm White 3000 K Order code W (EOC)	LED authentic white (Food) Order code W (EOC)	Meat - Cool White Red Order code W (EOC)
600 mm					8 8727900 944372 00
900 mm	6 8718291 248972 00	7 8718291 249030 00			6 8727900 944365 00
1150 mm	7 8718291 245674 00	9 8718291 249177 00			7 8727900 944358 00
1500 mm					19 8727900 944341 00

LED engine



Glass door lighting

LDE450 are semi-finished products which enable OEMs to design their own lighting solution that is completely unobtrusive and can be neatly integrated into the mullions or door frames.

Product specification

Vision-plus	Cool White 5600 K W EOC code	Neutral White 4100 K W EOC code	Warm White 3000 K W EOC code
560 mm	14 8718291 246398 00	14 8718291 246411 00	

LDE450

Vision-plus	Cool White 5600 K W EOC code	Neutral White 4100 K W EOC code	Warm White 3000 K W EOC code
710 mm CTR	6 8718291 246190 00	6 8718291 246237 00	
710 mm SD	4 8718291 246213 00	4 8718291 246275 00	
810 mm CTR	7 8718291 245919 00	7 8718291 245971 00	
810 mm SD	5 8718291 245957 00	5 8718291 245995 00	

For further information visit the website:

www.philips.com/technology

MASTER LEDtube SA1 Gen2



Canopy lighting

MASTER LEDtube SA is an extremely effective energysaving alternative to fluorescent lamps in canopy coolers. This state-of-the-art solution enhances the visual impression of the merchandise on display while at the same time minimizing glare for passing customers. The rotating endcap makes it easy to focus the lighting precisely on the merchandise. The product's long lifetime and excellent lumen maintenance minimize the hassle of re-lamping while reducing maintenance costs. Thanks to MASTER LEDtube SA's refined slim aluminum form with integrated optical system and driver, it is now easy to upgrade coolers to LED lighting.

Benefits:

- Energy savings of more than 54 % compared to fluorescent lamps
- Uniform light distribution enhances the presentation of the merchandise on display

Features:

- High-tech optical system creates optimum light uniformity with maximum efficacy and minimum glare
- Rotating end-cap ensures easy aiming for the best lighting result
- Fool-proof design ensures safety even in the event of mistakes in the installation process; compliant with (inter)national safety requirements
- Embedded electrical driver for easy installation
- Compatible with standard G13 lamp holders

Applications:

- Horizontal installation in cooler canopies
- When replacing fluorescent lamps with MASTER LEDtube, the electrical installation has to be changed. Please contact Philips for advice

Product specification

Standard lighting level	Lumen	Cool White 5600 K / 856		Neutral White 4000 K / 840		Warm White 3000 K / 830	
		W	Order code (EOC)	W	Order code (EOC)	W	Order code (EOC)
600 mm	800	10	8718291 252085 00	10	8718291 252061 00	10	8718291 252047 00
900 mm	1150	15	8718291 252146 00	15	8718291 252122 00	15	8718291 252108 00
1200 mm	1600	19	8718291 252207 00	19	8718291 252184 00	19	8718291 252160 00
1500 mm	1800	25	8718291 138648 00	25	8718291 125013 00	25	8718291 138624 00

MASTER LEDtube SA1 Gen2

MASTER LEDtube SA2



Shelf lighting

MASTER LEDtube SA2 is an extremely effective energy-saving alternative to fluorescent lamps. This state-of-the-art solutions enhance the visual impression of the merchandise on display while at the same time minimising glare for passing customers. The rotating end-cap makes it easy to direct the light precisely at the merchandise. The product's long lifetime and excellent lumen maintenance minimise the hassle of relamping, while reducing maintenance costs. Thanks to MASTER LEDtube's refined slim aluminium form with integrated driver, it is now easy to upgrade coolers to LED lighting.

Benefits:

- Energy savings of more than 75 % compared to fluorescent lamps
- Uniform light distribution enhances the presentation of the merchandise on display

Features:

- The opaque cover creates optimum light uniformity with maximum efficacy and minimum glare
- Rotating end-cap ensures easy aiming for the best lighting result
- Philips design ensures safety even in the event of mistakes in the installation process
- Embedded electrical driver for easy installation
- Compatible with standard G13 bi-pin lamp holders

Applications:

- Horizontal shelf installation in cooler cabinets
- Note: When fluorescent lamps are replaced with the MASTER LEDtube SA, the electrical installation has to be changed. Please refer to the quick installation guide

Product specification

Standard lighting level	Lumen	Cool White 5600 K / 856		Neutral White 4000 K / 840		Warm White 3000 K / 830		CWR / LED rose Meat	
		W	Order code (EOC)	W	Order code (EOC)	W	Order code (EOC)	W	EOC code
600 mm	320	6	87182911 24924 00	6	87182911 24900 00	6	87182911 24917 00	6	8718291 199311 00
900 mm	500	8	87182911 24955 00	8	87182911 24931 00	8	87182911 24948 00	8	8718291 199335 00
1200 mm	700	11	87182911 24986 00	11	87182911 24962 00	11	87182911 24979 00	11	8718291 199359 00
1500 mm	840	12	87182911 25037 00	12	87182911 25013 00	12	87182911 25020 00	15	8718291 199373 00

MASTER LEDtube SA2

MASTER LEDtube SA3



Full/Half glass door lighting

MASTER LEDtube SA3 is an extremely effective energy-saving alternative to fluorescent lamps. This state-of-the-art solutions enhance the visual impression of the merchandise on display while at the same time minimising glare for passing customers. The product's long lifetime and excellent lumen maintenance minimise the hassle of relamping, while reducing maintenance costs. Thanks to MASTER LEDtube's refined slim aluminium form with integrated driver, it is now easy to upgrade freezer to LED lighting.

Benefits:

- Energy savings of more than 60 % compared to fluorescent lamps
- Uniform light distribution enhances the presentation of the merchandise on display

Features:

- The opaque cover creates optimum light uniformity with maximum efficacy and minimum glare
- Philips design ensures safety even in the event of mistakes in the installation process
- Embedded electrical driver for easy installation
- Compatible with standard G13 bi-pin lamp holders

Applications:

- Vertical door installation in freezer/cooler cabinets
- Note: When fluorescent lamps are replaced with the MASTER LEDtube SA, the electrical installation has to be changed. Please refer to the quick installation guide

Product specification

High lighting level	Lumen	Cool White 5600 K /856		Neutral White 4000 K /840	
		W	Order code (EOC)	W	Order code (EOC)
600 mm	13	87182911 84997 00	13	87182912 07436 00	
1500 mm	25	87182911 84973 00	25	87182912 07450 00	

MASTER LEDtube SA3

Philips InteGrade LED products

Shelf lighting

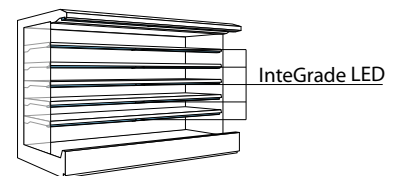
Based on our deep understanding of our retail and customers' needs, we have developed InteGrade LED, a new range of high-performance LED fixture and LED engine systems for shelf and linear accent lighting in indoor environments and refrigerated cabinets. The unique asymmetrical optics direct the light to where you want it, thus making optimum use of the light and energy. The products or background you want lit will be presented uniformly, while reducing glare and dark spots

InteGrade LED engine system

The InteGrade LED engine system consists of separate components like LED engines, profiles, connectors and inline-locks. With these components you can create your own fixtures, which can also be easily combined to create longer light-lines.

InteGrade LED fixture system

The InteGrade LED fixture system is a pre assembled fixture including LED engines, connectors and inline-locks assembled on a profile. These fixtures have standard dimensions (875 and 1175 mm) and so fit most commonly used shelves .



Both the LED engine and fixtures are completed by Xitanium drivers, cables and mounting accessories.

Benefits:

- Aesthetic integration of LED lighting
- Uniform light distribution
- Excellent Total Cost of ship

Features:

- Energy savings of up to 65 % (10 W compared to a 28 WTL5 system)
- Superb asymmetrical optics
- InteGrade cabling allows connection to own connector system
- 5-year Philips warranty (InteGrade LED products in combination with Philips cables and Philips LED power driver)

Applications:

- Shelf and linear accent lighting in supermarkets, refrigerated cabinets, retail environments, libraries, museums

For further information visit the website:

www.philips.com/technology

InteGrade LED engines

Product specification

Vision	Power consumption*	Lumen	Colour Rendering Index	Correlated Colour Temperature*	Order code
	W, typical ± 20 %	Lm, typical ± 20 %	CRI, typical	K	(EOC)
InteGrade engine vision 140 mm (6") 830	2	170	85	3000	8718291 689843 00
InteGrade engine vision 140 mm (6") 840	2	170	85	4100	8718291 689867 00
InteGrade engine vision 140 mm (6") 856	2	170	85	5600	8718291 689928 00
InteGrade engine vision 575 mm (23") 830	10	750	85	3000	8718291 689409 00
InteGrade engine vision 575 mm (23") 840	10	750	85	4100	8718291 689546 00
InteGrade engine vision 575 mm (23") 856	10	750	85	5600	8718291 689669 00

Value	Power consumption*	Lumen	Colour Rendering Index	Correlated Colour Temperature*	Order code
	W, typical ± 20 %	Lm, typical ± 20 %	CRI, typical	K	(EOC)
InteGrade engine value 140 mm (6") 830	1.2	100	85	3000	87182912 35996 00
InteGrade engine value 140 mm (6") 840	1.2	100	85	4100	87182912 36016 00
InteGrade engine eco 140 mm (6") 865	1.2	100	85	6500	87182912 36207 00
InteGrade engine value 140 mm (6") WWVR (LED autentic white)	1,3	70			8718291 661665 00
InteGrade engine value 575 mm (23") 830	5	400	85	3000	87182912 36146 00
InteGrade engine value 575 mm (23") 840	5	400	85	4100	87182912 36184 00
InteGrade engine eco 575 mm (23") 865	5	400	85	6500	87182912 36221 00
InteGrade engine value 575 mm (23") WWVR (LED autentic white)	5	300			8718291 661764 00

* Correlated colour temperature within 6 SDCM range

InteGrade LED fixtures

Product specification

Value	Power consumption*	Lumen	Colour Rendering Index	Correlated Colour Temperature*	Order code
	W, typical ± 20 %	Lm, typical ± 20 %	CRI, typical	K	(EOC)
InteGrade LED fixture value 875 mm (34") 830	8	600	85	3000	8718291 236269 00
InteGrade LED fixture value 875 mm (34") 840	8	600	85	4100	8718291 236245 00
InteGrade fixture value 875 mm (34") WWVR (LED autentic white)	8	440			8718291 661863 00
InteGrade LED fixture value 1175 mm (46") 830	10	800	85	3000	8718291 236306 00
InteGrade LED fixture value 1175 mm (46") 840	10	800	85	4100	8718291 236283 00
InteGrade fixture value 1175 mm (46") WWVR (LED autentic white)	10	600			8718291 661924 00

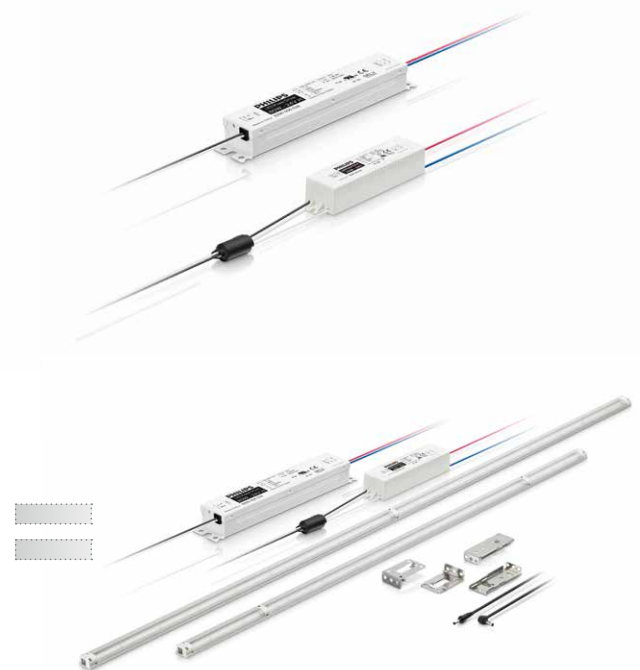
Power driver	Order code (EOC)
Xitanium Constant Voltage Outdoor LED Power Driver 20 W - 24 V	8718291 215240 00
Xitanium Constant Voltage Outdoor LED Power Driver 80 W - 24 V H	8718291 215264 00

Order code (EOC)	Accessories for InteGrade LED engines(optional)	Accessories for InteGrade LED fixtures (optional)
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Profiles	Order code (EOC)		
InteGrade profile 875 mm (34")	8718291 219538 00	•	included in fixture
InteGrade profile 1175 mm (46")	8718291 219552 00	•	included in fixture
InteGrade profile 2000 mm (79") F style	8718291 227892 00	•	included in fixture

Power cables - to connect engine to driver	Order code (EOC)		
InteGrade power cable 1 m (39") black	8718291 218128 00	•	•
InteGrade power cable 2.5 m (98") black	8718291 221449 00	•	•
InteGrade cable 1 m (39") black angle	8718291 221364 00	•	•
InteGrade cable 2.5 m (98") black angle	8718291 221463 00	•	•
InteGrade power cable 1 m (39") white	8718291 221401 00	•	•
InteGrade power cable 2.5 m (98") white	8718291 221487 00	•	•
InteGrade cable 1 m (39") white angle	8718291 221425 00	•	•
InteGrade cable 2.5 m (98") white angle	8718291 221500 00	•	•
InteGrade profile 2356 mm (93") M style	8718291 703198 00	•	•
InteGrade magnet for M style profile	8718291 707271 00	•	•

Mounting clips	Order code (EOC)		
InteGrade mounting clip shelf arm	8718291 218791 00	•	•
InteGrade mounting clip under shelf	8718291 218814 00	•	•
InteGrade LED lock inline	8718291 219514 00	•	included in fixture
InteGrade connector	8718291 221159 00	•	included in fixture





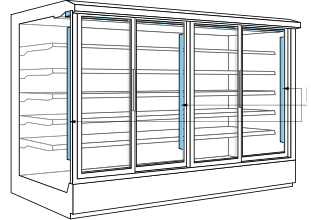
For chillers with doors

InteGrade LED engine systems NB (narrow beam)

InteGrade LED engines NB enable easy creation of narrow-beam lighting solutions for vertical and horizontal display applications. The narrow beam in combination with the extremely small dimensions makes this system suitable for integration in doors and mullions, where there is no room to place a sizable lighting solution. The unique optical system directs the light precisely where you want it, thus making optimum use of the light and energy. Our LEDs have minimal output degradation and colour shift, so the light remains consistent throughout their long lifetime. InteGrade LED is an ideal solution for high-quality lighting without flicker or colour differences. With a choice of mounting profiles, mounting clips, power cables, and Xitanium Constant Voltage Outdoor LED power drivers, your under-canopy or display lighting will always be a perfect fit.

InteGrade LED fixture systems NB (narrow beam)

InteGrade LED fixtures NB enable easy creation of narrow-beam lighting solutions for vertical and horizontal display applications. The narrow beam in combination with the extremely small dimensions makes this system suitable for applications like chiller door, where there is no room to place a sizable lighting solution. The unique optical system directs the light precisely where you want it, thus making optimum use of the light and energy. Our LEDs have minimal output degradation and colour shift, so the light remains consistent throughout their long lifetime. InteGrade LED is an ideal solution for high-quality lighting without flicker or colour differences. The fixture consists of a profile with LED engines and inline-locks. Mounting accessories, cables and LED power driver are available separately.



Benefits:

- Smooth and uniform linear lighting of products on display
- Aesthetic integration of LED lighting; possible to mount on very small mullions
- Excellent Total Cost of Ownership with attractive payback times
- The fixtures have standard dimensions and so fit commonly used mullions and cabinets

Features:

- Energy savings of up to 55 % (102 W compared to 224 W for a TL5 28/35 W system in a 3.75 m cabinet)
- Dedicated Xitanium LED Outdoor drivers for reliable operation
- Scalable to length (for InteGrade LED engines)
- An InteGrade connector makes the electrical connection between two LED engines; an inline lock fixes the engine in a profile

Applications:

- Chillers with doors
- The narrow-beam light distribution is also suitable for applications such as display lighting in supermarkets, retail environments, libraries and museums. Because the dimensions of these applications are often very diverse, you might consider using the InteGrade LED engine NB system – with which you can create different lengths – required for these applications

For further information visit the website:

www.philips.com/technology

InteGrade LED engine systems NB (narrow beam)



Product specification

	Power consumption*	Lumen	Colour Rendering Index	Correlated Colour Temperature*	Order code
	W, typical ± 20 %	Lm, typical ± 20 %	CRI, typical	K	(EOC)
InteGrade LED engine vision 140 mm (6") 830 NB	1.6	115	85	3000	8718291 257813 00
InteGrade LED engine vision 140 mm (6") 840 NB	1.6	115	85	4100	8718291 257837 00
InteGrade LED engine vision 140 mm (6") WWVR (LED authentic white) NB	1.6	100			8718291 661665 00
InteGrade LED engine vision 575 mm (23") 830 NB	7	500	85	3000	8718291 257851 00
InteGrade LED engine vision 575 mm (23") 840 NB	7	500	85	4100	8718291 257875 00
InteGrade LED engine vision 575 mm (23") WWVR (LED authentic white) NB	7.5	450			8718291 661764 00

* Correlated colour temperature within 6 SDCM range

InteGrade LED fixture systems NB (narrow beam)



Product specification

	Power consumption*	Lumen	Colour Rendering Index	Correlated Colour Temperature*	Order code
	W, typical ± 20 %	Lm, typical ± 20 %	CRI, typical	K	(EOC)
InteGrade fixture vision 1500 mm (59") 830 NB CTR	34	2300	85	3000	8718291 670834 00
InteGrade fixture vision 1500 mm (59") 830 NB SD	17	1150	85	3000	8718291 670872 00
InteGrade fixture vision 1500 mm (59") 840 NB CTR	34	2300	85	4100	8718291 670858 00
InteGrade fixture vision 1500 mm (59") 840 NB SD	17	1150	85	4100	8718291 670896 00
InteGrade fixture vision 1500 mm (59") WWVR (LED authentic white) NB CTR*	38	2000			8718291 661986 00
InteGrade fixture vision 1500 mm (59") WWVR (LED authentic white) NB SD*	19	1000			8718291 670919 00



Power driver	Order code (EOC)
Xitanium Constant Voltage Outdoor LED Power Driver 20 W - 24 V	8718291 215240 00
Xitanium Constant Voltage Outdoor LED Power Driver 80 W - 24 V	8718291 215264 00



	Order code (EOC)	Accessories for InteGrade LED engines(optional)	Accessories for InteGrade LED fixtures (optional)
Profiles			
InteGrade profile 2000 mm (79") T style CTR	8718291 676461 00		not suitable
InteGrade profile 2000 mm (79") T style SD	8718291 257936 00		not suitable
InteGrade mounting clip for T style profile	8718291 676508 00		
Power cables - to connect engine to driver			
InteGrade power cable 1 m (39") black	8718291 218128 00		
InteGrade power cable 2.5 m (98") black	8718291 221449 00		
InteGrade cable 1 m (39") black angle	8718291 221364 00		not suitable
InteGrade cable 2.5 m (98") black angle	8718291 221463 00		not suitable
InteGrade power cable 1 m (39") white	8718291 221401 00		
InteGrade power cable 2.5 m (98") white	8718291 221487 00		
InteGrade power cable 2.5 m (98") white	8718291 221425 00		
InteGrade cable 2.5 m (98") white angle	8718291 221500 00		not suitable
Mounting clips			
InteGrade inline-lock	8718291 219514 00		
InteGrade connector	8718291 221159 00		



Philips introduces the 2nd generation ActiLume DALI

More design flexibility, more options and fully integrable

The Philips Actilume DALI, introduced in 2006, is the market leading luminaire based control system in main land Europe. This spring Philips has launched its 2nd generation. Compared to the first generation the second generation allows for more options for local control, more than twice the amount of fixtures, linking presence in different zones and integration into building management systems.

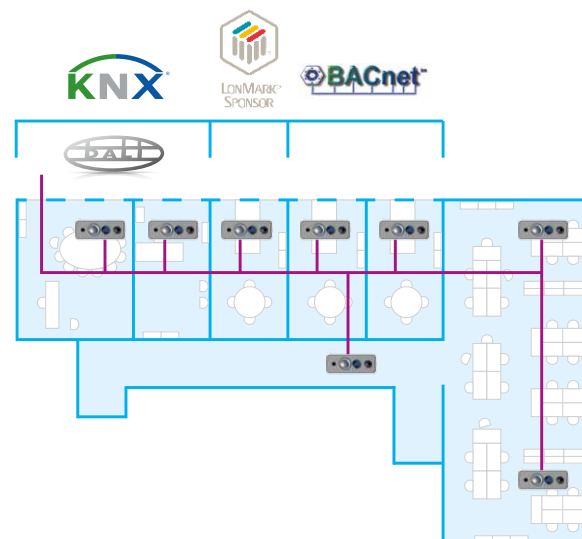
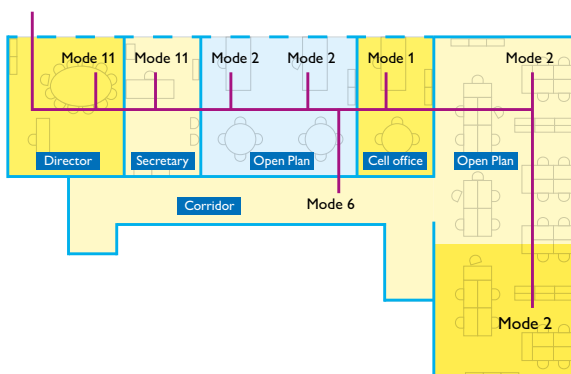


Integration into building management systems

Integrating the ActiLume into a building management system is a very attractive proposition for contractors. First off all since it is a luminaire based solution, the ActiLume costs system is entirely integrated in the luminaire tender. This results in much lower cost on the usually higher valued budget for building management system. The presence detection is fully covered in the entire building and can be collected to locally steer the heating, ventilation, blinds or airco. ActiLume can be connected to most common building management systems: KNX, BACnet and LON. In addition the lighting management with ActiLume is very effective. With only one gateway up to 64 ActiLume DALI Gen2 controllers can be connected. The ActiLume DALI Gen2 controllers itself control again up to 24 or 34 light fixtures depending what accessories are locally connected. This means that with one gateway around 1500 light points can be controlled which is very effective.

Linking different zones in retail or office areas

There are a few options to link different zones in a building with the aim to maintain the lighting on – at a defined lower light level in selected areas – until the last person leaves the area. Ideal for office applications, retail applications and track solutions.



In Q3 2013 an additional high-bay sensor will be introduced to include applications with higher ceilings of up to 13 meters.



Ordering your product samples was never so fast and easy.

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www.philips.com/oemwebshop

3 Phases to new and improved products

As the leading name in lighting, Philips is constantly looking for ways to inspire lighting professionals with high quality LED solutions. Whether that's an exciting new lighting concept or an improvement to an existing product that will enhance its appeal, the development process takes place in 3 distinct phases.



01 Concept Phase

The creation process is application driven. We focus on the unique requirements of the project to imagine a completely new lighting concept that meets the specific needs of the market.

02 Development Phase

As product specifications are added the design of a new product or improvement of an existing one is started. The result is an approximate idea of the time it will take to release to market.

03 Pre-launch Phase

When the final product design and specification is fixed, and a target launch date is in place, customers will be able to begin pilot studies with the new LED product.

Launched Products

When the new product is ready for commercial release, the lighting concept is launched and products are available for ordering.

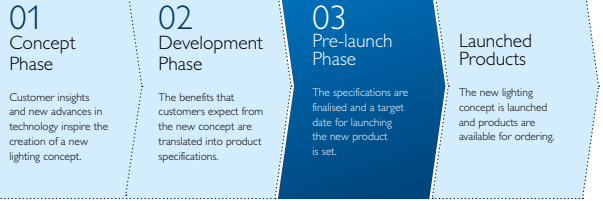
Coming soon

To keep up to speed with all the latest product developments and lighting innovations look out for our coming soon pages in the LED catalogue. We'll be featuring products that are in the Pre-launch Phase and will be available for commercial release very soon. Along with imagery and line drawings of the new lighting concepts, we'll reveal the product name and the specifications that are finalised.

Our coming soon pages could showcase an individual product or bring multiple new products to your attention. You'll be the first to hear about exciting new innovations in LED.



Coming soon overview



COMING SOON



Fortimo LED DLM Gen5

For more information see page 23

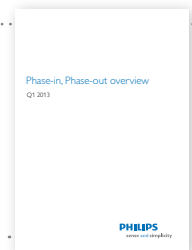


FastFlex LED module Gen2

For more information see page 39

Phase-in, Phase-out overview

If you are interested in having a closer look at this launch calendar, please contact your local Philips OEM sales person or business development manager.



The 3 Fortimo building blocks





High quality of white light

Peter Duine

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

Guus van Schijndel

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.



Future proof approach

Annetta Kelso

The Philips 'future proof' promise for Fortimo LED systems, introduced back in 2008, has been widely welcomed in the market, as it is an enabler for LED system innovation, coupled with a certain stability of LED module form factor and lumen package. This allows luminaire manufactures to switch easily between one Fortimo LED module generation and the next, with minimal disruption and cost to their luminaire design and production processes. Philips firmly believes that future proof LED Light engines lie at the heart of a successful transformation to LED lighting, where speed of innovation and flexibility is of key importance. In order to maximize the opportunity of new technological developments,

but still provide the interface stability needed, Philips offers its market partners an attractive future-proof promise, moving with the times and reflecting the needs of the market. Future proof Fortimo LED systems can be characterized as follows: With Fortimo LED module upgrades the aim is to have zero changes in the relevant optical, mechanical, thermal and electrical interfaces. Should small modifications be needed, for a technologically more advanced solution, Philips will aim to do this so that adjustments an OEM needs to implement are minimal. Philips strives to maintain backwards compatibility with existing drivers during a module generation

upgrade, which is made possible via the Xitanium driver window approach. However, in certain instances where this is not possible, Philips will ensure that there is an alternative solution available. Developments in LEDs move rapidly, making it very challenging to 'predict' what will be the winning solutions for the coming years. As long as there is an increasing market demand for a particular LED module, Philips will keep supporting the existing LED module portfolio.



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www.philips.com/technology

Value Added Reseller



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CIS@FutureLightingSolutions.com

Complementary partners

In order to make the Fortimo LED module systems more easily accessible to all luminaire manufacturers, whether small or large, Philips Lighting has set up links with so called, complementary partners.

These are companies who have developed either reflectors or heat sinks specifically for the Fortimo LED systems. These complementary partners have regular contact with Philips Lighting and receive early information about the Philips Fortimo product roadmap.

We recommend that you visit the websites of these companies and contact them about their Fortimo related product ranges.

Coolings:



Corporate Headquarters, Worldwide Sales Office
4635 Boston Lane, Austin, Texas 78735
Tel: 512 382 8100, Fax: 512 382 8101,
Web: www.nuventix.com/products/led-cooling



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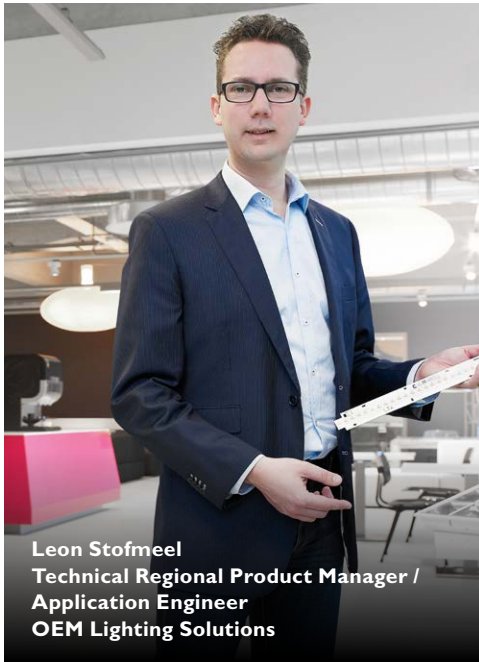
Lighting definitions explained



by Annetta Kelso

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 faithfully 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 visible
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 perform as specified
Driver power factor	%	Indicating how effective the driver converts electric current to useful 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 capacitive 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 original 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 water vapor
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

Benefit from your personal technical support!



Leon Stofmeel
Technical Regional Product Manager /
Application Engineer
OEM Lighting Solutions

Hi, my name is Leon Stofmeel and I am the Philips Lighting OEM Application Engineer for Linear LED modules and drivers.

Philips introduced the role of the Application Engineer in 2011 to provide technical support in the transformation from conventional light sources to LED luminaires. As Application Engineer, I have a technical support role to help luminaire manufacturers understand the technical features and interaction of the Philips LED module and driver portfolio and how to design it in to luminaires.

The Application Engineer also bridges the gap between technical customer needs and the relevant Philips R&D team, acting as an interface between the two. Remote, on-site technical support, as well as training is offered in order to help facilitate the design-in of Fortimo LED systems or Xitanium LED drivers. Early sampling of new Fortimo LED systems, not yet formally released to the market is also part of the Application Engineer's responsibilities. Besides this, as Application Engineer I am also heavily involved in the content for the Philips product technical documentation, including design-in guides www.philips.com/technology, application notes and technical training material.

My particular area of expertise lies in linear LED systems, such as Fortimo LED Line and Fortimo LED Strip systems, but my colleagues, listed below, can help you in a similar way for downlights, spotlights and drivers.

We are here to help and support you.

Contact our application engineers



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Specialist for:

Fortimo LED DLM
Fortimo LED DLM Food
Fortimo LED Twistable DLM
Fortimo LED disk
Fortimo LED integrated spot
Fortimo LED decorative



Reinhard Voorspoels

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Specialist for:

Fortimo LED SLM
Xitanium LED drivers
(spot & downlight)



Leon Stofmeel

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Specialist for:

Fortimo LED Lines
Fortimo LED strip
Xitanium LED drivers (linear)



Sjef Jansen

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Specialist for:

Fortimo LED HBMt
Fortimo LED LLM
Xitanium LED drivers (outdoor)

Design-in support

Next to application support, Philips offers the possibility to help luminaire manufacturers with the design-in of Fortimo LED systems into their luminaires. Typical design-in projects might be: 'Ledifying' existing luminaires, simulating optical or thermal scenarios and evaluating finished prototypes.

You can make use of our design-in support for all kind of requests such as:

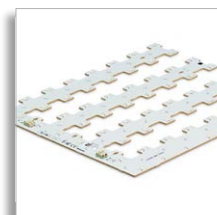
- Thermal measurements and/or simulation
- Optical measurements and/or simulation
- Mechanical solutions
- Electrical measurements
- Evaluation quality of light of the luminaire

Interested in our design-in support? Please contact your Philips Key Account Manager and discuss your needs.

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Fortimo® LED catalogue



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