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www.philips.com/xitanium

"3 in 1" housing concept



independent, screw, click



Xitanium LED Drivers

Enabling future-proof
LED technology

PHILIPS



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Date of release: April 2013



Enabling future-proof LED technology for dynamic LED markets

The Xitanium electronic LED drivers are designed with professional general lighting applications like Retail, Office and Industry in mind. There are fixed-output, dimmable (trailing edge, 0/1-10V and Touch & DALI) and programmable versions.

Reliability is guaranteed for 5 years by building on the Philips' experience and knowledge of conventional fluorescent and HID technologies. The reliability of the LED solution is also enhanced by specific features that protect the connected LED module, such as hot wiring, reduced ripple current and thermal derating. Almost all drivers feature central DC operation.

In the coming years LEDs will continue to increase in efficiency, creating complexity challenges for OEMs. Application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that are required by lighting specifiers and architects. These operating windows enable the LED generation and complexity management that are required to survive in the lighting business in the future. The operating windows are stacked so that a wide number of LEDs can be operated.

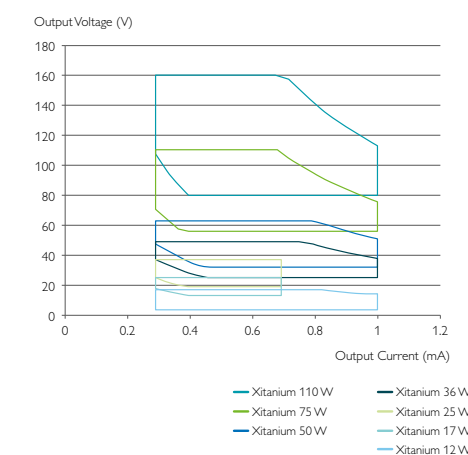
The Xitanium LED driver portfolio isn't just for operating Philips Fortimo LED modules. LED modules from other manufacturers or OEMs own PCB designs can also be operated as long as the V/I setting fits the operating window.

The output current within the operating window can be set in various ways:

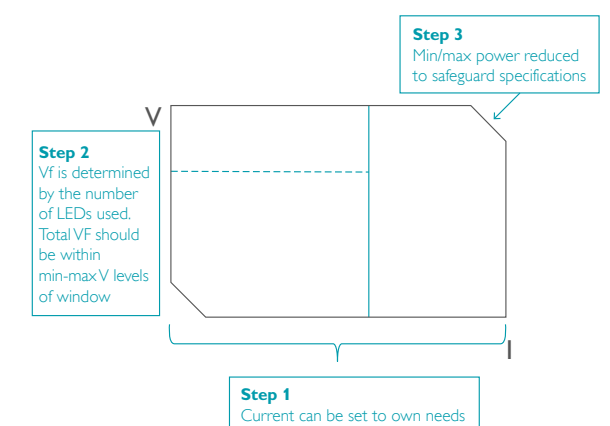
- Programmed via Philips MultiOne configurator
- With a resistor outside the driver:
 - On LED PCB (Level 2 board)
 - In the cable
 - In the connector (output) of the LED driver

The relevant forward voltage (V_f) is determined by the number and type of LEDs used in the module or on the PCB. The min/max levels of the relevant operating window have to be respected in order to safeguard other driver specifications.

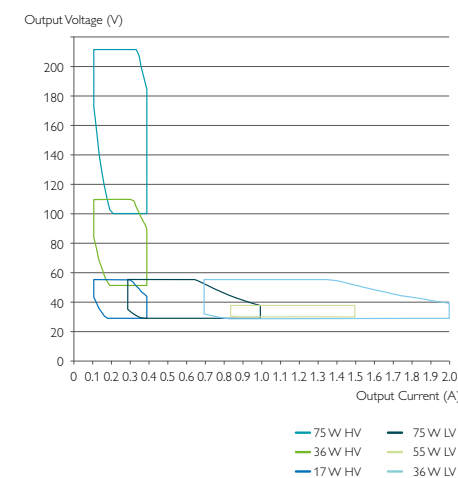
DLM/SLM operating windows



Explanation of operating windows



Linear office operating windows





General characteristics for Xitanium LED Indoor drivers

High reliability

- We use our experience and knowledge of industrial-based conventional Fluo & HID technologies to design and produce LED electronics for general lighting applications
- In addition specific general lighting features have been integrated to increase reliability even further:
 - Thermal derating: driver will dim LED module back to the standard specified Tc point, if the LED luminaire/LED module becomes too hot, thereby offering a safety feature and protecting lifetime
 - Hot wiring: protects LED module. Allows wiring of module and driver while driver mains is live

- Improved ripple current: reduced peak current ensures lifetime of LED module
- Central DC operation: in case of mains interruption and when the central battery takes over the electrical supply, the LED driver will switch from AC to DC operation mode

High energy efficiency

- Up to 92% efficiency
- Lower power LED drivers have lower efficiencies due to the fact that fixed power losses have a bigger impact on lower power LED drivers

Operating windows

- Operating windows offer the flexibility that is necessary to manage LED generation upgrades (enabling future-proof solutions) and related complexity management
- By choosing your own current within the operating window an OEM can operate with 1 single driver:
 - Fortimo LED modules: OEMs can play with the specifications of LED modules to differentiate their luminaire, by adjusting the current supplied to the LED module, thereby making it a higher/lower lumen package or a higher/lower efficacy. Choose your own light level or efficacy
 - Any LED module/PCB from other suppliers
 - For several years (several LED efficiency upgrades)
- Adjusting the current can be done in various ways: either via the Philips MultiOne configurator Tool or with a resistor that is used outside the driver. The resistor can be integrated in the LED module/PCB, cable or connector and can be changed to the desired current setting. The resistor determines the current the driver will supply
- There are various operating windows optimised for various general lighting applications, like for Office and Industry, Retail and Outdoor

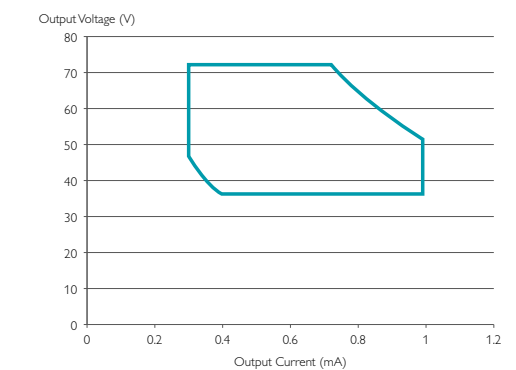
Philips MultiOne configurator

- Next to current setting (AOC) the Philips MultiOne configurator offers the OEM the possibility to create more differentiation. Thermal derating, CLO (Constant Light Output) are other features that can be programmed to individual OEM needs
- There are different profiles for expert (DALI) and advanced (R&D) users as well a basic profile for production environment
- The Philips MultiOne configurator is a ONE PHILIPS TOOL that can be used for In- & Outdoor LED drivers as well as for HID and Fluo drivers/ballast

Wide portfolio

- Various power/wattage drivers that are related to the operating windows/lumen packages/applications
- Fixed output versions next to dimmable drivers for DALI, 0/1-10V and Trailing edge protocols
- Form factors derived from conventional ballasts enabling OEM to use same tooling

Typical operating window



Example of operating window of FlexDrive/TD or Rset driver. Can operate all points within window



Example of peak design driver fixed output driver with fixed current and voltage setting (only drives a module with specs at star (in reality a small operation line))

- New form factors for retail/track lighting
- EMEA/APR voltages (230V) and specific NA voltages (120/277V)
- Latest new introductions are peak design drivers that enable cost optimised LED solutions for main (sweet spots/sequoias) general lighting applications in down-, spot- and office lighting

Applications

- Offices (more 'prestigious' spaces such as reception areas, boardrooms, restaurants etc.)
- Public buildings (airports, cinemas, theatres, exhibition halls)
- High-end shops
- Retail (supermarkets, bakery/butcher's shops, leather goods, etc.)




Linear Office LED driver portfolio

- 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 approval process and ease of design in
- Power ratings: 17W, 36W and 75W
- All T5 form factor but various lengths
- Programmable, Rset (1-10V and fixed output) and fixed current/fixed output versions
- Pre-programmed versions for 4-10 LED modules (strips/lines)




Non-isolated LED drivers (HV)

	DALI dimmable & programmable					Product specification
	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Order code (EOC)
Xitanium 75W/0.15-0.4A 200V TD 230V	360x30x22	100-10%	0.15-0.4	100-200	21-75	8718291 168188 00
Xitanium 36W/0.12-0.4A 100V TD 230V	360x30x22	100-10%	0.12-0.4	50-100	10-36	8718291 187165 00
Xitanium 17W/0.12-0.4A 54V TD 230V	360x30x22	100-10%	0.12-0.4	27-54	5-17	8718291 198048 00

Module recommendations

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


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

	1-10V dimmable					Product specification
	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Order code (EOC)
Xitanium 75W/0.2-0.4 A 200V 1-10V 230V	360x30x22	100-10%	0.2-0.4	100-200	21-75	8718291 163800 00
Xitanium 36W/0.12-0.4 A 100V 1-10V 230V	360x30x22	100-10%	0.12-0.4	50-100	10-36	8718291 187202 00
Xitanium 17W/0.12-0.4 A 54V 1-10V 230V	360x30x22	100-10%	0.12-0.4	27-54	5-17	8718291 198062 00

Module recommendations

Driver type	Suitable module
Xitanium 75W/0.2-0.4A 200V 1-10V 230V	Fortimo LED Line HV systems
Xitanium 36W/0.12-0.4A 100V 1-10V 230V	Fortimo LED Line HV systems
Xitanium 17W/0.12-0.4A 54V 1-10V 230V	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	Output wattage range W	Order code (EOC)
Xitanium 75W/0.15-0.4 A 200V 230V	360x30x22	n.a.	0.15-0.4	100-200	21-75	8718291 547426 00
Xitanium 36W/0.12-0.4 A 100V 230V	360x30x22	n.a.	0.12-0.4	50-100	10-36	8718291 187226 00
Xitanium 75W 0.12-0.4A 215V 230V	280x30x22	n.a.	0.12-0.4	100-215	21-75	8718291 228097 00
Xitanium 36W 0.12-0.4A 110V 230V	280x30x22	n.a.	0.12-0.4	50-110	10-36	8718291 228110 00


Module recommendations


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


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

	Pre-programmed non-isolated LED drivers DALI dimmable & programmable					Product specification
	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Order code (EOC)
Xitanium 75W/160mA 200V TD 230V	360x30x22	100-10%	0.16	100-200	21-75	8718291 212287 00
Xitanium 75W/200mA 200V TD 230V	360x30x22	100-10%	0.25	100-200	21-75	8718291 152552 00
Xitanium 75W/240mA 200V TD 230V	360x30x22	100-10%	0.24	100-200	21-75	8718291 152569 00
Xitanium 75W/280mA 200V TD 230V	360x30x22	100-10%	0.28	100-200	21-75	8718291 152576 00
Xitanium 75W/320mA 200V TD 230V	360x30x22	100-10%	0.32	100-200	21-75	8718291 152583 00
Xitanium 75W/360mA 200V TD 230V	360x30x22	100-10%	0.36	100-200	21-75	8718291 152590 00

Isolated LED drivers (LV)

	DALI dimmable & programmable					Product specification
	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Order code (EOC)
Xitanium 75W 0.7-2 A 54V TD 230V	425x30x25	100-5%	0.7-2	27-54	21-75	87182912 11884 00
Xitanium 36W 0.3-1A 54V TD 230V	425x30x25	100-1%	0.3-1	27-54	11-36	87182916 57422 00

	1-10V dimmable					Product specification
	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Order code (EOC)
Xitanium 75W 0.7-2 A 54V 1-10V 230V	425x30x25	100-5%	0.7-2	27-54	21-75	8718291 211860 00
Xitanium 36W 0.3-1A 54V 1-10V 230V	360x30x25	100 - 5%	0.3-1	27-54	11-37	8718291 684060 00

	Fixed output					Product specification
	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Order code (EOC)
Xitanium 55W 0.84-1.5 A 36V 120-277V	360x30x25	n.a.	0.84-1.5	28-36	24-54	87182912 04381 00
Xitanium 36W 0.3-1A 54V 230V	360x30x25	n.a.	0.3-1	27-54	11-37	8718291 684084 00



Down- and spotlight LED driver portfolio

- Dimmable, fixed output and fixed current LED drivers
 - Power ratings and related operating windows from 12W to 110W
 - Various housing designs:
 - Linear housed form factors for tracks in '3 in 1' design
 - Conventional HID housings for down- and spotlighting
 - SH housing for independent use with strain relief and loop through
- Almost all drivers feature the following specifications:
 - Operating window
 - SELV
 - Improved ripple current
 - Temperature derating
 - Hot wiring
 - 12V output for active cooling or decorative effects
 - Central DC operation

HV LED drivers

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DALI dimmable

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Central DC operation	SELV	Order code (EOC)
Fortimo LED driver 1100-3000 TD	1	138x74x32	100-10%	0.2-0.7	20-80	14-46	No	No	8727900 842975 00
Fortimo LED driver 1100-3000 TD/I	2	224x83x35	100-10%	0.2-0.7	20-80	14-46	No	No	8727900 862706 00

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Fixed output

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Central DC operation	SELV	Order code (EOC)
Fortimo LED driver 1100-3000	1	138x74x32	n.a.	0.2-0.7	20-80	14-46	No	No	8727900 920857 00
Xitanium 45W 200-700 mA 80V I 230V	2	224x83x35	n.a.	0.2-0.7	20-80	14-46	No	No	8727900 920833 00
Xitanium 110W SH 0.3-1A 160V I 230V	2	224x83x35	n.a.	0.3-1A	80-161	32-112	Yes	No	8718291 259367 00

SELV Spot- & Downlight LED drivers

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DALI dimmable & programmable

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Central Operation	SELV	Order code (EOC)
Xitanium 25W 0.3-1A 36V TD/I 230V	1	170x46x32	100-10%	0.3-1	18-36	7-26	Yes	Yes	8727900 914344 00
Xitanium 25W/0.3-1A 36V TD/Is 230V	5	150x46x32	100-10%	0.3-1	18-36	7-26	Yes	Yes	8727900 914351 00
Xitanium 50W 0.3-1A 62V TD/TE 230V	3	141x75x32	100-10%	0.3-1	31-62	14-50	Yes	Yes	8718291 157120 00
Xitanium 50W LH 0.3-1A 62V TD/TE/I 230V	2	190x46x32	100-10%	0.3-1	31-62	14-50	Yes	Yes	8718291 119470 00
Xitanium 50W SH 0.3-1A 62V TD/TE/I 230V	4	220x83x35	100-10%	0.3-1	31-62	14-50	Yes	Yes	8718291 119487 00

Driver type	Suitable module
Xitanium 25W 0.3-1 A 36V TD/I 230V	Fortimo LED DLM and SLM
Xitanium 25W 0.3-1 A 36V TD/Is 230V	Fortimo LED DLM and SLM
Xitanium 50W 0.3-1 A 62V TD/TE 230V	Fortimo LED DLM and SLM
Xitanium 50W LH 0.3-1 A 62V TD/TE/I 230V	Fortimo LED DLM and SLM
Xitanium 50W SH 0.3-1 A 62V TD/TE/I 230V	Fortimo LED DLM and SLM

For driver and cable combinations please check chapter Fortimo DLM/SLM systems.

Trailing edge dimmable

	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Central Operation	SELV	Order code (EOC)
Xitanium 17W 0.3-0.7 A 24V TE/I 230V	190x46x32	100-20%	0.3-0.7	12-24	5-17	Yes	Yes	8727900 907292 00
Xitanium 25W 0.3-0.7 A 36V TE/I 230V	190x46x32	100-20%	0.3-0.7	18-36	5-25	Yes	Yes	8727900 907308 00

Driver type	Suitable module
Xitanium 17W 0.3-0.7 A 24V TE/I 230V	Fortimo LED DLM and SLM
Xitanium 25W 0.3-0.7 A 36V TE/I 230V	Fortimo LED DLM and SLM

For driver cable combinations please check chapter Fortimo DLM/SLM systems.

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Fixed current/fixed output trailing edge dimmable

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

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

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

Recommended dimmer list for trailing edge dimmable LED drivers	
Brand	Type number
Busch-Jaeger	6513U-102
Jung Licht-Management	225T DE
Siemens	5TC8 284
PEHA Tronic- Dimmer	433 HAB
Wuyun	W13-C 162
Everflourish	EFE700D



Fixed output

Product specification

	Housing type	Housing mm	Dimming range	Output current range A	Output voltage range V	Output wattage range W	Central DC operation	SELV	Order code (EOC)
Xitanium 12W 0.3-1 A 16V I 230V	1	150x46x32	n.a.	0.3-1	2.5-16	1-12	Yes	Yes	8718291 163701 00
Xitanium 17W 0.3-0.7 A 24V I 230V	2	190x46x32	n.a.	0.3-0.7	12-24	5-17	Yes	Yes	8727900 900958 00
Xitanium 25W LH 0.3-1A 36V I 230V	2	190x46x32	n.a.	0.3-1	18-36	5-25	Yes	Yes	8718291 668084 00
Xitanium 36W LH 0.3-1A 48V I 230V	2	190x46x32	n.a.	0.3-1	24-48	11-37	Yes	Yes	8718291 666448 00
Xitanium 50W/s 0.3-1 A 62V 230V	3	110x75x32	n.a.	0.3-1	31-62	14-50	Yes	Yes	8718291 137818 00
Xitanium 50W 0.3-1 A 62V 230V	4	141x75x32	n.a.	0.3-1	31-62	14-50	Yes	Yes	8718291 137825 00
Xitanium 50W SH 0.3-1 A 62V I 230V	5	220x83x35	n.a.	0.3-1	31-62	14-50	Yes	Yes	8718291 137801 00
Xitanium 75W SH 0.3-1 A 110V I 230V	5	220x83x35	n.a.	0.3-1	55-110	21-75	Yes	Yes	8718291 129417 00

Module recommendations

Driver type	Suitable module
Xitanium 12W 0.3-1 A 16V I 230V	Fortimo LED DLM
Xitanium 17W 0.3-0.7 A 24V I 230V	Fortimo LED DLM
Xitanium 25W LH 0.3-1A 36V I 230V	Fortimo LED DLM and SLM
Xitanium 36W LH 0.3-1A 48V I 230V	Fortimo LED DLM and SLM
Xitanium 50W/s 0.3-1 A 62V 230V	Fortimo LED DLM and SLM
Xitanium 50W 0.3-1 A 62V 230V	Fortimo LED DLM and SLM
Xitanium 50W SH 0.3-1 A 62V I 230V	Fortimo LED DLM and SLM
Xitanium 75W SH 0.3-1 A 110V I 230V	Fortimo LED DLM
Xitanium 110W SH 0.3-1A 160V I 230V	Multiple Fortimo LED SLM modules in series

For driver and cable combinations please check chapter Fortimo DLM/SLM systems.

Emergency LED drivers



Product specification

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

Module recommendations

Driver type	Suitable module
Xitanium EM 3W 50mA 50V 3H 230V	Fortimo LED DLM

Accessories



Product name	Order code (EOC)
JST to push-in adaptor	8718291 245254 00
Loop-through adaptor Ø 2.5mm²	8718291 667919 00

