

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LED drivers – spot- and downlight SELV

## Xitanium 20W LH 0.15-0.5A 48V 230V

### Enabling future-proof LED technology

Our Xitanium programmable window LED drivers ensure OEMs have complete flexibility and control in producing high quality luminaires. Available in application dedicated form factors, our LED point drivers provide further customization via wide operating windows. Additionally, almost all drivers feature the following specifications: SELV, improved ripple current, temperature derating, hot wiring, – providing OEMs the tools to produce, and even alter later if necessary, premium downlights and spotlights.

### Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEMs' own PCB designs

### Features

- Operating windows - output current can be adjusted via the Philips MultiOne configurator ('TD' drivers) or with a resistor outside the driver or SimpleSet
- Power ratings: 10-75W
- Choice of housing designs -linear housing for tracks in '3 in 1' in design, conventional HID housings for down and Spotlighting and WH housing for independent use with strain relief and loop through

### Application

- Retail
- Office

## Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V <sub>ac</sub>	performance range
Nominal input frequency	50...60	Hz	
Nominal input current	0.11	A	@230V @ full load
Input voltage	230	V <sub>ac</sub>	
Nominal input power	24	W	@230V @ full load
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	85	%	@230V @ full load
Nominal input voltage DC	186...250	V <sub>dc</sub>	
Nominal input current DC	0.13	A	Input voltage 230 V <sub>dc</sub> , full load
Input voltage AC	202...254	V <sub>ac</sub>	Operational range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Isolation Input to Output	SELV		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24...48	V <sub>dc</sub>	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.15...0.5	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 15	%	
Output power	6...20	W	Full output

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

## Logistical data

Specification item	Value
Product name	Xitanium 20W LH 0.15-0.5A 48V 230V
Order code	
Logistic code 12NC	9290 009 41306
EAN3	
Pieces per box	10

## Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...1.5	mm <sup>2</sup>	WAGO250 (3.5 mm), solid / stranded wire
	16...24	AWG	WAGO250 (3.5 mm), solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.2...1.5	mm <sup>2</sup>	WAGO250 (3.5 mm), solid / stranded wire
	16...24	AWG	WAGO250 (3.5 mm), solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	600	mm	Total length of wiring including LED module, one way

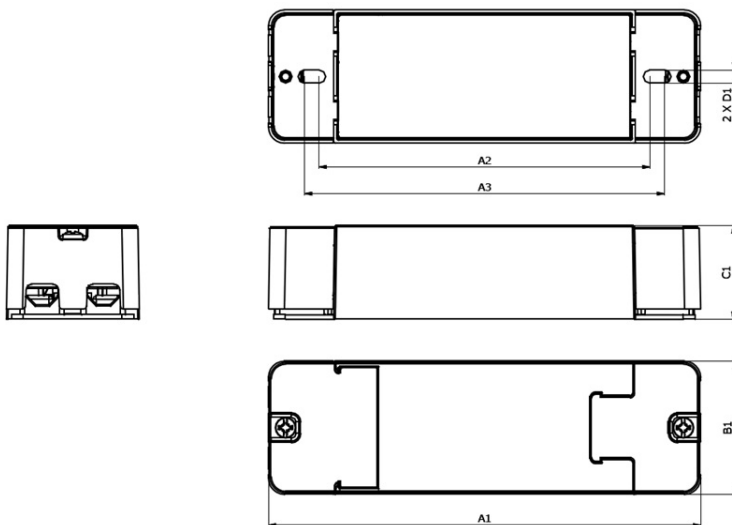


## Insulation

Insulation	input	LED-output	FE-output
input		Basic	Basic
LED-output	Double		Basic
FE-output	Basic	Basic	

## Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	150	mm	
Width (B1)	46	mm	
Height (C1)	32	mm	
Fixing hole diameter (D1)	4.2	mm	
Fixing hole distance (A2)	114	mm	
Weight	132	gram	



## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+65	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	90	°C	Maximum temperature measured at T <sub>case</sub> -point
Tcase-life	80	°C	Measured at T <sub>case</sub> -point
Maximum housing temperature	110	°C	In case of a failure
Relative humidity	10...90	%	Non-condensing

## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at T <sub>case</sub> -point is T <sub>case</sub> -life. Maximum failures = 10%
Mains switching cycles	> 3	switches	See Design-in guide for detailed explanation

## Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	LEDset and SimpleSet	See Design-in guide.	Default output current: ≤ 150 mA
LED module temperature derating (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDIM)	No		
Corridor mode	No		
Energy metering	No		
Diagnostics	No		

## Features

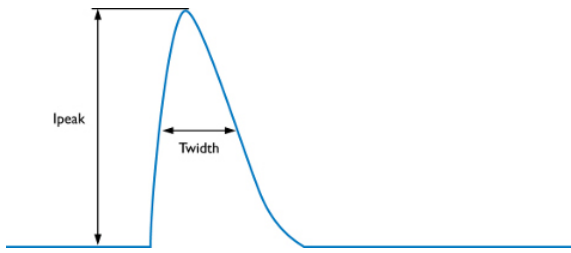
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	Yes		
Suitable for fixtures with protection class	I and II		per IEC60598

## Certificates and standards

Specification item	Value
Approval marks	CE / ENEC
Ingress Protection classification	20

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	14	A	Input voltage 230V
Inrush current $T_{width}$	240	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 38$	pcs	



MCB	Rating	Relative number of LED drivers
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%

## Driver touch current

Specification item	Value	Unit	Condition
Typical touch current	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

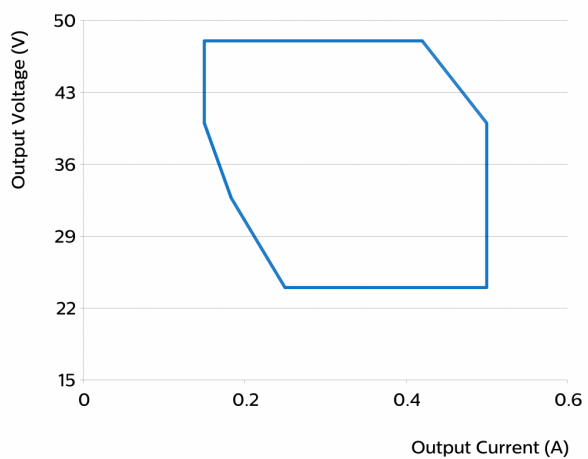
## Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	0.5	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	1	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

## Graphs

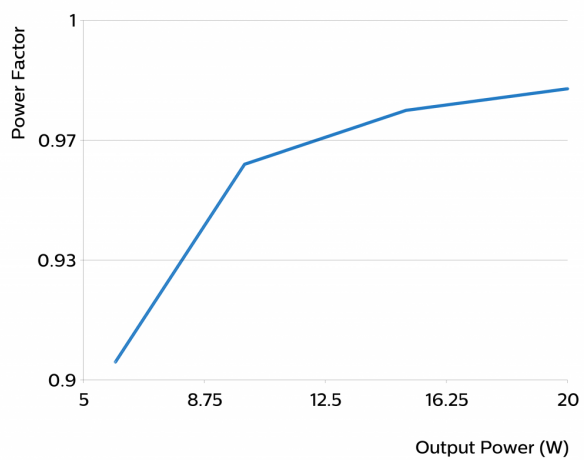
### Operating window

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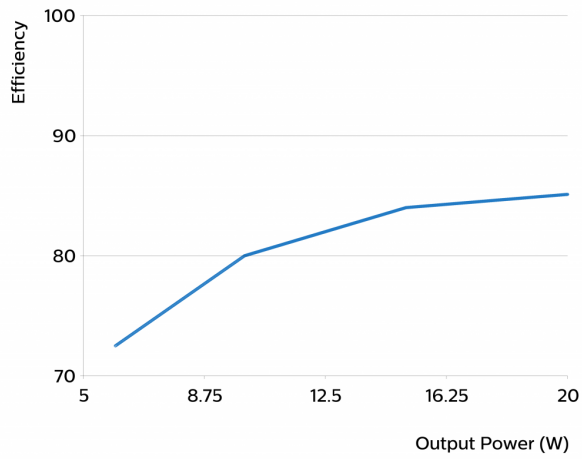
### Power factor versus output power

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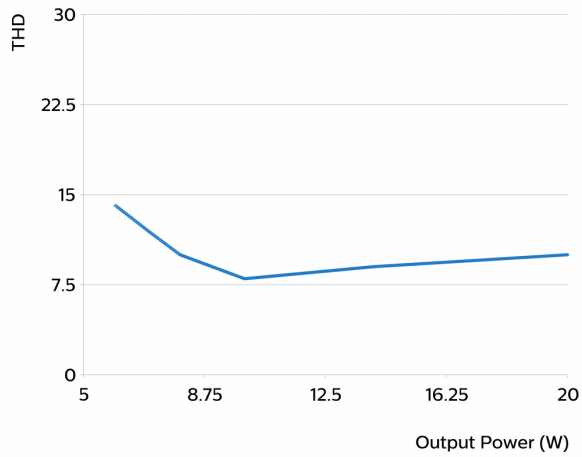
## Efficiency versus output power

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## THD versus output power

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