

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LED drivers – spot- and downlight SELV

## Xitanium 36W/s 0.3-1A 48V TD 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
Rated input voltage	220...240	V <sub>ac</sub>	
Rated input frequency	50...60	Hz	
Rated input current	0.2	A	@230V @ max. rated output power
Input voltage	230	V <sub>ac</sub>	
Rated input power	44	W	@230V @ max. rated output power
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	89	%	@230V @ max. rated output power
Rated input voltage DC	186...250	V <sub>dc</sub>	
Rated input current DC	0.24	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 performance range
Input voltage DC	168...275	V <sub>dc</sub>	Maximum operational range

## 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	300...1000	mA	Configurable output current range
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output power	11...37	W	

## Electrical data controls input

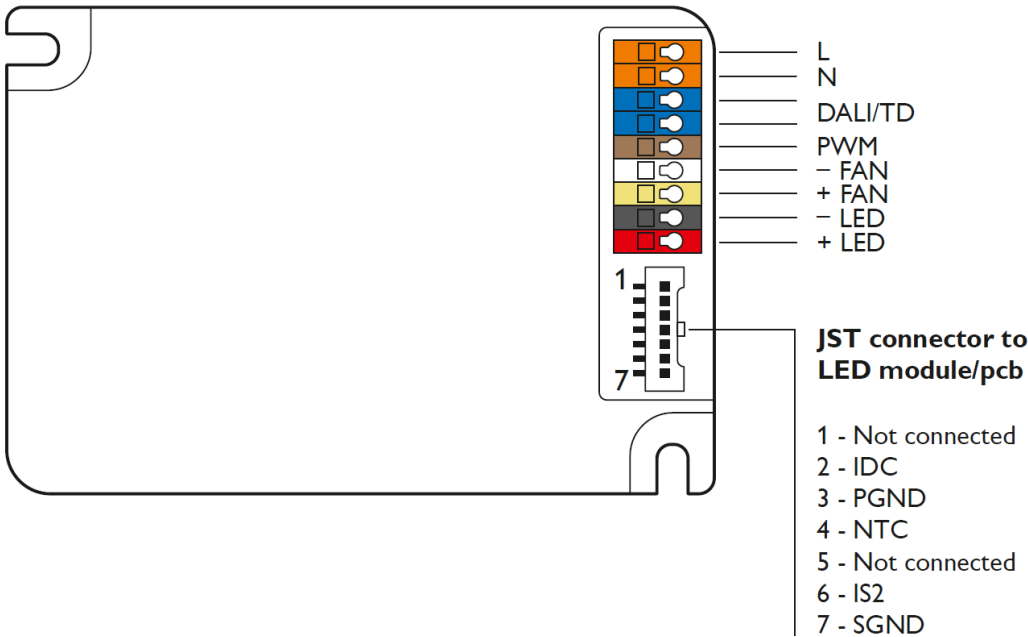
Specification item	Value	Unit	Condition
Control method	Touch and DALI dimming		
Dimming range	1...100	%	Default range

## Logistical data

Specification item	Value
Product name	Xitanium 36W/s 0.3-1A 48V TD 230V
Order code	871829177094700
Logistic code 12NC	9290 008 97606
EAN3	8718291770954
Pieces per box	10

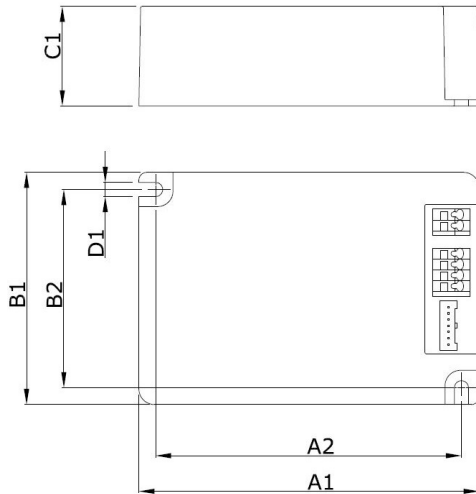
Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...1.5	mm <sup>2</sup>	WAGO250 (3.5 mm), solid wire
	16...24	AWG	WAGO250 (3.5 mm), solid wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.08...0.33	mm <sup>2</sup>	JST, solid wire
	22...28	AWG	JST, solid wire
Output wire strip length	0	mm	
Output wire cross-section	0.2...1.5	mm <sup>2</sup>	WAGO250 (3.5 mm), solid wire
	16...24	AWG	WAGO250 (3.5 mm), solid wire
Output wire strip length	8.5...9.5	mm	
Maximum output cable length LED+ and LED-	0.6	m	Total length of wiring including LED module, one way



## Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	110	mm	
Width (B1)	75	mm	
Height (C1)	32	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	99	mm	
Weight	190	gram	



## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Driver 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>c</sub> -point
Tcase-life	80	°C	Measured at T <sub>c</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 $T_c$ -point is $T_{case}$ -life. Maximum failures = 10%

## Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	Rset2	See Design-in guide.	Default output current: $\leq 700$ mA
LED module temperature derating (MTP)	Yes		
Constant Lumen Over Lifetime (CLO)	Yes		
DC emergency dimming (DCemDIM)	Yes		Current output decreased to 15%
Corridor mode	Yes		
Energy metering	Yes		
Diagnostics	Yes		

## Features

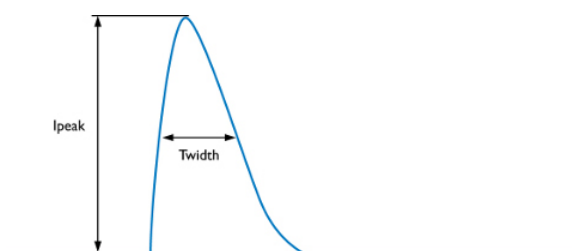
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	Yes		
Suitable for luminaire insulation class	I and II		Acc. IEC60598-1

## Certificates and standards

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

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	5.3	A	Input voltage 230V
Inrush current $T_{width}$	700	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 24$	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

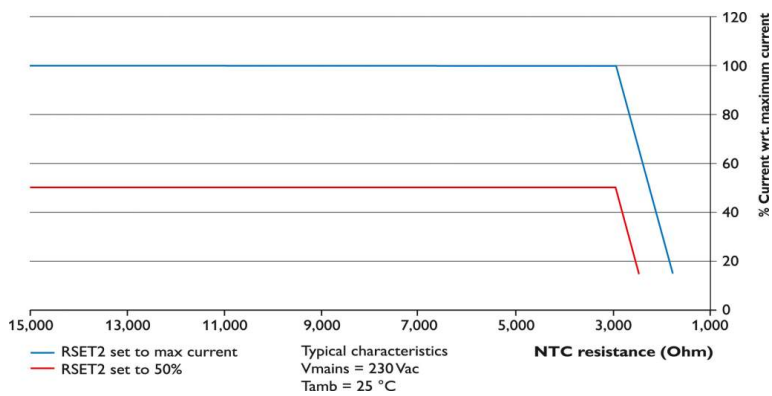
## Surge immunity

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

## Module Temperature Protection

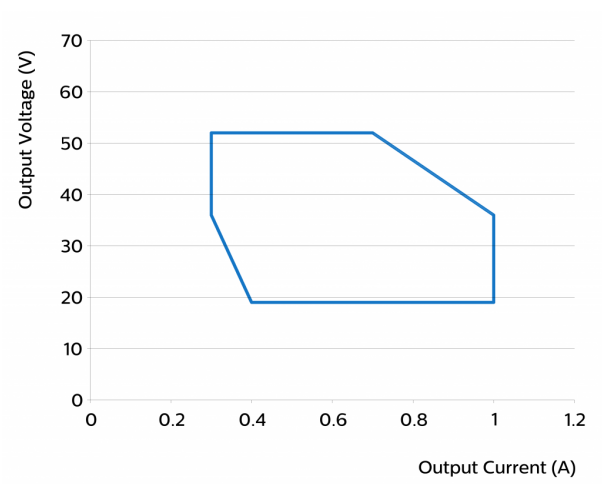
Specification item	Value	Unit	Condition
Advised NTC type	Vishay 15kOhm $\pm$ 2%NTC	238161554153	
	Murata NCP15XW153E03RC	NCP15XW153E03RC	With 390 $\Omega$ in series
NTC resistance threshold	2966	$\Omega$	Start limiting output current
Corresponding temperature	70	$^{\circ}\text{C}$	With advised type 238161554153

## NTC resistance versus output current

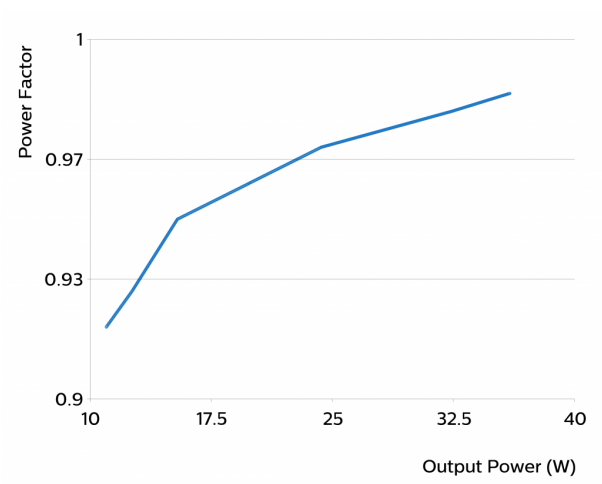


Graphs

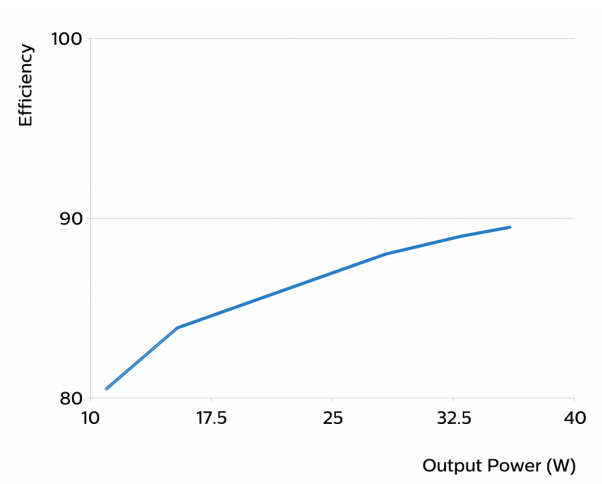
Operating window



Power factor versus output power



Efficiency versus output power





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