PHILIPS

Xitanium

LED driver

Xitanium LED drivers – spot- and downlight SELV

Xitanium 50W/s 0.9-1.4A 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
Rated input voltage range	220...240	V_{ac}	Performance range
Rated input voltage	230	V_{ac}	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.27	A	@ rated output power @ rated input voltage
Rated input power	60	W	@ rated output power @ rated input voltage
Power factor	≥ 0.9		@ rated output power @ rated input voltage
Total harmonic distortion	≤ 20	%	@ rated output power @ rated input voltage
Efficiency	≥ 90	%	@ rated output power @ rated input voltage
Rated input voltage DC range	186...250	V_{dc}	Performance range
Rated input current DC range	≤ 0.37	A_{dc}	Performance range
Input voltage AC range	202...254	V_{ac}	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Input voltage DC range	168...275	V_{dc}	Operational range
Isolation input to output	SELV		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...48	V_{dc}	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.9...1.4	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 20	%	Ripple = peak / average
Output power	27...50	W	Full output

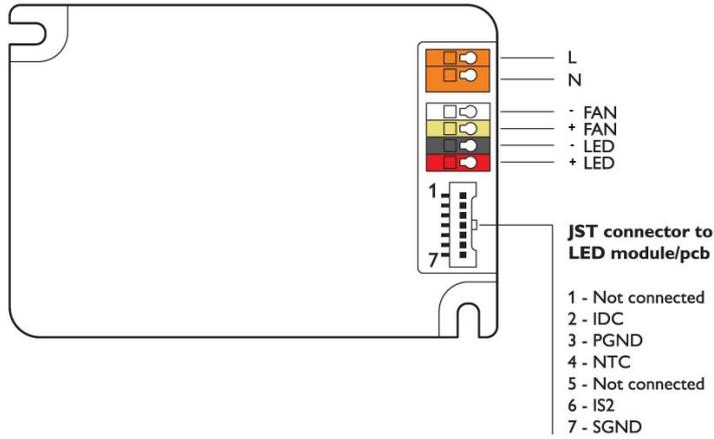## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		
Galvanic Isolation	No		

Logistical data

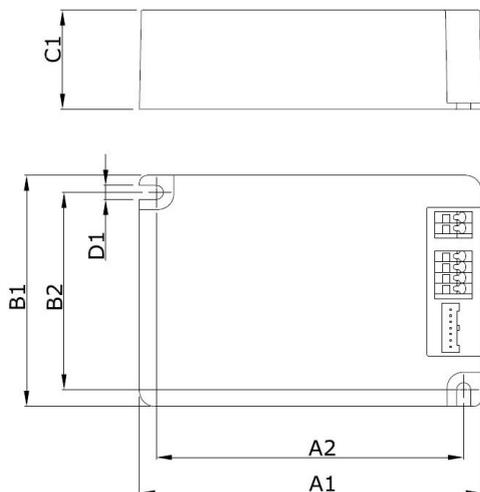| Specification item	Value
Product name	Xitanium 50W/s 0.9-1.4A 48V 230V
Order code	871829177758800
Logistic code 12NC	9290 008 99306
EAN3	8718291777595
Pieces per box	10

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...1.5	mm²	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	0.08...0.33	mm²	JST, solid wire
	22...28	AWG	JST, solid wire
Output wire cross-section	0.2...1.5	mm²	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

L
N
- FAN
+ FAN
- LED
+ LED

JST connector to LED module/pcb

1 - Not connected
2 - IDC
3 - PGND
4 - NTC
5 - Not connected
6 - IS2
7 - SGND

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	175	gram	

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	75	°C	Maximum temperature measured at T_{case}-point
Tcase-life	65	°C	Measured at T_{case}-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_{case}-point is T_{case}-life. Maximum failures = 10%

Programmable features

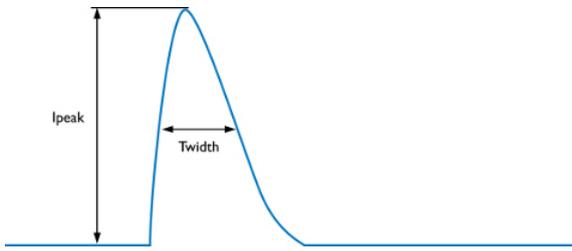| Specification item	Value	Remark	Condition
Set output current (AOC)	Rset2	See Design-in guide.	Default output current: = 900 mA
LED module temperature derating (MTP)	Yes		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDIM)	No		
Corridor mode	No		
Energy metering	No		
Diagnostics	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	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}	20	A	Input voltage 230V
Inrush current T_{width}	275	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 26	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

Module Temperature Protection

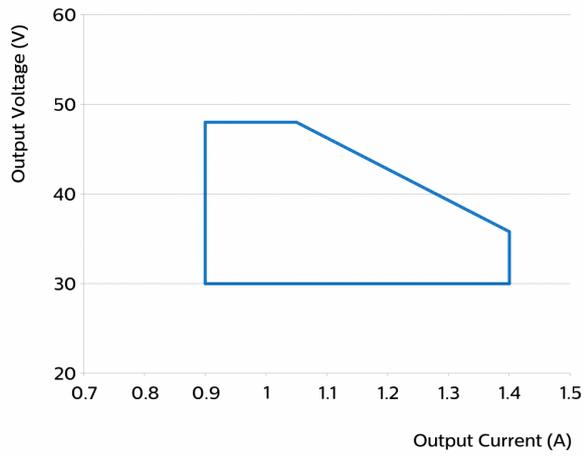| Specification item	Value	Unit	Condition
Advised NTC type	Vishay 15kOhm±2%NTC	238161554153	
	Murata NCP15XW153E03RC	NCP15XW153E03RC	With 390Ω in series
NTC resistance threshold	2966	Ω	Start limiting output current
Corresponding temperature	70	°C	With advised type 238161554153

NTC resistance versus output current
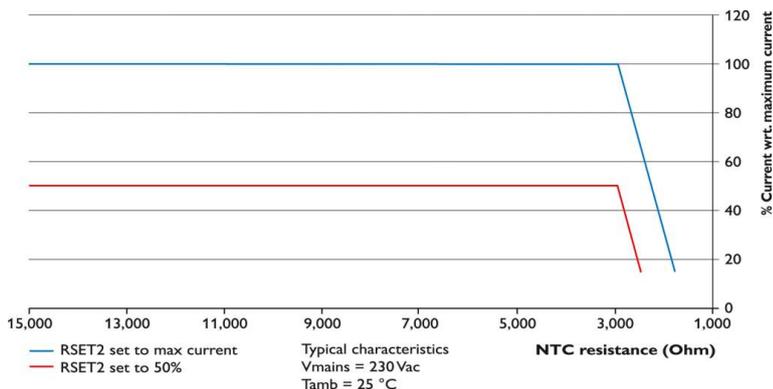
Graphs

Operating window

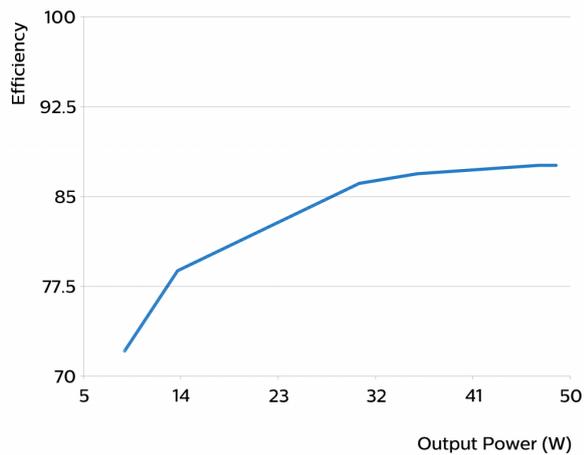### Power factor versus output power
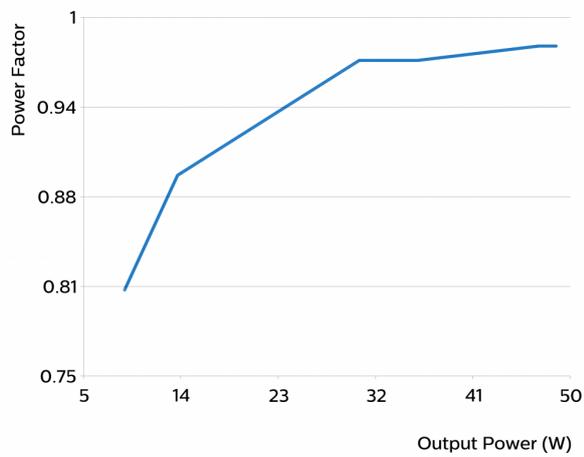
Efficiency versus output power

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