

Xitanium LED drivers – spot- and downlight HV

Xitanium 110W SH 0.3-1A 160V | 230V

December 13, 2012



Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications such as downlighting and spot/accent lighting, as well as linear lighting.

Reliability is guaranteed for 5 years, enhanced by specific features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal derating. Most drivers feature central DC operation.

In the coming years LEDs will continue to increase in efficiency, creating generation and complexity challenges for OEMs. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to an adjustable output current. Application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that lighting specifiers and architects demand. And the adjustable output current also enables operation of various LED PCB solutions from different manufacturers.

Benefits

- Reliability - assured by 5-year guarantee
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEM's own PCB designs

Product features

- Operating windows - output current can be adjusted via a resistor outside the driver
- Hot wiring, reduced ripple current and thermal derating for increased reliability
- DALI dimmable and fixed-output versions
- Power rating: 46 W
- Built-in and independent housing designs

Applications

- Retail

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V _{ac}	
Nominal input frequency	50...60	Hz	
Nominal input current	0.55	A	Input voltage 230 V _{ac} , full load
Nominal input power	122	W	Input voltage 230 V _{ac} , full load
Power factor	≥ 0.9		Input voltage 230 V _{ac} , full load
Total harmonic distortion	≤ 20	%	Input voltage 230 V _{ac} , full load
Efficiency	93	%	Input voltage 230 V _{ac} , full load, maximum output voltage
Nominal input voltage DC	186...250	V _{dc}	
Nominal input current DC	0.65	A	Input voltage 230 V _{dc} , full load
Input voltage AC	202...254	V _{ac}	Performance range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Input voltage DC	168...275	V _{dc}	Maximum permissible range



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Electrical output data

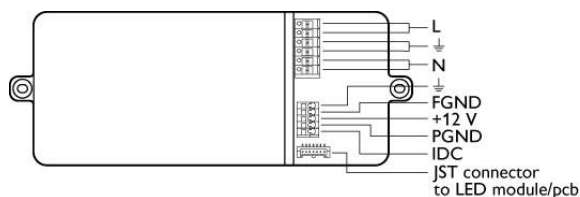
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	80...161	V _{dc}	
Output voltage max	190	V _{pk}	Peak voltage at open load
Output current	0.3...1	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple	≤ 20	%	Ripple = peak / average
Output power	32...112	W	Full output
Galvanic isolation	Basic		Lamp to mains

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

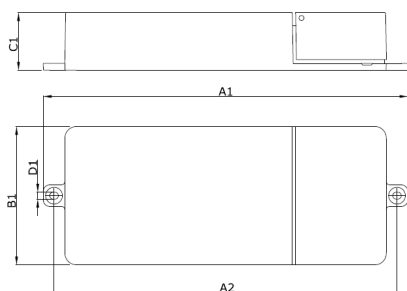
Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.75...2.5	mm ²	WAGO804, solid wire
	12...20	AWG	WAGO804, solid wire
Input wire strip length	10...11	mm	
Output wire cross-section	0.2...1.5	mm ²	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 cable length	600	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	224	mm	
Width (B1)	83	mm	
Height (C1)	35	mm	
Fixing hole diameter (D1)	4.2	mm	
Fixing hole distance (A2)	206	mm	
Weight	425	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	
T _{case-max}	90	°C	Maximum temperature measured at T _c -point (lifetime reduced by 50%)
T _{case-life}	80	°C	Measured at T _c -point
Maximum housing temperature	120	°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%

Features

Specification item	Value	Unit	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		
Set output current	Rset2	See Design-in guide. Default output current: 0.7 A	
LED module temperature derating	Yes		
Constant Lumen Over Lifetime	No		
DCemDim	No		

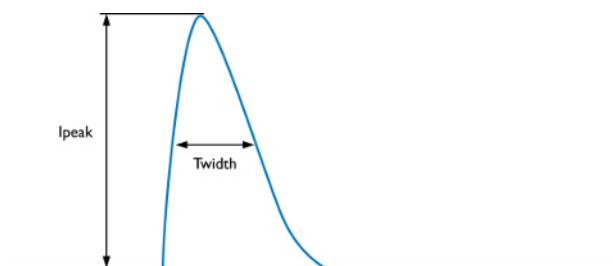
Certificates and standards

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

Additional information

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	40	A	Input voltage 230V
Inrush current T_{width}	360	μs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 8	pcs	



Earth leakage current

Specification item	Value	Unit	Condition
Earth leakage current	0.7	mApk	LED module contribution not included

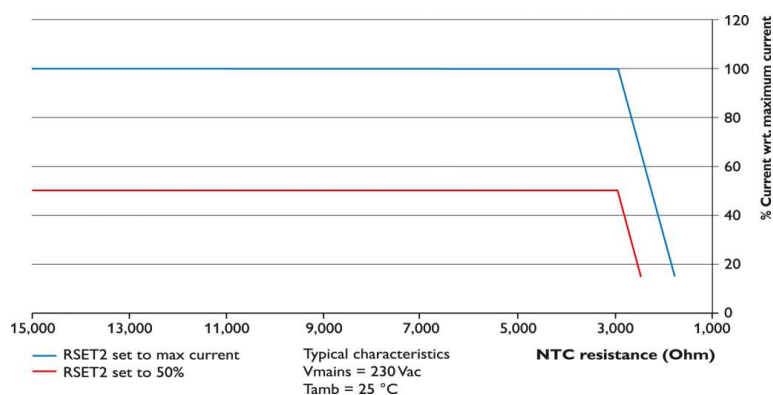
Mains input surge capability

Specification item	Value	Unit	Condition
Surge capability (L-N)	1	kV	
Surge capability (L/N-Ground)	2	kV	

NTC thermistor

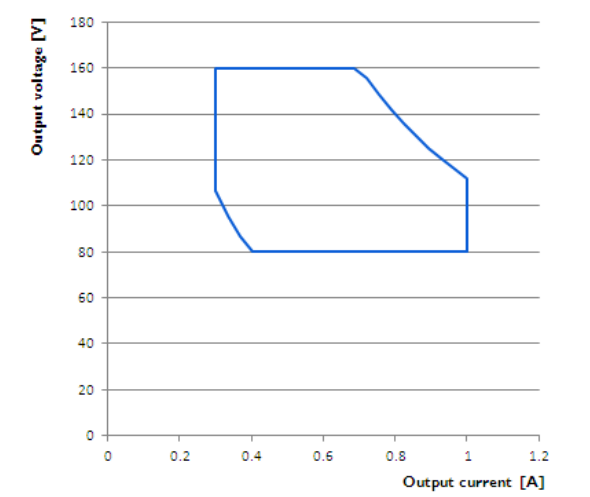
Specification item	Value	Unit	Condition
Advised NTC type	Vishay 15kOhm \pm 2%NTC	238161554153	
	Murata NCP15XW153E03RC	NCP15XW153E03RC	With 390 Ω in series
NTC resistance threshold	2966	Ω	Start limiting output current
Corresponding temperature	70	$^{\circ}C$	With advised type 238161554153

NTC resistance versus output current

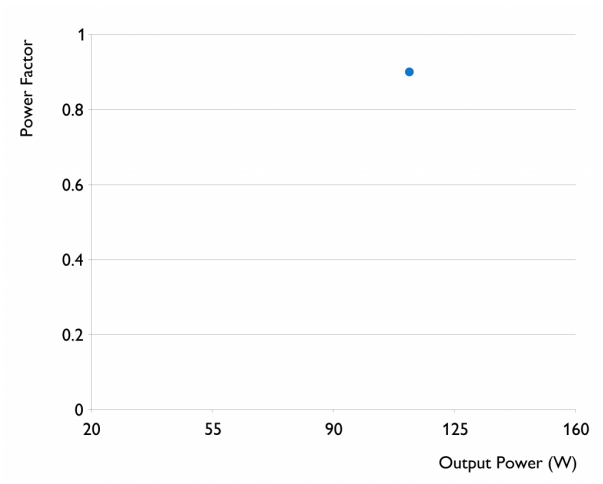


Graphs

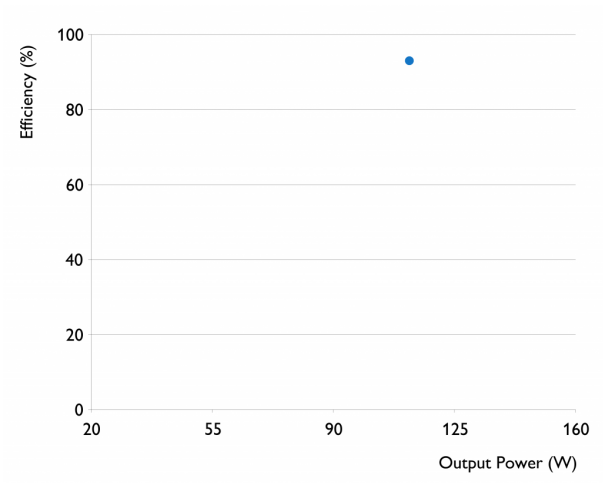
Operating window



Power factor versus output power



Efficiency versus output power



Logistical data

Specification item	Value
Product name	Xitanium 110W SH 0.3-1A 160V I 230V
Order code	871829125936700
Logistic code 12NC	9290 008 39203
EAN3	8718291259374
Pieces per box	6



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www.philips.com/xitanium