

Xitanium LED drivers – linear HV non-isolated iXt

Xitanium 150W 0.2-0.7A 300V TD 230V iXt

February 2, 2015



Enabling future-proof LED technology

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

Reliability is enhanced by specific features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal de-rating. 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.

Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - adjustable output current enables operation of various LED solutions from different manufacturers or OEMs' own designs
- More robust LED drivers for industry applications
- Flicker and noise free dimming with all Touch and DALI LED drivers due to amplitude dimming (AM)

Product features

- Up to 95% efficiency, lowest cost and smallest dimensions
- Operating windows - output current can be adjusted via the Philips MultiOne configurator (TD drivers) or with a resistor outside the driver
- Reduced ripple current and thermal de-rating for increased reliability
- Multiple versions - DALI dimmable & programmable, 1-10V dimmable, and fixed-output;
- All T5 form factors but various lengths
- Longer life time (100khrs), improved surge and burst (4kV) and Tambient (-40°C to +60°C) specifications

Applications

- 17W, 36W and 75W LED drivers for office applications
- 110W and 150W LED drivers for industry, warehouses, public areas, distribution centers and shopping malls



PHILIPS

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V _{ac}	
Nominal input frequency	50...60	Hz	
Nominal input current	0.76	A	Input voltage 230 V _{ac} , full load
Nominal input power	160	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	94	%	Input voltage 230 V _{ac} , full load, maximum output power
Nominal input voltage DC	186...250	V _{dc}	
Nominal input current DC	0.88	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

Electrical output data

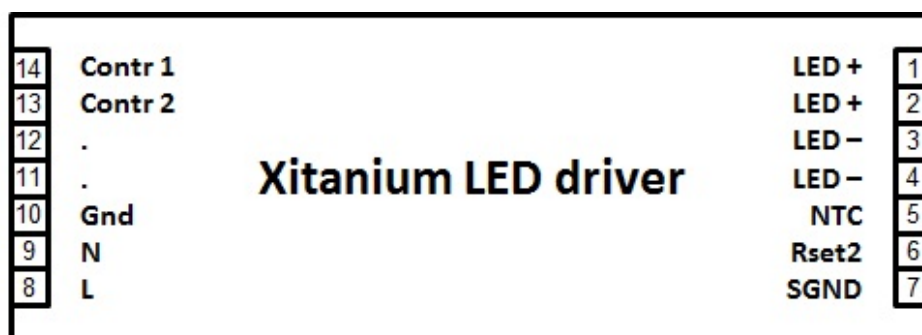
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	150...300	V _{dc}	
Output voltage max.	350	V	Peak voltage (RMS) at open load
Output current	0.2...0.7	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple	≤ 4	%	Ripple (100Hz) = peak / average
Output power	43...150	W	Full output
Galvanic isolation	No		Lamp to mains
Dynamic Resistance	0.25	Ω	typical

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Touch and DALI dimming		
Dimming range	1...100	%	lower-20°C and higher+50°C dimming to be set to 10%
Galvanic isolation	Basic		Control input to mains

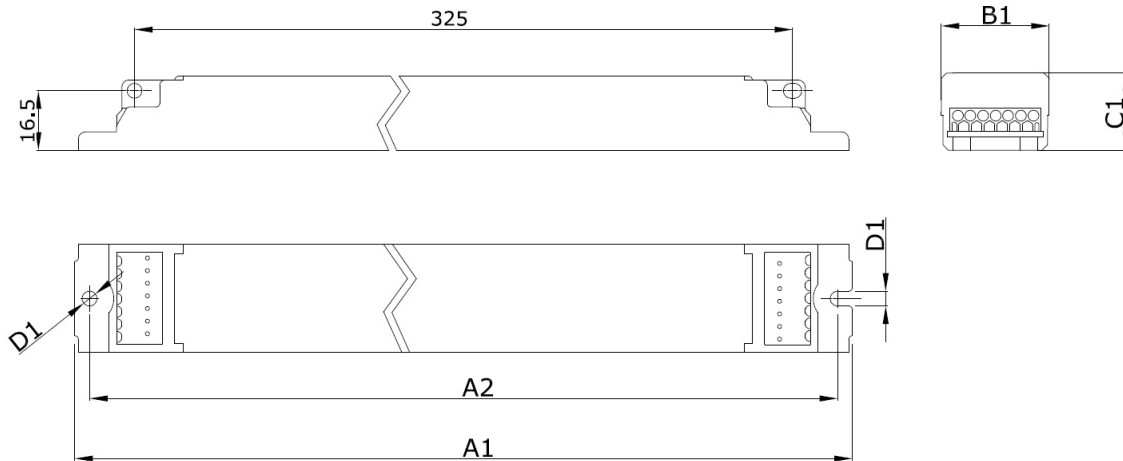
Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm ²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5	mm ²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Maximum cable length	4000	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	360	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	350	mm	
Weight	303	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+60	°C	
T _{case-max}	90	°C	lifetime 30khrs;
T _{case-life}	75	°C	lifetime 100khrs;
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	-40...+85	°C	
Relative humidity	5...95	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	hours	Measured temperature at T _c -point is T _{case-life} . Maximum failures = 10%
Mains switching cycles	> 100,000	switches	See Design-in guide for detailed explanation

Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	Rset2 and Programmable	See Design-in guide. Default output current: 0.2 A	
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	No		
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	No		
Suitable for fixtures with protection class	I		

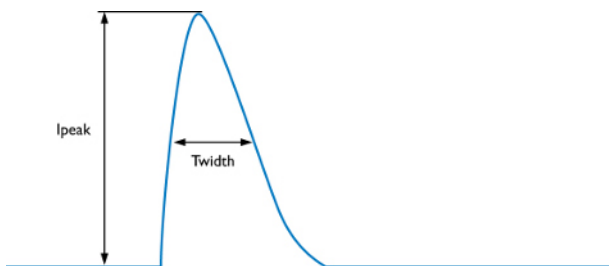
Certificates and standards

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

Additional information

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	4.8	A	Input voltage 230V
Inrush current T_{width}	2300	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 12	pcs	



Earth leakage current

Specification item	Value	Unit	Condition
Earth leakage current	0.4	mApk	LED module contribution not included

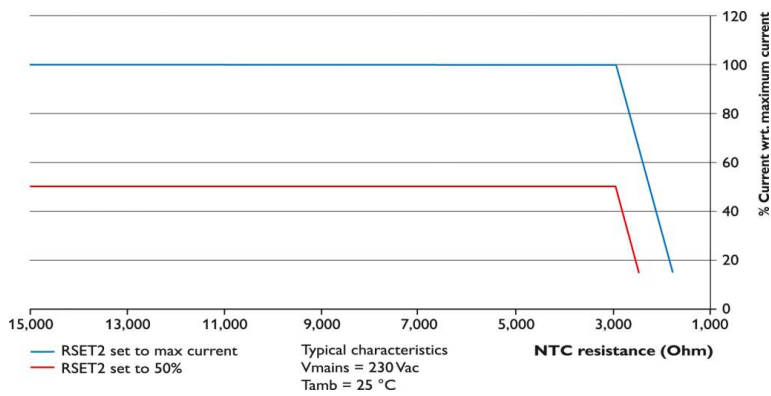
Surge capability

Specification item	Value	Unit	Condition
Mains surge capability (L-N)	2	kV	
Mains surge capability (L/N-Ground)	4	kV	
Control surge capability (L-N)	1	kV	
Control surge capability (L/N-Ground)	2	kV	

NTC thermistor

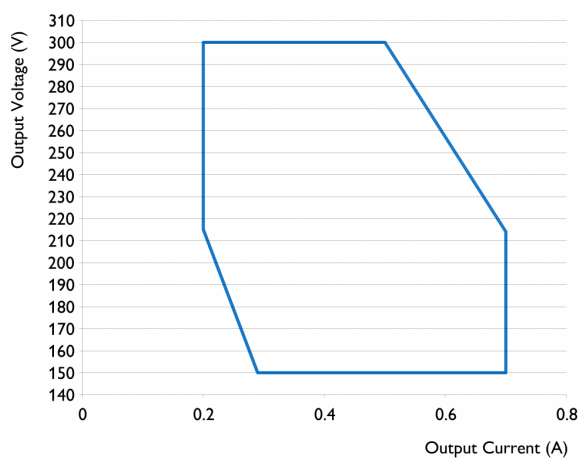
Specification item	Value	Unit	Condition
Advised NTC type	Vishay 15kOhm±2%NTC	238161554153	
	Murata NCP15XW153E03RC	NCP15XW153E03RC	With 390Ω in series
NTC resistance threshold	2966	Ω	Start limiting output current
Corresponding temperature	70	°C	With advised type 238161554153

NTC resistance versus output current

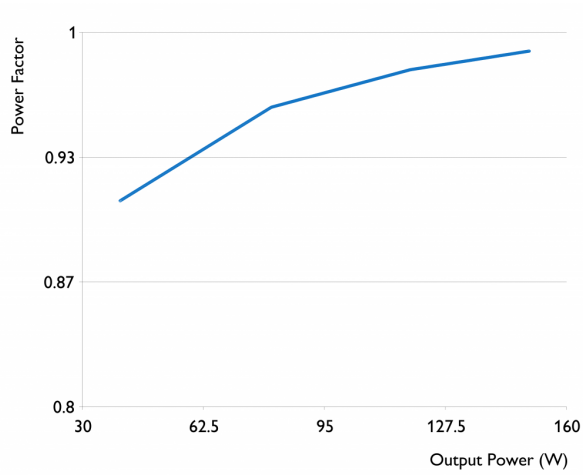


Graphs

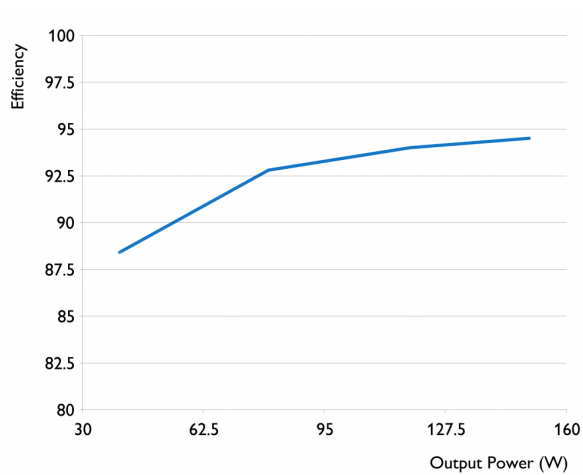
Operating window



Power factor versus output power



Efficiency versus output power



Logistical data

Specification item	Value
Product name	Xitanium 150W 0.2-0.7A 300V TD 230V iXt
Order code	871829176826500
Logistic code 12NC	9290 008 93306
EAN3	8718291768272
Pieces per box	12



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www.philips.com/xitanium