PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED drivers – linear HV non-isolated iXt

Xitanium 100W 0.15-0.5A 300V iXt 230V

9290 015 06606

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
- 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)

Features

- High 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
- Long life time, improved immunity and wide ambient temperature specifications

Application

- Offices and Industry
- Warehouses
- Public areas
- Distribution centers and shopping malls

August 2021

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	0.46	A	@ rated output power @ rated input voltage
Rated input power	106	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	94.1	%	@ rated output power @ rated input voltage @ max. Uout
Rated input voltage DC range	186…250	V_{dc}	Performance range
Input voltage AC range	198…264	V_{ac}	Operational range
Input frequency AC range	45…66	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Isolation input to output	No		

Electrical output data

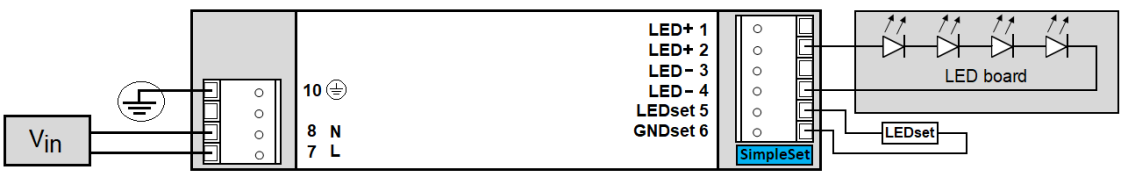
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	100…300	V_{dc}	
Output voltage max.	330	V	Maximum output voltage (rms)
Output current	0.15…0.5	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P_{st}^{LM}	≤ 0.04		
Output SVM	≤ 0.07		
Output power	28…100	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way. For longer wiring please double check EMI behavior of luminaire

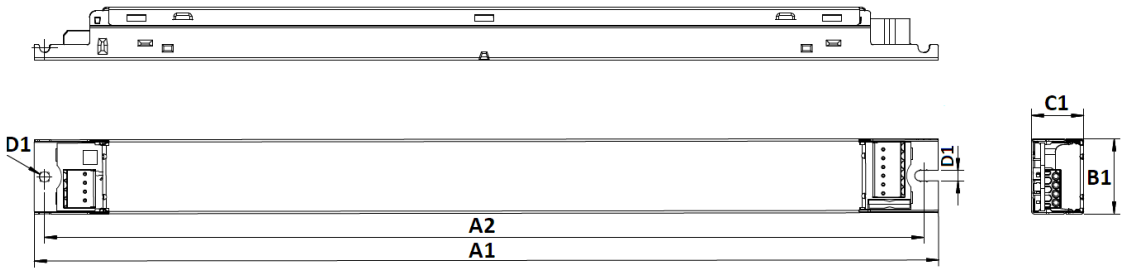


Insulation

Insulation per IEC61347-1	Input	Output+LEDset	Housing
Input		No	Basic
Output+LEDset	No		Basic
Housing	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	360	mm	
Mounting hole distance (A2)	350	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	270	gram	



Logistical data

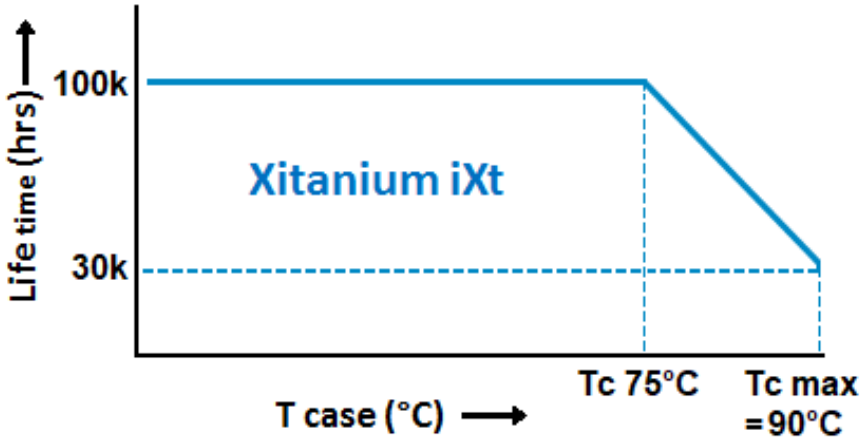
Specification item	Value
Product name	Xitanium 100W 0.15-0.5A 300V iXt 230V
EOC	871869555910000
Logistic code 12NC	9290 015 06606
EAN1 (GTIN)	8718695559100
EAN3 (box)	8718696555927
Pieces per box	24

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40…+60	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Starting Ambient temperature	≥ -40	°C	
Tcase-max	90	°C	Maximum temperature measured at T_{case}-point
Tcase-life	75	°C	Measured at T_{case}-point
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10…90	%	Non-condensing

Lifetime

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



Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+90	°C	
Relative humidity	5...95	%	Non-condensing

Programmable features

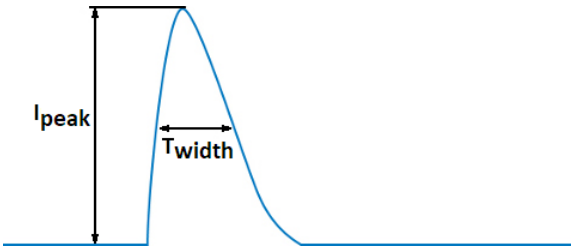
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset, SimpleSet	150 mA	
Constant Light Output (CLO)	No		
Corridor Mode	No		
DC emergency (DCemDim)	No		

Features

Specification item	Value		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		per IEC60598
Energy metering (DALI part 252)	No		
Diagnostics	No		

Inrush current

Specification item	Value	Unit	Condition
Inrush current	9	A	Input voltage 230V
Inrush peak width	65	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 26	pcs	Indicative value



Please refer to the driver design in guide if you use other MCB-types.

Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

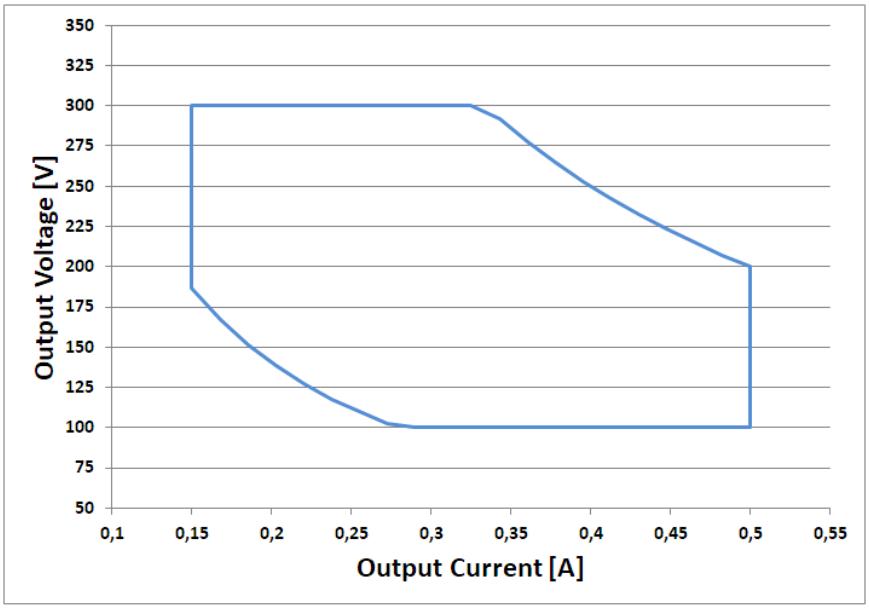
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	4	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

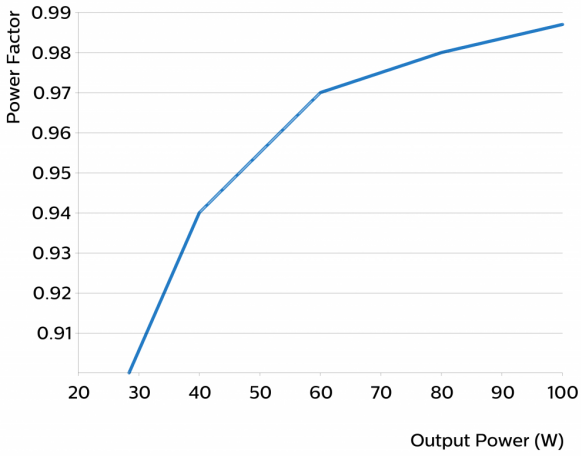
Specification item	Value
Approval marks	CCC / CE / EAC / EL / ENEC / RCM / TISI / UA
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

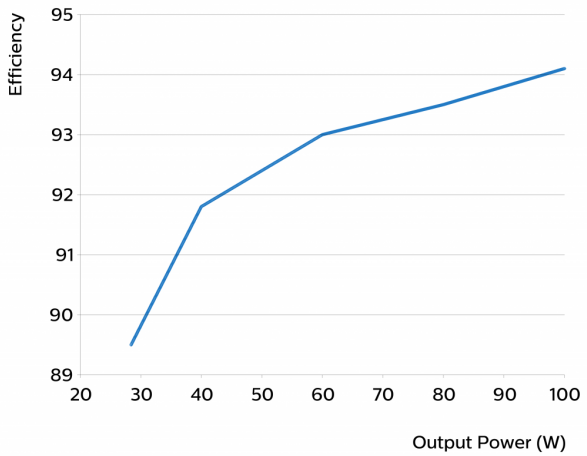
Operating window



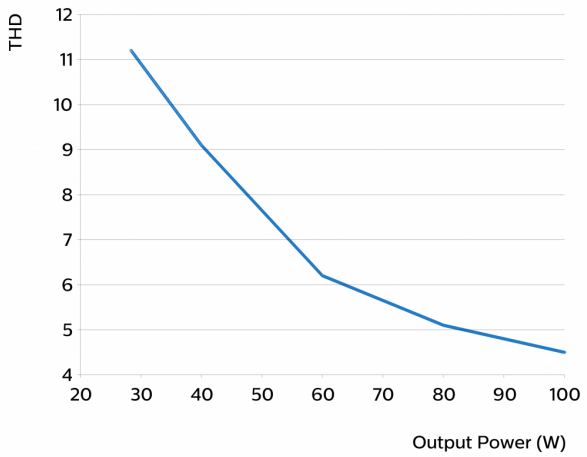
Power factor versus output power



Efficiency versus output power



THD versus output power



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