Xitanium

Datasheet

Xitanium LED drivers – linear HV non-isolated



Xitanium 100W 0.25-0.7A 220V 16 230V
9290 016 13406

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 OEM own designs
- Flicker and noise free dimming with all Touch and DALI LED drivers due to amplitude dimming (AM)

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 output 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
- For the iXt versions. longer life time (100khrs), improved surge and burst (4kV) and Tambient (-40°C to +60°C) specifications

Application

- 17W, 35W, 36W, 60W and 75W LED drivers for office applications
- 100W, 150W and 300W LED drivers for industry, warehouses, public areas, distribution centers and shopping malls

Logistical data

Specification item	Value
Product name	Xitanium 100W 0.25-0.7A 220V 16 230V
EOC	871869677463200
Logistic code 12NC	9290 016 13406
EAN1 (GTIN)	8718696774632
EAN3 (box)	8718696774649
Pieces per box	24
Weight	232 gram

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	50...60	Hz	Performance range
Rated input current	0.47	A	@ full output power @ rated input voltage
Rated input power	107.0	W	@ full output power @ rated input voltage
Power factor performance range	≥ 0.90 C		@ full operating window. See Graph@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ full operation window. See Graph
Efficiency	93.0	%	@ full output power @ rated input voltage @ max. Uout
Rated input voltage DC	186...250	V_{dc}	Performance range
Rated input current DC	≥ 0.47	A_{dc}	@ full output power @ 230Vdc input voltage
Input voltage AC	198...264	V_{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Input voltage DC	168...275	V_{dc}	Operational range
Isolation input to output	No		

Electrical output data

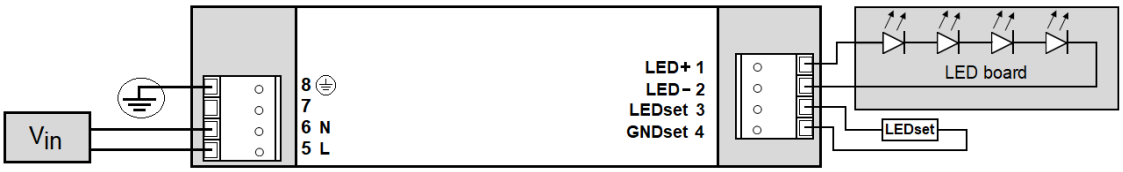
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...220	V_{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	250...700	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average. 60 .. 3000 Hz
Output current ripple HF	≤ 4	%	HF > 3000Hz
Output P_{st}^{LM}	≤ 0.1		
Output SVM	≤ 0.3		
Output power	28.0...100.0	W	

Control interfaces

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	mm² / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm² / 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

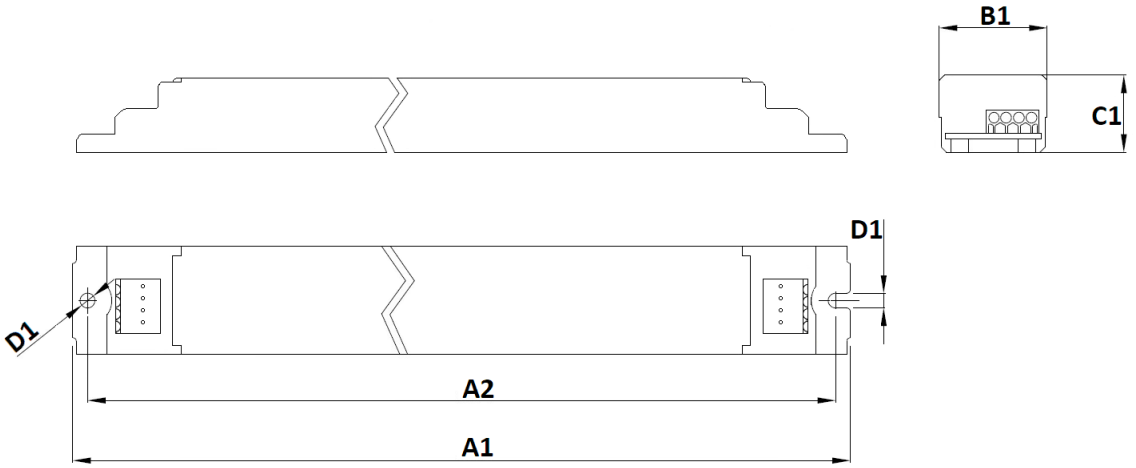


Isolation

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)	16	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	232	gram	

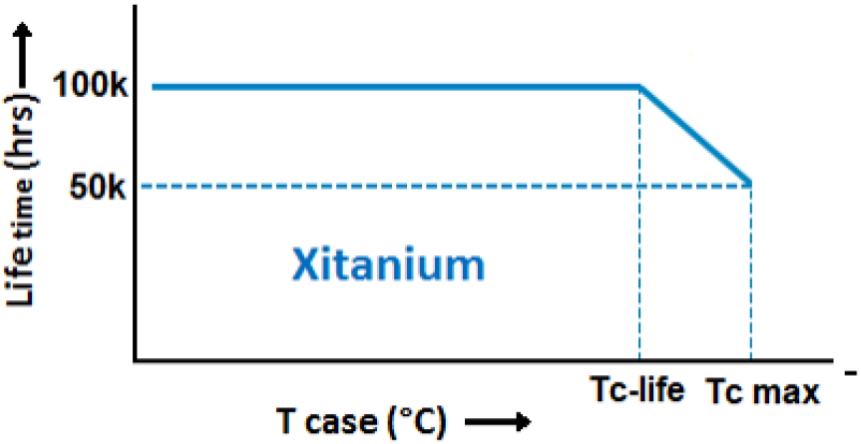


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+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	75	°C	lifetime 50khrs; measured at T_c-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	50,000	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



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
75	50000	hr	Temperature measured @Tc point
70	>50000	hr	
65	>50000	hr	

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

Programmable features

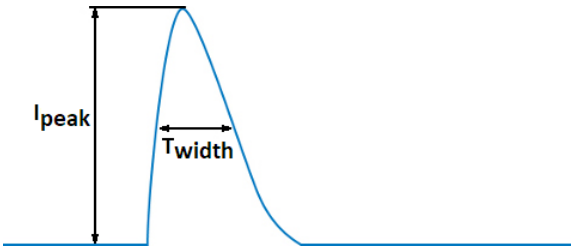
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset	250 mA	Set the output current via LEDset, do not leave open / short-circuit. See Design-In Guide for resistor value table.
LED Module Temperature Protection (MTP)	No		
Constant Light Output (CLO)	No		
Corridor Mode	No		
DC emergency (DCemDim)	No		Light output level in DC operation (EOFx) is 100%

Non-programmable 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 via Signify tool	No	

Inrush current

Specification item	Value	Unit	Condition
Inrush current	10	A	Input voltage 230V
Inrush peak width	62	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 22	pcs	Input voltage 230V



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

If several mini circuit breakers are used directly side-by-side (without distance pieces

a correction factor of 80% has to be applied to the rated current

Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.37	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

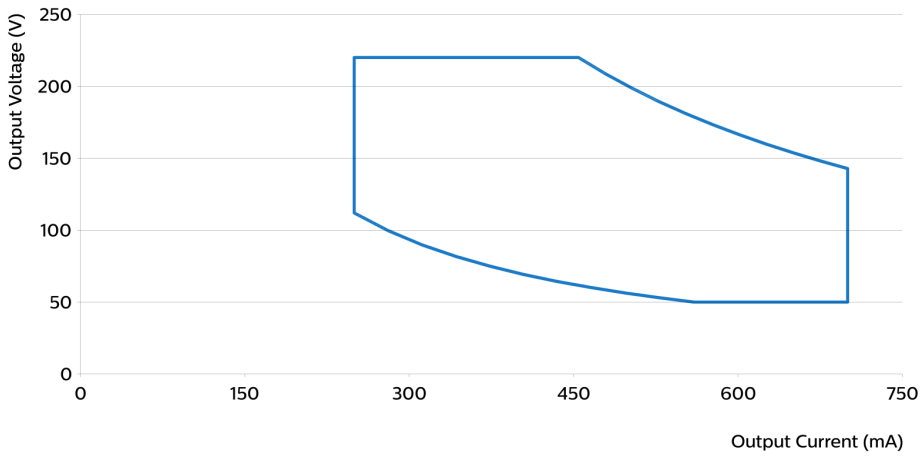
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

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

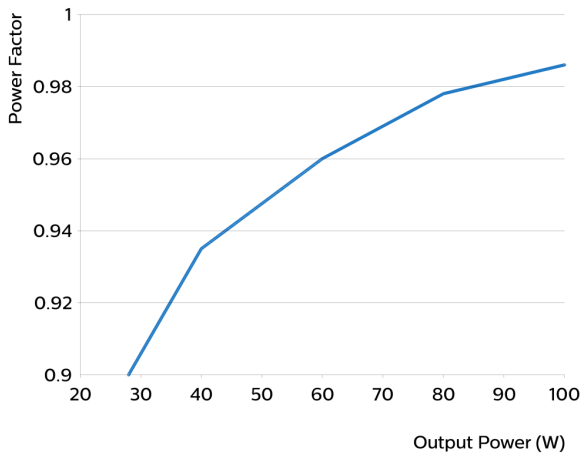
Graphs

Operating window

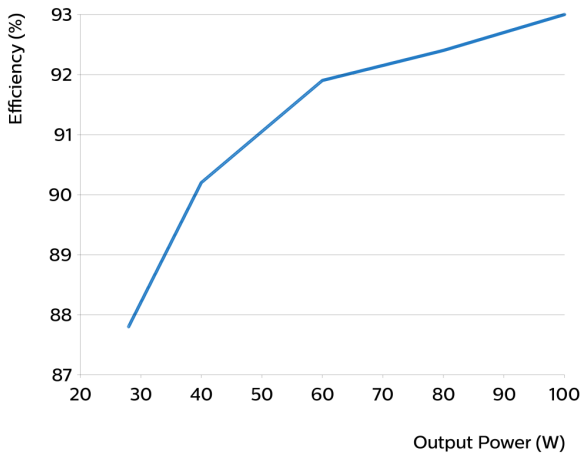


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 100W 0.25-0.7A 220V 16 230V	250	112	220	55
Xitanium 100W 0.25-0.7A 220V 16 230V	300	93	220	66
Xitanium 100W 0.25-0.7A 220V 16 230V	350	80	220	77
Xitanium 100W 0.25-0.7A 220V 16 230V	400	70	220	88
Xitanium 100W 0.25-0.7A 220V 16 230V	450	62	220	99
Xitanium 100W 0.25-0.7A 220V 16 230V	500	56	200	100
Xitanium 100W 0.25-0.7A 220V 16 230V	550	50	181	100
Xitanium 100W 0.25-0.7A 220V 16 230V	600	50	166	100
Xitanium 100W 0.25-0.7A 220V 16 230V	650	50	153	100
Xitanium 100W 0.25-0.7A 220V 16 230V	700	50	142	100

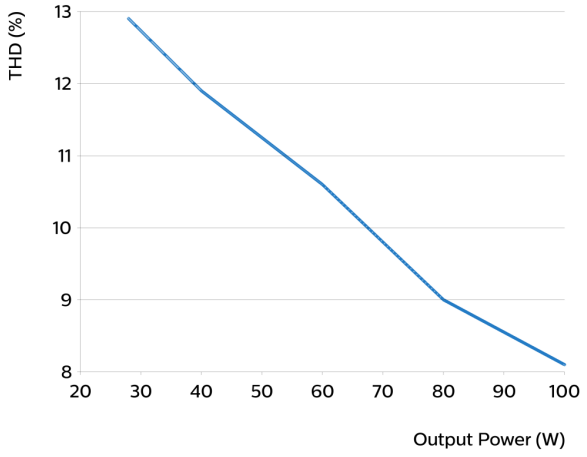
Power factor versus output power



Efficiency versus output power



THD versus output power



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