PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED drivers – linear LV isolated

Xitanium 23W 0.57A 40V 220V

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 downlighting and spot/accent lighting.

High reliability underpinned by 5 year warranty, 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

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

Features

- Simpler approval process and easy design-in
- 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 derating for increased reliability
- Power ratings: 36W, 55W and 75W
- DALI dimmable & programmable, 1-10V dimmable, and fixed-output versions
- All T5 form factors but various lengths

Application

- Offices and industry

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V_{ac}	performance range
Nominal input frequency	60	Hz	
Nominal input current	0.12	A	@230V @ full load
Input voltage	220	V_{ac}	
Nominal input power	26.5	W	@230V @ full load
Power factor	>= 0.9		@ full load. See graph.
Total harmonic distortion	<= 30	%	@ full load. See graph.
Efficiency	85	%	@230V @ full load
Input voltage AC	202...233	V_{ac}	Operational range
Input frequency AC	54...66	Hz	Maximum permissible range

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	28...40	V_{dc}	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.541...0.599	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	<= 30	%	Ripple = peak / average
Output power	15.1...24	W	Full output

Electrical data controls input

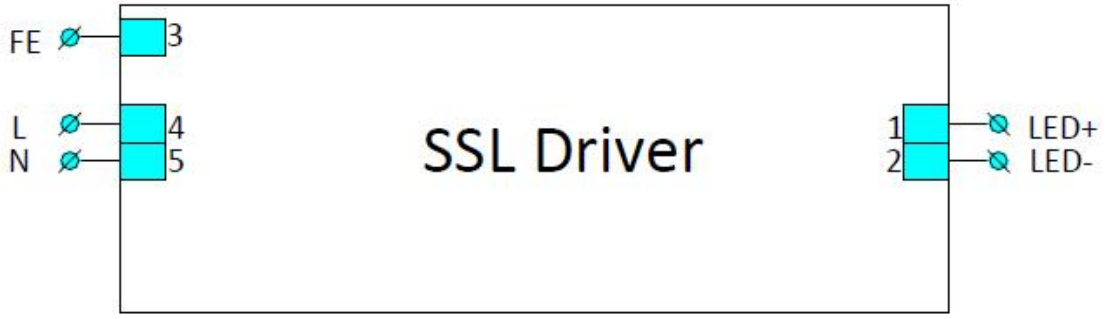
Specification item	Value	Unit	Condition
Control method	Fixed		

Logistical data

Specification item	Value
Product name	Xitanium 23W 0.57A 40V 220V
Order code	
Logistic code 12NC	9290 009 58206
EAN3	
Pieces per box	20

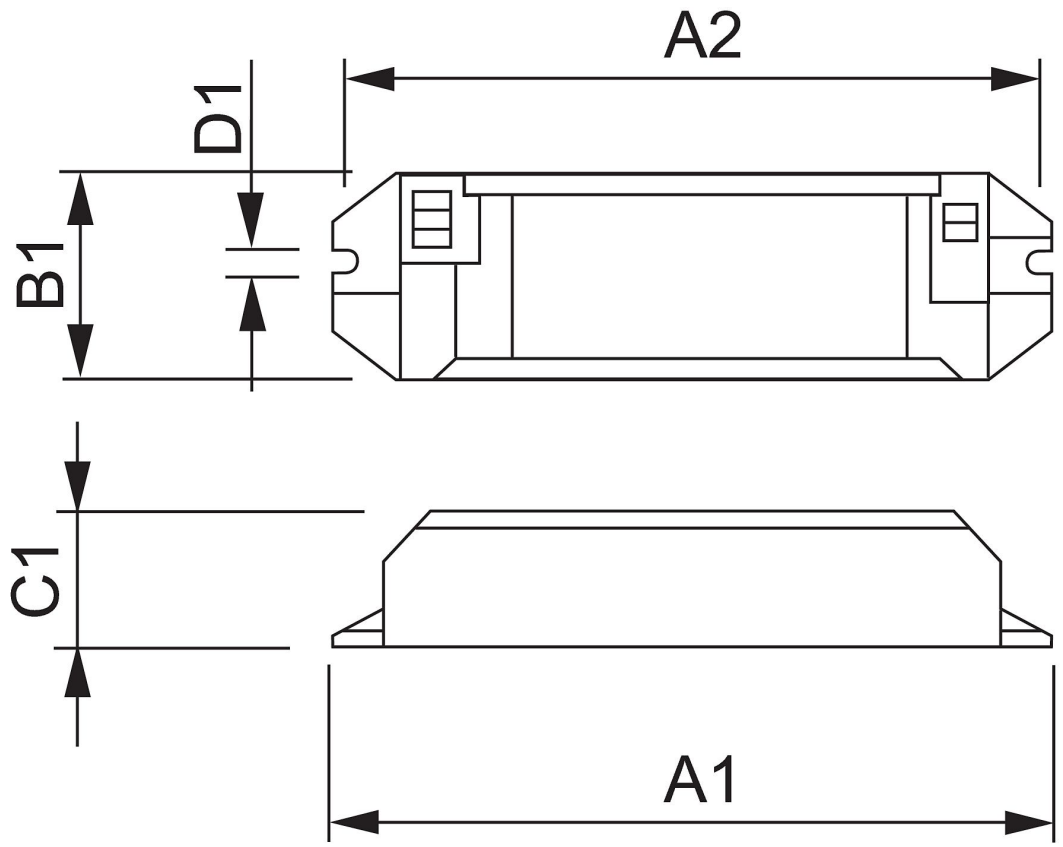
Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...1.5	mm^2	WAGO250 (3.5 mm), solid wire
	16...24	AWG	WAGO250 (3.5 mm), solid wire
Input wire strip length	8.5...9.5	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	1000	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	150	mm	
Width (B1)	40	mm	
Height (C1)	28	mm	
Fixing hole diameter (D1)	4.2	mm	
Fixing hole distance (A2)	136	mm	
Weight	78	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	ºC	
Tcase-max	75	ºC	Maximum temperature measured at T_c-point
Tcase-life	65	ºC	Measured at T_c-point
Maximum housing temperature	130	ºC	In case of a failure
Relative humidity	10...90	%	Non-condensing

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	ºC	
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%
Mains switching cycles	> 50,000	switches	See Design-in guide for detailed explanation

Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	No	See Design-in guide.	Default output current: <= 570 mA
LED module temperature derating (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDIM)	No		
Corridor mode	No		
Energy metering	No		
Diagnostics	No		

Features

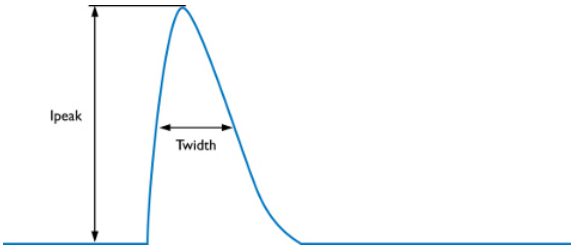
Specification item	Value	Remark	Condition
Open load protection	Yes		
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

Certificates and standards

Specification item	Value
Approval marks	CB / HEE / KC
Ingress Protection classification	20

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	7	A	Input voltage 220V
Inrush current T_{width}	70	µs	Input voltage 220V, measured at 50% I_{peak}
Drivers / MCB 16A type B	<= 80	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

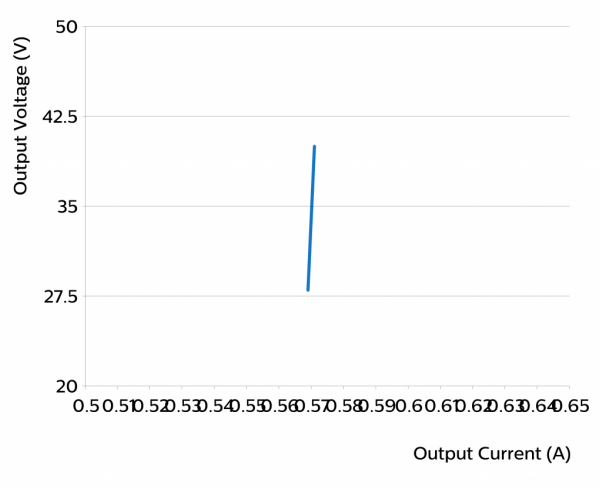
Specification item	Value	Unit	Condition
Typical touch current	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

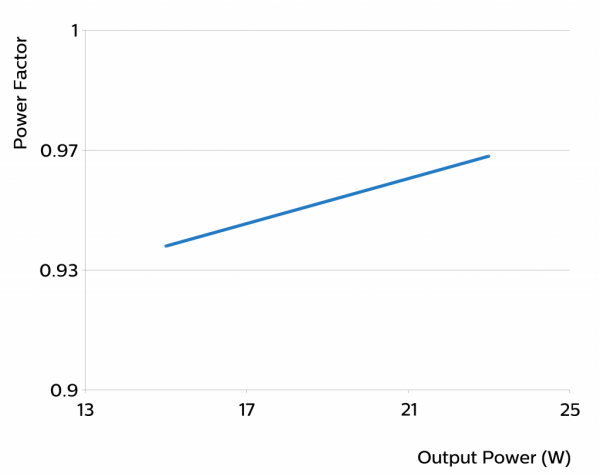
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

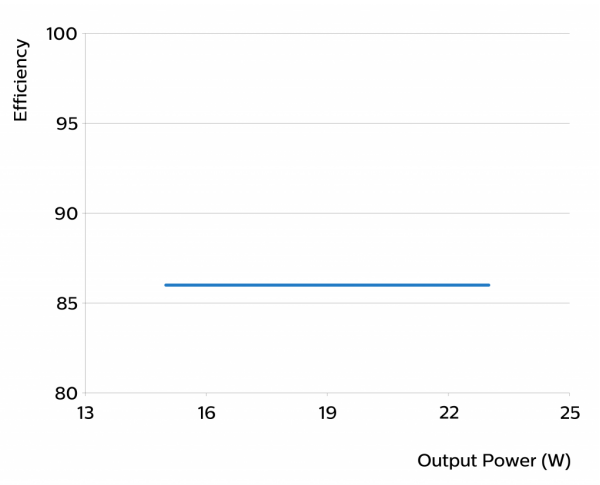
Operating window



Power factor versus output power



Efficiency versus output power



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