PHILIPS

Xitanium

LED driver

Datasheet

LED drivers – mini

Xitanium 36W/m 0.3-1.05A 48V 230V

Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications. Reliability is enhanced by 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 challenges for OEMs. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to an adjustable output current. Application-oriented operating windows offer stable lumen output and light quality levels that specifiers and architects demand. 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

Features

- Operating windows - output current can be adjusted via the Philips MultiOne configurator ('TD' drivers) or with a resistor outside the driver
- Multiple versions - DALI dimmable & programmable, trailing-edge dimmable, fixed-current/fixed-output trailing-edge dimmable, fixed-output, and fixed-current/fixed-output
- Power ratings: 10-110 W
- Choice of housing designs - linear housing for tracks in '3 in 1' in design, conventional HID housings for down- and spotlighting, and SH housing for independent use with strain relief and loop through

Application

- Retail

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Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220…240	V_{ac}	performance range
Nominal input frequency	50…60	Hz	
Nominal input current	0.2	A	@230V @ full load
Input voltage	230	V_{ac}	
Nominal input power	42	W	@230V @ full load
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	88	%	@230V @ full load
Input voltage AC	202…254	V_{ac}	Operational range
Input frequency AC	47.5…63	Hz	Operational range
Isolation Input to Output	SELV		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24…48	V_{dc}	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.3…1.05	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output power	11…36	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Logistical data

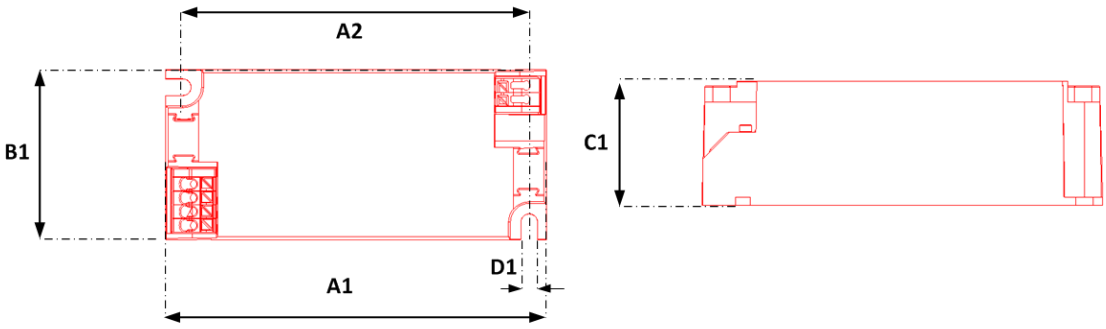
Specification item	Value
Product name	Xitanium 36W/m 0.3-1.05A 48V 230V
Order code	
Logistic code 12NC	9290 008 81806
EAN3	
Pieces per box	20

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2…1.5	mm^2	WAGO250 (3.5 mm), solid / stranded wire
	16…24	AWG	WAGO250 (3.5 mm), solid / stranded wire
Input wire strip length	8.5…9.5	mm	
Output wire cross-section	0.2…0.5	mm^2	WAGO250 (2.5 mm), solid wire
	20…24	AWG	WAGO250 (2.5 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)	97.2	mm	
Width (B1)	43	mm	
Height (C1)	30	mm	
Fixing hole diameter (D1)	4.2	mm	
Fixing hole distance (A2)	88.5	mm	
Weight	95	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20…+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°C	Measured at T_{case}-point
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	-25…+85	°C	
Relative humidity	5…95	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at T_{case}-point is T_{case}-life. Maximum failures = 10%

Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	Rset2	See Design-in guide.	Default output current: = 1050 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

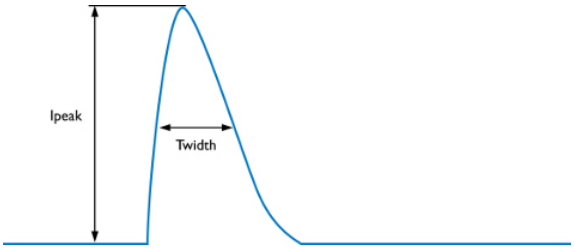
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I and II		per IEC60598

Certificates and standards

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	18.6	A	Input voltage 230V
Inrush current T_{width}	240	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 34	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

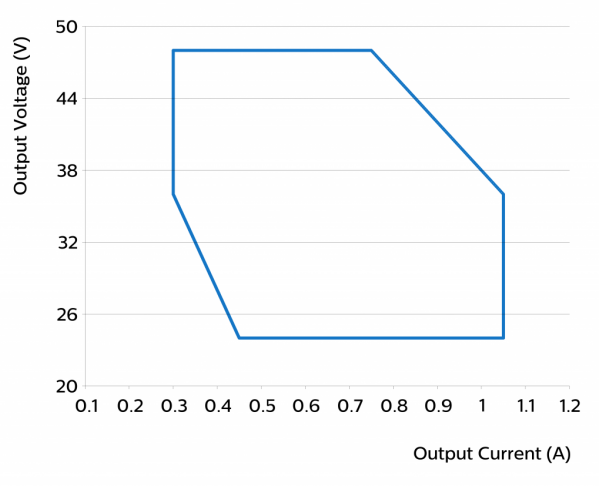
Specification item	Value	Unit	Condition
Typical touch current	< 0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

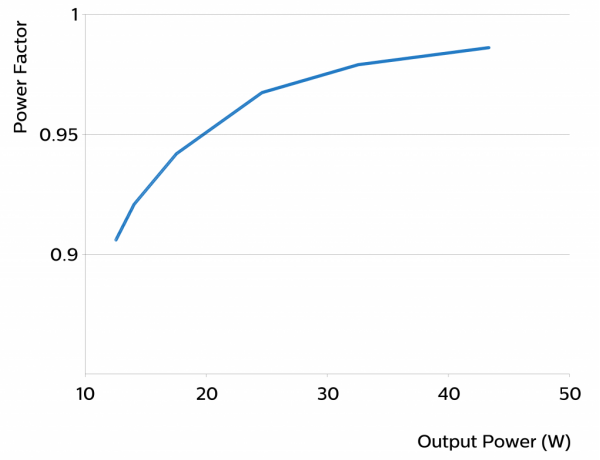
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
DALI surge immunity (comm. mode)		kV	DALI - L/N/Ls acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

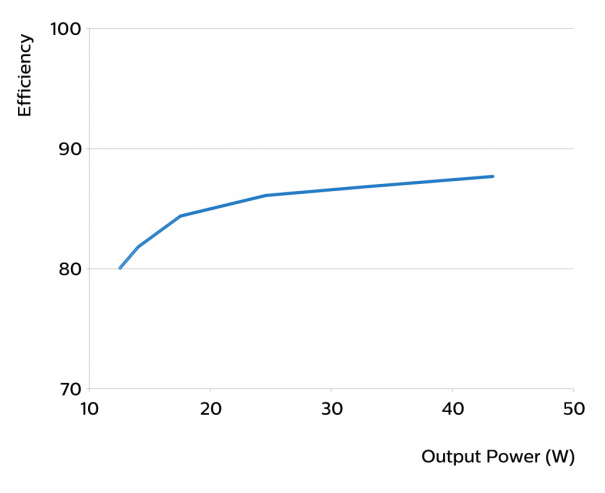
Operating window



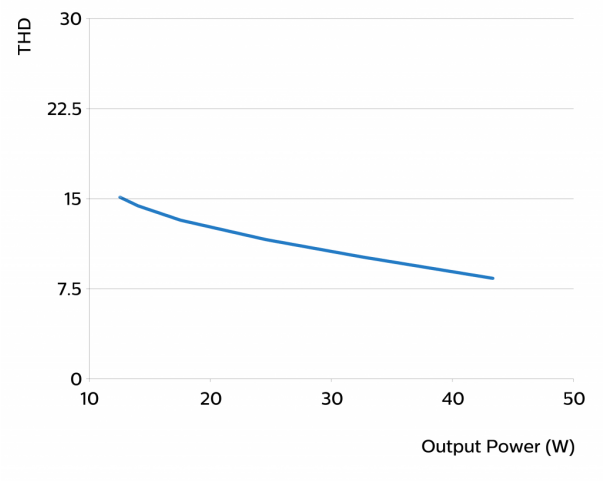
Power factor versus output power



Efficiency versus output power



THD versus output power



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