PHILIPS

Xitanium

LED driver

Xitanium LED drivers – linear HV non-isolated

Xitanium 35W 0.08-0.35A 220V TD11 230V

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

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	202…254	V_{ac}	Performance range
Rated input voltage	230	V_{ac}	
Rated input frequency range	47…63	Hz	Performance range
Rated input current	0.168	A	@ rated output power @ rated input voltage
Max. input current	0.176	A	@ rated output power @ minimum performance input voltage
Rated input power	38.8	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	≥ 90	%	@ rated output power @ rated input voltage
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
Standby Power (TD)	0.25	W	Measured at 230Vac according to IEC62442-3
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	Peak voltage at open load
Output current	0.08…0.35	A	Full output current setting
Output current min dimming	2	mA	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 4	%	
Output power	10…35	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	DALI		
Dimming range	1…100	%	>80mA 1% dimming; < 80mA min. current 3mA
Galvanic Isolation	Basic		

Logistical data

Specification item	Value
Product name	Xitanium 35W 0.08-0.35A 220V TD11 230V
Order code	8718696819630
Logistic code 12NC	9290 016 27706
Pieces per box	24

Wiring & Connections

| Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5	mm²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Dimming wire cross-section	0.5...1.5	mm²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Dimming wire strip length	8...9	mm	
Maximum cable length	2000	mm	Total length of wiring including LED module, one way

Insulation

Insulation	input	output	PE	DALI
input		Non	Basic	Basic
output	Non		Basic	Basic
PE	Basic	Basic		Basic
DALI	Basic	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	280	mm	
Width (B1)	30	mm	
Height (C1)	11	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	270	mm	
Weight	180	gram	
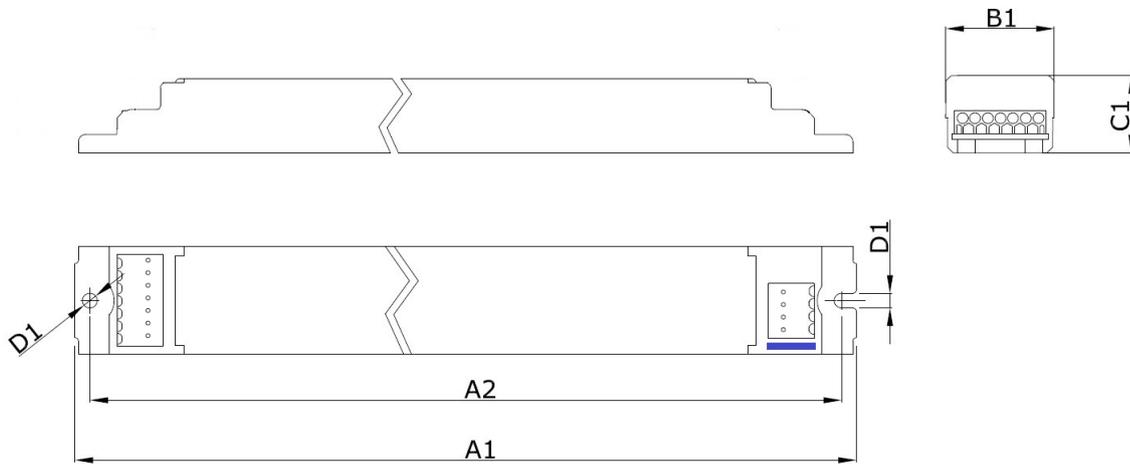
Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+60	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	85	°C	lifetime 50khrs;
Tcase-life	75	°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	100,000	hours	Measured temperature at T$_{case}$-point is T$_{case}$-life. Maximum failures = 10%
Mains switching cycles	> 50,000	switches	See Design-in guide for detailed explanation
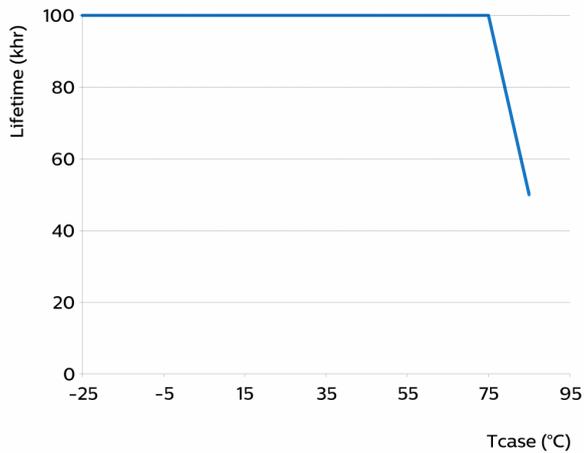
Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	LEDset, Programmable, SimpleSet	See Design-in guide.	Default output current: ≤ 80 mA
LED module temperature derating (MTP)	No		
Constant Lumen Over Lifetime (CLO)	Yes		
DC emergency dimming (DCemDIM)	Yes		Default: Current output decreased to 15%
Corridor mode	Yes	See Design-in guide	Default: T1=55s, T2=12s, T3=30min
Energy metering	Yes		Accuracy 10%
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		per IEC60598
Coded Light	No		

Certificates and standards

Specification item	Value
Approval marks	CE / ENEC
Ingress Protection classification (IP)	20

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	20	A	Input voltage 230V
Inrush current T_{width}	216	μs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	pcs	
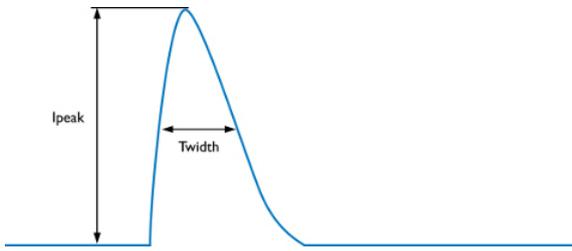
MCB	Rating	Relative number of LED drivers
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%

Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical protective conductor current (ins. Class I)	< 0.5	mA rms	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
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

Operating window
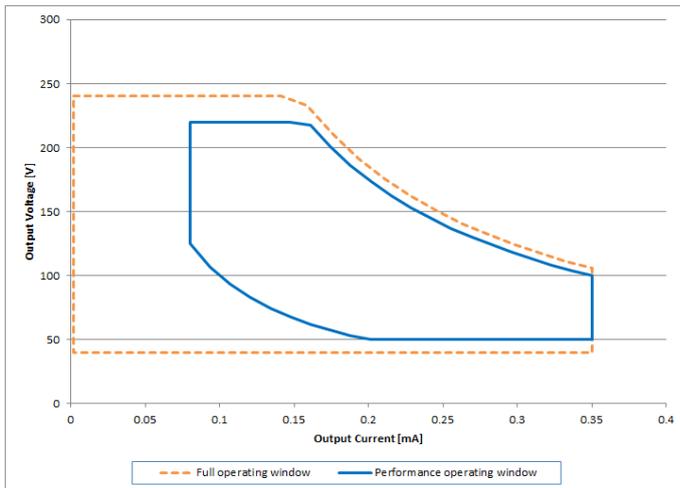
Power factor versus output power
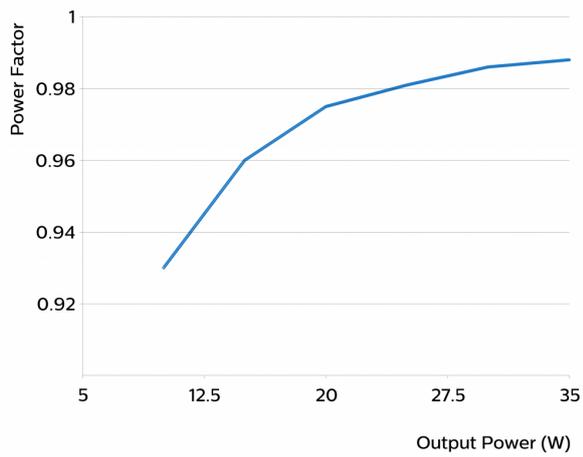
Efficiency versus output power
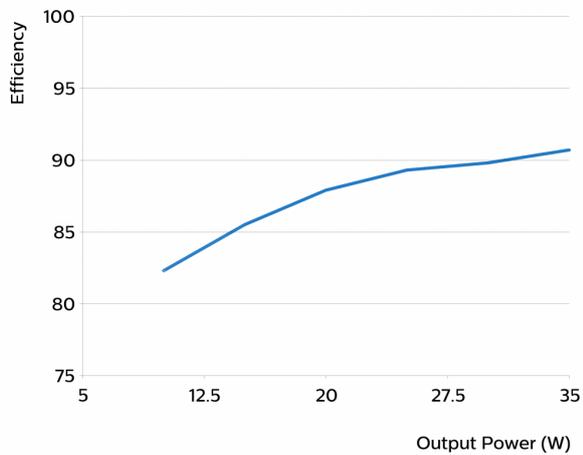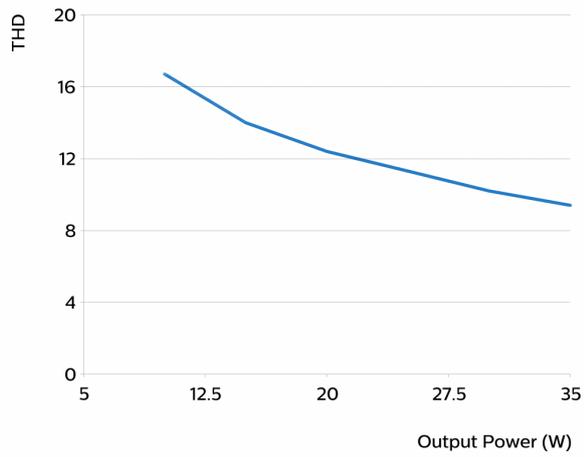
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