



## Datasheet

# Xitanium LED drivers – linear LV isolated

## Xitanium 36W 0.3-1A 54V TD 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 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 <sub>ac</sub>	performance range
Nominal input frequency	50...60	Hz	
Nominal input current	0.2	A	@230V @ full load
Input voltage	230	V <sub>ac</sub>	
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	89	%	@230V @ full load
Nominal input voltage DC	186...250	V <sub>dc</sub>	
Nominal input current DC	0.2	A	Input voltage 230 V <sub>dc</sub> , full load
Input voltage AC	202...254	V <sub>ac</sub>	Operational range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Input voltage DC	168...275	V <sub>dc</sub>	Maximum permissible range
Standby power	0.3	W	
Isolation Input to Output	SELV		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	27...54	V <sub>dc</sub>	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.3...1	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 4	%	
Output power	10...36	W	Full output

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Touch and DALI dimming		
Dimming range	1...100	%	>300mA 1% dimming; < 300mA min. current 7mA

## Logistical data

Specification item	Value
Product name	Xitanium 36W 0.3-1A 54V TD 230V
Order code	871869655264300
Logistic code 12NC	9290 015 03606
EAN3	
Pieces per box	24

## Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm <sup>2</sup>	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5	mm <sup>2</sup>	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Maximum cable length	4000	mm	Total length of wiring including LED module, one way

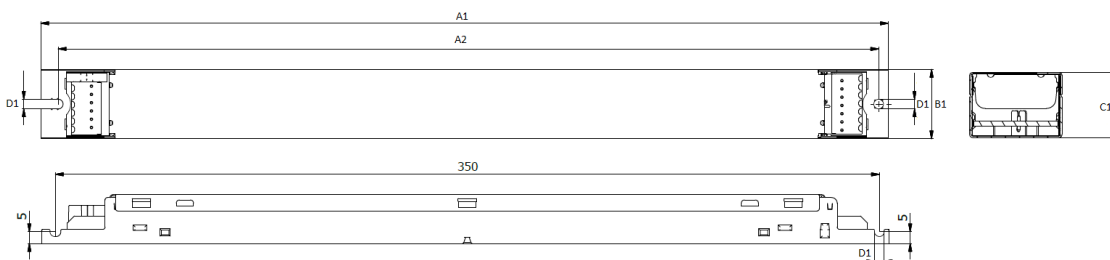


## Insulation

Insulation	input	output	DALI
input		SELV	Basic
output	SELV		Double
DALI	Basic	Double	

## Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	360	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	350	mm	
Weight	180	gram	



## Operational temperatures and humidity

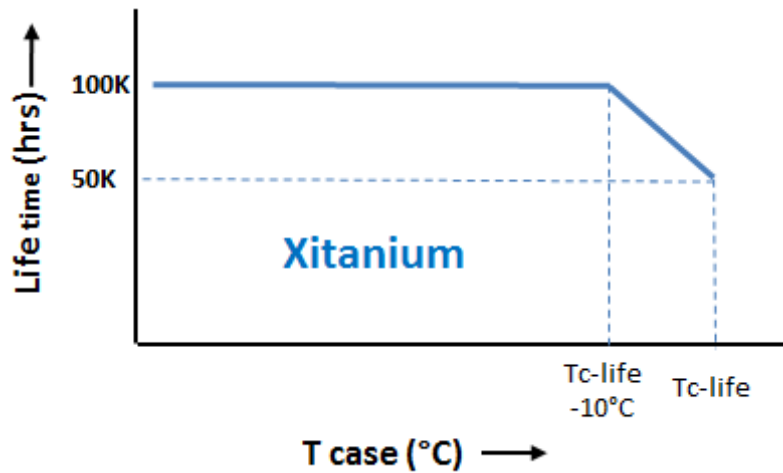
Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded.
T <sub>case-max</sub>	75	°C	Maximum temperature measured at T <sub>case-point</sub>
T <sub>case-life</sub>	75	°C	Measured at T <sub>case-point</sub>
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)	LEDset and SimpleSet	See Design-in guide.	Default output current: $\leq 300$ mA
Constant Lumen Over Lifetime (CLO)	Yes		
DC emergency dimming (DCemDIM)	Yes		Current output decreased to 15%
Corridor mode	Yes		
Energy metering	Yes		
Diagnostics	Yes		
Adjustable Light Output ALO	Yes		

## Features

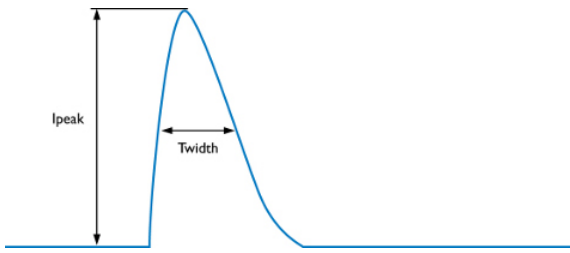
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I and II		per IEC60598

## Certificates and standards

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

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	26	A	Input voltage 230V
Inrush current $T_{width}$	140	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 24$	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

Specification item	Value	Unit	Condition
Typical touch current	0.4	mA peak	Acc. IEC61347-1. LED module contribution not included

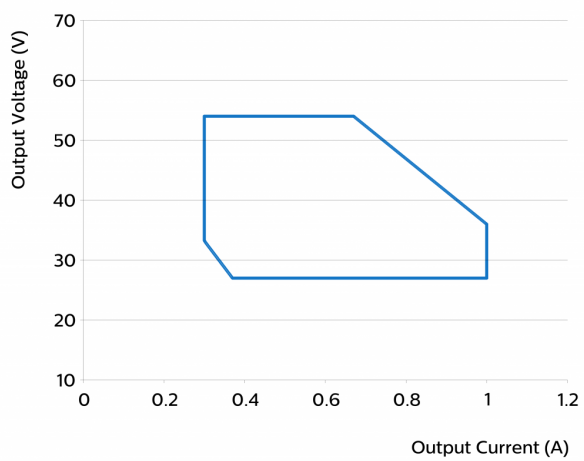
## Surge immunity

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
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

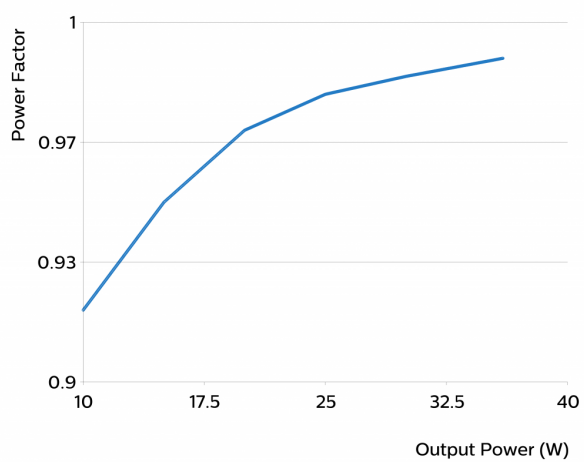
### Operating window

---



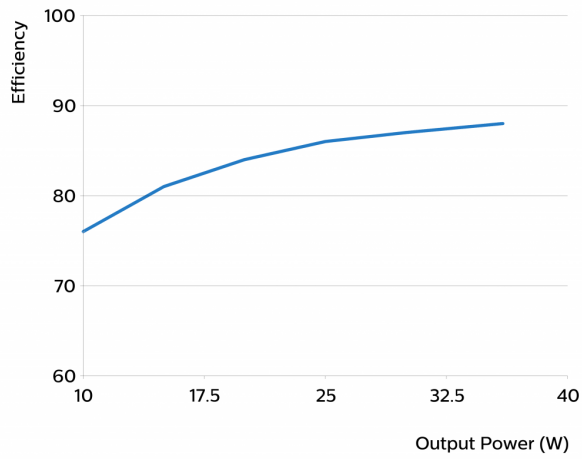
### Power factor versus output power

---



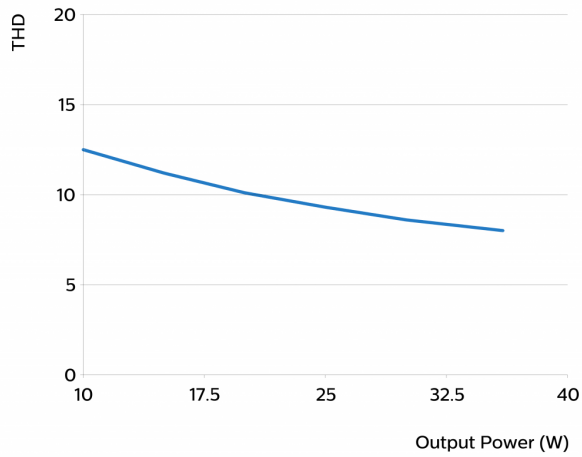
## Efficiency versus output power

---



## THD versus output power

---



©2016 Philips Lighting B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights. Data subject to change.

Date of release: June 28, 2016

[www.philips.com/technology](http://www.philips.com/technology)