

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LED drivers - linear HV non-isolated - Sensor Ready

Xitanium 60W 0.08-0.35A 220V SR 230V

### Simplifying connectivity solutions with sensors and controls

Philips Sensor Ready drivers are ideal for use with sensors and building management systems. With its integrated power supply based on DALI 2.0 it is easy to power sensors and wireless modules directly from the driver. It also features integrated energy metering for use in building management systems from the SR Certified partner program. This program with key building management and sensor vendors ensures that certified sensors and controllers work seamlessly with the Xitanium SR driver.

#### Benefits

- Sensor Ready concept, ideal for use with sensors & building management systems
- Integrated power supply over DALI 2.0 to power sensors and wireless radios directly from the driver, open spec for all OEMs, simplifying integration of sensors into the luminaire
- Integrated power metering for use in building management systems from certified partners

#### Features

- LED specs comparable to TD non-isolated drivers
- ~15V DALI current source power supply, max 0.5 W for sensors and radios
- Highly accurate power metering, accessible over DALI

#### Application

- office

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.3	A	@ rated output power @ rated input voltage
Rated input power	66	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	≥ 93	%	@ rated output power @ rated input voltage
Rated input voltage DC range	186...250	V <sub>dc</sub>	Performance range
Rated input current DC range	≤ 0.36	A <sub>dc</sub>	Performance range
Input voltage AC range	202...254	V <sub>ac</sub>	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Input voltage DC range	168...275	V <sub>dc</sub>	Operational range. In case of DC operation, in series with the mains input, the driver must be equipped with an AC/DC fuse. See application note #03471
Standby Power (TD)	0.3	W	
Isolation input to output	No		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...220	V <sub>dc</sub>	
Output voltage max.	250	V	Peak voltage at open load
Output current	0.08...0.35	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 4	%	
Output power	17...60	W	Full output

## Electrical data controls input

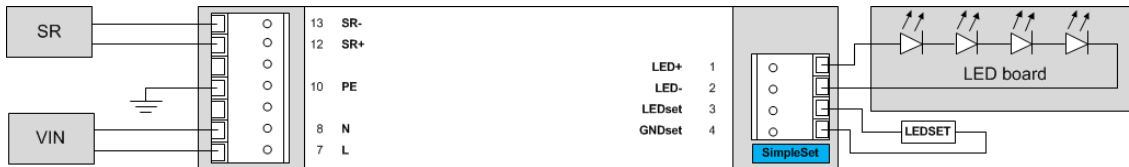
Specification item	Value	Unit	Condition
Control method	SR		
Dimming range	1...100	%	lower-25°C and higher+50°C dimming to be set to 10%
Galvanic Isolation	Double		

## Logistical data

Specification item	Value
Product name	Xitanium 60W 0.08-0.35A 220V SR 230V
Order code	871869669816700
Logistic code 12NC	9290 015 40506
EAN3	8718 6966 98167
Pieces per box	24

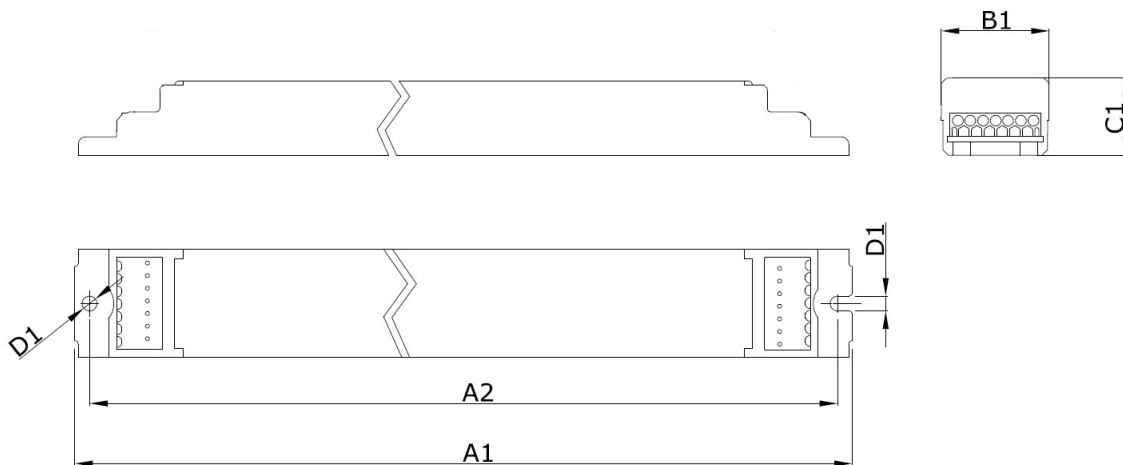
## Wiring & Connections

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	2000	mm	Total length of wiring including LED module, one way



## 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	284	gram	



## Operational temperatures and humidity

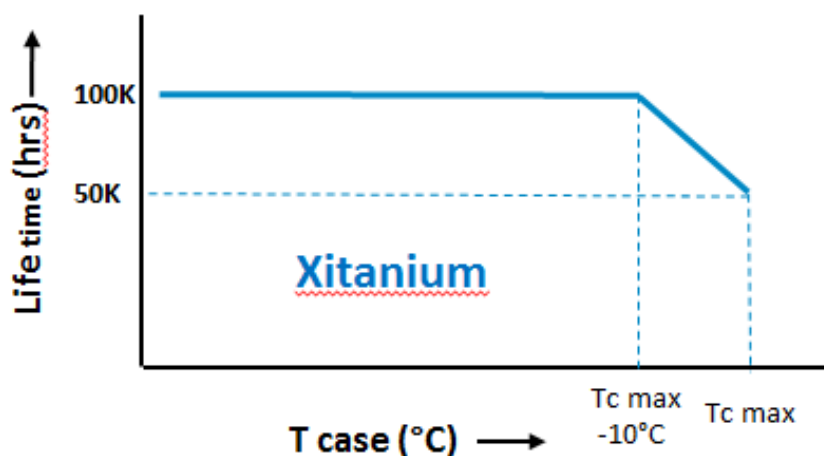
Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	75	°C	lifetime 30khrs;
Tcase-life	65	°C	lifetime 100khrs; Measured at Tc-point
Maximum housing temperature	110	°C	In case of a failure
Relative humidity	10...90	%	Non-condensing

## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+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%
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: $\leq 80\ mA$
LED module temperature derating (MTP)	Yes		
Constant Lumen Over Lifetime (CLO)	Yes		
DC emergency dimming (DCemDIM)	Yes		Current output decreased to 15%
Corridor mode	No		
Energy metering	Yes		Accuracy Accuracy = 4%
Diagnostics	Yes		

## Features

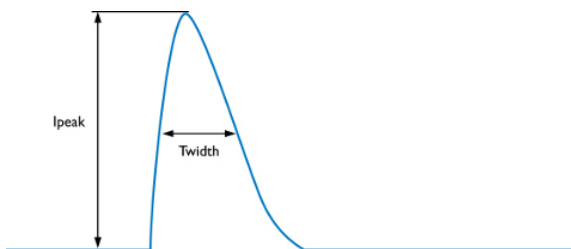
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

## Certificates and standards

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

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	21	A	Input voltage 230V
Inrush current $T_{width}$	280	$\mu s$	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 21$	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%

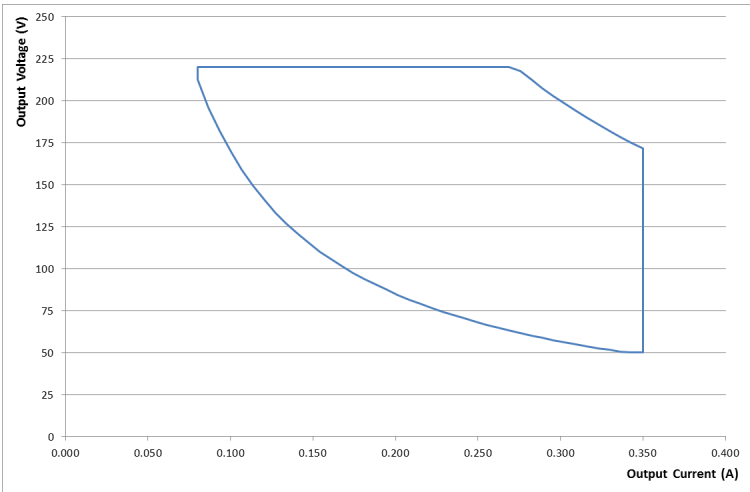
## Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical touch current (ins. Class II)	< 0.5	mA peak	Acc. IEC61347-1. LED module contribution not included

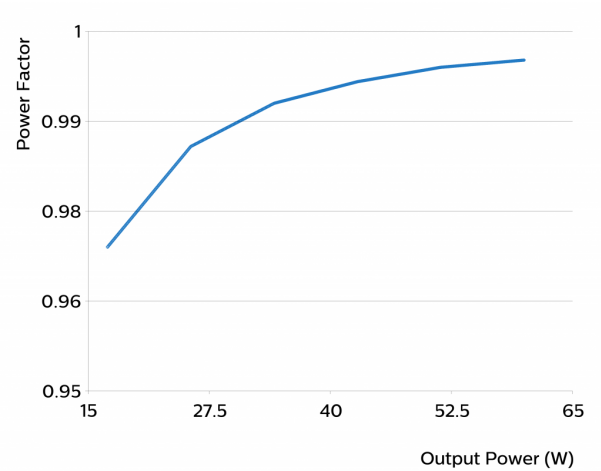
## Surge immunity

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

Operating window

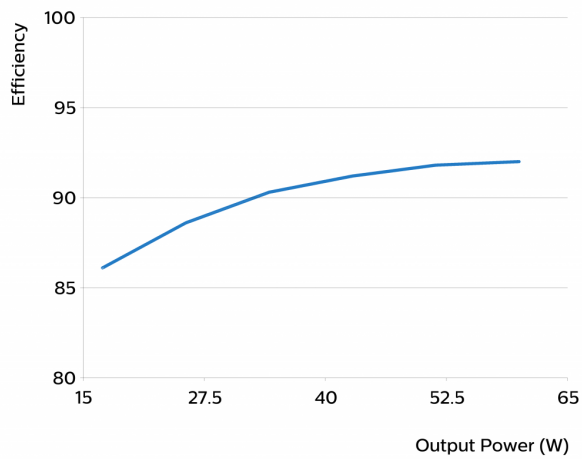


Power factor versus output power



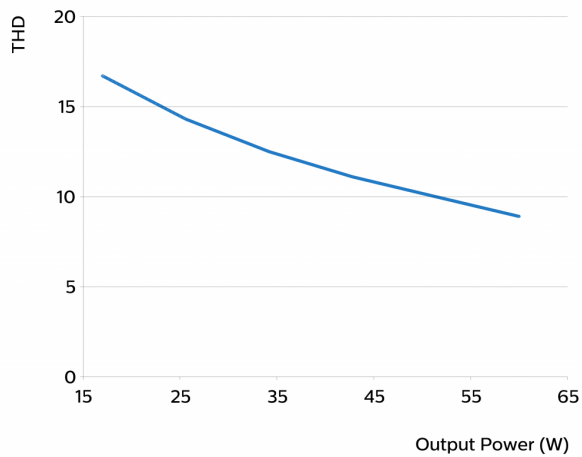
## Efficiency versus output power

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## THD versus output power

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## Notes

Standby Power: typical 0.3W, max 0.5W (No load on SR), max 1W (250mW load on SR).



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