

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium Spot / Downlight LED Drivers Single Current

Xitanium 10W 0.5A 20V TE SC 230V

9290 014 21206

Single current LED drivers for enhanced lighting performance

Reliable and cost effective Xitanium single current drivers enable luminaires to deliver high quality light over an industry standard lifetime of 50,000 hours. Specifically designed with low ripple current to address luminaire flickering issues - making this optimal for camera, scanner, and barcode operation. These drivers provide assured reliability, safety, and long-term energy savings.

#### Benefits

- Designed to operate solutions based on Chip On Board (COB) or mid-power LEDs
- Various power wattage Drivers that are related to the lumen packages/applications
- Independent-version housing design for stand-alone installations

#### Features

- Small, compact dimensions
- Fixed, SELV output
- Low ripple, low THD
- Specific current and voltage
- Fast Time to Market
- 50,000 hours lifetime

#### Application

- Public buildings (airports, cinemas, theaters, exhibition halls)
- Retail (supermarkets, shops)
- 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	0.056	A	@ rated output power @ rated input voltage
Rated input power	12.8	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	80	%	@ rated output power @ rated input voltage
Input voltage AC range	202...254	V <sub>ac</sub>	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Isolation input to output	SELV		

## Electrical output data

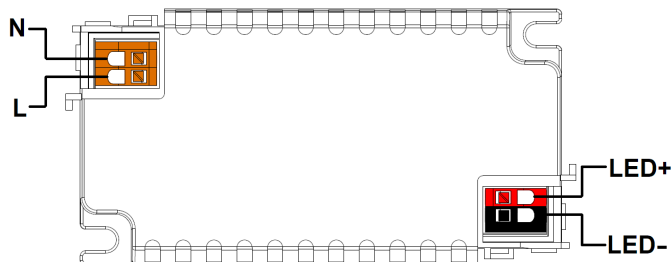
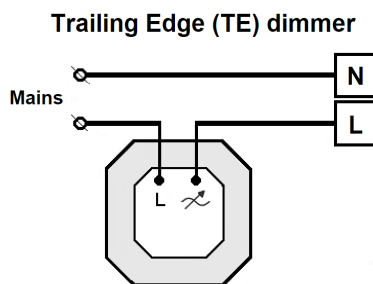
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	8...20	V <sub>dc</sub>	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.5	A	
Output current min dimming	25	mA	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 15	%	Ripple = peak / average, < 3kHz
Output power	4...10	W	

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	TE		
Dimming range	5...100	%	Default range

## Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / AWG	WAGO250 (pitch 3.5 mm), solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / AWG	WAGO250 (pitch 3.5 mm), solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way

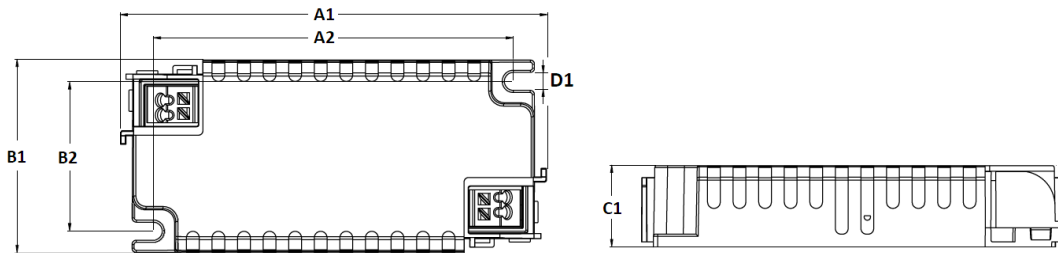


## Insulation

Insulation per IEC61347-1	Input	Output
Input		SELV
Output	SELV	

## Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	100	mm	
Mounting hole distance (A2)	84.4	mm	
Width (B1)	50	mm	
Width (B2)	40	mm	
Height (C1)	19	mm	
Weight	105	gram	



## Logistical data

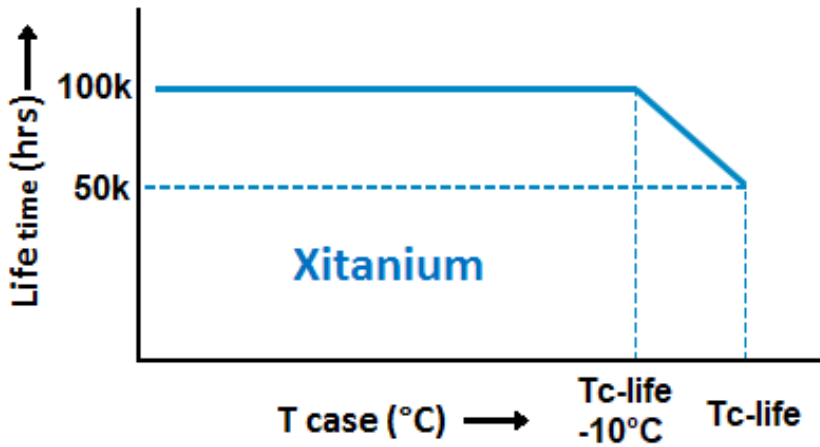
Specification item	Value
Product name	Xitanium 10W 0.5A 20V TE SC 230V
EOC	871869676570800
Logistic code 12NC	9290 014 21206
EAN1 (GTIN)	8718696765708
EAN3	8718696765715
Pieces per box	50

## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded
T <sub>case-max</sub>	80	°C	Maximum temperature measured at T <sub>case-point</sub>
T <sub>case-life</sub>	70	°C	Measured at T <sub>case-point</sub>
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing

## Lifetime

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



## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Programmable features

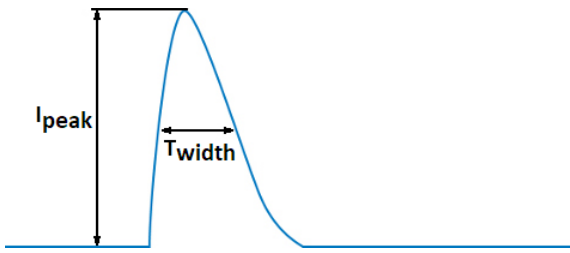
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	No	500 mA	Fixed output, dimming possible via Trailing Edge phase-cut (TE)

## Features

Specification item	Value		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	II		per IEC60598

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	3.36	A	Input voltage 230V
Inrush current $T_{width}$	36	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 200$	pcs	Indicative value



MCB	Rating	Relative number of LED drivers
B	4A	25%
B	6A	40%
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
B	32A	200%
B	40A	250%
C	4A	42%
C	6A	63%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%
C	32A	340%
C	40A	415%

## Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical Touch Current (ins. Class II)	0.33	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

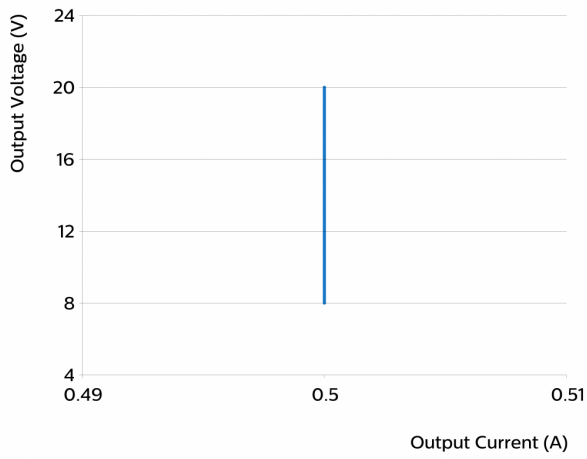
## Application Info

Specification item	Value
Approval marks	CCC / CE / EAC / ENEC / SELV / UA
Ingress Protection classification (IP)	20
Application	Indoor Point
Mounting Type	Built-in / Independent

## Graphs

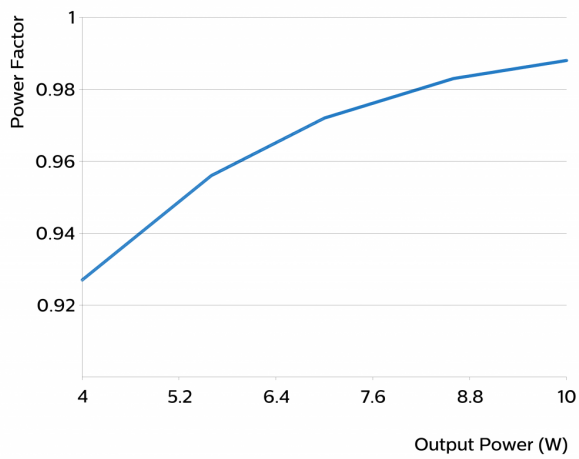
### Operating window

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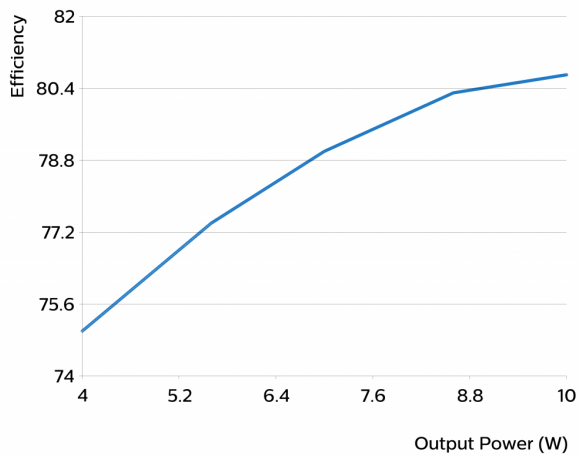
### Power factor versus output power

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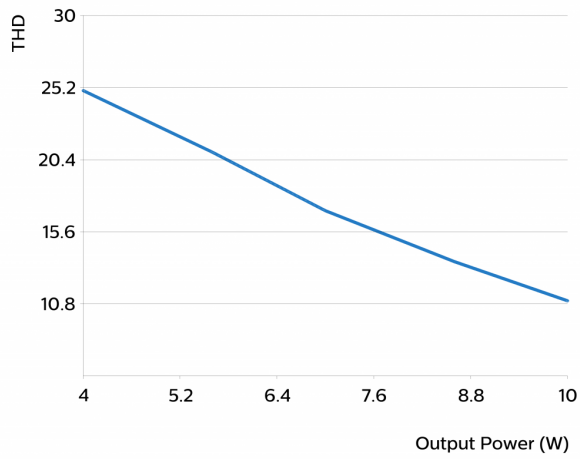
### Efficiency versus output power

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## THD versus output power

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