

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium non-isolated Fixed Output SimpleSet with CLO

Xitanium 60W 0.15-0.5A 220V S16 230V

9290 021 16006

**Xitanium non-isolated Fixed Output SimpleSet drivers with CLO programming offer quality of light, reliability and low energy consumption.**

By using Xitanium LED drivers in your luminaires, you can be sure to offer your customers high quality of light without visual flicker and stroboscopic effects.

With the Constant Lumen Output (CLO) feature you can ensure that the light output of your luminaire remains stable over time.

The reliability of your complete lighting system is enhanced as our drivers offer specific features that protect the connected LED module, including reduced ripple current. Finally, the Constant Lumen Output feature enables lower energy consumption as power is optimized over the lifecycle of the luminaire.

#### Benefits

- High quality of light
- Constant light output over time
- High reliability
- Lower energy consumption
- Fast and easy wireless programming with SimpleSet

#### Features

- CLO programming
- Wide operating windows - output current can be adjusted via SimpleSet (NFC)
- High efficiency
- Low output ripple current

#### Application

- Offices
- Industry
- Retail: supermarkets, shopping malls

## 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	@ max output power @ rated input voltage
Rated input power	66	W	@ max output power @ rated input voltage
Power factor	0.98		@ performance range @ full output power
Total harmonic distortion	9	%	@ performance range @ full output power
Efficiency	92	%	@ rated output power @ rated input voltage
Rated input voltage DC range	186...250	V <sub>dc</sub>	Performance range
Input voltage AC range	198...265	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
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	Maximum output voltage (rms)
Output current	0.15...0.5	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P <sub>st</sub> <sup>LM</sup>	≤ 1		
Output SVM	≤ 0.4		
Output power	17...60	W	

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

## Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way. For longer wiring please double check EMI behavior of luminaire.

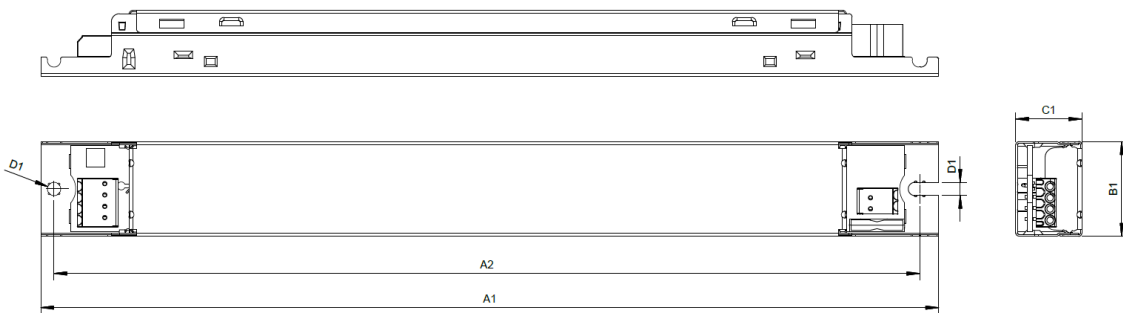


## Insulation

Insulation per IEC61347-1	Input	Output	Housing
Input		Non	Basic
Output	Non		Basic
Housing	Basic	Basic	

## Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	280	mm	
Mounting hole distance (A2)	270	mm	
Width (B1)	30	mm	
Height (C1)	16	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	175	gram	



## Logistical data

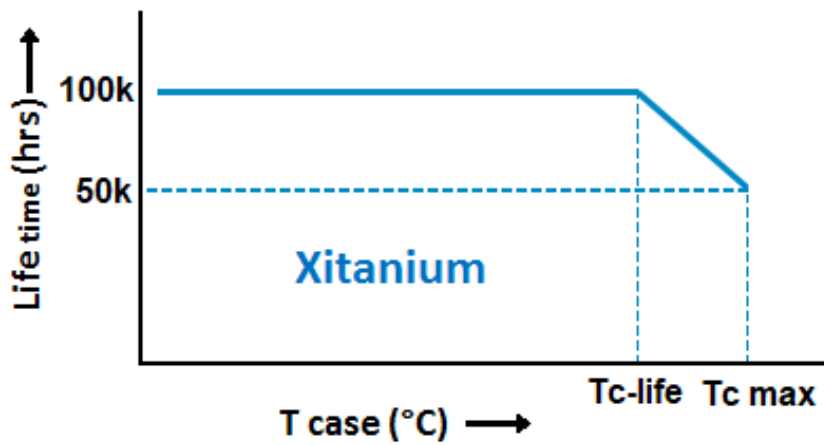
Specification item	Value
Product name	Xitanium 60W 0.15-0.5A 220V S16 230V
EOC	871869971785800
Logistic code 12NC	9290 021 16006
EAN1 (GTIN)	8718699717858
EAN3	8718699717865
Pieces per box	24

## 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 50khrs;
Tcase-life	65	°C	lifetime 100khrs; measured at Tc-point
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	100,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%
Mains switching cycles	> 100,000	switches	See Design-in guide for detailed explanation



## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Programmable features

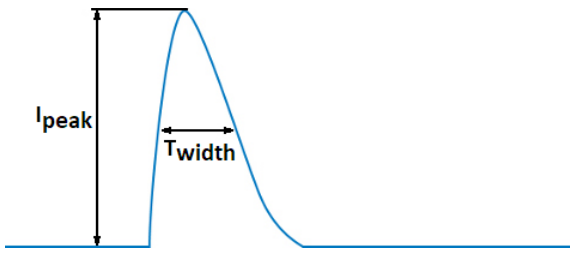
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet	150 mA	
Constant Light Output (CLO)	Yes	OFF	

## Features

Specification item	Value	Condition
Open load protection	Yes	Mains reset needed
Short circuit protection	Yes	Automatic recovering
Over power protection	Yes	Automatic recovering
Hot wiring	No	
Suitable for fixtures with protection class	I	per IEC60598
Output Overvoltage Detection	Yes	

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	28.1	A	Input voltage 230V
Inrush current $T_{width}$	141	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 27$	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 Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. 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

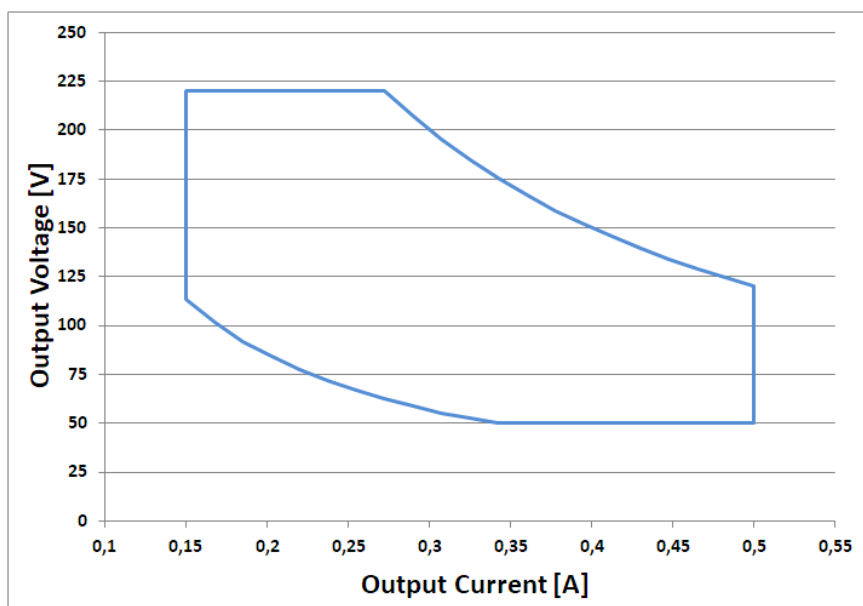
## Application Info

Specification item	Value
Approval marks	CCC / CE / EL / ENEC / TISI
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

## Graphs

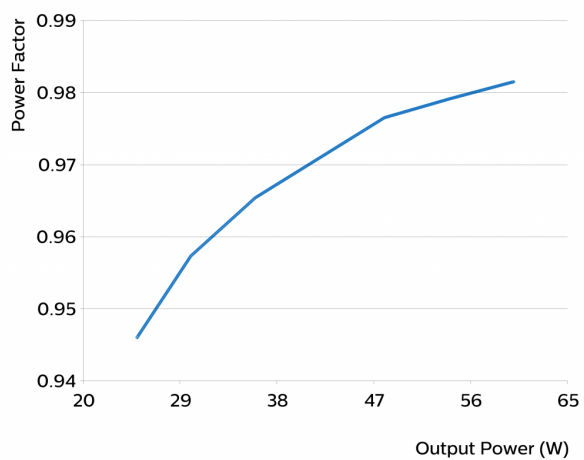
### Operating window

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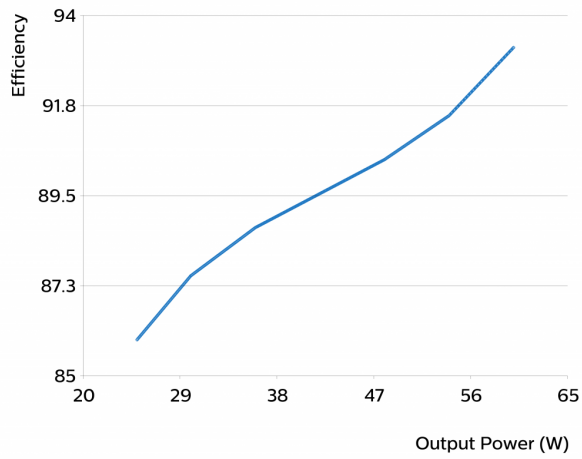
### Power factor versus output power

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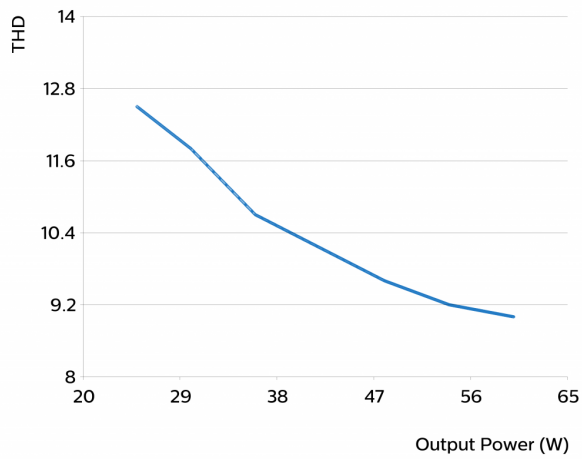
## Efficiency versus output power

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## THD versus output power

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