

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LITE Prog LED Xtreme drivers

## Xi LP 150W 0.5-1.5A S1 230V S240 sXt

### Xitanium LITE Prog LED Xtreme drivers

Philips Xitanium Lite Programmable LED drivers are value engineered to deliver a carefully selected feature set and high-end performance, making it a preferred choice for many outdoor applications. The portfolio offers high flexibility with a customizable operating window, enabling differentiation in LED lighting designs via system tuning and being prepared for LED efficacy upgrades.

In this product family Philips introduces new drivers in a stretched form factor with a balanced feature set, which offer high value for both OEM customers and end-users. The products can replace the existing programmable outdoor LED drivers and will bring significant improvement in programming, assembly into a luminaire and electrical performance. One of the key features is SimpleSet®, an easy and fast way to configure the driver without the need to power the driver.

#### Benefits

- Ultimate robustness, offering peace of mind and lower maintenance costs
- Balanced configurable feature set covering the most common applications
- Easy to design-in and install for Class I and Class II applications
- Energy savings through high efficiency and via a choice of dimming options

#### Features

- SimpleSet®, wireless configuration interface
- High surge protection
- Long lifetime and robust protection against moisture, vibration and temperature
- Configurable operating windows(AOC)
- External control interface
- 1-step autonomous dimming via integrated DynaDimmer LITE
- Thermal protection for driver (integrated)
- Simplified linear version of Constant Light Output (CLO LITE)

#### Application

- Road and street lighting
- Area lighting

## 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	0.72	A	@230V @ full load
Max. input current	0.79	A	@ minimum input voltage AC
Input voltage	230	V <sub>ac</sub>	
Nominal input power	163	W	@230V @ full load
Power factor	≥ 0.99		@ full load. See graph.
Total harmonic distortion	≤ 7	%	@ full load. See graph.
Efficiency	92	%	@230V @ full load
Input voltage AC	198...264	V <sub>ac</sub>	Operational range
Input frequency AC	45...66	Hz	Operational range
Isolation Input to Output	Double		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...142	V <sub>dc</sub>	
Output voltage max.	200	V	Peak voltage at open load
Output current	0.15...1.5	A	Full output current setting
Output current min programmable	500	mA	
Output current min dimming	150	mA	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 4	%	
Output power	7.5...150	W	Full output

## Electrical data controls input

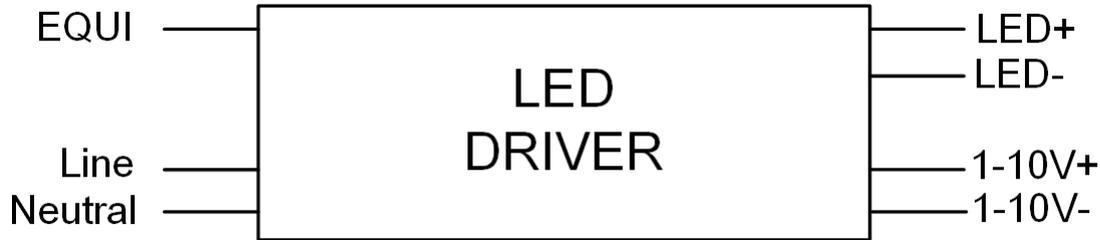
Specification item	Value	Unit	Condition
Control method	1-10V, Dynadimmer LITE		Output current amplitude dimming, 1-10V acc. IEC60929
Dimming range	10...100	%	1-8V or 1-9V. Default: 1-8V
Galvanic Isolation	Double		

## Logistical data

Specification item	Value
Product name	Xi LP 150W 0.5-1.5A S1 230V S240 sXt
Order code	871869669150200
Logistic code 12NC	9290 015 53806
EAN3	
Pieces per box	10

## Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...2.5	mm <sup>2</sup>	WAGO804, solid / stranded wire
	12...20	AWG	WAGO804, solid / stranded wire
Input wire strip length	10...11	mm	
Output wire cross-section	0.2...1.5	mm <sup>2</sup>	WAGO250 (3.5 mm), solid / stranded wire
	16...24	AWG	WAGO250 (3.5 mm), solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	1500	mm	Total length of wiring including LED module, one way

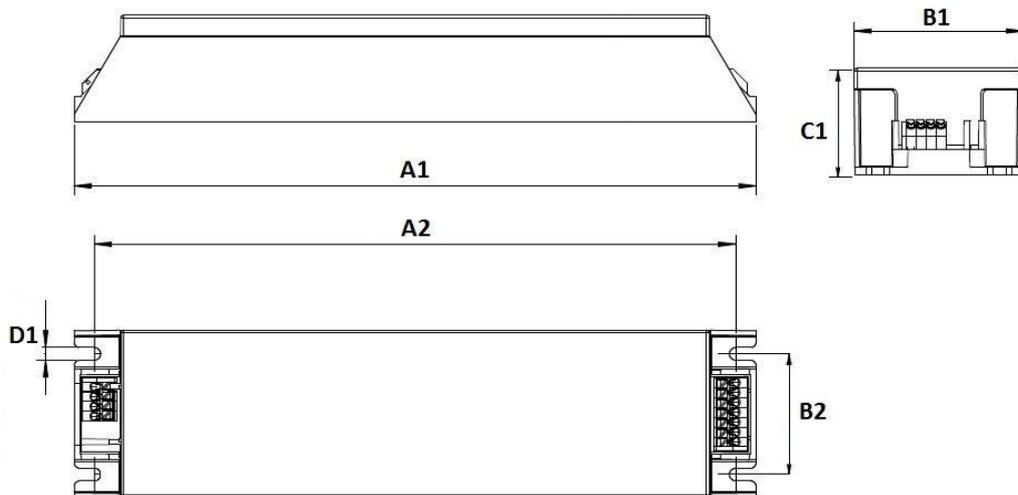


## Insulation

Insulation	Mains	EQUI	LED	1-10V
Mains		Double	Double	Basic
EQUI	Double		Basic	Double
LED	Double	Basic		Double
1-10V	Basic	Double	Double	

## Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	240	mm	
Width (B1)	59.7	mm	
Height (C1)	37.8	mm	
Fixing hole diameter (D1)	4.5	mm	
Fixing hole distance (A2)	226	mm	
Weight	640	gram	



## Operational temperatures and humidity

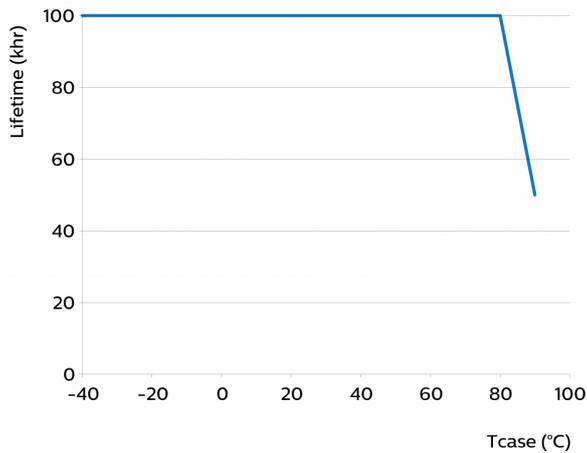
Specification item	Value	Unit	Condition
Ambient temperature	-40...+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Starting Ambient temperature	-40...+55	°C	
Tcase-max	90	°C	Maximum temperature measured at T <sub>case</sub> -point
Tcase-life	80	°C	Measured at T <sub>case</sub> -point
Maximum housing temperature	130	°C	In case of a failure
Relative humidity	10...90	%	Non-condensing

## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+80	°C	
Relative humidity	5...95	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	hours	Measured temperature at T <sub>case</sub> -point is T <sub>case</sub> -life. Maximum failures = 10%



## Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	SimpleSet	See Design-in guide.	Default output current: = 1050 mA
Constant Lumen Over Lifetime (CLO)	Yes		
Diagnostics	Yes		
1-10V minimum dim level	Yes		
Integrated Dynadimmer	Yes		

## Features

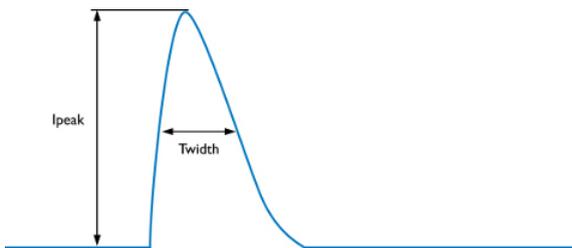
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I and II		per IEC60598
Over temperature protection driver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

## Certificates and standards

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

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	53	A	Input voltage 230V
Inrush current $T_{width}$	300	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 8$	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	< 0.6	mA peak	Acc. IEC61347-1. LED module contribution not included

## Surge immunity

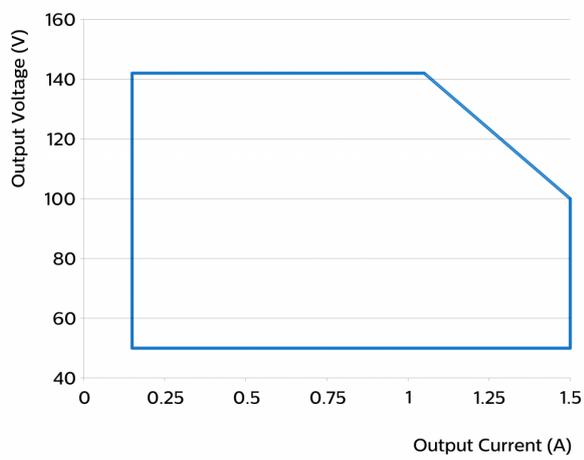
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	L-N, acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	8	kV	L/N-GND acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	0.5	kV	1-10V acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	6	kV	1-10V - GND, acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
DALI surge immunity (comm. mode)		kV	

## Additional information

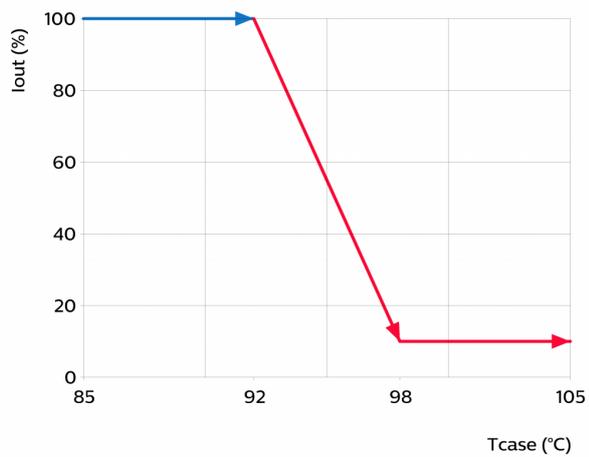
Specification item	Default setting	Remark	Condition
AOC	1050	mA	
CLO	OFF		
Dynadimmer	OFF		
1-10V	ON		

## Graphs

### Operating window

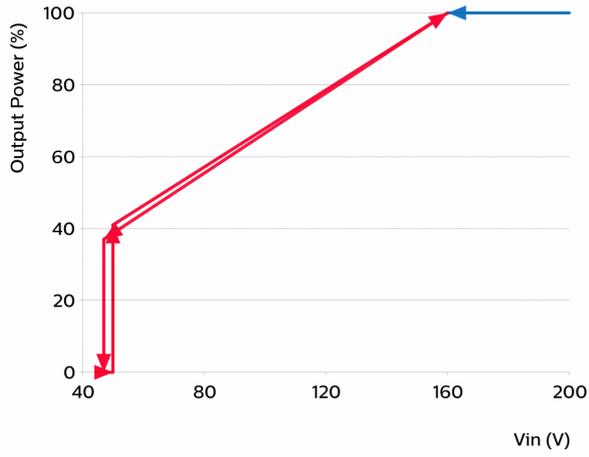


### Thermal Guard



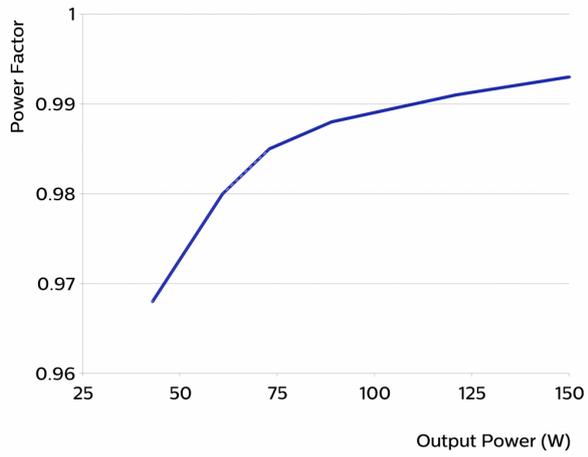
## Mains Guard

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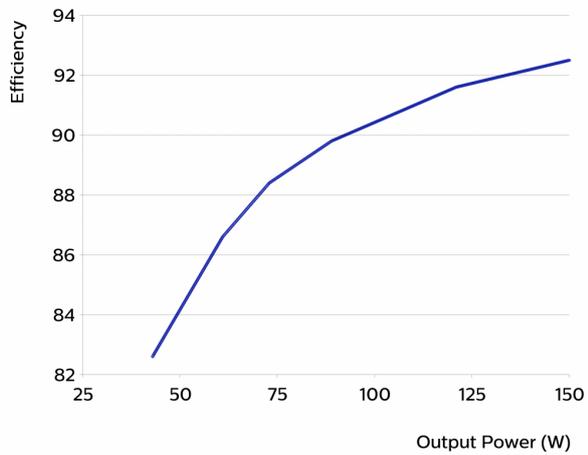
## Power factor versus output power

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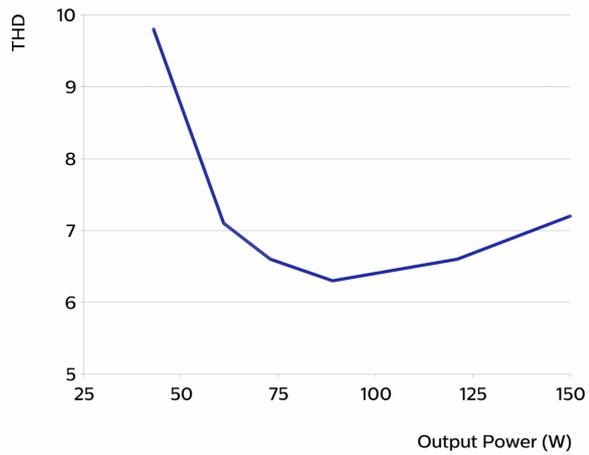


## Efficiency versus output power

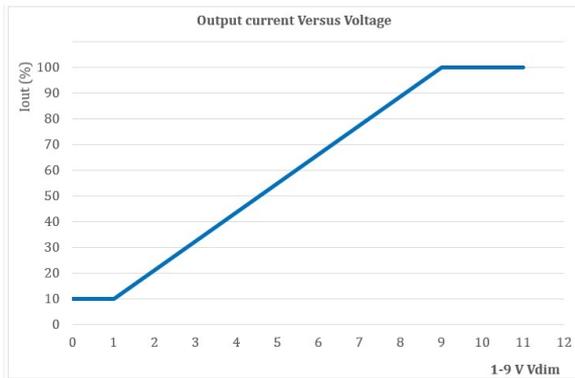
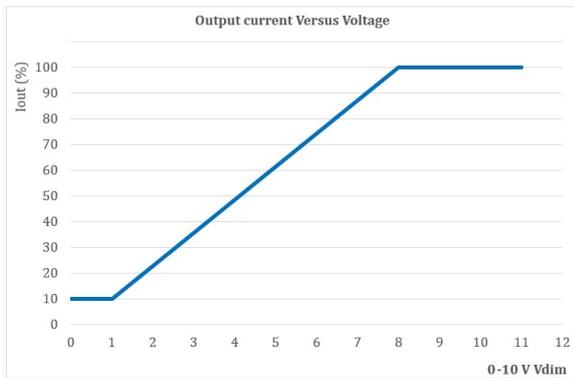
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## THD versus output power



## $I_{out}$ as function of 1-10V interface



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