

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LITE Prog LED Xtreme drivers

Xi LP 110W 0.3-1.0A S1 230V C133 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 offers drivers in both compact as well as stretched form factors 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<sup>®</sup>, 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 Insulation Class I and Class II applications
- Energy savings through high efficiency and via a choice of dimming options

#### Features

- SimpleSet<sup>®</sup>, wireless configuration interface
- High surge immunity
- Long lifetime and robust protection against moisture, vibration and temperature
- Configurable operating windows (AOC)
- External control interface 1-10V or LineSwitch
- Autonomous dimming via integrated Dynadimmer or Dynadimmer LITE
- Adjustable thermal protection for driver (DTL, select models)
- Adjustable thermal protection for LED module (MTP, select models)
- Simplified linear version of Constant Light Output (CLO LITE)
- DC input voltage operation (select models)

#### Application

- Road and street lighting
- Area lighting
- Tunnel lighting
- Industrial lighting

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	202...254	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency range	47...63	Hz	Performance range
Rated input current	0.53	A	@ rated output power @ rated input voltage
Max. input current	0.59	A	@ rated output power @ minimum performance input voltage
Rated input power	121	W	@ rated output power @ rated input voltage
Power factor	0.98		@ rated output power @ rated input voltage
Total harmonic distortion	6.5	%	@ rated output power @ rated input voltage
Efficiency	91.5	%	@ rated output power @ rated input voltage
Input voltage AC range	80...264	V <sub>ac</sub>	Safety operational range
Input frequency AC range	45...66	Hz	Safety operational range
Isolation input to output	Double		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...160	V <sub>dc</sub>	
Output voltage max.	230	V	Maximum voltage at open load
Output current	0.3...1.05	A	
Output current min programmable	300	mA	
Output current min dimming	100	mA	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average @ 1kHz
Output current ripple HF	≤ 4	%	
Output power	5...110	W	

## Electrical data controls input

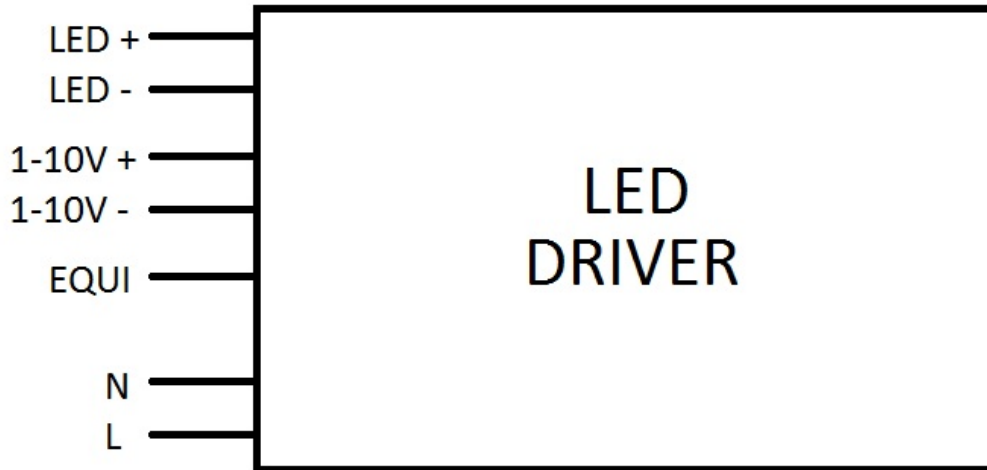
Specification item	Value	Unit	Condition
Control method	1-10V, Dynadimmer		Output current amplitude dimming, 1-10V acc. IEC60929
Dimming range	10...100	%	Default curve: 1-8V
Galvanic Isolation	Double		

## Logistical data

Specification item	Value
Product name	Xi LP 110W 0.3-1.0A S1 230V C133 sXt
Order code	871869961036400
Logistic code 12NC	9290 016 55106
Pieces per box	12

## Wiring & Connections

Specification item	Value	Unit	Condition
Input 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
Input wire strip length	8.5...9.5	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	
Dimming 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
Dimming wire strip length	8.5...9.5	mm	
Maximum cable length	1500	mm	Total length of wiring including LED module, one way

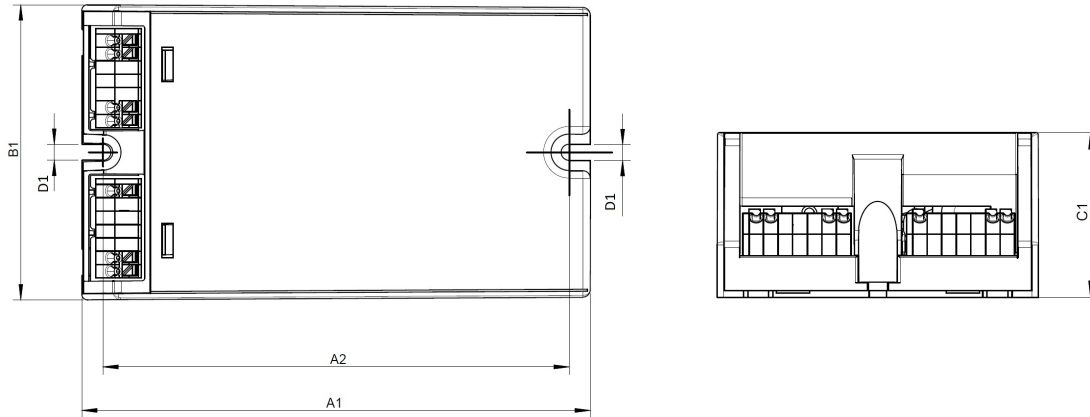


## Insulation

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)	133	mm	
Width (B1)	77	mm	
Height (C1)	40	mm	
Fixing hole diameter (D1)	4.2	mm	
Fixing hole distance (A2)	122	mm	
Weight	570	gram	



## Operational temperatures and humidity

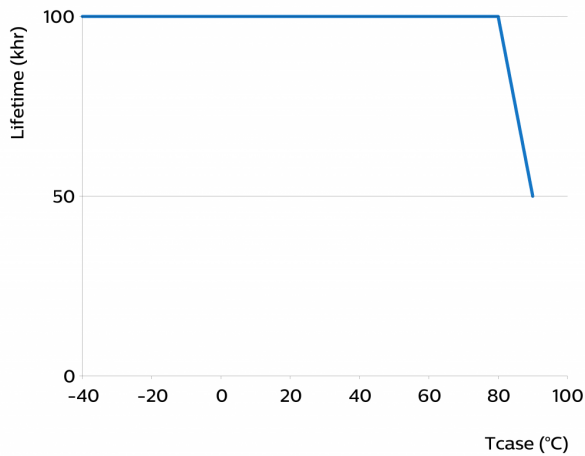
Specification item	Value	Unit	Condition
Ambient temperature	-40...+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	90	°C	Maximum temperature measured at T <sub>case</sub> -point
Tcase-life	80	°C	Measured at T <sub>case</sub> -point
Maximum housing temperature	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...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	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)		See Design-in guide.	Default output current: = 700 mA
Driver Temperature Limit (DTL)	Yes		
Constant Lumen Over Lifetime (CLO)	Yes		
Diagnostics	Yes		
1-10V minimum dim level	Yes		
Integrated Dynadimmer	Yes		5-step, no light turn-off possible

## Features

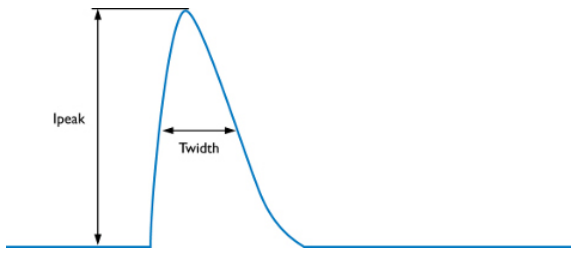
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I and II		per IEC60598
Over temperature protection driver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

## Certificates and standards

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

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	45	A	Input voltage 230V
Inrush current $T_{width}$	270	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 10$	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)	0.24	mA peak	Acc. IEC61347-1. LED module contribution not included
Typical protective conductor current (ins. Class I)	0.17	mA rms	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, 1.2/50 $\mu$ s, 8/20 $\mu$ s
Mains surge immunity (comm. mode)	10	kV	L/N - EQUI: 10kV acc. EN61547; 8kV acc. IEC61000-4-5, 12 Ohm 1.2/50 $\mu$ s, 8/20 $\mu$ s
Control surge immunity (diff. mode)	0.5	kV	1-10V +/- acc. IEC61000-4-5. 2 Ohm, 1.2/50 $\mu$ s, 8/20 $\mu$ s
Control surge immunity (comm. mode)	6	kV	L/N - 1-10V acc. IEC61000-4-5. 12 Ohm, 1.2/50 $\mu$ s, 8/20 $\mu$ s
Control surge immunity (comm. mode)	6	kV	1-10V - EQUI acc. IEC61000-4-5. 12 Ohm, 1.2/50 $\mu$ s, 8/20 $\mu$ s

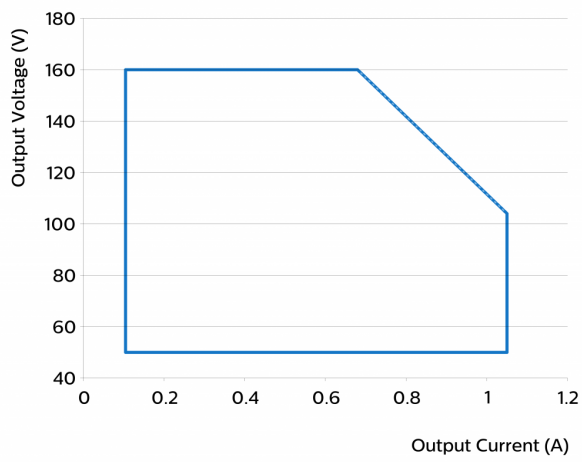
## Additional information

Specification item	Default setting	Remark	Condition
AOC	700	mA	
CLO	OFF		
Dynadimmer	OFF		
1-10V	ON		

## Graphs

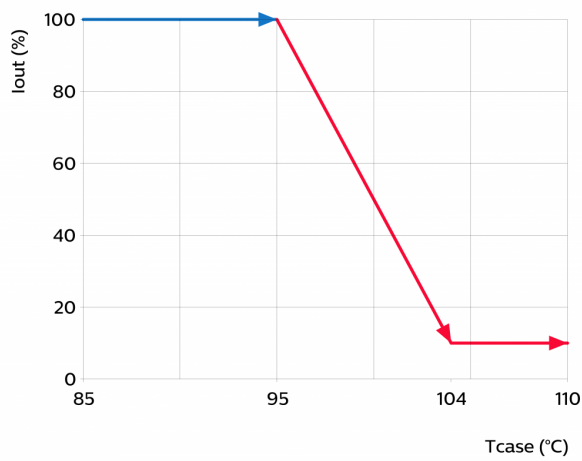
### Operating window

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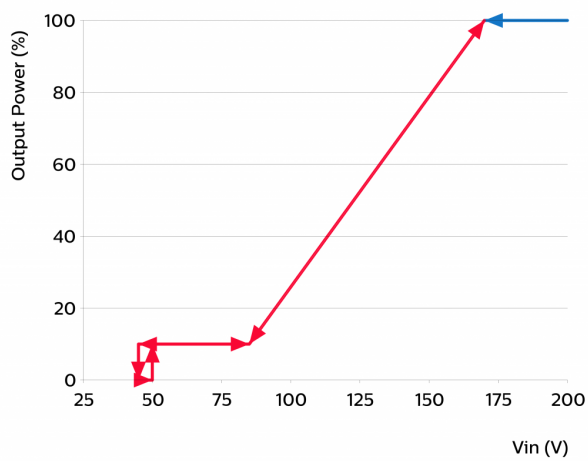
### Thermal Guard

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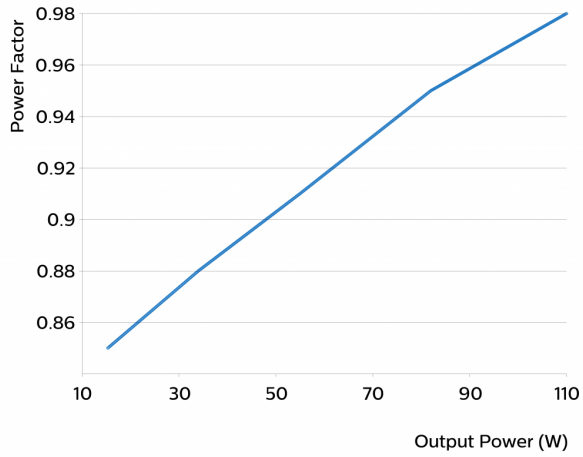
### Mains Guard

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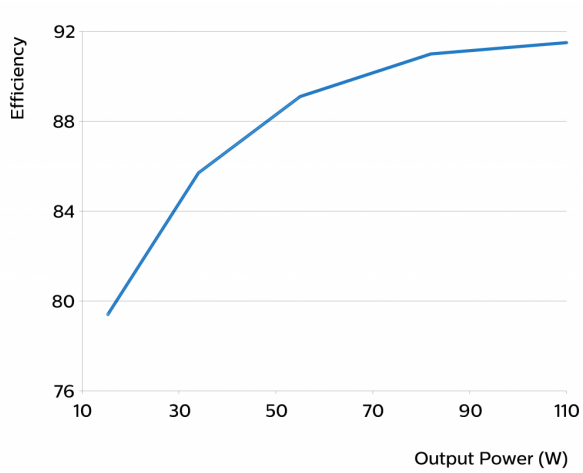
### Power factor versus output power

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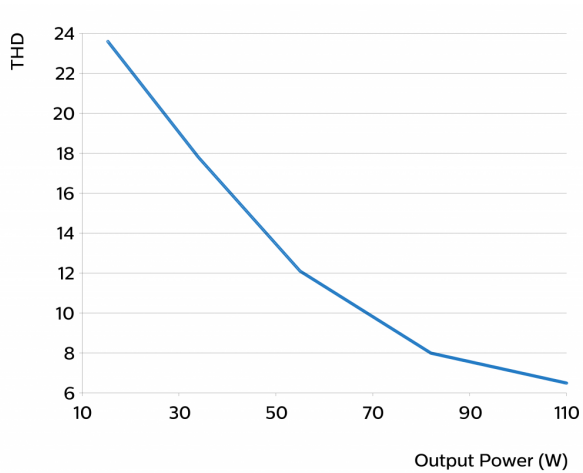
### Efficiency versus output power

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### THD versus output power

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