

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LITE Programmable LED Xtreme drivers

## Xi LP 40W 0.2-0.7A S1 230V S175 sXt

### Xitanium LITE Programmable 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 will introduce new drivers in a linear 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 in a J-can and will bring significant improvement in programming, assembly into a luminaire and electrical performance. One of the key features that will be added 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 feature set covering the most common configurations in outdoor lighting applications
- Easy to design-in, configure 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 of 6kV / 6kV (CM/DM)
- Long lifetime and robust protection against moisture, vibration and temperature
- Configurable operating windows up to 0.7A and 1A (AOC)
- External control interface available in different driver types: LineSwitch or 1-10V

#### Applications

- Road and street lighting
- Area lighting
- 1-step autonomous dimming via integrated DynaDimmer LITE
- Thermal protection for driver (integrated)

## Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage range	220 ... 240	Vac	Performance range
Nominal input frequency	50/60	Hz	Performance range
Nominal input current	0.20	A	@230V @ full load
Max. input current	0.22	A	@ minimum performance input voltage
Nominal input power	46	W	@230V @ full load
Power factor	≥ 0.99		@230V @ full load. See graph.
Total harmonic distortion	≤ 10	%	@230V @ full load. See graph.
Efficiency	89	%	@230V @ full load. See graph.
Input voltage AC	198...264	Vac	Operational range
Input frequency AC	45...66	Hz	Operational range

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	25...77	Vdc	
Output voltage max.	90	V	Peak voltage at open load
Output current	150 ... 700	mA	Full output current range
Output current min programmable	200	mA	
Output current min dimming	150	mA	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 6	%	Ripple = peak / average, 70Hz ... 1kHz
Output current ripple HF	≤ 5	%	Ripple = peak / average, > 1kHz
Output power range	4 ... 40	W	

## Electrical data controls input

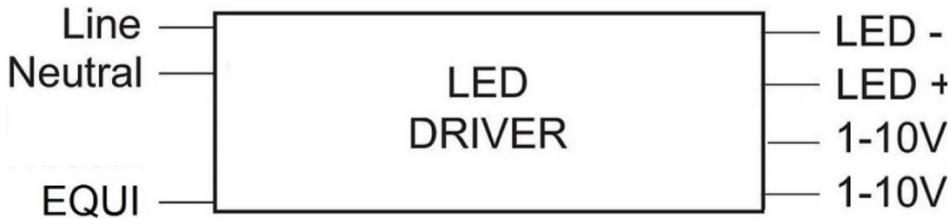
Specification item	Value	Unit	Condition
Control method	I- 10V, Dynadimmer LITE		I-10V acc. IEC60929.
Dimming range	20...100	%	Amplitude dimming

## Logistical data

Specification item	Value
Product name	Xi LP 40W 0.2-0.7A SI 230V S175 sXt
Order code	871869647032900
Logistic code I2NC	9290 009 30706
EAN3	8718696470336
Pieces per box	20

## Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...1.5	mm <sup>2</sup>	Solid wire and stranded wire
	24...16	AWG	Solid wire and stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.2...1.5	mm <sup>2</sup>	Solid wire and stranded wire
	24...16	AWG	Solid wire and stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum output cable length	2.5	m	Between driver and LED module



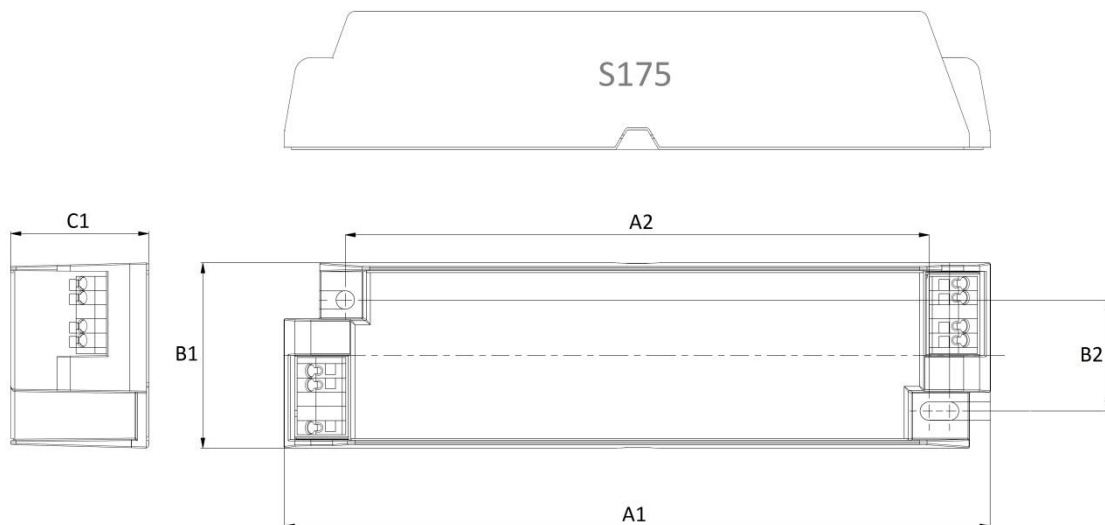
## Insulation

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

Luminaire insulation class suitability: I and II Acc. IEC60598

## Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	175	mm	
Width (B1)	46	mm	
Height (C1)	34	mm	
Fixing hole diameter (D1)	4.5	mm	
Fixing hole distance (A2)	144	mm	
Weight	165	gram	



## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Starting ambient temperature	-40...+55	°C	Driver ambient temperature
Tcase-min	-30	°C	Min. steady-state temperature measured at Tcase point
Tcase-max	+80	°C	Max. steady-state temperature measured at Tcase point
Tcase-life	-30...+70	°C	For nominal driver lifetime, measured at Tcase point
Maximum housing temperature	130	°C	In case of failure
Relative humidity	10...90	%	Non-condensing
Ingress Protection	n.a		Suggested luminaire IP: ≥ IP54

## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+85	°C	
Relative humidity	10...90	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	hours	Measured temperature at Tc-point is Tcase-life. Maximum failures = 10%

## Programmable features

Specification item	Value	Remark	Default setting
Set output current (AOC)	Programmable	See Design-in guide.	700mA
I-10V dimming interface	Yes	I-8V, I-9V	Enabled, I-8V
Constant Lumen Over Lifetime (CLO)	Yes	CLO LITE	Disabled
Diagnostics	Yes	Basic	Enabled
Integrated Dynadimmer	Yes	Dynadimmer LITE	Disabled

## Features

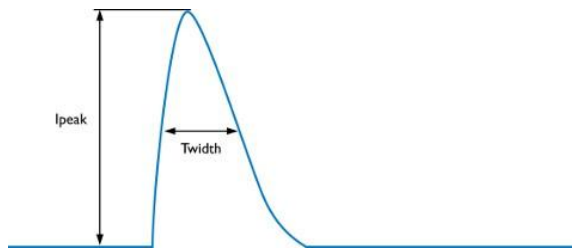
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Overheating protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for luminaire insulation class	I and II		Per IEC60598

## Certificates and standards

Specification item	Value
Approval marks	CB / CE / ENEC

## Inrush current

Specification item	Value	Unit	Condition
Inrush current I <sub>peak</sub>	27	A	Input voltage 230V
Inrush current T <sub>width</sub>	265	μs	Input voltage 230V, measured at 50% I <sub>peak</sub>
Drivers / MCB 16A type B	Max. 18	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	0.48/0.56	mA peak	Acc. IEC61347-1 at 230V 50/60Hz LED module contribution not included

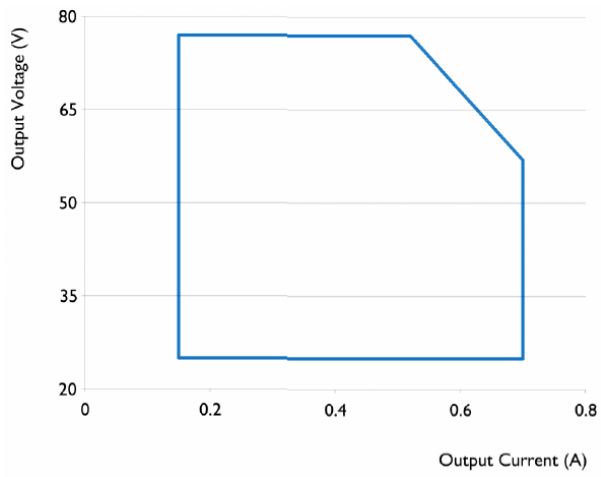
## Surge immunity

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)	6	kV	L/N – GND 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

## Graphs

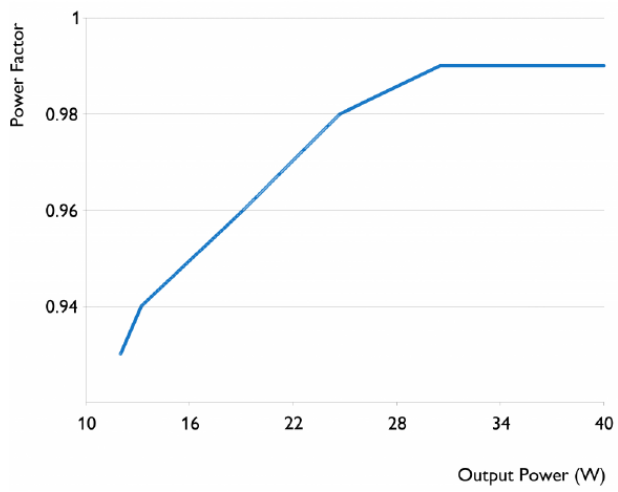
### Operating window

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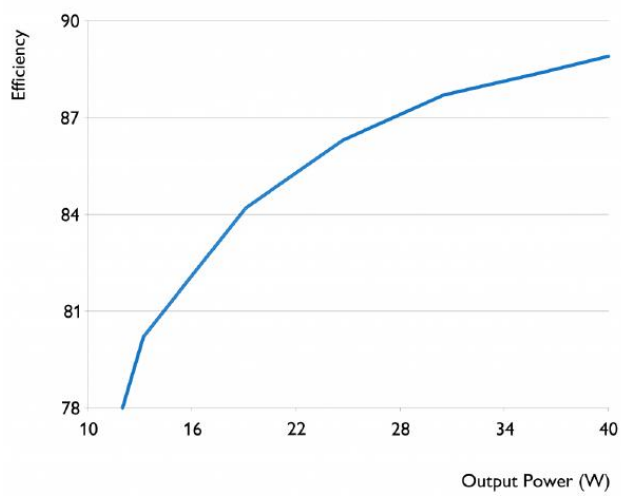
### Power factor versus output power

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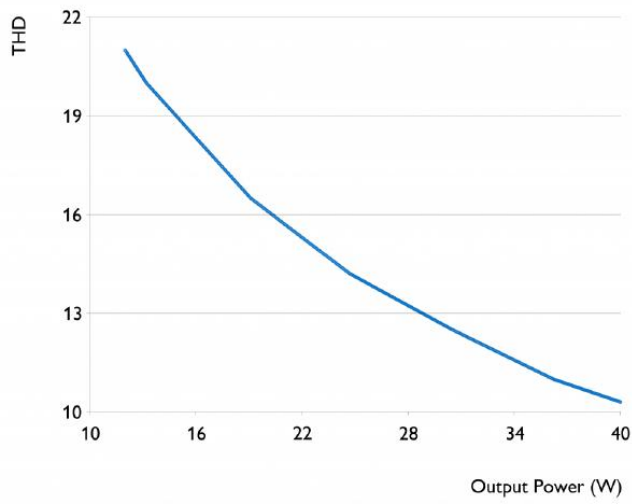
### Efficiency versus output power

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## THD versus output power

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