

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium Outdoor Essential Programmable Low Voltage LED Drivers

Xi EP LV 100W 1.3-3.4A 1-10V WL I155

9290 033 93580

Xitanium Essential Programmable (EP) LED drivers are designed for maximum reliability and flexibility, making it a preferred choice for different Outdoor applications. The key feature AOC (Adjustable Output Current ) can be programmed with the new e-set tool, a simple and fast way to configure the driver without the need to power on the driver and without the need for any software configuration.

Xitanium EP Low Voltage (LV) drivers are specifically designed for low voltage outdoor applications. Having high surge immunity, these durable, independently housed drivers deliver consistent, high performance to luminaires. It is an ideal solution for OEMs who need reliable, adjustable output current in a rugged independent form factor.

#### Benefits

- Low voltage/high current output fits low voltage outdoor applications
- AOC (Adjustable Output Current) gives full flexibility to output different currents to spec-in different projects
- Compact housing saves luminaire space
- Easy adjustment of output current/voltage saves time and labor cost
- Robust design offers peace of mind and saves maintenance cost
- IP rated housing allows use in a non-fully sealed gearbox

#### Features

- 100-277V input voltage
- Low voltage/high current output
- Adjustable Output Current (AOC)
- Compact housing dimensions
- Digital way to adjust output current called e-set tool
- Robust specifications for moisture, vibration, and temperature protection
- IP67
- 1-10V dimming capability

#### Application

- Road and street lighting
- Area and flood lighting
- Tunnel lighting
- High-bay lighting

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	200...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	0.5	A	@ rated output power @ rated input voltage
Max. input current	0.6	A	@ rated output power @ minimum performance input voltage
Rated input power	110	W	@ rated output power @ rated input voltage
Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	10	%	@ rated output power @ rated input voltage
Efficiency	91	%	@ rated output power @ rated input voltage @max. Uout
Input voltage AC range	85...305	V <sub>ac</sub>	Operational range
Input frequency AC range	45...66	Hz	Operational range
Isolation input to output	Double		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24...50	V <sub>dc</sub>	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	1.3...3.4	A	
Output current min programmable	1300	mA	
Output current min dimming	200	mA	
Output current tolerance ±	5	%	At max. output currentt, Ta=25°C
Output current ripple LF	≤ 5	%	Ripple = peak / average, < 1kHz
Output current ripple HF	≤ 5	%	
Output P <sub>st</sub> <sup>LM</sup>	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	4.8...100	W	Rated output power is 100W

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	1-10V		
Dimming range	10...100	%	Default range
Isolation controls input to output	Basic		acc. IEC61347-1

## Wiring and Connections

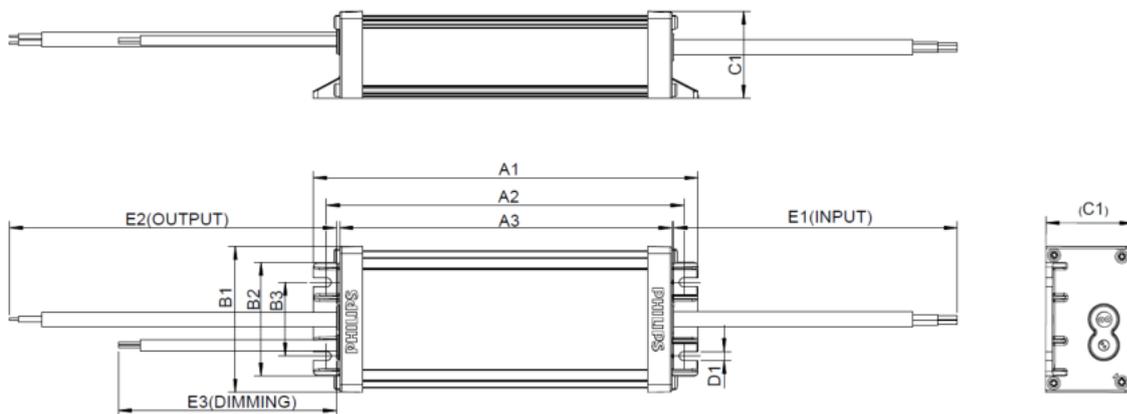
Specification item	Value	Unit	Type
Input wire cross-section	1 / 17	mm <sup>2</sup> / AWG	3x 1.0mm <sup>2</sup> stranded wires, waterproof cable
Output wire cross-section	1 / 17	mm <sup>2</sup> / AWG	2x 1.0mm <sup>2</sup> stranded wires, waterproof cable
Control wire cross-section	0.33 / 22	mm <sup>2</sup> / AWG	2-wire cable, AWG22
Maximum cable length	2	m	Total length of wiring including LED module, one way

## Insulation

Insulation per IEC61347-1	Input	Output	1-10V	Ground
Input		Double	Reinforced	Basic
Output	Double		Basic	Basic
1-10V	Reinforced	Basic		Basic
Ground	Basic	Basic	Basic	

## Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	155	mm	± 2
Mounting hole distance (A2)	144	mm	± 2
Length (A3)	132.5	mm	± 2
Width (B1)	67	mm	± 1
Width (B2)	52.5	mm	± 1
Width (B3)	34	mm	± 1
Height (C1)	40	mm	± 1
Mounting hole diameter (D1)	4	mm	± 0.3
Input cable length (E1)	450	mm	± 30
Output cable length (E2)	450	mm	± 30
Control cable length (E3)	300	mm	± 30
Weight	650	gram	



## Logistical data

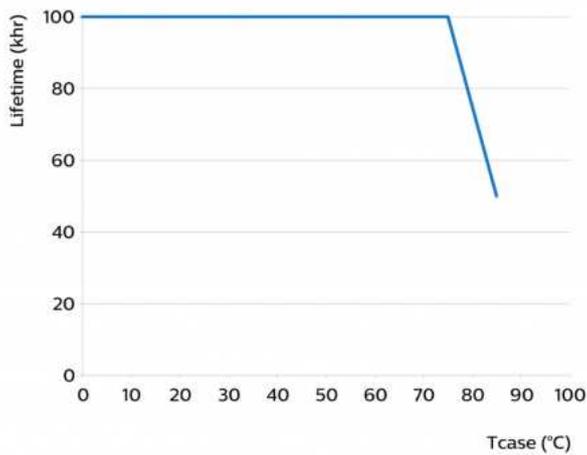
Specification item	Value
Product name	Xi EP LV 100W 1.3-3.4A 1-10V WL I155
Logistic code 12NC	9290 033 93580
Pieces per box	12

## 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	85	°C	Maximum temperature measured at T <sub>case</sub> -point
Tcase-life	75	°C	Measured at T <sub>case</sub> -point
Relative humidity	10...90	%	Non-condensing

## Lifetime

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



## Storage temperature and humidity

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

## Programmable features

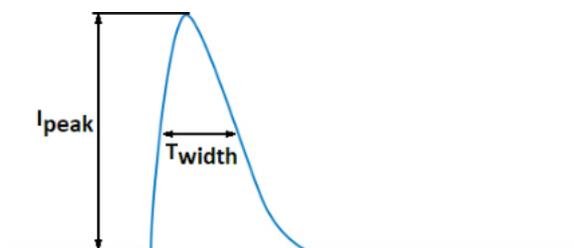
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	NFC	2000 mA	

## 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	I	per IEC60598
Overtemperature protection	Yes	Automatic recovering, refer to thermal guard curve

## Inrush current

Specification item	Value	Unit	Condition
Inrush current	65	A	Input voltage 230V
Inrush peak width	151	$\mu$ s	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	$\leq 10$	pcs	Indicative value at 230V



Please refer to the driver design in guide if you use other MCB-types.

## Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.7	mA rms	Acc. IEC60598-1. LED module contribution not included

## Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

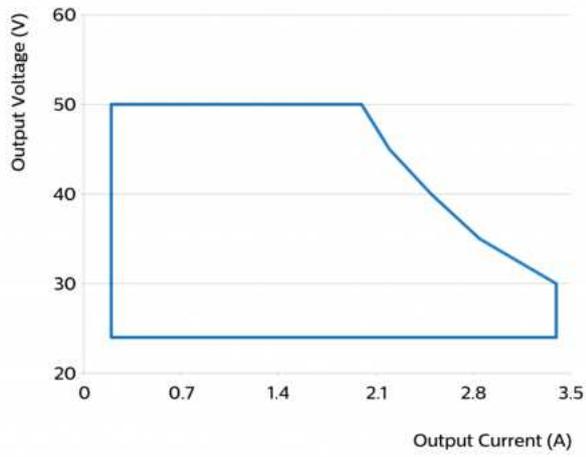
## Application Info

Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / RCM / SELV / UKCA
Ingress Protection classification (IP)	67
Application	Outdoor
Mounting Type	Independent

## Graphs

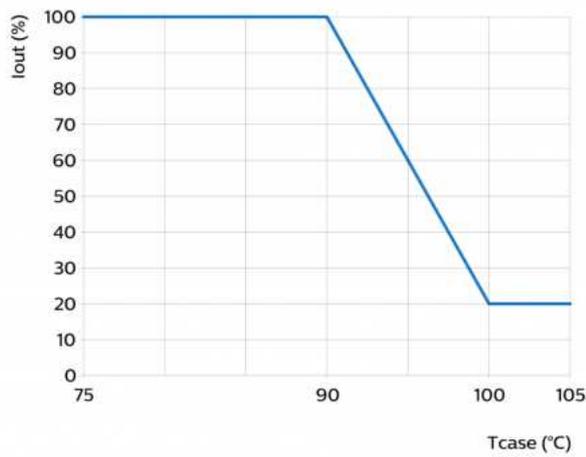
### Operating window

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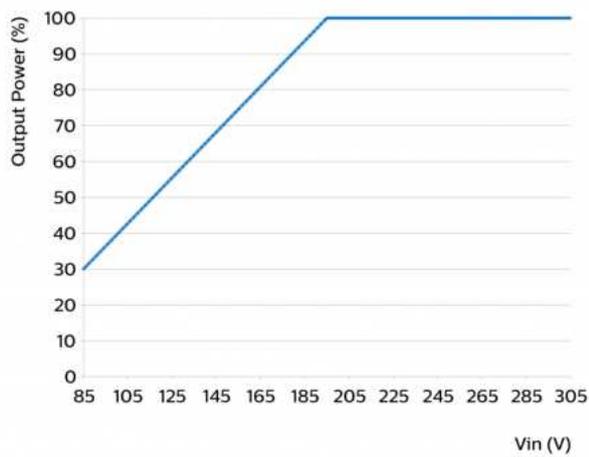
### Thermal Guard

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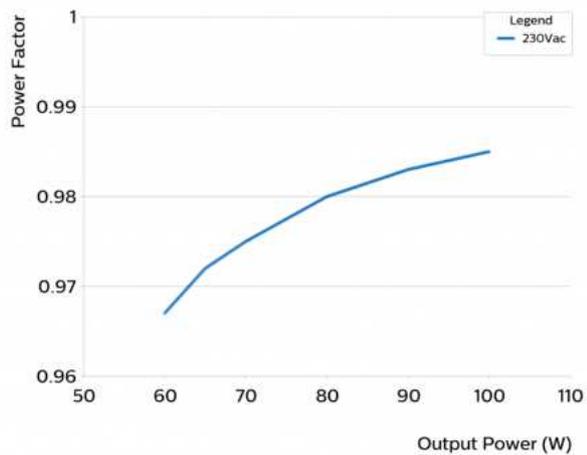
### Mains Guard

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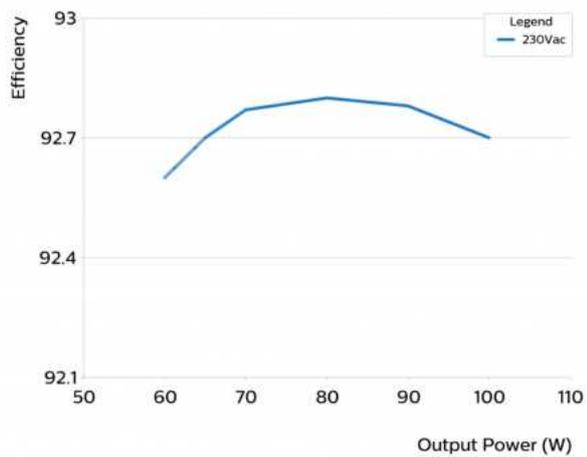
### Power factor versus output power

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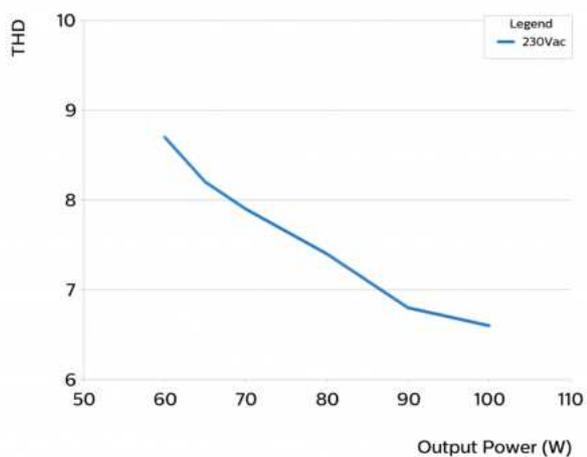
### Efficiency versus output power

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### THD versus output power

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