PHILIPS

Xitanium

LED driver

Datasheet

Xitanium Essential Programmable LED Drivers

Xi EP 250W 1.05-1.5A 1-10V WL F

9290 034 24480

Xitanium Essential Programmable (EP) LED drivers are designed for maximum reliability and flexibility, making it a preferred choice for outdoor applications. The key feature is to adjust the output current 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. The WideLine family can operate on input voltage 100-277Vac anywhere around the world and ensure 100% performance from 200-254Vac.

Features

- Digital and simple Adjustable Output Current (AOC) with e-set tool, based on NFC technology
- WideLine input voltage range: 100-277Vac
- High surge protection: 6/10kV (DM/CM)
- 50,000 hours lifetime

Benefits

- Reliable and repeatable adjustment of output current/voltage to save labor cost and time
- Easy to design-in and reduces SKUs
- Low maintenance cost and peace of mind in extreme conditions

Application

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

February 2023

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	200…254	V_{ac}	Performance range
Rated input voltage	230	V_{ac}	
Rated input frequency range	47…63	Hz	Performance range
Rated input current	1.2	A	@ rated output power @ rated input voltage
Rated input power	270	W	@ rated output power @ rated input voltage
Nominal Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	10	%	@ rated output power @ rated input voltage
Efficiency	93	%	@ rated output power @ rated input voltage @max. Uout
Input voltage AC range	95…305	V_{ac}	Operational range
Input frequency AC range	45…66	Hz	Operational range
Isolation input to output	Basic		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	116…232	V_{dc}	
Output voltage max.	340	V	Maximum output voltage (rms)
Output current	0.105…1.5	A	
Output current min programmable	1050	mA	
Output current min dimming	105	mA	
Output current tolerance ±	5	%	At max. output current, Ta=25°C
Output current ripple LF	≤ 5	%	Ripple = peak / average, @Low frequency range(<3KHz))
Output current ripple HF	≤ 15	%	
Output P_{st}^{LM}	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	12.2…250	W	Rated output power is 250W

Electrical data controls input

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

Wiring and Connections

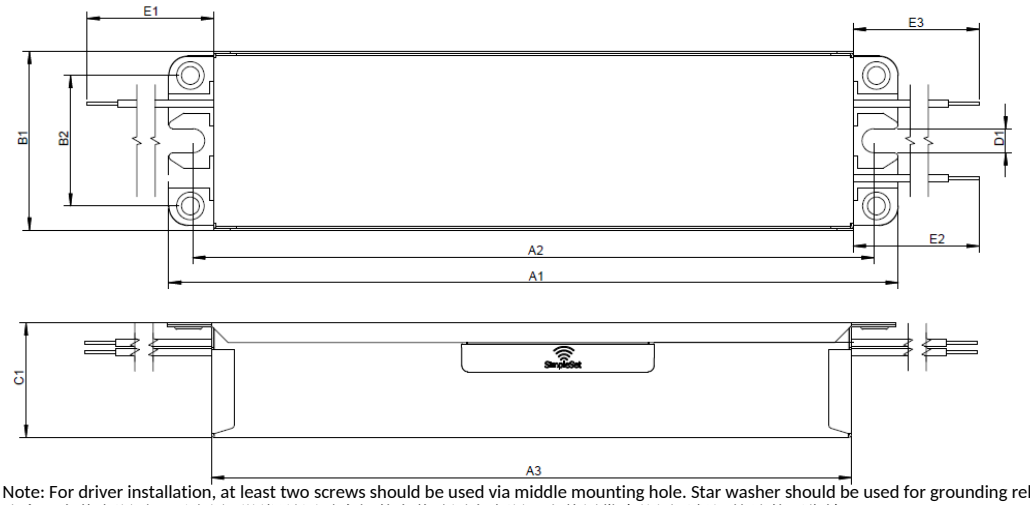
Specification item	Value	Unit	Type
Input wire cross-section	0.75 / 18	mm^2 / AWG	stranded
Input wire strip length	6...7	mm	
Output wire cross-section	0.75 / 18	mm^2 / AWG	stranded
Output wire strip length	6...7	mm	
Control wire cross-section	0.75 / 18	mm^2 / AWG	stranded
Control wire strip length	6...7	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way

Isolation

Insulation per IEC61347-1	Input	Output	Ground	Dim
Input	-	Basic	Basic	Double
Output	Basic	-	Basic	Supplementary
Ground	Basic	Basic	-	Basic
Dim	Double	Supplementary	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	240.5	mm	± 0.5
Mounting hole distance (A2)	224.6	mm	± 0.5
Length (A3)	211	mm	± 0.5
Width (B1)	59	mm	± 0.5
Width (B2)	42.9	mm	± 0.5
Height (C1)	37.6	mm	± 1
Mounting hole diameter (D1)	7.9	mm	± 0.3
Input cable length (E1)	270	mm	± 30
Output cable length (E2)	270	mm	± 30
Control cable length (E3)	270	mm	± 30
Weight	945	gram	



Note: For driver installation, at least two screws should be used via middle mounting hole. Star washer should be used for grounding reliability.
注意：安装电源时，至少用两颗螺丝通过中间的安装孔固定电源。应使用带齿垫圈以保证接地的可靠性。

Logistical data

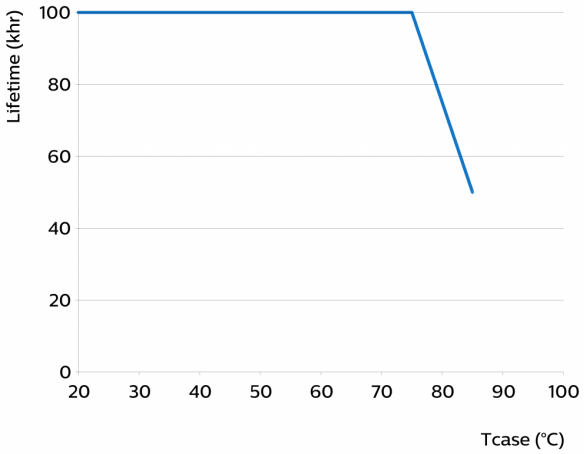
Specification item	Value
Product name	Xi EP 250W 1.05-1.5A 1-10V WL F
Logistic code 12NC	9290 034 24480
Pieces per box	10

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_{case}-point
Tcase-life	75	°C	Measured at T_{case}-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

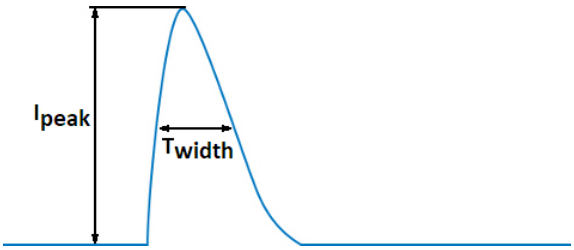
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	NFC	1050 mA	

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	78	A	Input voltage 230V
Inrush peak width	238	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 4	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 / earth leakage 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

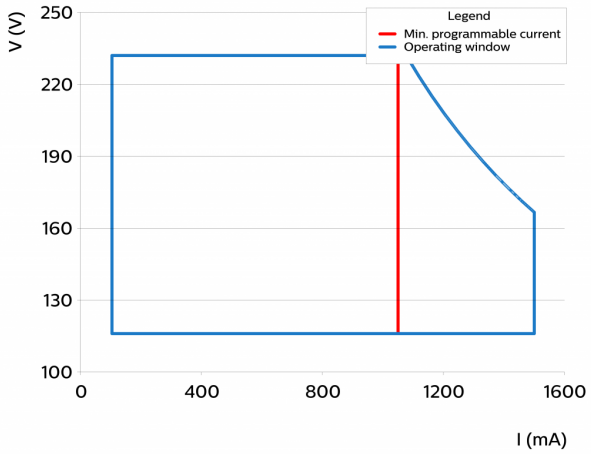
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	10	kV	Acc.IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Application Info

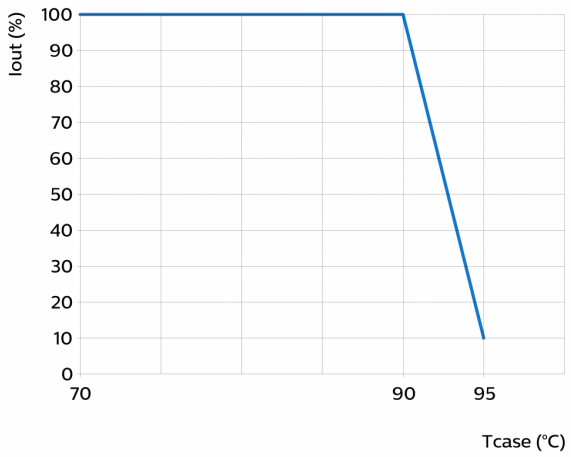
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / UKCA
Ingress Protection classification (IP)	20
Application	Outdoor
Mounting Type	Built-in

Graphs

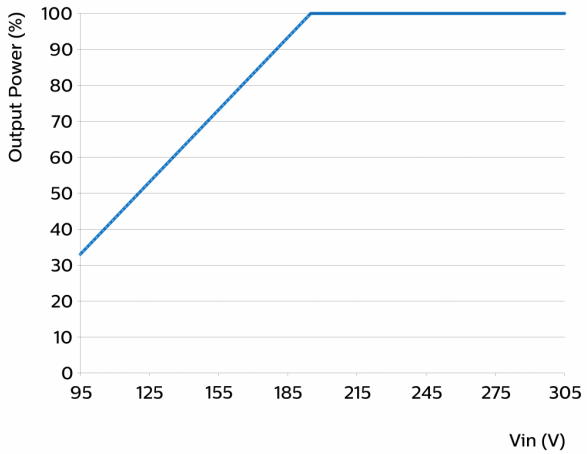
Operating window



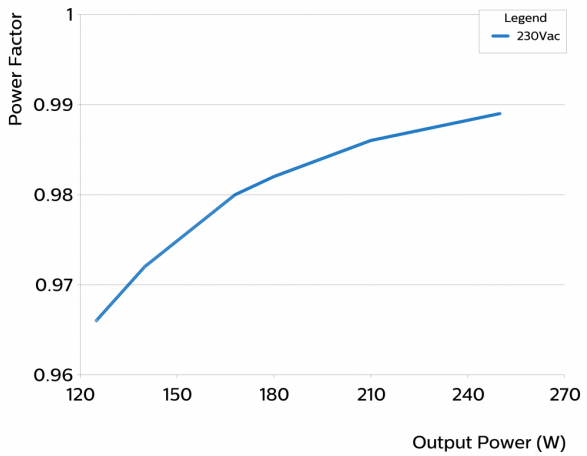
Thermal Guard



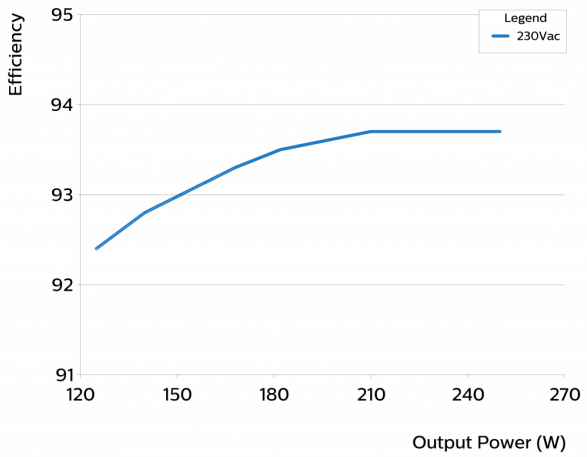
Mains Guard



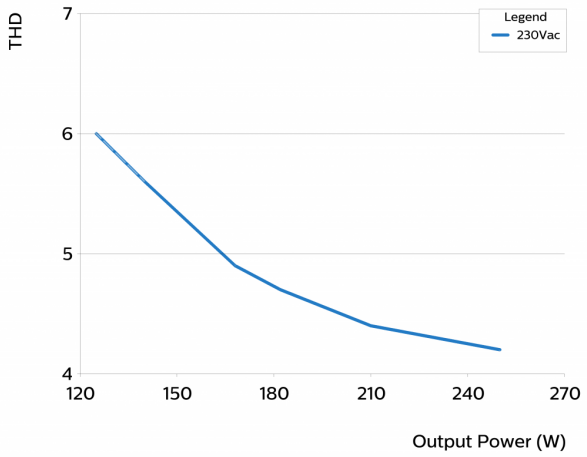
Power factor versus output power



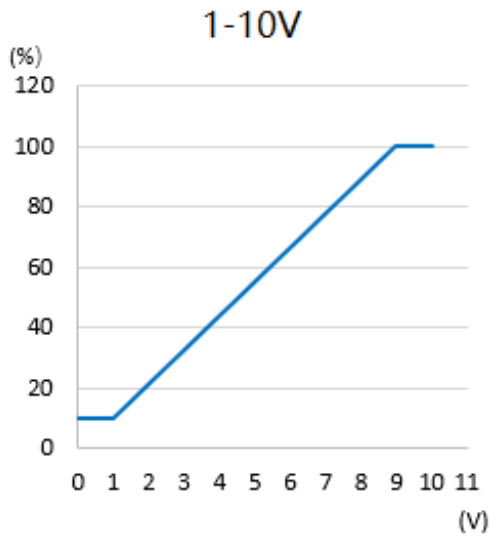
Efficiency versus output power



THD versus output power



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



Note: The 1-10V port is not used for networking, and the cable length is less than 3 meters.
注意：1-10V端口不组网使用，且电缆线长小于3米。

©2022 Signify Holding, IBRS 10461, 5600 VB, NL. All rights reserved.
UK importer address: Signify Commercial UK Limited, 3, Guildford Business Park, GU2 8XG.

The information provided herein is subject to change without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
Date of release: February 24, 2023 v2

www.philips.com/oem