

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Outdoor Essential Programmable Low Voltage LED Drivers

Xi EP LV 150W 2.1-4.6A WL I145

9290 048 28901

Xitanium Essential Programmable (EP) LED Drivers are specifically designed to deliver reliability and flexibility, making them an ideal choice for a variety of outdoor applications. One of their standout features is AOC (Adjustable Output Current), which can be conveniently programmed using e-set tool or mobile app. This innovative approach allows users to configure the driver quickly and effortlessly—without the need to power on the driver or use any additional software.

The WideLine family of these drivers supports an input voltage range of 100-277Vac, ensuring performance within the 202-254Vac range.

Features

- 100-277Vac input voltage
- Low voltage output, SELV certified
- Compact housing dimension
- Digital way to adjust output current by Mobile APP
- Adjustable Output Current (AOC)
- IP67 waterproof
- Suitable surge protection: 6/6 kV (DM/CM)
- 50,000 hours lifetime
- High efficiency: 92.5%

Benefits

- Easy to design in
- Save to use
- Enable smaller luminaire design to reduce cost
- SKU reduction to reduce stock pressure
- Reliable to provide peace of mind
- Energy saving

Application

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

Logistical data

Specification item	Value
Product name	Xi EP LV 150W 2.1-4.6A WL I145
Logistic code 12NC	9290 048 28901
Pieces per box	14
Weight	560 gram

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	202...254	V _{ac}	Performance range
Rated input voltage	230	V _{ac}	
Rated input frequency	47...63	Hz	Performance range
Rated input current	0.8	A	@ rated output power @ rated input voltage
Max. input current	0.95	A	@ rated output power @ minimum performance input voltage
Rated input power	164.0	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	92.5	%	@ rated output power @ rated input voltage @max. U _{out}
Input voltage AC	95...305	V _{ac}	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	27...54	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	2100...4600	mA	
Output current min programmable	2100	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 _{st} ^{LM}	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	56.7...150.0	W	Rated output power is 150W

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

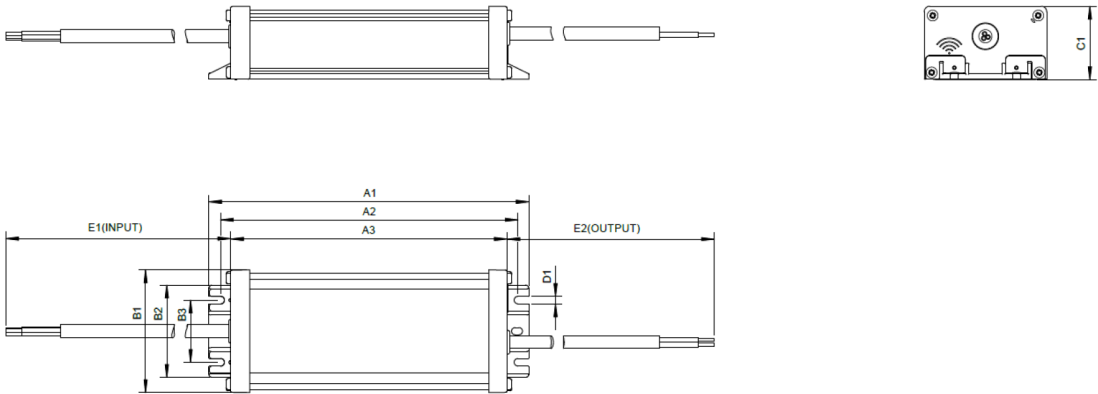
Specification item	Value	Unit	Type
Input wire cross-section	1	mm ²	3x 1.0mm ² stranded wires, waterproof cable
Output wire cross-section	1	mm ²	2x 1.0mm ² stranded wires, waterproof cable
Maximum cable length	2	m	Total length of wiring including LED module, one way

Isolation

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

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	146	mm	± 3
Mounting hole distance (A2)	133.5	mm	± 3
Length (A3)	122	mm	± 3
Width (B1)	67	mm	± 1.5
Width (B2)	50.5	mm	± 0.3
Width (B3)	34	mm	± 0.3
Height (C1)	38	mm	± 1.5
Mounting hole diameter (D1)	4.2	mm	± 0.3
Input cable length (E1)	450	mm	± 30
Output cable length (E2)	350	mm	± 30
Weight	560	gram	

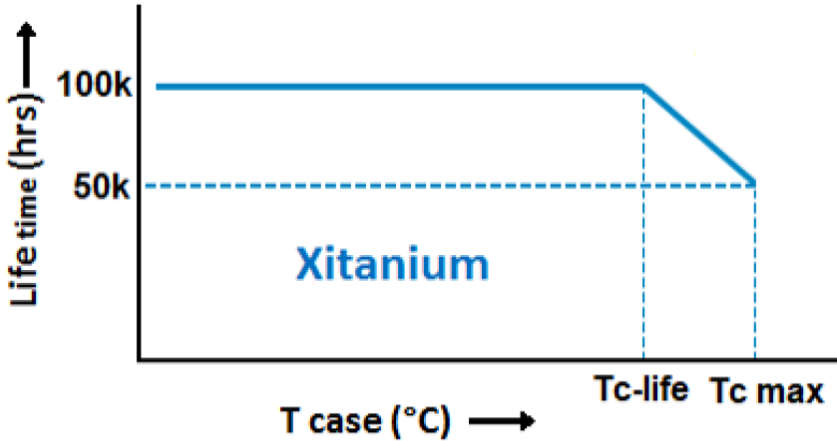


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+55	°C	Higher ambient temperature allowed as long as T _{case} -max is not exceeded
T _{case} -max	85	°C	Maximum temperature measured at T _{case} -point
Maximum housing temperature	130	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	hours	Measured temperature at Tcase-point is Tcmax - 10 degrees. Maximum failures = 10%
Driver lifetime Tcmax	50,000	hours	Measured temperature at Tcase-point is Tc-max. Maximum failures = 10%



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	3000 mA	

Non-programmable features

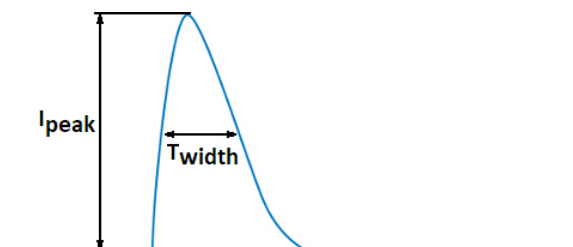
Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Overtemperature protection	Yes		Automatic recovering, refer to thermal guard curve

Inrush current

Specification item	Value	Unit	Condition
Inrush current	70	A	Input voltage 230V
Inrush peak width	195	μs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 9	pcs	Input voltage 230V

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

If several mini circuit breakers are used directly side-by-side (without distance pieces)
a correction factor of 80% has to be applied to the rated current



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

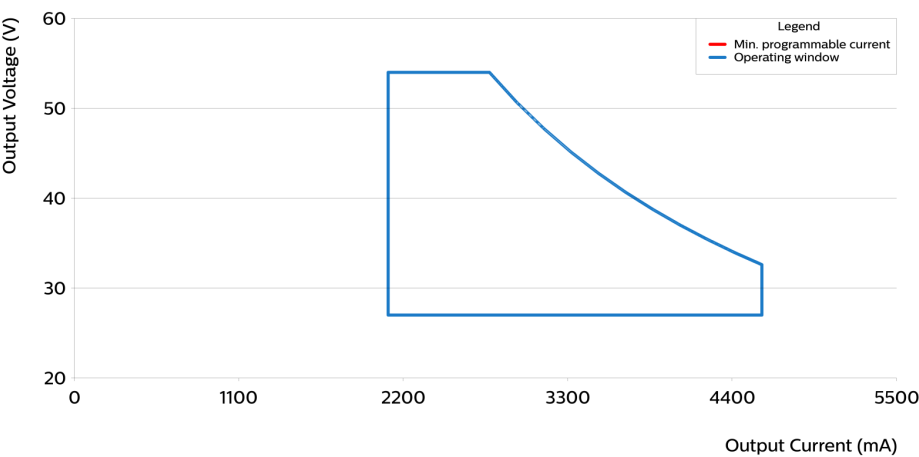
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us, 8/20us

Application Info (Approbation)

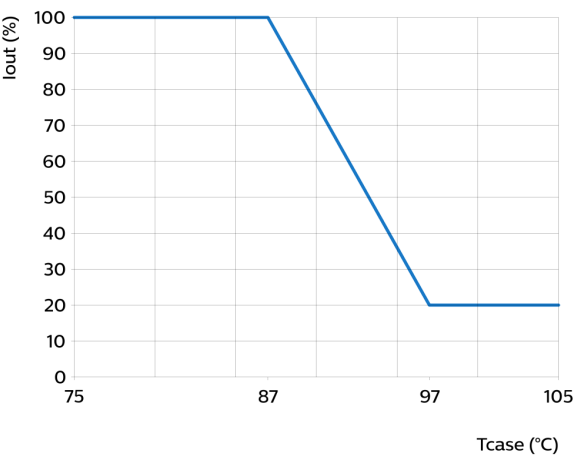
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / SELV / UKCA
Ingress Protection classification (IP)	67
Application	Outdoor
Mounting Type	Independent

Graphs

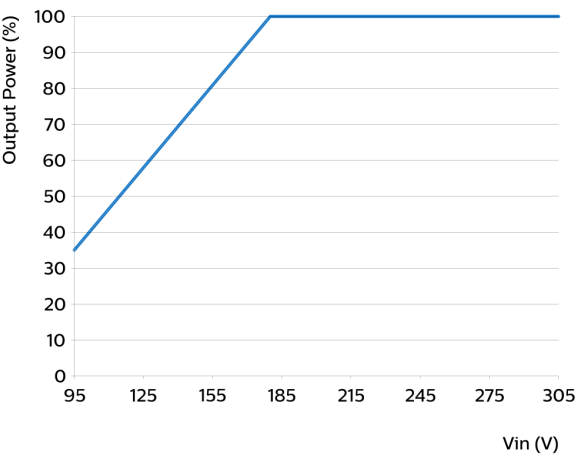
Operating window



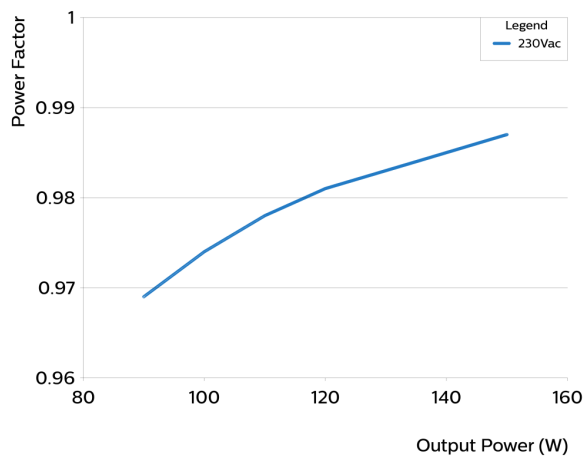
Thermal Guard



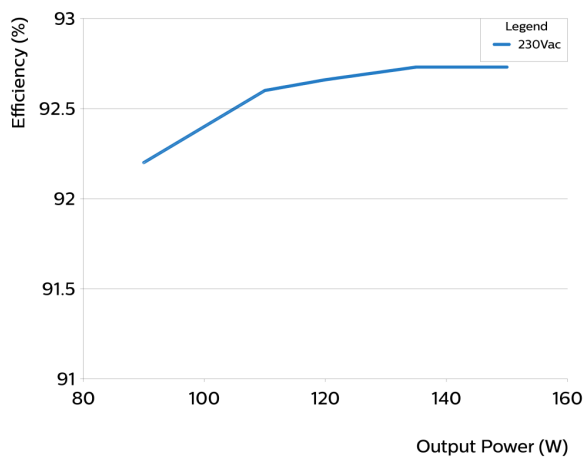
Mains Guard



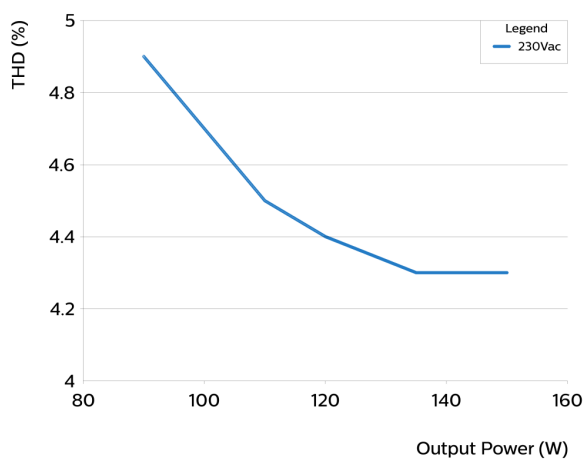
Power factor versus output power



Efficiency versus output power



THD versus output power





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