

Datasheet

Xitanium

XI EP 150W 0.1-1.5A 0-10V LA
9290 010 09361



Xitanium Long-lasting and low maintenance, LED-based light sources are an excellent solution for all lighting applications. For optimal performance, these solutions require reliable drivers matching the long lifetime of the LEDs. The Philips Xitanium LED outdoor driver portfolio offers a range of products specially designed to operate LED solutions in outdoor applications. These drivers are designed for hard-wired integration into outdoor luminaires for the most rugged applications. They operate to specification under wide temperature and electrical ranges to ensure reliability.

Benefits

- Enables long life luminaire designs
- Allows luminaire designs for a wide range of ambient environments
- Easy to design-in and reduces SKUs

Application

- Area
- Roadway
- Parking garages
- Floodlights

Features

- 100,000+ hour lifetime @75°C
- Excellent thermal performance
- Suitable for Class I and Class II applications
- Digital and simple adjustable output current (AOC) based on NFC technology
- Surge protection: 6/6kv (DM/CM)

Logistical data

Specification item	Value
Product name	XI EP 150W 0.1-1.5A 0-10V LA
EOC	XL150C150V143BSH1
Logistic code 12NC	9290 010 09361
Product code	XL150C150V143BSH1M
Pieces per box	10
Weight	785 gram

Electrical input data

Specification item	Value	Value	Value	Value	Unit	Condition
Rated input voltage range	90...305				V _{ac}	Operation range
Rated input voltage	120	127	220	230	V _{ac}	
Rated input frequency	50...60	50...60	50...60	50...60	Hz	Performance range
Rated input current	1.38	1.31	0.73	0.7	A	@ rated output power @ rated input voltage
Rated input power	164.0	163.0	161.0	160.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.95	≥ 0.95	≥ 0.95	≥ 0.95		@ rated output power @ rated input voltage@ rated output power @ rated input voltage
Total harmonic distortion	10	10	10	10	%	@ rated output power @ rated input voltage
Efficiency	91.0	91.0	93.0	93.0	%	@ rated output power @ rated input voltage
Standby Power (W)	0.6	0.6	0.5	0.5	W	

Electrical output data

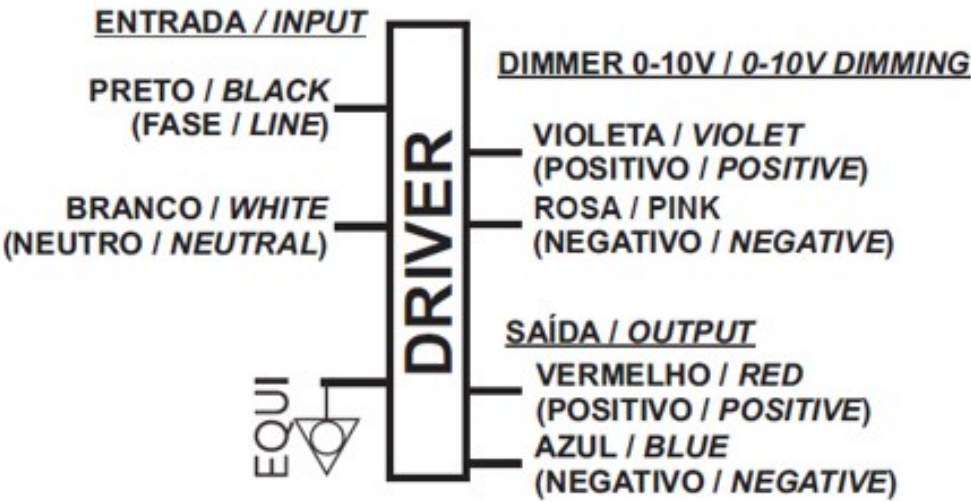
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	72...143	V _{dc}	
Output voltage max.	190	V	Open Circuit Voltage
Output current	100...1500	mA	
Output current min programmable	100	mA	
Min output current	50	mA	
Output current tolerance ±	5	%	within performance window
Output current ripple LF	≤ 15	%	@ max lout
Output current ripple LF	≤ 4	%	@ frequency range 60Hz-3KHz
Output P _{st} ^{LM}	≤ 1.0		
Output SVM	≤ 0.4		
Output power	3.6...150.0	W	
Minimum performance output power	50	W	Power factor > 0.9 and THD < 20%

Control interfaces

Specification item	Value	Unit	Condition
Control method	0-10V		
Dimming range	10...100	%	Default range
Dimming Source Current	0.25	mA	max source current across entire dimming range
Maximum Dimming Voltage	12	V	

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	

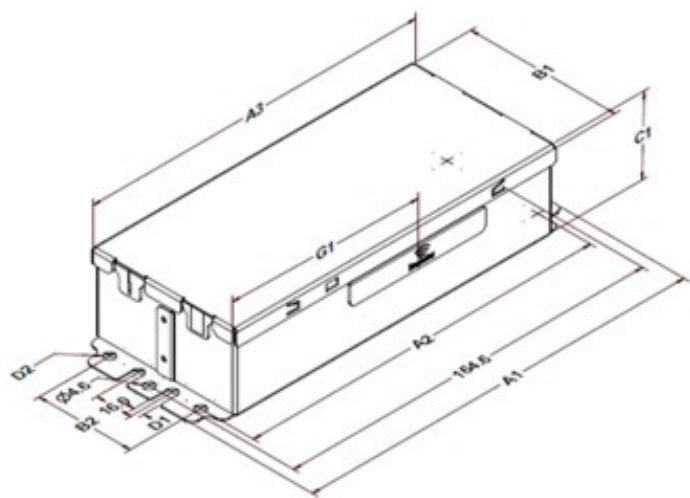


Isolation

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

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	175.2	mm	± 0.5
Mounting hole distance (A2)	159	mm	± 0.5
Length (A3)	152.1	mm	± 0.5
Width (B1)	68	mm	± 0.5
Height (C1)	37	mm	± 1
Input cable length (E1)	270	mm	± 30
Output cable length (E2)	270	mm	± 30
Control cable length (E3)	270	mm	± 30
Center of SimpleSet antenna (G1)	86.1	mm	± 3
Weight	785	gram	

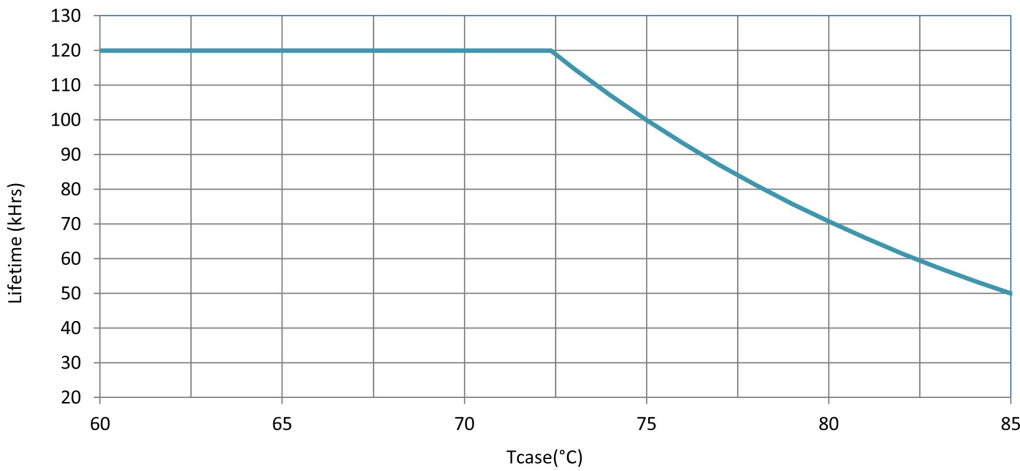


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-30...+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-life	85	°C	50000 hours measured at T _c -point

Lifetime

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



Maximum failures = 10%

Programmable features

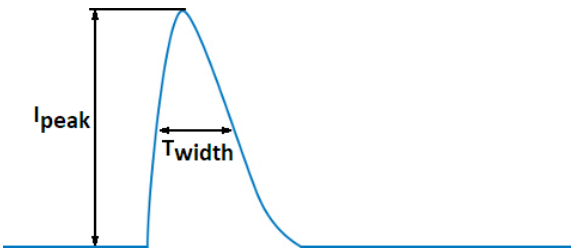
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	NFC, SimpleSet	1050 mA	
0-10V	Yes		
OEM Write Protection (OWP)	Yes		

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
Overtemperature protection	Yes	Automatic recovering

Inrush current

Specification item	Value	Unit	Condition
Inrush current	53	A	Input voltage 127V
Inrush current	93	A	Input voltage 220V
Inrush peak width	267	µs	Input voltage 127V, measured at 10% height
Inrush peak width	257	µs	Input voltage 220V, measured at 10% height



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 piece) a correction factor of 80% has to be applied to the rated current

Surge immunity

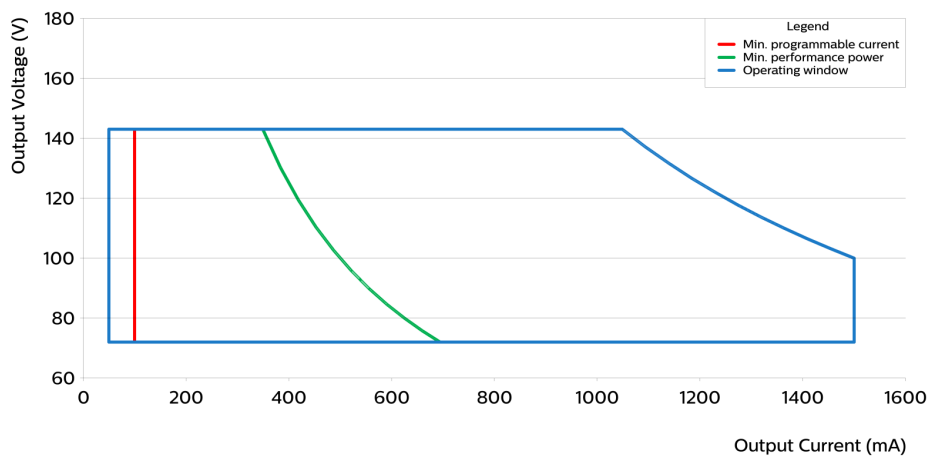
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	IEC 61000-4-5 Surge Type 1.2/50us Combination Wave (w/t 2 ohm)
Mains surge immunity (comm. mode)	6	kV	IEC 61000-4-5 Surge Type 1.2/50us Combination Wave (w/t 12 ohm)

Application Info (Approbation)

Specification item	Value
Approval marks and Certifications	CB / CE / RoHS
EMI standards	CISPR 15
Audible Noise	<24dB Class A

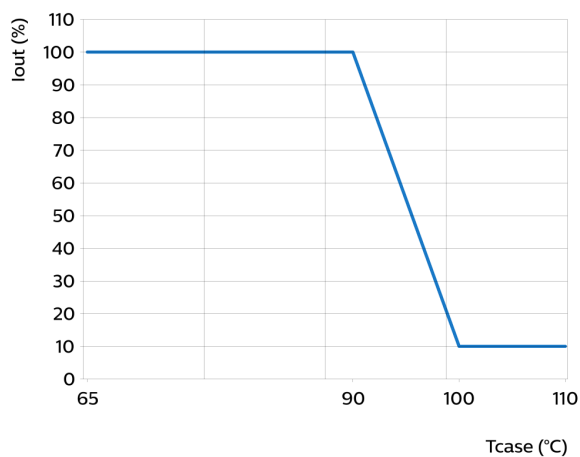
Graphs

Operating window

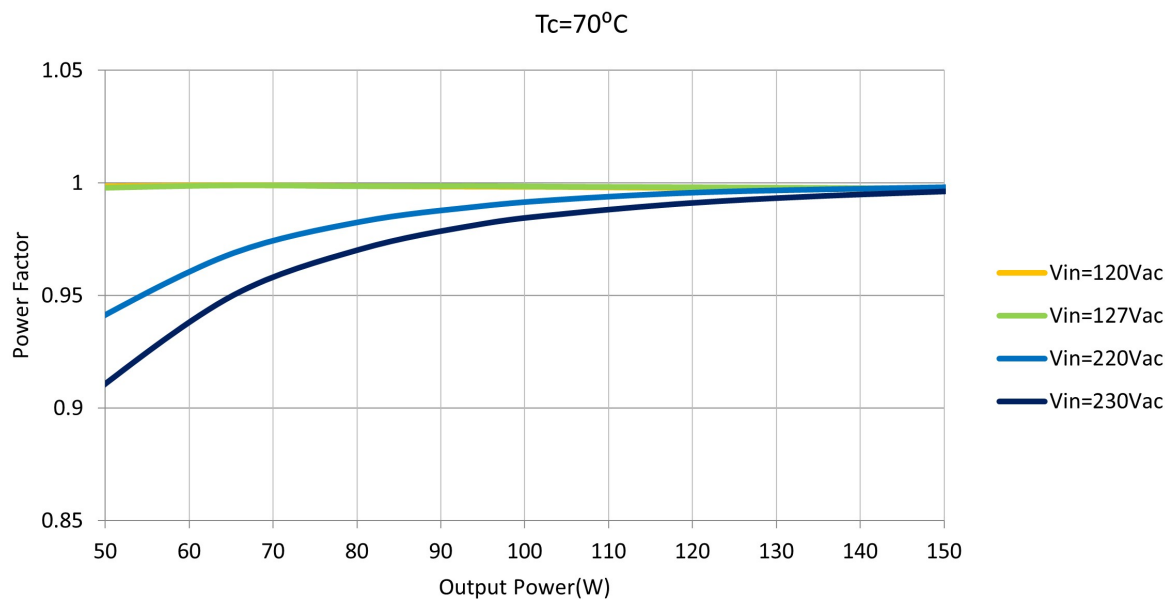


- Factory default output current is 1.05A.
- To get a 100% to 10% dimming range, the output current setting through AOC should be ≥ 0.5 A.
- Factory default minimum dimming is 10%. This can be adjusted between 10% and 100% using Philips MultiOne.

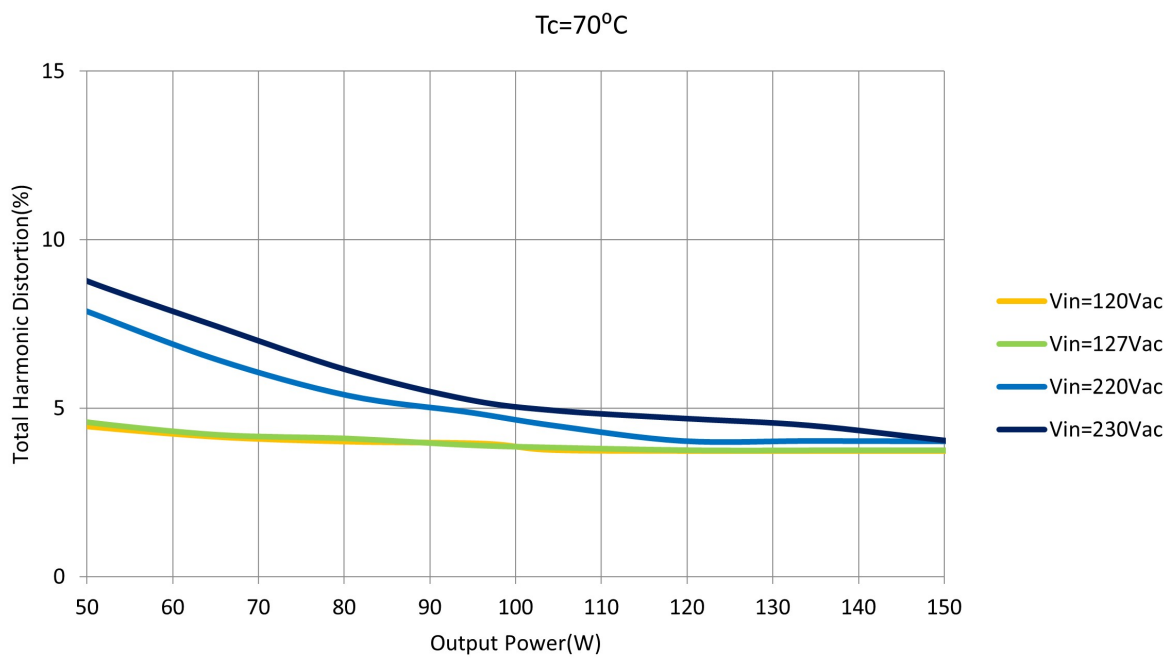
Thermal Guard



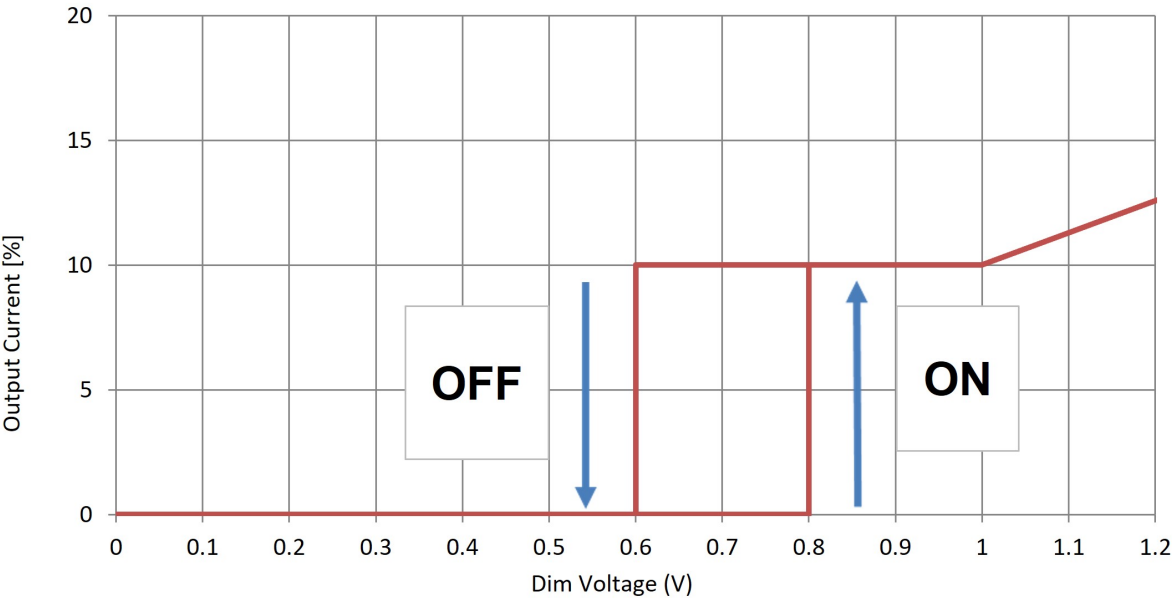
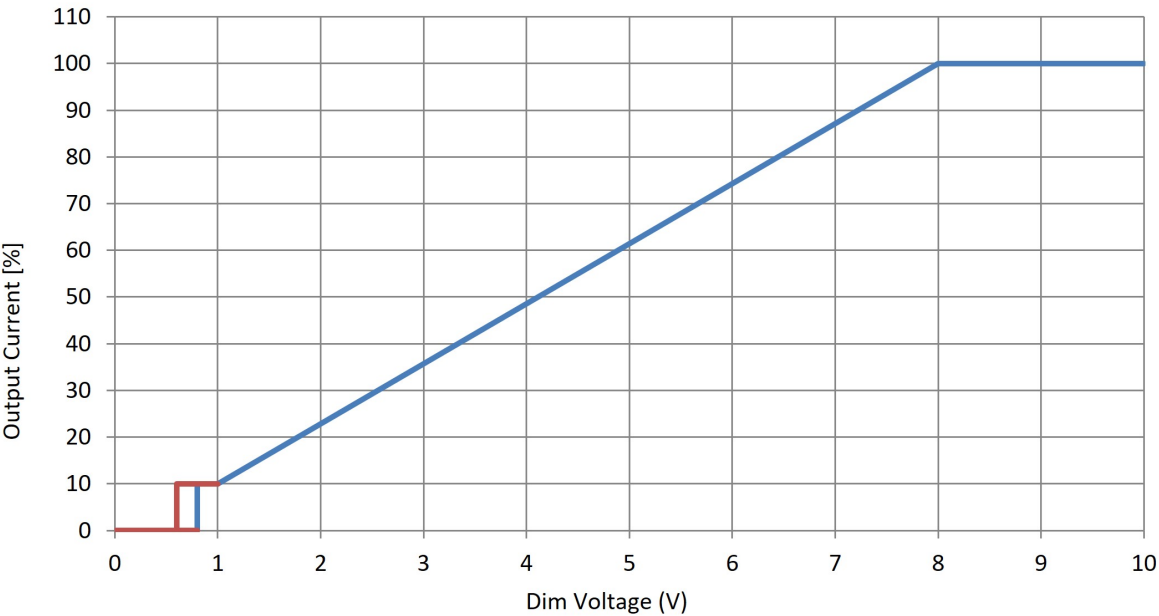
Power factor versus output power



THD versus output power



I_{out} as function of 0-10V interface



Efficiency as function of V_{out}

