PHILIPS

Xitanium

LED driver

Datasheet

Xitanium Outdoor LED Drivers Single Current

Xitanium 65W 1.05A 230V I160

LED-based light sources are an excellent solution for outdoor environments. They are long-lasting and require low maintenance. However, to get the best out of the LEDs. These light sources require highly reliable and efficient LED Drivers. The Philips Xitanium Fixed Output LED Outdoor Drivers are specifically designed to deliver reliable performance and protection while meeting strict performance, approbation and application requirements.

Benefits

Reliable

- Robust design; capable of withstanding harsh outdoor conditions
- Long lifetime and high survival rate
- Superior thermal management suitable for outdoor application
- Backed by high year warranty from a company you can trust

Affordable

- Component integration in advanced IC enables cost effective design.
- Proven robustness & reliability secure the lowest luminaire maintenance over time.

Easy to use

- Extreme compact size. fitting with varied luminaires.
- Easy to design-in based on the good thermal management and extra EMI margin

Features

- Proven robustness and reliable electronic driver design
- Achieving highest efficiencies based on advance technology
- Long lifetime warrantee @Tc max
- Extreme compact size, fitting with varied and critical luminaires
- Authorized certificate: ENEC, CB, CE and CCC

Applications

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

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Electrical Input Data

Specification item	Value	Unit	Condition
Nominal input voltage	220 ... 240	Vac	
Input Voltage AC	202 ... 254	Vac	performance range
Nominal input frequency	50 ... 60	Hz	
Nominal input current	0.28	A	@230V @ full load
Max. input current	0.31	A	@ minimum input voltage AC
Nominal input power	72	W	@230V @ full load
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	89	%	@230V @ full load
Input voltage AC	110 ... 305	Vac	Safety operation range
Input frequency AC	47.5 ... 63	Hz	Maximum permissible range
Isolation Input to Output	Basic		

Electrical Output Data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	42 ... 62	Vdc	
Output voltage max.	80	V	Peak voltage at open load
Output current	1.05	A	Full output current setting
Output current tolerance	± 5	%	Max. output current at 25°C Tcase
Output current ripple LF	≤ 30	%	Ripple=(peak-average)/average, at <1kHz
Output power	45.5 ... 65	W	Full output

Electrical Data Control Input

Specification item	Value	Unit	Condition
Control method	Fixed		

Logistical Data

Specification item	Value
Product name	Xitanium 65W 1.05A 230V I160
Order code	
Logistic code 12NC	9290 014 06080
EAN3	
Pieces per box	20

Wiring & Connections

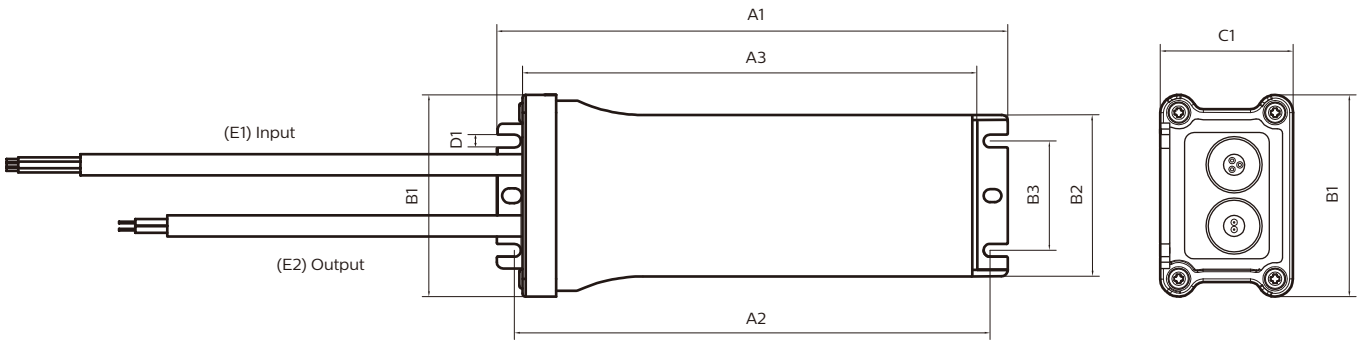
Specification item	Value	Unit	Condition
Input Wire Size	1.0	mm^2	3-wire cable: 300V/500V rating or higher
Output Wire Size	1.0	mm^2	2-wire cable: 300V/500V rating or higher
Input Wire Length	350 ± 30	mm	Out of enclosure and not including connector length
Output Wire Length	300 ± 30	mm	Out of enclosure and not including connector length

Insulation

Insulation	Mains	LED	Protective Earth
Mains		Basic	Basic
LED	Basic		Basic
Protective Earth	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	160	mm	
Width (B1)	63	mm	
Height (C1)	41.3	mm	
Fixing hole diameter (D1)	4.5	mm	
Fixing hole distance (A2)	148	mm	
Fixing hole diameter (B3)	34	mm	
Weight		gram	



Data Sheet	
Item	**Dimensions**
A1	159 +0/-2.5
A2	148 +0.5/-2
A3	142 +0.5/-2
B1	63 +0.5/-0.5
B2	50.2 +0.3/-0.3
B3	34 +0.3/-0.3
C1	41.3 +0.5/-0.5
D1	4.5
E1	350 +30/-30
E2	300 +30/-30

Operational temperatures and humidity

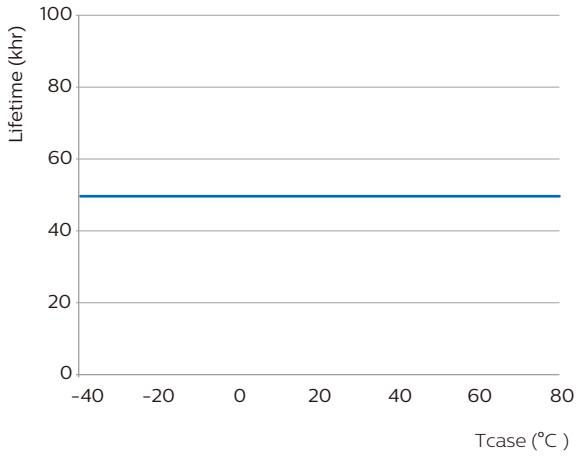
Specification item	Value	Unit	Condition
Ambient Temperature	-40 … +50	°C	Higher ambient temperature allowed as long as T_{case}-max is not exceeded
Tcase-max	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°C	Measured at T_{case}-point
Maximum housing temperature	90	°C	In case of a failure
Relative humidity	5...90	%	Non-condensing

Storage Temperature and Humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5 … 95	%	Non-condensing

Lifetime

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



Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	No	See Design-in guide	Default output current: ≤ 1050 mA

Features

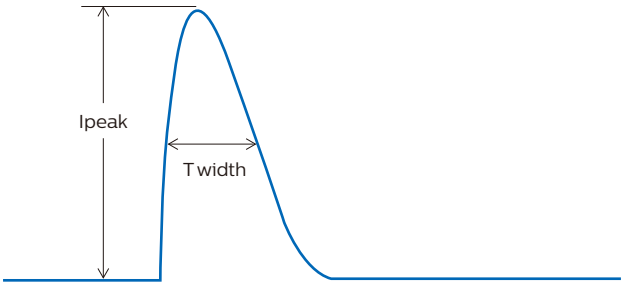
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Over temperature protection driver	Yes		Automatic recover

Certificates and Standards

Specification item	Value
Approval Marks	CB / CCC / CE / ENEC
Ingress Protection Rating	IP 67

Inrush current

Specification item	Value	Unit	Condition
Inrush Current I_{peak}	9	A	Input voltage 230V
Inrush Current T_{width}	58	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A Type B	≤ 48	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

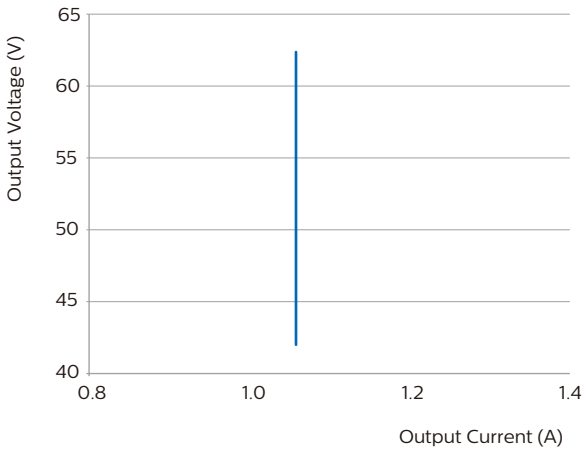
Specification item	Value	Unit	Condition
Typical touch current	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

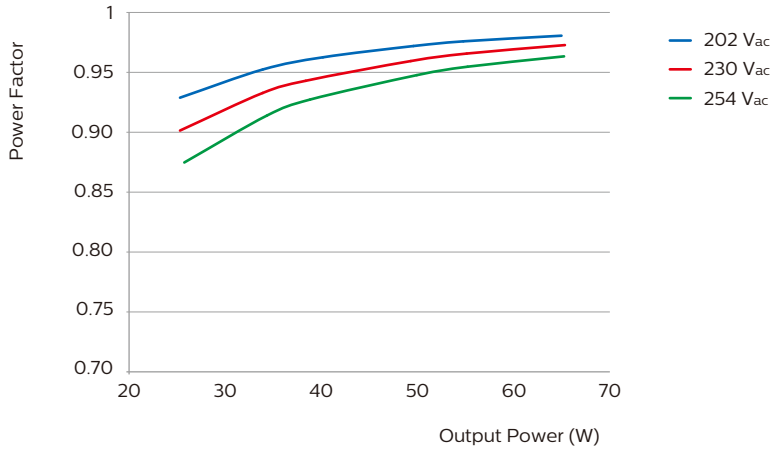
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	4	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us, 8/20us

Graphs

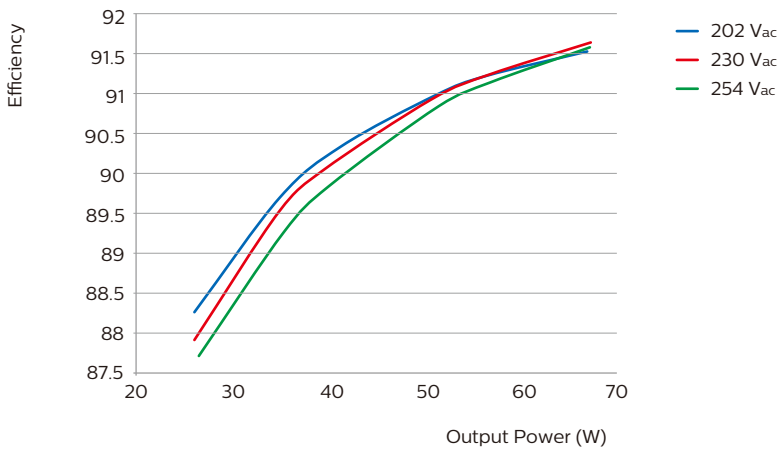
Operating window



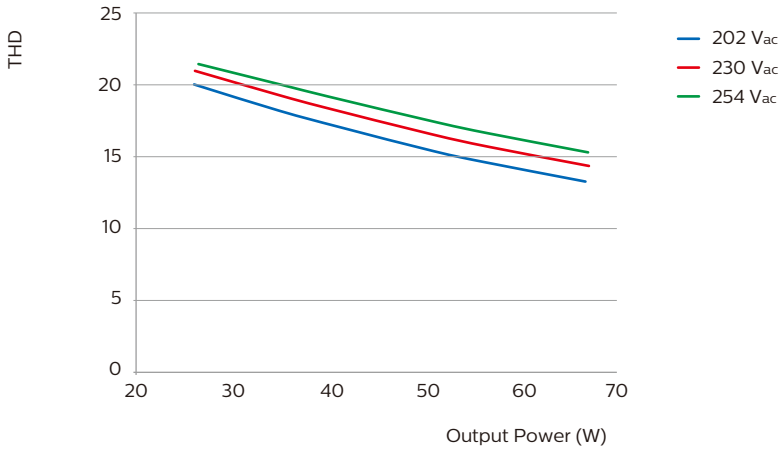
Power factor versus output power (Tcase = 70°C)



Efficiency versus output power (Tcase = 70°C)



THD versus output power (Tcase = 70°C)



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