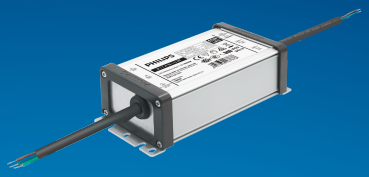
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Outdoor LV LED Drivers AOC Independent

Xitanium 65W 1.2-2.3A AOC 230V I150

9290 021 04380

Xitanium LV LED adjustable current drivers are specifically designed for maximum reliability and core flexibility in low voltage outdoor applications. Having high surge immunity, these durable, independently housed drivers deliver consistent, high performance to luminaires even after multiple indirect lightning strikes – an ideal solution for OEMs that need reliable, adjustable output in a rugged independent form factor.

Benefits

- Low voltage/high current output fits the application of LED strings connecting in parallel
- IP rated housing allows use in a non-fully sealed gearbox
- AOC (Adjustable Output Current) gives full flexibility to output different currents to spec-in different projects
- Easy adjustment of output current/voltage by only one screwdriver
- Robust specifications for moisture, vibration and extreme temperature protection
- Consistent quality of light over module life
- Best energy efficiency by peak design

Features

- Integrated surge immunity per IEC standard
- Outrush current limitation to protect module
- Adjustable output current with wide window
- Long lifetime at high Tc Max

Application

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

June 2019

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220…240	V_{ac}	Performance range
Rated input voltage	230	V_{ac}	
Rated input frequency range	50…60	Hz	Performance range
Rated input current	0.32	A	@ full load @ rated input voltage
Max. input current	0.36	A	@ full load @ minimum performance input voltage
Rated input power	76	W	@ full load @ rated input voltage
Power factor	0.95		@ full load @ rated input voltage
Total harmonic distortion	10	%	@ full load @ rated input voltage
Efficiency	≥ 88	%	@ full load @ 1.2A & 56V
Input voltage AC range	202…254	V_{ac}	Operational range
Input frequency AC range	47.5…63	Hz	Operational range
Isolation input to output	Double		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24…54	V_{dc}	
Output voltage max.	60	V	Peak voltage at open load
Output current	1.2…2.3	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 5	%	Ripple = peak / average
Output current ripple HF	≤ 5	%	
Output power	28.8…65	W	Full output

Electrical data controls input

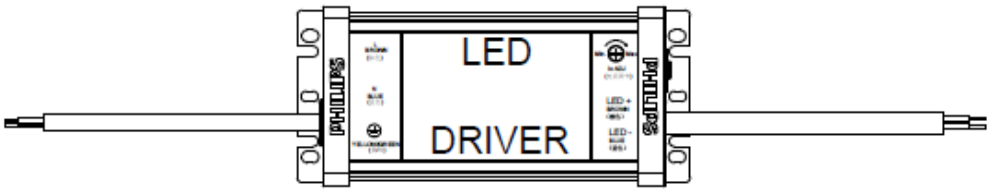
Specification item	Value	Unit	Condition
Control method	Fixed		
Isolation controls input to output	NA		

Logistical data

Specification item	Value
Product name	Xitanium 65W 1.2-2.3A AOC 230V I150
Logistic code 12NC	9290 021 04380
Pieces per box	10

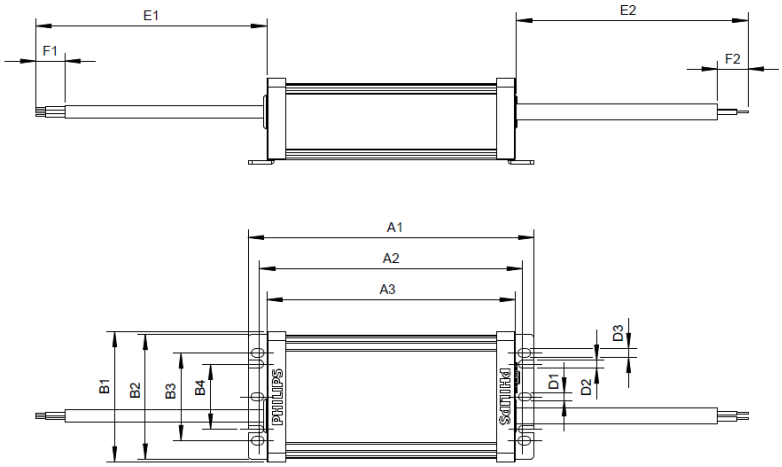
Wiring & Connections

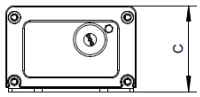
Specification item	Value	Unit	Condition
Input wire cross-section	1	mm^2	3x 1.0mm2 stranded wires, waterproof cable
Output wire cross-section	1	mm^2	2x 1.0mm2 stranded wires, waterproof cable
Maximum cable length	10000	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	150	mm	
Width (B1)	68.2	mm	
Width (B2)	34	mm	
Height (C1)	45	mm	
Fixing hole diameter (D1)	4	mm	
Mounting hole diameter (D2)	4	mm	
Fixing hole distance (A2)	138	mm	
Input cable length (E1)	450	mm	
Output cable length (E2)	350	mm	
Input cable wire length (F1)	30	mm	
Output cable wire length (F2)	30	mm	
Weight	630	gram	





Data Sheet	
Item	Dimensions
A1	150 +0/-2.5
A2	138 +0.5/-2
A3	130.6 +0.5/-2
B1	68.2 +0.5/-0.5
B2	65.2 +0.3/-0.3
B3	45.8 +0.3/-0.3
B4	34 +0.3/-0.3
C	45 +0.5/-0.5
D1	4 +0.1/-0.1
D2	4 +0.1/-0.1
D3	4.5 +0.1/-0.1
E1	450 +30/-30
E2	350 +30/-30
F1	30 +5/-5
F2	30 +5/-5

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	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	70	°C	Measured at T_{case}-point
Maximum housing temperature	110	°C	In case of a failure
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	Value	Remark	Condition
Set Adjustable Output Current (AOC)		See Design-in guide.	Default output current: = 1200 mA

Features

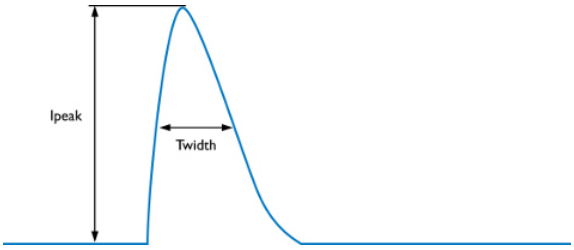
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Over temperature protection driver	Yes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

Certificates and standards

Specification item	Value
Approval marks	CB / CCC / CE / ENEC / RCM
Ingress Protection classification (IP)	65

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	50	A	Input voltage 230V
Inrush current T_{width}	107	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 18	pcs	Indicative value



MCB	Rating	Relative number of LED drivers
B	4A	25%
B	6A	40%
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
B	32A	200%
B	40A	250%
C	4A	42%
C	6A	63%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%
C	32A	340%
C	40A	415%

Driver touch current / protective conductor current

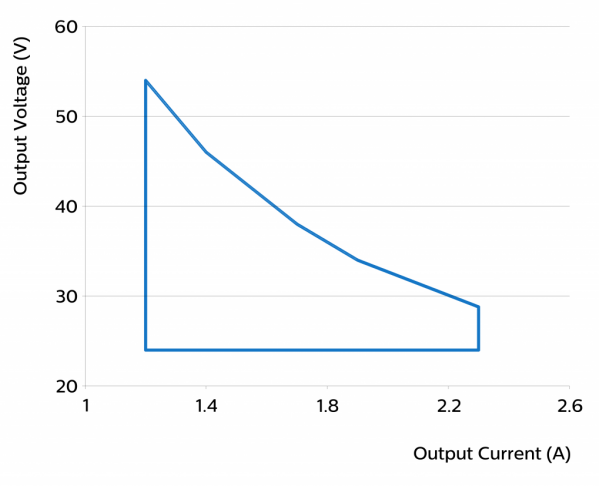
Specification item	Value	Unit	Condition
Typical protective conductor current (ins. Class I)	3.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

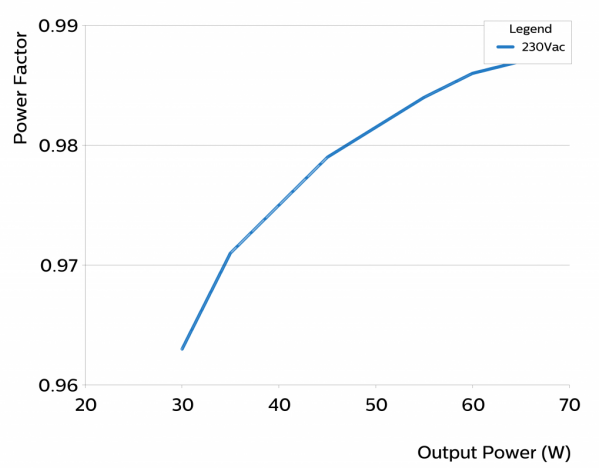
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	4	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	Acc.IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Graphs

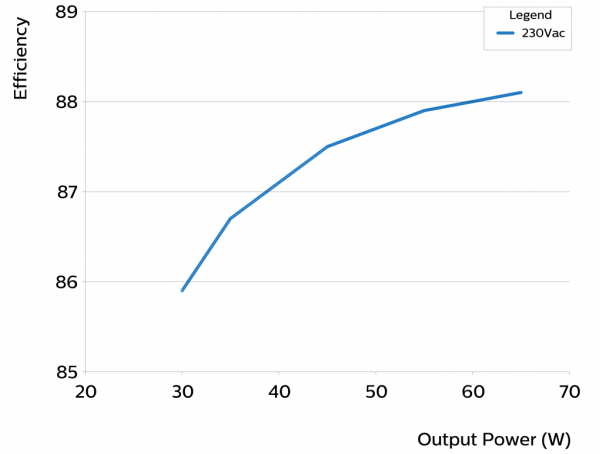
Operating window



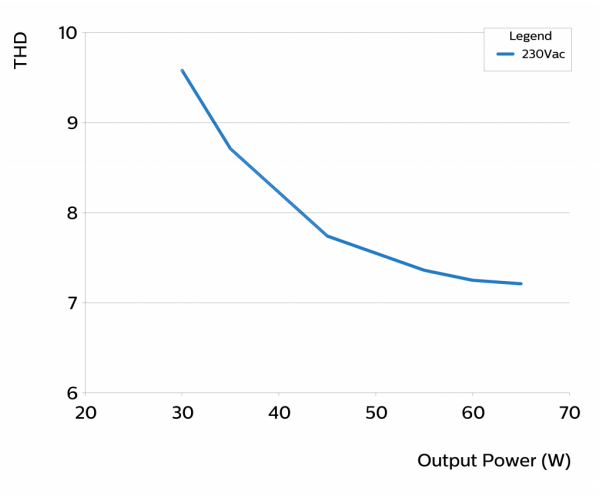
Power factor versus output power



Efficiency versus output power



THD versus output power



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