

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Outdoor LV LED Drivers AOC Independent

Xitanium 200W 2.8-5.6A AOC 230V I200

9290 028 29480

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

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 range	47...63	Hz	Performance range
Rated input current	1	A	@ rated output power @ rated input voltage
Max. input current	1.32	A	@ rated output power @ minimum performance input voltage
Rated input power	218	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	%	@ rated output power @ rated input voltage @ max. U _{out}
Input voltage AC range	85...305	V _{ac}	Operational range
Input frequency AC range	45...66	Hz	Operational range
Isolation input to output	Double		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	21...71	V _{dc}	
Output voltage max.	100	V	Maximum output voltage (rms)
Output current	2.8...5.6	A	
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}	≤ 0.03		In entire operating window
Output SVM	≤ 0.09		In entire operating window
Output power	58.8...200	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

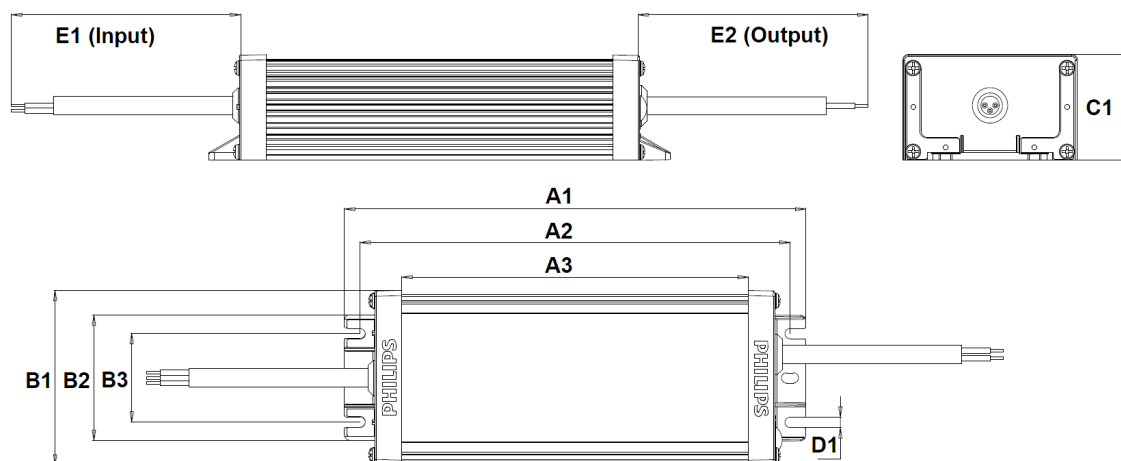
Specification item	Value	Unit	Type
Input wire cross-section	1	mm ²	3x 1.0mm ² stranded wires, waterproof cable
Output wire cross-section	1	mm ²	2x 1.0mm ² stranded wires, waterproof cable
Maximum cable length	2	m	Total length of wiring including LED module, one way

Insulation

Insulation per IEC61347-1	Input Wires	Output Wires	Chassis
Input Wires		Double	Basic
Output Wires	Double		Basic
Chassis	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	200	mm	± 1
Mounting hole distance (A2)	188	mm	± 1
Length (A3)	155	mm	± 1
Width (B1)	67	mm	± 0.5
Width (B2)	48	mm	± 0.5
Width (B3)	34	mm	± 0.3
Height (C1)	40.3	mm	± 1
Mounting hole diameter (D1)	4	mm	± 0.2
Input cable length (E1)	450	mm	± 30
Output cable length (E2)	450	mm	± 30
Weight	920	gram	



Logistical data

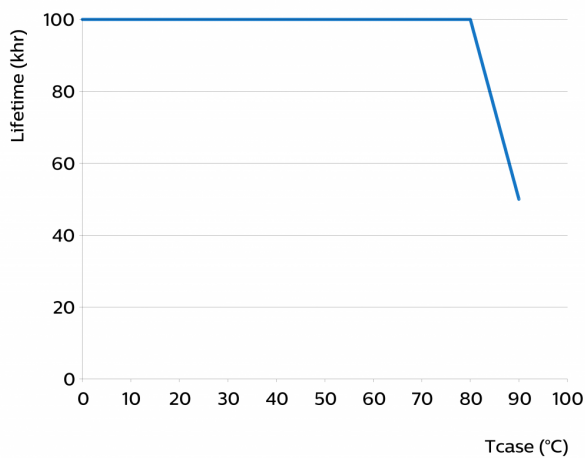
Specification item	Value
Product name	Xitanium 200W 2.8-5.6A AOC 230V I200
EOC	871951429309000
Logistic code 12NC	9290 028 29480
EAN1 (GTIN)	8719514293090
EAN3	8719514293106
Pieces per box	10

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	90	°C	Maximum temperature measured at T _{case} -point
Tcase-life	80	°C	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	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

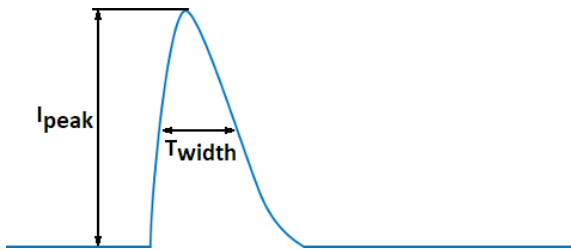
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Manual	2800 mA	

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	50	A	Input voltage 230V
Inrush current T_{width}	545	μs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 4	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)	0.7	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

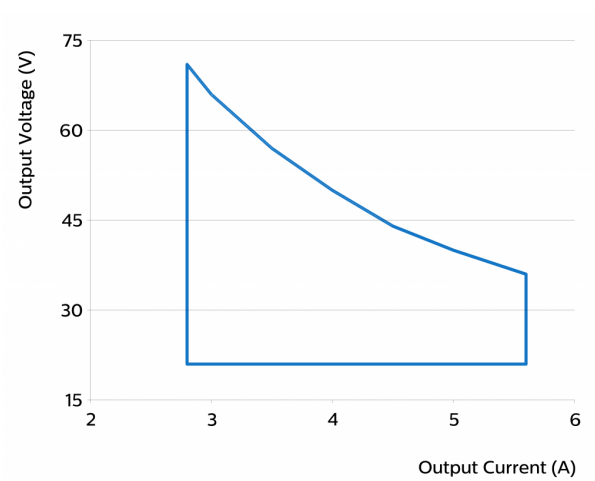
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	4	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us, 8/20us

Application Info

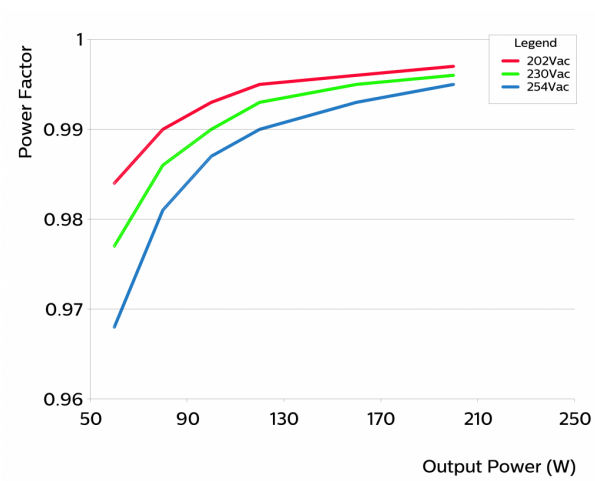
Specification item	Value
Approval marks	CB / CCC / CE / ENEC / RCM / TISI
Ingress Protection classification (IP)	65

Graphs

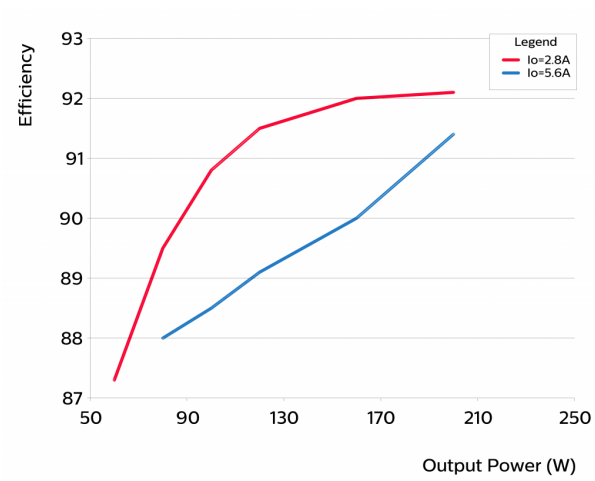
Operating window



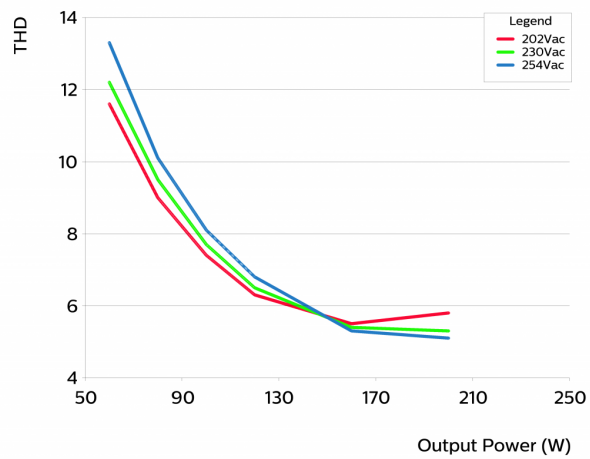
Power factor versus output power



Efficiency versus output power



THD versus output power



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