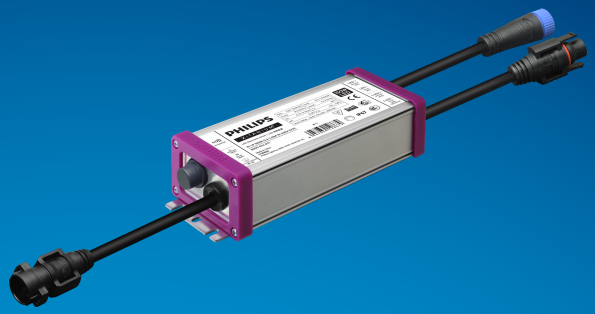
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LITE Prog LED drivers Independent

Xi LP 150W 0.3-1.05A S1 230V I175C

Philips Xitanium Lite Programmable LED drivers are value engineered to deliver a carefully selected feature set and high-end performance, making it a preferred choice for many outdoor applications. The portfolio offers high flexibility with a customizable operating window, enabling differentiation in LED lighting designs via system tuning and being prepared for LED efficacy upgrades.

In this product family Philips introduces new drivers in a stretched form factor with a balanced feature set, which offer high value for both OEM customers and end-users. The products can replace the existing programmable outdoor LED drivers and will bring significant improvement in programming, assembly into a luminaire and electrical performance. One of the key features is SimpleSet®, an easy and fast way to configure the driver without the need to power the driver.

Benefits

- Ultimate robustness, offering peace of mind and lower maintenance costs
- Energy savings through high efficiency and via a choice of dimming options
- Balanced configurable feature set covering the most common applications
- Consistent waterproof performance through the lifecycle
- Easy to design-in, configure and install for Class I applications

Features

- SimpleSet®, wireless configuration interface
- High surge protection
- Long lifetime and robust protection against moisture, vibration and temperature
- Configurable operating windows(AOC)
- External control interface (1-10V) available
- Digital Configuration Interface (DCI) via MultiOne Interface
- Autonomous or Fixed time based (FTBD) dimming via integrated 5-step DynaDimmer
- Programmable Constant Light Output (CLO)
- Integrated Driver Temperature protection

Application

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

September 2016

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V_{ac}	performance range
Nominal input frequency	50...60	Hz	
Nominal input current	0.73	A	@230V @ full load
Max. input current	0.83	A	@ minimum input voltage AC
Input voltage	230	V_{ac}	
Nominal input power	165	W	@230V @ full load
Power factor	⩾ 0.98		@ full load. See graph.
Total harmonic distortion	⩽ 20	%	@ full load. See graph.
Efficiency	91	%	@230V @ full load
Input voltage AC	85...305	V_{ac}	Safety operational range
Input frequency AC	47.5...63	Hz	Operational range
Isolation Input to Output	Basic		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	72...214	V_{dc}	
Output voltage max.	320	V	Peak voltage at open load
Output current	0.3...1.05	A	Full output current setting
Output current min programmable	300	mA	
Output current min dimming	70	mA	
Output current tolerance	± 5	%	
Output current ripple LF	⩽ 4	%	at<1kHz
Output current ripple HF	⩽ 15	%	
Output power	75...150	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	1-10V, Dynadimmer		
Dimming range	10...100	%	Default range
Galvanic Isolation	Basic		

Logistical data

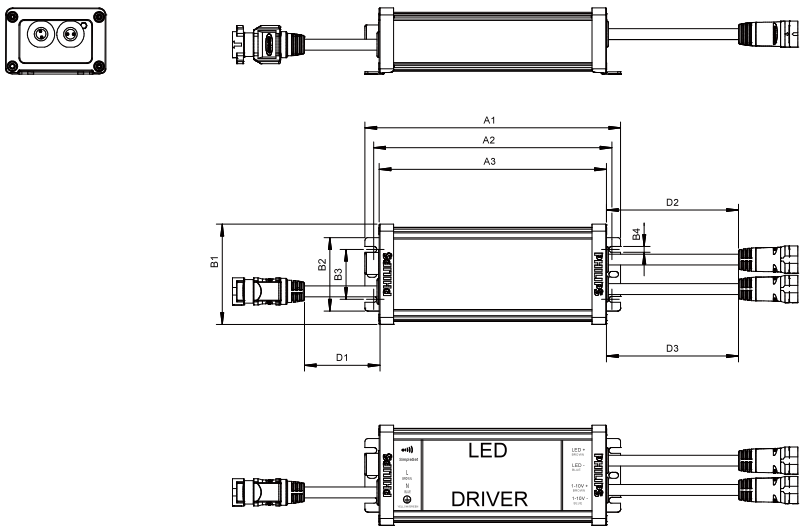
Specification item	Value
Product name	Xi LP 150W 0.3-1.05A S1 230V I175C
Order code	
Logistic code 12NC	9290 014 07180
EAN3	
Pieces per box	10

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.33…0.75	mm^2	stranded wire
	18…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	
Output wire cross-section	0.33…0.75	mm^2	stranded wire
	18…22	AWG	stranded wire
Output wire strip length	7.5…8.5	mm	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	175	mm	
Width (B1)	68.2	mm	
Height (C1)	45	mm	
Fixing hole diameter (D1)	4	mm	
Fixing hole distance (A2)	162	mm	



Data Sheet	
Item	Dimensions
A1	175 +0/-2.5
A2	162 +0.5/-2
A3	155 +0.5/-2
B1	68.2 +0.5/-0.5
B2	50 +0.3/-0.3
B3	34 +0.3/-0.3
B4	4 +0.1/-0.1
C	45 +0.5/-0.5
D1	200 +30/-30
D2	230 +30/-30
D3	230 +30/-30

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.
Starting Ambient temperature	-40…+50	°C	
Tcase-max	**80**	°C	Maximum temperature measured at T_{case}-point
Tcase-life	**70**	°C	Measured at T_{case}-point
Maximum housing temperature	**130**	°C	In case of a failure
Relative humidity	10…90	%	Non-condensing

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	**-40…+80**	°C	
Relative humidity	5…95	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	hours	Measured temperature at $T_{c\text{-}life}$ Maximum failures = 10%

Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	SimpleSet	See Design-in guide.	Default output current: = 700mA
Diagnostics	Yes		
Adjustable Start-up Time AST	Yes		
Integrated Dynadimmer	Yes		5 steps FTBD
End Of Life indicator	Yes		

Features

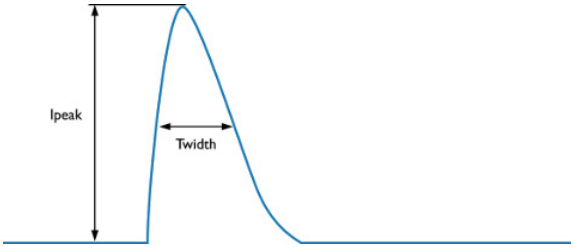
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Over temperature protection driver	Yes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

Certificates and standards

Specification item	Value
Approval marks	CB / CCC / CE / ENEC
Ingress Protection classification	IP67

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	47.2	A	Input voltage 230V
Inrush current T_{width}	320	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	9	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	< 0.6	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

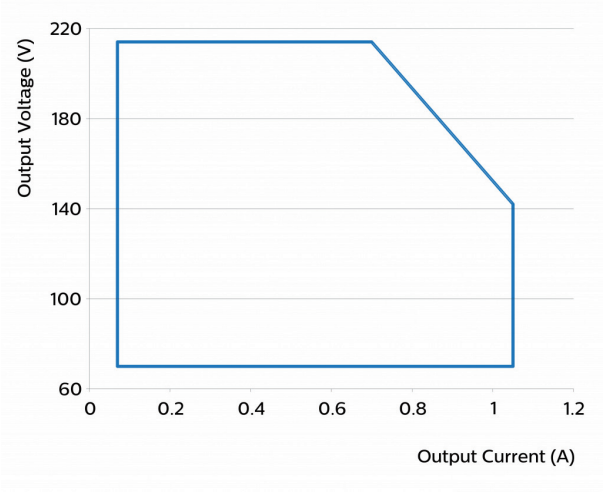
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	L-N, acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	10	kV	L/N - GND acc. EN61547 12 Ohm, 1.2/50us,8/20us
Control surge immunity (diff. mode)	0.5	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	6	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Additional information

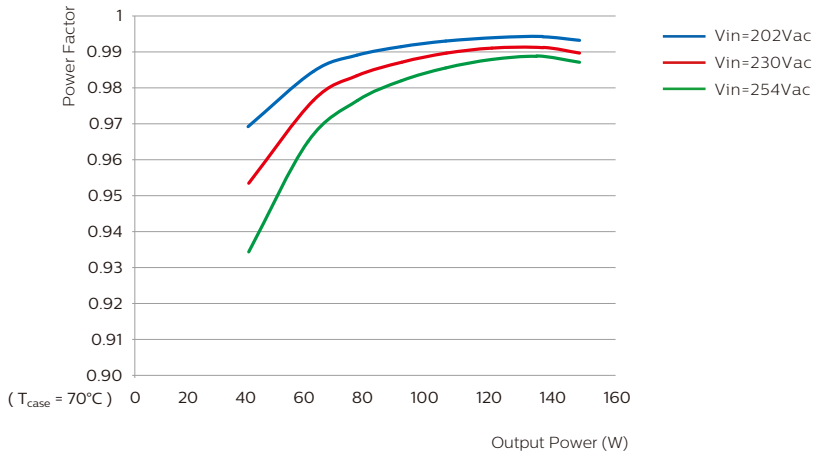
Specification item	Default setting	Remark	Condition
Dynadimmer	OFF		
1-10V	ON		

Graphs

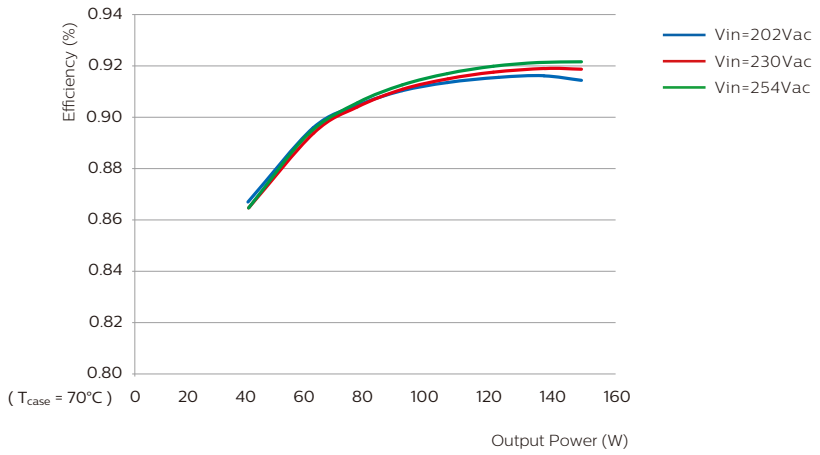
Operating window



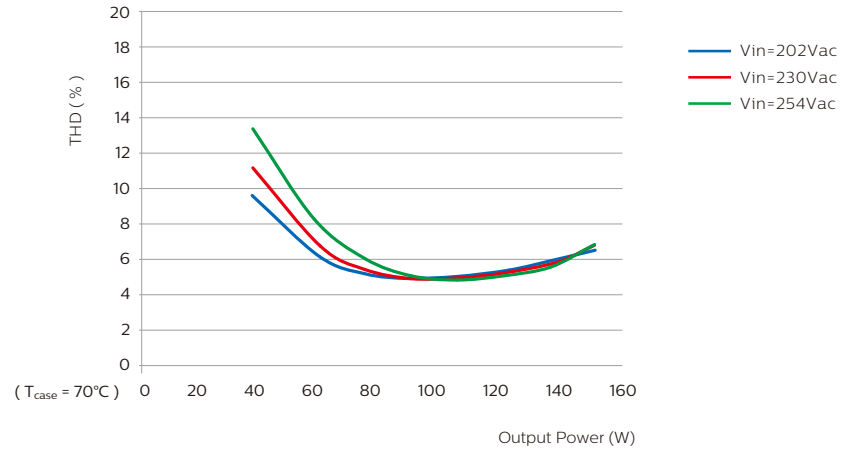
Power factor versus output power



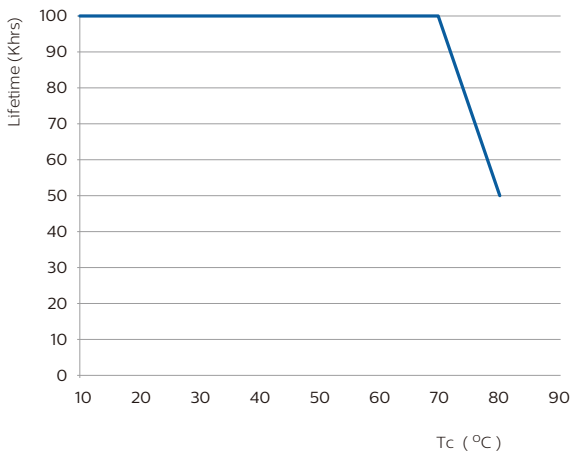
Efficiency versus output power



THD versus output power



Lifetime vs Tcase



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