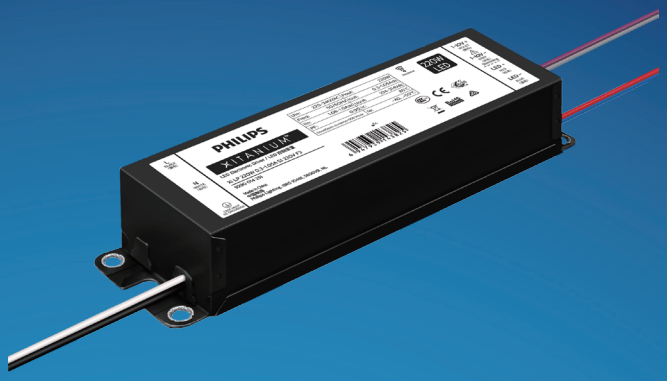
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LITE Prog LED Xtreme drivers

Xi LP 220W 0.3-1.05A S1 230V F3

Xitanium LITE Prog LED Xtreme drivers

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 offers drivers in both compact as well as stretched form factors 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

March 2018

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	1.0	A	@ rated output power @ rated input voltage
Max. input current	1.08	A	@ rated output power @ minimum performance input voltage
Rated input power	240	W	@ rated output power @ rated input voltage
Power factor	⩾ 0.99		@ rated output power @ rated input voltage
Total harmonic distortion	⩽ 10	%	@ rated output power @ rated input voltage
Efficiency	⩽ 93	%	@ rated output power @ rated input voltage
Input voltage AC range	85...305	V_{ac}	Safety operational range
Input frequency AC range	45...66	Hz	Operational range
Isolation input to output	Basic		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	104...314	V_{dc}	
Output voltage max.	500	V	Maximum voltage at open load
Output current	0.07...1.05	A	
Output current min programmable	300	mA	
Output current min dimming	70	mA	
Output current tolerance	± 5	%	
Output current ripple LF	⩽ 4	%	Ripple = peak / average @ ⩽1kHz
Output current ripple HF	⩽ 15	%	
Output power	7.3...220	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	1-10	V	Output current amplitude dimming, 1-10V acc. IEC60929
Dimming range	10...100	%	Default range
Galvanic Isolation	Basic		

Logistical data

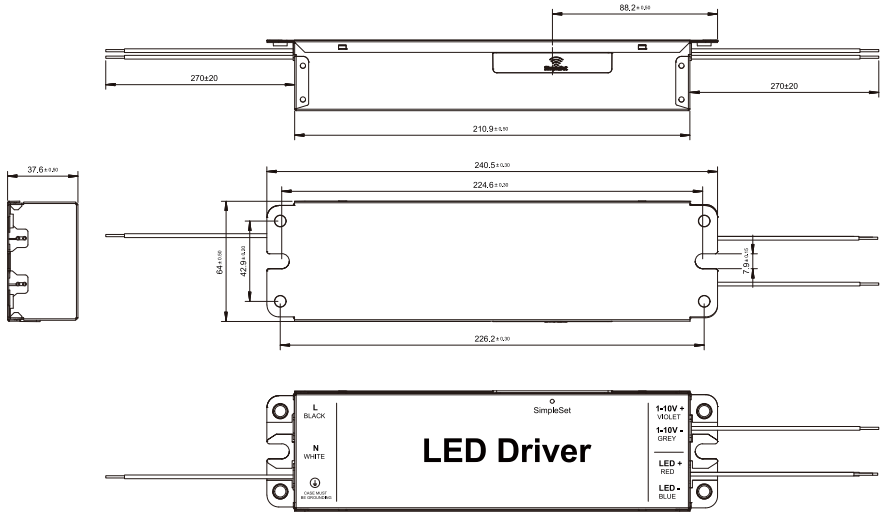
Specification item	Value
Product name	Xi LP 220W 0.3-1.05A S1 230V F3
Logistic code 12NC	9290 014 25180
Pieces per box	10

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.82	mm^2	Solid wire, double-insulated
	18	AWG	Solid wire, double-insulated
Input wire strip length	8...12	mm	
Output wire cross-section	0.82	mm^2	Solid wire, double-insulated
	18	AWG	Solid wire, double-insulated
Output wire strip length	8...12	mm	
Dimming wire cross-section	0.82	mm^2	Solid wire, double-insulated
	18	AWG	Solid wire, double-insulated
Output wire strip length	8...12	mm	
Maximum cable length	270	mm	Total length of wiring including LED module, one way

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	240.5	mm	
Width (B1)	64	mm	
Width (B2)	43	mm	
Height (C1)	37.6	mm	
Fixing hole diameter (D1)	5.9	mm	
Mounting hole diameter (D2)	7.9	mm	
Fixing hole distance (A2)	226	mm	
Input cable length (E1)	270	mm	
Output cable length (E2)	270	mm	
Weight	1100	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
*Ambient temperature	-40...+55	°C	Higher ambient temperature allowed as long as T_{case}-max is not exceeded.
Tcase-max	85	°C	Maximum temperature measured at T_{case}-point
Tcase-life	75	°C	Measured at T_{case}-point
Maximum housing temperature	130	°C	In case of a failure
Relative humidity	10...90	%	Non-condensing

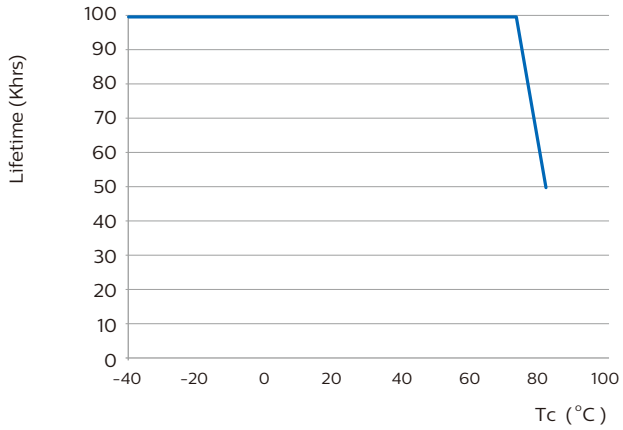
* 200W< Pout < 220W, Ta range: -40...+50.
Pout < 200W, Ta range: -40...+55.

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+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)	SimpleSet	See Design-in guide.	Default output current: = 1050 mA
Constant Lumen Over Lifetime (CLO)	Yes		
Diagnostics	Yes		
Integrated Dynadimmer	Yes		

Features

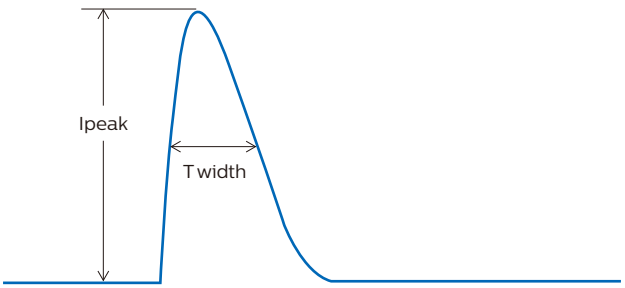
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Over temperature protection driver	Yes		Automatic recovering
Overheating protection	Yes		Automatic recovering
Input over-voltage	Yes		320Vac@48hrs 350Vac@2hrs

Certificates and standards

Specification item	Value
Approval marks	CB / CCC / CE / ENEC / RCM
Ingress Protection classification	Build-in

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	51	A	Input voltage 230V
Inrush current T_{width}	585	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	⩽2	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 / protective conductor current

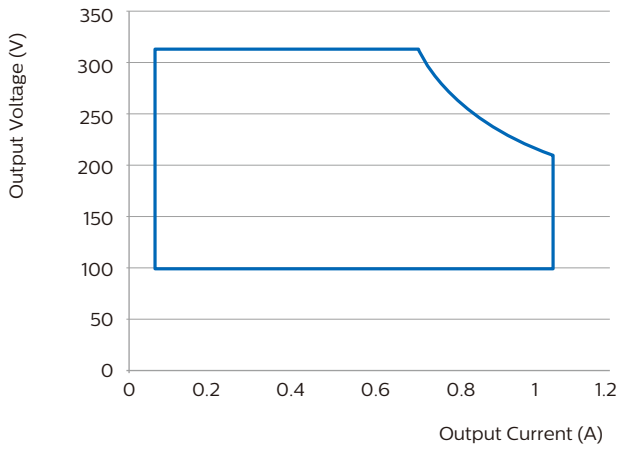
Specification item	Value	Unit	Condition
Typical protective conductor current (ins. Class I)	< 0.6	mA rms	Acc. IEC61347-1. LED module contribution not included

Surge immunity

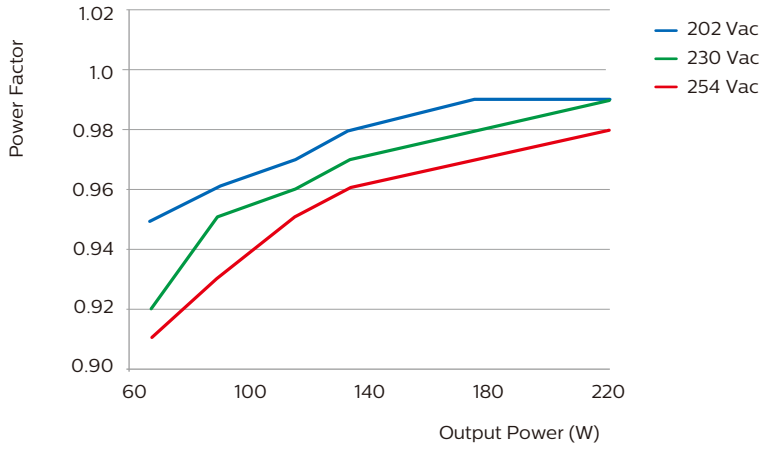
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	L-N acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	10	kV	L/N - GND acc. EN61547, 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	0.5	kV	1-10V +/- acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	6	kV	1-10V - GND acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

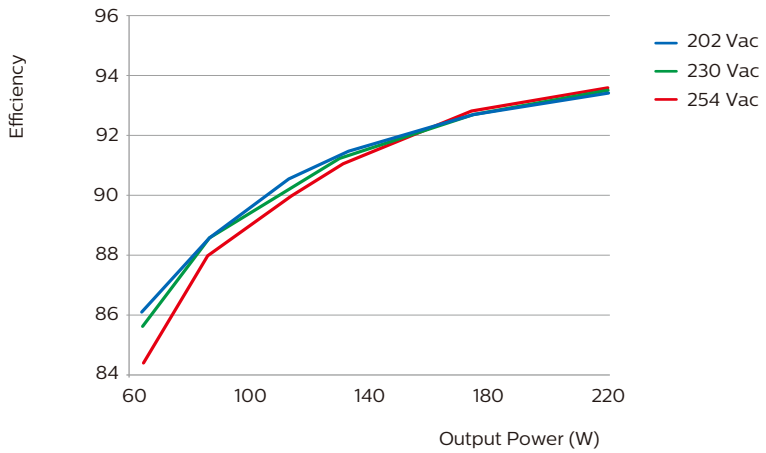
Operating window



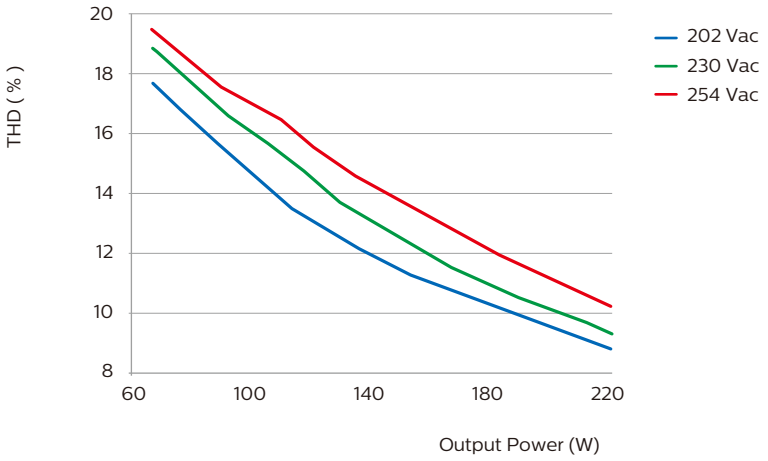
Power factor versus output power



Efficiency versus output power



THD versus output power



Date of release: March 22, 2018

www.philips.com