

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LITE Prog LED Xtreme drivers

Xi LP 40W 0.2-0.7A S1 230V C123 sXt

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 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
- Balanced configurable feature set covering the most common applications
- Easy to design-in and install for Class I and Class II applications
- Energy savings through high efficiency and via a choice of dimming options

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-step autonomous dimming via integrated DynaDimmer LITE
- Thermal protection for driver (integrated)
- Simplified linear version of Constant Light Output (CLO LITE)

Application

- Road and street lighting
- Area lighting

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	0.2	A	@230V @ full load
Max. input current	0.23	A	@ minimum input voltage AC
Input voltage	230	V _{ac}	
Nominal input power	46	W	@230V @ full load
Power factor	≥ 0.98		@ full load. See graph.
Total harmonic distortion	≤ 8	%	@ full load. See graph.
Efficiency	89	%	@230V @ full load
Input voltage AC	198...264	V _{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Isolation Input to Output	SELV		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	25...77	V _{dc}	
Output voltage max.	100	V	Peak voltage at open load
Output current	0.2...0.7	A	Full output current setting
Output current min programmable	200	mA	
Output current min dimming	70	mA	
Output current tolerance	± 3	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 4	%	
Output power	1.8...40	W	Full output

Electrical data controls input

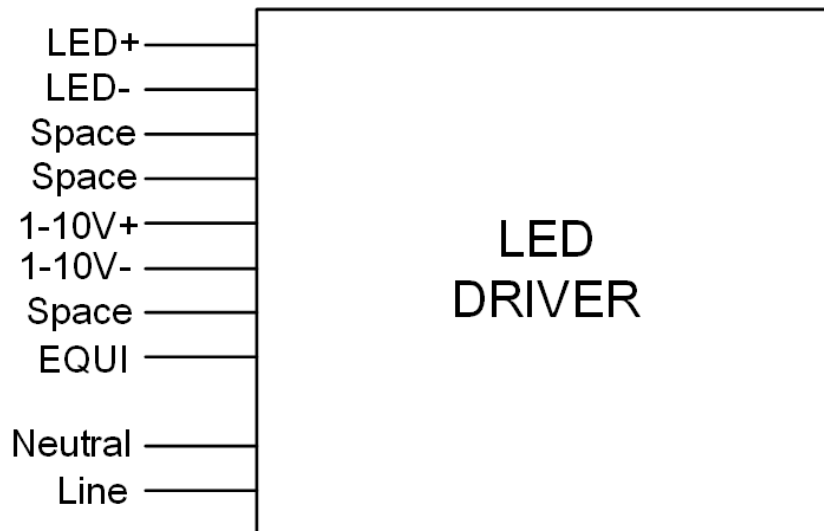
Specification item	Value	Unit	Condition
Control method	1-10V, Dynadim LITE		Output current amplitude dimming, 1-10V acc. IEC60929
Dimming range	10...100	%	Default curve: 1-8V
Galvanic Isolation	Double		

Logistical data

Specification item	Value
Product name	Xi LP 40W 0.2-0.7A S1 230V C123 sXt
Order code	
Logistic code 12NC	9290 015 37106
EAN3	
Pieces per box	20

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...1.5	mm ²	WAGO250 (3.5 mm), solid / stranded wire
	16...24	AWG	WAGO250 (3.5 mm), solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.2...1.5	mm ²	WAGO250 (3.5 mm), solid / stranded wire
	16...24	AWG	WAGO250 (3.5 mm), solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	1500	mm	Total length of wiring including LED module, one way

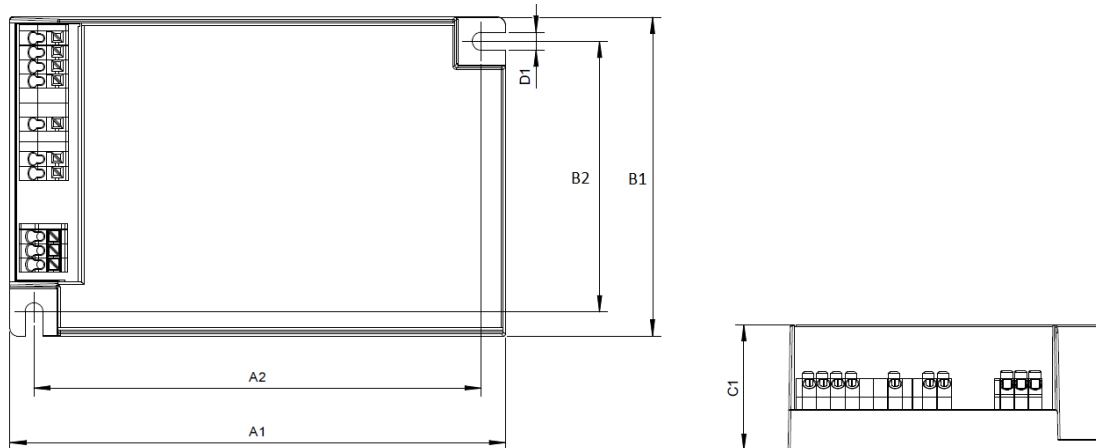


Insulation

Insulation	Mains	EQUI	LED	1-10V
Mains		Double	SELV	Basic
EQUI	Double		Basic	Double
LED	SELV	Basic		Double
1-10V	Basic	Double	Double	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	123	mm	
Width (B1)	79	mm	
Width (B2)	67	mm	
Height (C1)	31	mm	
Fixing hole diameter (D1)	4.5	mm	
Fixing hole distance (A2)	111	mm	
Weight	190	gram	



Operational temperatures and humidity

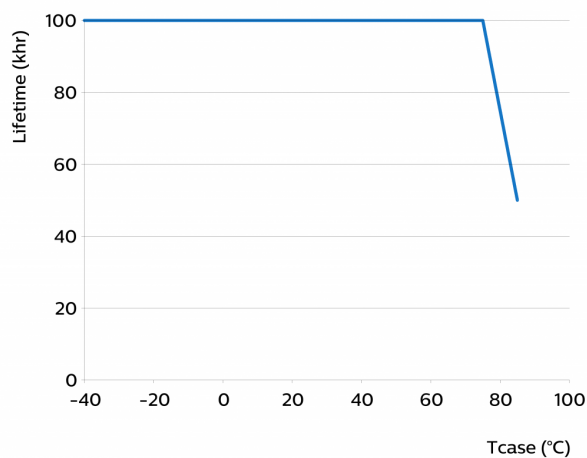
Specification item	Value	Unit	Condition
Ambient temperature	-40...+55	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded.
Starting Ambient temperature	-40...+55	°C	
T _{case-max}	85	°C	Maximum temperature measured at T _{case} -point
T _{case-life}	75	°C	Measured at T _{case} -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_{case} -point is T_{case} -life. Maximum failures = 10%



Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	SimpleSet	See Design-in guide.	Default output current: = 700 mA
Constant Lumen Over Lifetime (CLO)	Yes		
Diagnostics	Yes		
1-10V minimum dim level	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 and II		per IEC60598
Over temperature protection driver	Yes		Automatic recovering

Certificates and standards

Specification item	Value
Approval marks	CB / CCC / CE / ENEC
Ingress Protection classification	20

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	22	A	Input voltage 230V
Inrush current T_{width}	250	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	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	< 0.45	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

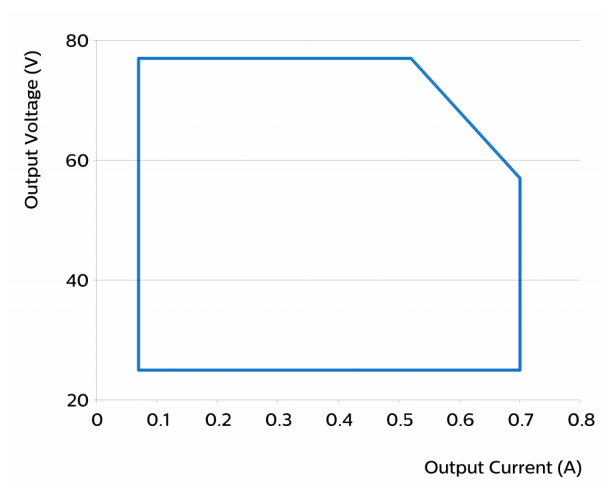
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	8	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us, 8/20us
Control surge immunity (diff. mode)	0.5	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Additional information

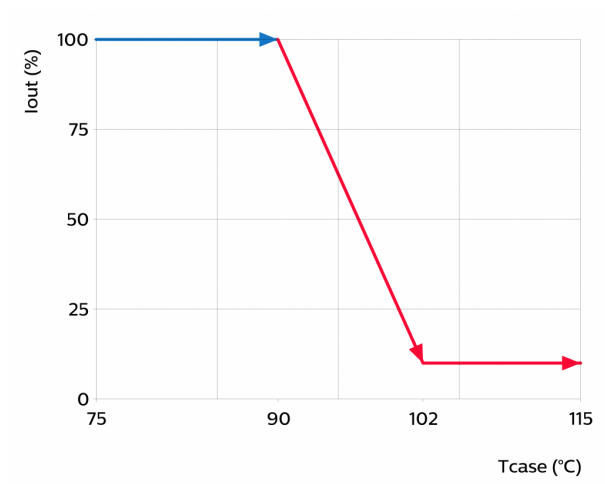
Specification item	Default setting	Remark	Condition
AOC	700	mA	
Dynadimmer	OFF		
1-10V	ON		

Graphs

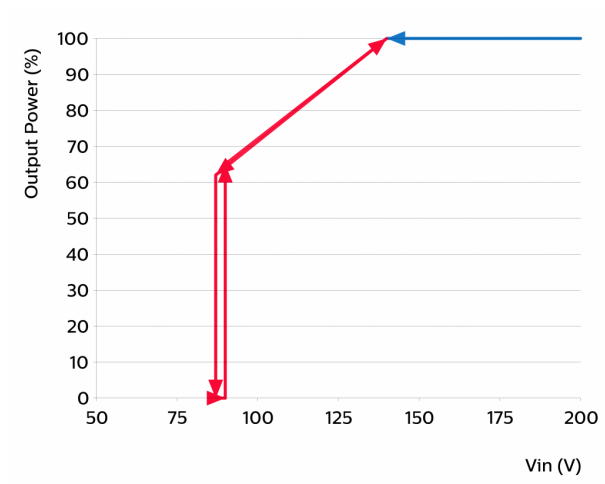
Operating window



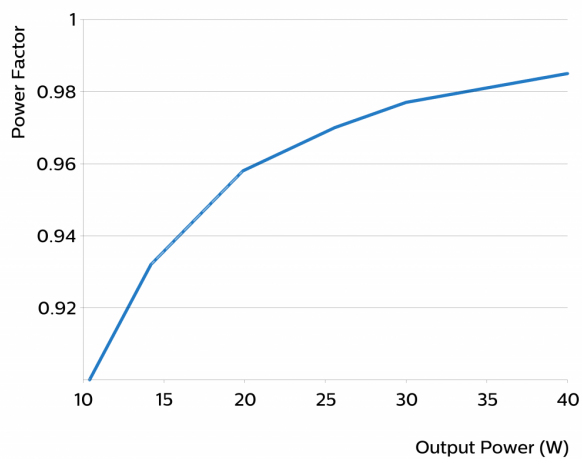
Thermal Guard



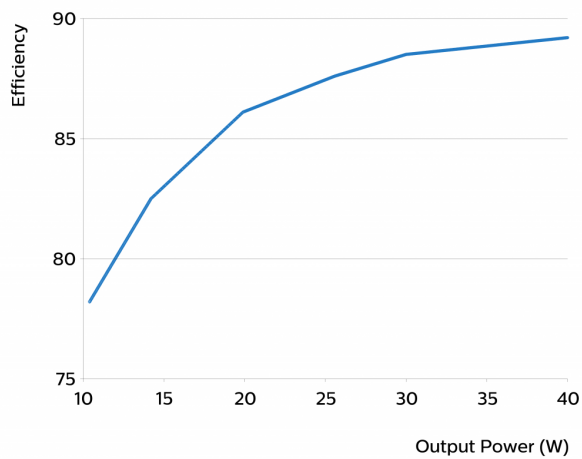
Mains Guard



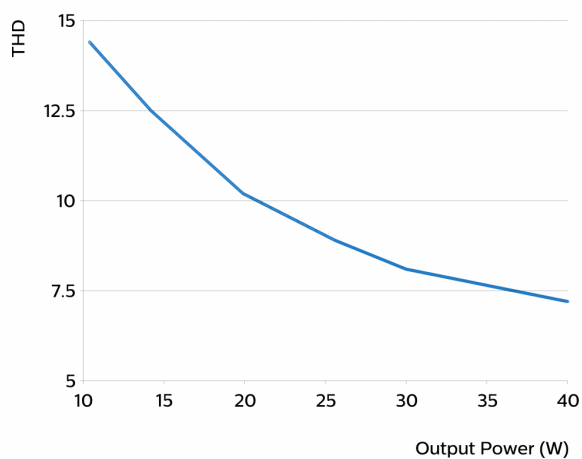
Power factor versus output power



Efficiency versus output power



THD versus output power





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