

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LITE Prog LED drivers Independent

Xi LP 65W 0.5-1.5A S1 WL I150

9290 034 14480

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
- Long lifetime and high survival rate
- Energy savings through high efficiency
- Balanced configurable feature set covering the most common applications
- Superior thermal management
- 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

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	202...254	V _{ac}	Performance range
Rated input voltage	230	V _{ac}	Performance range
Rated input frequency range	47...63	Hz	Performance range
Rated input current	0.3	A	@ rated output power @ rated input voltage
Max. input current	0.39	A	@ rated output power @ minimum performance input voltage
Rated input power	75	W	@ rated output power @ rated input voltage
Minimum Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	10	%	@ rated output power @ rated input voltage
Efficiency	88	%	@ 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	21...62	V _{dc}	
Output voltage max.	100	V	Maximum output voltage (rms)
Output current	0.5...1.5	A	
Output current min programmable	500	mA	
Output current min dimming	105	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average @ ≤1KHz
Output current ripple HF	≤ 15	%	
Output P _{st} ^{LM}	≤ 0.03		In entire operating window
Output SVM	≤ 0.07		In entire operating window
Output power	2.5...65	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	1-10V		Default: 1-10V. Optional: reversed 1-10V, reversed 0-5V
Dimming range	10...100	%	Default range
Isolation controls input to output	Basic		acc. IEC61347-1

Wiring and Connections

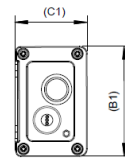
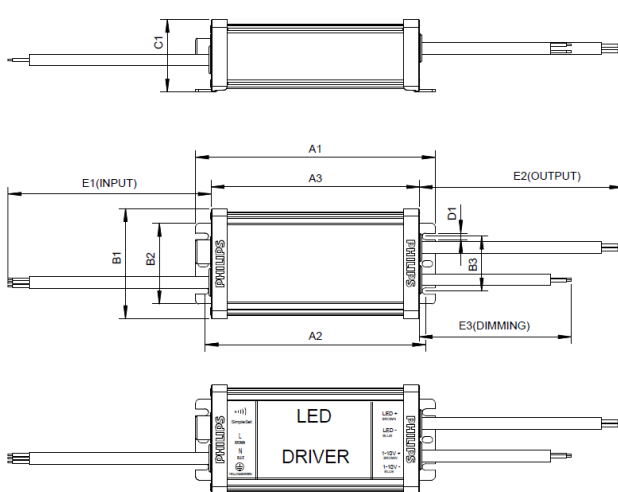
Specification item	Value	Unit	Type
Input wire cross-section	1 / 17	mm ² / AWG	3x 1.0mm ² stranded wires, waterproof cable
Output wire cross-section	1 / 17	mm ² / AWG	2x 1.0mm ² stranded wires, waterproof cable
Control wire cross-section	1 / 17	mm ² / AWG	2x 1.0mm ² stranded wires, waterproof cable
Maximum cable length	2	m	Total length of wiring including LED module, one way

Isolation

Insulation per IEC61347-1	Input	Output	1-10V	Ground
Input	-	Basic	Basic	Basic
Output	Basic	-	Basic	Basic
1-10V	Basic	Basic	-	Basic
Ground	Basic	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	150	mm	
Mounting hole distance (A2)	138	mm	
Length (A3)	130	mm	
Width (B1)	68.2	mm	
Width (B2)	50	mm	
Width (B3)	34	mm	
Height (C1)	45	mm	
Mounting hole diameter (D1)	4	mm	
Input cable length (E1)	450	mm	
Output cable length (E2)	350	mm	
Control cable length (E3)	300	mm	
Weight	650	gram	



Data Sheet	
Item	Dimensions
A1	150 +0.5/-2.5
A2	138 +0.5/-2.5
A3	130 +0.5/-2.5
B1	68.2 +0.5/-0.5
B2	50 +0.3/-0.3
B3	34 +0.3/-0.3
D1	4 +0.3/-0.3
C1	45 +0.5/-0.5
E1	450 +30/-30
E2	350 +30/-30
E3	300 +30/-30

Logistical data

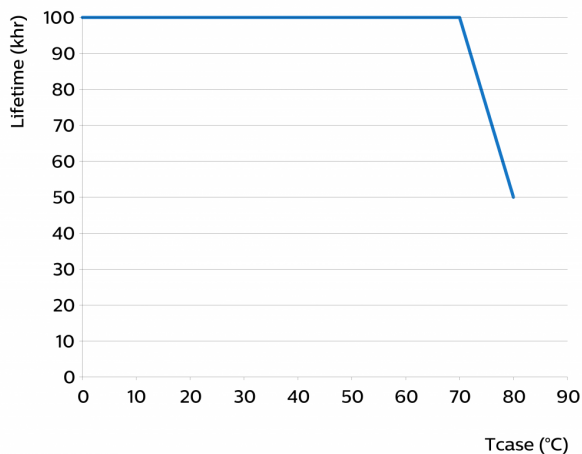
Specification item	Value
Product name	Xi LP 65W 0.5-1.5A S1 WL I150
Logistic code 12NC	9290 034 14480
Pieces per box	16

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	90	°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

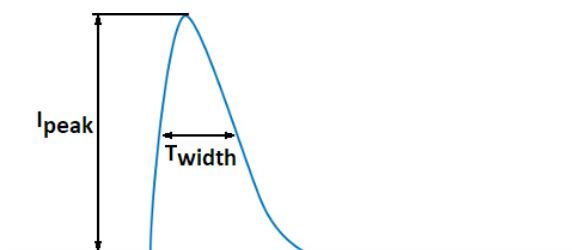
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet	1000 mA	
Constant Light Output (CLO)	Yes		
1-10V	Yes		Default: 1-10V. Optional: reversed 1-10V, reversed 0-5V
Dynadimmer	Yes	—	
Diagnostics	Yes	—	

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	35	A	Input voltage 230V
Inrush peak width	210	μ s	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 18	pcs	Indicative value at 230V



Please refer to the driver design in guide if you use other MCB-types.

Driver touch current / protective conductor current / earth leakage 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

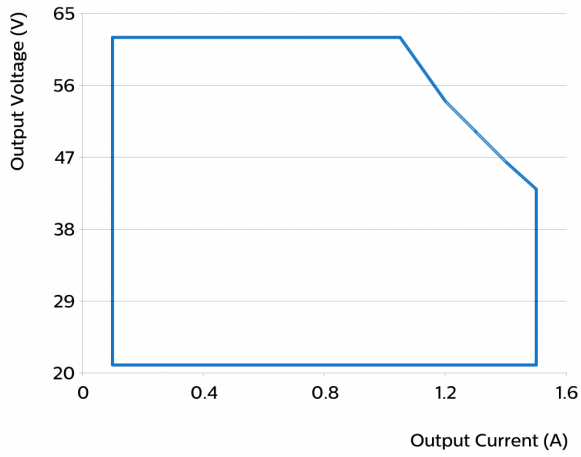
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	10	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Application Info

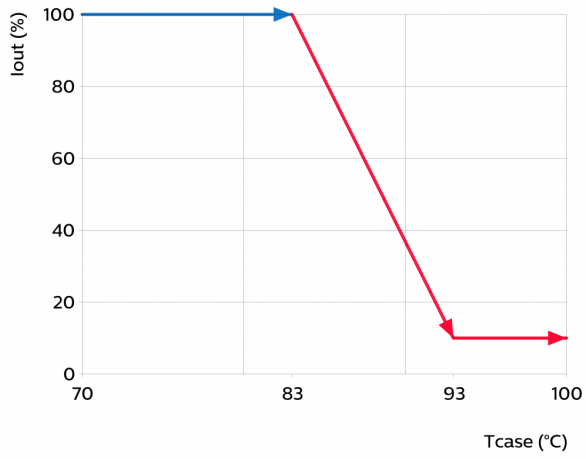
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / UKCA
Ingress Protection classification (IP)	67
Application	Outdoor
Mounting Type	Independent

Graphs

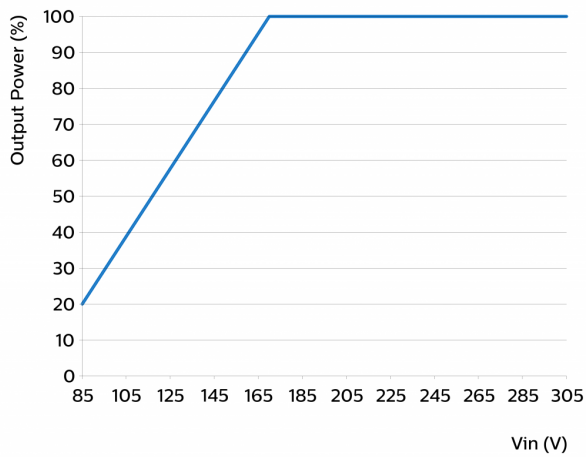
Operating window



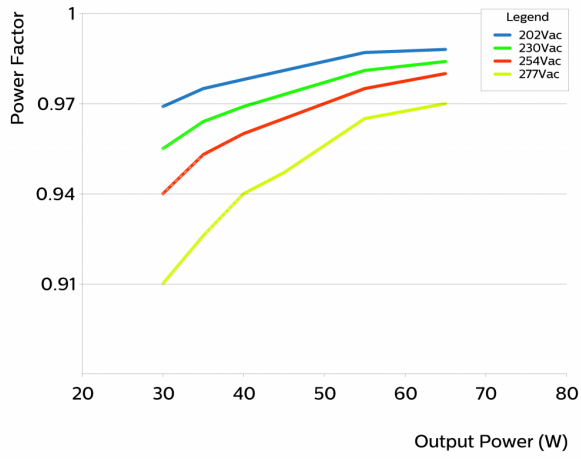
Thermal Guard



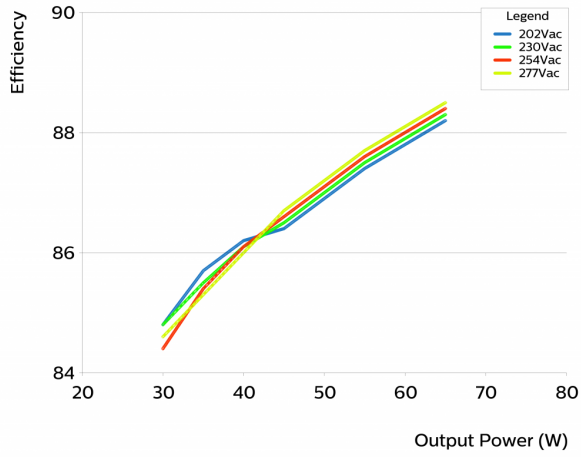
Mains Guard



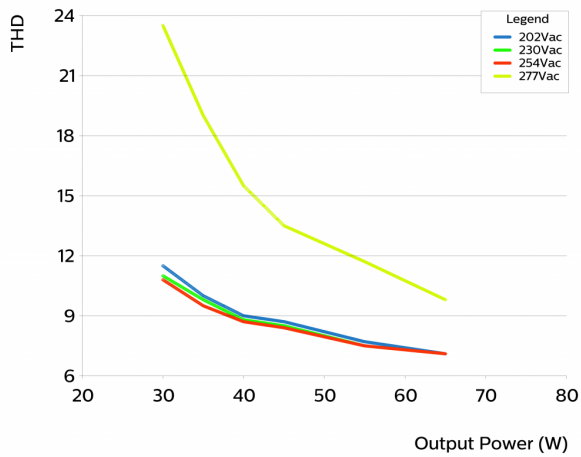
Power factor versus output power



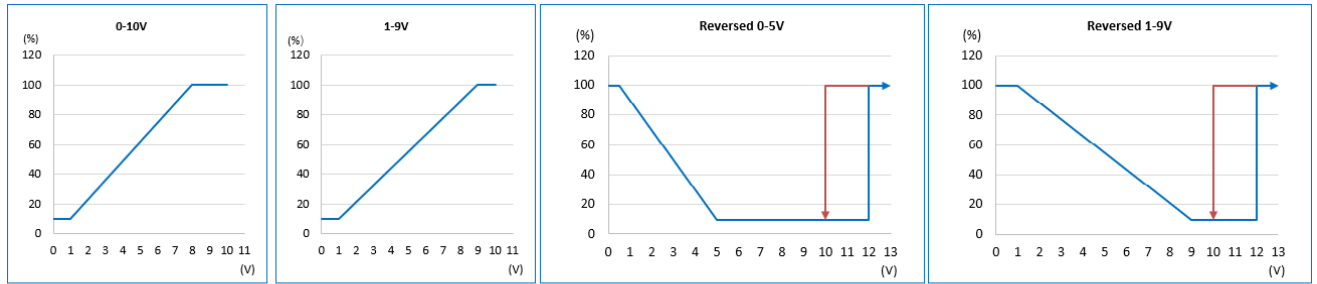
Efficiency versus output power



THD versus output power



I_{out} as function of 1-10V interface



Note:

During reversed dimming mode, when the DIM+/DIM- is open, the driver will be at maximum output current.



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