PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LITE Programmable LED Drivers

Xi LP 200W 0.3-1.05A S1 WL I165 TR

9290 039 12780

Xitanium Lite Programmable (LP) LED drivers are value engineered to deliver a carefully selected programming feature set and high-end performance, making it a preferred choice for outdoor applications. One of the key features is SimpleSet®, an easy and fast way to configure the driver without the need to power the driver. The WideLine family can operate on input voltage 100-277Vac and ensure 100% performance from 202-254Vac.

Features

- A selected programmable feature set via SimpleSet®, based on NFC technology
- Adjustable Output Current (AOC)
- Dimming (1-10V) and reversed dimming available
- 5-step DynaDimmer
- Constant Light Output (CLO)
- WideLine input voltage range: 100-277Vac
- High surge protection: 6/10kV (DM/CM)
- IP67 waterproof
- 50,000 hours lifetime@Tc 85°C and 100,000 hours lifetime@Tc 75°C
- High efficiency up to 94.5%

Benefits

- Easy to design-in and configure for Class I application
- SKU reduction
- Enables various applications such as tunnel lighting
- Stand alone energy saving
- Constant light output performance over time
- Low maintenance cost and peace of mind in extreme conditions

Application

- Road and street lighting
- Area and flood lighting
- Tunnel lighting

Logistical data

Specification item	Value
Product name	Xi LP 200W 0.3-1.05A S1 WL I165 TR
Logistic code 12NC	9290 039 12780
Pieces per box	12
Weight	700 gram

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	47…63	Hz	Performance range
Rated input current	0.93	A	@ rated output power @ rated input voltage
Max. input current	1.07	A	@ rated output power @ minimum performance input voltage
Rated input power	213.0	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	94.5	%	@ rated output power @ rated input voltage @ maximum output voltage
Input voltage AC	95…305	V_{ac}	Operational range
Input frequency AC	45…66	Hz	Operational range
Isolation input to output	Basic		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	142…286	V_{dc}	
Output voltage max.	350	V	Maximum output voltage (rms)
Output current	300…1050	mA	
Output current min programmable	300	mA	
Min output current	70	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average@ ≤1KHz, among AOC window.
Output current ripple HF	≤ 15	%	
Output P_{st}^{LM}	≤ 0.3		In entire operating window
Output SVM	≤ 0.3		In entire operating window
Output power	10.0…200.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	0-10V/1-10V		Default: 0-10V. Optional: 1-10V, reversed 1-10V, reversed 0-5V
Dimming range	10…100	%	Dim to off when dimming voltage <0.5V.
Isolation controls input to output	Reinforced		acc. IEC61347-1

Wiring and Connections

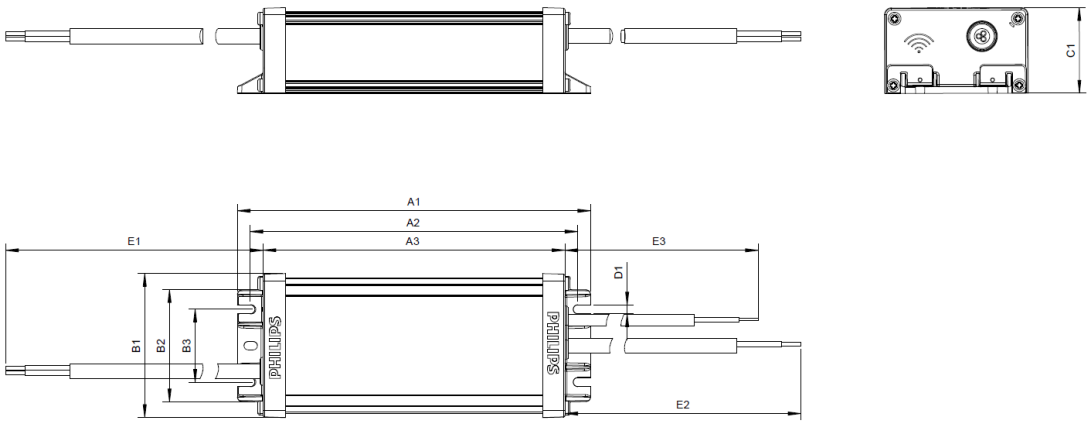
Specification item	Value	Unit	Type
Input wire cross-section	1	mm^2	3x 1.0mm^2 stranded wires
Output wire cross-section	1	mm^2	2x 1.0mm^2 stranded wires
Control wire cross-section	0.3	mm^2	2x 0.3mm^2 stranded wires
Maximum cable length	2	m	Total length of wiring including LED module, one way

Isolation

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

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	165	mm	± 1.5
Mounting hole distance (A2)	154	mm	± 1.5
Length (A3)	142.5	mm	± 1.5
Width (B1)	68	mm	± 1.5
Width (B2)	52.5	mm	± 0.3
Width (B3)	34	mm	± 0.3
Height (C1)	40	mm	± 1.5
Mounting hole diameter (D1)	4	mm	± 0.3
Input cable length (E1)	450	mm	± 30
Output cable length (E2)	350	mm	± 30
Control cable length (E3)	250	mm	± 30
Weight	700	gram	

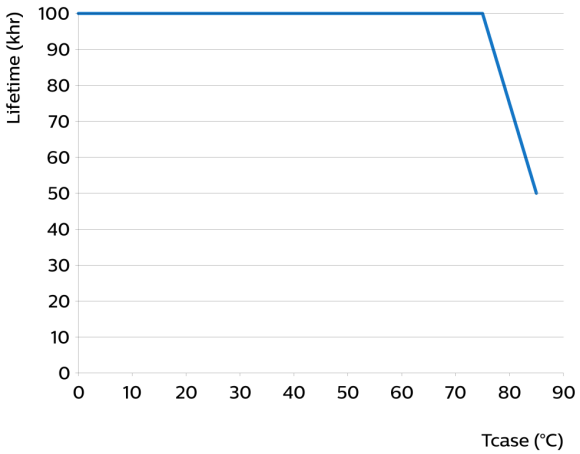


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40…+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	Maximum temperature 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 85°C. Maximum failures = 10%
Driver lifetime	100,000	hours	Measured temperature at Tcase-point is 75°C. Maximum failures = 10%



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

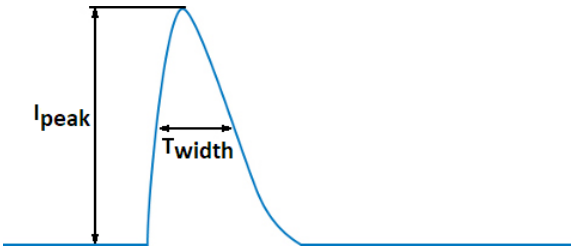
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet	700 mA	
Driver Temperature Limit (DTL)	Yes	ON	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
0-10V/1-10V	Yes	ON	Default: 0-10V. Optional: 1-10V, reversed 1-10V, reversed 0-5V
Integrated Dynadimmer	Yes	OFF	

Non-programmable 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
Diagnostics via Signify tool	Yes		

Inrush current

Specification item	Value	Unit	Condition
Inrush current	98	A	Input voltage 230V
Inrush peak width	210	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 5	pcs	Input voltage 230V



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

If several mini circuit breakers are used directly side-by-side (without distance pieces) a correction factor of 80% has to be applied to the rated current

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

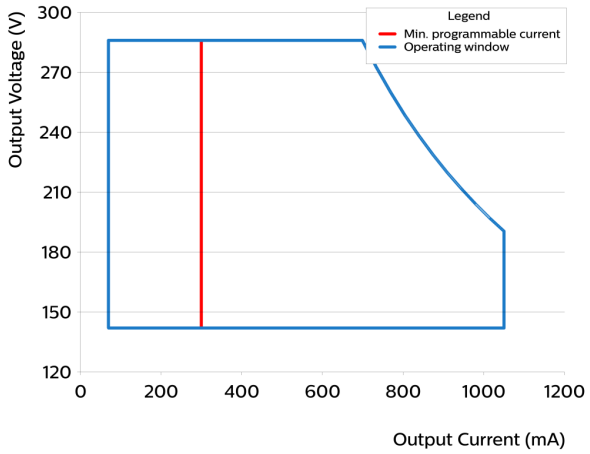
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	10	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Application Info (Approbation)

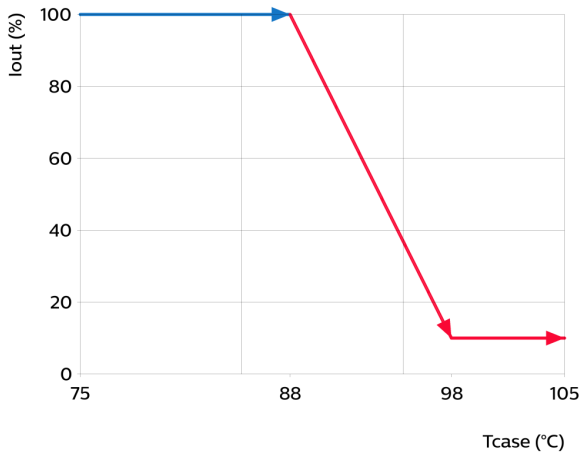
Specification item	Value
Approval marks and Certifications	CB / CE / ENEC
Ingress Protection classification (IP)	67
Application	Outdoor
Mounting Type	Independent

Graphs

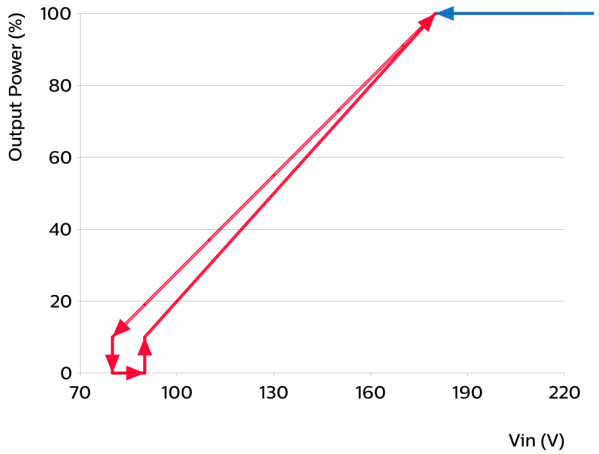
Operating window



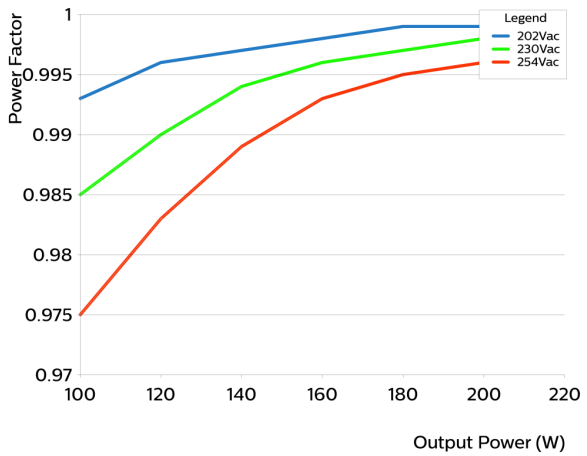
Thermal Guard



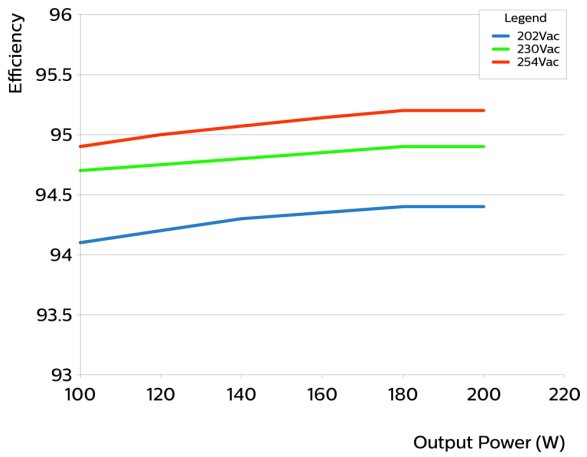
Mains Guard



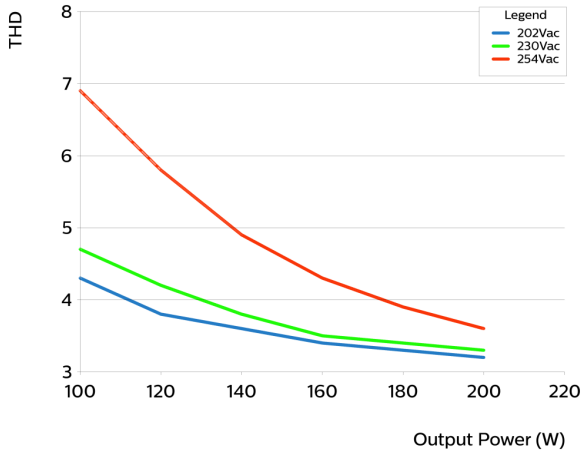
Power factor versus output power



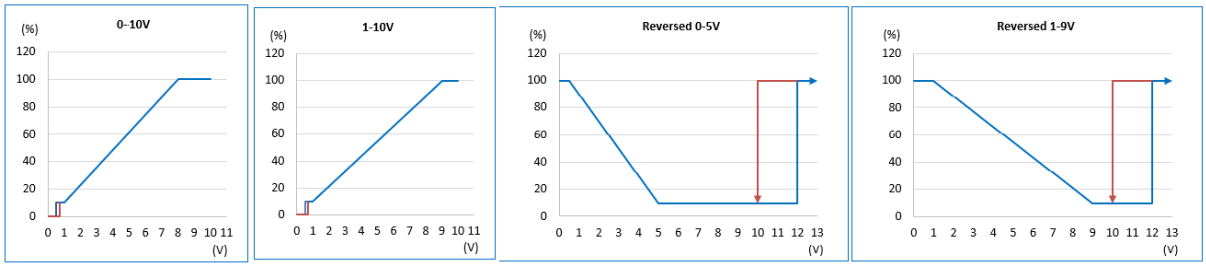
Efficiency versus output power



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.

Notes

Driver overtemperature protection:
The driver can be configured such that once its LED output is disabled due to driver overheating that its output will remain disabled permanently. This permanent disabling of LED output due to driver overheating feature is called thermal locking. Please note that this locking feature is not activated by factory default. Please use Multione to activate this feature.

Once enabled, permanent locking of the LED output will occur by default at specified driver Tc_max temperature +12ºC. This 12ºC can be adjusted. A locked LED output can be unlocked via MultiOne only; Unlocking will not occur by resetting mains power or by letting the driver cool down.

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