

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Outdoor LED drivers Independent – Sensor Ready Xi SR 75W 0.27-0.7A SMP TWE I200

Simplifying connectivity solutions with sensors and controls

Philips Xitanium Sensor Ready LED drivers are ideal for use with sensors applied in outdoor and industrial management systems. With its dual integrated power supplies it is easy to power sensors and wireless modules directly from the driver. The driver also features integrated energy metering related to these management systems from the SR Certified partner program. This program with key management and sensor vendors ensures that certified sensors and controllers work seamlessly with the Xitanium SR driver.

Benefits

- Sensor Ready concept, ideal for use with sensors applied in outdoor and industrial management systems
- Dual integrated power supplies to power sensors and wireless radios directly from the driver, open spec for all OEMs, simplifying integration of sensors into the luminaire
- High-accuracy integrated power metering
- Consistent waterproof performance through the lifecycle

Features

- Integrated ~15VDC current source power supply based on DALI 2.0
- Integrated 24VDC/3W auxiliary power supply
- Highly accurate power metering, accessible over DALI
- SimpleSet®, wireless configuration interface
- High surge immunity (CM/DM)
- Long lifetime and robust protection against moisture, vibration and temperature
- Configurable operating windows (AOC)
- Adjustable Start-up Time (AST)
- Adjustable Light Output (ALO)
- OEM Write Protection (OWP)
- Constant Light Output (CLO)

Application

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

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	110...277	V _{ac}	
Rated input voltage	230	V _{ac}	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.32	A	@ rated output power @ rated input voltage
Max. input current	0.35	A	@ rated output power @ minimum performance input voltage
Rated input power	95	W	@ rated output power @ rated input voltage
Power factor	≥ 0.95		@ full load @ rated input voltage
	≥ 0.92		@ 70% load @ rated input voltage
Total harmonic distortion	≤ 10	%	@ rated output power @ rated input voltage
Efficiency	≥ 90	%	@ rated output power @ rated input voltage
Input voltage AC range	99...305	V _{ac}	Performance range
Standby Power	0.5	W	
Isolation Input to Output	Basic		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	43...118	V _{dc}	
Output voltage max	180	V	Maximum voltage at open load
Output current	0.07...0.7	A	
Output current min programmable	100	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	3...75	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	SR		
Galvanic Isolation	Double		

Logistical data

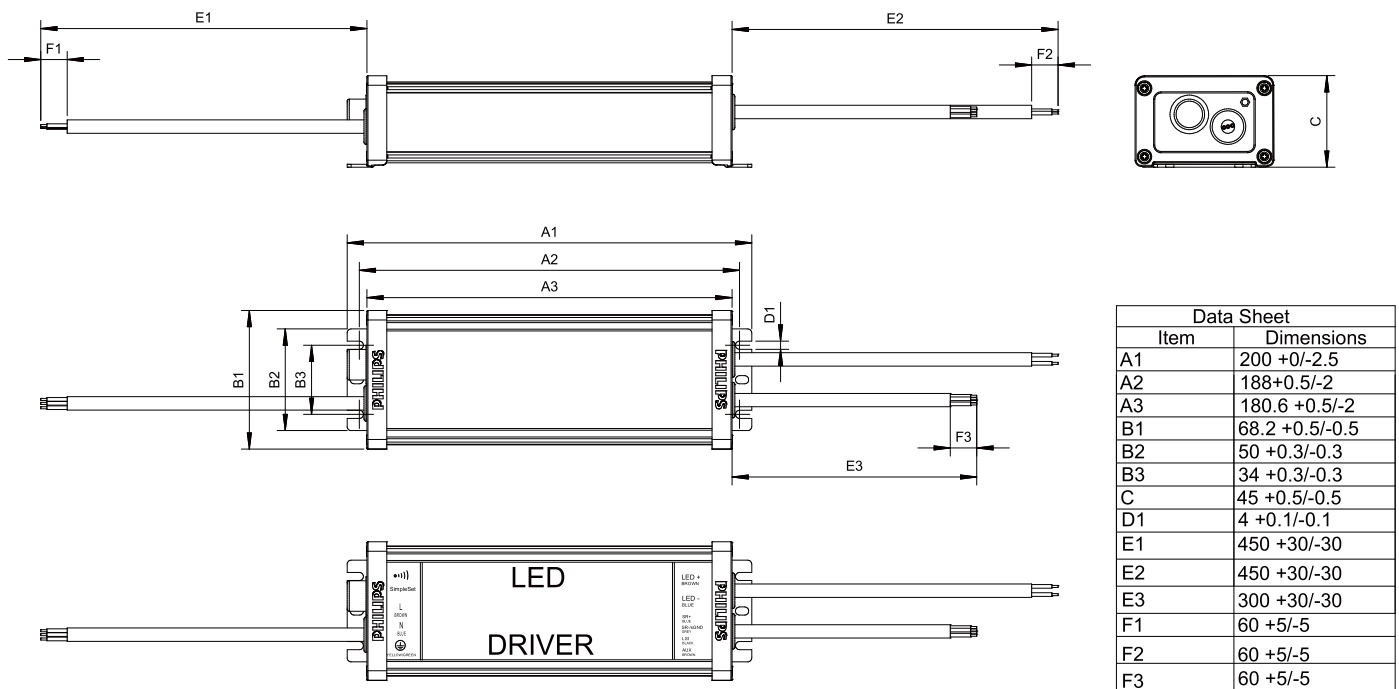
Specification item	Value
Product name	Xi SR 75W 0.27-0.7A SMP TWE I200
Logistic code 12NC	9290 014 30680
Pieces per box	10

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	1.04	mm ²	Waterproof cable + connector
Output wire cross-section	1.04	mm ²	Waterproof cable + connector
Dimming wire cross-section	1.04	mm ²	Waterproof cable + connector

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	200	mm	
Width (B1)	68.2	mm	
Width (B2)	50	mm	
Height (C1)	45	mm	
Fixing hole distance (D1)	4	mm	
Fixing hole distance (A2)	188	mm	
Input cable length (E1)	450	mm	
Output cable length (E2)	450	mm	
Control cable length (E3)	300	mm	
Input cable wire length (F1)	60	mm	
Output cable wire length (F2)	60	mm	
Control cable wire length (F3)	60	mm	
Weight	907	gram	



Operational temperatures and humidity

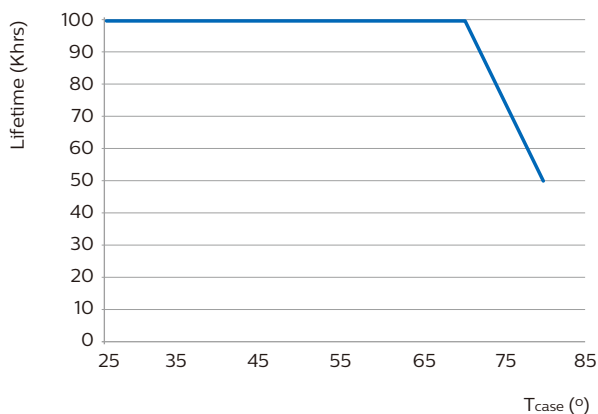
Specification item	Value	Unit	Condition
Ambient Temperature	-40 ... +55	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded
T _{case-max}	80	°C	Maximum temperature measured at T _{case-point}
Maximum housing temperature	90	°C	In case of a failure
Relative humidity	10...90	%	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	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: =700 mA
Constant Lumen Over Lifetime (CLO)	Yes		
OEM Write Protection (OWP)	Yes		
Energy metering	Yes		Accuracy 0.5W or +/-1%
Diagnostics	Yes		
Adjustable Light Output ALO	Yes		
Adjustable Start-up Time AST	Yes		
Integrated Dynadimmer	Yes		
End Of Life indicator	Yes		

Features

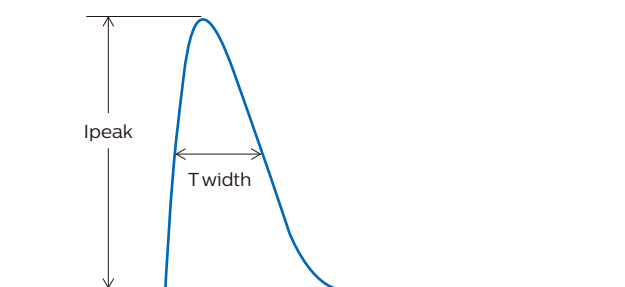
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Over temperature protection driver	Yes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

Certificates and Standards

Specification item	Value
Approval Marks	CE / ENEC / CB / CCC
Ingress Protection Rating	IP66/67

Inrush current

Specification item	Value	Unit	Condition
Inrush Current I_{peak}	38	A	Input voltage 230V
Inrush Current T_{width}	370	μs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A Type B	≤ 8	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

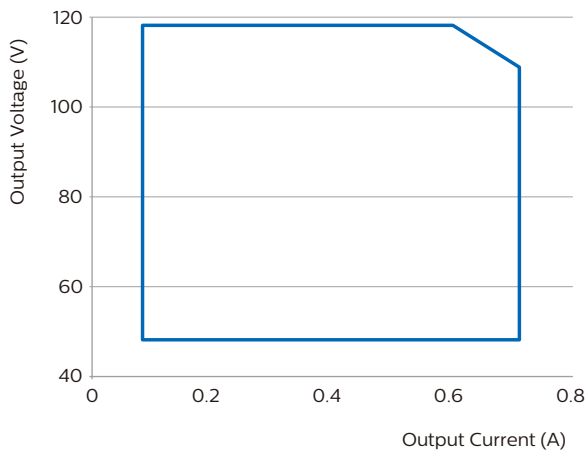
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	6	kV	L-N acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	L/N - PE acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us

Additional information

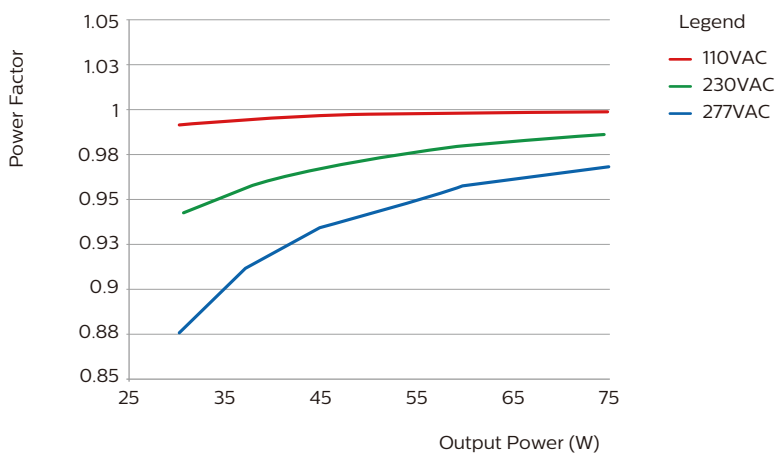
Specification item	Default setting	Remark	Condition
AOC	700	mA	

Graphs

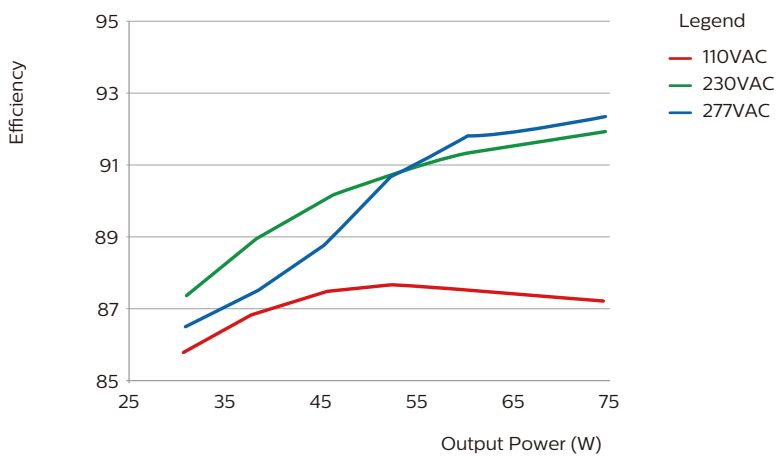
Operating window



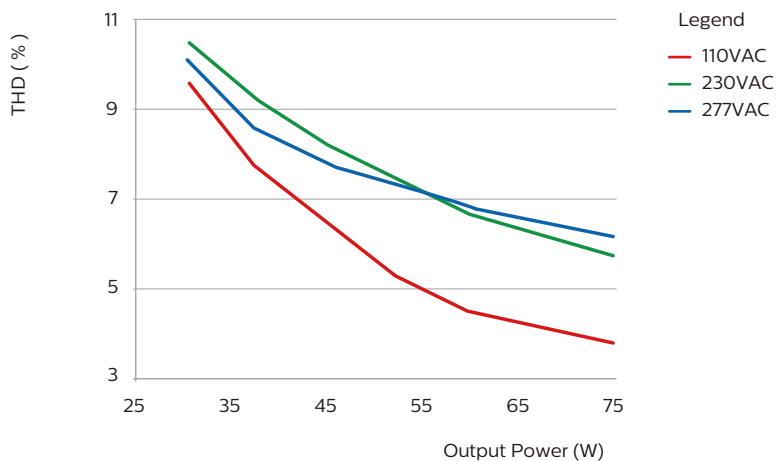
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Important info about dual power supplies:

1. SR power supply and Vaux supply are short-circuit proof.
2. SR supply can supply max. 60mA. Voltage is depending on loading and will vary between 12 and 20VDC. The SR supply is turned on by factory default and can be switched off through MultiOne software.
3. Auxiliary supply Vaux supplies 24VDC and is able to deliver 3W average power. Peak power capacity is 10W with 25% duty cycle (T=5.2ms). This supply cannot be switched off.
4. SR supply and Vaux share the same common negative terminal.
5. Do not connect multiple Vaux supplies in parallel.



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