PHILIPS

Xitanium

LED driver

Xitanium LED Xtreme drivers – Sensor Ready

Xi SR 75W 0.2-0.7A SNEMP 230V S240 sXt

Simplifying connectivity solutions with sensors and controls

Philips LED Xtreme Sensor Ready 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

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)
- Autonomous dimming via Integrated DynaDimmer
- Suitable for central DC operation (DCemDim)
- Thermal protection for driver and for module (MTP)
- Constant Light Output (CLO)
- Adjustable Start-up Time (AST)
- Adjustable Light Output (ALO)
- End-Of-Life indicator (EOL)
- OEM Write Protection (OWP)

Application

- Road and street lighting
- Area lighting
- Industrial lighting

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	202…254	V$_{ac}$	Performance range
Rated input voltage	230	V$_{ac}$	
Rated input frequency range	47…63	Hz	Performance range
Rated input current	0.36	A	@ rated output power @ rated input voltage
Max. input current	0.38	A	@ rated output power @ minimum performance input voltage
Rated input power	82	W	@ rated output power @ rated input voltage
Power factor	≥ 0.97		@ rated output power @ rated input voltage
Total harmonic distortion	≤ 9	%	@ rated output power @ rated input voltage
Efficiency	≥ 92	%	@ rated output power @ rated input voltage
Rated input voltage DC range	186…250	V$_{dc}$	Performance range
Rated input current DC range	≤ 0.3	A$_{dc}$	Performance range
Input voltage AC range	198…264	V$_{ac}$	Operational range
Input frequency AC range	45…66	Hz	Operational range
Input voltage DC range	168…275	V$_{dc}$	Operational range
Standby Power (TD)	0.4	W	
Isolation input to output	Double		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50…150	V$_{dc}$	
Output voltage max.	200	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	53	mA	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 6	%	
Output power	6…75	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	SR		Output current amplitude dimming
Dimming range	10…100	%	Default range
Galvanic Isolation	Basic		

Logistical data

Specification item	Value
Product name	Xi SR 75W 0.2-0.7A SNEMP 230V S240 sXt
Order code	871869656879800
Logistic code 12NC	9290 015 07706
EAN3	
Pieces per box	10

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...2.5	mm²	WAGO804, solid / stranded wire
	12...20	AWG	WAGO804, solid / stranded wire
Input wire strip length	10...11	mm	
Output wire cross-section	0.2...1.5	mm²	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	600	mm	Total length of wiring including LED module, one way
Maximum NTC output cable length	0.6	m	

LED DRIVER

EQUI
Neutral
Line

LED +
LED -
NTC SIG
NTC COM
Vaux
SR+
SR-
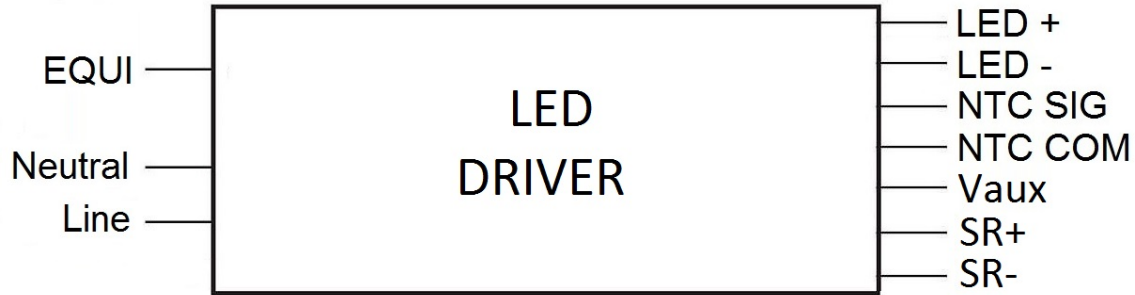
Insulation

Insulation	Mains	EQUI	LED + NTC	SR + Vaux
Mains		Double	Double	Double
EQUI	Double		Basic	Double
LED + NTC	Double	Basic		Basic
SR + Vaux	Double	Double	Basic	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	240	mm	
Width (B1)	59.7	mm	
Width (B2)	42.9	mm	
Height (C1)	37.8	mm	
Fixing hole diameter (D1)	4.5	mm	
Fixing hole distance (A2)	226	mm	
Weight	570	gram	
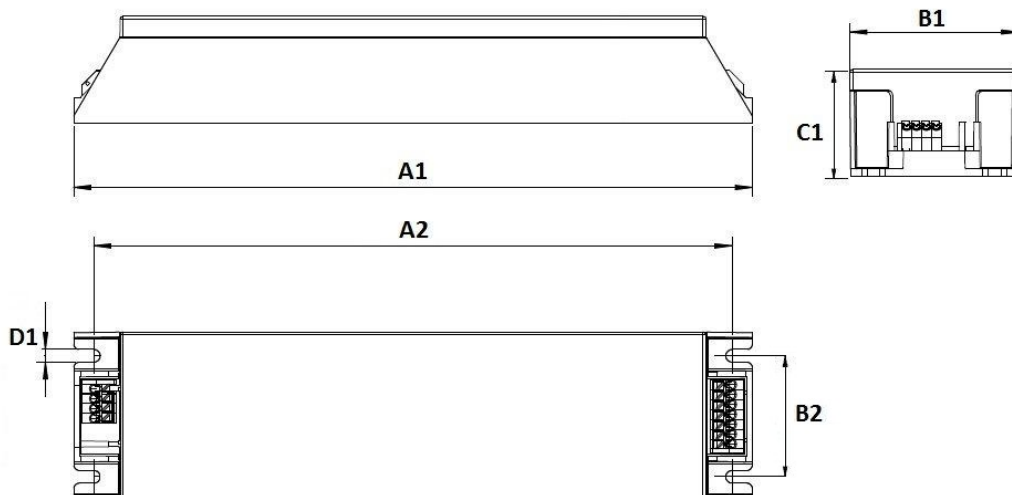
Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-30...+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Starting Ambient temperature	-30...+55	°C	
Tcase-max	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	70	°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	-30...+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%
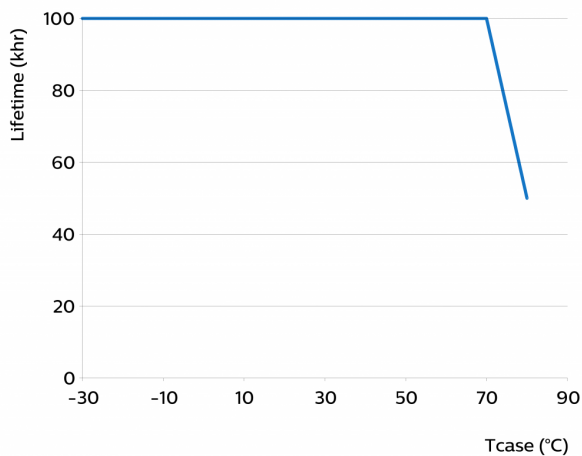
Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	SimpleSet	See Design-in guide.	Default output current: = 700 mA
LED module temperature derating (MTP)	Yes		
Constant Lumen Over Lifetime (CLO)	Yes		
DC emergency dimming (DCemDIM)	Yes		Sensor commands accepted
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 and II		per IEC60598
Over temperature protection driver	Yes		Automatic recovering
Overheating protection	Yes		Automatic recovering

Certificates and standards

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	65	A	Input voltage 230V
Inrush current T_{width}	330	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 6	pcs	
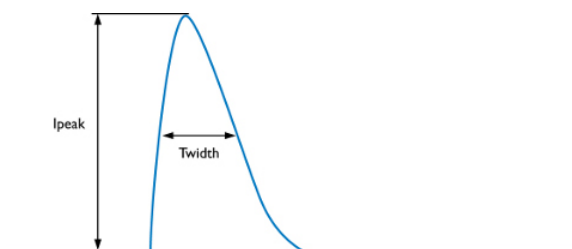
MCB	Rating	Relative number of LED drivers
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%

Driver touch current / protective conductor current

| Specification item	Value	Unit	Condition
Typical touch current (ins. Class II)	< 0.32	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)	0.9	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	4	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Additional information

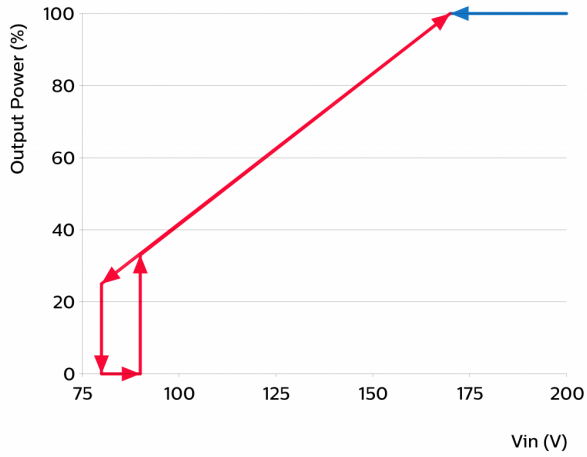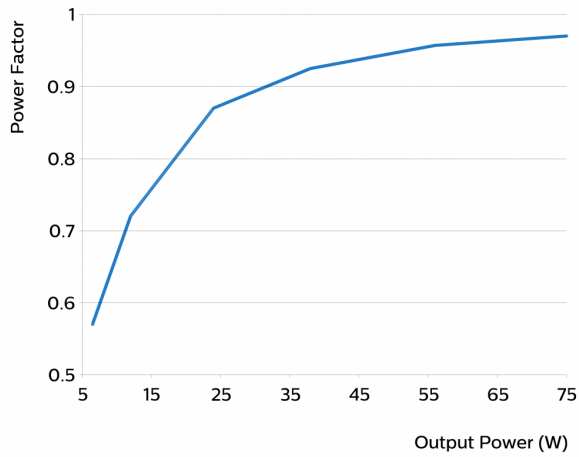| Specification item	Default setting	Remark	Condition
AOC	700	mA	
CLO	OFF		
MTP	OFF		
Dynadimmer	OFF		
EOL	OFF		

Graphs
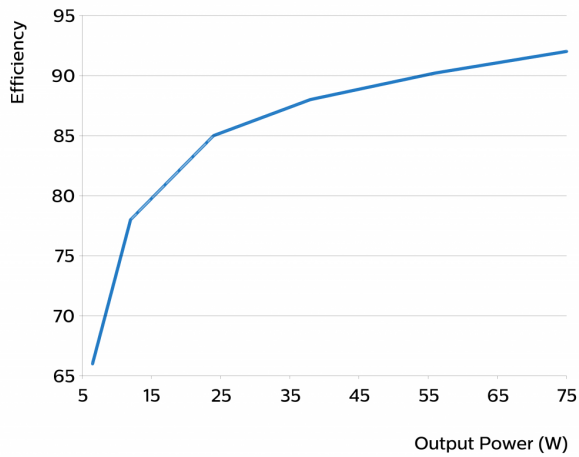
Operating window
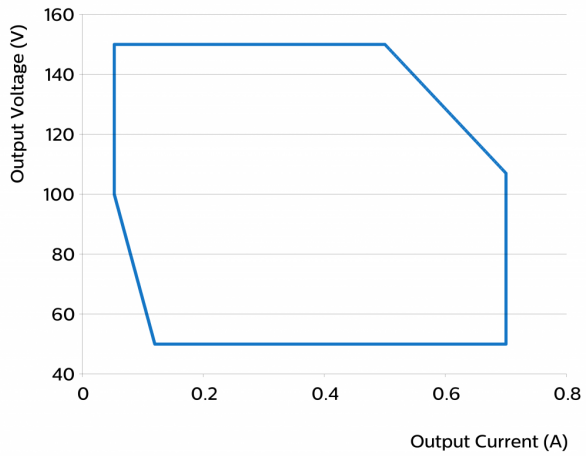
Thermal Guard
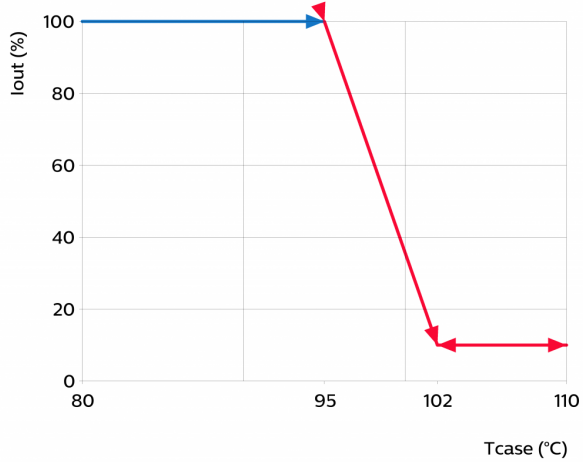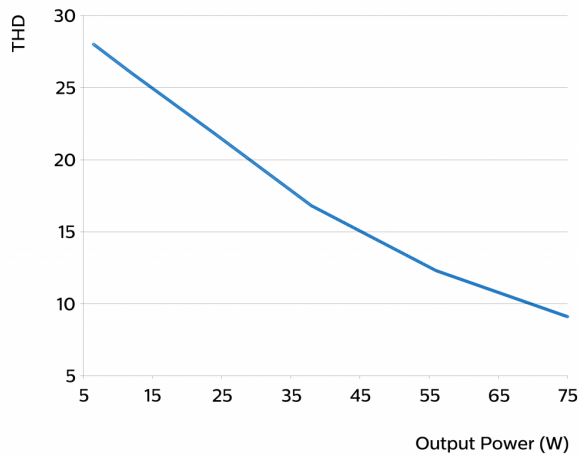
Mains Guard

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.

Date of release: March 2, 2017

www.lighting.philips.co.uk/oem-emea/products/connected-lighting