

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium isolated SR dimmable & programmable

Xitanium 36W 0.3-1A 54V SR 230V

9290 015 16306

Because light is all around us, the lighting infrastructure is an ideal platform for collecting and carrying information.

The Philips Xitanium SR drivers are sensor ready, making them perfect for use in building management systems. You can power and interface with sensors directly from the driver without the need for additional modules, devices or power packs. The versatile and scalable DALI-2 open standard digital interface is used via a simple 2-wire connection to the sensor, so that you can confidently design flexible lighting, and incorporate your preferred sensors and networks, without worrying about potential incompatibilities.

Benefits

- Sensor Ready concept, ideal for use with sensors & building management systems
- Integrated power supply to power sensors and wireless radios directly from the driver
- Communication between the sensor or wireless radio and the driver is according to the DALI-2 standard (note: the driver is not suitable for inter-luminaire DALI communication and therefore not DALI-2 certified)
- Highly accurate integrated power metering for use in building management systems
- Suitable for central emergency DC operation

Features

- SELV
- ~52mA DALI current source power supply, max 0.5W for sensors and radios (SR PSU)
- SimpleSet configuration interface (NFC)
- Configurable operating windows (AOC)
- Dimming supported during DC operation (DCemDim)
- Constant Light Output (CLO)
- Adjustable Light Output (ALO)
- OEM Write Protection (OWP)
- Energy Reporting
- Diagnostics & Maintenance

Application

- Offices
- Healthcare
- Education
- Retail: supermarkets, shopping malls

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V _{ac}	Performance range
Rated input voltage	230	V _{ac}	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.2	A	@ full output power @ rated input voltage
Rated input power	42	W	@ rated output power @ rated input voltage
Power factor	0.98		@ rated output power @ rated input voltage
Total harmonic distortion	8.6	%	@ rated output power @ rated input voltage
Efficiency	86	%	@ full output power @ rated input voltage @ max. I _{out}
Rated input voltage DC range	186...250	V _{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	0.36	W	
Isolation input to output	SELV		

Electrical output data

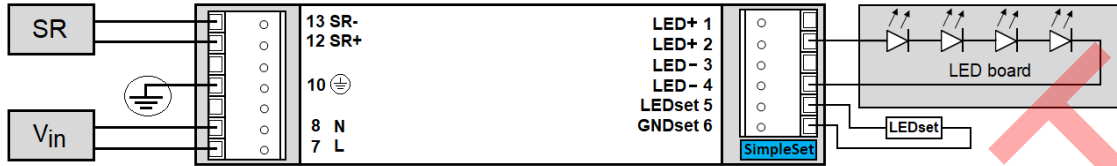
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	27...54	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.3...1	A	
Output current min programmable	300	mA	
Output current min dimming	7	mA	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P _{st} ^{LM}	≤ 1		
Output SVM	≤ 0.4		
Output power	10...36	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	SR		See design-in guide at www.philips.com/oem for more details.
Dimming range	1...100	%	Absolute minimum dimming current: 7mA
Isolation controls input to output	SELV		acc. IEC61347-1
SR output voltage max.	22.5	V	
SR guaranteed current	52	mA	
SR maximum current	60	mA	

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Control wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	WAGO744, solid wire
Control wire strip length	8...9	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way

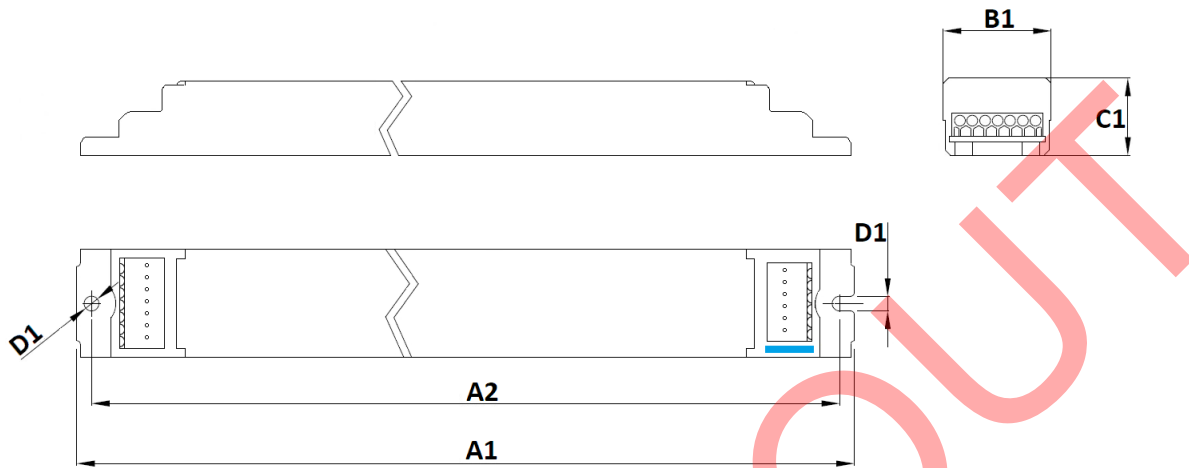


Insulation

Insulation per IEC61347-1	Input	Output+LEDset	SR-interface	Housing
Input		SELV	SELV	Basic
Output+LEDset	SELV		SELV	Basic
SR-interface	SELV	SELV		Basic
Housing	Basic	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	360	mm	
Mounting hole distance (A2)	350	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	260	gram	



Logistical data

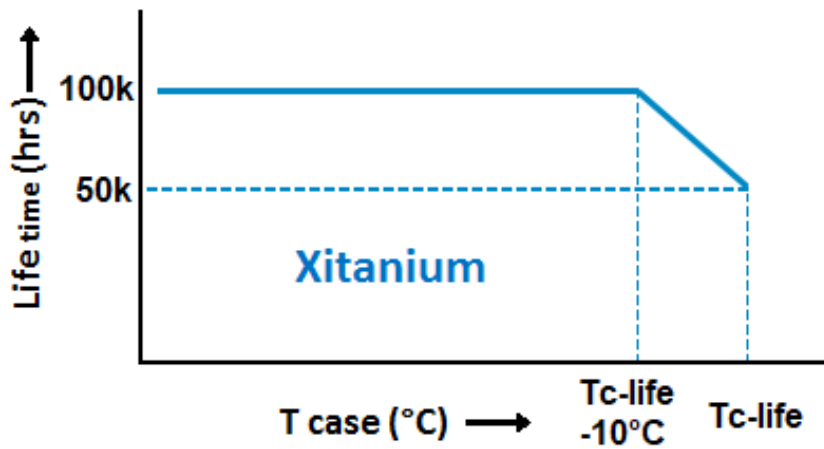
Specification item	Value
Product name	Xitanium 36W 0.3-1A 54V SR 230V
EOC	871869656771500
Logistic code 12NC	9290 015 16306
EAN1 (GTIN)	8718696567715
EAN3 (box)	8718696567722
Pieces per box	12

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded
T _{case-max}	75	°C	Maximum temperature measured at T _{case-point}
T _{case-life}	65	°C	Measured at T _{case-point}
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	100,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

Programmable features

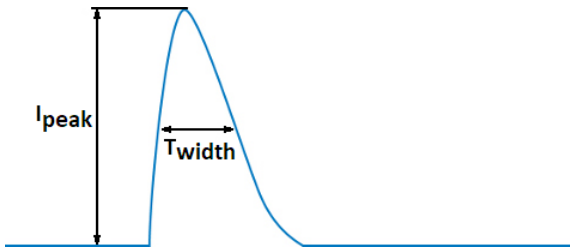
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset, Programmable, SimpleSet	300 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFx range = 1 .. 100% (EOFx = DCemDIM level)
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
SR PSU (DALI part 250)	Yes	ON	

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 and II	per IEC60598
Energy metering (DALI part 252)	Yes	Accuracy 4%
Diagnostics	Yes	

Inrush current

Specification item	Value	Unit	Condition
Inrush current	26	A	Input voltage 230V
Inrush peak width	140	μs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 24	pcs	Indicative value



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

Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.4	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

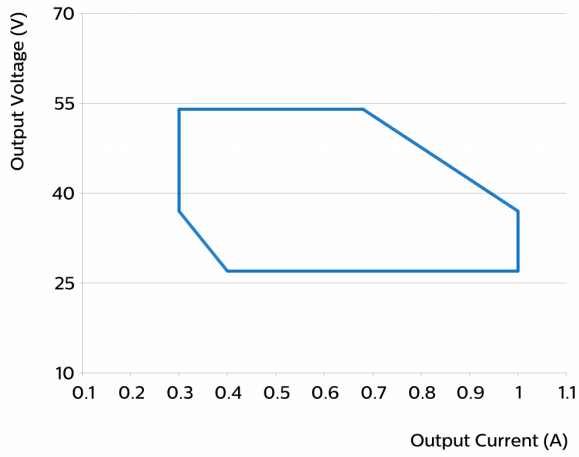
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

Specification item	Value
Approval marks	CCC / CE / EAC / EL / ENEC / RCM / SELV / SR / UA / WEEE
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

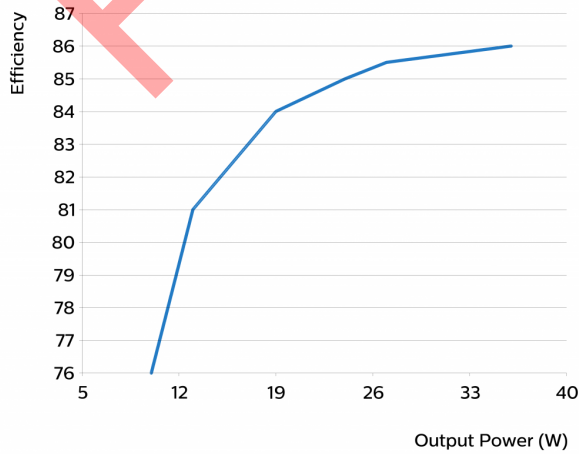
Operating window



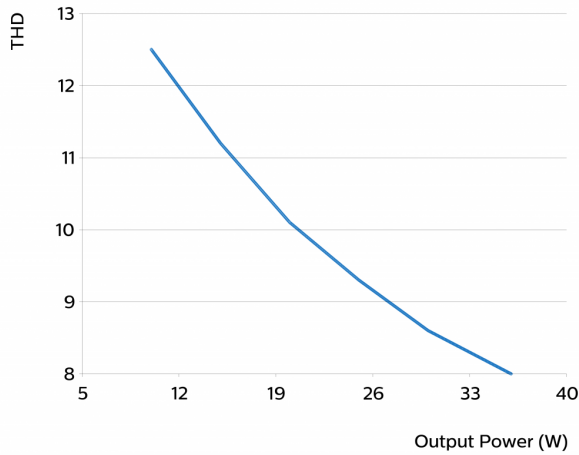
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

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