PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED drivers – Sensor Ready

Xitanium 75W 0.7-2.0A 54V SR 230V

Simplifying connectivity solutions with sensors and controls

Philips Sensor Ready drivers are ideal for use with sensors and building management systems. With its integrated DALI 2.0 power supply it is easy to power sensors and wireless modules directly from the driver. It also features integrated energy metering for use in building management systems from the SR Certified partner program. This program with key building 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 & building management systems
- Integrated power supply over DALI 2.0 to power sensors and wireless radios directly from the driver, open spec for all OEMs, simplifying integration of sensors into the luminaire
- Integrated power metering for use in building management systems from certified partners

Features

- LED specs comparable to TD isolated drivers
- ~15V DALI current source power supply, max 0.5 W for sensors and radios
- Power metering, accessible over DALI, with accuracy of 4% max deviation

Application

- office

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V_{ac}	performance range
Nominal input frequency	50...60	Hz	
Nominal input current	0.38	A	@230V @ full load
Input voltage	230	V_{ac}	
Nominal input power	86	W	@230V @ full load
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	90	%	@230V @ full load
Nominal input voltage DC	186...250	V_{dc}	
Nominal input current DC	0.38	A	Input voltage 230 V_{dc}, full load
Input voltage AC	202...254	V_{ac}	Operational range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Input voltage DC	168...275	V_{dc}	Maximum permissible range
Standby power	0.5	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	Peak voltage at open load
Output current	0.7...2	A	Full output current setting
Output current min programmable	700	mA	
Output current min dimming	14	mA	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 4	%	
Output power	21...75	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	DALI		
Dimming range	1...100	%	Absolute minimum dimming current: 14mA

Logistical data

Specification item	Value
Product name	Xitanium 75W 0.7-2.0A 54V SR 230V
Order code	871869655270400
Logistic code 12NC	9290 015 05006
EAN3	8718696552711
Pieces per box	24

Wiring & Connections

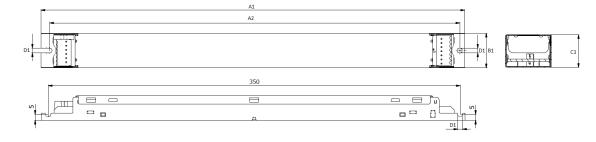| Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5	mm²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Maximum cable length	4000	mm	Total length of wiring including LED module, one way

Insulation

Insulation	input	output	SR-control	housing
input		SELV	Double	Basic
output	SELV		SELV	Basic
SR-control	Double	SELV		Basic
housing	Basic	Basic	Basic	

Dimensions and weight

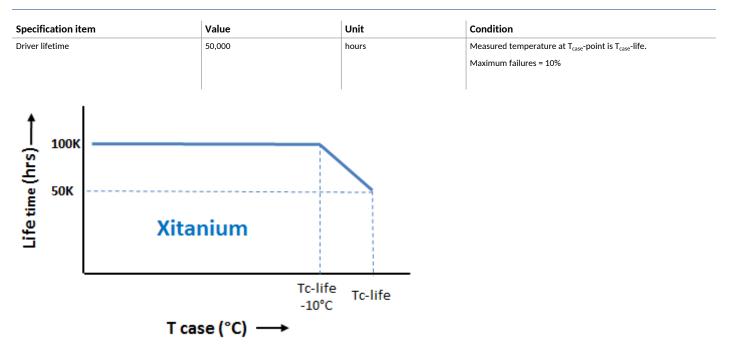| Specification item	Value	Unit	Condition
Length (A1)	360	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	350	mm	
Weight	180	gram	

Operational temperatures and humidity

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

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°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}-life. Maximum failures = 10%

Programmable features

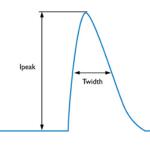| Specification item	Value	Remark	Condition
Set output current (AOC)	SR-interface, LEDset, SimpleSet	See Design-in guide.	Default output current: ≤ 700 mA
Constant Lumen Over Lifetime (CLO)	Yes		
DC emergency dimming (DCemDIM)	Yes		Current output by default decreased to 15%
Corridor mode	No		
Energy metering	Yes		
Diagnostics	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

Certificates and standards

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	24.9	A	Input voltage 230V
Inrush current T_{width}	215	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	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

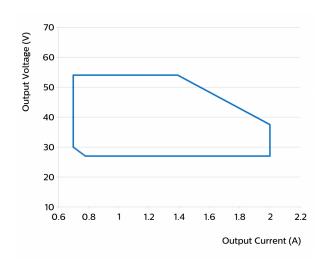| Specification item	Value	Unit	Condition
Typical touch current	0.4	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

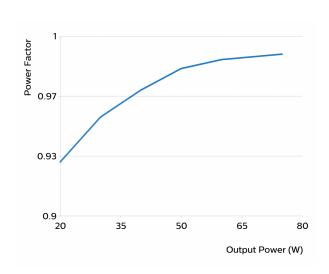| Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Additional information

Specification item	Value	Unit	Condition
AOC	700	mA	

Graphs

Operating window
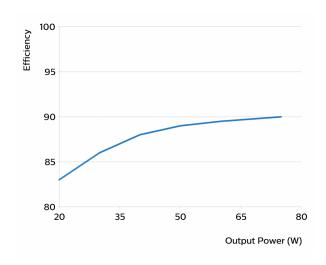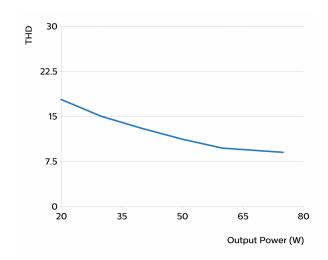

Power factor versus output power

Efficiency versus output power

THD versus output power

Notes

Energy metering accuracy +/- 4%

Date of release: June 28, 2016

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