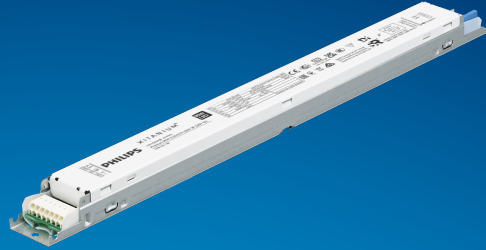


PHILIPS

Xitanium

LED driver



Datasheet

Xitanium non-isolated SR dimmable & programmable

Xitanium 90W 0.25-0.7A 220V SR 230V G2

9290 034 10806

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 indoor 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
- Highly accurate integrated power metering for use in building management systems
- Certified per DIIA intra-luminaire standard D4i
- Suitable for central emergency DC operation

Features

- Integrated Bus Power Supply for sensors and radios (DALI part 250)
- 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)
- Memory Bank 1 Extension / Luminaire Data (DALI part 251)
- Energy reporting (DALI part 252)
- Diagnostics & Maintenance (DALI part 253)

Application

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

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V _{ac}	Nominal range
Rated input voltage	230	V _{ac}	
Rated input frequency range	50...60	Hz	Nominal range
Rated input current	0.44	A	@ rated output power @ rated input voltage
Rated input power	97	W	@ rated output power @ rated input voltage
Minimum Power factor	0.99		@ rated output power @ rated input voltage
Total harmonic distortion	6	%	@ rated output power @ rated input voltage
Efficiency	93	%	@ rated output power @ rated input voltage @ max. U _{out}
Rated input voltage DC range	186...250	V _{dc}	Performance range
Rated input current DC range	0.52	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 (no load)	0.25	W	
Isolation input to output	No		

Electrical output data

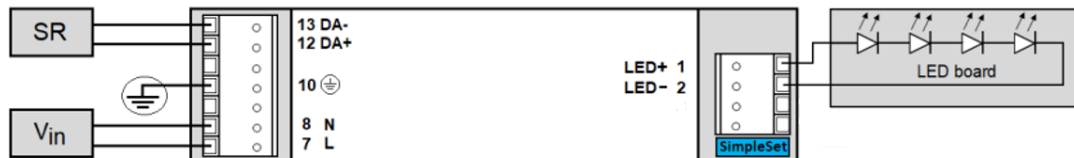
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...220	V _{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	0.25...0.7	A	
Output current min programmable	250	mA	
Output current min dimming	4	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P _{st} ^{LM}	≤ 0.17		cfr. IEC TR 61547-1:2017
Output SVM	≤ 0.01		cfr. IEC TR 63518:2018
Output power	0.2...90	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	DALI, SR		DALI Parts: 101, 102, 207, 250, 251, 252, 253. See design-in guide for more controllability details.
Dimming range	1...100	%	With AOC >250mA 1% dimming possible; AOC <250mA min. physical current = 2mA
Isolation controls input to output	SELV		acc. IEC61347-1
SR output voltage max.	22.5	V	Acc. D4i. See www.digitalilluminationinterface.org/products
SR output 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

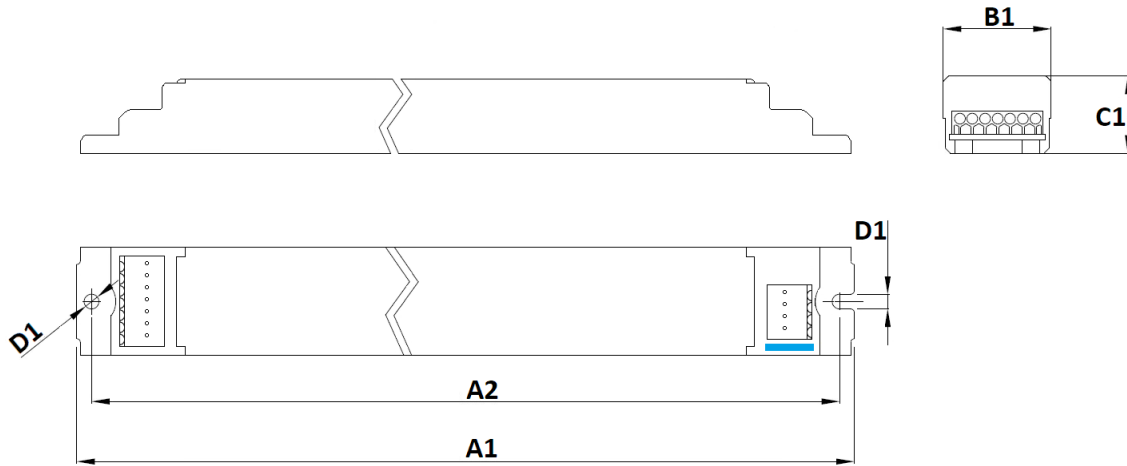


Isolation

Insulation per IEC61347-1	Input	Output	DA-interface	Housing
Input	-	No	SELV	Basic
Output	No	-	SELV	Basic
DA-interface	SELV	SELV	-	Basic
Housing	Basic	Basic	Basic	-

(for housing Office 360x30x21 7p4p NFC)

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	250	gram	



Logistical data

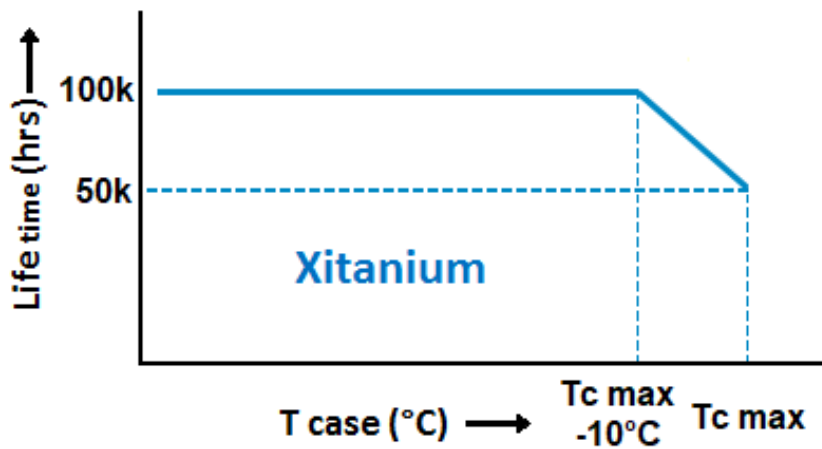
Specification item	Value
Product name	Xitanium 90W 0.25-0.7A 220V SR 230V G2
EOC	871951442995600
Logistic code 12NC	9290 034 10806
EAN1 (GTIN)	8719514429956
Pieces per box	24

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
Tcase-max	80	°C	lifetime 50khrs;
Tcase-life	70	°C	lifetime 100khrs; measured at T _c -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%
Mains switching cycles	> 100,000	switches	See Design-in guide for detailed explanation



Storage temperature and humidity

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

Programmable features

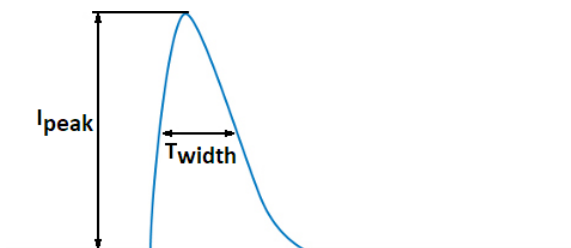
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Programmable, SimpleSet	250 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Adjustable Light Output (ALO) min level	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFx range = 1 .. 100% (EOFx = DCemDIM level)
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
DALI 102	Yes	ON	Programmable via SimpleSet
SR PSU (DALI part 250)	Yes	ON	
Luminaire Info (DALI part 251)	Yes	—	
Energy metering (DALI part 252)	Yes	—	Accuracy 4%
Diagnostics	Yes	—	
Diagnostics (DALI part 253)	Yes	—	
DALI 253 M	Yes	—	

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
Output Overvoltage Detection	Yes		

Inrush current

Specification item	Value	Unit	Condition
Inrush current	25	A	Input voltage 230V
Inrush peak width	230	μs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 20	pcs	Indicative value at 230V



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

Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

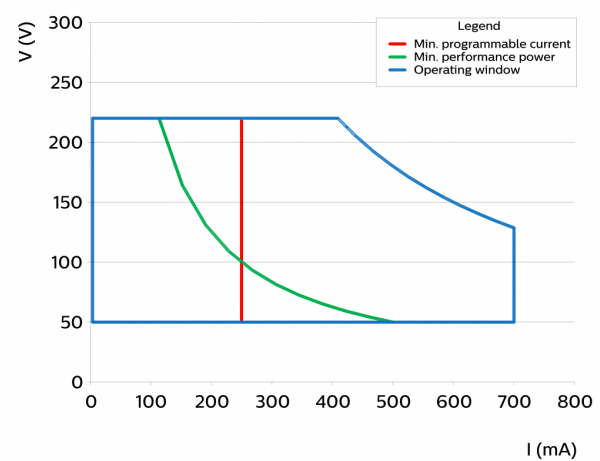
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	0.03	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	1	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

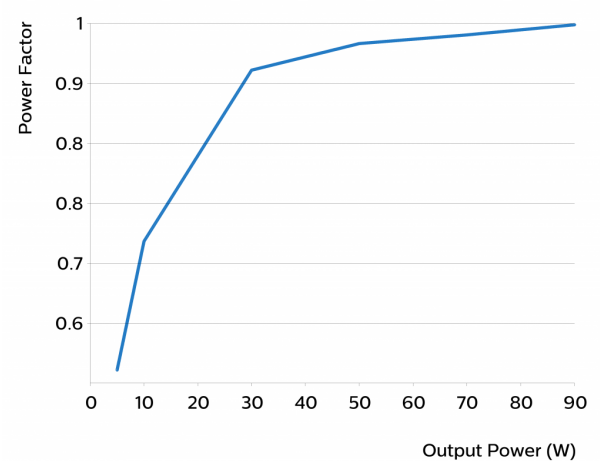
Specification item	Value
Approval marks and Certifications	CCC / CE / D4i / EAC / EL / ENEC / RCM / SR / UA / UKCA / WEEE
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

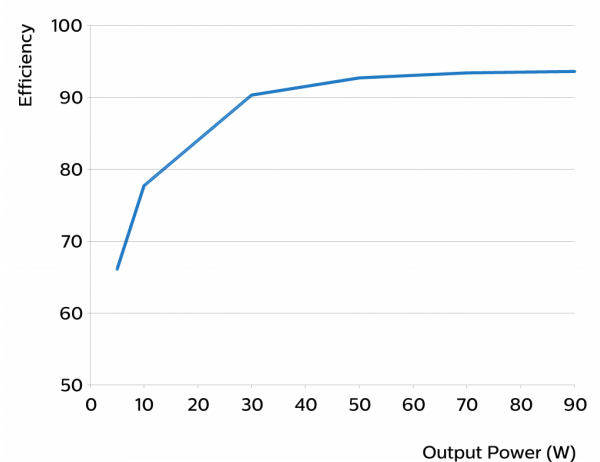
Operating window



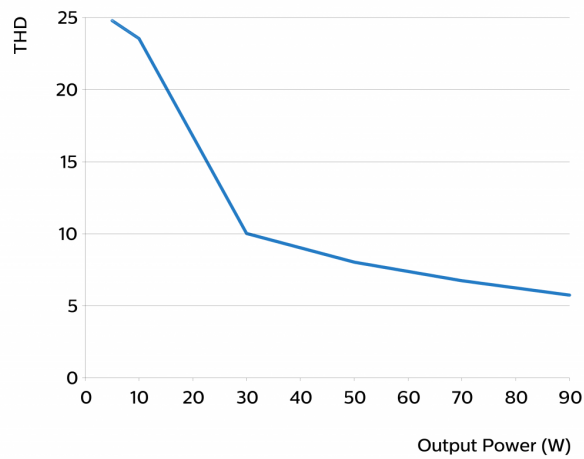
Power factor versus output power



Efficiency versus output power



THD versus output power



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