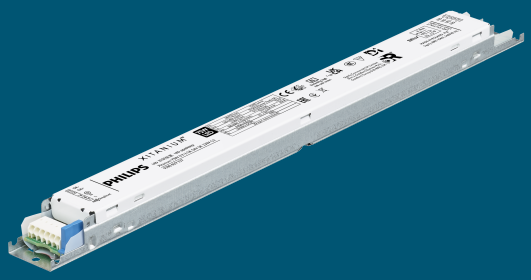
xitanium

Datasheet

Xitanium isolated SR dimmable & programmable G2

Xitanium 75W 0.7-2.0A 54V SR 230V G2
9290 029 33706



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. They comply with the D4i standard, making it much easier to mount sensors and communication devices on luminaires. Furthermore, D4i drivers have the capability to store and report a wide range of luminaire, energy and diagnostics data in a standardized format.

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 D4i standard
- Highly accurate integrated power metering for use in building management systems
- Suitable for central emergency DC operation

Application

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

Features

- SELV
- D4i certified
- 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)
- Integrated Bus Power Supply for sensors and radios (DALI part 250)
- Memory Bank 1 Extension / Luminaire Data (DALI part 251)
- Energy Reporting (DALI part 252)V
- Diagnostics & Maintenance (DALI part 253)

Logistical data

Specification item	Value
Product name	Xitanium 75W 0.7-2.0A 54V SR 230V G2
Logistic code 12NC	9290 029 33706
Pieces per box	24
Weight	281 gram

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	50...60	Hz	Performance range
Rated input current	0.38	A	@ full output power @ rated input voltage
Rated input power	84.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.98		@ rated output power @ rated input voltage
Total harmonic distortion	4	%	@ rated output power @ rated input voltage
Efficiency	90.0	%	@ full output power @ rated input voltage @ max. Iout, no load on SR
Rated input voltage DC	186...250	V_{dc}	Performance range
Rated input current DC	0.45	A_{dc}	Performance range
Input voltage AC	198...264	V_{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Input voltage DC	168...275	V_{dc}	Operational range
Standby Power (no load)	0.25	W	No load on SR/DALI @230Vac cfr. IEC62442-3
Standby Power (with load)	1	W	250mW load on SR/DALI @ 230Vac cfr. IEC62442-3
Isolation input to output	SELV		

Electrical output data

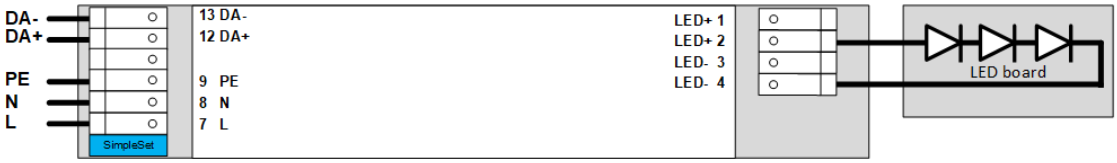
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	27...54	V_{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	700...2000	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P_{st}^{LM}	≤ 0.3		In entire operating window
Output SVM	≤ 0.3		In entire operating window
Output power	21.0...75.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	SR		Output current amplitude dimming. Please refer to design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1...100	%	>1400mA 1% dimming; < 1400mA min. current 14mA
Isolation controls input to output	Double		acc. IEC61347-1
SR Power Supply max voltage.	20	V	
SR output current	52	mA	
SR Power Supply max current source	60	mA	

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Control wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Control wire strip length	8...9	mm	
Maximum cable length	2	m	CISPR15: total length of wiring incl. LED module
Loop Through	Output		

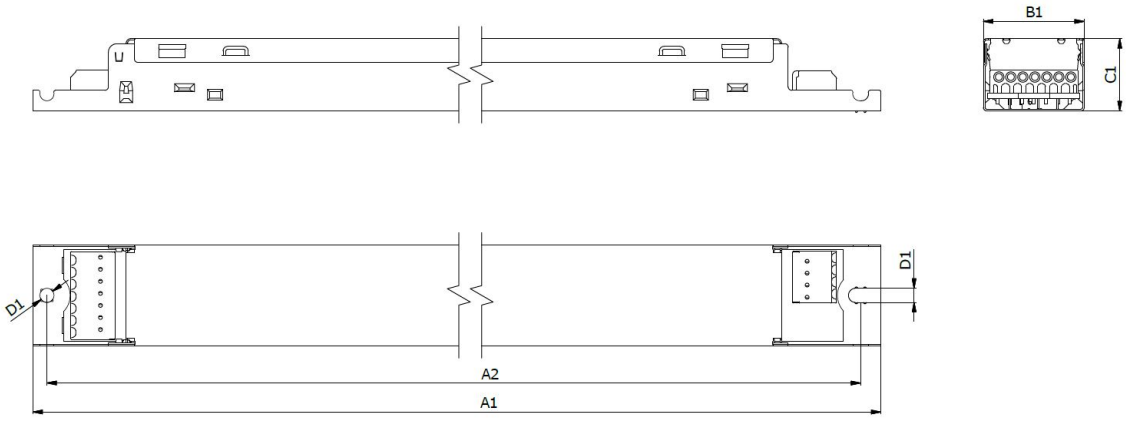


Isolation

Insulation per IEC61347-1	Input	Output	DA	Housing
Input	-	SELV	SELV	Basic
Output	SELV	-	SELV	Basic
DA	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	281	gram	

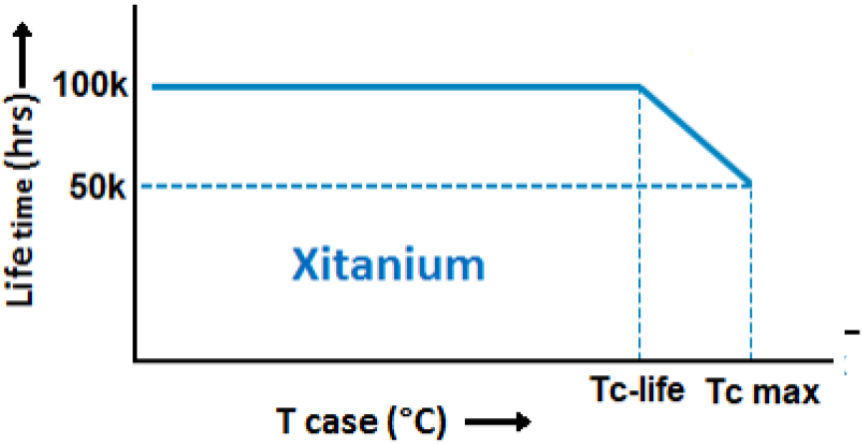


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	75	°C	Maximum temperature measured at T_{case}-point
Tcase-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%



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
75	50000	hr	
70	71000	hr	
65	100000	hr	Temperature measured @Tc point
60	>100000	hr	
55	>100000	hr	

Storage temperature and humidity

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

Programmable features

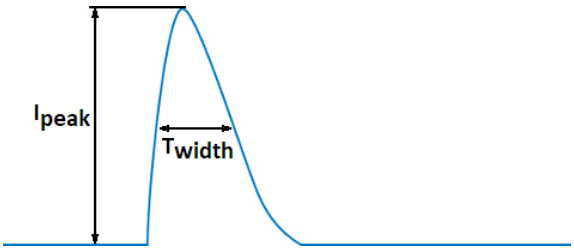
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Programmable, SimpleSet	700 mA	
NTC on LEDset	No		
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Min Dim Level (%)	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default: AOC = 15%. EOFx = 1 ... 100%. No external DC rated fuse required. Internal fuse rating: T1A 250VAC/DC
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
DALI Power Supply (DALI part 250)	Yes		
Luminaire Info (DALI part 251)	Yes		
Luminaire maintenance (DALI part 253)	Yes		

Non-programmable 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
Energy metering (DALI part 252)	Yes	Accuracy 4%
Diagnostics (DALI part 253)	Yes	
Diagnostics via Signify tool	Yes	

Inrush current

Specification item	Value	Unit	Condition
Inrush current	25.5	A	Input voltage 230V
Inrush peak width	258	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 17	pcs	Input voltage 230V



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

If several mini circuit breakers are used directly side-by-side (without distance piece

a correction factor of 80% has to be applied to the rated current

Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included
Typical Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

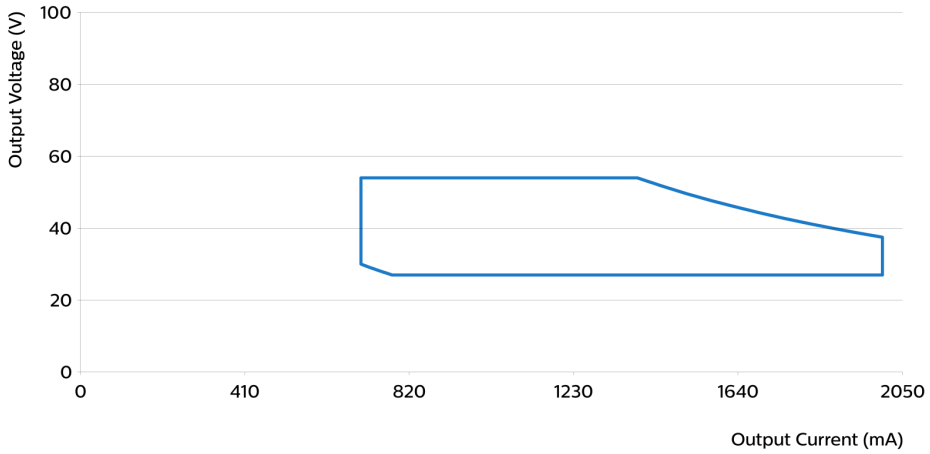
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	0.03	kV	DA - DA acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control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

Application Info (Approbation)

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

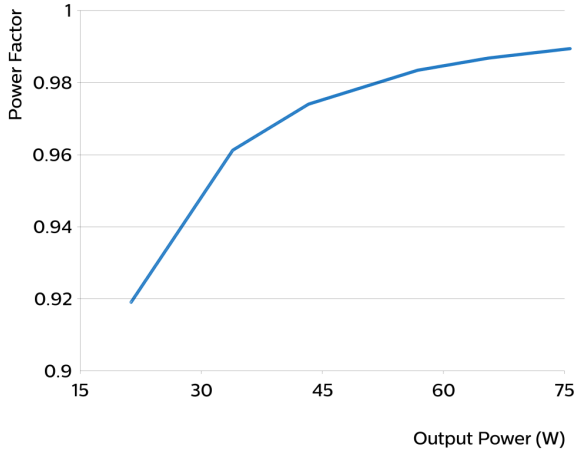
Graphs

Operating window

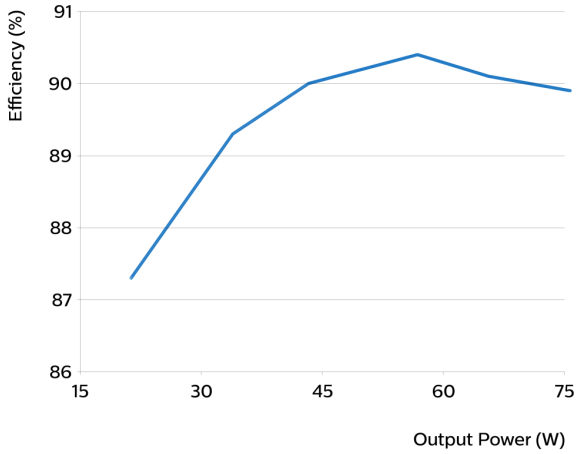


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 75W 0.7-2.0A 54V SR 230V G2	700	30	54	37.8
Xitanium 75W 0.7-2.0A 54V SR 230V G2	750	28	54	40.5
Xitanium 75W 0.7-2.0A 54V SR 230V G2	800	27	54	43.2
Xitanium 75W 0.7-2.0A 54V SR 230V G2	850	27	54	45.9
Xitanium 75W 0.7-2.0A 54V SR 230V G2	900	27	54	48.6
Xitanium 75W 0.7-2.0A 54V SR 230V G2	950	27	54	51.3
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1000	27	54	54
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1050	27	54	56.7
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1100	27	54	59.4
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1150	27	54	62.1
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1200	27	54	64.8
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1250	27	54	67.5
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1300	27	54	70.2
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1350	27	54	72.9
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1400	27	53	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1450	27	51	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1500	27	50	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1550	27	48	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1600	27	46	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1650	27	45	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1700	27	44	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1750	27	42	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1800	27	41	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1850	27	40	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1900	27	39	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	1950	27	38	75
Xitanium 75W 0.7-2.0A 54V SR 230V G2	2000	27	37	75

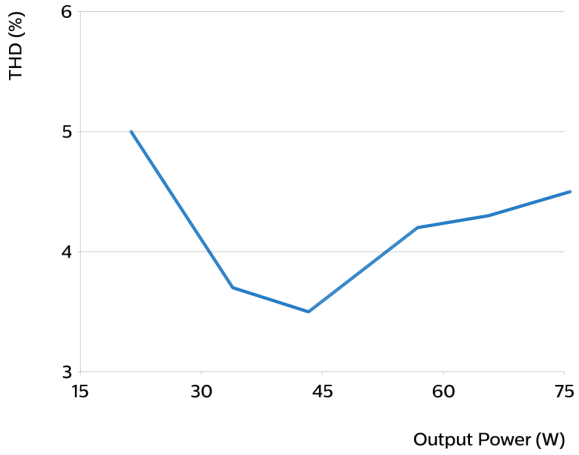
Power factor versus output power



Efficiency versus output power



THD versus output power



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