PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED drivers – spot- and downlight SELV

Xitanium 50W WH 0.7-1.5A 54V SR Is 230V

9290 028 61306

Enabling future-proof LED technology

Our Xitanium programmable window LED drivers ensure OEMs have complete flexibility and control in producing high quality luminaires. Available in application-dedicated form factors for built-in use and independent applications, our LED point drivers provide further customization via wide operating windows. Additionally, almost all drivers feature the following specifications: SELV, improved ripple current, temperature derating, – providing OEMs the tools to produce, and even alter later if necessary, premium downlights and spotlights.

Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEMs' own PCB designs

Features

- Operating windows - output current can be adjusted via the Philips MultiOne configurator ('TD' drivers) or with a resistor outside the driver or SimpleSet
- Power ratings: 10-75W
- Choice of housing designs -linear housing for tracks in '3 in 1' in design, conventional HID housings for down and Spotlighting and WH housing for independent use with strain relief and loop through

Application

- Retail
- Office

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	0.27	A	@ rated output power @ rated input voltage
Rated input power	60	W	@ rated output power @ rated input voltage
Minimum Power factor	0.9		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	89	%	@ rated output power @ rated input voltage @ max. Iout
Rated input voltage DC range	186…250	V_{dc}	Performance range
Rated input current DC range	0.32	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	0.49	W	Excl. consumption by sensors connected to the DA bus
Isolation input to output	SELV		

Electrical output data

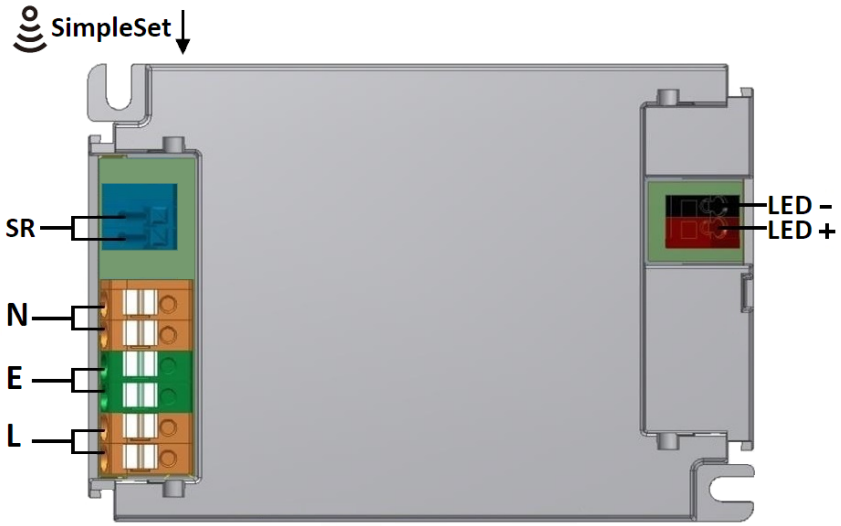
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24…54	V_{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.7…1.5	A	
Output current min programmable	700	mA	
Output current min dimming	10	mA	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average < 3kHz
Output P_{st}^{LM}	≤ 0.6		In entire operating window
Output SVM	≤ 0.034		In entire operating window
Output power	16.8…50	W	

Electrical data controls input

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	%	Acc. D4i. See www.digitalilluminationinterface.org/products
Isolation controls input to output	Supplementary		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	0.75…2.5 / 18…14	mm² / AWG	solid / stranded wire
Input wire strip length	10…11	mm	
Output wire cross-section	0.5…1.5	mm² / AWG	solid / stranded wire
Output wire strip length	8.5…9.5	mm	
Control wire cross-section	0.5…1.5	mm² / AWG	solid / stranded wire
Control wire strip length	8.5…9.5	mm	
Maximum cable length	0.6	m	CISPR15: between driver and LED module
Loop Through	Input		

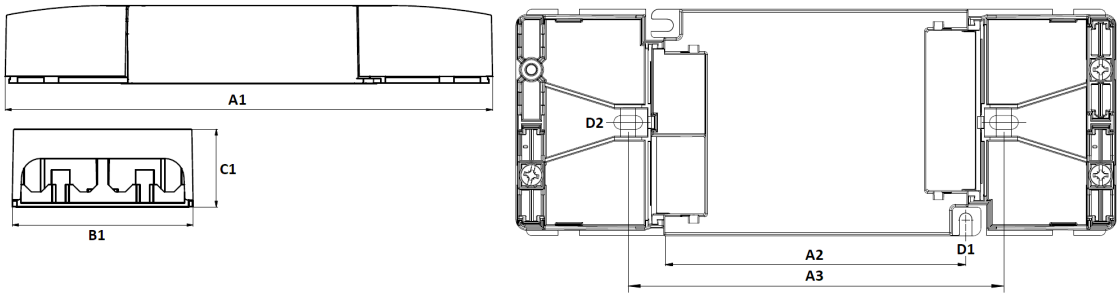


Insulation

Insulation per IEC61347-1	Input	Output	DA
Input		SELV	Reinforced
Output	SELV		Supplementary
DA	Reinforced	Supplementary	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	201	mm	
Mounting hole distance (A2)	99	mm	
Length (A3)	124	mm	
Width (B1)	75	mm	
Height (C1)	32.5	mm	
Mounting hole diameter (D1)	4.1	mm	
Mounting hole diameter (D2)	4.1	mm	
Weight	215	gram	



Logistical data

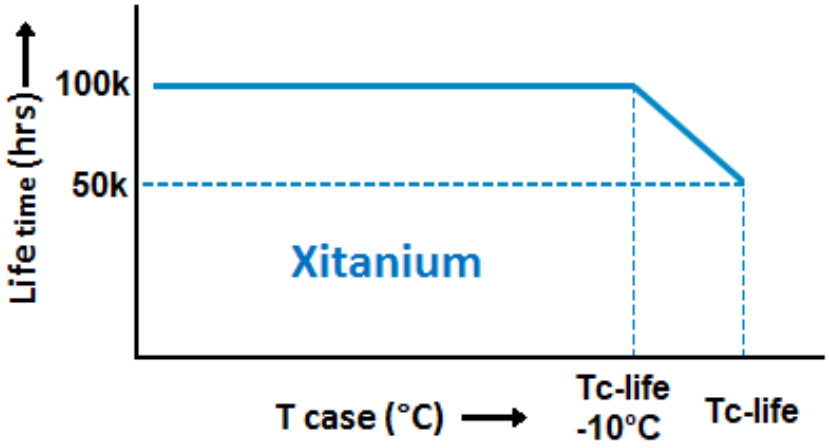
Specification item	Value
Product name	Xitanium 50W WH 0.7-1.5A 54V SR Is 230V
EOC	871951432694100
Logistic code 12NC	9290 028 61306
EAN1 (GTIN)	8719514326941
EAN3 (box)	8719514326958
Pieces per box	12

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20…+55	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	90	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°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	50,000	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

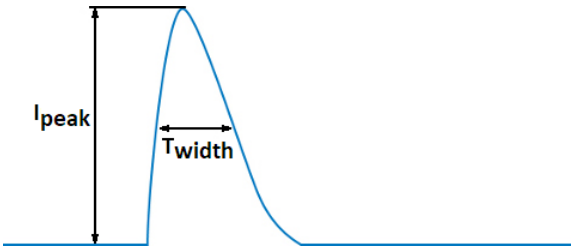
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Programmable, SimpleSet	700 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Adjustable Light Output (ALO) min level	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFx range = 1 .. 100% (EOFx = DCemDIM level). Internal fuse rating: T630mA 250VDC/AC
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
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 and II		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	9.4	A	Input voltage 230V
Inrush peak width	35	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 27	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

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

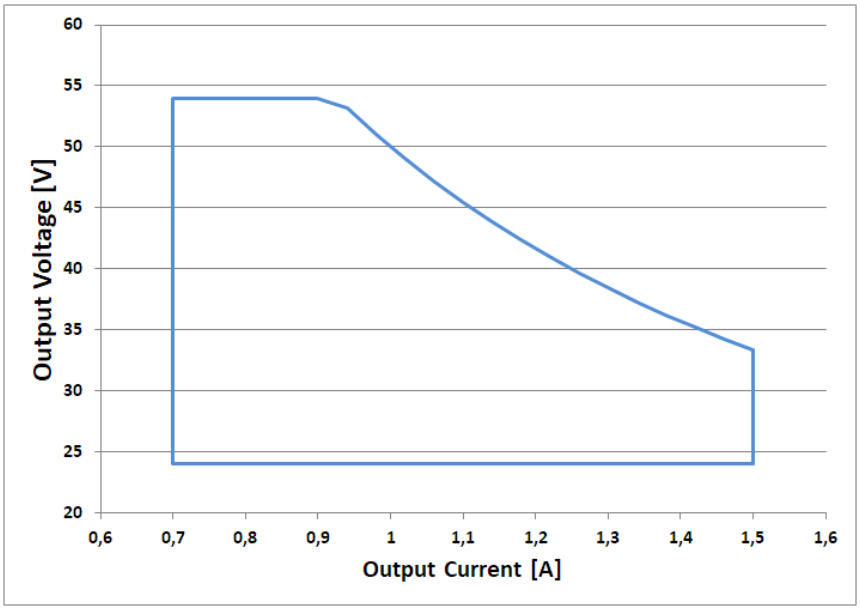
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	0.03	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

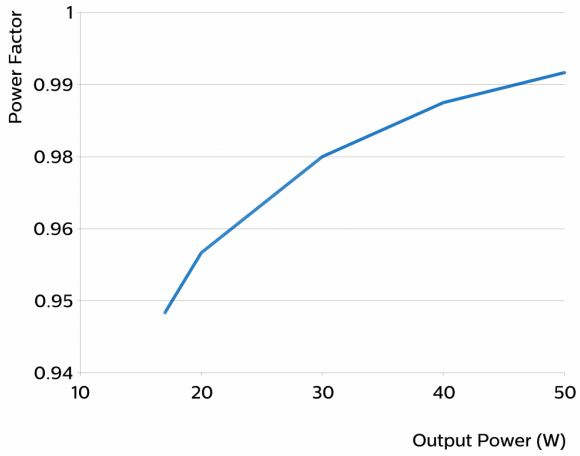
Specification item	Value
Approval marks and Certifications	CE / D4i / Double-insulated / EAC / EL / ENEC / RCM / SELV / SR / UA / UKCA / WEEE
Ingress Protection classification (IP)	20
Application	Indoor Point
Mounting Type	Built-in / Independent

Graphs

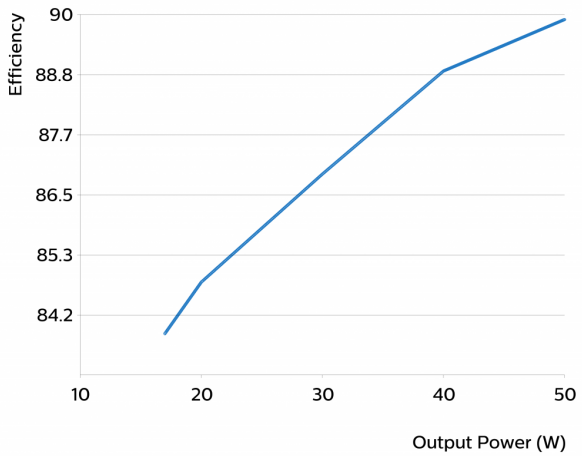
Operating window



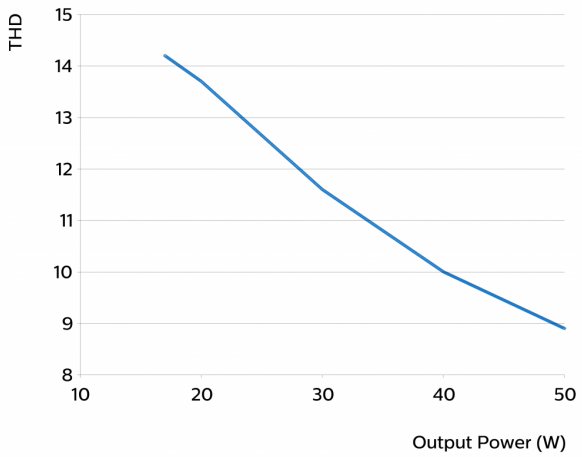
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Mains wiring information:
Built-in use: 0.5...2.5mm2
Independent use: 0.75...2.5mm2

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