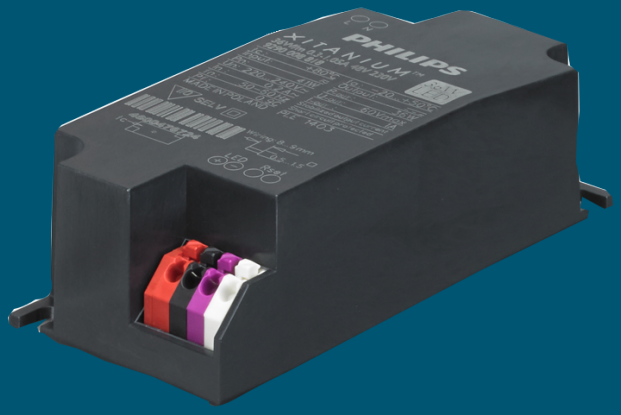
Xitanium

Datasheet

LED drivers – mini and extreme small

Xitanium 50W/m 0.7-1.5A 48V 230V
9290 009 34606



Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications. Reliability is enhanced by features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal derating. Most drivers feature central DC operation. In the coming years LEDs will continue to increase in efficiency, creating challenges for OEMs. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to an adjustable output current. Application-oriented operating windows offer stable lumen output and light quality levels that specifiers and architects demand. The adjustable output current also enables operation of various LED PCB solutions from different manufacturers.

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

Application

- Retail

Features

- Operating windows - Output current can be adjusted via the Philips MultiOne configurator ('TD' drivers) or with a resistor outside the driver
- Multiple versions - DALI dimmable & programmable, trailing-edge dimmable, fixed-current/fixed-output trailing-edge dimmable, fixed-output, and fixed-current/fixed-output
- Wide range of power ratings
- 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

Logistical data

Specification item	Value
Product name	Xitanium 50W/m 0.7-1.5A 48V 230V
EOC	871869643718600
Logistic code 12NC	9290 009 34606
EAN1 (GTIN)	8718696437186
EAN3 (box)	8718696437193
Pieces per box	20
Weight	115 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	0.26	A	@ rated output power @ rated input voltage
Rated input power	56.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.90 C		@ rated output power @ rated input voltage@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	90.5	%	@ rated output power @ rated input voltage @ max. Iout
Input voltage AC	198...264	V_{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Isolation input to output	SELV		

Electrical output data

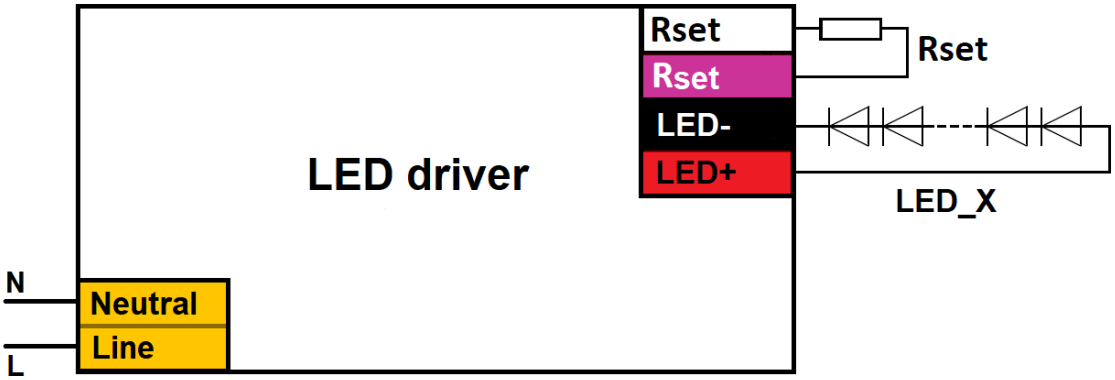
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24...48	V_{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	700...1500	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output power	17.0...50.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5	mm² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5	mm² / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way

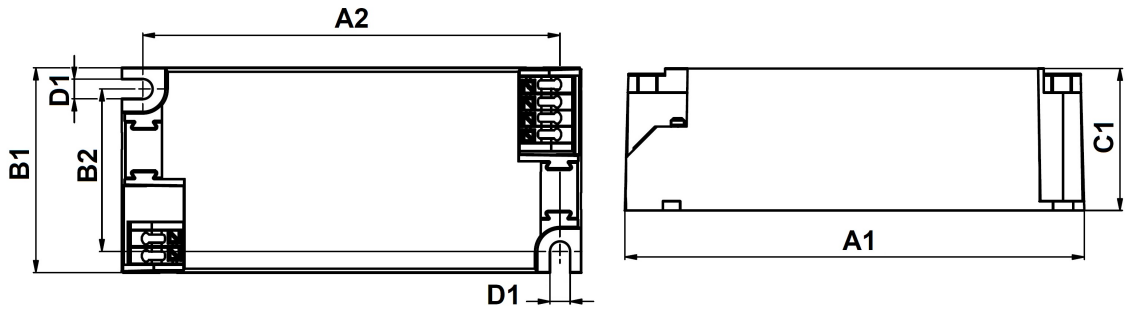


Isolation

Insulation per IEC61347-1	Input	Output+Rset
Input	-	SELV
Output+Rset	SELV	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	97.2	mm	
Mounting hole distance (A2)	89	mm	
Width (B1)	43.2	mm	
Height (C1)	30	mm	
Mounting hole diameter (D1)	4.2	mm	
Weight	115	gram	

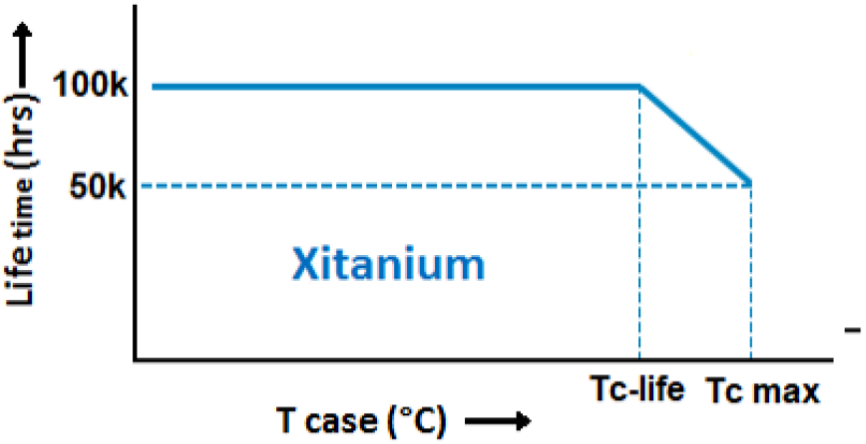


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°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%



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
90	25000	hr	
85	35000	hr	
80	50000	hr	Temperature measured @Tc point
75	>50000	hr	
70	>50000	hr	

Storage temperature and humidity

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

Programmable features

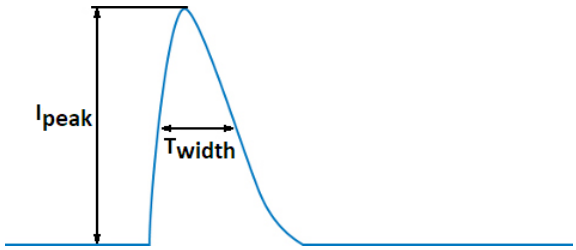
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Rset2	1500 mA	Set the output current via Rset, do not leave open / short-circuit. See Design-In Guide for resistor value table.
LED Module Temperature Protection (MTP)	No		
DC emergency (DCemDim)	No		

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 and II	per IEC60598
Energy metering (DALI part 252)	No	
Diagnostics via Signify tool	No	

Inrush current

Specification item	Value	Unit	Condition
Inrush current	22	A	Input voltage 230V
Inrush peak width	260	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 24	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 pieces

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

Surge immunity

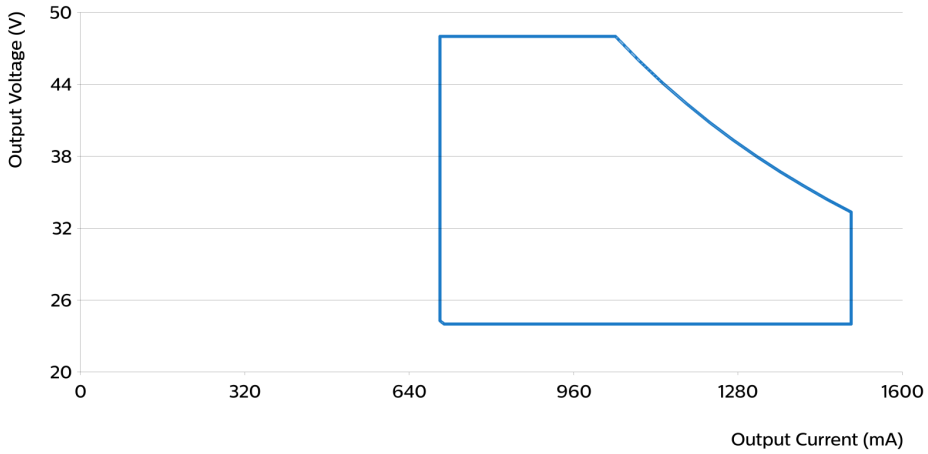
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

Specification item	Value
Approval marks and Certifications	CCC / CE / EAC / ENEC / SELV / UA
Ingress Protection classification (IP)	20
Application	Indoor Point
Mounting Type	Built-in / Independent

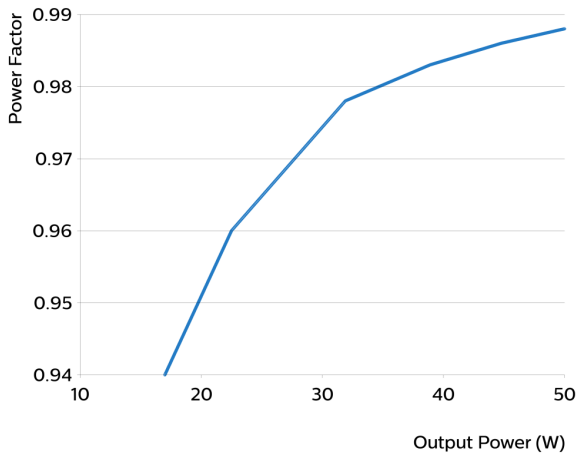
Graphs

Operating window

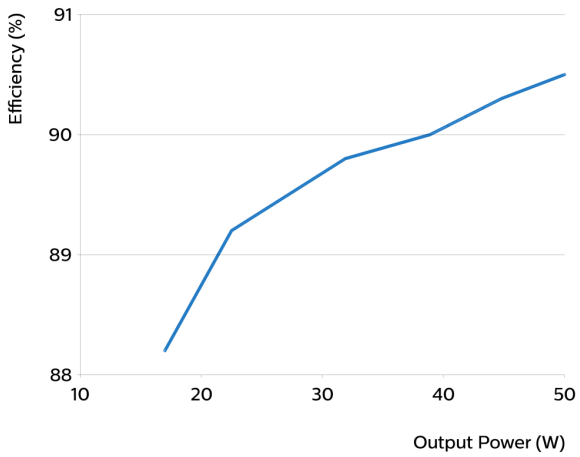


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 50W/m 0.7-1.5A 48V 230V	700	24	48	33.6
Xitanium 50W/m 0.7-1.5A 48V 230V	750	24	48	36
Xitanium 50W/m 0.7-1.5A 48V 230V	800	24	48	38.4
Xitanium 50W/m 0.7-1.5A 48V 230V	850	24	48	40.8
Xitanium 50W/m 0.7-1.5A 48V 230V	900	24	48	43.2
Xitanium 50W/m 0.7-1.5A 48V 230V	950	24	48	45.6
Xitanium 50W/m 0.7-1.5A 48V 230V	1000	24	48	48
Xitanium 50W/m 0.7-1.5A 48V 230V	1050	24	47	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1100	24	45	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1150	24	43	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1200	24	41	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1250	24	40	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1300	24	38	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1350	24	37	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1400	24	35	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1450	24	34	50
Xitanium 50W/m 0.7-1.5A 48V 230V	1500	24	33	50

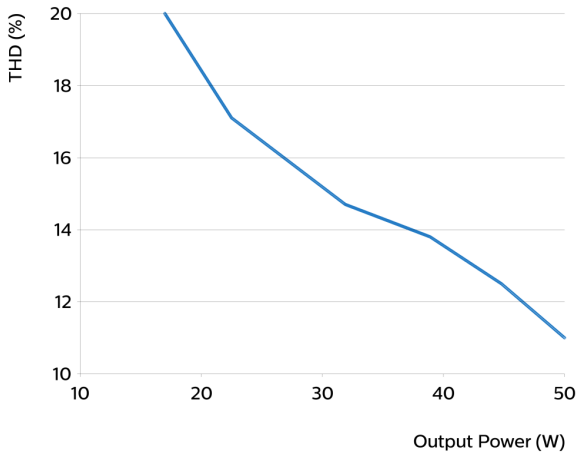
Power factor versus output power



Efficiency versus output power



THD versus output power



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