

Datasheet

LED drivers – Extreme Small

Xitanium 12W 0.08–0.5A 24V 230V
9290 034 56706

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

Features

- Configurable operating window (AOC) via SimpleSet
- Wide range of power ratings
- Housing for independent use with strain relief and loop through or built-in for Spot- and down-lighting

Application

- Retail
- Office

Logistical data

Specification item	Value
Product name	Xitanium 12W 0.08-0.5A 24V 230V
EOC	872016926341300
Logistic code 12NC	9290 034 56706
EAN1 (GTIN)	8720169263413
EAN3 (box)	8720169263420
Pieces per box	25
Strain Relief 12NC	929001431106
Weight	90 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	0.07	A	@ rated output power @ rated input voltage
Rated input power	14.5	W	@ rated output power @ rated input voltage
Power factor performance range	0.90 C		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	83.0	%	@ rated output power @ rated input voltage @ max. U _{out}
Rated input voltage DC	186...250	V _{dc}	Performance range
Rated input current DC	0.08	A _{dc}	Performance range
Input voltage AC	198...264	V _{ac}	Safety operational range
Input frequency AC	45...66	Hz	Safety operational range
Input voltage DC	168...275	V _{dc}	Safety operational range
Isolation input to output	SELV		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	8...24	V _{dc}	
Output voltage max.	60	V	Maximum voltage at open load
Output current	80...500	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average @ 1kHz
Output P _{st} ^{LM}	≤ 0.3		
Output SVM	≤ 0.1		
Output power	1.6...12.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75...1.5 / 18...16	mm ² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Input wire cross-section	0.5...1.5	mm ² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.75...1.5 / 18...16	mm ² / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5	mm ² / 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

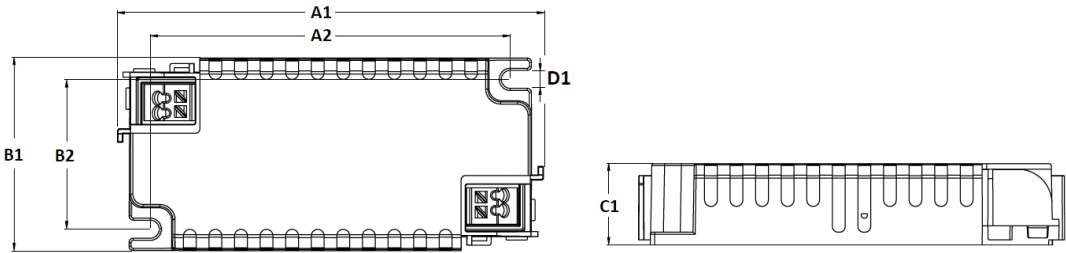


Isolation

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

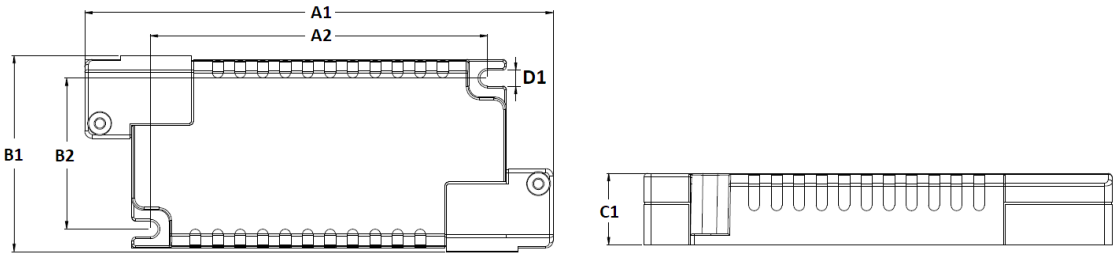
Dimensions and weight (for housing Mini flat 100x45x19 built-in 2p2p)

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	100	mm	
Mounting hole distance (A2)	84	mm	
Width (B1)	45	mm	
Width (B2)	35	mm	
Height (C1)	19.4	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	90	gram	
Housing color	White (RAL 9016)		



Dimensions and weight (for housing Mini flat 125x47x19 independent 2p2p)

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	125	mm	
Mounting hole distance (A2)	84	mm	
Width (B1)	47	mm	
Width (B2)	35	mm	
Height (C1)	19.4	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	90	gram	
Housing color	White (RAL 9016)		

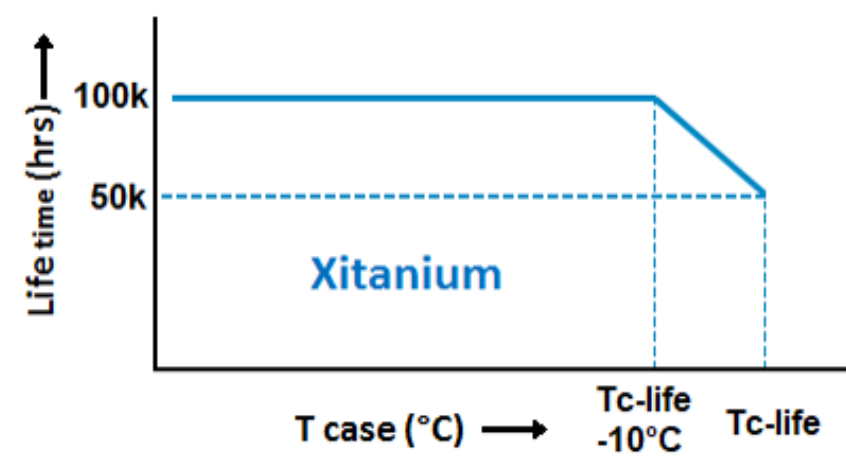


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	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, 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%
Driver lifetime Tcmax	0	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
75	50000	hr	Temperature measured @Tc point
70	>50000	hr	
65	>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)	SimpleSet	80 mA	Approach SimpleSet antenna from the top of the driver
Adjustable Light Output (ALO)	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info (DALI part 251)	Yes		

Non-programmable features

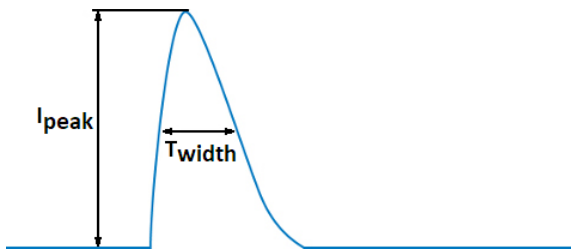
Specification item	Value	Condition
Open load protection	Yes	Automatic recovering
Short circuit protection	Yes	Automatic recovering
Over power protection	Yes	Automatic recovering
Hot wiring	No	
Suitable for fixtures with protection class	I and II	per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	8.1	A	Input voltage 230V
Inrush peak width	27	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 40	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

Surge immunity

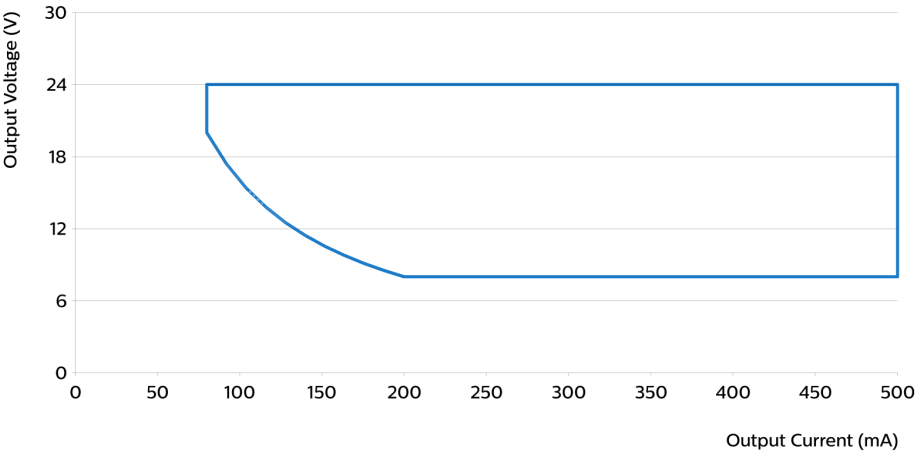
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L-N acc. IEC61000-4-5. 2 Ohm, 1.2/50µs, 8/20µs
Mains surge immunity (comm. mode)	2	kV	L/N - EQUI: acc. IEC61000-4-5. 12 Ohm, 1.2/50µs, 8/20µs

Application Info (Approbation)

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

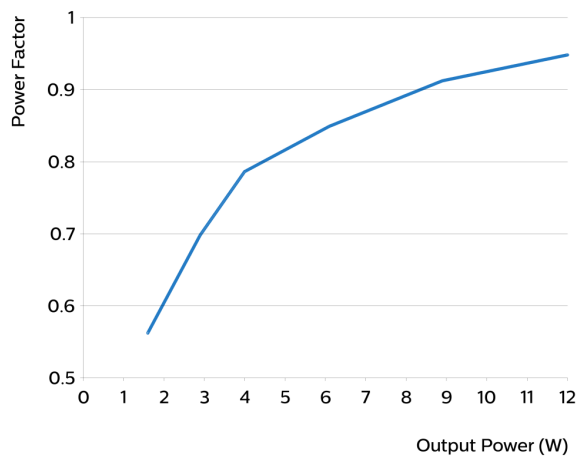
Graphs

Operating window

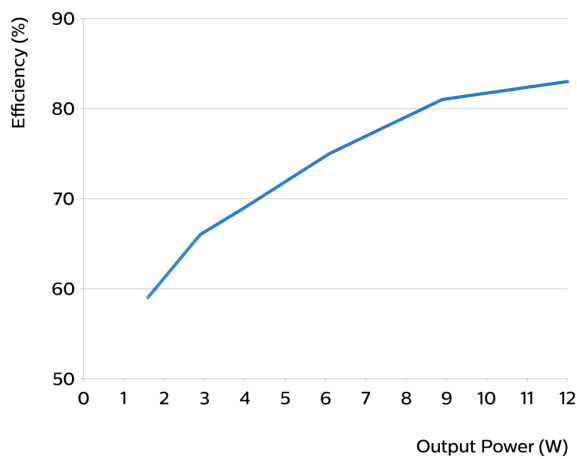


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 12W 0.08-0.5A 24V 230V	80	20	24	1.92
Xitanium 12W 0.08-0.5A 24V 230V	130	12	24	3.12
Xitanium 12W 0.08-0.5A 24V 230V	180	8	24	4.32
Xitanium 12W 0.08-0.5A 24V 230V	230	8	24	5.52
Xitanium 12W 0.08-0.5A 24V 230V	280	8	24	6.72
Xitanium 12W 0.08-0.5A 24V 230V	330	8	24	7.92
Xitanium 12W 0.08-0.5A 24V 230V	380	8	24	9.12
Xitanium 12W 0.08-0.5A 24V 230V	430	8	24	10.32
Xitanium 12W 0.08-0.5A 24V 230V	500	8	24	12

Power factor versus output power



Efficiency versus output power



THD versus output power

