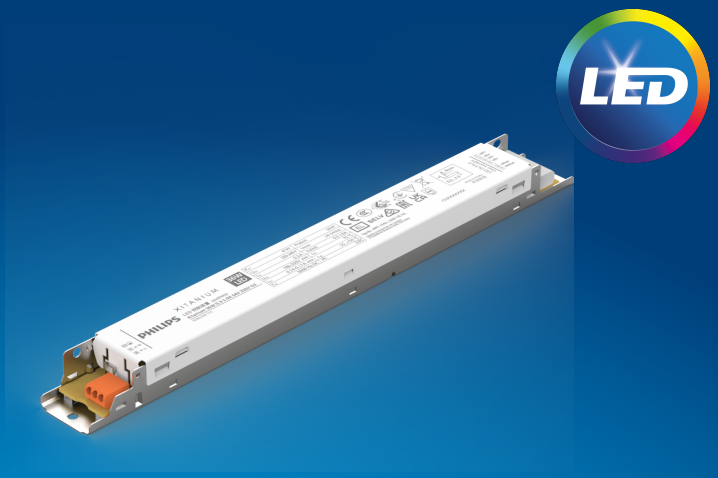
PHILIPS

Xitanium

LED driver



Preliminary Datasheet

Xitanium isolated Fixed Output (LEDset)

Xitanium 36W 0.3-1.0A 54V 230V G2

9290 038 71106

Xitanium isolated Fixed Output drivers are ideal for Low Voltage (LV) linear systems.

They offer ease of design-in and make the approbation process easier. The Xitanium range is built on three pillars: quality of light, reliability and flexibility. By using Xitanium LED drivers in your luminaires, you can be sure to offer your customers high quality of light without visual flicker and stroboscopic effects. The reliability of your complete lighting system is enhanced as our drivers offer specific features that protect the connected LED module, including reduced ripple current and thermal de-rating. Finally, application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that lighting specifiers and architects demand.

Features

- High efficiency
- Wide operating windows - output current can be adjusted via LEDset (resistor)
- Reduced ripple current for increased reliability
- SELV
- Suitable for Class I and Class II luminaires

Benefits

- High quality of light
- High reliability
- Future-proof flexibility

Application

- Offices
- Retail: supermarkets, shopping malls

September 2024

Logistical data

Specification item	Value
Product name	Xitanium 36W 0.3-1.0A 54V 230V G2
EOC	872016938509200
Logistic code 12NC	9290 038 71106
EAN1 (GTIN)	8720169385092
EAN3 (box)	8720169385108
Pieces per box	24
Weight	178 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	0.2	A	@ maximum output power @ rated input voltage
Rated input power	41.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.9 C		@ maximum output power @ rated input voltage
Total harmonic distortion	6	%	@ maximum output power @ rated input voltage
Efficiency	88.0	%	@ maximum output power @ rated input voltage @ max. Uout
Rated input voltage DC	186…250	V_{dc}	Performance range. EOFi=0.95; suitable for high risk task areas.
Rated input current DC	0.17…0.24	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
Isolation input to output	SELV		

Electrical output data

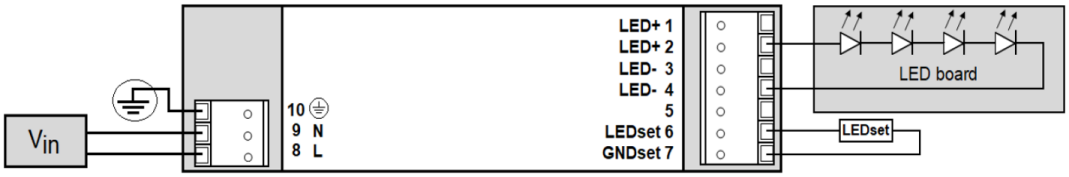
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24…54	V_{dc}	
Output voltage max.	60	V	
Output current	300…1000	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P_{st}^{LM}	≤ 0.8		Within performance window
Output SVM	≤ 0.3		Within performance window
Output power	10.0…36.0	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 / 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	
Maximum cable length	2	m	Total length of wiring including LED module, one way

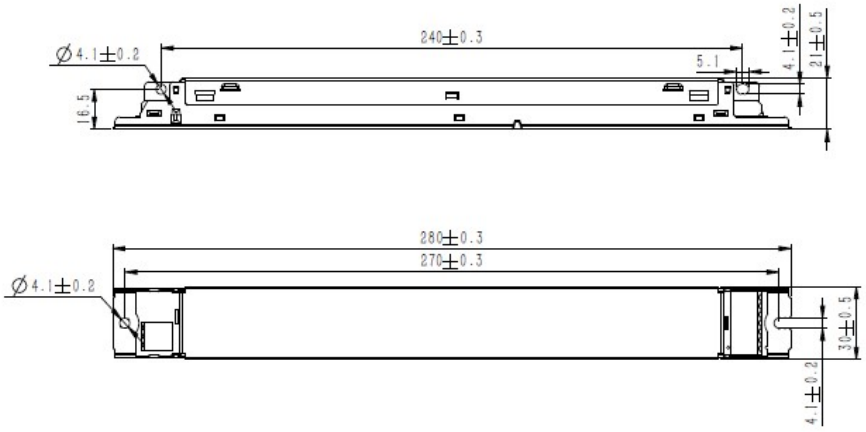


Isolation

Insulation per IEC61347-1	Input	Output+LEDset	Housing
Input	-	SELV	Basic
Output+LEDset	SELV	-	Basic
Housing	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	280	mm	
Mounting hole distance (A2)	270	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	178	gram	

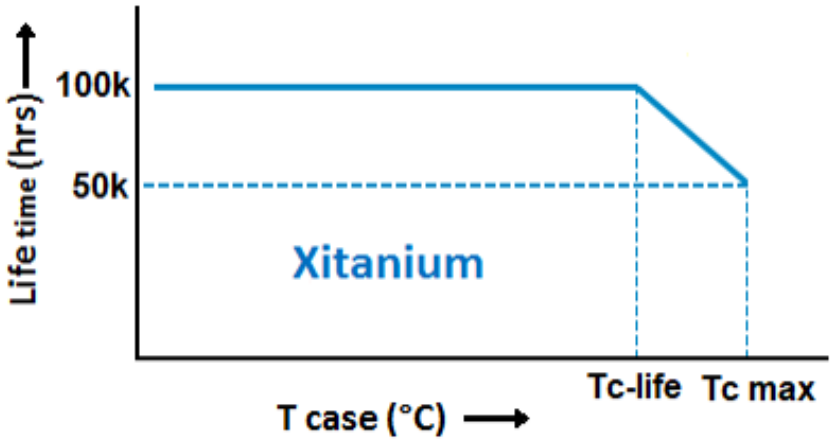


Operational temperatures and humidity

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	Lifetime 50khrs;
Tcase-life	65	°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



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

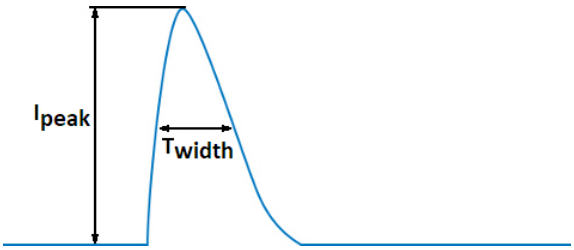
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset	300 mA	Set the output current via LEDset, do not leave open / short-circuit. See Design-In Guide for resistor
LED Module Temperature Protection (MTP)	No		
Constant Light Output (CLO)	No		
DC emergency (DCemDim)	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	17.4	A	Input voltage 230V
Inrush peak width	188	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 35	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 Protective Conductor Current (ins. Class I)	0.4	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

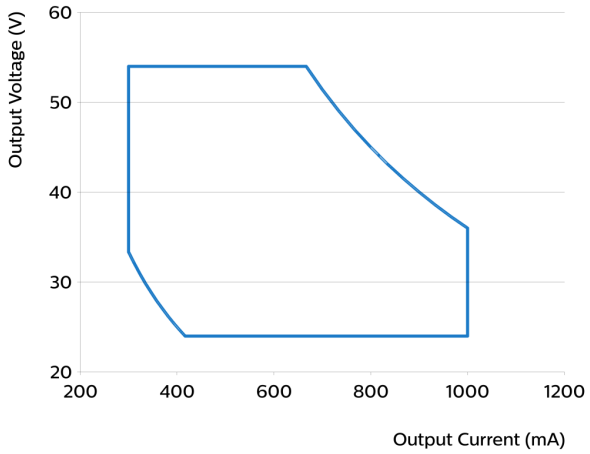
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

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

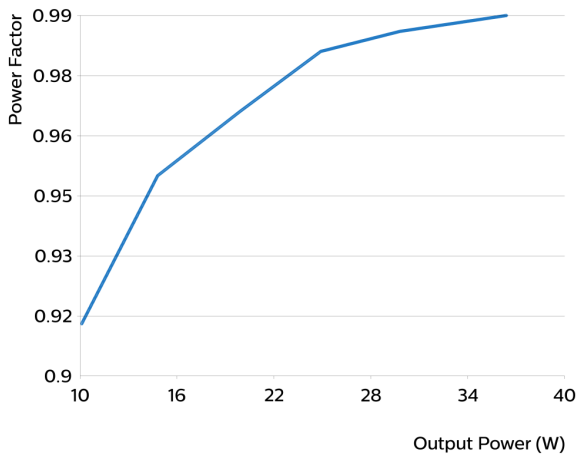
Graphs

Operating window

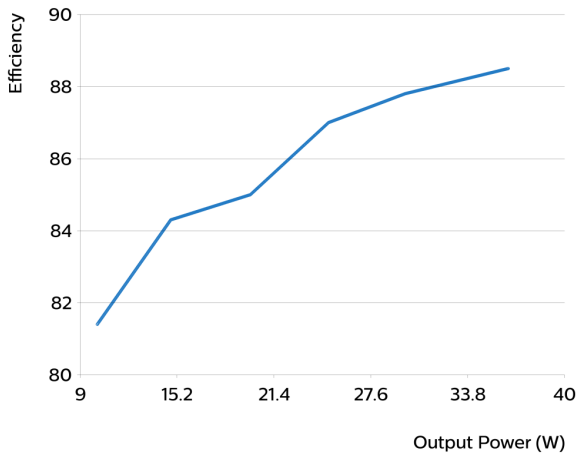


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 36W 0.3-1.0A 54V 230V G2	300	33	54	16.2
Xitanium 36W 0.3-1.0A 54V 230V G2	350	28	54	18.9
Xitanium 36W 0.3-1.0A 54V 230V G2	400	25	54	21.6
Xitanium 36W 0.3-1.0A 54V 230V G2	450	24	54	24.3
Xitanium 36W 0.3-1.0A 54V 230V G2	500	24	54	27
Xitanium 36W 0.3-1.0A 54V 230V G2	550	24	54	29.7
Xitanium 36W 0.3-1.0A 54V 230V G2	600	24	54	32.4
Xitanium 36W 0.3-1.0A 54V 230V G2	650	24	54	35.1
Xitanium 36W 0.3-1.0A 54V 230V G2	700	24	51	36
Xitanium 36W 0.3-1.0A 54V 230V G2	750	24	48	36
Xitanium 36W 0.3-1.0A 54V 230V G2	800	24	45	36
Xitanium 36W 0.3-1.0A 54V 230V G2	850	24	42	36
Xitanium 36W 0.3-1.0A 54V 230V G2	900	24	40	36
Xitanium 36W 0.3-1.0A 54V 230V G2	950	24	37	36
Xitanium 36W 0.3-1.0A 54V 230V G2	1000	24	36	36

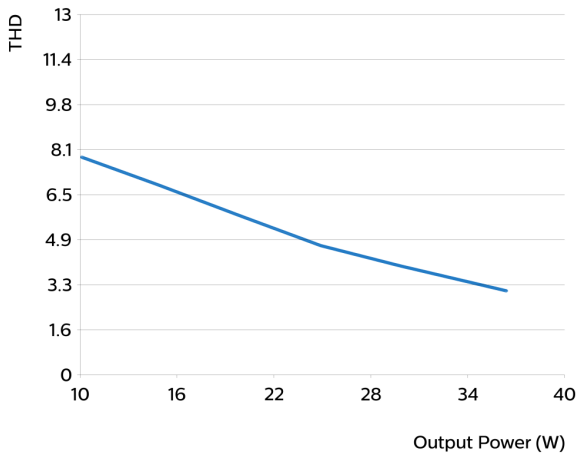
Power factor versus output power



Efficiency versus output power



THD versus output power



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