PHILIPS

Xitanium

LED driver



Datasheet

Xi LED Transformer 250W 48VDC

9290 048 72301

Philips Xitanium Constant Voltage drivers are designed to operate 48VDC LED solutions used both in built-in and independent applications such as shelf lighting, retail display lighting and facade lighting. Xitanium Constant Voltage drivers come with several protection features which guarantee reliable operation and 50,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Features

- Class II application
- Built in and independent application
- Open Load/Short-circuit/Overpower Protection
- 5% output power at minimal operation range
- 50,000 hours lifetime

Benefits

- Provides options for different luminaire designs
- Great EMI performance for easy design-in
- Guarantee reliable operations
- Peace of mind with proven reliability

Application

- Retail display lighting
- Cove lighting
- Façade lighting
- Shelf lighting

May 2026

Logistical data

Specification item	Value
Product name	Xi LED Transformer 250W 48VDC
Logistic code 12NC	9290 048 72301
EAN1 (GTIN)	8721103190185
EAN3 (box)	08721103190208
Pieces per box	25
Weight	525 gram

Accessory

Specification item	Value
Logistic code 12NC	9290 048 72301
EAN1 (GTIN)	8721103190185
EAN3 (box)	08721103190208
Pieces per box	25

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	1.2	A	@ rated output power @ rated input voltage
Max. input current	1.4	A	@ rated output power @ minimum performance input voltage
Rated input power	270.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.95		@ rated output power @ rated input voltage
Total harmonic distortion	10	%	@ rated output power @ rated input voltage
Efficiency	92.0	%	@ rated output power @ rated input voltage
Input voltage AC	198…264	V_{ac}	Safety operational range
Input frequency AC	47…63	Hz	Operational range
Isolation input to output	Reinforced		

Electrical output data

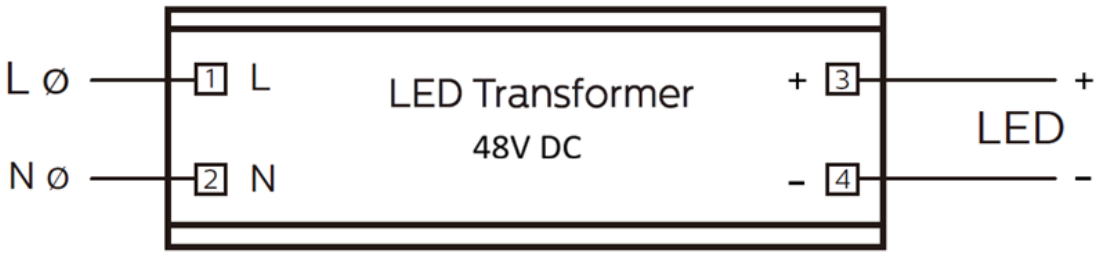
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	48	V_{dc}	Output voltage range: 45.6 … 50.4VDC
Output voltage max.	49.4	V	
Output current	260…5208	mA	Performance range. Operational range: 260 … 5208mA
Output voltage ripple	≤ 1	%	<489mVpp
Output power	12.5…250.0	W	Performance range. Operational range: 12.5 … 250W
Line regulation	≤ 2	%	
Load regulation	≤ 2	%	
Turn-on delay	≤ 1	s	
Output voltage rise time	≤ 630	ms	
Hold-up time	≥ 30	ms	

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		
Isolation controls input to output	Reinforced		acc. IEC61347-1

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75…1.5 / 16…18	mm^2 / AWG	Solid / stranded wire
Input wire strip length	6…7	mm	
Output wire cross-section	0.75…1.5 / 16…18	mm^2 / AWG	Solid / stranded wire
Output wire strip length	6…7	mm	
Maximum cable length	2.5	m	Total cable length between driver and LED modules per CISPR15

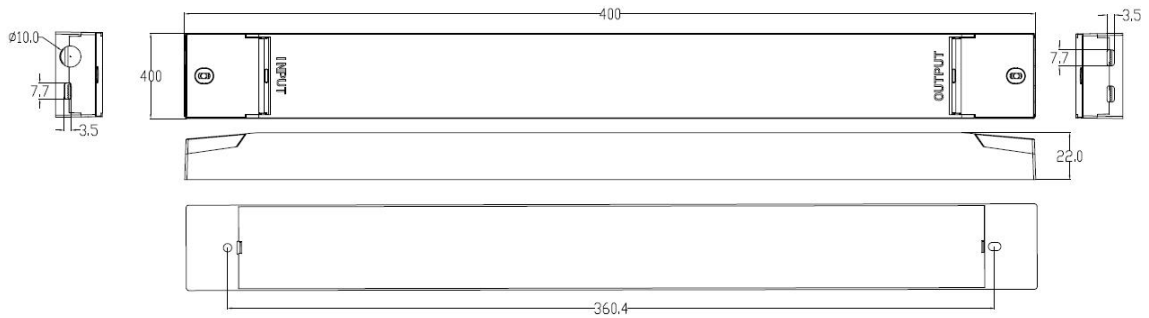


Isolation

Insulation per IEC61347-1	Mains	Output
Mains	-	Reinforced
Output	Reinforced	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	400	mm	
Mounting hole distance (A2)	360.4	mm	
Width (B1)	40	mm	
Height (C1)	22	mm	
Weight	525	gram	

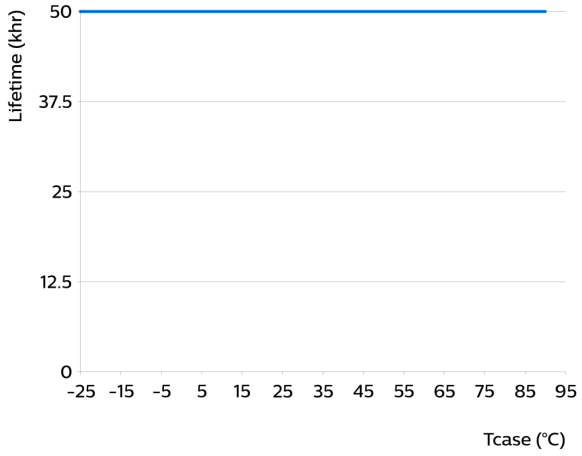


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25…+45	°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	90	°C	Measured at T_{case}-point
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%

Storage temperature and humidity

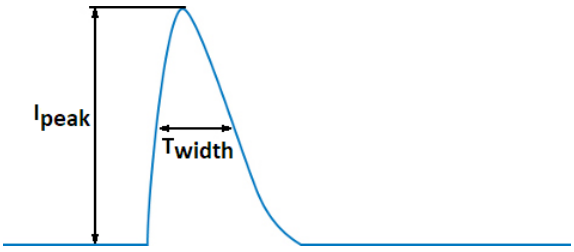
Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

Non-programmable features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Hiccup mode, automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	Yes		No load power < 0.5W
Suitable for fixtures with protection class	II		per IEC60598
Overtemperature protection	Yes		Automatic recovering

Inrush current

Specification item	Value	Unit	Condition
Inrush current	70	A	Input voltage 230V
Inrush peak width	630	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 12	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. IEC60598-1. LED module contribution not included

Surge immunity

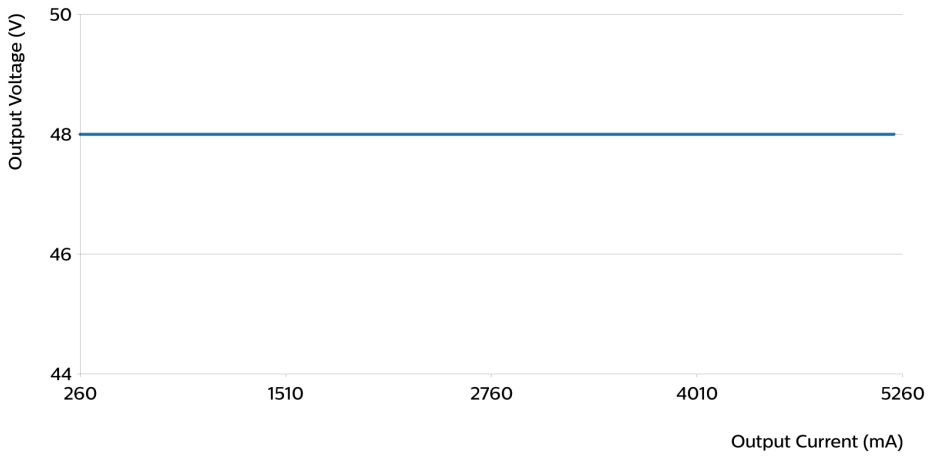
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2	kV	L-N acc. IEC61000-4-5. 2 Ohm

Application Info (Approbation)

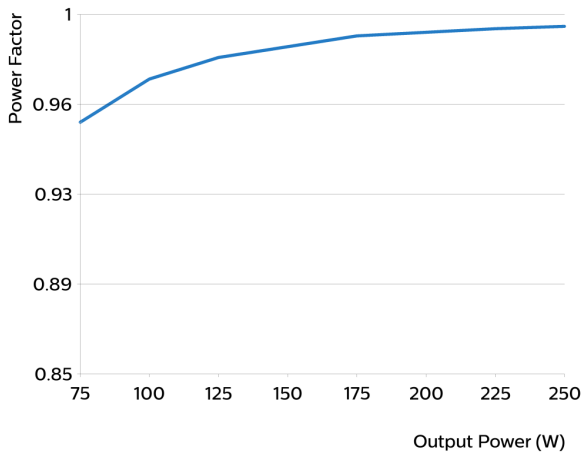
Specification item	Value
Approval marks and Certifications	110 / BIS / CB / CCC / CE / ENEC / KC / MM / RCM / SELV / UKCA
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Constant Voltage
Mounting Type	Built-in / Independent

Graphs

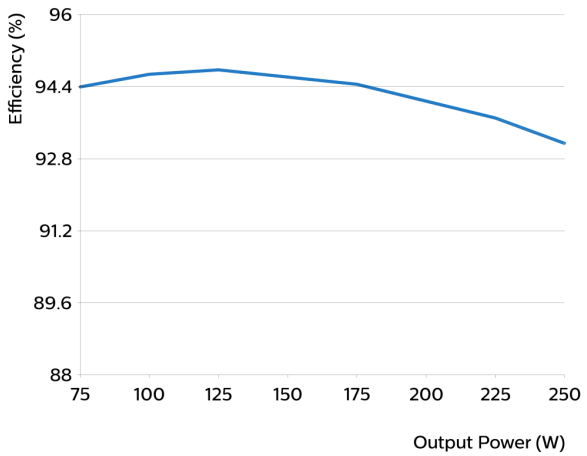
Operating window



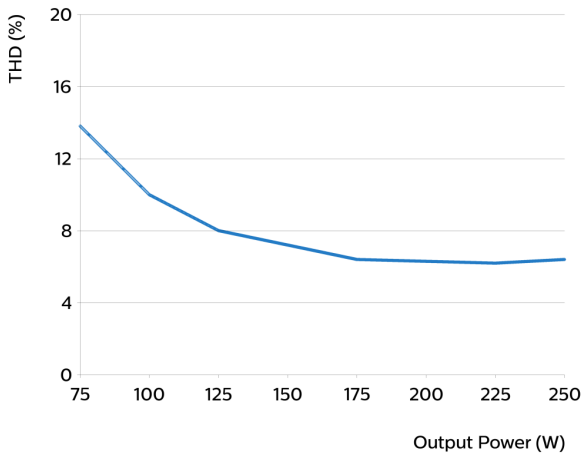
Power factor versus output power



Efficiency versus output power



THD versus output power



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Date of release: May 27, 2026 v1

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