PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED Transformer G2

Xi LED Transformer 120W 24VDC

9290 034 63580

Philips Xitanium Constant Voltage drivers are designed to operate 24VDC 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
- 2% output voltage ripple
- 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

April 2024

Logistical data

Specification item	Value
Product name	Xi LED Transformer 120W 24VDC
Logistic code 12NC	9290 034 63580
Pieces per box	36

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	47…63	Hz	Performance range
Rated input current	0.6	A	@ rated output power @ rated input voltage
Rated input power	135.0	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	90.0	%	@ rated output power @ rated input voltage
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

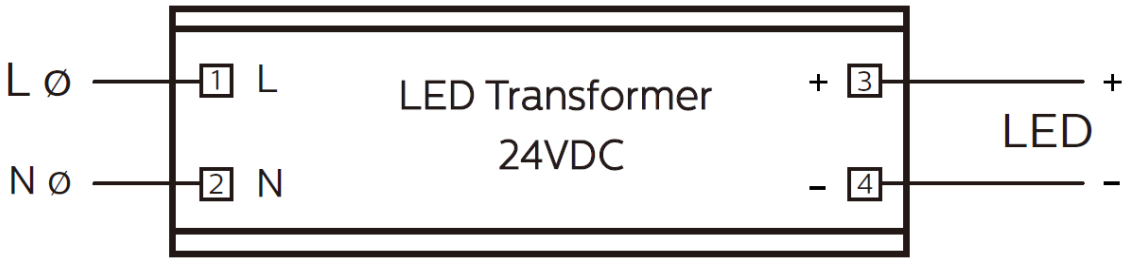
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	24	V_{dc}	Output voltage range: 22.8 … 25.2VDC @ output current range 1.5 … 5A
Output voltage max.	31	V	
Output current	250…5000	mA	
Output voltage ripple	≤ 2	%	≤ 480 mV_{pp}
Output power	6.0…120.0	W	
Line regulation	≤ 1	%	
Load regulation	≤ 3	%	
Turn-on delay	≤ 1	s	
Output voltage rise time	≤ 60	ms	
Hold-up time	≥ 10	ms	

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	7.5…8.5	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	solid / stranded wire
Output wire strip length	7.5…8.5	mm	
Maximum cable length	2.5	m	Total cable length between driver and LED modules per CISPR15

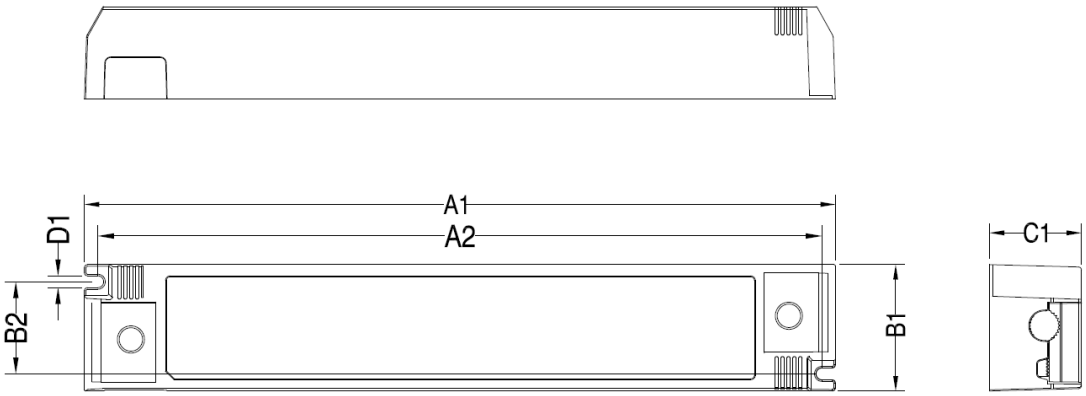


Isolation

Insulation per IEC61347-1	Mains	Output
Mains	-	SELV
Output	SELV	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	253.2	mm	± 1
Mounting hole distance (A2)	244.2	mm	± 1
Width (B1)	42.5	mm	± 0.5
Width (B2)	31	mm	± 0.5
Height (C1)	31	mm	± 0.5
Mounting hole diameter (D1)	4	mm	± 0.5
Weight	407	gram	

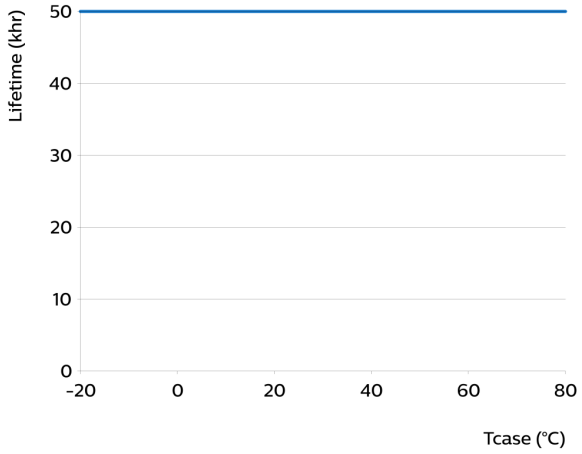


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20…+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°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

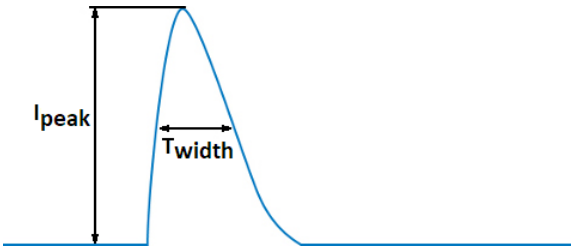
Specification item	Value	Unit	Condition
Ambient temperature	-20...+85	°C	
Relative humidity	5...95	%	Non-condensing

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current	56.4	A	Input voltage 230V
Inrush peak width	272	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 7	pcs	Input voltage 230V230



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

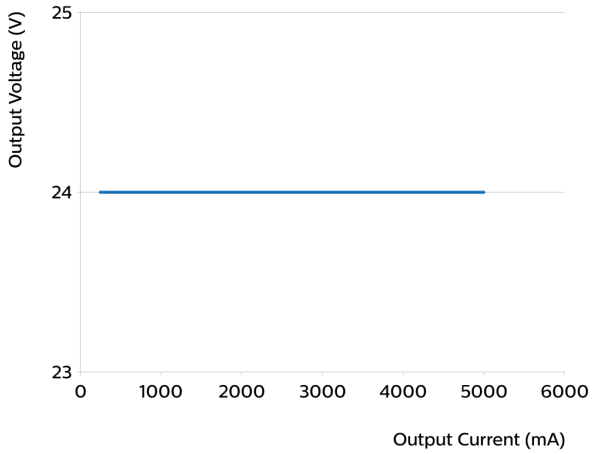
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L-N acc. IEC61000-4-5. 2 Ohm
Mains surge immunity (comm. mode)	2	kV	L/N-PE, acc. IEC61000-4-5. 12 Ohm

Application Info (Approbation)

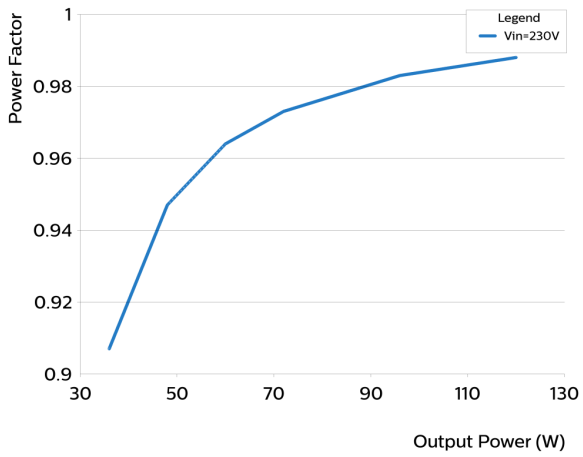
Specification item	Value
Approval marks and Certifications	CCC / CE / ENEC / MM / RCM / SELV / UKCA
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Constant Voltage
Mounting Type	Built-in / Independent

Graphs

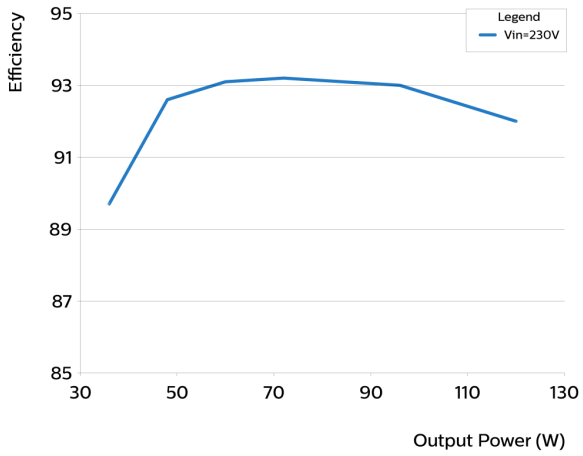
Operating window



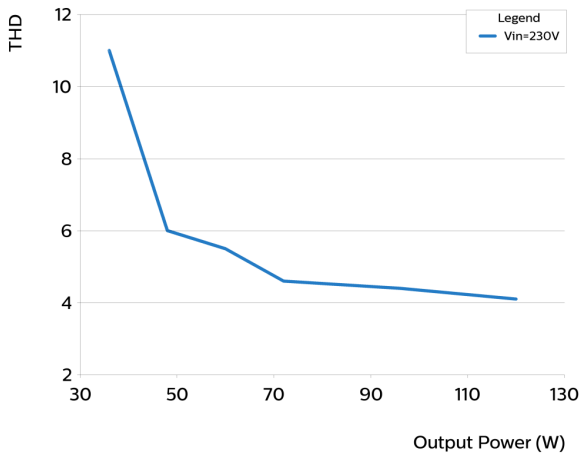
Power factor versus output power



Efficiency versus output power



THD versus output power



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