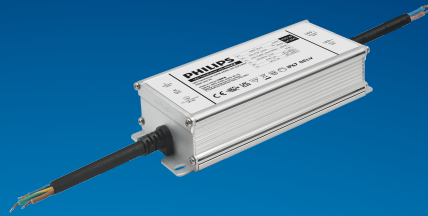


PHILIPS

Xitanium

LED Transformers



Datasheet

LED Transformer 100W 24VDC 120-277V IP67

9290 034 14106

Philips full-electronic constant voltage LED Transformers are designed to operate 12V/24VDC LED solutions used in general applications such as refrigerated display lighting, retail display lighting and linear accent lighting. They are specifically designed to ensure the highest performance with maximum robustness combined with a long lifetime. In addition, the IP67 range is designed for outdoor environment applications such as signage and flood lighting.

Benefits

- SELV operating voltage, ensuring safety even if wiring or LED boards become damaged
- Energy savings through high efficiency
- Ultimate robustness, offering peace of mind and lower maintenance costs
- High thermal and EMC performance, enabling easy design-in
- IP rated housing, allowing for driver gearbox with low IP rating
- Long lifetime

Features

- Independent use for Insulation Class I application
- Stable output voltage
- Wide ambient temperature range
- Protection against overpower and overvoltage
- Output short-circuit shutdown feature with automatic restart
- Global approbations and certifications

Application

- Retail display lighting, linear accent lighting and refrigerated display lighting
- Shelf lighting
- Cove lighting
- Facade accent lighting
- Coolers and freezers
- Area and flood lighting
- Industry lighting
- Signage lighting

Electrical input data

Specification item	Value	Value	Value	Unit	Condition
Rated input voltage range	110...127	202...254	255...293	V _{ac}	Performance range
Rated input voltage	120	230	277	V _{ac}	
Rated input frequency range	47...63	47...63	47...63	Hz	Performance range
Rated input current	1.03	0.48	0.4	A	@ rated output power @ rated input voltage
Max. input current	1.05	0.54	0.44	A	@ rated output power @ minimum performance input voltage
Rated input power	108	108	108	W	@ rated output power @ rated input voltage
Minimum Power factor	0.99	0.98	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	2	5	7	%	@ rated output power @ rated input voltage
Efficiency	89	91	92	%	@ rated output power @ rated input voltage
Input voltage AC range	108...132	198...264	249...305	V _{ac}	Safety operational range
Input frequency AC range	45...66	45...66	45...66	Hz	Safety operational range
Isolation input to output	SELV	SELV	SELV		

Electrical output data

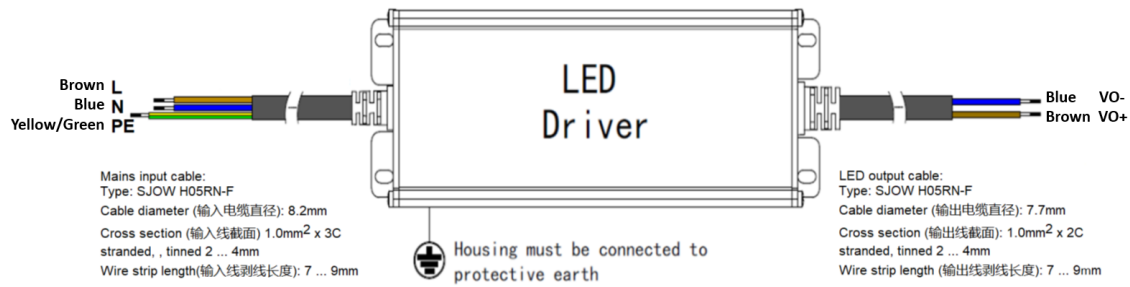
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	24	V _{dc}	Output voltage range: 23.3 ... 24.7VDC
Output voltage max.	26	V	
Output current	1.25...4.17	A	Minimum output current > 1.25A for stable operation
Output voltage ripple	≤ 250	mV _{pp}	
Output power	30...100	W	Minimum output power > 30W for stable operation
Line regulation	≤ 0.5	%	
Load regulation	≤ 2	%	
Turn-on delay	≤ 0.5	s	
Output voltage rise time	≤ 100	ms	
Hold-up time	≥ 8	ms	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	1 / 17	mm ² / AWG	3x 1.0mm ² stranded wires, waterproof cable
Output wire cross-section	1 / 17	mm ² / AWG	2x 1.0mm ² stranded wires, waterproof cable

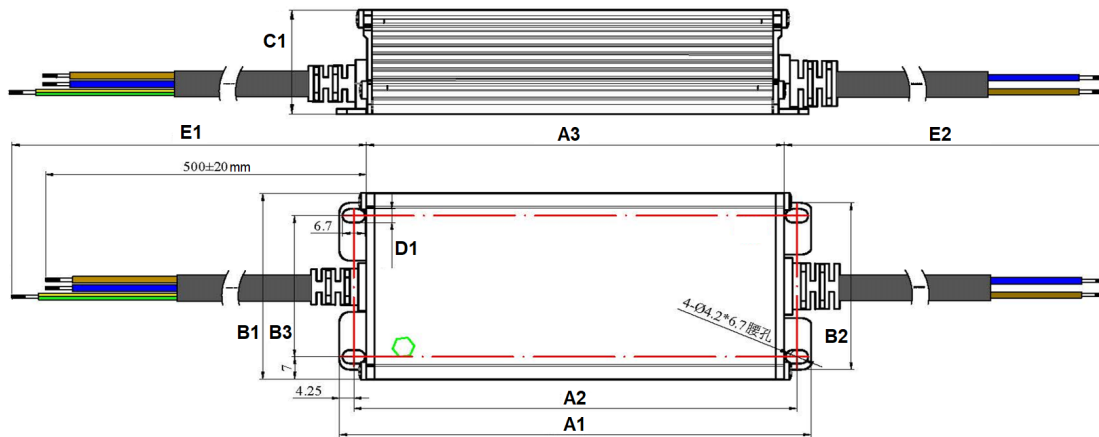


Isolation

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

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	148	mm	± 1
Mounting hole distance (A2)	138	mm	
Length (A3)	131	mm	
Width (B1)	66	mm	± 0.5
Width (B2)	59.8	mm	
Width (B3)	45.8	mm	
Height (C1)	35.5	mm	± 0.5
Mounting hole diameter (D1)	4.2	mm	± 0.2
Input cable length (E1)	510	mm	± 20
Output cable length (E2)	300	mm	± 20
Weight	600	gram	



Logistical data

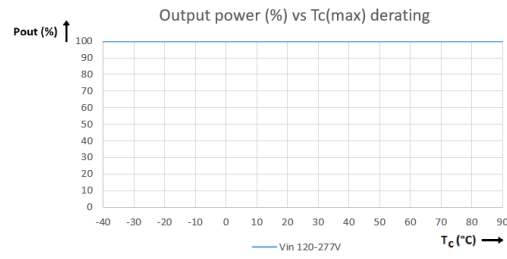
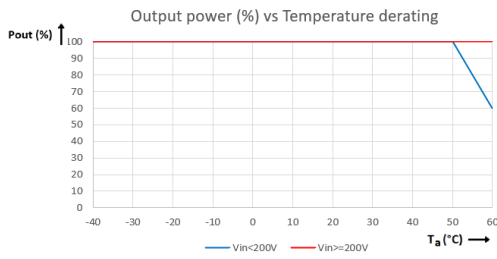
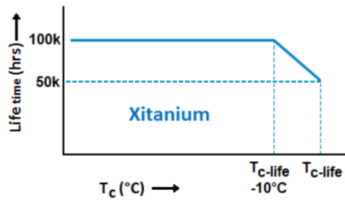
Specification item	Value
Product name	LED Transformer 100W 24VDC 120-277V IP67
EOC	871951444650200
Logistic code 12NC	9290 034 14106
EAN1 (GTIN)	8719514446502
EAN3 (box)	8719514446526
Pieces per box	25

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+60	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded
T _{case-max}	90	°C	Maximum temperature measured at T _{case-point}
T _{case-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%



Storage temperature and humidity

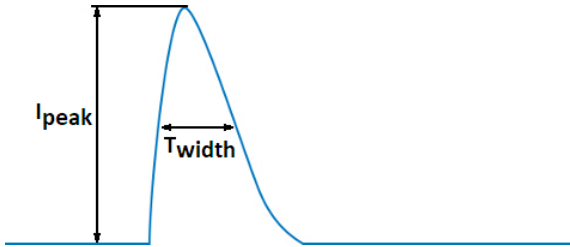
Specification item	Value	Unit	Condition
Ambient temperature	-40...+80	°C	
Relative humidity	5...95	%	Non-condensing

Features

Specification item	Value	Unit	Condition
Open load protection	Yes		U_{out} (open circuit) = 26V max.
Short circuit protection	Yes		Hiccup mode, automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	Yes		
Suitable for fixtures with protection class	I		per IEC60598
Overtemperature protection	Yes		Automatic recovering

Inrush current

Specification item	Value	Unit	Condition
Inrush current	24	A	Input voltage 120V
Inrush current	48	A	Input voltage 230V
Inrush current	59	A	Input voltage 277V
Inrush peak width	215	μs	Input voltage 120 V, measured at 10% height
Inrush peak width	240	μs	Input voltage 230 V, measured at 50% height
Inrush peak width	230	μs	Input voltage 277 V, measured at 10% height
Drivers / MCB 16A type B	≤ 7	pcs	Indicative value at 230V



Please refer to the driver design in guide if you use other MCB-types.

Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.75	mA rms	Acc. IEC60598-1. LED module contribution not included. LED module contribution not included

Surge immunity

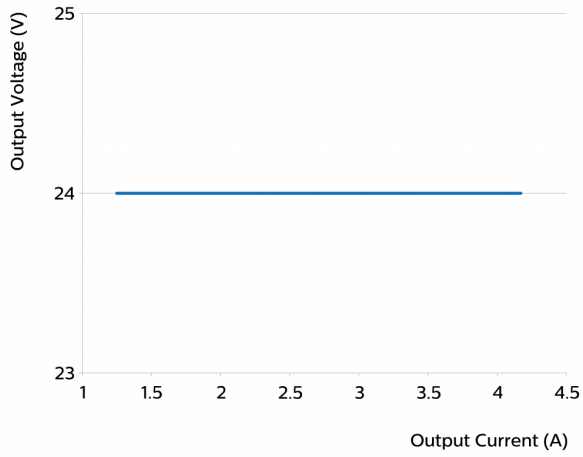
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	4	kV	L-N acc. IEC61000-4-5. 2 Ohm
Mains surge immunity (comm. mode)	6	kV	L/N-PE, acc. IEC61000-4-5. 12 Ohm

Application Info

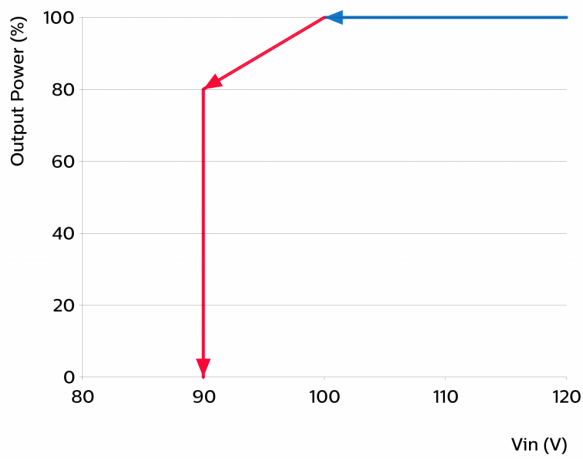
Specification item	Value
Approval marks and Certifications	CE / ENEC / Independent / SELV / UKCA / WEEE
Ingress Protection classification (IP)	67
Application	Outdoor Constant Voltage
Mounting Type	Independent

Graphs

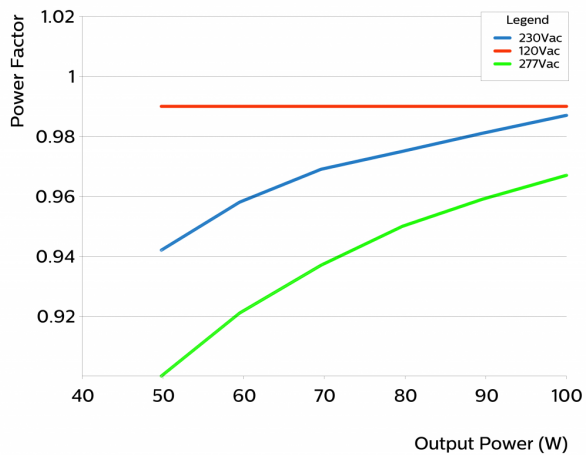
Operating window



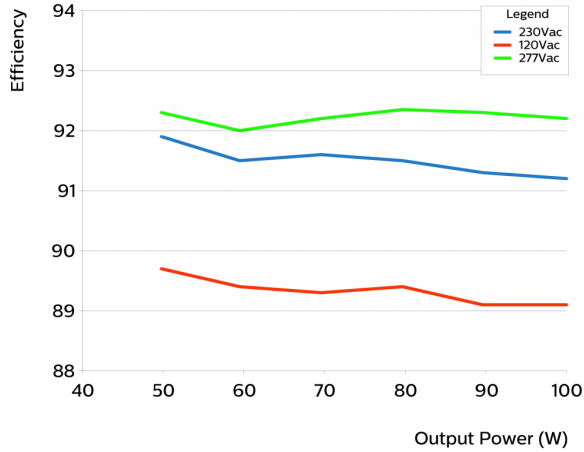
Mains Guard



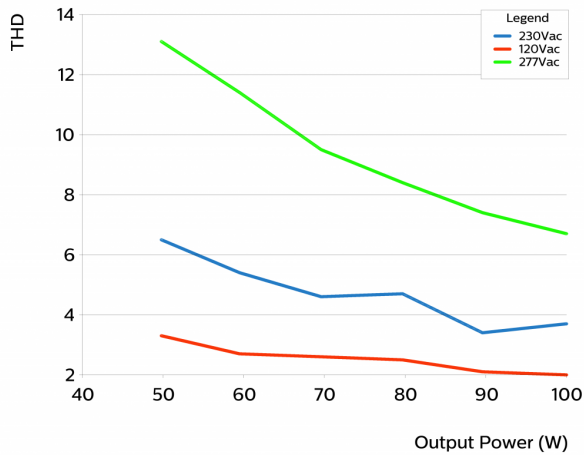
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Ingress Protection (IP):

The LED Transformer is primarily intended for independent use. It must not be directly exposed including but not limited to snow, water and ice or any other chemical agent which may have an adverse affect on driver operation and performance. Direct exposure may lead to driver failure. It is recommended to mount the LED Transformer in a box with low IP rating. It is the luminaire manufacturer's / installer's responsibility to prevent direct exposure.

Specified output voltage ripple is based on 0.1uF + 20uF network connected to the driver output.



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