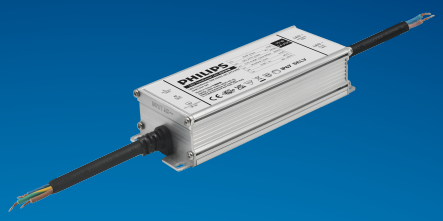
PHILIPS

Xitanium

LED Transformers



Datasheet

LED Transformer 75W 24VDC 120-277V IP67

9290 034 13906

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	0.77	0.36	0.3	A	@ rated output power @ rated input voltage
Max. input current	0.79	0.41	0.33	A	@ rated output power @ minimum performance input voltage
Rated input power	82	82	82	W	@ rated output power @ rated input voltage
Minimum Power factor	0.98	0.98	0.98		@ rated output power @ rated input voltage
Total harmonic distortion	5	3	7	%	@ rated output power @ rated input voltage
Efficiency	89	90	91	%	@ 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

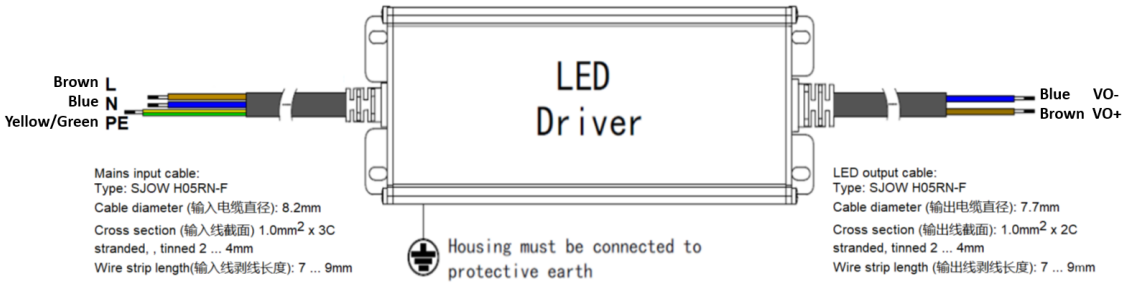
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	24	V_{dc}	Output voltage range: 23.3 … 24.8VDC
Output voltage max.	26	V	
Output current	0.94…3.12	A	Minimum output current > 0.94A for stable operation
Output voltage ripple	≤ 300	mV_{pp}	
Output power	22.5…75	W	Minimum output power > 22.8W 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 1.0mm2 stranded wires, waterproof cable
Output wire cross-section	1 / 17	mm^2 / AWG	2x 1.0mm2 stranded wires, waterproof cable

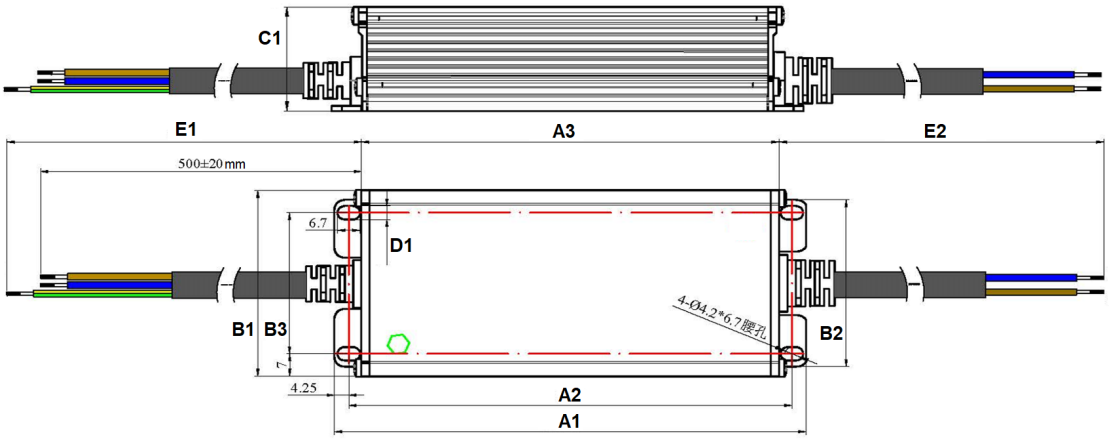


Isolation

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)	140	mm	± 1
Mounting hole distance (A2)	131.5	mm	
Length (A3)	124	mm	
Width (B1)	58	mm	± 0.5
Width (B2)	52	mm	
Width (B3)	44	mm	
Height (C1)	32.5	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	460	gram	



Logistical data

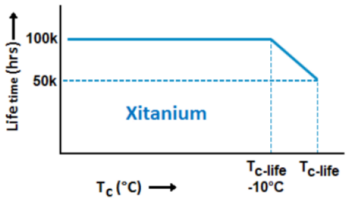
Specification item	Value
Product name	LED Transformer 75W 24VDC 120-277V IP67
EOC	871951444644100
Logistic code 12NC	9290 034 13906
EAN1 (GTIN)	8719514446441
EAN3 (box)	8719514446465
Pieces per box	25

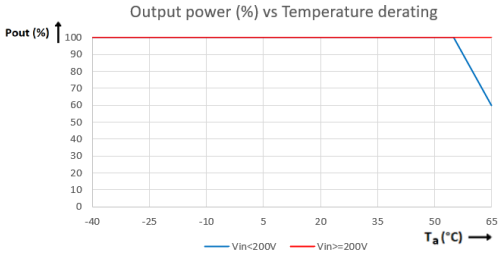
Operational temperatures and humidity

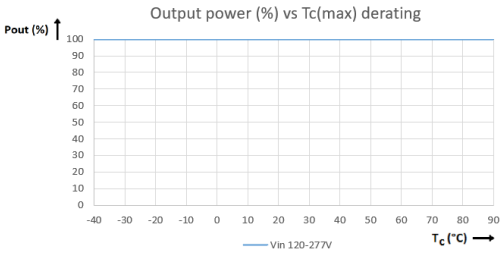
Specification item	Value	Unit	Condition
Ambient temperature	-40...+65	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	90	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°C	Measured at T_{case}-point
Relative humidity	10...90	%	Non-condensing

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

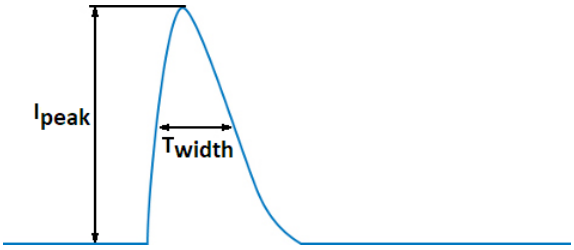
Specification item	Value	Unit	Condition
Ambient temperature	-40...+80	°C	
Relative humidity	5...95	%	Non-condensing

Features

Specification item	Value		Condition
Open load protection	Yes		Uout (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, see ThermalGuard graph

Inrush current

Specification item	Value	Unit	Condition
Inrush current	21	A	Input voltage 120V
Inrush current	26	A	Input voltage 230V
Inrush current	54	A	Input voltage 277V
Inrush peak width	180	µs	Input voltage 120 V, measured at 10% height
Inrush peak width	385	µs	Input voltage 230 V, measured at 50% height
Inrush peak width	150	µs	Input voltage 277 V, measured at 10% height
Drivers / MCB 16A type B	≤ 8	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

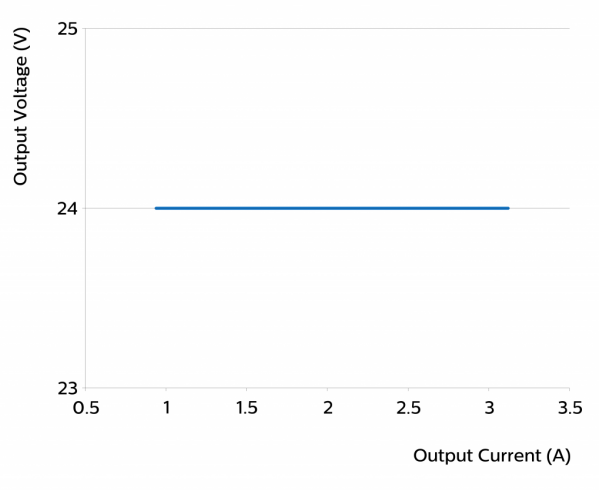
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	4	kV	L-N acc. IEC61000-4-5. 2 Ohm
Mains surge immunity (comm. mode)	6	kV	L/N-PE, acc. IEC61000-4-5. 12 Ohm

Application Info

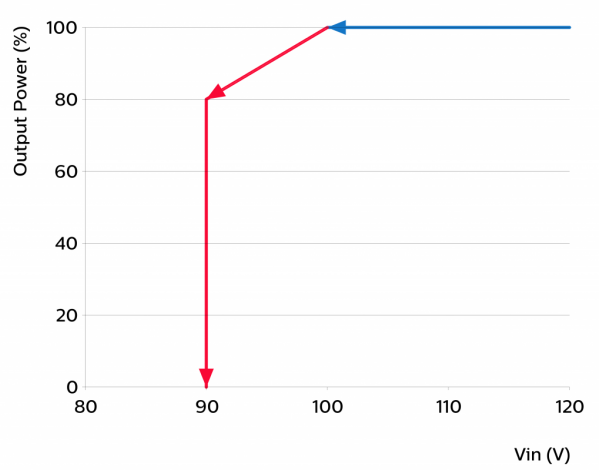
Specification item	Value
Approval marks and Certifications	CE / ENEC / Independent / SELV / UKCA / WEEE
Ingress Protection classification (IP)	67
Application	Outdoor Constant Voltage
Mounting Type	Independent

Graphs

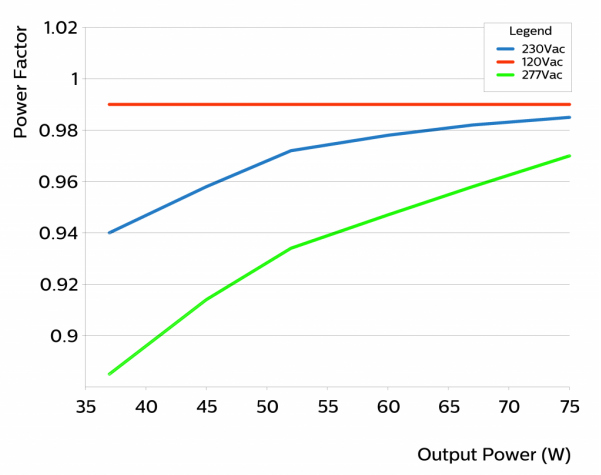
Operating window



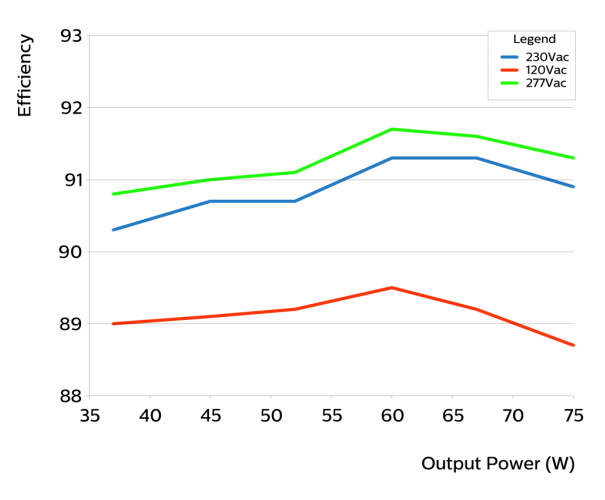
Mains Guard



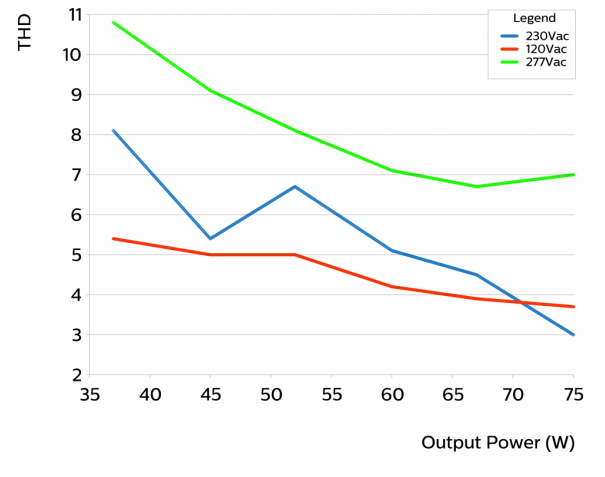
Power factor versus output power



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 responsibity to prevent direct exposure.

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

Date of release: July 19, 2022 v1

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