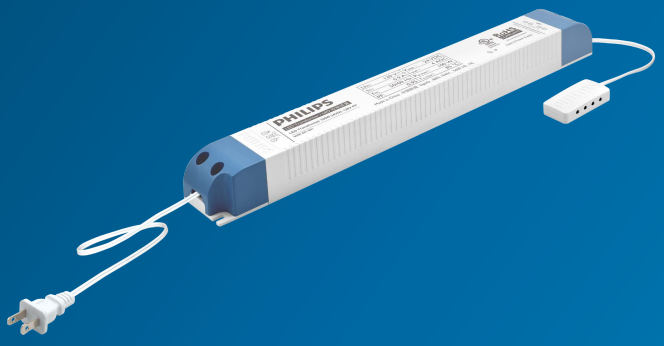
PHILIPS

LED Transformers

Datasheet



LED Transformers

LED Transformer 100W 24VDC 120V PP

Product description

Philips full-electronic constant voltage LED Transformers are designed to operate 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.

Benefits

- Class 2 output, ensuring safe assembly and maintenance
- Easy to install with simple parallel wiring
- High reliability

Features

- Stable output voltage
- Wide ambient temperature range
- Protection against overpower and overvoltage
- Output short-circuit shutdown feature with automatic restart
- Compliant with California Title 24 technical requirements

Applications

Retail display lighting, linear accent lighting and refrigerated display lighting

- Shelf lighting
- Cove lighting
- Facade accent lighting
- Coolers and freezers

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	120	Vac	Performance
Rated input voltage range	108 ... 132	Vac	Operational safety
Rated input frequency	50 ... 60	Hz	Performance
Rated input frequency	45 ... 66	Hz	Operational safety
Rated input current	0.9	A	120Vac, @ rated output power
Rated input power	109	W	120Vac, @ rated output power
Power factor	0.99		120Vac, @ rated output power.
Total harmonic distortion	5	%	120Vac, @ rated output power.
Efficiency (typ)	88.5	%	120Vac, @ rated output power.

Electrical output data

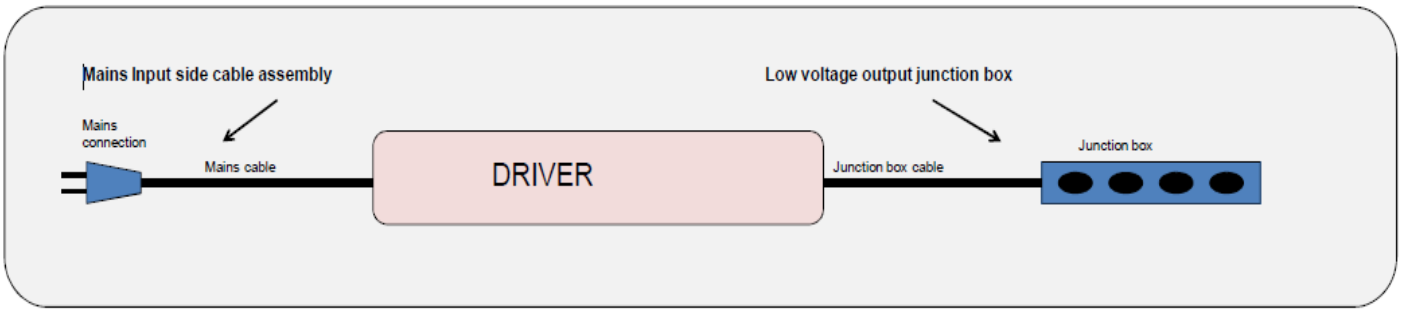
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		Rated output voltage = 24VDC
Output voltage range	22.8 ... 25.2	Vdc	@ output current range 2.5 ... 4A
Output current range	0.1 ... 4	Adc	
Output voltage ripple	< 240	mV_{pp}	
Rated output power	96	W	
Line regulation	< 1	%	
Load regulation	< 3	%	
Turn-on delay	< 0.5	s	With Integrade engine 24VDC module at rated output power
Output voltage rise time	≤ 60	ms	
Hold-up time	≥10	ms	

Logistical data

Specification item	Value
Product name	LED Transformer 100W 24VDC 120V PP
Order code	7407570 00
Logistic code 12NC	9290 021 06180
Pieces per box	10

Wiring & Connections

Specification item	Value	Unit	Condition
Input cable cross-section	2 x 18	AWG	Lenght: 5ft, cUL listed with NEMA 1-15P polarized 120V plug
Voltage/current rating	125/10	V/A	
Output cable cross-section	2 x 18	AWG	Length: 7in, cUL listed
Junction box	8	Fold	
Maximum output cable length	8	ft	FCC47CFR15 Class A: between driver and LED module



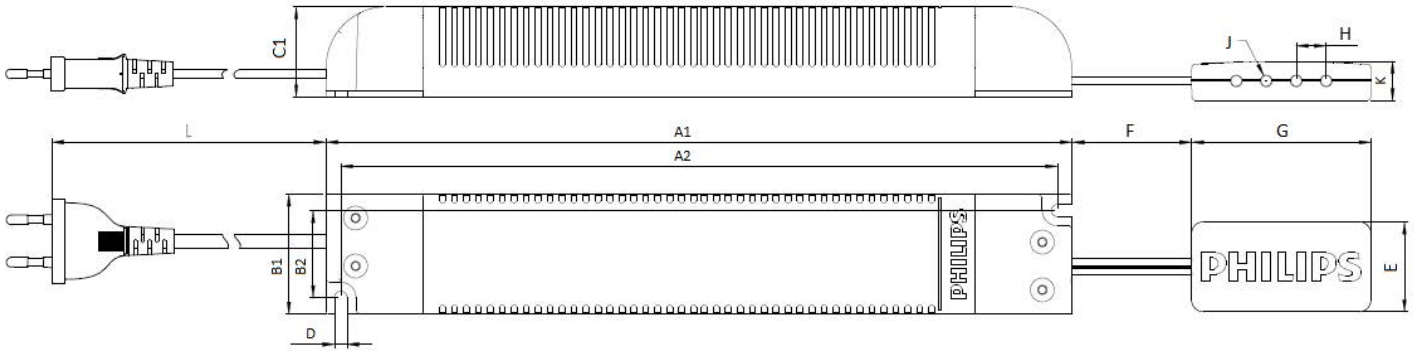
Warning: When using this product with extension cords, please adhere to all local and national codes.

Insulation

Insulation	Mains	LED
Mains		SELV (double)
LED	SELV (double)	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	310.0	mm	
Width (B1)	40.0	mm	
Height (C1)	30.0	mm	
Fixing hole distance (A2)	300.0	mm	Fixing hole diameter (D): 4.1 mm
Fixing hole distance (B2)	29	mm	
Weight	550/19.4	gram/oz	
Juction box Length (G)	60.0	mm	
Juction box Width (E)	30.0	mm	
Juction box Height (K)	13.0	mm	
Cable hole diameter (J)	4.0	mm	
Cable hole distance (H)	10.0	mm	
Output cable Length (F)	7	in	
Input cable Length (L)	5	ft	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Driver ambient temperature	-20 ... +45	ºC	At rated output power. Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-min	-20	ºC	
Tcase-max	+75	ºC	Max. steady-state Tcase
Tcase-life	+75	ºC	For rated driver lifetime
Maximum housing temperature	110	ºC	In case of failure
Relative humidity	10 ... 90	%	Non-condensing
Ingress Protection *	IP20		
Sound rating	Class A		

*: The LED Power Driver is indoor use only. It is not allowed to be exposed to the elements like snow, water and ice. Expose will lead to driver failure. It is the luminaire manufacturer's / installer's responsibility to prevent exposure.

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20 ... +80	ºC	
Relative humidity	5 ... 95	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Rated driver lifetime	50,000	hours	Tcase ≤ Tcase-life. Maximum failures = 10%. See graph.

Features

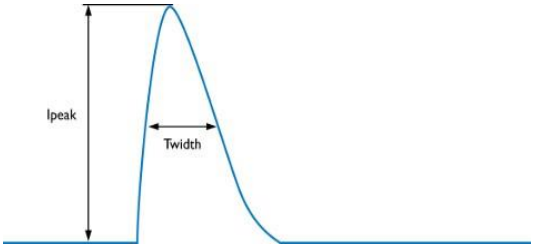
Specification item	Value	Remark	Condition
Open load protection	Yes		U_{out} (open circuit) = 31V max.
Short-circuit protection	Yes		Hiccup mode, automatic recovering
Overpower protection	Yes		Automatic recovering
Overheating protection	Yes		Automatic recovering
Hot wiring	Yes		

Certificates and standards

Specification item	Value
Approval marks	cUL listed / cUL Class 2 Power Supply, RoHS

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak} (typ)	35	A	Input voltage 120Vac
Inrush current T_{width} (typ)	290	µs	Input voltage 120Vac
Max. recommended number of drivers	12	pcs	MCB/melting fuse 16A



- Specified inrush current values apply for mains impedance of 150mΩ + 20µH
- T_{width} specified at 50% of I_{peak}
- Driver is compliant per NEMA 410

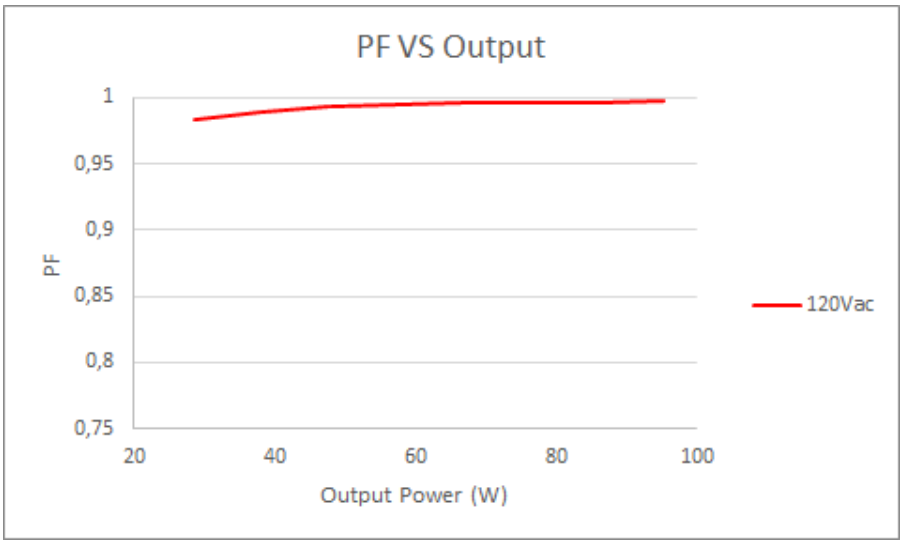
MCB/fuse	Rating	Recommended number of drivers*
B,C	6A	4
B,C	10A	8
B,C	13A	10
B,C	16A	12
B,C	20A	16
B,C	25A	20

* : please check that cable cross sectional area corresponds with MCB/fuse rating and type

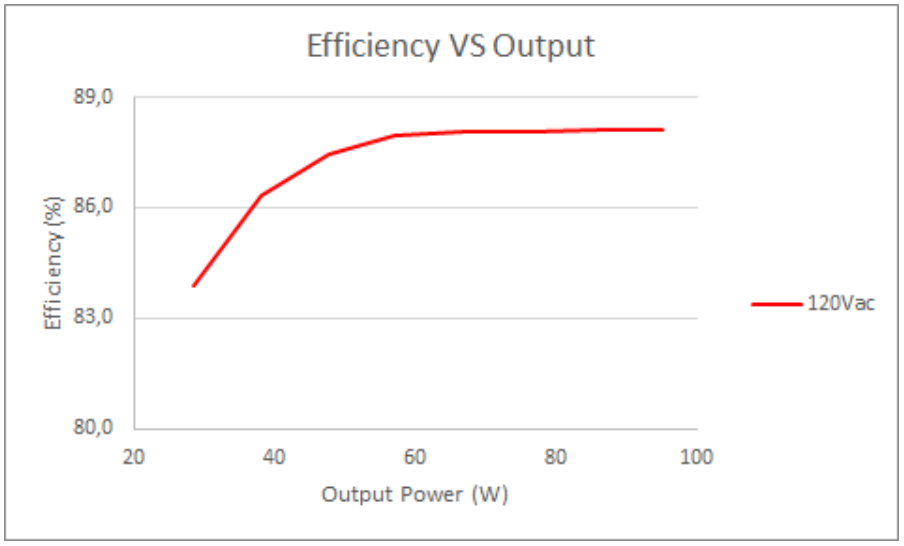
Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1.5	kV	L-N, acc. ANSI/IEEE C62.41.1, combination wave, 2 Ohm
Mains surge immunity (diff. mode)	6	kV	L-N, acc. ANSI/IEEE C62.41.1, ring wave, 30 Ohm

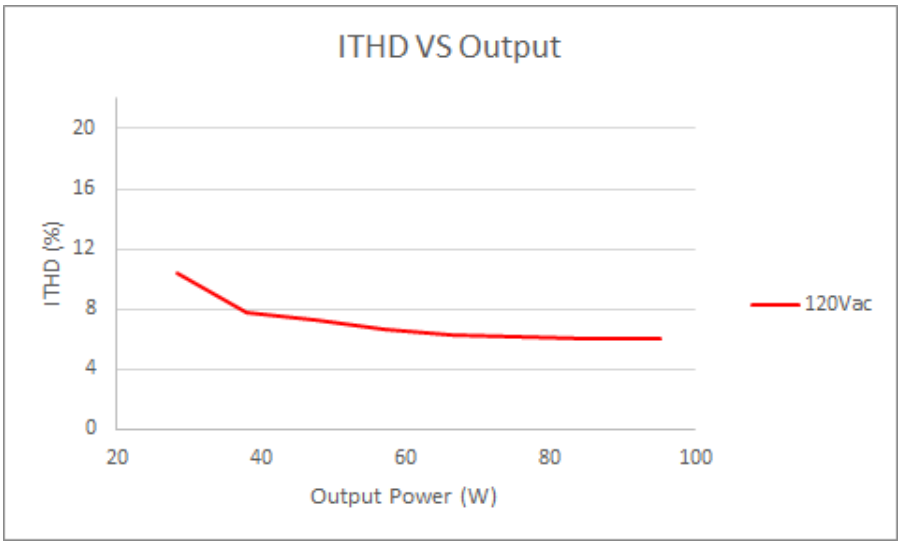
Power factor versus output power



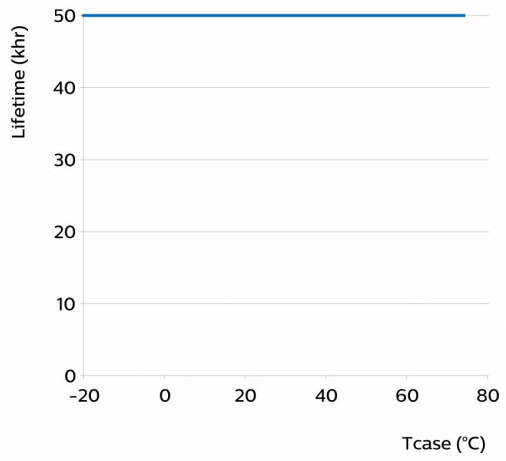
Efficiency versus output power



THD versus output power



Driver lifetime versus Tc temperature



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