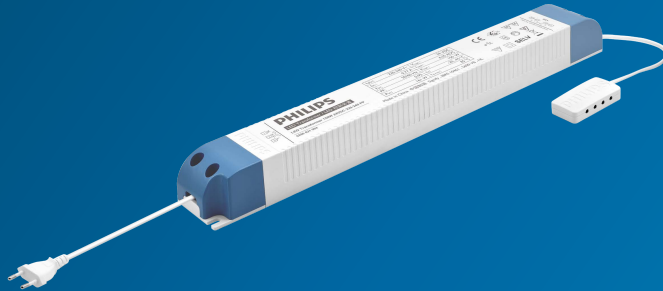


# PHILIPS

LED Transformers

Datasheet



## LED Transformers

### LED Transformer 150W 24VDC 220-240V 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

- SELV operating voltages, 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
- Easy to design-in and install
- Long lifetime

#### Features

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

#### 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	220 ... 240	Vac	Performance
Rated input voltage range	198 ... 264	Vac	Operational safety
Rated input frequency	50 ... 60	Hz	Performance
Rated input frequency	45 ... 66	Hz	Operational safety
Rated input current	0.7	A	230Vac, @ rated output power
Rated input power	159	W	230Vac, @ rated output power
Power factor	0.98		230Vac, @ rated output power.
Total harmonic distortion	10	%	230Vac, @ rated output power.
Efficiency (typ)	93	%	230Vac, @ rated output power.

## Electrical output data

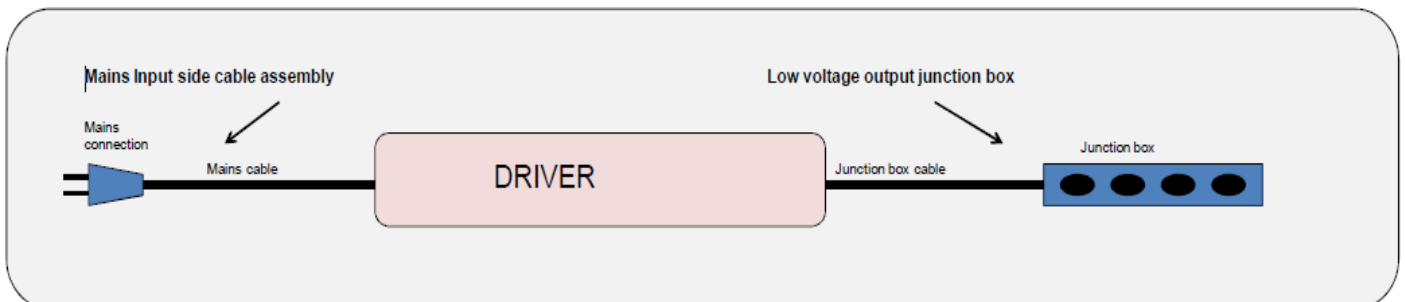
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		Rated output voltage = 24VDC
Output voltage range	22.8 ... 25.2	Vdc	@ output current range 3.75 ... 6.25A
Output current range	0.1 ... 6.25	A	
Output voltage ripple	< 240	mV <sub>pp</sub>	
Rated output power	150	W	
Line regulation	< 1	%	
Load regulation	< 3	%	
Turn-on delay *	≤ 0.5	s	Integrate engine 24VDC module @230Vac with full load < 0.5s
Output voltage rise time	≤ 50	ms	
Hold-up time	≥ 10	ms	

## Logistical data

Specification item	Value
Product name	LED Transformer 150W 24VDC 220-240V PP
Order code	740771 00
Logistic code 12NC	9290 021 06480
Pieces per box	10

## Wiring & Connections

Specification item	Value	Unit	Condition
Input cable cross-section	2 x 0.75	mm <sup>2</sup>	Length: 1.5m, VDE certified with C plug
Voltage rating	300	V	
Output cable cross-section	2 x 0.8	mm <sup>2</sup>	Length: 18cm
Junction box	8	Fold	
Maximum output cable length	2.5	m	CISPR15: between driver and LED module

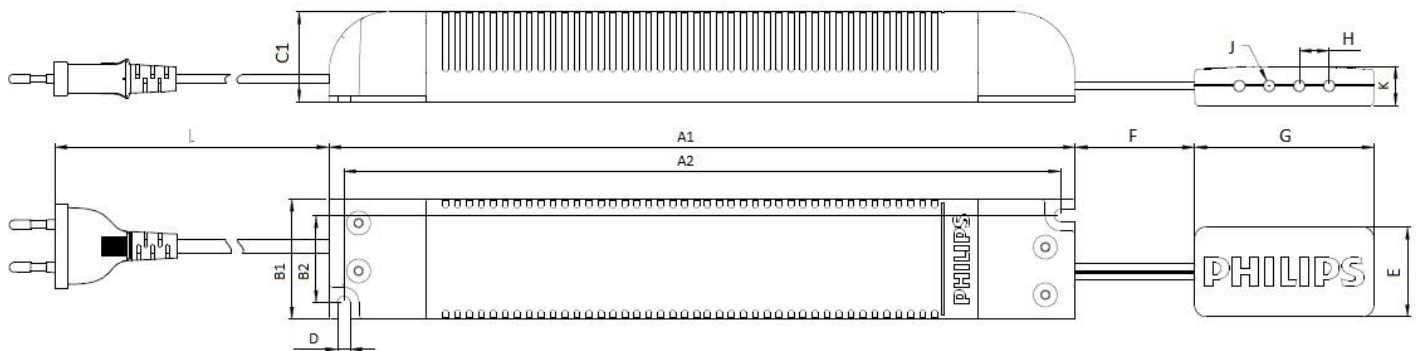


## Insulation

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

## Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	310	mm	
Width (B1)	40	mm	
Height (C1)	30	mm	
Fixing hole distance (A2)	300.0	mm	Fixing hole diameter (D): 4.1 mm
Fixing hole distance (B2)	29	mm	
Weight	580	gram	
Junction box length (G)	60	mm	
Junction box width (E)	30	mm	
Junction box height (K)	13	mm	
Cable hole diameter (J)	4.0	mm	
Cable hole distance (H)	10	mm	
Output cable length (F)	18	cm	
Input cable length (L)	1.5	m	



## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Driver ambient temperature	-20 ... +45	°C	At rated output power. Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-min	-20	°C	
Tcase-max	+85	°C	Max. steady-state Tcase
Tcase-life	-20 ... +85	°C	For rated driver lifetime
Maximum housing temperature	110	°C	In case of failure
Relative humidity	10 ... 90	%	Non-condensing
Ingress Protection *	IP20		
Noise and hum	≤ 20	dB(A)	

\*: The LED Transformer is primarily intended for independent use. It must not be 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. Exposure may 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	°C	
Relative humidity	5 ... 95	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Rated driver lifetime	50,000	hours	$T_{case} \leq T_{case-life}$ . Maximum failures = 10%. See graph.

## Features

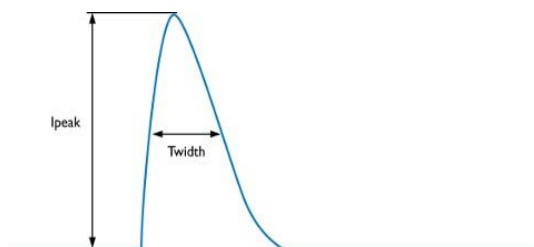
Specification item	Value	Remark	Condition
Open load protection	Yes		$U_{out}$ (open circuit) = 26V max.
Short-circuit protection	Yes		Hiccup mode, automatic recovering
Overpower protection	Yes		Automatic recovering
Overheating protection	Yes		Automatic recovering
Hot wiring	Yes		
Suitable insulation class applications	II		Per IEC60598

## Certificates and standards

Specification item	Value
Approval marks	CE / ENEC / F / MM / 110 / Double-insulated / Independent / SELV

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$ (typ)	45	A	Input voltage 230Vac
Inrush current $T_{width}$ (typ)	538	$\mu s$	Input voltage 230Vac
Max. recommended number of drivers	4	pcs	MCB 16A B type, mains impedance 200m $\Omega$ + 400 $\mu H$



- Specified inrush current values apply for mains impedance of 200m $\Omega$  + 400 $\mu H$
- $T_{width}$  specified at 50% of  $I_{peak}$

MCB	Rating	
B	6A	37%
B	10A	63%
B	13A	81%
B	16A	<b>100%</b>
B	20A	125%
B	25A	156%
C	6A	63%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%
D	6A	125%
D	10A	104%
D	13A	135%
D	16A	170%
D	20A	208%

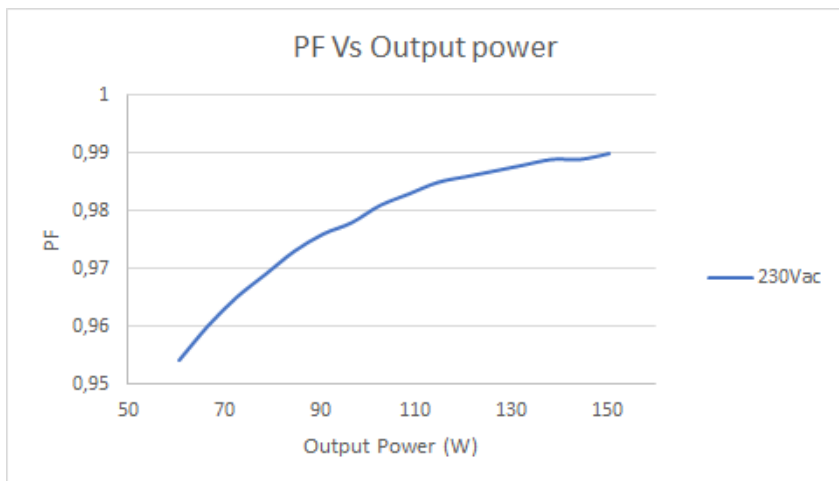
\* : please check that cable cross sectional area corresponds with MCB rating and type

## Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1 / 0.5	kV / kA	L-N, acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us

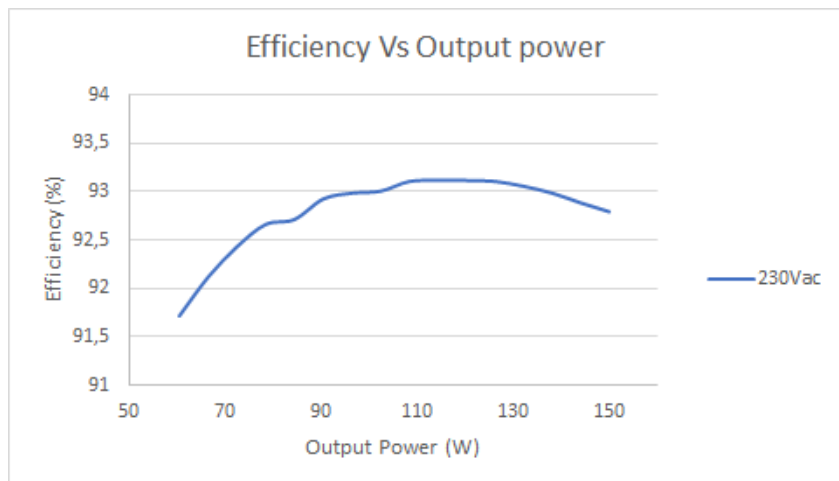
### Power factor versus output power

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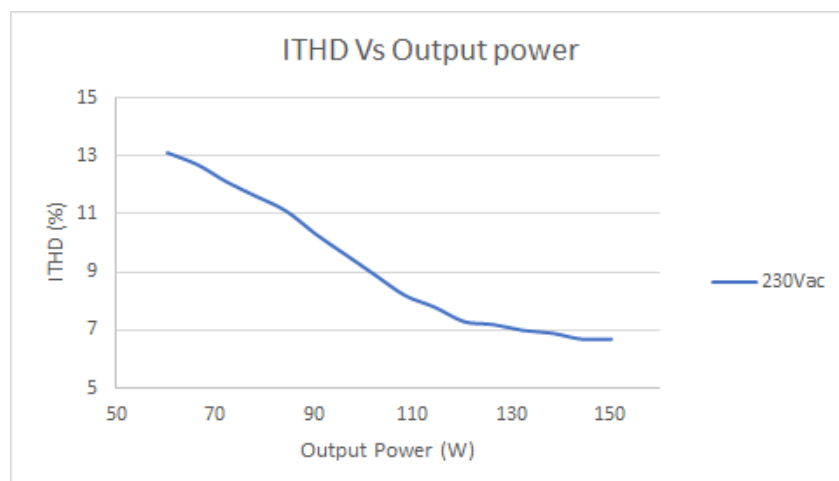
### Driver efficiency versus output power

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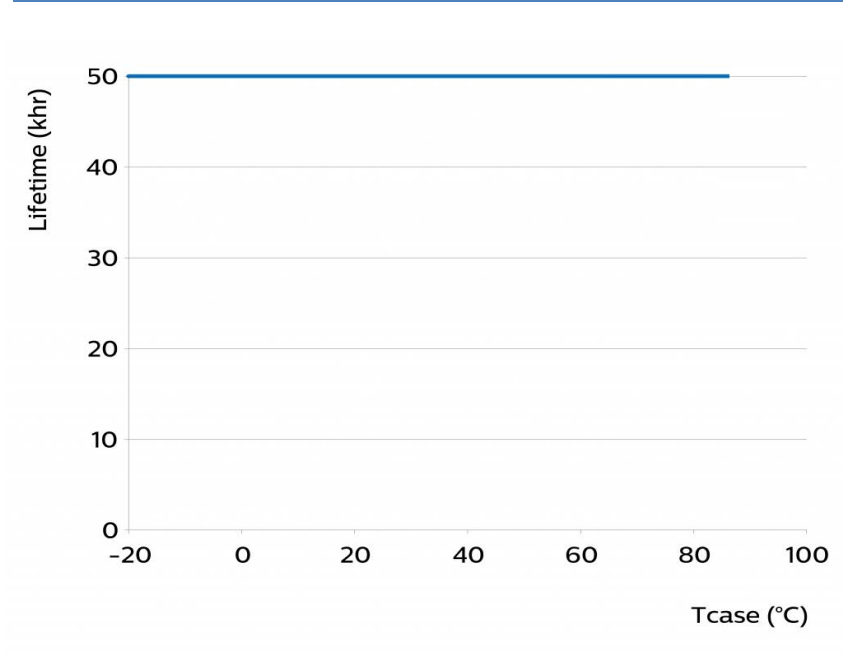


### Input current THD versus output power

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## Driver lifetime versus Tc temperature



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