

PHILIPS

CertaDrive

LED Transformers



Datasheet

CertaDrive LED Transformer G2

CertaDrive LED Transformer 60W 24VDC

9290 034 26580

Philips full-electronic constant voltage CertaDrive LED Transformers are designed to operate 24VDC LED solutions used both in built-in and independent applications such as refrigerated display lighting, retail display lighting and linear accent lighting. They are specifically designed to ensure good performance with high robustness.

Benefits

- SELV operating voltages, ensuring safety even if wiring or LED boards become damaged
- Energy savings through high efficiency
- High robustness, offering peace of mind and lower maintenance costs
- Easy to design-in and install with parallel wiring

Features

- Use for Insulation Class II applications
- Stable output voltage
- Wide ambient temperature range
- Protection against overpower and overvoltage
- Output short-circuit shutdown feature with automatic restart

Application

- 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	V _{ac}	Performance range
Rated input voltage	230	V _{ac}	
Rated input frequency range	47...63	Hz	Performance range
Rated input current	0.3	A	@ rated output power @ rated input voltage
Max. input current	0.35	A	@ rated output power @ minimum performance input voltage
Rated input power	66	W	@ rated output power @ rated input voltage
Nominal Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	10	%	@ rated output power @ rated input voltage
Efficiency	89	%	@ rated output power @ rated input voltage
Input voltage AC range	198...264	V _{ac}	Operational range
Input frequency AC range	45...66	Hz	Operational range
Isolation input to output	SELV		

Electrical output data

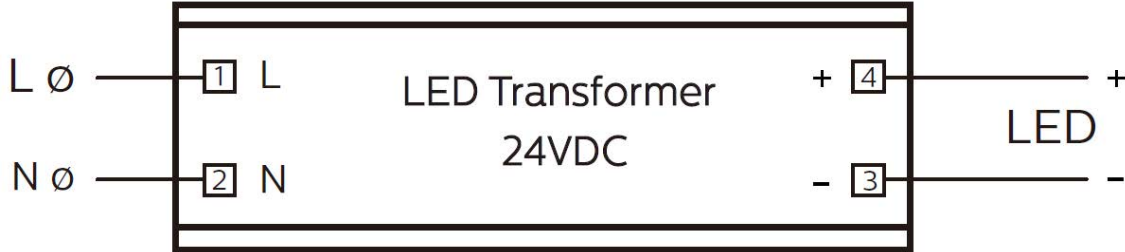
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	24	V _{dc}	Output voltage range: 22.8 ... 25.2VDC
Output voltage max.	26	V	
Output current	0.25...2.5	A	Minimum output current > 0.25A for stable operation
Output voltage ripple	≤ 2400	mV _{pp}	
Output power	6...60	W	Minimum output power > 6W for stable operation
Turn-on delay	≤ 1	s	@ rated output power @ rated input voltage
Output voltage rise time	≤ 100	ms	
Hold-up time	≥ 10	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	0.75...1.5	mm ² / AWG	solid / stranded wire
Input wire strip length	8	mm	
Output wire cross-section	0.5...1.5	mm ² / AWG	solid / stranded wire
Output wire strip length	8	mm	
Maximum cable length	1	m	Total cable length between driver and LED modules per CISPR15

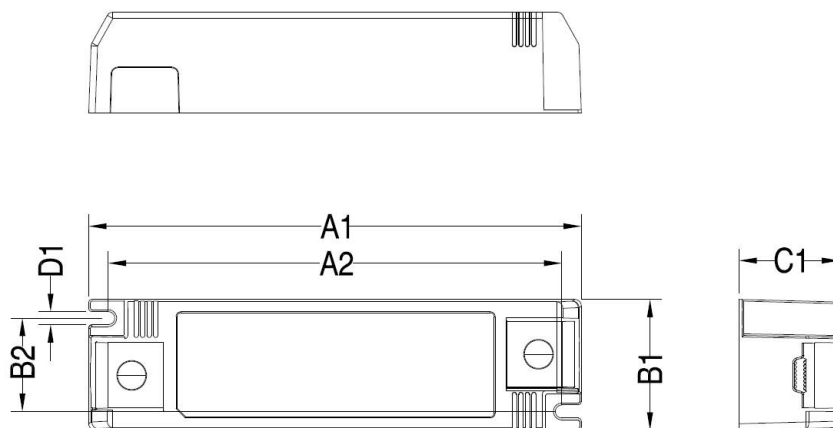


Isolation

Insulation per IEC61347-1	Input	Output
Input	-	SELV
Output	SELV	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	151.5	mm	± 1
Mounting hole distance (A2)	139.5	mm	± 1
Width (B1)	40.2	mm	± 0.5
Width (B2)	28.7	mm	± 0.5
Height (C1)	31	mm	± 0.5
Mounting hole diameter (D1)	4	mm	± 0.5
Weight	182	gram	



Logistical data

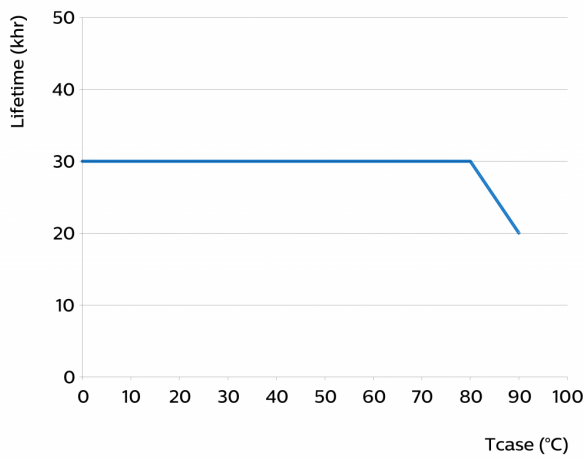
Specification item	Value
Product name	CertaDrive LED Transformer 60W 24VDC
Logistic code 12NC	9290 034 26580
Pieces per box	5

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	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	30,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Storage temperature and humidity

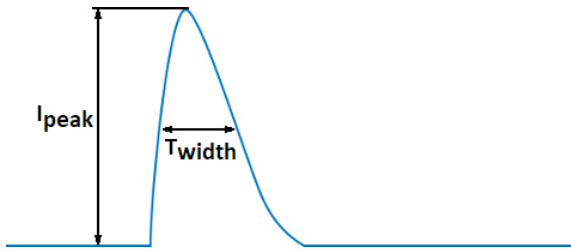
Specification item	Value	Unit	Condition
Ambient temperature	-20...+80	°C	
Relative humidity	5...95	%	Non-condensing

Features

Specification item	Value	Unit	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	II		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	36	A	Input voltage 230V
Inrush peak width	12.4	μ s	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 19	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 Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC60598-1. LED module contribution not included

Surge immunity

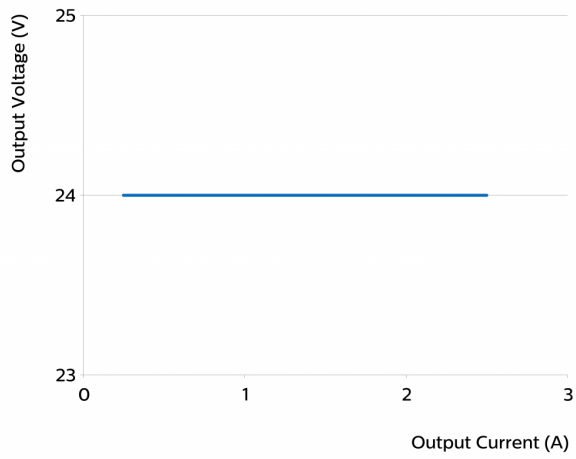
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L-N acc. IEC61000-4-5. 2 Ohm
Mains surge immunity (comm. mode)	2	kV	L/N-PE, acc. IEC61000-4-5. 12 Ohm

Application Info

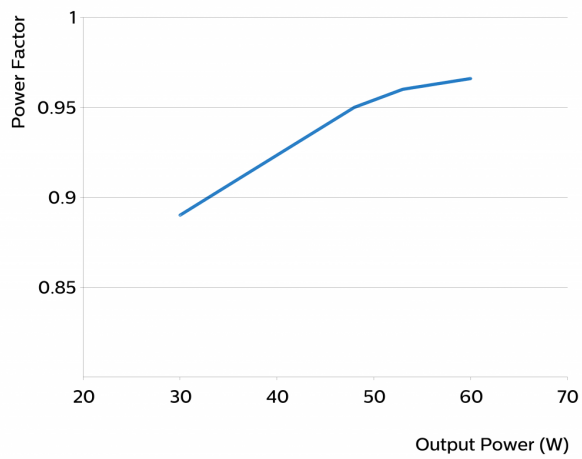
Specification item	Value
Approval marks and Certifications	CCC / CE / ENEC / RCM / SELV / UKCA / MM
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Constant Voltage
Mounting Type	Built-in / Independent

Graphs

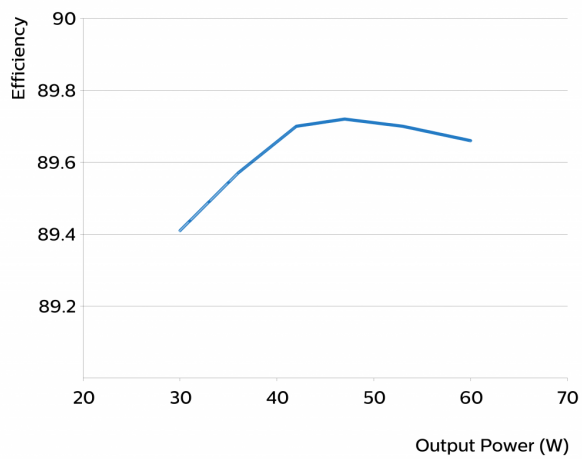
Operating window



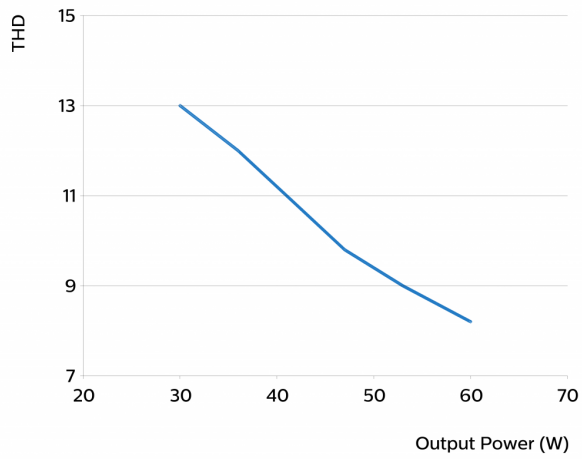
Power factor versus output power



Efficiency versus output power



THD versus output power



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