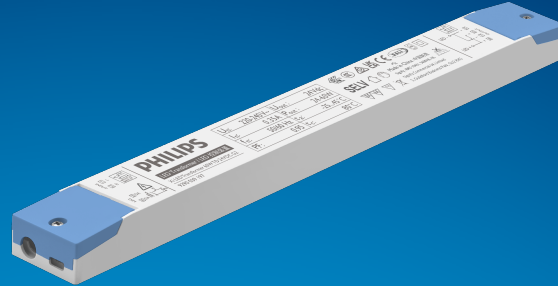


PHILIPS

Xitanium

LED driver



Datasheet

Xi LED Transformer 60W TD 24VDC G2

9290 039 19780

Philips Xitanium Constant Voltage drivers are designed to operate 24VDC LED solutions used both in built-in and independent applications such as shelf lighting, retail display lighting and facade lighting. Xitanium Constant Voltage drivers come with several protection features which guarantee reliable operation and 50,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Features

- Dali 2.0 with 1-100% dimming
- Class II application
- Built in and independent
- Open Load/Short-circuit/Overpower Protection
- 50,000 hours lifetime

Benefits

- Dali 2.0 enables wired digital controls
- Provides options for different luminaire designs
- Great EMI performance for easy design-in
- Guarantee reliable operations
- Peace of mind with proven reliability

Application

- Retail display lighting
- Cove lighting
- Façade lighting
- Shelf lighting

Logistical data

Specification item	Value
Product name	Xi LED Transformer 60W TD 24VDC G2
Logistic code 12NC	9290 039 19780
Pieces per box	50
Weight	178 gram

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	50...60	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	67.0	W	@ rated output power @ rated input voltage
Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	10	%	@ rated output power @ rated input voltage
Efficiency	92.0	%	@ rated output power @ rated input voltage
Input voltage AC	198...264	V _{ac}	Operational range
Input frequency AC	47...63	Hz	Operational range
Standby Power (W)	< 0.5	W	
Isolation input to output	Reinforced		

Electrical output data

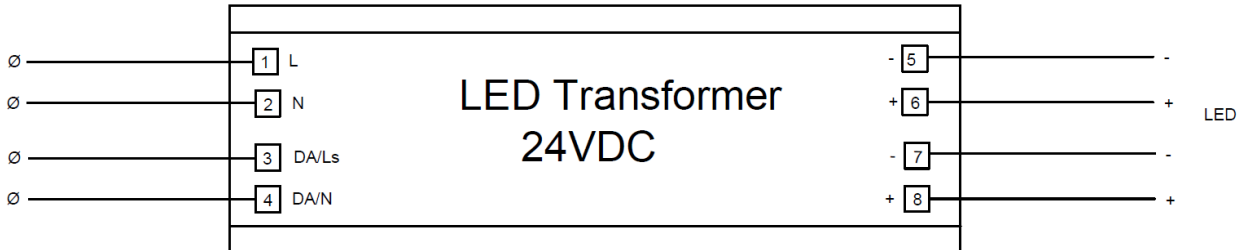
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	24	V _{dc}	Output voltage range: 22.8 ... 25.2VDC
Output voltage max.	26	V	
Rated output current	2500	mA	Performance range: 1000 ... 2500mA
Output voltage ripple	≤ 1	%	< 240 mVpp
Rated output power	60.0	W	Performance range: 24 ... 60W
Line regulation	≤ 1	%	
Load regulation	≤ 3	%	
Turn-on delay	≤ 1	s	
Output voltage rise time	≤ 30	ms	
Hold-up time	≥ 10	ms	

Control interfaces

Specification item	Value	Unit	Condition
Control method	DALI, Touch & Dim (TD)		When using Touch & Dim, please refer to the Design in Guide.
Dimming range	1...100	%	PWM frequency: 2kHz
Isolation controls input to output	Reinforced		acc. IEC61347-1

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75...1.5 / 16...18	mm ² / AWG	Solid / stranded wire
Input wire strip length	6...7	mm	
Output wire cross-section	0.75...1.5 / 16...18	mm ² / AWG	Solid / stranded wire
Output wire strip length	6...7	mm	
Control wire cross-section	0.75...1.5 / 16...18	mm ² / AWG	Solid / stranded wire
Control wire strip length	6...7	mm	
Maximum cable length	2.5	m	Cable length between driver and LED modules per CISPR15

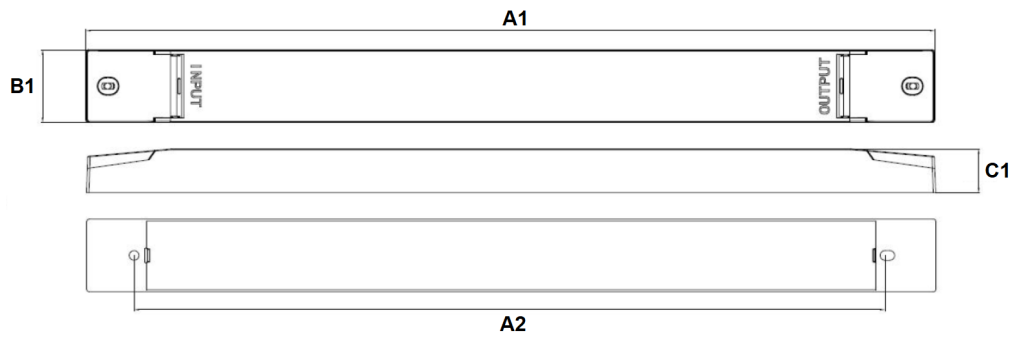


Isolation

Insulation per IEC61347-1	Mains	LED	DALI
Mains	-	Reinforced	Basic
LED	Reinforced	-	Reinforced
DALI	Basic	Reinforced	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	350	mm	
Mounting hole distance (A2)	309.5	mm	
Width (B1)	30	mm	
Height (C1)	18	mm	
Mounting hole diameter (D1)	4.2	mm	
Weight	178	gram	

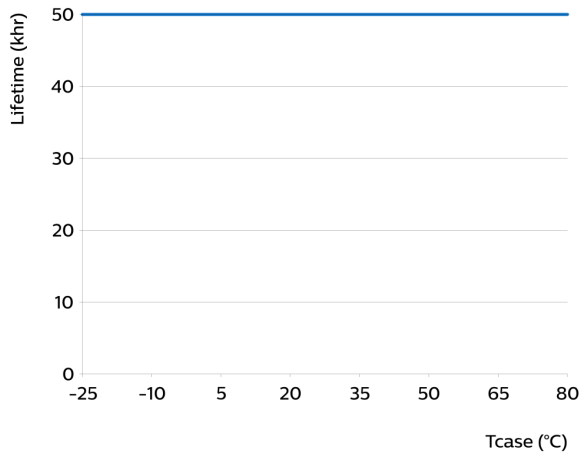


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+45	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	80	°C	Maximum temperature measured at T _{case} -point
Tcase-life	80	°C	Measured at T _{case} -point
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing
Noise and hum	≤ 20	dB(A)	@ rated output power @ rated input voltage

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at T _{case} -point is T _{case} -life. Maximum failures = 10%



Maximum failures = 10%

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

Non-programmable features

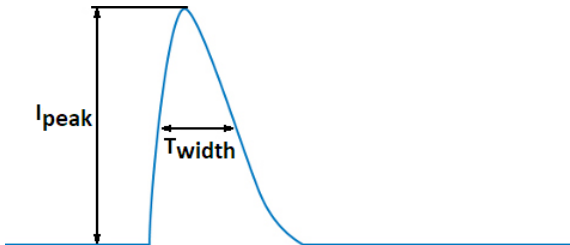
Specification item	Value	Unit	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Hiccup mode, automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	Yes		No load power < 0.5W
Suitable for fixtures with protection class	II		per IEC60598
Overtemperature protection	Yes		Automatic recovering

Inrush current

Specification item	Value	Unit	Condition
Inrush current	35	A	Input voltage 230V
Inrush peak width	200	μs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 18	pcs	Input voltage 230V

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

If several mini circuit breakers are used directly side-by-side (without distance pieces) a correction factor of 80% has to be applied to the rated current



Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Touch Current (ins. Class II)	0.7	mA peak	LED module contribution not included

Surge immunity

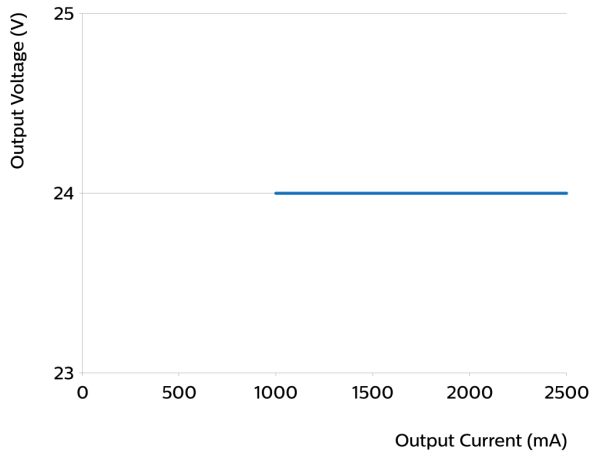
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

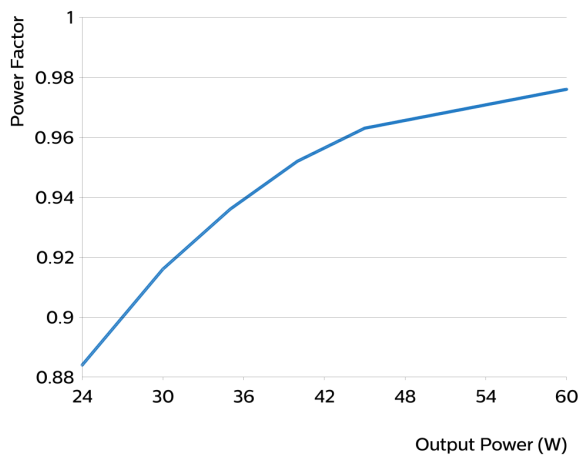
Specification item	Value
Approval marks and Certifications	110 / CB / CCC / CE / DALI 2 / ENEC / KC / MM / RCM(Do Not Cover) / SELV / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Constant Voltage
Mounting Type	Built-in / Independent

Graphs

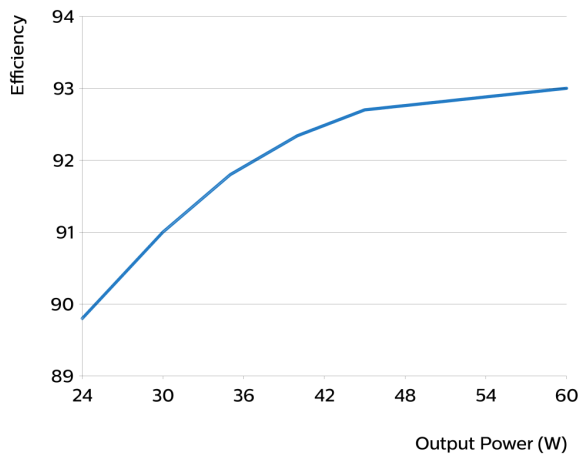
Operating window



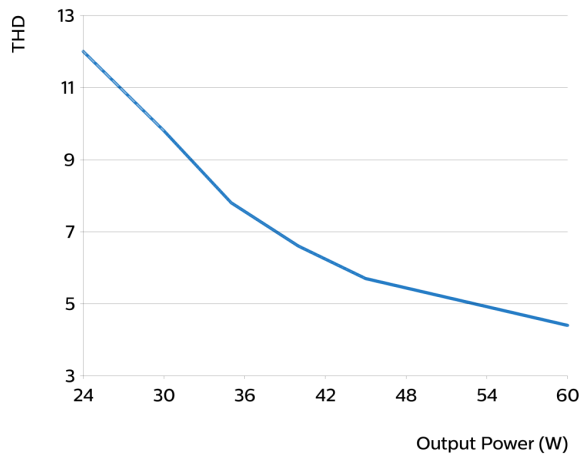
Power factor versus output power



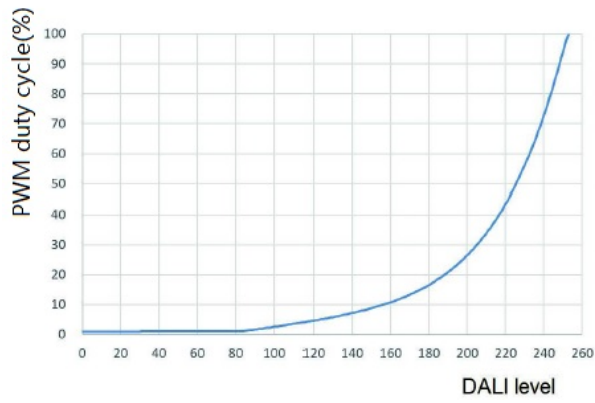
Efficiency versus output power



THD versus output power



V_{out} as function of DALI interface



Notes

1. All Parameters, if not specified, are typical value and measured at 230VAC/50Hz and 25°C ambient temperature.



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