

# PHILIPS

## CertaDrive

### LED driver



## Datasheet

### CertaDrive Panel drivers – Low Ripple

CertaDrive 24W 0.6A 40V 230V I

9290 034 20280

Single current LED drivers for essential lighting applications.

CertaDrive LED panel drivers are designed to fulfill the market need for panel lighting with reliable performance. The new generation CertaDrive LED panel drivers offer basic specifications with specific current and voltage settings which are easy to use for high volume applications.

#### Benefits

- Various Vout/Iout mix for high volume applications
- Comfort for eyes and assurance of camera-friendly performance
- Easy to design-in with single output current
- Independent-version housing design for stand-alone installations

#### Features

- 50,000 hours lifetime @Tc-life
- SELV output for simpler approval process and easy design-in
- Fast Time to Market
- Low ripple output current (4%) Application

#### Application

- Panel application for office and public areas
- For luminaires of protection class II

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.13	A	@ rated output power @ rated input voltage
Rated input power	28	W	@ rated output power @ rated input voltage
Nominal Power factor	0.95		@ maximum out put power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	87	%	@ maximum out put power @ rated input voltage
Input voltage AC range	202...254	V <sub>ac</sub>	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Isolation input to output	SELV		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...40	V <sub>dc</sub>	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.6	A	
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak to average, < 3kHz
Output current ripple HF	≤ 15	%	
Output P <sub>st</sub> <sup>LM</sup>	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	18...24	W	

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

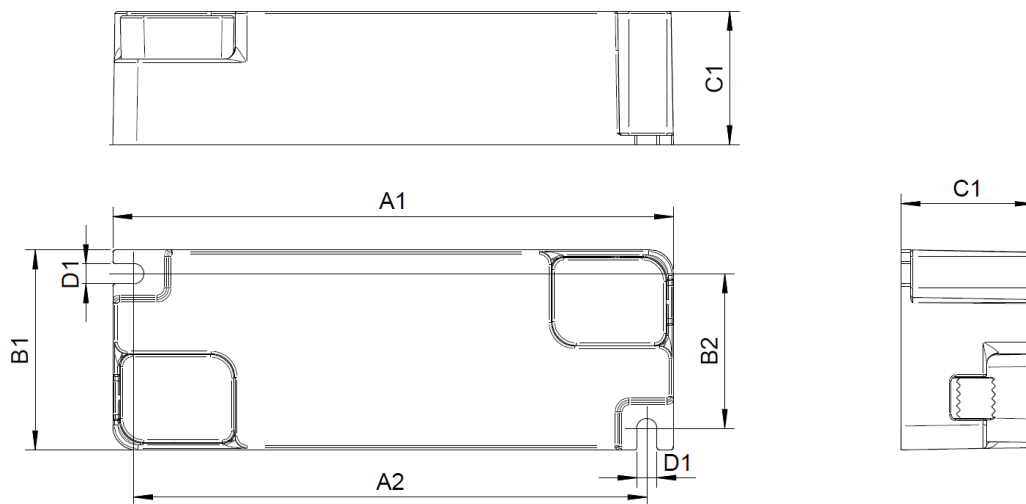
## Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75...1.5 / 18...16	mm <sup>2</sup> / AWG	Type 250
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / AWG	Type 250
Output wire strip length	8.5...9.5	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way



## Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	118	mm	± 0.5
Mounting hole distance (A2)	108	mm	± 0.5
Width (B1)	42	mm	± 0.5
Width (B2)	32.5	mm	± 0.5
Height (C1)	28	mm	± 0.5
Mounting hole diameter (D1)	4.2	mm	± 0.3
Weight	70	gram	
Housing color	white		



## Logistical data

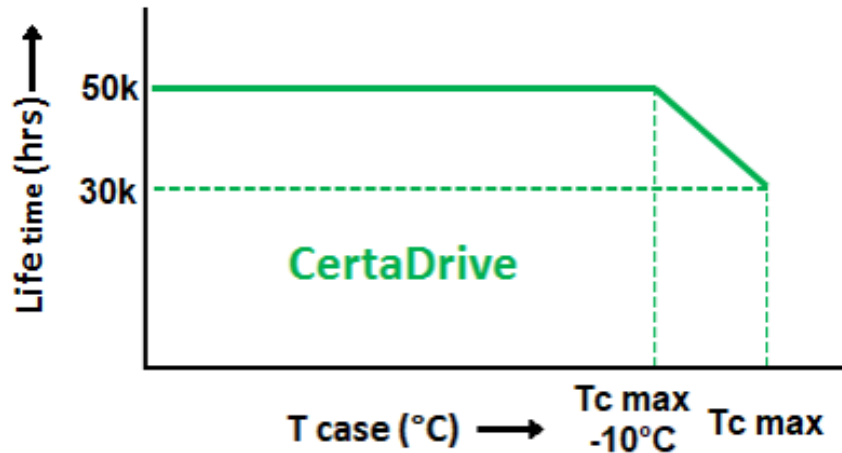
Specification item	Value
Product name	CertaDrive 24W 0.6A 40V 230V I
Logistic code 12NC	9290 034 20280
Pieces per box	105

## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+40	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded
T <sub>case-max</sub>	75	°C	Maximum temperature measured at T <sub>case-point</sub>
T <sub>case-life</sub>	65	°C	Measured at T <sub>case-point</sub>
Maximum housing temperature	130	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at Tcase-point is Tcase-max -10 degrees. Maximum failures = 10%



## Storage temperature and humidity

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

## Programmable features

Specification item	Available	Default setting	Condition
LED Module Temperature Protection (MTP)	No		
Driver Temperature Limit (DTL)	No		
Constant Light Output (CLO)	No		
DC emergency (DCemDim)	No		
Energy metering (DALI part 252)	No		
Diagnostics	No		

## Features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	II		per IEC60598

## Inrush current

Specification item	Value	Unit	Condition
Inrush current	20	A	Input voltage 230V
Inrush peak width	70	μs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 30	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. IEC61347-1. LED module contribution not included

## Surge immunity

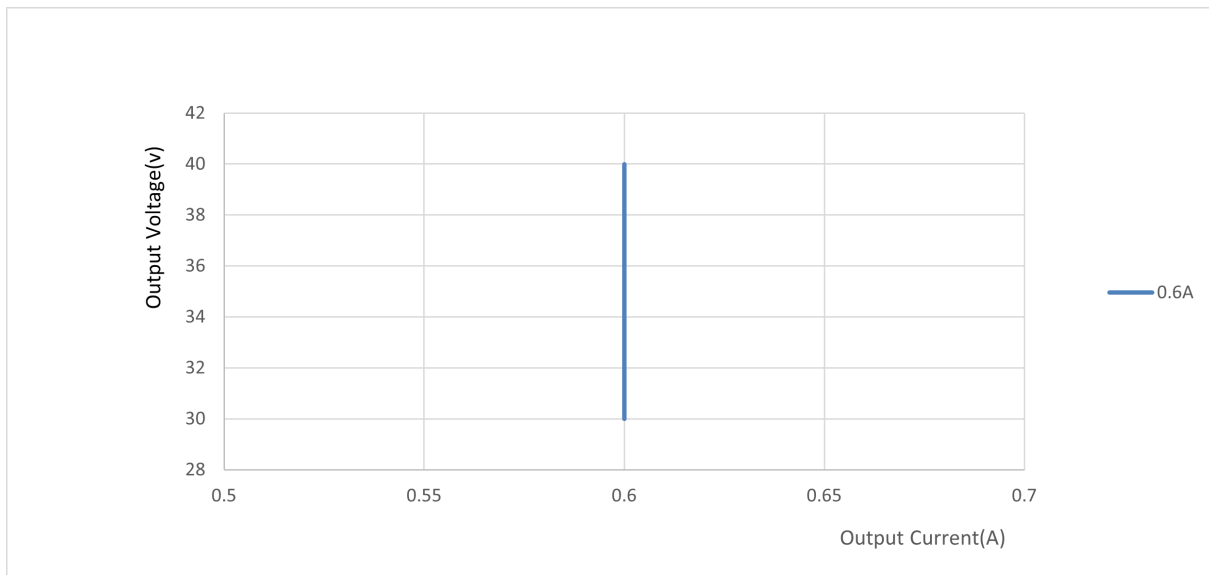
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

## Application Info

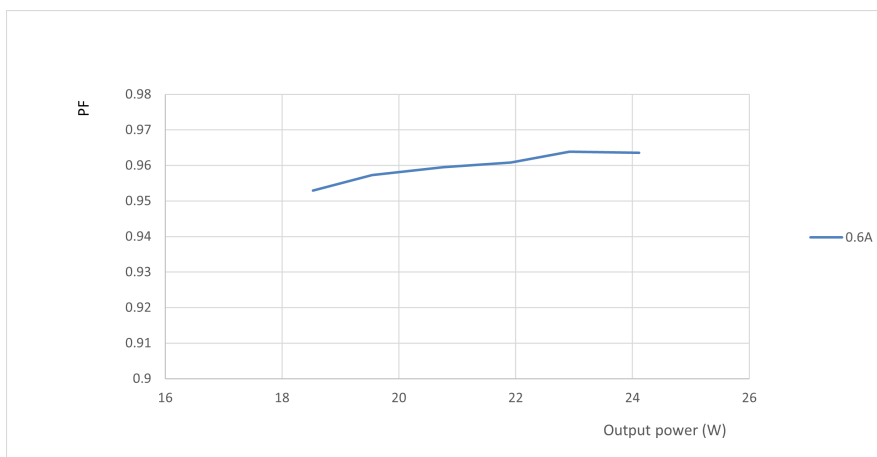
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / EAC / ENEC / SELV / TISI / UKCA
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20

## Graphs

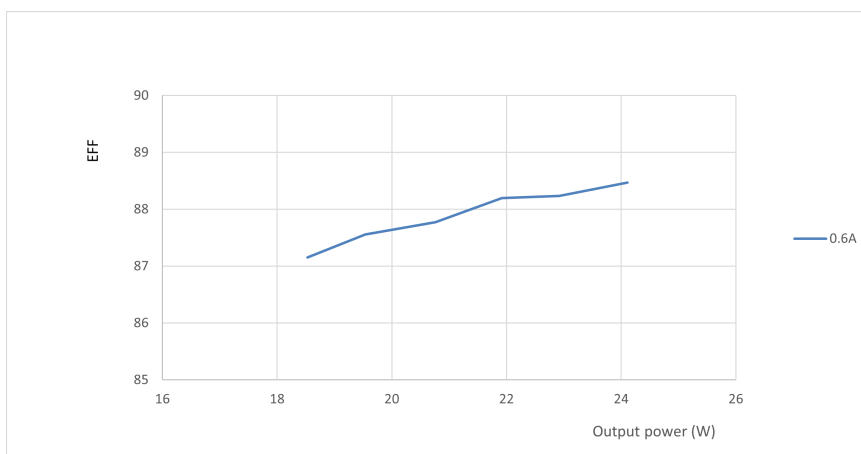
### Operating window



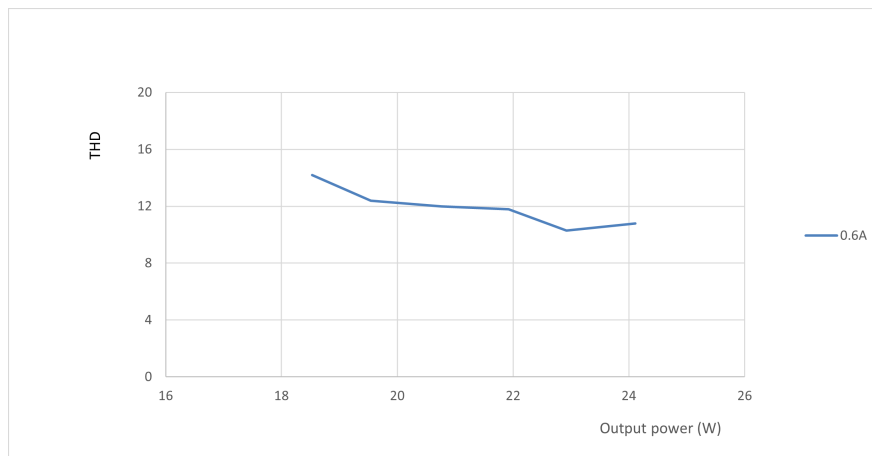
### Power factor versus output power



### Efficiency versus output power

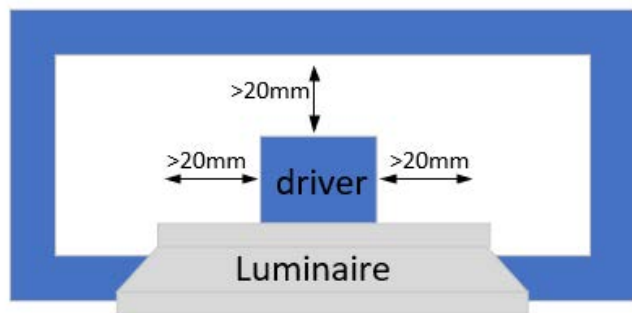


## THD versus output power



## Notes

This driver only can be used with the LED panel, and refer to the following installation instruction:



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