

# PHILIPS

## CertaDrive

### LED driver



## Datasheet

### CertaDrive Panel drivers – Low Ripple

CertaDrive 32W 0.8A 40V 230V I

9290 034 20480

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         | 0.17      | A               | @ rated output power @ rated input voltage    |
| Rated input power           | 36        | W               | @ rated output power @ rated input voltage    |
| Nominal Power factor        | 0.97      |                 | @ maximum out put power @ rated input voltage |
| Total harmonic distortion   | 20        | %               | @ rated output power @ rated input voltage    |
| Efficiency                  | 88        | %               | @ 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                       | 0.8              | A               |                                  |
| Output current tolerance ±           | 8                | %               |                                  |
| 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                         | 24...32          | W               |                                  |

## Electrical data controls input

| Specification item | Value | Unit | Condition |
|--------------------|-------|------|-----------|
| Control method     | Fixed |      |           |

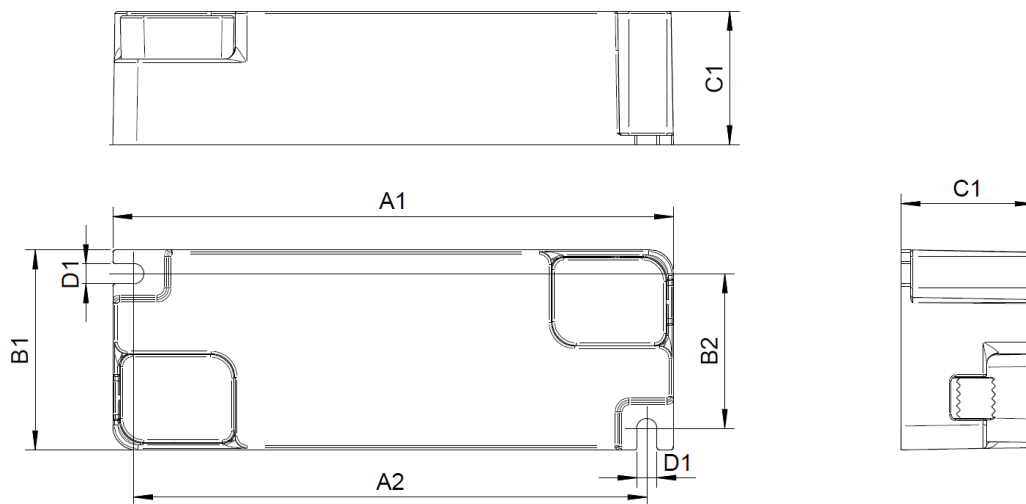
## Wiring and Connections

| 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                      | 75    | gram |                |
| Housing color               | white |      |                |



## Logistical data

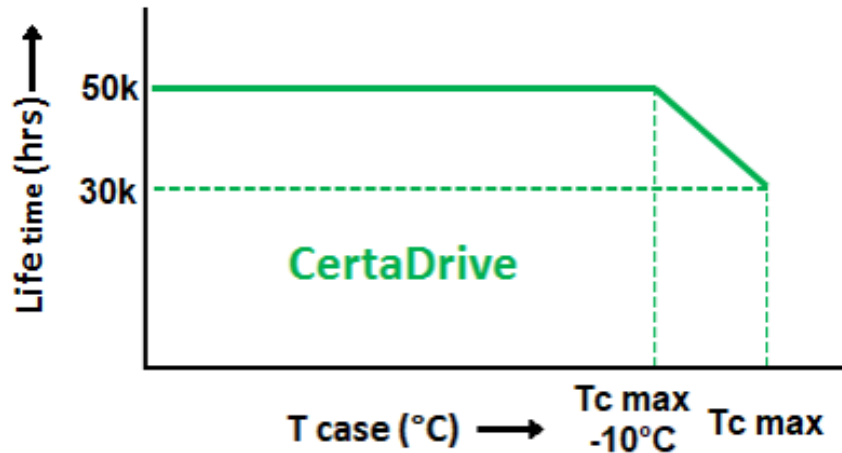
| Specification item | Value                          |
|--------------------|--------------------------------|
| Product name       | CertaDrive 32W 0.8A 40V 230V I |
| Logistic code 12NC | 9290 034 20480                 |
| Pieces per box     | 105                            |

## 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.<br>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

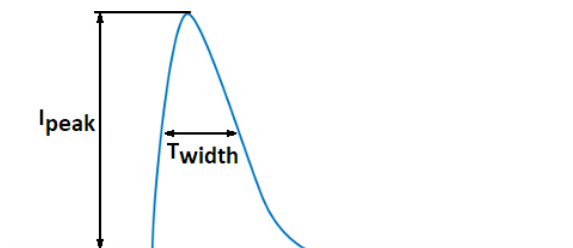
| Specification item                      | Available | Default setting | Condition |
|---|-----------|-----------------|-----------|
| LED Module Temperature Protection (MTP) | No        |                 |           |
| Driver Temperature Limit (DTL)          | No        |                 |           |
| 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           | 28    | A    | Input voltage 230V                          |
| Inrush peak width        | 100   | 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

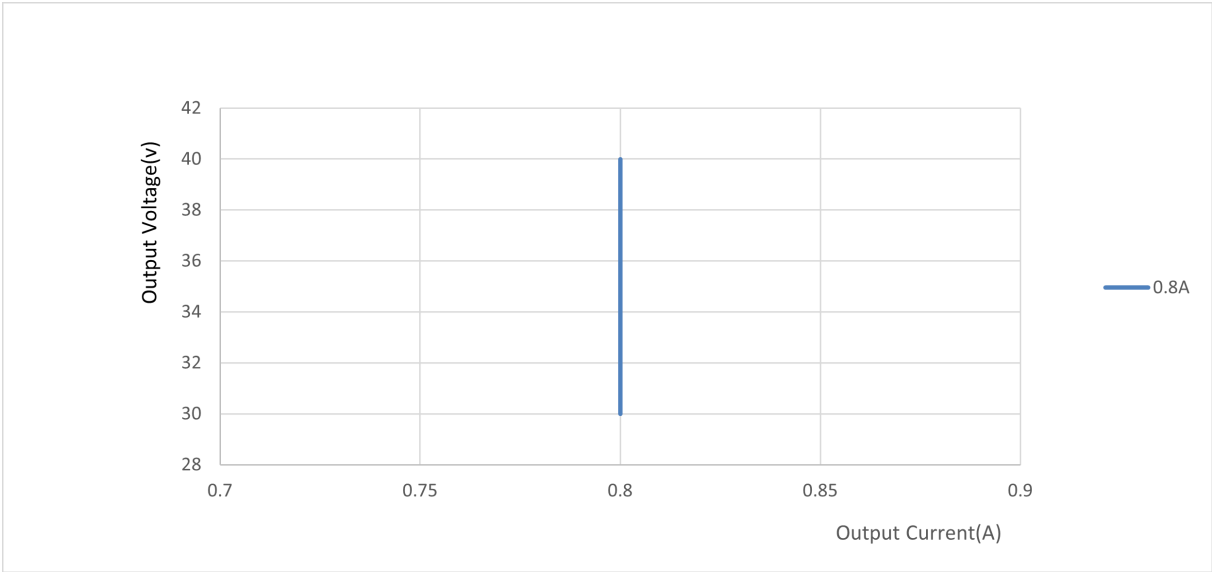
| Specification item                    | Value | Unit    | Condition   |
|---------------------------------------|-------|---------|---|
| Typical Touch Current (ins. Class II) | 0.7   | mA peak | Acc. IEC61347-1. LED module contribution not included |

## Surge immunity

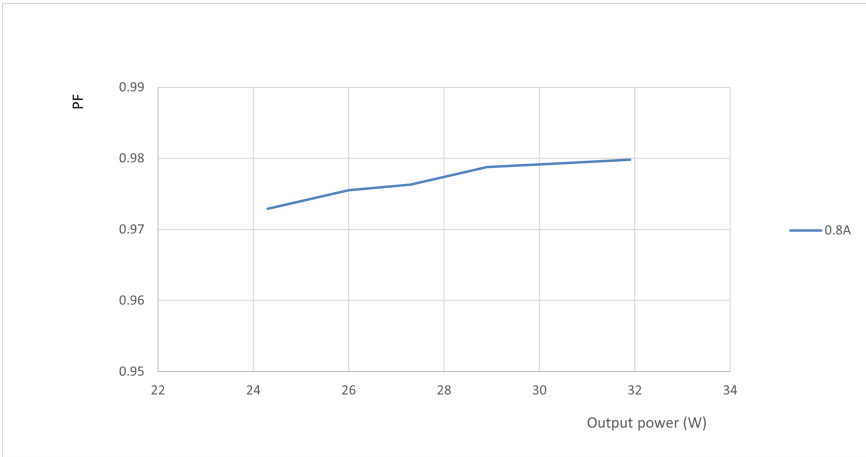
| Specification item                | Value | Unit | Condition                                   |
|-----------------------------------|-------|------|---|
| Mains surge immunity (diff. mode) | 1     | kV   | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us  |
| Mains surge immunity (comm. mode) | 2     |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

## Application Info

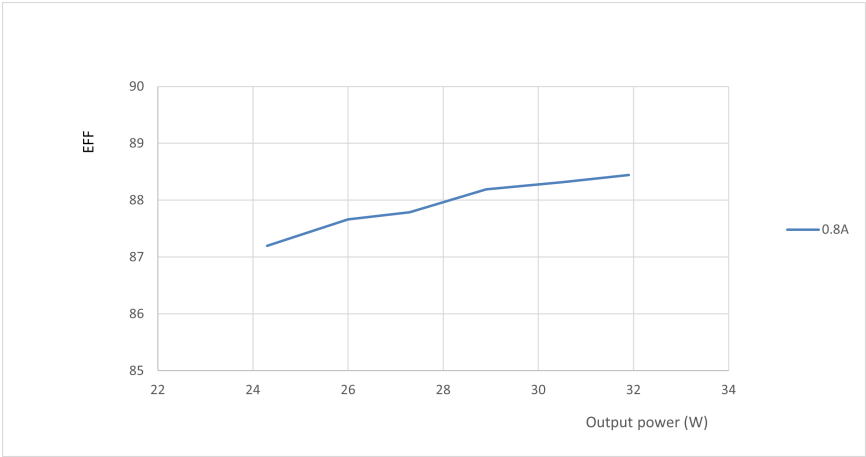
| Specification item                     | Value   |
|--|---|
| Approval marks and Certifications      | CB / CCC / CE / EAC / ENEC / SELV / TISI / UKCA |
| Ingress Protection classification (IP) | 20  |
| Noise and hum dB(A)                    | 20  |



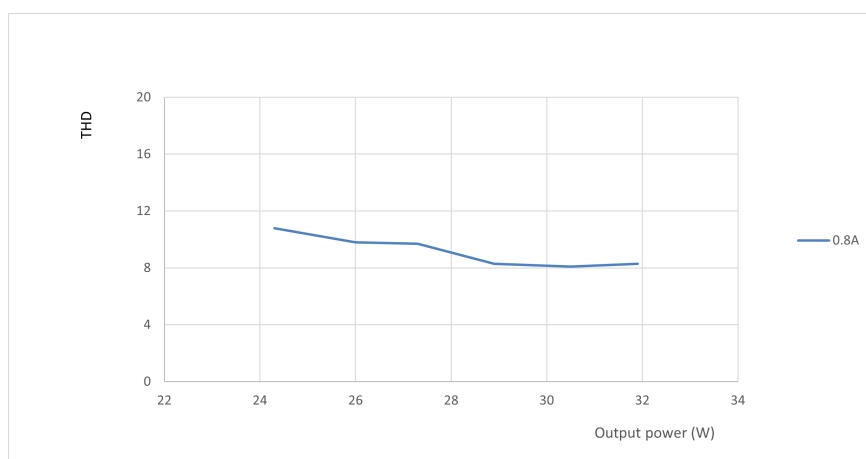
Power factor versus output power



Efficiency versus output power

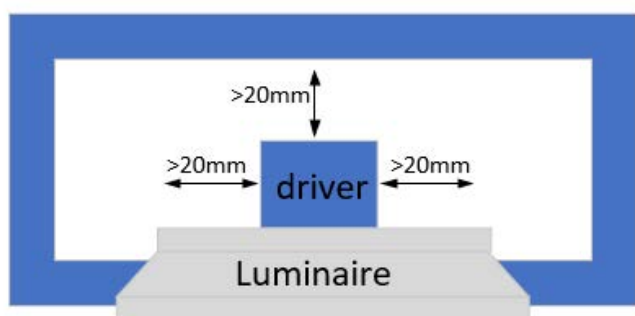


## THD versus output power



## Notes

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



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