

# PHILIPS

## CertaDrive

### LED driver



## Datasheet

### CertaDrive G2

CertaDrive 10W 0.25A 40V LPF I 230V

9290 014 80380

#### Affordable and reliable LED Drivers

Affordable LED Driver range offering Philips reliability. The CertaDrive range is compatible with COB and mid-power LEDs from any LED manufacturer.

#### Benefits

- Driver design based on Philips experience and knowledge of conventional fluorescent and HID technologies
- Various power wattage Drivers that are related to the lumen packages/applications
- Fixed output Drivers
- Independent-version housing design for stand-alone installations

#### Features

- High reliability
- Luminaire design flexibility to keep stable/constant
- Lumen output and light quality levels
- Fast Time to Market
- One supplier for professional general lighting LED Drivers
- Affordable LED Drivers

#### Application

- Public buildings (airports, cinemas, theaters, exhibition halls)
- Retail (supermarkets, shops)
- Office

## 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           | 12.7      | W               | @ rated output power @ rated input voltage |
| Power factor                | 0.5       |                 | @ rated output power @ rated input voltage |
| Efficiency                  | ≥ 79      | %               | @ rated output 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               | Peak voltage at open load   |
| Output current           | 0.25             | A               | Full output current setting |
| Output current tolerance | ± 10             | %               |                             |
| Output current ripple LF | ≤ 5              | %               | Ripple = peak / average     |
| Output power             | 7.5...10         | W               | Full output                 |

## Electrical data controls input

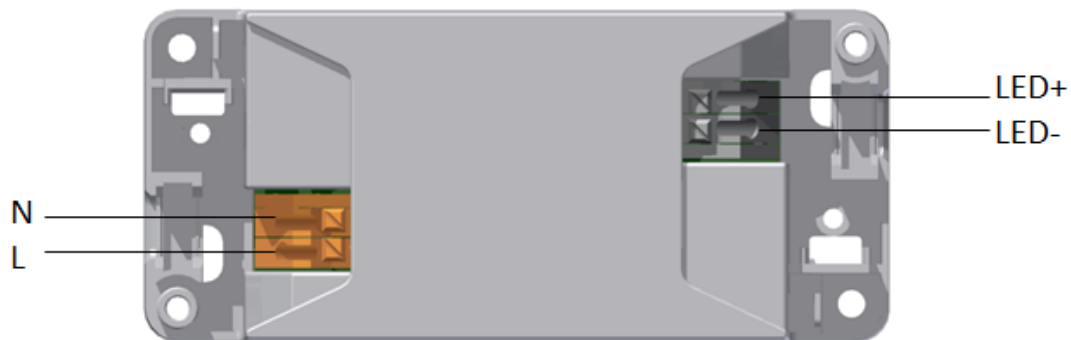
| Specification item | Value | Unit | Condition |
|--------------------|-------|------|-----------|
| Control method     | Fixed |      |           |

## Logistical data

| Specification item | Value                               |
|--------------------|-------------------------------------|
| Product name       | CertaDrive 10W 0.25A 40V LPF I 230V |
| Logistic code 12NC | 9290 014 80380                      |
| Pieces per box     | 60                                  |

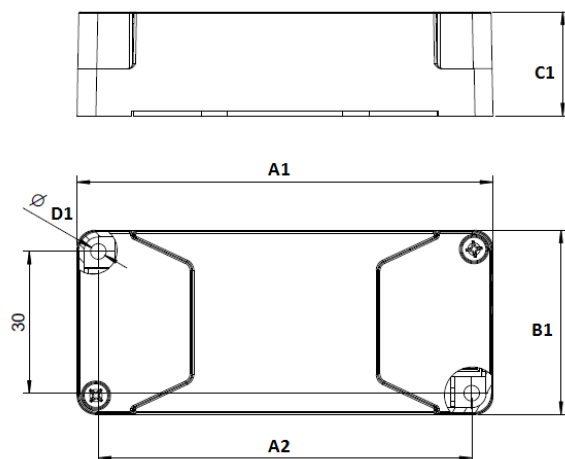
## Wiring & Connections

| Specification item        | Value     | Unit            | Condition                                            |
|---------------------------|-----------|-----------------|------------------------------------------------------|
| Input wire cross-section  | 0.2...1.5 | mm <sup>2</sup> | DA250 (3.5 mm), solid / stranded wire                |
|                           | 16...24   | AWG             | DA250 (3.5 mm), solid / stranded wire                |
| Input wire strip length   | 8.5...9.5 | mm              |                                                      |
| Output wire cross-section | 0.2...1.5 | mm <sup>2</sup> | DA250 (3.5 mm), solid / stranded wire                |
|                           | 16...24   | AWG             | DA250 (3.5 mm), solid / stranded wire                |
| Output wire strip length  | 8.5...9.5 | mm              |                                                      |
| Maximum cable length      | 600       | mm              | Total length of wiring including LED module, one way |



## Dimensions and weight

| Specification item        | Value | Unit | Condition |
|---------------------------|-------|------|-----------|
| Length (A1)               | 88    | mm   |           |
| Width (B1)                | 39    | mm   |           |
| Height (C1)               | 22    | mm   |           |
| Fixing hole diameter (D1) | 3.3   | mm   |           |
| Fixing hole distance (A2) | 79    | mm   |           |
| Weight                    | 100   | gram |           |

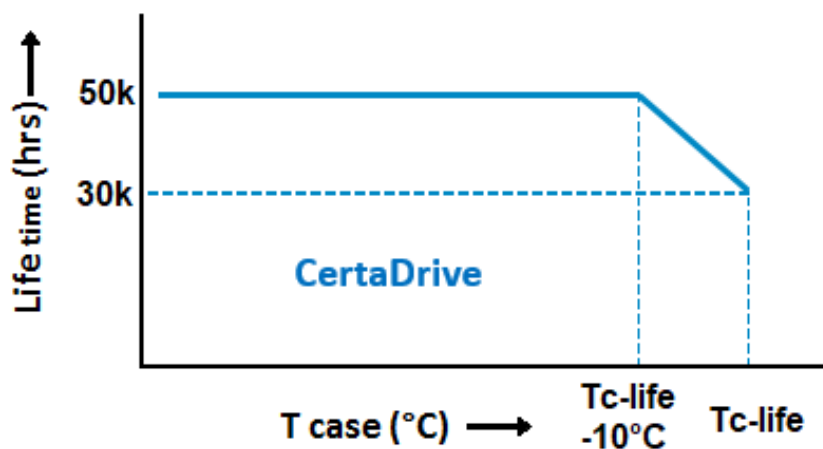


## Operational temperatures and humidity

| Specification item          | Value     | Unit | Condition                                                               |
|-----------------------------|-----------|------|-------------------------------------------------------------------------|
| Ambient temperature         | -20...+45 | °C   | Higher ambient temperature allowed as long as Tcase-max is not exceeded |
| Tcase-max                   | 75        | °C   | Maximum temperature measured at T <sub>case</sub> -point                |
| Tcase-life                  | 65        | °C   | Measured at T <sub>case</sub> -point                                    |
| Maximum housing temperature | 130       | °C   | In case of a failure                                                    |
| 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 | -25...+85 | °C   |                |
| Relative humidity   | 5...95    | %    | Non-condensing |

## Programmable features

| Specification item                    | Value | Remark               | Condition                        |
|---------------------------------------|-------|----------------------|----------------------------------|
| Set output current (AOC)              |       | See Design-in guide. | Default output current: = 250 mA |
| LED module temperature derating (MTP) | No    |                      |                                  |
| Driver Temperature Limit (DTL)        | No    |                      |                                  |
| Constant Lumen Over Lifetime (CLO)    | No    |                      |                                  |
| DC emergency dimming (DCemDIM)        | No    |                      |                                  |
| Corridor mode                         | No    |                      |                                  |
| Energy metering                       | No    |                      |                                  |
| Diagnostics                           | No    |                      |                                  |

## Features

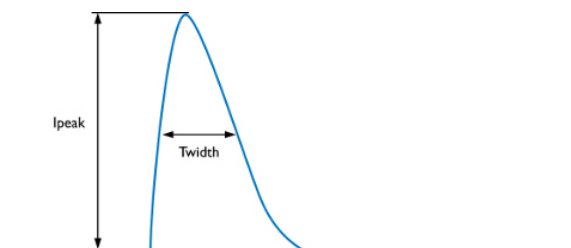
| Specification item                          | Value | Remark | Condition            |
|---------------------------------------------|-------|--------|----------------------|
| Open load protection                        | Yes   |        | Automatic recovering |
| Short circuit protection          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

## Certificates and standards

| Specification item                     | Value                |
|----------------------------------------|----------------------|
| Approval marks                         | CB / CCC / CE / ENEC |
| Ingress Protection classification (IP) | 20                   |

## Inrush current

| Specification item         | Value     | Unit    | Condition                                      |
|----------------------------|-----------|---------|------------------------------------------------|
| Inrush current $I_{peak}$  | 8.5       | A       | Input voltage 230V                             |
| Inrush current $T_{width}$ | 220       | $\mu s$ | Input voltage 230V, measured at 50% $I_{peak}$ |
| Drivers / MCB 16A type B   | $\leq 62$ | pcs     | Indicative value                               |



| MCB | Rating | Relative number of LED drivers |
|-----|--------|--------------------------------|
| B   | 4A     | 25%                            |
| B   | 6A     | 40%                            |
| B   | 10A    | 63%                            |
| B   | 13A    | 81%                            |
| B   | 16A    | 100% (stated in datasheet)     |
| B   | 20A    | 125%                           |
| B   | 25A    | 156%                           |
| B   | 32A    | 200%                           |
| B   | 40A    | 250%                           |
| C   | 4A     | 42%                            |
| C   | 6A     | 63%                            |
| C   | 10A    | 104%                           |
| C   | 13A    | 135%                           |
| C   | 16A    | 170%                           |
| C   | 20A    | 208%                           |
| C   | 25A    | 260%                           |
| C   | 32A    | 340%                           |
| C   | 40A    | 415%                           |

## Driver touch current / protective conductor current

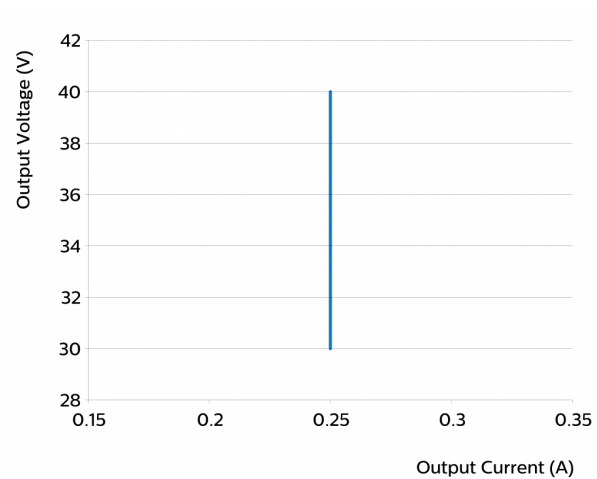
| Specification item                    | Value | Unit    | Condition                                             |
|---------------------------------------|-------|---------|-------------------------------------------------------|
| Typical touch current (ins. Class II) | 0.7   | mA peak | Acc. IEC61347-1.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

## Surge immunity

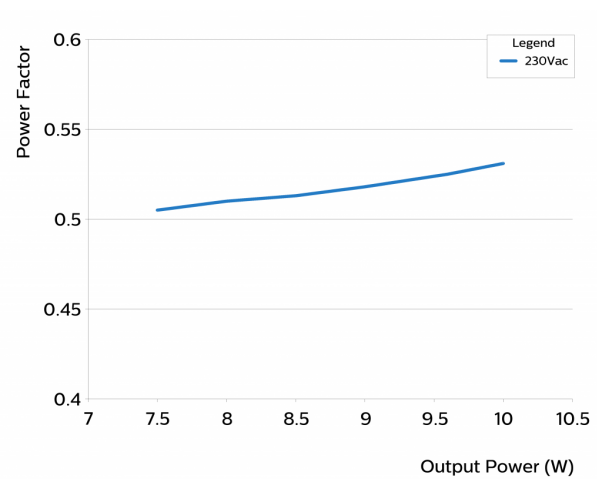
| Specification item                | Value | Unit | Condition                                   |
|-----------------------------------|-------|------|---------------------------------------------|
| Mains surge immunity (diff. mode) | 0.5   | kV   | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us  |
| Mains surge immunity (comm. mode) | 1     | kV   | Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us |

Graphs

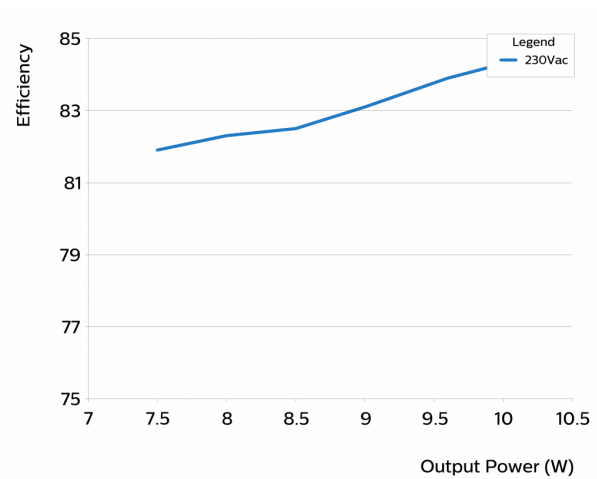
Operating window



Power factor versus output power



Efficiency versus output power





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