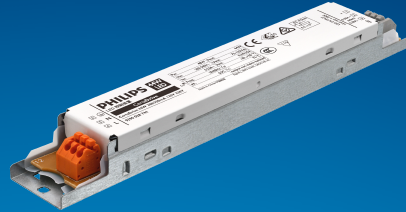


**PHILIPS**

CertaDrive

LED driver



## Datasheet

### CertaDrive LED drivers – Linear HV non-isolated

CertaDrive 44W 200/350mA 125V 230V

9290 028 74480

#### Fixed current/voltage LED drivers for high volume LED propositions

The CertaDrive LED drivers are designed to fulfill the market need for essential lighting. The CertaDrive LED drivers offer basic specifications such as specific current and voltage settings, optimal to operate CertaFlux LED modules. Life time of the driver is set at 50,000 hours. Philips will extend the portfolio of CertaDrive LED drivers to match high volume CertaFlux LED line propositions as well as high volume opportunities of other LED board manufactures.

#### Benefits

- Design freedom
- Optimized to operate CertaFlux LED lines
- 3-years warranty

#### Features

- Small dimensions
- Specific current and voltage
- 50,000 hours life time
- Fast Time to Market

#### Application

- Waterproof luminaires
- Recessed, surface and suspended luminaires in offices

## 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         | 0.23      | A               | @ rated output power @ rated input voltage |
| Rated input power           | 48        | W               | @ rated output power @ rated input voltage |
| Power factor                | 0.9       |                 | @ rated output power @ rated input voltage |
| Total harmonic distortion   | 20        | %               | @ rated output power @ rated input voltage |
| Efficiency                  | 91.8      | %               | typical value @ 230V, full output power    |
| Input voltage AC range      | 198...264 | V <sub>ac</sub> | Operational range                          |
| Input frequency AC range    | 45...66   | Hz              | Operational range                          |
| Isolation input to output   | No        |                 |  |

## Electrical output data

| Specification item                   | Value            | Unit            | Condition                                 |
|--------------------------------------|------------------|-----------------|---|
| Regulation method                    | Constant Current |                 |   |
| Output voltage                       | 75...125         | V <sub>dc</sub> |   |
| Output voltage max.                  | 200              | V               | Maximum output voltage (rms)              |
| Output current                       | 0.2 / 0.35       | A               | Depends on the selected output LED- wire  |
| Output current tolerance ±           | 8                | %               |   |
| Output current ripple LF             | ≤ 4              | %               | Ripple = peak / average, < 3kHz. Rd = 50Ω |
| Output current ripple HF             | ≤ 15             | %               |   |
| Output P <sub>st</sub> <sup>LM</sup> | ≤ 0.07           |                 |   |
| Output SVM                           | ≤ 0.07           |                 |   |
| Output power                         | 15...43.75       | 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  | 0.5...1.5 | mm <sup>2</sup> / AWG | solid / stranded wire                                |
| Input wire strip length   | 8.5...9.5 | mm                    |  |
| Output wire cross-section | 0.5...1.5 | mm <sup>2</sup> / AWG | solid / stranded wire                                |
| Output wire strip length  | 8.5...9.5 | mm                    |  |
| Maximum cable length      | 2         | m                     | Total length of wiring including LED module, one way |

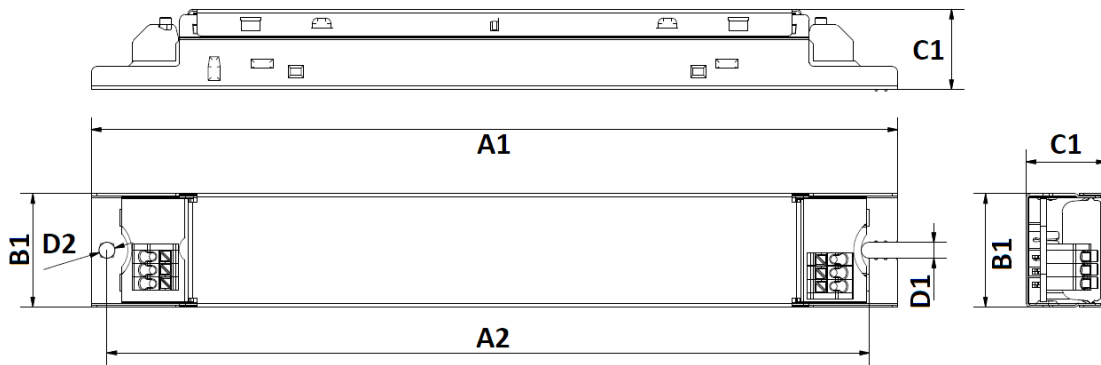


## Insulation

| Insulation per IEC61347-1 | Input | Output | Housing |
|---------------------------|-------|--------|---------|
| Input                     |       | Non    | Basic   |
| Output                    | Non   |        | Basic   |
| Housing                   | Basic | Basic  |         |

## Dimensions and weight

| Specification item          | Value | Unit | Tolerance (mm) |
|-----------------------------|-------|------|----------------|
| Length (A1)                 | 210   | mm   | ± 0.3          |
| Mounting hole distance (A2) | 198.5 | mm   | ± 0.3          |
| Width (B1)                  | 30    | mm   | ± 0.5          |
| Height (C1)                 | 21    | mm   | ± 0.5          |
| Mounting hole diameter (D1) | 4.1   | mm   | ± 0.2          |
| Mounting hole diameter (D2) | 4.1   | mm   | ± 0.2          |
| Weight                      | 130   | gram |                |



## Logistical data

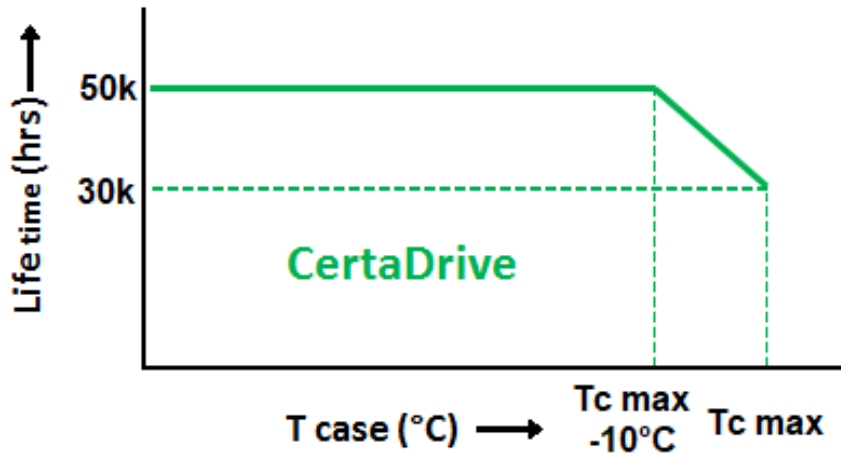
| Specification item | Value                              |
|--------------------|------------------------------------|
| Product name       | CertaDrive 44W 200/350mA 125V 230V |
| Logistic code 12NC | 9290 028 74480                     |
| Pieces per box     | 20                                 |

## Operational temperatures and humidity

| Specification item          | Value     | Unit | Condition   |
|-----------------------------|-----------|------|---|
| Ambient temperature         | -20...+50 | °C   | Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded |
| T <sub>case-max</sub>       | 85        | °C   | Maximum temperature measured at T <sub>case-point</sub>                             |
| T <sub>case-life</sub>      | 75        | °C   | Measured at T <sub>case-point</sub>   |
| Maximum housing temperature | 110       | °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-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

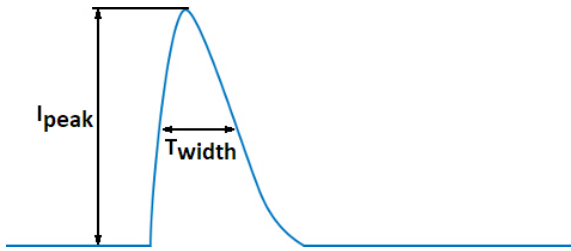
| Specification item                      | Available | Default setting | Condition |
|---|-----------|-----------------|-----------|
| LED Module Temperature Protection (MTP) | No        |                 |           |
| Constant Light Output (CLO)             | No        |                 |           |
| Corridor Mode                           | No        |                 |           |
| DC emergency (DCemDim)                  | 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 | I     | per IEC60598         |
| Overtemperature protection                  | No    | Automatic recovering |
| Overheating protection                      | No    |                      |

## Inrush current

| Specification item       | Value     | Unit    | Condition                                   |
|--------------------------|-----------|---------|---|
| Inrush current           | 14.2      | A       | Input voltage 230V                          |
| Inrush peak width        | 222       | $\mu$ s | Input voltage 230 V, measured at 50% height |
| Drivers / MCB 16A type B | $\leq 36$ | pcs     | Indicative value                            |



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

## 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

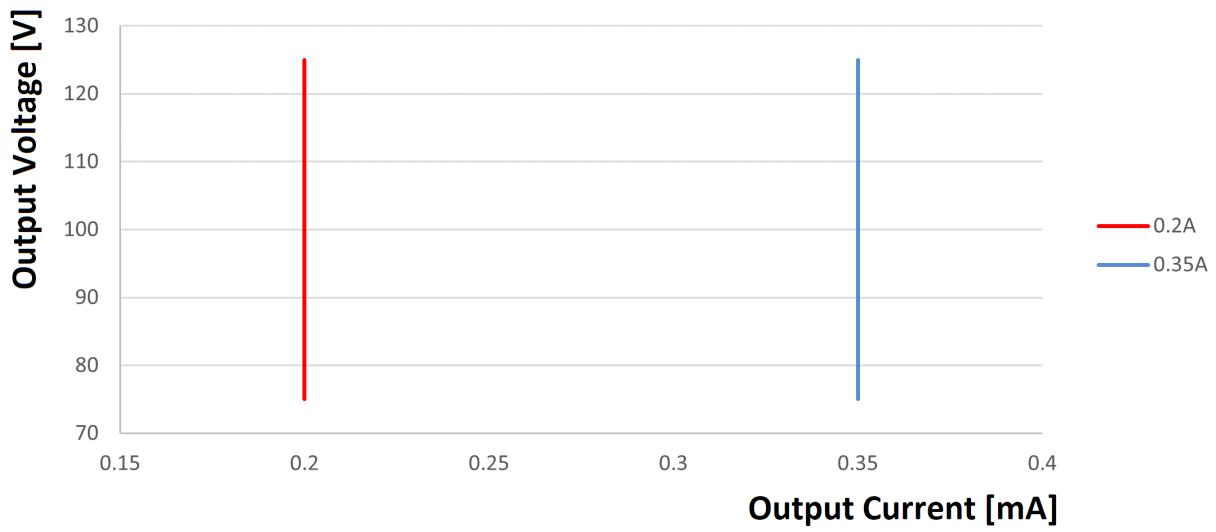
| Specification item                | Value | Unit | Condition                                   |
|-----------------------------------|-------|------|---|
| Mains surge immunity (diff. mode) | 1     | kV   | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us  |
| Mains surge immunity (comm. mode) | 2     |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

## Application Info

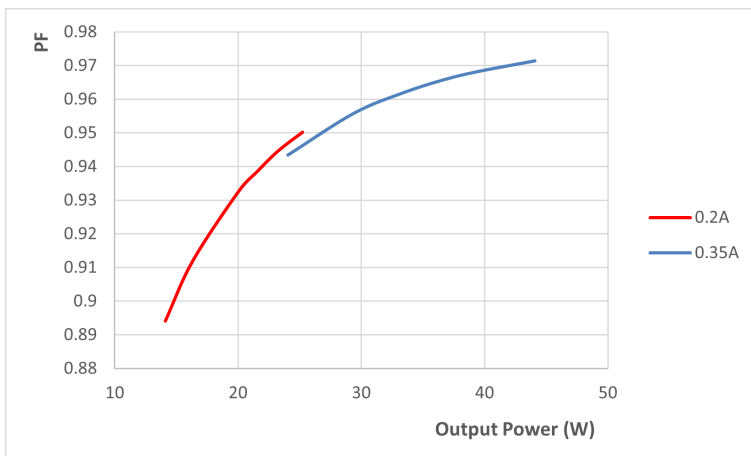
| Specification item                     | Value                             |
|--|-----------------------------------|
| Approval marks                         | CB / CCC / CE / ENEC / RCM / TISI |
| Ingress Protection classification (IP) | 20                                |
| Application                            | Indoor Linear                     |
| Mounting Type                          | Built-in                          |

## Graphs

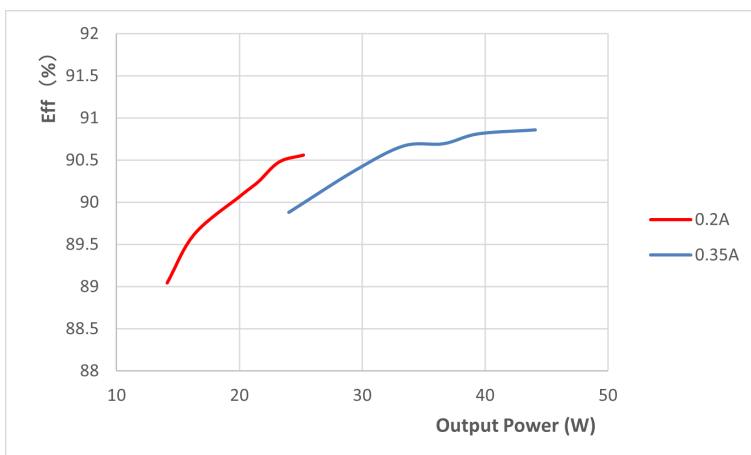
### Operating window



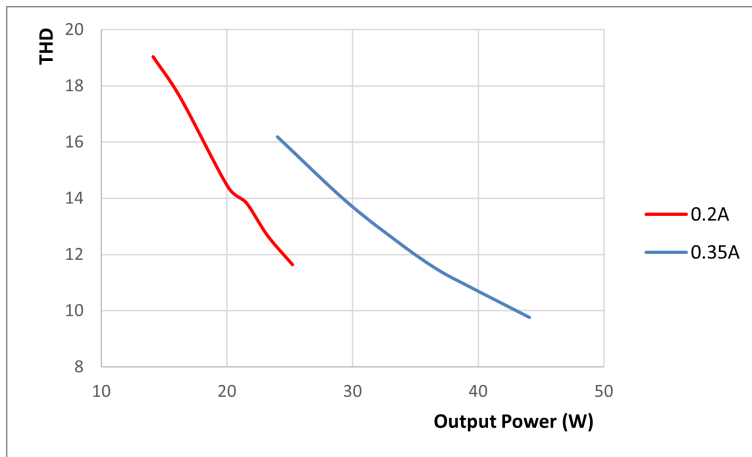
### Power factor versus output power



### Efficiency versus output power



## THD versus output power



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