

PHILIPS

CertaDrive

LED driver



Datasheet

CertaDrive G4

CertaDrive 8W 0.2A 40V I 230V

9290 038 74880

Affordable and reliable LED Drivers

Philips CertaDrive LED Point drivers are designed to operate with LED COB solutions used both in built-in and independent applications such as down light, spot light and track light. CertaDrive drivers have common features such as low ripple output current, single output current and 30,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Features

- Class II application
- Built in and independent
- Low Ripple less than 4%
- 30,000 hours lifetime

Benefits

- Provides options for different luminaire designs
- Great EMI performance for easy design-in
- Peace of mind with proven reliability

Application

- Down lighting
- Spot lighting
- Track lighting

Logistical data

| Specification item | Value |
|--------------------|-------------------------------|
| Product name | CertaDrive 8W 0.2A 40V I 230V |
| Logistic code 12NC | 9290 038 74880 |
| Pieces per box | 64 |

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 | 0.065 | A | @ rated output power @ rated input voltage |
| Rated input power | 10.0 | W | @ rated output power @ rated input voltage |
| Power factor | 0.95 | | @maximum output power @ rated input voltage |
| Total harmonic distortion | 20 | % | @ rated output power @ rated input voltage |
| Efficiency | 80.0 | % | @ rated output power @ rated input voltage @max. Uout |
| Input voltage AC | 198...264 | V _{ac} | Operational range |
| Input frequency AC | 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 _{dc} | |
| Output voltage max. | 60 | V | Maximum output voltage (rms) |
| Output current | 200 | mA | |
| Output current tolerance ± | 8 | % | @full load |
| Output current ripple LF | ≤ 4 | % | Ripple = peak / average, < 3kHz |
| Output current ripple HF | ≤ 15 | % | |
| Output P _{st} ^{LM} | ≤ 0.1 | | In entire operating window |
| Output SVM | ≤ 0.1 | | In entire operating window |
| Output power | 6.0...8.0 | W | |

Control interfaces

| 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 ² / AWG | solid / stranded wire |
| Input wire strip length | 8...9 | mm | |
| Output wire cross-section | 0.5...1.5 / 20...16 | mm ² / AWG | solid / stranded wire |
| Output wire strip length | 8...9 | mm | |
| Maximum cable length | 0.6 | m | Total length of wiring including LED module, one way |

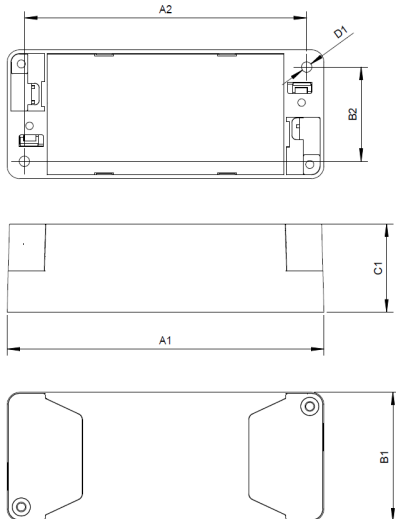


Isolation

| Insulation per IEC61347-1 | Input | Output |
|---------------------------|-------|--------|
| Input | - | SELV |
| Output | SELV | - |

Dimensions and weight

| Specification item | Value | Unit | Tolerance (mm) |
|-----------------------------|-------|------|----------------|
| Length (A1) | 101 | mm | |
| Mounting hole distance (A2) | 90 | mm | |
| Width (B1) | 41 | mm | |
| Width (B2) | 30 | mm | |
| Height (C1) | 28 | mm | |
| Mounting hole diameter (D1) | 3.3 | mm | |
| Weight | 65 | gram | |

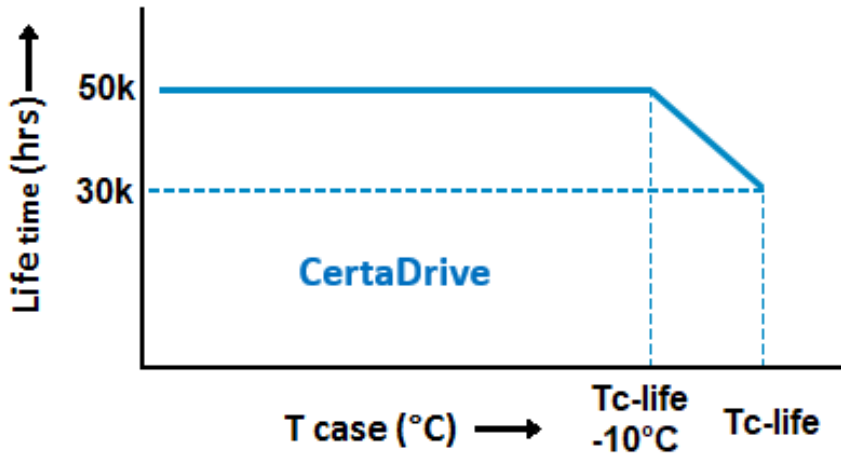


Operational temperatures and humidity

| Specification item | Value | Unit | Condition |
|-----------------------------|-----------|------|---|
| Ambient temperature | -20...+50 | °C | Higher ambient temperature allowed as long as Tcase-max is not exceeded |
| Tcase-max | 75 | °C | Maximum temperature measured at Tcase-point |
| Tcase-life | 65 | °C | Measured at Tcase-point |
| 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 | 30,000 | hours | Measured temperature at Tcase-point is Tcase-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 |

Programmable features

| Specification item | Available | Default setting | Condition |
|---|-----------|-----------------|-----------|
| Set Adjustable Output Current (AOC) | | 200 mA | |
| LED Module Temperature Protection (MTP) | No | | |
| Driver Temperature Limit (DTL) | No | | |
| Constant Light Output (CLO) | No | | |
| Corridor Mode | No | | |
| DC emergency (DCemDim) | No | | |

Non-programmable features

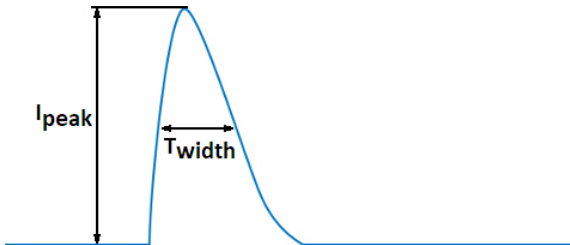
| Specification item | Value | | Condition |
|---|-------|--|----------------------|
| Open load protection | Yes | | Automatic recovering |
| Short circuit protection | Yes | | Automatic recovering |
| Over power protection | Yes | | Automatic recovering |
| Hot wiring | No | | |
| Suitable for fixtures with protection class | II | | per IEC60598 |
| Energy metering (DALI part 252) | No | | |
| Diagnostics via Signify tool | No | | |

Inrush current

| Specification item | Value | Unit | Condition |
|--------------------------|-------|------|---|
| Inrush current | 11.5 | A | Input voltage 230V |
| Inrush peak width | 100 | μs | Input voltage 230 V, measured at 50% height |
| Drivers / MCB 16A type B | ≤ 71 | pcs | Indicative value at 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 | Acc. IEC61347-1. LED module contribution not included |

Surge immunity

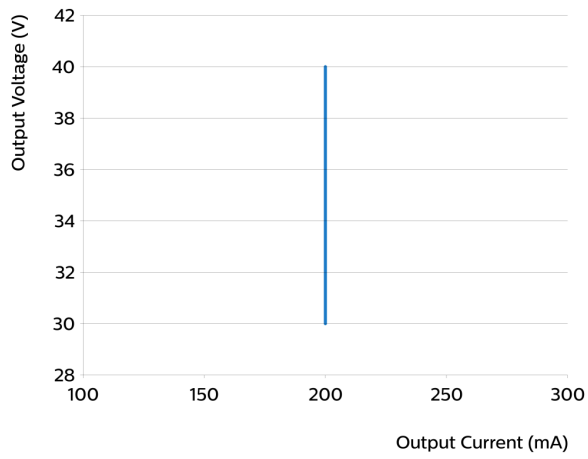
| Specification item | Value | Unit | Condition |
|-----------------------------------|-------|------|---|
| Mains surge immunity (diff. mode) | 1 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Mains surge immunity (comm. mode) | 2 | kV | Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us |

Application Info (Approbation)

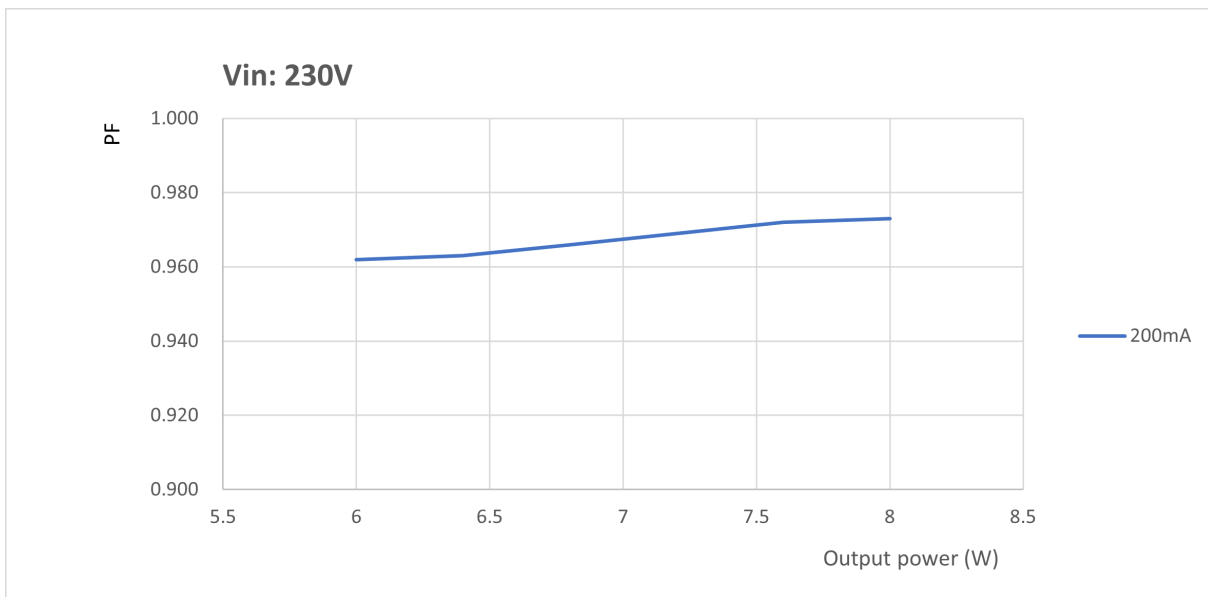
| Specification item | Value |
|--|--|
| Approval marks and Certifications | CCC / CE / ENEC / RCM / SELV / TISI / UKCA |
| Ingress Protection classification (IP) | 20 |
| Application | Indoor Point |
| Mounting Type | Built-in / Independent |

Graphs

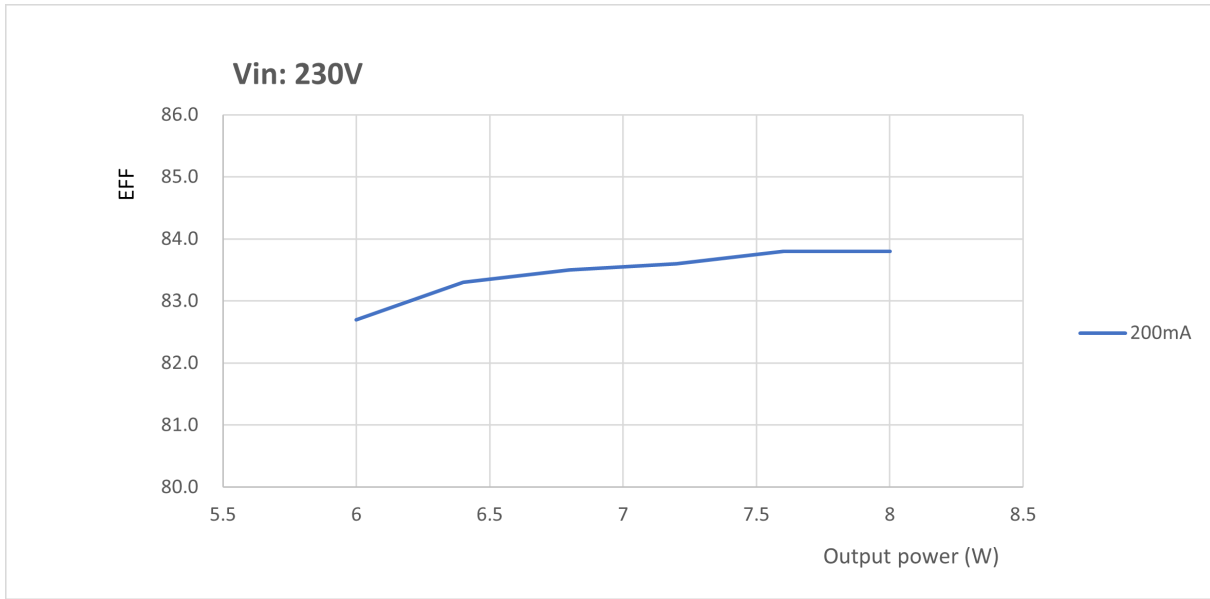
Operating window



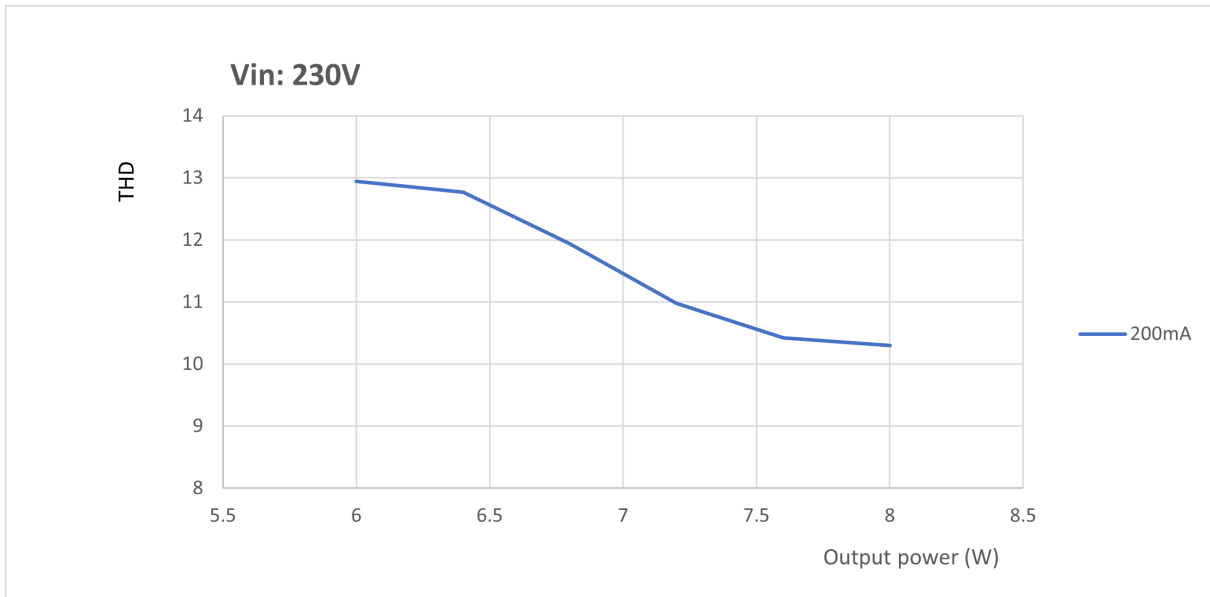
Power factor versus output power



Efficiency versus output power



THD versus output power



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