

OT 50/120...277/700 P5

OPTOTRONIC Outdoor | Constant current LED drivers



Areas of application

- Street and urban lighting
- Industry
- Suitable for luminaires of protection class I

Product family benefits

- High surge protection: up to 6 kV (L-N) / 6 kV (L/N-PE)
- High efficiency
- Great flexibility due to wide operating temperature range of -40...50 °C or 55 °C
- IP rating: IP65

Product family features

- Available with different wattage: 50 W, 100 W, 180 W, 250 W
- Input voltage: 120...277 V
- Output current: 700 mA
- Overtemperature protection

Technical data

Electrical data

| | |
|---|---------------------------|
| Nominal voltage | 120...277 V |
| Input voltage AC | 108...305 V ¹⁾ |
| Nominal current | 0.25 A ²⁾ |
| Mains frequency | 50...60 Hz |
| Power factor λ | 0.95/0.90 ³⁾ |
| Total harmonic distortion | 10 % ⁴⁾ |
| Device power loss | 7.5 W ⁵⁾ |
| Inrush current | 50 A ⁶⁾ |
| Max. ECG no. on circuit breaker 10 A (B) | 8 ⁷⁾ |
| Max. ECG no. on circuit breaker 16 A (B) | 13 ⁷⁾ |
| Max. ECG no. on circuit breaker 25 A (B) | 20 ⁷⁾ |
| Surge capability (L/N-Ground) | 6 kV |
| Surge capability (L-N) | 6 kV ⁸⁾ |
| Nominal output power | 50 W ⁹⁾ |
| ECG efficiency | 87 % ¹⁰⁾ |
| Nominal output voltage | 24...74 V |
| U-OUT (working voltage) | 80 V |
| Nominal output current | 700 mA ¹¹⁾ |
| Output current tolerance | ±5 % |
| Galvanic isolation | SELV |

1) Permitted voltage range

2) At 230 V/0.50 A for 120 V_{AC}

3) Full load at 230 V/Half load at 230 V

4) Max. output power at 230 V_{AC}

5) Maximum / At 230 V_{AC}

6) $t_{width} = 200 \mu s$ (measured at 50 % I_{peak})

7) Type B

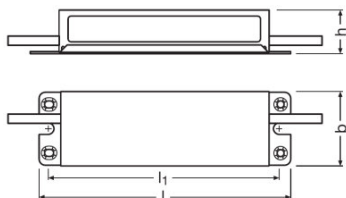
8) @ 2 Ohm, acc. to EN61547

9) Partial Load 17...50 W

10) At full load and 230 V

11) ±5%

Dimensions & weight



| | |
|--|----------------------|
| Length | 168.0 mm |
| Width | 50.0 mm |
| Height | 30.0 mm |
| Mounting hole spacing, length | 152.0 mm |
| Product weight | 500.00 g |
| Cable cross-section, input side | 0.5 mm ² |
| Cable cross-section, output side | 0.5 mm ² |
| Wire preparation length, input side | 10 mm |
| Cable/wire length, output side | 280 mm ¹⁾ |
| Cable/wire length, input side | 280 mm ¹⁾ |

¹⁾ ± 30 mm

Temperatures & operating conditions

| | |
|---|---------------------|
| Ambient temperature range | -40...+55 °C |
| Maximum temperature at tc test point | 80 °C ¹⁾ |
| Max.housing temperature in case of fault | 120 °C |

¹⁾ Maximum at the Tc-point

Lifespan

| | |
|---------------------|-----------------------|
| ECG lifetime | 80000 h ¹⁾ |
|---------------------|-----------------------|

¹⁾ At T_{case} = 70°C at T_c point / 10% failure rate

Expected Lifetime

| | | | | |
|---------------------------|------------------------------|---------------------|---------------------|---------------------|
| Product name | | | | |
| OT 50/120...277/700 P5 | ECG ambient temperature [ta] | 55 | 50 | 45 |
| | Temperature at tc-point [°C] | 80 | 75 | 70 |
| | Lifetime [h] | 50000 ¹⁾ | 65000 ¹⁾ | 80000 ¹⁾ |

Product datasheet

1) Max. 10% failure rate at tc max and input voltage 230 V_{AC}

Capabilities

| | |
|--|----|
| Dimmable | No |
| Suitable for fixtures with prot. class | I |
| NTC input | No |
| Number of channels | 1 |

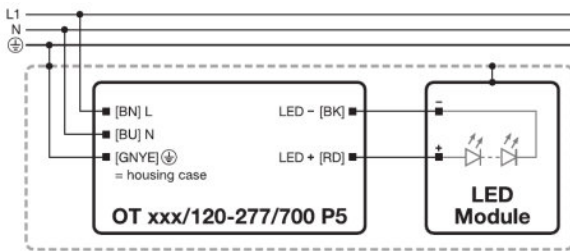
Certificates & standards

| | |
|---------------------------|--|
| Type of protection | IP65 |
| Standards | Acc. to IEC 61347-1/Acc. to IEC 61347-2-13/Acc. to IEC 62384/Acc. to CISPR 15/Acc. to IEC 61547/Acc. to FCC 47 part 15 class B/Acc. to IEC 61000-3-2/Acc. to IEC 61000-3-3 |
| Approval marks – approval | CE / CQC |

Logistical data

| | |
|------------------------------|--------------|
| Temperature range at storage | -25...80 °C |
| Commodity code | 850440829000 |

Wiring Diagram





Wiring diagram

Additional product information

- The driver withstands an input voltage of up to 350 Vac for a maximum of two hours. Shut down of output load might occur in case the supply voltage exceeds the declared input voltage range.
- The driver may increase the output current up to a maximum of 1.5 A in case the input voltage of the load is lower than the allowed minimum output voltage until the short circuit is removed or the correct load is connected. Make sure the system is safely operated, if this event might occur.
- In case the input voltage of the load exceeds the output voltage range of the driver, it automatically reduces the output current to keep the output voltage controlled to the maximum allowed output voltage.
- The driver automatically reduces the output current in case the maximum allowed output power is exceeded.
- Hot-plug of the load or external switching on the secondary side is not allowed.
- The protective earth (GNYE/PE wire, housing) has to be connected to the heat sink of the LED module to improve the capability of the system to withstand a surge and EMI in critical luminaires.
- Time to reach the set output current upon start-up is less than 2 s.
- The driver is intended for built-in use. The luminaire manufacturer is responsible to prevent direct exposure for example to sunlight, water, snow, ice.

Download Data

| File |
|--|
|  Certificates 607415_CB Certificate OT 50120-277700 P5 |
|  Declarations of conformity EU Declaration of Conformity 3218662 |

Product datasheet



CAD data 3-dim
730736_CAD data OT 50

Logistical Data

| Product code | Product description | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Volume | Gross weight |
|---------------|------------------------|------------------------------|--------------------------------------|-----------------------|--------------|
| 4052899259003 | OT 50/120...277/700 P5 | Shipping carton box 20 | 456 mm x 263 mm x 217 mm | 26.02 dm ³ | 11061.00 g |

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.