OT 50/120...277/800 2DIMLT2 P

OPTOTRONIC Outdoor | Constant current LED drivers with 2DIM/0...10 V

Areas of application

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

Product benefits

- 2DIM functionality in one device (AstroDIM, 0...10 V)
- High surge protection: up to 6 kV (in protection class I or II)
- Fast programming without mains voltage
- High efficiency and reliability
- Great flexibility due to wide operating temperature range of -40...55 °C
- Protection through double isolation between mains input and LED output
- High IP protection (IP64)

Product features

- Available with different wattage: 50 W, 100 W, 110 W
- Input voltage: 120...277 V
- Available with output current range: up to 1,400 mA
- Flexible current setting with one additional wire (LEDset2)
- AstroDIM for autonomous dimming with five independent levels (astro mode)
- Isolated 0...10 V interface for unidirectional telemanagement systems
- Constant lumen function
- Overtemperature protection with external NTC or LEDset2 interface

Technical data

Electrical data

Nominal voltage	120…277 V
Input voltage AC	108…305 V [1]
Nominal current	0.27 A [2]
Mains frequency	50…60 Hz
Power factor λ	0.95/0.90 [3]
Total harmonic distortion	15 %
Device power loss	10 W [4]
Inrush current	30 A [5]
Max. ECG no. on circuit breaker 10 A (B)	10 [6]
Max. ECG no. on circuit breaker 16 A (B)	17 [6]
Max. ECG no. on circuit breaker 25 A (B)	28 [6]
Max. no. of ECGs on 16A MCB with EBN-OS	-
Surge capability (L/N-Ground)	6 kV [7]
Surge capability (L-N)	6 kV [8]
Nominal output power	50 W [9]
ECG efficiency	86 % [10]
Nominal output voltage	30…115 V
U-OUT (working voltage)	120 V
Nominal output current	350…800 mA
Output current tolerance	±5 %
Output ripple current (100 Hz)	30 %
Minimum output current	105 mA
Galvanic isolation	SELV

[1] Permitted voltage range

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

[3] Minimum/Full load at 230 V/Half load at 230 V

[4] Maximum

[5] t_{width} = 250 µs (measured at 50 % I_{peak})

[6] Type B

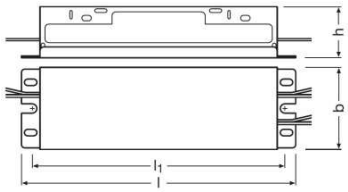
[7] EQUI @ 12 Ohm acc. to EN 61547

[8] @ 2 Ohm, acc. to EN61547

[9] Partial load 11…50 W / Not dimmed

[10] At full load, default current and 230 V

Dimensions & weight



Length	168.0 mm
Width	50.0 mm
Height	30.0 mm
Mounting hole spacing, length	152.0 mm
Mounting hole spacing, width	-
Product weight	490.00 g
Cable/wire length, output side	280 mm [1]
Cable/wire length, input side	300 mm [1]
Cable/wire length, control input	280 mm [1]

[1] ± 20 mm

Temperatures & operating conditions

Ambient temperature range	-40…+55 °C [1]
Maximum temperature at tc test point	85 °C [2]
Max.housing temperature in case of fault	120 °C
Permitted rel. humidity during operation	5…85 %

[1] T_a (max) = 50 °C for input voltage 120/277 V_{AC}

[2] Maximum at the Tc-point

Lifespan

ECG lifetime	80000 h [1]

[1] At T_{case} = 75°C at T_c point / 10% failure rate

Expected Lifetime

Product name				
OT 50/120...277/800 2DIMLT2 P	ECG ambient temperature [ta]	55	45	40
	Temperature at tc-point [°C]	85	75	70
	Lifetime [h]	50000 [1]	80000 [1]	100000 [1]

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

Additional product data

Product remark	No on/off switching of lamps possible via 0...10 V interface

Capabilities

Dimmable	Yes
Dimming interface	2DIM / 1...10 V / AstroDIM
Dimming range	30...100 %
Suitable for fixtures with prot. class	I / II
Constant lumen function	Programmable
NTC input	Yes [1]
Overheating protection	Yes
Overload protection	Automatic reversible
Short-circuit protection	Yes
No-load proof	Yes
Max. cable length to lamp/LED module	10 m
Cable/wire types, output side	AWG 18, solid [2]
Cable/wire types, input side	AWG 18, solid [2]
Cable/wire types, control input	AWG 18, solid [2]
Number of channels	1

[1] 0...-20 % of set resistor value

[2] Acc. to 1452 style

Certificates & standards

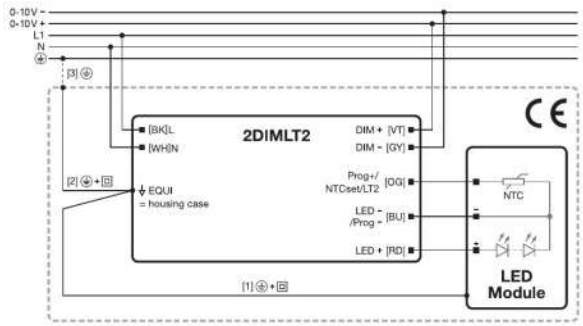
Type of protection	IP64
Standards	Acc. to EN 61347-1/Acc. to EN 61347-2-13/Acc. to EN 62384/Acc. to EN 55015:2006 + A1:2007 + A2:2009/Acc. to EN 61547/Acc. to FCC 47 part 15 class A/Acc. to IEC 61000-3-2/Acc. to IEC 61000-3-3/UL-8750

Approval marks – approval	CE / ENEC 15 / UR / CQC

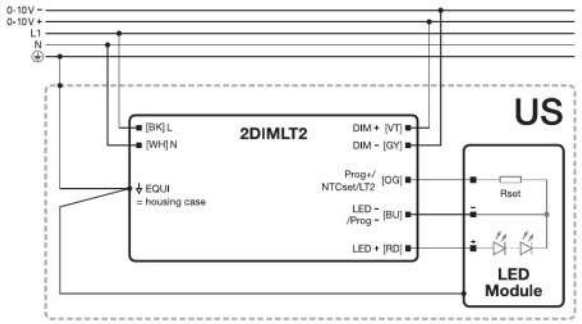
Logistical data

Temperature range at storage	-25…80 °C

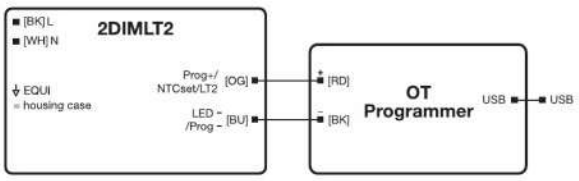
Wiring Diagram



Wiring diagram



Wiring diagram



Wiring diagram

Equipment / Accessories

- OT Programmer hardware for configuration of 2DIM ECGs necessary
- Programmable via Tuner4TRONIC software

Additional product information

- 800 mA type: Default output current is 700 mA without any resistor connected to the LEDset port.
- 1250 mA type: Default output current is 1000 mA without any resistor connected to the LEDset port.
- 1400 mA type: Default output current is 1000 mA without any resistor connected to the LEDset port.
- The LEDset2 interface is disabled by default and needs to be activated by the programming software. In this case the LEDset2 interface is activated the external thermal protection feature is disabled.
- The driver withstands an input voltage of up to 350 Vac for a maximum of two hours.
- The driver may shut down the load if the input voltage of the load is below the allowed minimum output voltage until the short circuit is removed or the correct load is connected and a power off/on cycle is performed.
- 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, as long as the input voltage of the load is within the declared output voltage range of the driver. In all other cases the driver may shut down the load.
- The driver may shut down in case no load is connected to the driver output until the correct load is connected and a power off/on cycle is performed. Hot-plug of the load or external switching on the secondary side is not allowed.
- The EQUI (housing) shall be connected to the heat sink of the LED module to improve the surge withstand capability of the system and EMI in critical luminaires.
- By default the LEDset / NTCset / Prog+ port is set as NTCset port in resistor based mode with following values: start derating: 6.3 kOhm, end derating 5.0 kOhm, derating level 50 %.
- The default dimming mode is 0...10 V, AstroDIM-PD is disabled.- 0...10 V: 30 % minimum dimming level
- The constant lumen feature is disabled by default.
- If any output level is below the physical min level, the physical min level will be used.
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Dimming down to 14 % of the maximum rated output current could be enabled through the programming software, but the compliance with EN 61000-3-2 must be checked below 30 %.
- The driver is intended for built-in use. The luminaire manufacturer is responsible to prevent direct exposure for example to sunlight, water, snow, ice.
- Time to reach the set output current upon start-up is less than 4 s.
- Programming of the driver via Prog+ and Prog- is only allowed without powering it via L/N.
- For further details please consult the 2DIMLT2 application guide.

Download Data

	File
	Brochures 612095_Overvoltage protection for LED street lighting (EN)
	Brochures 616680_Technical application guide 2DIMLT2 P LED drivers (GB)
	Certificates 617035_CCC Certificate OT 50120-277xxx 2DIMLT2 P
	Certificates 600316_CB certificate OT 50 2DIMLT2 E
	Certificates 600317_ENEC certificate OT 2DIMLT2 P
	Declarations of conformity 725761_Certificate of analysis OT50
	Declarations of conformity 545682_EC-Conformity OT 50120-277xxx 2DIMLT2 P
	Declarations of conformity 612485_UL Conformity OT 50120_277xxx 2DIMLT2 P
	Declarations of conformity 646953_CB ENEC Information
	Operating instructions 615705_Instruction sheet OT 50 800 2DIMLT2 P

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899173781	OT 50/120...277/800 2DIMLT2 P	Shipping carton box 20	368 mm x 338 mm x 85 mm	10.57 dm^3	10492.00 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.