

## OT 110/120...277/1A4 2DIMLT2 P

OT 2DIM IP64 Outdoor | 0...10V, AstroDIM – constant current LED drivers



### Areas of application

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

### Product family 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
- Great flexibility due to wide operating temperature range of -40...55 °C
- Protection through double isolation between mains input and LED output
- IP rating: IP64

### Product family 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 Output (CLO)
- Overtemperature protection with external NTC or LEDset2 interface

## Technical data

### Electrical data

<b>Nominal voltage</b>	120...277 V
<b>Input voltage AC</b>	108...305 V <sup>1)</sup>
<b>Nominal current</b>	0.54 A <sup>2)</sup>
<b>Mains frequency</b>	50...60 Hz
<b>Power factor <math>\lambda</math></b>	0.95/0.90 <sup>3)</sup>
<b>Total harmonic distortion</b>	15 % <sup>4)</sup>
<b>Device power loss</b>	15.0 W <sup>5)</sup>
<b>Inrush current</b>	55 A <sup>6)</sup>
<b>Max. ECG no. on circuit breaker 10 A (B)</b>	6 <sup>7)</sup>
<b>Max. ECG no. on circuit breaker 16 A (B)</b>	10 <sup>7)</sup>
<b>Max. ECG no. on circuit breaker 25 A (B)</b>	16 <sup>7)</sup>
<b>Surge capability (L/N-Ground)</b>	6 kV <sup>8)</sup>
<b>Surge capability (L-N)</b>	6 kV <sup>9)</sup>
<b>Nominal output power</b>	110 W <sup>10)</sup>
<b>ECG efficiency</b>	90 % <sup>11)</sup>
<b>Nominal output voltage</b>	35...85 V
<b>U-OUT (working voltage)</b>	120 V
<b>Nominal output current</b>	600...1400 mA
<b>Output current tolerance</b>	±5 %
<b>Output ripple current (100 Hz)</b>	25 %
<b>Minimum output current</b>	180 mA
<b>Galvanic isolation</b>	SELV

<sup>1)</sup> Permitted voltage range

<sup>2)</sup> At 230 V/1.06 A for 120 V<sub>AC</sub>

<sup>3)</sup> Minimum/Full load at 230 V/Half load at 230 V

<sup>4)</sup> Max. output power at 230 V<sub>AC</sub>

<sup>5)</sup> Maximum

<sup>6)</sup>  $t_{width} = 230 \mu s$  (measured at 50 %  $I_{peak}$ )

<sup>7)</sup> Type B

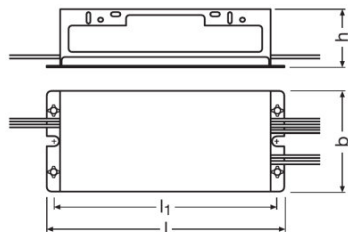
<sup>8)</sup> EQUI @ 12 Ohm acc. to EN 61547

<sup>9)</sup> @ 2 Ohm, acc. to EN61547

<sup>10)</sup> Partial Load 45...110 W / Not dimmed

<sup>11)</sup> At full load, default current and 230 V

## Dimensions & weight



<b>Length</b>	168.0 mm
<b>Width</b>	68.0 mm
<b>Height</b>	38.0 mm
<b>Mounting hole spacing, length</b>	152.0 mm
<b>Mounting hole spacing, width</b>	-
<b>Product weight</b>	740.00 g
<b>Wire preparation length, input side</b>	10 mm
<b>Cable/wire length, output side</b>	280 mm <sup>1)</sup>
<b>Cable/wire length, input side</b>	300 mm <sup>1)</sup>
<b>Cable/wire length, control input</b>	280 mm <sup>1)</sup>

<sup>1)</sup> ± 20 mm

## Temperatures & operating conditions

<b>Ambient temperature range</b>	-40...+55 °C <sup>1)</sup>
<b>Maximum temperature at tc test point</b>	85 °C <sup>2)</sup>
<b>Max.housing temperature in case of fault</b>	120 °C
<b>Permitted rel. humidity during operation</b>	5...85 %

<sup>1)</sup>  $T_a(\text{max}) = 40^\circ\text{C}$  for input voltage 120 V<sub>AC</sub> /  $T_a(\text{max}) = 55^\circ\text{C}$  for input voltage 277 V<sub>AC</sub>

<sup>2)</sup> Maximum at the Tc-point

## Lifespan

<b>ECG lifetime</b>	80000 h <sup>1)</sup>
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<sup>1)</sup> At  $T_{\text{case}} = 75^\circ\text{C}$  at  $T_c$  point / 10% failure rate

## Product datasheet

### Expected Lifetime

Product name				
OT 110/120...277/1A4 2DIMLT2 P	ECG ambient temperature [ta]	55	45	40
	Temperature at tc-point [°C]	85	75	70
	Lifetime [h]	50000 <sup>1)</sup>	80000 <sup>1)</sup>	100000 <sup>1)</sup>

<sup>1)</sup> Max. 10% failure rate at tc max and input voltage 230 V<sub>AC</sub>

### Additional product data

Product remark	No on/off switching of lamps possible via 0...10 V interface
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### 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 <sup>1)</sup>
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 <sup>2)</sup>
Cable/wire types, input side	AWG 18, solid <sup>2)</sup>
Cable/wire types, control input	AWG 18, solid <sup>2)</sup>
Number of channels	1

<sup>1)</sup> 0...-20 % of set resistor value

<sup>2)</sup> 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

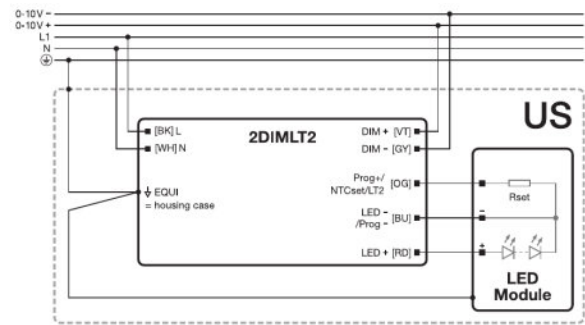
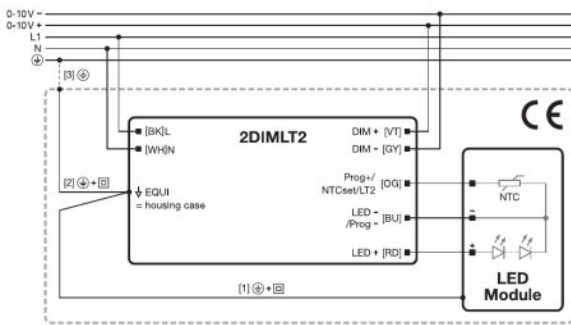
# Product datasheet

Approval marks – approval	CE / ENEC 15 / UR / CQC
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## Logistical data

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

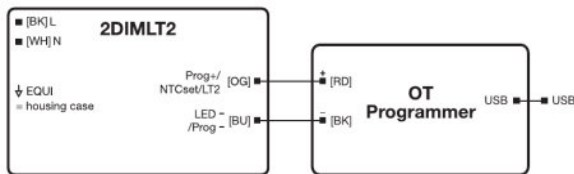
## Wiring Diagram



Wiring diagram

Wiring diagram

## Product datasheet



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### Wiring diagram

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### Equipment / Accessories

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

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### 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.










## Product datasheet

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.

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### Download Data

File	
	Brochures 612095_Overvoltage protection for LED street lighting (EN)
	Brochures 616680_Technical application guide 2DIMLT2 P LED drivers (GB)
	Certificates 617034_CCC Certificate OT 110120-2771A4 2DIMLT2 P
	Certificates 664161_CB Zertifikat OT 110 1A4 2DIMLT2 P
	Declarations of conformity 725871_Certificate of analysis OT100
	Declarations of conformity 545682_EC-Conformity OT 50120-277xxx 2DIMLT2 P
	Declarations of conformity 646953_CB ENEC Information
	Declarations of conformity 647099_ENEC Certificate OT 110 2DIMLT2 P
	On-Pack-Info 615708_Instruction sheet OT 110 1A4 2DIMLT2 P

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### Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899253438	OT 110/120...277/1A4 2DIMLT2 P	Shipping carton box 20	358 mm x 188 mm x 220 mm	14.81 dm <sup>3</sup>	15346.00 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.

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### Disclaimer

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