

PRODUCT DATASHEET

OT 20/170...240/1A0 4DIMLT2 G2 CE

OT 4DIM IP20 Outdoor | DALI, AstroDIM, StepDIM, MainsDIM – constant current LED drivers



AREAS OF APPLICATION

- Street and urban lighting
- Industry
- Suitable for outdoor applications in luminaires with IP > 54
- Suitable for use in outdoor luminaires of protection class I and II

PRODUCT FAMILY BENEFITS

- 4DIM functionality in one device (StepDIM, AstroDIM, MainsDIM, DALI)
- Very high efficiency
- High surge protection: up to 10 kV (1 pulse) / 8 kV, in protection class I or II
- Low luminous efficacy tolerance through low output current tolerance of $\pm 3\%$
- Great flexibility due to wide operating temperature range of $-40...55\text{ }^{\circ}\text{C}$ or $60\text{ }^{\circ}\text{C}$
- Protection through double isolation between mains input and LED output

PRODUCT FAMILY FEATURES

- Available with different wattage: 40 W, 60 W, 90 W, 165 W
- Input voltage: 120...277 V (40 W), 220...240 V (60 W, 90 W, 165 W)
- Current output range: 70...1,050 mA
- Flexible current setting with one additional wire (LEDset2)
- AstroDIM for autonomous dimming with five independent levels (astro, time mode)
- Allows for energy saving in twilight phases
- MainsDIM function for dimming via reduction of line voltage amplitude
- Isolated DALI interface for bidirectional telemanagement systems
- Standby power consumption: < 0.5 W
- Constant Lumen Output (CLO)
- Overtemperature protection via external NTC

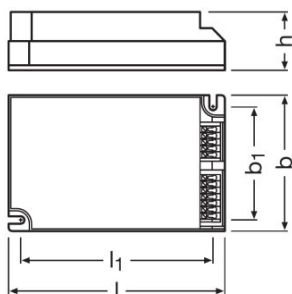
TECHNICAL DATA

Electrical data

Nominal voltage	170...240 V
Input voltage AC	170...264 V
Nominal current	0.12 A
Mains frequency	50...60 Hz
Nominal input voltage (SD port)	220...277 V
Power factor λ	0.95/0.90
Total harmonic distortion	< 10 %
Device power loss	3.5 W
Inrush current	25 A ¹⁾
Max. ECG no. on circuit breaker 10 A (B)	23
Max. ECG no. on circuit breaker 16 A (B)	36
Max. ECG no. on circuit breaker 25 A (B)	57
Max. no. of ECGs on 16A MCB with EBN-OS	100
Surge capability (L/N-Ground)	10 kV
Surge capability (L-N)	6 kV
Surge capability (L/N – SD)	6 kV
Surge capability (SD – Ground)	10 kV
Nominal output power	22 W
ECG efficiency	87 %
Nominal output voltage	10...38 V
U-OUT (working voltage)	60 V
Nominal output current	200...1050 mA
Output current tolerance	±3 %
Output ripple current (100 Hz)	5 %
Minimum output current	70 mA
Galvanic isolation	SELV

¹⁾ At 150 μ s

Dimensions & weight



Length	123.0 mm
Width	79.0 mm
Height	33.0 mm
Mounting hole spacing, length	111.0 mm
Mounting hole spacing, width	67.0 mm
Product weight	210.00 g
Cable cross-section, input side	0.2...1.5 mm ²
Cable cross-section, output side	0.2...1.5 mm ²
Wire preparation length, input side	8.5...9.5 mm

Temperatures & operating conditions

Ambient temperature range	-40...+60 °C
Maximum temperature at tc test point	75 °C
Max.housing temperature in case of fault	120 °C
Permitted rel. humidity during operation	5...85 % ¹⁾

¹⁾ Maximum 56 days/year at 85 %

Lifespan

ECG lifetime	50000 / 100000 h ¹⁾
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¹⁾ At maximum T_c = 75°C / 10% failure rate / At T_c = 63°C / 10% failure rate

Capabilities

Dimmable	Yes
Dimming interface	4DIM / AstroDIM / DALI / MainsDIM / StepDIM
Dimming range	10...100 %
Suitable for fixtures with prot. class	I / II
Constant lumen function	Programmable
NTC input	Yes
Overheating protection	Automatic reversible

Overload protection	Automatic reversible
Short-circuit protection	Automatic reversible
No-load proof	Yes
Max. cable length to lamp/LED module	2.0 m

Certificates & standards

Type of protection	IP20
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 B/Acc. to IEC 61000-3-2/Acc. to IEC 61000-3-3/Acc. to IEC 62386-101/Acc. to IEC 62386-102/Acc. to IEC 62386-207/UL-8750
Approval marks – approval	CE / ENEC / VDE / VDE-EMC / CCC / EL

Logistical data

Temperature range at storage	-25...85 °C
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EQUIPMENT / ACCESSORIES
















- DALI magic hardware for configuring 4DIM ECGs necessary
- Programmable via Tuner4TRONIC software

ADDITIONAL PRODUCT INFORMATION

- Default output current is 700 mA without any resistor connected to the LEDset port. As soon as the driver detects one time a resistor value within the resistor range of 2.37 kOhm (1050 mA) and 24.9 kOhm (200 mA) for more than 3 s, the driver activates the LEDset2 mode.
- 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.
- Shut down of output load happens if the input voltage of the load is below the allowed minimum output voltage of the driver. The driver automatically tries to switch on the load cyclically.
- 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.
- The driver automatically adjusts the output voltage to the maximum output voltage if no load is connected and switches off the load after some seconds. Hot-plug of the load or external switching on the secondary side is not allowed.
- The driver is protected against temporary overheating by automatic reduction of the output current down to 30 % and then switches off.
- The EQUI pin 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.
- Several external NTCs are supported for temperature protection of the LED module or luminaire. The type of NTC can be selected in the programming software in the temperature based mode. By default the resistor based mode is activated with following values: start derating: 6.3 kOhm, end derating 5.0 kOhm, shut off: 4.3 kOhm, derating level 50 %.
- The default dimming mode is StepDIM / AstroDIM / DALI (wiring selection) with following values for:- StepDIM: 100 % on, 50 % dimming level if SD port is active, fade time 180 s- AstroDIM: 100 % on, 50 % dimming level, 6 h dimming duration, start of dimming duration 2 h before the middle of the average switched-on time, fade time 180 s
- The constant lumen feature is disabled by default.
- For MainsDIM dimming mode and for 170 Vac input voltage condition the output power should not exceed 85 % of the maximum declared output power.

- For input voltage of 170...190 Vac, the maximum allowed output power is linear limited starting from 100 % at 190 Vac down to 85 % at 170 Vac, except for the 40 W type.
- If any output level is below the physical min level, the physical min level will be used.
- In case the 3DIM and 4DIMLT2 devices are operated on one common control phase connected to SD input the 3DIM devices needs to have a relay as described in the 3DIM application guide.
- The SD port is suitable for three phase systems with 220...240 Vac, for other input voltages only single phase systems are supported.
- For further details please consult the 4DIMLT2 application guide.

DOWNLOAD DATA

File	
	Certificates VDE ENEC Certificate 40043863
	Certificates VDE EMC Certificate 40038482
	Certificates VDE ENEC Certificate 40043863 appendix
	Certificates CB Certificate DE1-59452
	Certificates VDE EMC Certificate 40044675 (EN)
	Certificates CCC Certificate 2018171002002021
	Certificates RCM Certificate CS10824N
	Certificates OT outdoor ENEC 40050684 100220
	Certificates OT Outdoor CB DE1 62952 100220
	Certificates OT EMC 40050085 200220
	Declarations of conformity EU Declaration of Conformity 3584649
	Declarations of conformity EATON(CEAG)-Conformity declaration AM04626_OT20_170-240_1A0_4DIMLT2_G2_CE
	Declarations of conformity INOTEC- Conformity declaration AM04626_OT20_170-240_1A0_4DIMLT2_G2_CE
	Declarations of conformity EU Declaration of Conformity 3806542
	CAD data CAD data STEP OT 20170-2401A0 4DIMLT2 G2 CE

LOGISTICAL DATA

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
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4052899981928	Unpacked 1	- x - x -		
4052899982017	Shipping carton box 20	400 mm x 277 mm x 111 mm	4651.00 g	12.30 dm ³

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

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