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### OT DX 110/220-240/1A0 DIMA LT2 E

OPTOTRONIC - DEXAL NFC IP20 | D4i, DEXAL, AstroDIM, StepDIM - constant current LED drivers



#### Product family features

- DEXAL interface based on DALI-2 communication
- Available with different wattage: 40 W, 75 W, 110 W, 165 W
- Current output range: 70...1,050 mA
- AstroDIM for autonomous dimming with five independent levels (astro, time mode)
- Standby power consumption: < 0.5 W
- Integrated customizable thermal management (Driver Guard)
- Constant Lumen Output (CLO)

#### Product family benefits

- For Zhaga Book18 Luminaires and D4i certified incl. Parts 25x + AUX
- Electrical interface and data communication fully based on open standards
- Fully programmable via software (DALI Interface, NFC)
- Low luminous efficacy tolerance through low output current tolerance of  $\pm 3\%$
- High surge protection: up to 10 kV (1 pulse) in protection class I or II
- Lifetime: up to 100,000 h (depending on  $T_c$  temperature, max. 10 % failure rate)
- Mains input undervoltage protection
- Very high efficiency
- Fulfill safety requirement due to overload, overtemperature, Hot Plug protection



Specifications are subject to changes without notice.

[www.inventronicsglobal.com](http://www.inventronicsglobal.com)

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### 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

## Technical data

## Electrical data

|                                          |                            |
|------------------------------------------|----------------------------|
| Nominal input voltage                    | 220...240 V                |
| Mains frequency                          | 0/50/60 Hz <sup>1)</sup>   |
| Input voltage AC                         | 198...264 V <sup>2)</sup>  |
| Input voltage DC                         | 176...276 V <sup>1)</sup>  |
| Total harmonic distortion                | < 10 % <sup>3)</sup>       |
| Power factor $\lambda$                   | 0.73C...0.99 <sup>4)</sup> |
| Efficiency in full-load                  | 93 % <sup>5)</sup>         |
| Device power loss                        | 8.0 W <sup>6)</sup>        |
| Inrush current                           | 65 A <sup>7)</sup>         |
| Max. ECG no. on circuit breaker 10 A (B) | 7 <sup>8)</sup>            |
| Max. ECG no. on circuit breaker 16 A (B) | 12 <sup>8)</sup>           |
| Surge capability (L-N)                   | 6 kV <sup>9)</sup>         |
| Surge capability (L/N-Ground)            | 10 kV <sup>10)</sup>       |
| Nominal output voltage                   | 75...220 V                 |
| U-OUT (working voltage)                  | 250 V                      |
| Nominal output current                   | 200...1050 mA              |
| Minimum output current                   | 70 mA                      |
| Default output current                   | 700 mA                     |
| Output current tolerance                 | $\pm 3$ % <sup>11)</sup>   |
| Output ripple current (100 Hz)           | 10 %                       |
| Output current LEDset open               | 70 mA                      |
| Output current LEDset shorted            | Not allowed                |
| Nominal output power                     | 110 W <sup>12)</sup>       |
| Maximum output power                     | 110 W                      |
| Auxiliary Power Supply                   | 24 V <sup>13)</sup>        |

1) Additional fuse needed in DC operation

2) Permitted voltage range

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

4) Full Load/Half Load at 230V 50Hz

5) at 230 V, 50 Hz

6) Maximum

7) At 160  $\mu$ s

8) Type B

9) @ 2 Ohm, acc. to EN61547

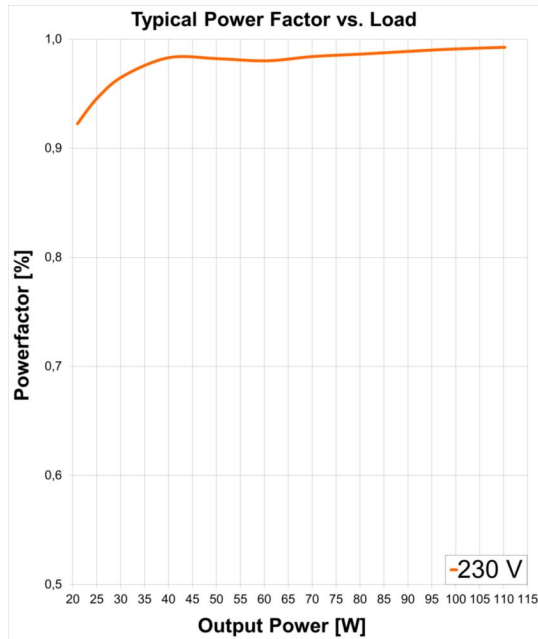
10) Single pulse 10kV / 12 Ohm (1.2/50  $\mu$ s)

11) +/- 5% for LEDset down to 300mA

12) Max. 75% in DC operating mode

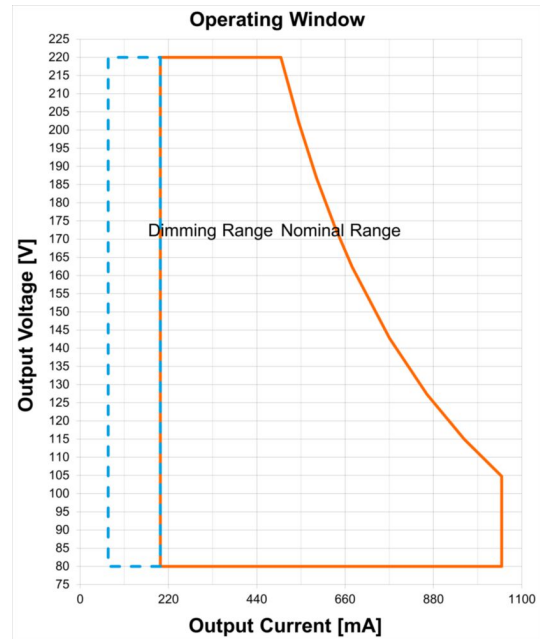
13) 3W average, 6W peak power

### Typical Power Factor v Load



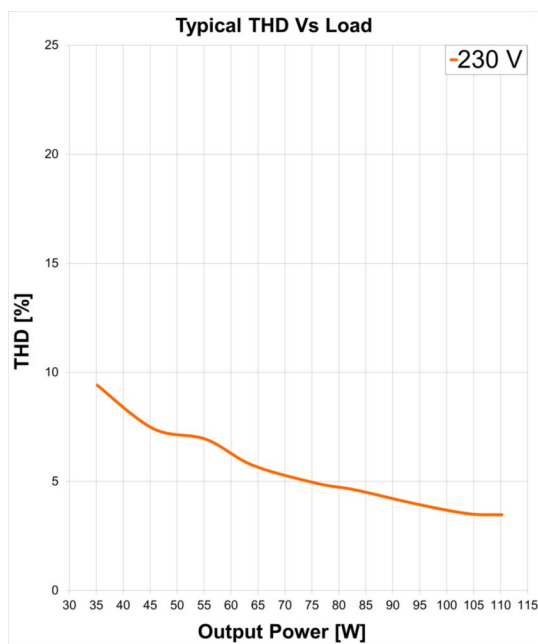
Typical Power Factor vs. Load OT DX 110 1A0 DIMA LT2 E

### Operating Window



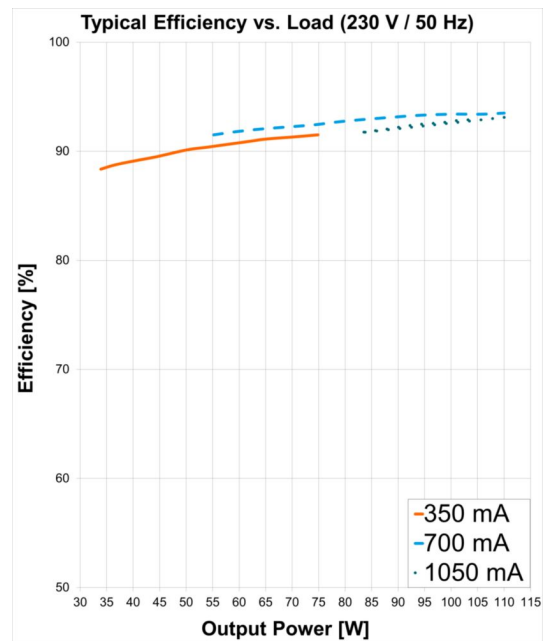
OT 110/170-240/1A0 1DIMLT2 G1 CE Operating Window

### Typical THD v Load



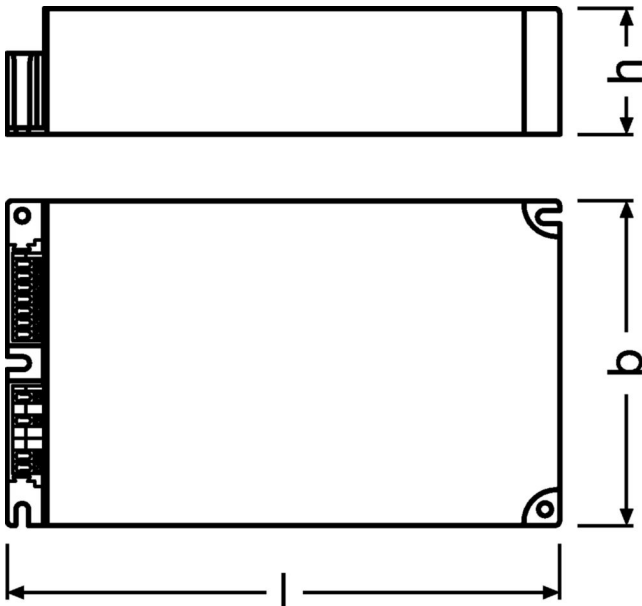
Typical THD Vs Load OT DX 110 1A0 DIMA LT2 E

### Typical Efficiency v Load 230 V 50 Hz



Typical Efficiency vs. Load (230 V / 50 Hz) OT DX 110/1A0 DIMA LT2 E

## Dimensions &amp; weight



|                                     |                              |
|-------------------------------------|------------------------------|
| Product weight                      | 998.00 g                     |
| Length                              | 170.0 mm                     |
| Width                               | 100.0 mm                     |
| Height                              | 40.0 mm                      |
| Mounting hole spacing, length       | 160.0 mm                     |
| Mounting hole spacing, width        | 90.0 mm                      |
| Cable cross-section, input side     | 0.2...1.5 mm <sup>2 1)</sup> |
| Cable cross-section, output side    | 0.2...1.5 mm <sup>2 1)</sup> |
| Wire preparation length, input side | 8.5...9.5 mm                 |

1) Solid/ Flexible Leads

## Colors &amp; materials

|                 |         |
|-----------------|---------|
| Casing material | Plastic |
|-----------------|---------|

## Temperatures &amp; operating conditions

|                                          |                        |
|------------------------------------------|------------------------|
| Ambient temperature range                | -40...+60 °C           |
| Maximum temperature at tc test point     | 85 °C                  |
| Max.housing temperature in case of fault | 120 °C                 |
| Temperature range at storage             | -25...85 °C            |
| Permitted rel. humidity during operation | 5...85 % <sup>1)</sup> |

1) Non condensing, absolute humidity: 36g/m<sup>3</sup>

## Expected Lifetime

| Product name                        |                              |       |       |        |
|-------------------------------------|------------------------------|-------|-------|--------|
| OT DX 110/220-240/1A0 DIMA<br>LT2 E | ECG ambient temperature [ta] | 60    | 50    | 48     |
|                                     | Temperature at tc-point [°C] | 85    | 75    | 73     |
|                                     | Lifetime [h]                 | 50000 | 85000 | 100000 |

## Lifespan

|              |                        |
|--------------|------------------------|
| ECG lifetime | 100000 h <sup>1)</sup> |
|--------------|------------------------|

1) At  $T_{case} = 73^{\circ}\text{C}$  at  $T_c$  point / 10% failure rate

## Capabilities

|                                        |                                                   |
|----------------------------------------|---------------------------------------------------|
| Dimmable                               | Yes                                               |
| Dimming interface                      | AstroDIM / DALI/DEXAL/D4i / StepDIM <sup>1)</sup> |
| Dimming range                          | 10...100 %                                        |
| DALI-2 Diagnostic Data                 | Yes <sup>2)</sup>                                 |
| DALI-2 Energy Data                     | Yes <sup>3)</sup>                                 |
| Constant lumen function                | Yes                                               |
| LEDset                                 | Yes                                               |
| Max. cable length to lamp/LED module   | 2.0 m <sup>4)</sup>                               |
| Suitable for fixtures with prot. class | I / II                                            |
| Suitable for emergency lighting        | Yes                                               |
| Number of channels                     | 1                                                 |
| Overheating protection                 | Yes                                               |
| Overload protection                    | Yes                                               |
| Short-circuit protection               | Yes                                               |
| Intended for no-load operation         | No                                                |
| No-load proof                          | Yes                                               |

1) StepDIM functionality with external component 'OT DX SD BOX' only

2) Acc. DALI part 253

3) Acc. DALI part 252

4) Output wires must be routed as close as possible to each other

## Programming

|                        |            |
|------------------------|------------|
| Programming device     | DALI / NFC |
| Tuner4TRONIC           | Yes        |
| Tuner4TRONIC Field App | Yes        |

## Programmable features

|                       |                   |
|-----------------------|-------------------|
| DALI-2 Luminaire Data | Yes <sup>1)</sup> |
| Configuration Lock    | Yes               |
| AstroDIM              | Yes               |
| StepDIM               | Yes <sup>2)</sup> |
| MainsDIM              | No                |
| Driver Guard          | Yes               |
| Thermal Protection    | Yes               |
| Emergency Mode        | Yes               |

1) Acc. DALI part 251

2) StepDIM functionality with external component 'OT DX SD BOX' only

## Certificates &amp; standards

|                           |                                                                                                                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval marks – approval | CE / ENEC / VDE / VDE-EMC / CCC / EL / DALI-2 / D4i / RCM                                                                                                                                                                                                 |
| Standards                 | EN 61347-1 / EN 61347-2-13 / EN 62384 / EN 55015:2006 + A1:2007 + A2:2009 / EN 61547 / FCC 47 part 15 class B / IEC 61000-3-2 / IEC 61000-3-3 / IEC 62386-101 / IEC 62386-102 / IEC 62386-207 / IEC 62386-150 / IEC 62386-250 / IEC 62386-251, -252, -253 |
| Type of protection        | IP20                                                                                                                                                                                                                                                      |

## Logistical data

|                |             |
|----------------|-------------|
| Commodity code | 85044083900 |
|----------------|-------------|

## Environmental information

| Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH) |                               |
|-----------------------------------------------------------------------|-------------------------------|
| Date of Declaration                                                   | 27-08-2025                    |
| Primary Article Identifier                                            | 4052899999688   8010703806283 |
| Declaration No. in SCIP database                                      | In work                       |
| SCIP_STATUS                                                           | In work                       |
| SCIP_ID                                                               |                               |

### Ecodesign regulation information:

Intended for use with LED modules.

The forward voltage of the LED light source shall be within the defined operating window of the control gear in all operating conditions including dimming if applicable.

Separate control gear and light sources must be disposed of at certified disposal companies in accordance with Directive 2012/19/EU (WEEE) in the EU and with Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 in the UK. For this purpose, collection points for recycling centres and take-back systems (CRSO) are available from retailers or private disposal companies, which accept separate control gear and light sources free of charge. In this way, raw materials are conserved and materials are recycled.

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**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 4,7 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 300 V AC for a maximum of two hours. An output load shutdown can occur in case the supply voltage exceeds the input voltage range defined.
- 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.
- 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 is protected against temporary overheating by automatically reduction of the output current.
- 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 %.
- If the dimming mode is changed via NFC while the driver is not powered, one additional power on/off cycle is needed before the dimming mode becomes active.
- 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.
- The driver is intended for luminaire built-in use.
- Mind the polarity of the DALI lines. DA+ to DA+, DA- to DA- only.
- The DEXAL interface is polarity sensitive, even if the DEXAL bus power supply in the driver is turned off. Therefore the polarity of all connected drivers should not be mixed.
- For efficiency and standby power measurement, the D4i bus power supply shall be switched off by using Tuner4TRONIC. Refer to [www.tuner4tronic.com](http://www.tuner4tronic.com).

## Download Data

| File                   |            |                                        |
|------------------------|------------|----------------------------------------|
| Certificates           | PDF        | ▶OT VDE ENEC 40050684 290125           |
| CAD data 3-dim         | Compressed | ▶OT DX 110 DIMA LT2E CAD3PDF 060220    |
| CAD data 2-dim         | Compressed | ▶OT DX 110 DIMA LT2E CAD2PDF 060220    |
| CAD data               | Compressed | ▶OT DX 110 DIMA LT2E IGS 060220        |
| CAD data               | Compressed | ▶OT DX 110 DIMA LT2E STEP 060220       |
| Mandatory Publications | PDF        | ▶OT DX DIMA LT2 E CE 3745354 07 220125 |
| User instruction       | PDF        | ▶OPTOTRONIC Outdoor                    |

| ISOLATION   | Input/Mains | EQUI   | DALI   | LEDset | LED Output | Case   | AUX    | LSI    | NTC    |
|-------------|-------------|--------|--------|--------|------------|--------|--------|--------|--------|
| Input/Mains | -           | Double | SELV   | Double | Double     | Double | SELV   | SELV   | Double |
| EQUI        | Double      | -      | Basic  | Basic  | Basic      | Basic  | Basic  | Basic  | Basic  |
| DALI        | SELV        | Basic  | -      | Basic  | Basic      | Double |        |        | Basic  |
| LEDset      | Double      | Basic  | Basic  | -      |            | Double | Basic  | Basic  |        |
| LED Output  | Double      | Basic  | Basic  |        | -          | Double | Basic  | Basic  |        |
| Case        | Double      | Basic  | Double | Double | Double     | -      | Double | Double | Double |
| AUX         | SELV        | Basic  |        | Basic  | Basic      | Double | -      |        | Basic  |
| LSI         | SELV        | Basic  |        | Basic  | Basic      | Double |        | -      | Basic  |
| NTC         | Double      | Basic  | Basic  |        |            | Double | Basic  | Basic  | -      |

## Logistical Data

| Product code           | Product description                 | Packaging unit (Pieces/Unit)     | Dimensions (length x width x height) | Volume                | Gross weight |
|------------------------|-------------------------------------|----------------------------------|--------------------------------------|-----------------------|--------------|
| 4052899999688<br>OSRAM | OT DX 110/220-240/1A0<br>DIMA LT2 E | Shipping carton box<br>10 Pieces | 303 x 285 x 205 mm                   | 17.70 dm <sup>3</sup> | 1070.40 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

## Data privacy

This Inventronics driver can be configured using the Tuner4TRONIC software. This requires registering on [www.inventronicsglobal.com/ds](http://www.inventronicsglobal.com/ds) and downloading the Tuner4TRONIC software from the Internet. The Tuner4TRONIC software enables users to access and view the operational data of a luminaire or driver via the corresponding programming interfaces. A password key (Config Lock) must be set up in the driver via the Tuner4TRONIC software in order to control which users can access and view operational data. Follow the instructions for password setup. To grant an external person or company rights to access or view operational data, you can assign password keys. In this case, however, you are responsible for ensuring that the third party concerned takes notice of the information described here.

However, Inventronics can read out operating data from devices for maintenance and service purposes even when a password key has been assigned. In individual cases, Inventronics will also use its access rights in order to optimize or improve driver hardware and driver functions. In accordance with data privacy principles, any user of operating data (luminaire manufacturers, third parties with access rights) must ensure that personal data (e.g. name, address, location IDs) are only merged with the prior written consent of the person (end user) concerned. The respective user of the operating data is responsible for providing evidence of consent.

## Accessories Optional

| Product description              | Accessory name                    | Accessory code  |
|----------------------------------|-----------------------------------|-----------------|
| OT DX 110/220-240/1A0 DIMA LT2 E | DALI magic                        | ▶ 6977078996907 |
| OT DX 110/220-240/1A0 DIMA LT2 E | DALI magic                        | ▶ 4008321582768 |
| OT DX 110/220-240/1A0 DIMA LT2 E | DALI magic                        | ▶ 6977078997416 |
| OT DX 110/220-240/1A0 DIMA LT2 E | PRH101 -USB                       | ▶ 6977078996938 |
| OT DX 110/220-240/1A0 DIMA LT2 E | PRH101 -USB                       | ▶ 6937186112354 |
| OT DX 110/220-240/1A0 DIMA LT2 E | CPR30+                            | ▶ 6977078996945 |
| OT DX 110/220-240/1A0 DIMA LT2 E | CPR30+                            | ▶ 6937186112378 |
| OT DX 110/220-240/1A0 DIMA LT2 E | NFC Scanner by TERTIUM Technology | ▶ 4055462203571 |
| OT DX 110/220-240/1A0 DIMA LT2 E | NFC Scanner by TERTIUM Technology | ▶ 4055462290281 |
| OT DX 110/220-240/1A0 DIMA LT2 E | NFC Scanner by TERTIUM Technology | ▶ 6937186114891 |
| OT DX 110/220-240/1A0 DIMA LT2 E | OT DX SD BOX                      | ▶ 4062172048002 |
| OT DX 110/220-240/1A0 DIMA LT2 E | OT DX SD BOX                      | ▶ 6937186109200 |

## Disclaimer

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