OT DX 40/220...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 ± 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

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 voltage	220…240 V
Input voltage AC	198…264 V [1)]
Input voltage DC	176…276 V [2)]
Nominal current	0.22 A
Mains frequency	0/50/60 Hz [2)]
Power factor λ	0.59C…0.99 [3)]
Total harmonic distortion	< 10 % [4)]
Device power loss	4.5 W [5)]
Inrush current	26 A [6)]
Max. ECG no. on circuit breaker 10 A (B)	17 [7)]
Max. ECG no. on circuit breaker 16 A (B)	28 [7)]
Max. ECG no. on circuit breaker 25 A (B)	44 [7)]
Surge capability (L/N-Ground)	10 kV [8)]
Surge capability (L-N)	6 kV [9)]
Nominal output power	40 W [10)]
Maximum output power	40 W
Efficiency in full-load	89 % [11)]
Nominal output current	200…1050 mA
Default output current	700 mA
Output current tolerance	±3 % [12)]
Output ripple current (100 Hz)	10 %
Output PSTLM	≤1
Output SVM	≤0.4
Minimum output current	70 mA
Galvanic isolation	SELV
Nominal output voltage	15…56 V
U-OUT (working voltage)	60 V
Nominal input voltage (SD port)	220…240 V [13)]
Auxiliary Power Supply	24 V [14)]
Output current LEDset open	70 mA
Output current LEDset shorted	Not allowed

1) Permitted voltage range

2) Additional fuse needed in DC operation

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

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

5) Maximum

6) At 180 µs

7) Type B

8) Single pulse 10kV / 12 Ohm (1.2/50 µs)

9) @ 2 Ohm, acc. to EN61547

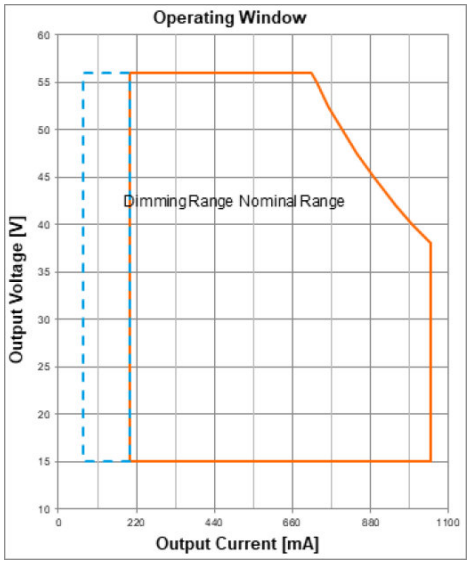
10) Max. 75% in DC operating mode

11) at 230 V, 50 Hz

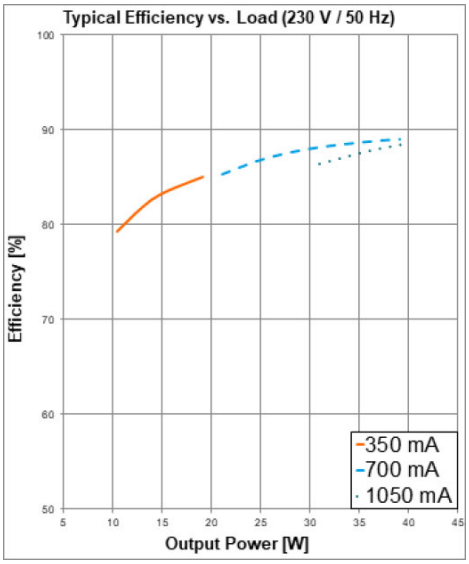
12) +/- 5% for LEDset down to 300mA

13) with external component 'OT DX SD BOX' only

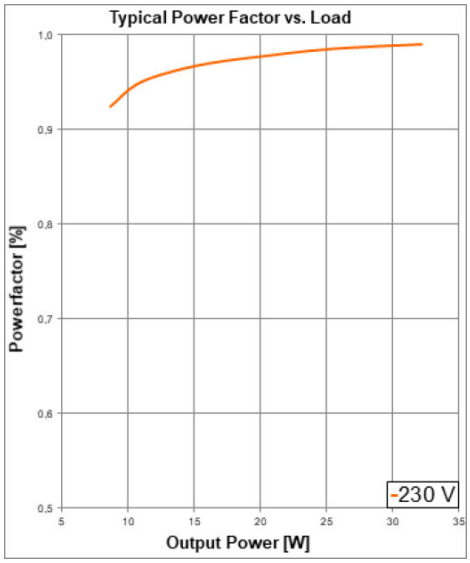
14) 3W average, 6W peak power



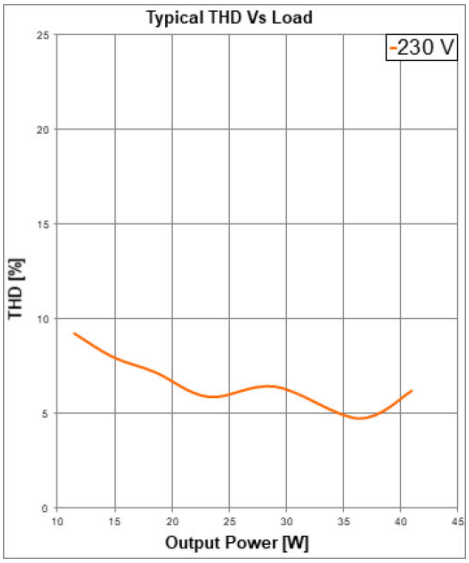
Operating window OT DX 401A0 DIMA LT2 E



Typical Efficiency vs. Load (230 V 50 Hz) OT DX 401A0 DIMA LT2 E

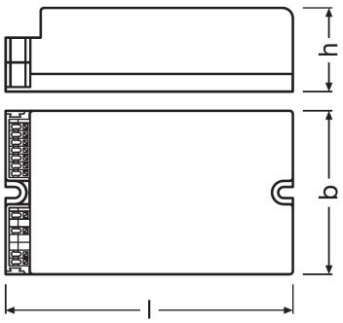


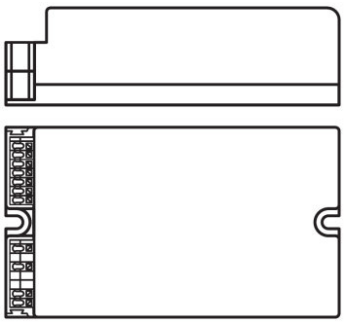
Typical Power Factor vs. Load OT DX 401A0 DIMA LT2 E



Typical THD Vs Load OT DX 401A0 DIMA LT2 E

Dimensions & weight





Length	133.0 mm
Width	77.0 mm
Height	40.0 mm
Mounting hole spacing, length	122.5 mm
Product weight	235.00 g
Cable cross-section, input side	0.2…1.5 mm² [1)]
Cable cross-section, output side	0.2…1.5 mm² [1)]
Wire preparation length, input side	8.5…9.5 mm

[1)] Solid/ Flexible Leads

Temperatures & operating conditions

Ambient temperature range	-40…+55 °C
Temperature range at storage	-25…85 °C
Maximum temperature at tc test point	80 °C
Max.housing temperature in case of fault	120 °C
Permitted rel. humidity during operation	5…85 % [1]

[1] Non condensing, absolute humidity: 36g/m³

Lifespan

ECG lifetime	100000 h [1]

[1] At T_{case} = 68°C at T_c point / 10% failure rate

Expected Lifetime

Product name				
OT DX 40/220…240/1A0 DIMA LT2 E	ECG ambient temperature [ta]	55	45	43
	Temperature at tc-point [°C]	80	70	68
	Lifetime [h]	50000	85000	100000

Capabilities

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

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

[2] Output wires must be routed as close as possible to each other

[3] Acc. DALI part 252

[4] Acc. DALI part 253

Programming

Box programming	Yes
Tuner4TRONIC	Yes
Tuner4TRONIC Field App	Yes
Programming device	DALI / NFC

Programmable features

Constant Lumen	Yes
Thermal Protection	Yes
Driver Guard	Yes
AstroDIM	Yes
StepDIM	Yes [1]
Emergency Mode	Yes
DALI-2 Luminaire Data	Yes [2]
Configuration Lock	Yes

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

[2] Acc. DALI part 251

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/Acc. to IEC 62386-150/Acc. to IEC 62386-250/Acc. to IEC 62386-251, -252, -253
Approval marks – approval	CE / ENEC / VDE / VDE-EMC / CCC / EL / DALI-2 / D4i / RCM

Logistical data

Commodity code	85044083900

Environmental information

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACh)	
Date of Declaration	03-11-2023
Primary Article Identifier	4052899999664
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1

Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.
Declaration No. in SCIP database	4b2cf0ea-ca54-4af5-a029-0cc166d65b18

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 actived 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.

Download Data

	File
	User instruction OPTOTRONIC Outdoor
	Brochures Technical application guide DEXAL LED drivers (EN)
	Brochures 4 DIM NFC G3 CE LED drivers and T4T C (EN)
	Certificates OT VDE ENEC 40050684 290923
	Certificates OT EMC 40050085 200220
	Certificates VDE ENEC Certificate 40043863
	Certificates OT EMC 40044675 031022

	Declarations of conformity OT DX DIMA LT2 E CE 3745354 060921
	CAD data OT DX 40 DIMA LT2E IGS 030220
	CAD data OT DX 40 DIMA LT2E STEP 030220
	CAD Data 2-dim OT DX 40 DIMA LT2E CAD2PDF 030220
	CAD data 3-dim OT DX 40 DIMA LT2E CAD3PDF 030220

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.

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

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899999664	OT DX 40/220...240/1A0 DIMA LT2 E	Shipping carton box 10	300 mm x 210 mm x 100 mm	6.30 dm^3	2573.00 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.

Accessories Optional

Product description	Accessory name	Accessory code
OT DX 40/220...240/1A0 DIMA LT2 E	NFC Scanner by TERTIUM Technology	4055462290281
OT DX 40/220...240/1A0 DIMA LT2 E	OT DX SD BOX	4062172048002

Data privacy

This OSRAM driver can be configured using the Tuner4TRONIC software. This requires registering on www.myosram.com and downloading theTuner4TRONIC 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, OSRAM can read out operating data from devices for maintenance and service purposes even when a password key has been assigned. In individual cases, OSRAM 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.

Disclaimer

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