Product datasheet

OTi 30/120...277/1A0 DX L

OPTOTRONIC Intelligent – DEXAL (SELV) | Linear constant current LED driver – Dimmable

Product family features

- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Supply voltage: 220...240 V
- Constant Lumen Output (CLO)
- Monitoring of luminaire operating parameters
- SELV driver

Product family benefits

- D4i certified SELV DX LED driver up to 80 W due to flexible output characteristic
- Integrated DEXAL Bus power supply for sensors and wireless radios
- Simplified luminaire design for wireless lighting control system and sensors
- Locking and unlocking of luminaire/driver data
- Advanced luminaire/driver data (power, energy, operating hours...) for analytics
- Following DiiA Specification Parts -250, -251, -252 and -253
- Fully programmable via T4T software (NFC, DALI Interface)
- Very high efficiency
- Wide operating range up to 2100 mA

Areas of application

- Linear lighting for office, education, industry, storage areas and retail
- DEXAL, easy connection to different partner BMS systems
- Suitable for "Works with OSRAM DEXAL" partner components
- Suitable for luminaires of protection class I

Technical data

Electrical data

Nominal input voltage	120…277 V
Mains frequency	50/60 Hz
Input voltage AC	108…305 V [1)]
Current set	Programmable
Total harmonic distortion	< 10 % [2)]
Power factor λ	> 095 [3)]
Efficiency in full-load	87 % [4)]
Device power loss	4.2 W
Inrush current	30 A [5)]
Max. ECG no. on circuit breaker 10 A (B)	10
Max. ECG no. on circuit breaker 16 A (B)	16
Max. ECG no. on circuit breaker 25 A (B)	27
Surge capability (L/N-Ground)	2 kV
Surge capability (L-N)	1 kV
Nominal output voltage	10…56 V
U-OUT (working voltage)	< 60 V
Nominal output current	150…1050 mA
Default output current	1050 mA
Output current tolerance	±5 %
Output ripple current (100 Hz)	< 1 % [6)]
Output PSTLM	≤1
Output SVM	≤0.4
Nominal output power	10…30 W
Maximum output power	30 W
Galvanic isolation	SELV
Power loss in stand-by mode	<0.5 W
Galvanic isolation primary/secondary	3 kV [7)]
DEXAL Supply Voltage	12 V
DEXAL Peak Supply Current	125 mA
DEXAL Guaranteed Supply Current	53 mA

1) Permitted voltage range

2) At full load

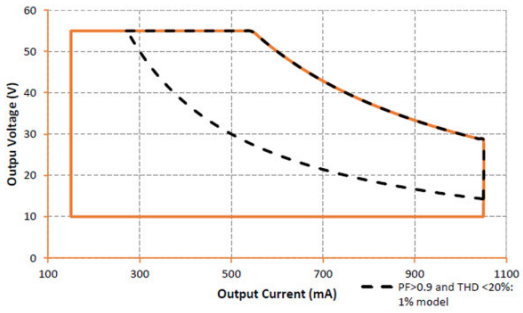
3) Full load at 230 V

4) at 230 V, 50 Hz

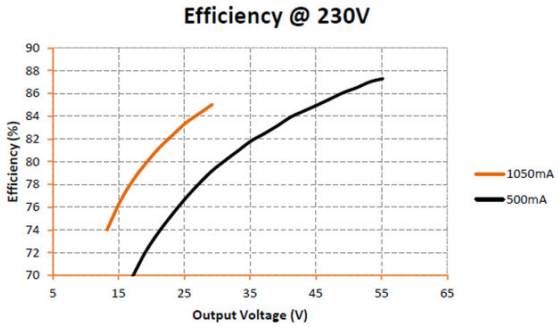
5) t_{width} = 200 µs (measured at 50 % I_{peak})

6) For output currents above 450 mA, for lower currents PWM dimming with 460 Hz

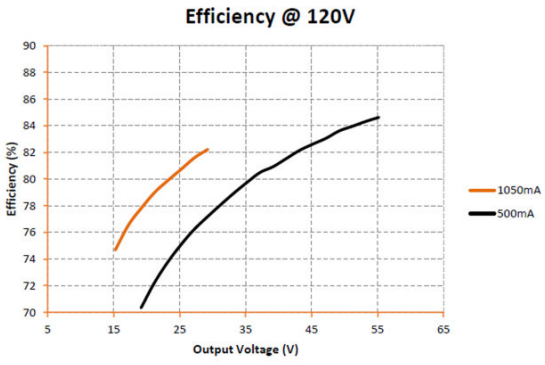
7) SELV



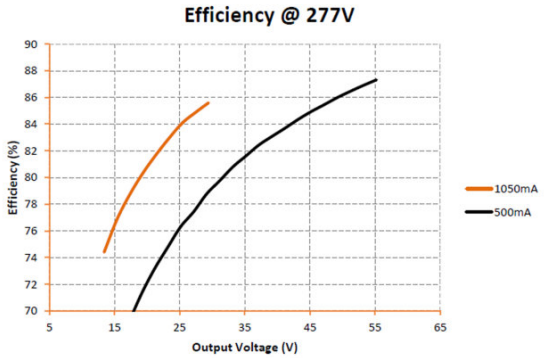
OTi30 DEXAL Driver Operating Range



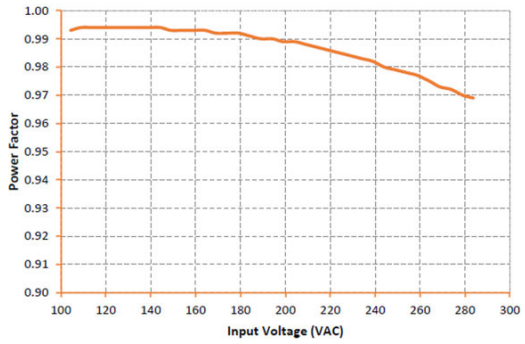
OTi30 DEXAL Driver Efficiency 230V



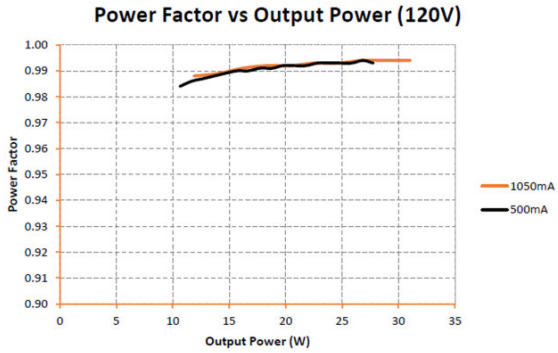
OTi30 DEXAL Driver Efficiency 120V



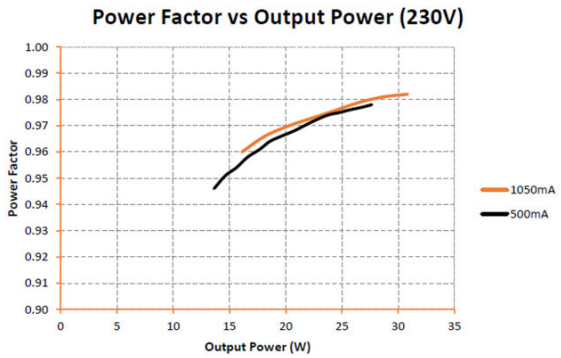
OTi30 DEXAL Driver Efficiency 277V



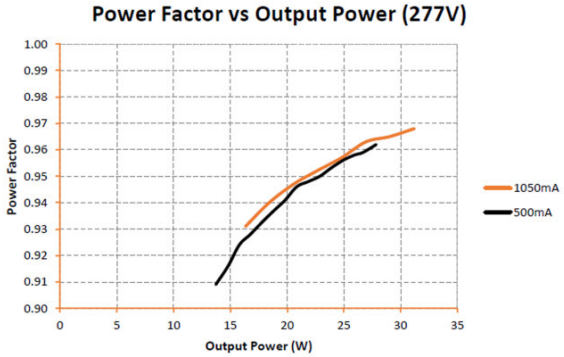
OTi30 DEXAL Driver PF vs Input



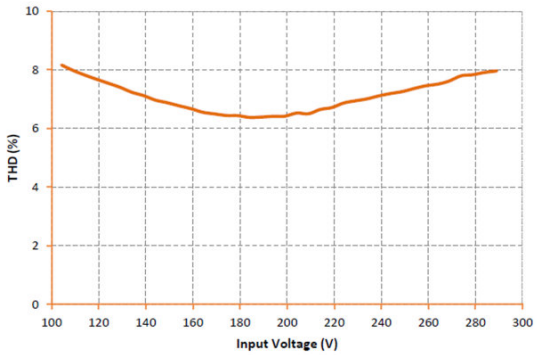
OTi30 DEXAL Driver PF vs Output 120V



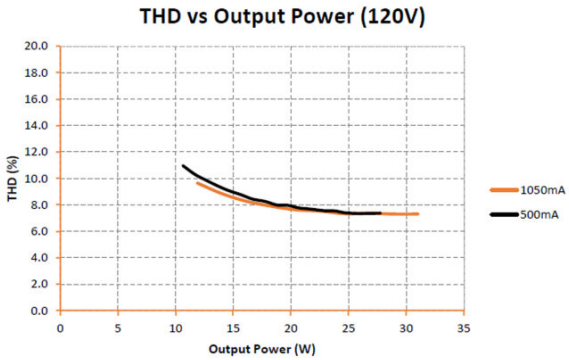
OTi30 DEXAL Driver PF vs Output 230V



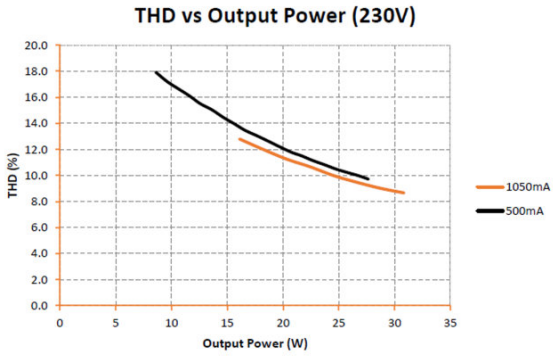
OTi30 DEXAL Driver PF vs Output 277V



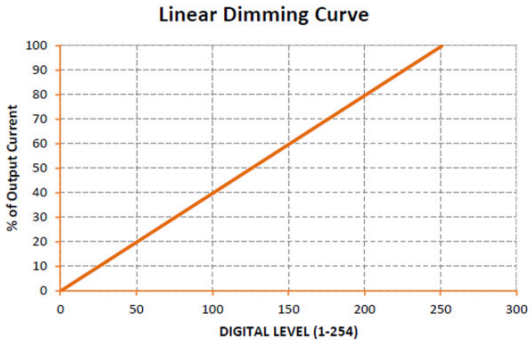
OTi30 DEXAL Driver THD vs Input



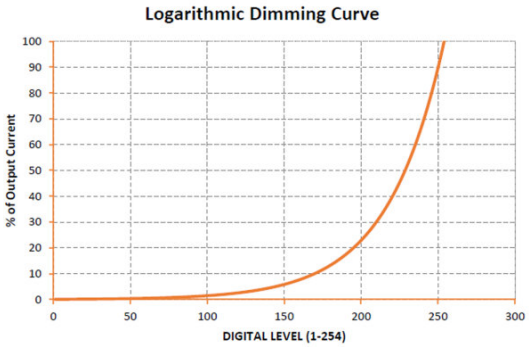
OTi30 DEXAL Driver THD vs Output 120V



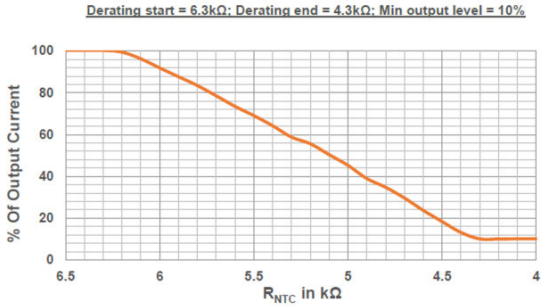
OTi30 DEXAL Driver THD vs Output 230V



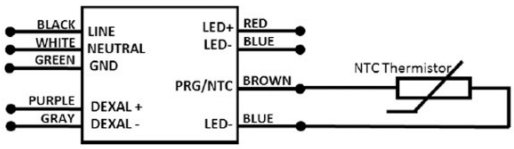
OTi30 DEXAL Driver Dimming Curve



OTi30 DEXAL Driver Logarithmic Dimming Curve



OTi30 DEXAL Driver LED Thermal Protection NTC Output Current Chart1



OTi30 DEXAL Driver LED Thermal Protection Wiring Diagram

Dimensions & weight

Mounting hole spacing, length	350.0 mm

Product weight	30000 g
Cable cross-section, input side	0.5…1.5 mm² [1]
Cable cross-section, output side	0.5…1.5 mm² [1]
Wire preparation length, input side	8.5…9.5 mm
Wire preparation length, output side	8.5…9.5 mm
Length	3600 mm
Width	300 mm
Height	254 mm

[1] Solid or flexible leads

Colors & materials

Casing material	Metal

Temperatures & operating conditions

Ambient temperature range	-30…+50 °C
Maximum temperature at tc test point	75 °C [1]
Max.housing temperature in case of fault	110 °C
Temperature range at storage	-25…80 °C
Permitted rel. humidity during operation	5…85 % [2]

[1] Maximum at the Tc-point

[2] Maximum 56 days/year at 85 %

Lifespan

ECG lifetime	50000 / 100000 h [1]

[1] At maximum T_c = 75°C / 10% failure rate / At T_c = 65°C / 10% failure rate

Expected Lifetime

Product name				
OTi 30/120…277/1A0 DX L	ECG ambient temperature [ta]	50	40	-
	Temperature at tc-point [°C]	75	65	-
	Lifetime [h]	50000 [1]	75000 [1]	-

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

Additional product data

Encapsulated	No

Product remark	The default dimming mode is DEXAL - linear dimming. For DALI Luminaires the DEXAL mode needs to be switched to DALI mode by the programming software./By default the NTC port is enabled with following values: start derating: 6.3 kOhm, end derating 5.0 kOhm, derating level 50 %./The lowest output current is 6 mA and the minimum percentage of dimming is dependent on the programmed nominal output current of the driver./The metal housing must be grounded via the fixation holes. Disconnect power before service./DEXAL Port has basic insulation to mains./1050 mA type: Default output current is 700 mA

Capabilities

Programming interface	Prog+
Dimmable	Yes
Dimming interface	DALI-2 / DEXAL
Dimming range	1...100 %
Dimming method	Analog and PWM dimming [1)]
Constant lumen function	Programmable
Overheating protection	Automatic reversible
Overload protection	Automatic reversible
Short-circuit protection	Automatic reversible
No-load proof	Yes
Intended for no-load operation	No
Max. cable length to lamp/LED module	- [2)]
Suitable for fixtures with prot. class	I
Type of connection, input side	Push terminal
Type of connection, output side	Push terminal
Control interface	DEXAL
Number of channels	1
DALI-2 Energy Data	Yes
DALI-2 Diagnostic Data	Yes

1) < 450 mA PWM, > 450 mA amplitude dimming

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

Programming

Programming device	OT Programmer
Tuner4TRONIC	Yes
Tuner4TRONIC Field App	Yes

Programmable features

Constant Lumen	Yes
DEXAL Power Supply Unit	Yes
DALI-2 Luminaire Data	Yes

Certificates & standards

Approval marks – approval	CE / UL listed / CB
Standards	Acc. to IEC 61347-1/Acc. to IEC 61347-2-13/Acc. to EN 55015, CISPR 15/Acc. to EN 61547/Acc. to IEC 62386-101/Acc. to IEC 62386-102:Ed1/Acc. to IEC 62386-207:Ed1
Type of protection	IP20

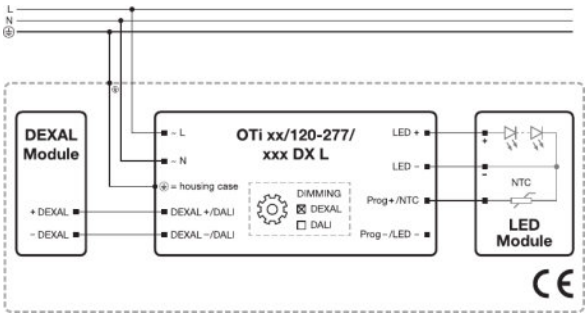
Logistical data

Commodity code	850440839000

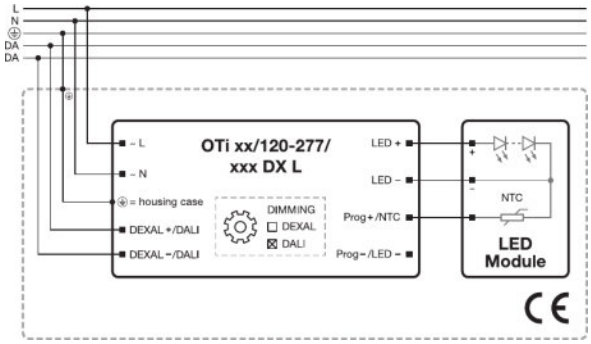
Environmental information

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACh)	
Date of Declaration	05-05-2023
Primary Article Identifier	4052899345829
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	f9b67dbd-a8c1-4215-9d5a-a8ea7f4657b3

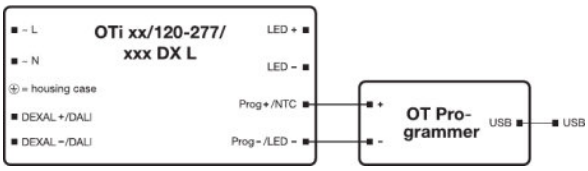
Wiring Diagram



Wiring Diagramm OTi xx120-277yy DX L DEXAL Mode (DEXAL, DALI, wiring diagramm, OTi xx120-277yy DX L)



Wiring Diagramm OTi xx120-277yy DX L DALI Mode (DEXAL, DALI, wiring diagramm, OTi xx120-277yy DX L)



Wiring Diagramm OTi xx120-277yy DX L OT programmer (OT Programmer, 1-wire, Prog+)

Additional product information

- 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
	Brochures Technical application guide DEXAL LED drivers (EN)
	Brochures Smart Building Component Brochure
	Certificates OTi DX L UK DoC 4308595 010621
	CAD data 3-dim 3D CAD Model: OTi50 and OTi30 DEXAL Drawings
	Product movie DEXAL Overview Video
	Video Overview of DEXAL Technology

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	DALI	LED Output	Case
Input / Mains	-	Basic	SELV	Basic
DALI	Basic	-	Supplementary	Supplementary
LED Output	SELV	Supplementary	-	Basic
Case	Basic	Supplementary	Basic	-

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899345829	OTi 30/120...277/1A0 DX L	Shipping carton box 20	376 mm x 174 mm x 141 mm	9.22 dm^3	6281.00 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.

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.