OPTOTRONIC Intelligent – DEXAL (SELV)

Linear constant current LED driver – Dimmable

Areas of application

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

Product family benefits

- Versatile DEXAL LED driver up to 50 W due to flexible output characteristic
- Integrated DALI (Version-1) Bus power supply for sensors and wireless radios
- Simplified luminaire design for wireless lighting control system and sensors
- Analytics possibility using luminaire data (power, energy, operating hours)
- Fast programming without mains voltage
- Very high efficiency

Product family features

- Input voltage: 120...277 V
- UL Class 2 output, SELV
- Available with output current range: up to 1,400 mA
- Constant Lumen Output (CLO)
- Overtemperature protection via external NTC
- End-of-life indication
- DALI Version-1 compatible (Part -101,-102 and -207)

Technical data

Electrical data

Product description	Nominal input voltage	Mains frequency	Input voltage AC	Current set	Total harmonic distortion
OTi 30/120...277/1A0 DX L [1]	120...277 V	50/60 Hz	108...305 V [2]	Programmable	< 10 % [3]
OTi 50/120...277/1A4 DX L [1]	120...277 V	50/60 Hz	108...305 V [2]	Programmable	< 10 % [3]

Product description	Power factor λ	Efficiency in full-load	Device power loss	Networked standby power
OTi 30/120...277/1A0 DX L [1]	> 0.95 [4]	87 % [5]	4.2 W	<0.50 W [5]
OTi 50/120...277/1A4 DX L [1]	> 0.95 [4]	88 % [5]	6.5 W	<0.50 W [5]

Product description	Inrush current	Max. ECG no. on circuit breaker 10 A (B)	Max. ECG no. on circuit breaker 16 A (B)	Max. ECG no. on circuit breaker 25 A (B)
OTi 30/120...277/1A0 DX L [1]	30 A [6]	10	16	27
OTi 50/120...277/1A4 DX L [1]	30 A [6]	10	16	27

Product description	Surge capability (L/N-Ground)	Surge capability (L-N)	Nominal output voltage	U-OUT (working voltage)	Nominal output current
OTi 30/120...277/1A0 DX L [1]	2 kV	1 kV	10...56 V	< 60 V	150...1050 mA
OTi 50/120...277/1A4 DX L [1]	2 kV	1 kV	10...56 V	< 60 V	600...1400 mA

Product description	Default output current	Output current tolerance	Output ripple current (100 Hz)
OTi 30/120...277/1A0 DX L [1]	1050 mA	±5 %	< 1 % [7]
OTi 50/120...277/1A4 DX L [1]	1400 mA	±5 %	< 1 % [7]

Product description	Output PSTLM	Output SVM	Nominal output power	Maximum output power
OTi 30/120...277/1A0 DX L [1]	≤1	≤0.4	10...30 W	30 W
OTi 50/120...277/1A4 DX L [1]	≤1	≤0.4	15...50 W	50 W

Product description	Galvanic isolation	DEXAL Peak Supply Current	DEXAL Supply Voltage
OTi 30/120...277/1A0 DX L [1]	SELV	125 mA	12 V
OTi 50/120...277/1A4 DX L [1]	SELV	125 mA	12 V

Product description	DEXAL Guaranteed Supply Current
OTi 30/120...277/1A0 DX L [1]	53 mA
OTi 50/120...277/1A4 DX L [1]	53 mA

[1] See product remark

[2] Permitted voltage range

3) At full load

4) Full load at 230 V

5) at 230 V, 50 Hz

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

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

Dimensions & weight

Product description	Mounting hole spacing, length	Product weight	Cable cross-section, input side	Cable cross-section, output side	Wire preparation length, input side
OTi 30/120...277/1A0 DX L 1)	350.0 mm	300.00 g	0.5...1.5 mm² 2)	0.5...1.5 mm² 2)	8.5...9.5 mm
OTi 50/120...277/1A4 DX L 1)	350.0 mm	300.00 g	0.5...1.5 mm² 2)	0.5...1.5 mm² 2)	8.5...9.5 mm

Product description	Wire preparation length, output side	Length	Width	Height
OTi 30/120...277/1A0 DX L 1)	8.5...9.5 mm	360.0 mm	30.0 mm	25.4 mm
OTi 50/120...277/1A4 DX L 1)	8.5...9.5 mm	360.0 mm	30.0 mm	25.4 mm

1) See product remark

2) Solid or flexible leads

Colors & materials

Product description	Casing material
OTi 30/120...277/1A0 DX L 1)	Metal
OTi 50/120...277/1A4 DX L 1)	Metal

1) See product remark

Temperatures & operating conditions

Product description	Ambient temperature range	Maximum temperature at tc test point	Max.housing temperature in case of fault	Temperature range at storage
OTi 30/120...277/1A0 DX L 1)	-30...+50 °C	75 °C 2)	110 °C	-25...80 °C
OTi 50/120...277/1A4 DX L 1)	-30...+50 °C	75 °C 2)	110 °C	-25...80 °C

Product description	Permitted rel. humidity during operation
OTi 30/120...277/1A0 DX L 1)	5...85 % 3)
OTi 50/120...277/1A4 DX L 1)	5...85 % 3)

1) See product remark

2) Maximum at the Tc-point

3) Maximum 56 days/year at 85 %

Lifespan

Product description	ECG lifetime
OTi 30/120...277/1A0 DX L [1]	50000 / 100000 h [2]
OTi 50/120...277/1A4 DX L [1]	50000 / 100000 h [2]

[1] See product remark

[2] 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]	-
OTi 50/120...277/1A4 DX L	ECG ambient temperature [ta]	50	40	-
	Temperature at tc-point [°C]	75	65	-
	Lifetime [h]	50000 [2]	75000 [2]	-

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

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

Additional product data

Product description	Encapsulated
OTi 30/120...277/1A0 DX L [1]	No
OTi 50/120...277/1A4 DX L [1]	No

[1] See product remark

Capabilities

Product description	Programming interface	Dimmable	Dimming interface	Dimming range
OTi 30/120...277/1A0 DX L [1]	Prog+	Yes	DALI-2 / DEXAL	1...100 %
OTi 50/120...277/1A4 DX L [1]	Prog+	Yes	DALI-2 / DEXAL	1...100 %

Product description	Dimming method	Constant lumen function	Overheating protection
OTi 30/120...277/1A0 DX L [1]	Analog and PWM dimming [2]	Programmable	Automatic reversible
OTi 50/120...277/1A4 DX L [1]	Analog and PWM dimming [2]	Programmable	Automatic reversible

Product description	Overload protection	Short-circuit protection	No-load proof	Intended for no-load operation
OTi 30/120...277/1A0 DX L [1]	Automatic reversible	Automatic reversible	Yes	No

Product description	Overload protection	Short-circuit protection	No-load proof	Intended for no-load operation
OTi 50/120...277/1A4 DX L [1]	Automatic reversible	Automatic reversible	Yes	No

Product description	Max. cable length to lamp/LED module	Suitable for fixtures with prot. class	Type of connection, input side	Type of connection, output side
OTi 30/120...277/1A0 DX L [1]	-	I	Push terminal	Push terminal
OTi 50/120...277/1A4 DX L [1]	-	I	Push terminal	Push terminal

Product description	DALI-2 Energy Data	DALI-2 Diagnostic Data	Number of channels
OTi 30/120...277/1A0 DX L [1]	Yes	Yes	1
OTi 50/120...277/1A4 DX L [1]	Yes	Yes	1

Product description	Control interface
OTi 30/120...277/1A0 DX L [1]	DEXAL
OTi 50/120...277/1A4 DX L [1]	DEXAL

[1] See product remark

[2] < 450 mA PWM, > 450 mA amplitude dimming

Programming

Product description	Programming device	Tuner4TRONIC	Tuner4TRONIC Field App
OTi 30/120...277/1A0 DX L [1]	OT Programmer	Yes	Yes
OTi 50/120...277/1A4 DX L [1]	OT Programmer		Yes

[1] See product remark

Programmable features

Product description	Constant Lumen	DEXAL Power Supply Unit	DALI-2 Luminaire Data
OTi 30/120...277/1A0 DX L [1]	Yes	Yes	Yes
OTi 50/120...277/1A4 DX L [1]			Yes

[1] See product remark

Certificates & standards

Product description	Approval marks – approval	Standards	Type of protection
OTi 30/120...277/1A0 DX L [1)]	CE / UL listed / CB	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	IP20
OTi 50/120...277/1A4 DX L [1)]	CE / UL listed / CB	Acc. to EN 61347-1/Acc. to EN 61347-2-13/Acc. to EN 55015, CISPR 15/Acc. to EN 61547/Acc. to IEC 62386-101/Acc. to IEC 62386-101:Ed1/Acc. to IEC 62386-207:Ed1	IP20

[1)] See product remark

Logistical data

Product description	Commodity code
OTi 30/120...277/1A0 DX L [1)]	850440829000
OTi 50/120...277/1A4 DX L [1)]	850440829000

[1)] See product remark

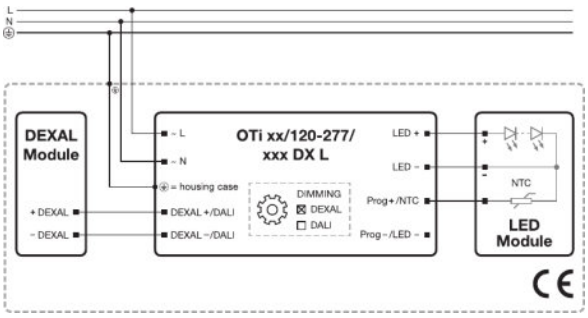
Environmental information

Product description	Date of Declaration	Primary Article Identifier	Candidate List Substance 1
OTi 30/120...277/1A0 DX L [1)]	23-12-2021	4052899345829	No declarable substances contained
OTi 50/120...277/1A4 DX L [1)]	23-12-2021	4052899345836	No declarable substances contained

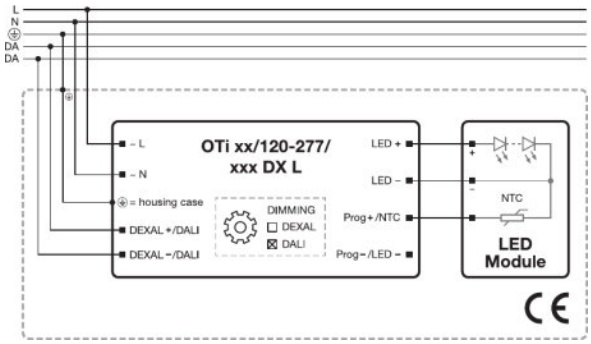
Product description	CAS No. of substance 1	Declaration No. in SCIP database
OTi 30/120...277/1A0 DX L [1)]	No CAS	No declarable substances contained
OTi 50/120...277/1A4 DX L [1)]	No CAS	No declarable substances contained

[1)] See product remark

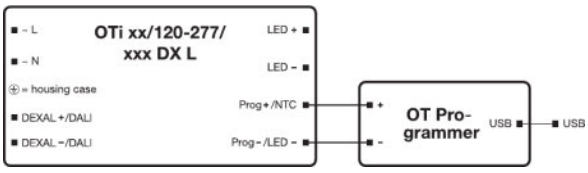
Wiring Diagram



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



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



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

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./1400 mA type: Default output current is 1050 mA

Equipment / Accessories

- OT Programmer hardware for configuration of DEXAL ECGs necessary
- Programmable only via OT Programmer software

Application advice

For more detailed application information and graphics please see product datasheet.

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.

Sales and Technical Support

Sales and Technical Support www.osram.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

	User instruction DEXAL Intra-luminaire, bi-directional interface (EN)

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.

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	9.24 dm^3	6281.00 g
4052899345836	OTi 50/120...277/1A4 DX L	Shipping carton box 20	376 mm x 174 mm x 141 mm	9.24 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.

Accessories Mandatory

Product description	Accessory name	Accessory code
OTi 30/120...277/1A0 DX L	OT Programmer	4052899209640
OTi 50/120...277/1A4 DX L	OT Programmer	4052899209640

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.