

OPTOTRONIC Intelligent – DALI NFC LP I

Compact constant current LED driver – Dimmable



Areas of application

- Suitable for downlights, spotlights and LED panels
- Suitable for use in luminaires with flexible current setting
- Installation in emergency lighting systems according to IEC 61347-2-13, appendix J
- Suitable for indoor SELV installations
- Suitable for luminaires of protection classes I and II

Product family benefits

- Small housing for flexible luminaire designs
- Versatile DALI window driver due to flexible output characteristic
- Easy and fast output current setting via NFC
- Very high efficiency
- High-quality dimming of 1...100 % by amplitude dimming
- DALI-2 certified incl. Parts 251, 252, 253
- Easy to use in corridors and restrooms because of three-level Corridor function
- Touch DIM application: easy to control via pushbutton or sensor



Product family datasheet

Product family features

- Supply voltage: 220...240 V
- Line frequency: 0 Hz | 50 Hz | 60 Hz
- Line voltage: 198...264 V
- Lifetime: up to 100,000 h
- Type of protection: IP20
- Integrated cable clamp for luminaire and independent installation

Technical data

Electrical data

Product description	Nominal input voltage	Mains frequency	Input voltage AC	Input voltage DC	Total harmonic distortion	Power factor λ
OTi DALI 10/220...240/700 NFC I	220...240 V	0/50/60 Hz	198...264 V ¹⁾	176...276 V	15 % ²⁾	0.50C...0.95 ³⁾
OTi DALI 15/220...240/1A0 NFC LPI	220...240 V	0,50,60 Hz	198...264 V ¹⁾	176...276 V	< 10 % ¹⁰⁾	0.33C...0.98
OTi DALI 25/220...240/700 NFC LPI	220...240 V	0,50,60 Hz	198...264 V ¹⁾	176...276 V	< 10 % ¹⁰⁾	0.49C...0.99 ¹⁴⁾
OTi DALI 40/220...240/1A0 NFC LPI	220...240 V	0,50,60 Hz	198...264 V ¹⁾	176...276 V	< 10 % ¹⁰⁾	0.70C...0.99

Product description	Efficiency in full-load	Device power loss	Inrush current	Max. ECG no. on circuit breaker 10 A (B)	Max. ECG no. on circuit breaker 16 A (B)
OTi DALI 10/220...240/700 NFC I	82 % ⁴⁾	3.5 W	< 5 A ⁵⁾	80	130
OTi DALI 15/220...240/1A0 NFC LPI	87.5 % ⁴⁾	-	20 A ¹¹⁾	82	130
OTi DALI 25/220...240/700 NFC LPI	88 % ⁴⁾	-	20 A ¹¹⁾	50	80
OTi DALI 40/220...240/1A0 NFC LPI	88 % ⁴⁾	-	20 A ¹¹⁾	35	55

Product description	Surge capability (L/N-Ground)	Surge capability (L-N)	Nominal output voltage	U-OUT (working voltage)	Nominal output current
OTi DALI 10/220...240/700 NFC I	2 kV	1 kV	2.5...45 V ⁶⁾	60 V	150...700 mA ⁷⁾
OTi DALI 15/220...240/1A0 NFC LPI	2 kV	1 kV	10...54 V ⁶⁾	60 V	150...1050 mA ⁷⁾
OTi DALI 25/220...240/700 NFC LPI	2 kV	1 kV	10...54 V ⁶⁾	60 V	180...700 mA ⁷⁾
OTi DALI 40/220...240/1A0 NFC LPI	2 kV	1 kV	10...54 V ⁶⁾	60 V	350...1050 mA ⁷⁾

Product description	Default output current	Galvanic isolation primary/secondary	Galvanic isolation DALI/mains
OTi DALI 10/220...240/700 NFC I	350 mA	SELV	Basic
OTi DALI 15/220...240/1A0 NFC LPI	350 mA	SELV	Basic
OTi DALI 25/220...240/700 NFC LPI	500 mA	SELV	Basic
OTi DALI 40/220...240/1A0 NFC LPI	700 mA	SELV	Basic

Product description	Galvanic isolation DALI/output	Current set	Output current tolerance
OTi DALI 10/220...240/700 NFC I	SELV	DALI / NFC	±3 %
OTi DALI 15/220...240/1A0 NFC LPI	SELV	DALI / NFC	±3 %
OTi DALI 25/220...240/700 NFC LPI	SELV	DALI / NFC	±3 %
OTi DALI 40/220...240/1A0 NFC LPI	SELV	DALI / NFC	±3 %

Product family datasheet

Product description	Output ripple current (100 Hz)	Output PSTLM	Output SVM	Nominal output power
OTi DALI 10/220...240/700 NFC I	< 2 % ⁸⁾	≤1	≤0.4	10 W ⁹⁾
OTi DALI 15/220...240/1A0 NFC LPI	< 3 % ¹²⁾	≤1	≤0.4	18 W ¹³⁾
OTi DALI 25/220...240/700 NFC LPI	< 3 % ¹²⁾	≤1	≤0.4	27 W ¹⁵⁾
OTi DALI 40/220...240/1A0 NFC LPI	< 3 % ¹²⁾	≤1	≤0.4	38 W ¹⁶⁾

Product description	Maximum output power	Networked standby power	Power loss in stand-by mode
OTi DALI 10/220...240/700 NFC I	10 W	≤0.15 W ⁴⁾	≤0.15 W
OTi DALI 15/220...240/1A0 NFC LPI	18 W ¹³⁾	0.13 W ⁴⁾	
OTi DALI 25/220...240/700 NFC LPI	27 W ¹⁵⁾	0.13 W ⁴⁾	
OTi DALI 40/220...240/1A0 NFC LPI	38 W ¹⁶⁾	0.13 W ⁴⁾	

1) Permitted voltage range
2) At full load, 220...240 V, 50 Hz
3) Full load at 220...240 V_{AC}/50 Hz
4) at 230 V, 50 Hz
5) t_{width} = 100 µs (measured at 50 % I_{peak})
6) Maximum 60 V
7) ±3%
8) Ripple / average @ 100 Hz
9) Partial load 1.5...10 W
10) At full load, 220...240 V, 50 Hz / see graphs
11) t_{width} = 25 µs (measured at 50 % I_{peak})
12) Ripple average at 100 Hz
13) Partial load 3...18 W
14) Full load at 230 V/50 Hz
15) Partial load 3.6...27 W
16) Partial load 7...38 W

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 DALI 10/220...240/700 NFC I	132.0 mm	76.00 g	0.75...1.5 mm ² ¹⁾	0.5...1.5 mm ² ¹⁾	7...8 mm
OTi DALI 15/220...240/1A0 NFC LPI	108.0 mm	150.00 g	0.75...1.5 mm ² ¹⁾	0.5...1.5 mm ² ¹⁾	7...8 mm
OTi DALI 25/220...240/700 NFC LPI	108.0 mm	150.00 g	0.75...1.5 mm ² ¹⁾	0.5...1.5 mm ² ¹⁾	7...8 mm
OTi DALI 40/220...240/1A0 NFC LPI	108.0 mm	160.00 g	0.75...1.5 mm ² ¹⁾	0.5...1.5 mm ² ¹⁾	7...8 mm

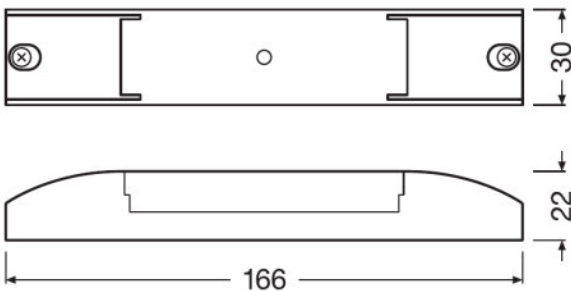
Product description	Wire preparation length, output side	Length	Width	Height
OTi DALI 10/220...240/700 NFC I	7...8 mm	166.0 mm	30.0 mm	22.0 mm
OTi DALI 15/220...240/1A0 NFC LPI	7...8 mm	150.0 mm	42.5 mm	22.0 mm
OTi DALI 25/220...240/700 NFC LPI	7...8 mm	150.0 mm	42.5 mm	22.0 mm

Product family datasheet

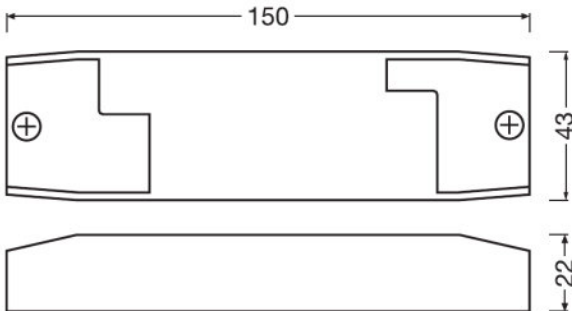
Product description	Wire preparation length, output side	Length	Width	Height
OTi DALI 40/220...240/1A0 NFC LPI	7...8 mm	150.0 mm	42.5 mm	22.0 mm

1) Solid or flexible leads

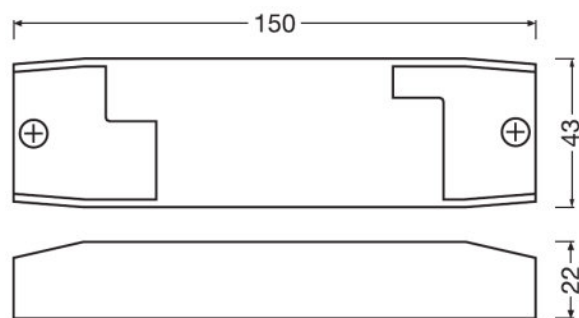
Product line drawing



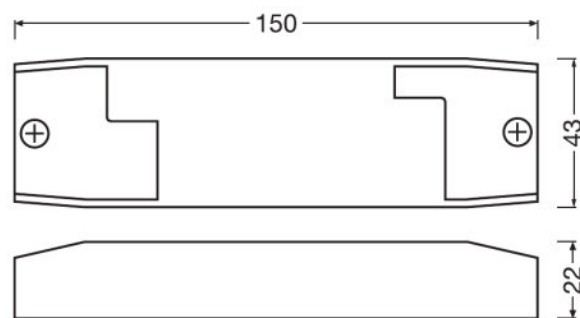
OTi DALI 10/220...240/700 NFC I



OTi DALI 15/220...240/1A0 NFC LPI



OTi DALI 25/220...240/700 NFC LPI



OTi DALI 40/220...240/1A0 NFC LPI

Colors & materials

Product description	Casing material
OTi DALI 10/220...240/700 NFC I	Plastic
OTi DALI 15/220...240/1A0 NFC LPI	Plastic
OTi DALI 25/220...240/700 NFC LPI	Plastic
OTi DALI 40/220...240/1A0 NFC LPI	Plastic

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 DALI 10/220...240/700 NFC I	-25...+50 °C	75 °C ¹⁾	110 °C	-40...+85 °C
OTi DALI 15/220...240/1A0 NFC LPI	-20...+50 °C	80 °C ¹⁾	110 °C	-40...+85 °C
OTi DALI 25/220...240/700 NFC LPI	-20...+50 °C	85 °C ¹⁾	110 °C	-40...+85 °C
OTi DALI 40/220...240/1A0 NFC LPI	-20...+45 °C	85 °C ¹⁾	110 °C	-40...+85 °C

Product description	Permitted rel. humidity during operation
OTi DALI 10/220...240/700 NFC I	5...85 % ²⁾
OTi DALI 15/220...240/1A0 NFC LPI	5...85 % ²⁾
OTi DALI 25/220...240/700 NFC LPI	5...85 % ²⁾
OTi DALI 40/220...240/1A0 NFC LPI	5...85 % ²⁾

¹⁾ Maximum at the Tc-point

²⁾ Maximum 56 days/year at 85 %

Lifespan

Product description	ECG lifetime
OTi DALI 10/220...240/700 NFC I	50000 / 100000 h ¹⁾
OTi DALI 15/220...240/1A0 NFC LPI	50000 / 100000 h ²⁾
OTi DALI 25/220...240/700 NFC LPI	50000 / 100000 h ³⁾
OTi DALI 40/220...240/1A0 NFC LPI	50000 / 100000 h ³⁾

¹⁾ T_c = 75°C, 0.2% / 1,000 h failure rate / T_c = 65°C, 0.1% / 1,000 h failure rate

²⁾ T_c = 80°C, 0.2% / 1,000 h failure rate / T_c = 70°C, 0.1% / 1,000 h failure rate

³⁾ T_c = 85°C, 0.2% / 1,000 h failure rate / T_c = 75°C, 0.1% / 1,000 h failure rate

Additional product data

Product description	Encapsulated
OTi DALI 10/220...240/700 NFC I	No
OTi DALI 15/220...240/1A0 NFC LPI	No
OTi DALI 25/220...240/700 NFC LPI	No
OTi DALI 40/220...240/1A0 NFC LPI	No

Capabilities

Product description	Dimmable	Dimming interface	Dimming range	Dimming method
OTi DALI 10/220...240/700 NFC I	Yes	DALI-2 / Touch DIM / Touch DIM Sensor	1...100 %	Amplitude Modulation
OTi DALI 15/220...240/1A0 NFC LPI	Yes	DALI-2 / Touch DIM / Touch DIM Sensor	1...100 %	Amplitude Modulation
OTi DALI 25/220...240/700 NFC LPI	Yes	DALI-2 / Touch DIM / Touch DIM Sensor	1...100 %	Amplitude Modulation
OTi DALI 40/220...240/1A0 NFC LPI	Yes	DALI-2 / Touch DIM / Touch DIM Sensor	1...100 %	Amplitude Modulation

Product description	Overheating protection	Overload protection	Short-circuit protection	No-load proof
OTi DALI 10/220...240/700 NFC I	Automatic reversible	Automatic reversible	Automatic reversible	Yes
OTi DALI 15/220...240/1A0 NFC LPI	Automatic reversible	Automatic reversible	Automatic reversible	Yes
OTi DALI 25/220...240/700 NFC LPI	Automatic reversible	Automatic reversible	Automatic reversible	Yes
OTi DALI 40/220...240/1A0 NFC LPI	Automatic reversible	Automatic reversible	Automatic reversible	Yes

Product description	Intended for no-load operation	Max. cable length to lamp/LED module	Suitable for fixtures with prot. class	Type of connection, input side
OTi DALI 10/220...240/700 NFC I	No	2.0 m ¹⁾	I / II	Push terminal
OTi DALI 15/220...240/1A0 NFC LPI	No	2.0 m ¹⁾	I / II	Push terminal
OTi DALI 25/220...240/700 NFC LPI	No	2.0 m ¹⁾	I / II	Push terminal
OTi DALI 40/220...240/1A0 NFC LPI	No	2.0 m ¹⁾	I / II	Push terminal

Product family datasheet

Product description	Type of connection, output side	Number of channels	Control interface
OTi DALI 10/220...240/700 NFC I	Push terminal	1	DALI-2
OTi DALI 15/220...240/1A0 NFC LPI	Push terminal	1	DALI-2
OTi DALI 25/220...240/700 NFC LPI	Push terminal	1	DALI-2
OTi DALI 40/220...240/1A0 NFC LPI	Push terminal	1	DALI-2

Product description	DALI-2 Diagnostic Data	DALI-2 Energy Data	Programming interface
OTi DALI 10/220...240/700 NFC I	Yes ²⁾	Yes ³⁾	DALI, NFC
OTi DALI 15/220...240/1A0 NFC LPI	Yes ²⁾	Yes ³⁾	DALI, NFC
OTi DALI 25/220...240/700 NFC LPI	Yes ²⁾	Yes ³⁾	DALI, NFC
OTi DALI 40/220...240/1A0 NFC LPI	Yes ²⁾	Yes ³⁾	DALI, NFC

Product description	Constant lumen function	Suitable for emergency lighting	Suitable for through-wiring
OTi DALI 10/220...240/700 NFC I	Programmable	Yes	
OTi DALI 15/220...240/1A0 NFC LPI	Programmable	Yes	No
OTi DALI 25/220...240/700 NFC LPI	Programmable	Yes	No
OTi DALI 40/220...240/1A0 NFC LPI	Programmable	Yes	No

¹⁾ Output wires must be routed as close as possible to each other

²⁾ Acc. DALI part 253

³⁾ Acc. DALI part 252

Programming

Product description	Box programming	Tuner4TRONIC	Tuner4TRONIC Field App
OTi DALI 10/220...240/700 NFC I	Yes	Yes	Yes
OTi DALI 15/220...240/1A0 NFC LPI	Yes	Yes	Yes
OTi DALI 25/220...240/700 NFC LPI	Yes	Yes	Yes
OTi DALI 40/220...240/1A0 NFC LPI	Yes	Yes	Yes

Product description	Programming device
OTi DALI 10/220...240/700 NFC I	DALI / NFC
OTi DALI 15/220...240/1A0 NFC LPI	DALI / NFC
OTi DALI 25/220...240/700 NFC LPI	DALI / NFC
OTi DALI 40/220...240/1A0 NFC LPI	DALI / NFC

Programmable features

Product description	Dim to Dark	Soft Switch Off	Configuration Lock
OTi DALI 10/220...240/700 NFC I	Yes	Yes	Yes
OTi DALI 15/220...240/1A0 NFC LPI	Yes	Yes	Yes
OTi DALI 25/220...240/700 NFC LPI	Yes	Yes	Yes
OTi DALI 40/220...240/1A0 NFC LPI	Yes	Yes	Yes

Product description	DALI-2 Luminaire Data	Emergency Mode	Driver Guard
OTi DALI 10/220...240/700 NFC I	Yes ¹⁾	Yes	Yes

Product family datasheet

Product description	DALI-2 Luminaire Data	Emergency Mode	Driver Guard
OTi DALI 15/220...240/1A0 NFC LPI	Yes ¹⁾	Yes	Yes
OTi DALI 25/220...240/700 NFC LPI	Yes ¹⁾	Yes	Yes
OTi DALI 40/220...240/1A0 NFC LPI	Yes ¹⁾	Yes	Yes
Product description	OEM Key	Corridor Functionality	TouchDIM + Sensor
OTi DALI 10/220...240/700 NFC I	No	Yes	Yes
OTi DALI 15/220...240/1A0 NFC LPI	No	Yes	Yes
OTi DALI 25/220...240/700 NFC LPI	No	Yes	Yes
OTi DALI 40/220...240/1A0 NFC LPI	No	Yes	Yes
Product description	DALI Settings	Lamp Operating Time	Constant Lumen
OTi DALI 10/220...240/700 NFC I	Yes	Yes	Yes
OTi DALI 15/220...240/1A0 NFC LPI	Yes	Yes	Yes
OTi DALI 25/220...240/700 NFC LPI	Yes	Yes	Yes
OTi DALI 40/220...240/1A0 NFC LPI	Yes	Yes	Yes
Product description	Operating Current		
OTi DALI 10/220...240/700 NFC I	Yes		
OTi DALI 15/220...240/1A0 NFC LPI	Yes		
OTi DALI 25/220...240/700 NFC LPI	Yes		
OTi DALI 40/220...240/1A0 NFC LPI	Yes		

¹⁾ Acc. DALI part 251

Certificates & standards

Product description	Approval marks – approval	Standards	Protection class	Type of protection
OTi DALI 10/220...240/700 NFC I	ENEC / VDE-EMC / EL / CE / DALI-2	Acc. to IEC 61347-1/Acc. to IEC 61347-2-13/Acc. to IEC 55015/Acc. to IEC 61547/Acc. to IEC 61000-3-2/Acc. to IEC 62384/Acc. to IEC 62386/Acc. to IEC 62386-101:Ed2/Acc. to IEC 62386-102:Ed2/Acc. to IEC 62386-207:Ed1	II	IP20
OTi DALI 15/220...240/1A0 NFC LPI	CE / UKCA / EL / DALI-2 / EAC	Acc. to EN 61347-1/Acc. to EN 61347-2-13/Acc. to EN 55015/Acc. to EN 61547/Acc. to EN 61000-3-2/Acc. to EN 62384/Acc. to EN 62386/Acc. to IEC 62386-101:Ed2/Acc. to IEC 62386-102:Ed2/Acc. to IEC 62386-207:Ed1	II	IP20
OTi DALI 25/220...240/700 NFC LPI	CE / UKCA / EL / DALI-2 / EAC	Acc. to EN 61347-1/Acc. to EN 61347-2-13/Acc. to EN 55015/Acc. to EN 61547/Acc. to EN 61000-3-2/Acc. to EN 62384/Acc. to EN 62386/Acc. to IEC 62386-101:Ed2/Acc. to IEC 62386-102:Ed2/Acc. to IEC 62386-207:Ed1	II	IP20
OTi DALI 40/220...240/1A0 NFC LPI	CE / UKCA / EL / DALI-2 / EAC	Acc. to EN 61347-1/Acc. to EN 61347-2-13/Acc. to EN 55015/Acc. to EN 61547/Acc. to EN 61000-3-2/Acc. to EN 62384/Acc. to EN 62386/Acc. to IEC 62386-101:Ed2/Acc. to IEC 62386-102:Ed2/Acc. to IEC 62386-207:Ed1	II	IP20

Logistical data

Product description	Commodity code
OTi DALI 10/220...240/700 NFC I	85044083900
OTi DALI 15/220...240/1A0 NFC LPI	85044083900
OTi DALI 25/220...240/700 NFC LPI	85044083900
OTi DALI 40/220...240/1A0 NFC LPI	85044083900

Product family datasheet

Environmental information
Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)

Product description	Date of Declaration	Primary Article Identifier	Candidate List Substance 1
OTi DALI 10/220...240/700 NFC I	19-05-2023	4062172151252	Lead
OTi DALI 15/220...240/1A0 NFC LPI	21-04-2023	4062172227735	Lead
OTi DALI 25/220...240/700 NFC LPI	21-04-2023	4062172227759	Lead
OTi DALI 40/220...240/1A0 NFC LPI	21-04-2023	4062172227773	Lead

Product description	CAS No. of substance 1	Safe Use Instruction	Declaration No. in SCIP database
OTi DALI 10/220...240/700 NFC I	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	3b1c1ed5-2bc5-45f2-8d54-1adf10b4b670
OTi DALI 15/220...240/1A0 NFC LPI	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	82d5c7c8-af71-48b1-926b-8d14977c0b7a
OTi DALI 25/220...240/700 NFC LPI	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	2482b185-329f-4e53-8de5-dc0358fc2278
OTi DALI 40/220...240/1A0 NFC LPI	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	cd091ef9-7189-4515-b2a4-8596ba3036e4

Application advice

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

Sales and Technical Support

Sales and Technical Support www.osram.com

Download Data

File	
	User instruction OPTOTRONIC LED Power Supply OTi DALI 10 700 NFC
	Certificates OTi DALI 10 NFC I EATON 091220
	Certificates OTi DALI 10 NFC I INOTEC 091220

Product family datasheet

	Certificates OTI DALI NFC I CCC 2020171002003881 280121
	Certificates OT ENEC 40038447 260623
	Certificates OT EMC 40044675 031022
	Declarations of conformity OTI DALI NFC S I CE 4169161 110222
	Declarations of conformity OTI DALI NFC S I UK DoC 4281113 110222
	CAD data OTI DALI 10 NFC I IGS 031220
	CAD data OTI DALI 10 NFC I STEP 031220
	CAD Data 2-dim OTI DALI 10 NFC I CAD2PDF 031220
	CAD data 3-dim OTI DALI 10 NFC I CAD3PDF 031220
	User instruction OPTOTRONIC LED Power Supply
	CAD data OTI DALI NFC LP I IGS 240921
	CAD data OTI DALI NFC LP I STEP 240921
	CAD Data 2-dim OTI DALI NFC LP I CAD2PDF 240921
	CAD data 3-dim OTI DALI NFC LP I CAD3PDF 240921

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.

Product family datasheet

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4062172151252	OTi DALI 10/220...240/700 NFC I	Shipping carton box 20	344 mm x 125 mm x 80 mm	3.44 dm ³	1638.00 g
4062172227735	OTi DALI 15/220...240/1A0 NFC LPI	Shipping carton box 20	314 mm x 122 mm x 107 mm	4.10 dm ³	3121.00 g
4062172227759	OTi DALI 25/220...240/700 NFC LPI	Shipping carton box 20	314 mm x 122 mm x 107 mm	4.10 dm ³	3121.00 g
4062172227773	OTi DALI 40/220...240/1A0 NFC LPI	Shipping carton box 20	314 mm x 122 mm x 107 mm	4.10 dm ³	3321.00 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 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, 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.