

OPTOTRONIC Intelligent – Qualified Bluetooth Mesh NFC 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
- Suitable for indoor SELV installations
- Suitable for luminaires of protection classes I and II

Product family benefits

- Versatile QBM window driver due to flexible output characteristic
- Locking and unlocking of programmable features
- Easy and fast output current setting via NFC
- Very high efficiency
- High-quality dimming of 1...100 % by amplitude dimming

Product family features

- Qualified Bluetooth mesh enabled by Silvair
- Works with OSRAM Hubsense
- Cable clamp housing for independent mounting
- Through-looping



Product family datasheet

Technical data

Electrical data

Product description	Nominal input voltage	Mains frequency	Input voltage AC	Input voltage DC	Total harmonic distortion	Power factor λ
OTi QBM 20/220...240/500 NFC I	220...240 V	0,50,60 Hz	198...264 V ¹⁾	176...276 V	< 10 % ²⁾	≥ 0.95
OTi QBM 30/220...240/700 NFC I	220...240 V	0,50,60 Hz	198...264 V ¹⁾	176...276 V	< 10 % ²⁾	≥ 0.95
OTi QBM 40/220...240/1A0 NFC I	220...240 V	0,50,60 Hz	198...264 V ¹⁾	176...276 V	< 10 % ²⁾	≥ 0.95

Product description	Efficiency in full-load	Networked standby power	Inrush current	Max. ECG no. on circuit breaker 10 A (B)
OTi QBM 20/220...240/500 NFC I	88 % ³⁾	<0.22 W ³⁾	< 20 A ⁴⁾	20
OTi QBM 30/220...240/700 NFC I	90 % ³⁾	<0.22 W ³⁾	< 20 A ⁴⁾	20
OTi QBM 40/220...240/1A0 NFC I	91 % ³⁾	<0.22 W ³⁾	< 20 A ⁴⁾	20

Product description	Max. ECG no. on circuit breaker 16 A (B)	Surge capability (L/N-Ground)	Surge capability (L-N)	Nominal output voltage	U-OUT (working voltage)
OTi QBM 20/220...240/500 NFC I	30	2 kV	1 kV	20...50 V ⁵⁾	60 V
OTi QBM 30/220...240/700 NFC I	30	2 kV	1 kV	20...50 V ⁵⁾	60 V
OTi QBM 40/220...240/1A0 NFC I	30	2 kV	1 kV	20...50 V ⁵⁾	60 V

Product description	Nominal output current	Default output current	Output current tolerance	Output ripple current (100 Hz)
OTi QBM 20/220...240/500 NFC I	200...500 mA ⁶⁾	350 mA	± 5 %	< 5 % ⁷⁾
OTi QBM 30/220...240/700 NFC I	350...700 mA ⁶⁾	500 mA	± 5 %	< 5 % ⁷⁾
OTi QBM 40/220...240/1A0 NFC I	500...1050 mA ⁶⁾	700 mA	± 5 %	< 5 % ⁷⁾

Product description	Output PSTLM	Output SVM	Nominal output power	Maximum output power
OTi QBM 20/220...240/500 NFC I	≤ 1	≤ 0.4	20 W ⁸⁾	20 W
OTi QBM 30/220...240/700 NFC I	≤ 1	≤ 0.4	30 W ¹⁰⁾	30 W
OTi QBM 40/220...240/1A0 NFC I	≤ 1	≤ 0.4	40 W ¹¹⁾	40 W

Product description	Current set	Radio frequency	Maximum TX power
OTi QBM 20/220...240/500 NFC I	NFC	2.4 GHz	+4 dBm ⁹⁾
OTi QBM 30/220...240/700 NFC I	NFC	2.4 GHz	+4 dBm ⁹⁾
OTi QBM 40/220...240/1A0 NFC I	NFC	2.4 GHz	+4 dBm ⁹⁾

Product description	Wireless protocol	Wireless range	Galvanic isolation primary/secondary
OTi QBM 20/220...240/500 NFC I	Qualified Bluetooth mesh enabled by Silvair	10 m line of sight	SELV

Product family datasheet

Product description	Wireless protocol	Wireless range	Galvanic isolation primary/secondary
OTi QBM 30/220...240/700 NFC I	Qualified Bluetooth mesh enabled by Silvair	10 m line of sight	SELV
OTi QBM 40/220...240/1A0 NFC I	Qualified Bluetooth mesh enabled by Silvair	10 m line of sight	SELV

- 1) Permitted voltage range
 2) At full load, 220...240 V, 50 Hz / see graphs
 3) at 230 V, 50 Hz
 4) $t_{width} = 200 \mu s$ (measured at 50 % I_{peak})
 5) Maximum 60 V
 6) ±5%
 7) Ripple average at 100 Hz
 8) Partial load 4...20 W
 9) 2.512 mW
 10) Partial load 10...30 W
 11) Partial load 20...40 W

Dimensions & weight

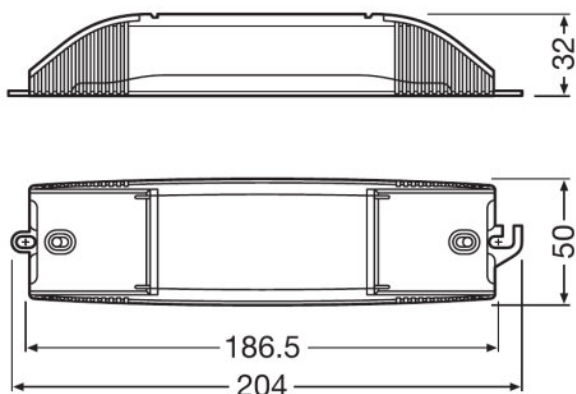
Product description	Mounting hole spacing, length	Product weight	Cable cross-section, input side	Cable cross-section, output side	Wire preparation length, input side
OTi QBM 20/220...240/500 NFC I	186.5 mm	160.00 g	0.75...2.5 mm ² 1)	0.5...1.5 mm ² 1)	6.0 mm
OTi QBM 30/220...240/700 NFC I	186.5 mm	160.00 g	0.75...2.5 mm ² 1)	0.5...1.5 mm ² 1)	6.0 mm
OTi QBM 40/220...240/1A0 NFC I	186.5 mm	170.00 g	0.75...2.5 mm ² 1)	0.5...1.5 mm ² 1)	6.0 mm

Product description	Wire preparation length, output side	Height	Width	Length
OTi QBM 20/220...240/500 NFC I	7...8 mm	32.0 mm	50.0 mm	204.0 mm
OTi QBM 30/220...240/700 NFC I	7...8 mm	32.0 mm	50.0 mm	204.0 mm
OTi QBM 40/220...240/1A0 NFC I	7...8 mm	32.0 mm	50.0 mm	204.0 mm

- 1) Solid or flexible leads

Product family datasheet

Product line drawing



OTi QBM 20/220...240/500 NFC I, OTi QBM
30/220...240/700 NFC I, OTi QBM 40/220...240/1A0 NFC I

Colors & materials

Product description	Casing material
OTi QBM 20/220...240/500 NFC I	Plastic
OTi QBM 30/220...240/700 NFC I	Plastic
OTi QBM 40/220...240/1A0 NFC I	Plastic

Temperatures & operating conditions

Product description	Ambient temperature range	Permitted rel. humidity during operation	Temperature range at storage	Permitted relative humidity at storage
OTi QBM 20/220...240/500 NFC I	-20...+50 °C	5...85 % ¹⁾	-25...85 °C	0...85 %
OTi QBM 30/220...240/700 NFC I	-20...+50 °C	5...85 % ¹⁾	-25...85 °C	0...85 %
OTi QBM 40/220...240/1A0 NFC I	-20...+50 °C	5...85 % ¹⁾	-25...85 °C	0...85 %

Product description	Max.housing temperature in case of fault	Maximum temperature at tc test point
OTi QBM 20/220...240/500 NFC I	110 °C	75 °C ²⁾
OTi QBM 30/220...240/700 NFC I	110 °C	80 °C ²⁾
OTi QBM 40/220...240/1A0 NFC I	110 °C	85 °C ²⁾

Product family datasheet

1) Maximum 56 days/year at 85 %

2) Maximum at the T_c-point

Lifespan

Product description	ECG lifetime
OTi QBM 20/220...240/500 NFC I	50000 / 100000 h ¹⁾
OTi QBM 30/220...240/700 NFC I	50000 / 100000 h ²⁾
OTi QBM 40/220...240/1A0 NFC I	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

Capabilities

Product description	Dimmable	Dimming interface	Dimming range	Dimming method
OTi QBM 20/220...240/500 NFC I	Yes	Qualified Bluetooth mesh by Silvair	1...100 % ¹⁾	Amplitude Modulation
OTi QBM 30/220...240/700 NFC I	Yes	Qualified Bluetooth mesh by Silvair	1...100 % ¹⁾	Amplitude Modulation
OTi QBM 40/220...240/1A0 NFC I	Yes	Qualified Bluetooth mesh by Silvair	1...100 % ¹⁾	Amplitude Modulation

Product description	Overheating protection	Overload protection	Short-circuit protection	No-load proof
OTi QBM 20/220...240/500 NFC I	Automatic reversible	Automatic reversible	Automatic reversible	Yes
OTi QBM 30/220...240/700 NFC I	Automatic reversible	Automatic reversible	Automatic reversible	Yes
OTi QBM 40/220...240/1A0 NFC I	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 QBM 20/220...240/500 NFC I	No	2.0 m	I / II	Screw terminal
OTi QBM 30/220...240/700 NFC I	No	2.0 m	I / II	Screw terminal
OTi QBM 40/220...240/1A0 NFC I	No	2.0 m	I / II	Screw terminal

Product description	Type of connection, output side	Suitable for emergency lighting	Constant lumen function	Number of channels
OTi QBM 20/220...240/500 NFC I	Push terminal	Yes	Programmable	1
OTi QBM 30/220...240/700 NFC I	Push terminal	Yes	Programmable	1
OTi QBM 40/220...240/1A0 NFC I	Push terminal	Yes	Programmable	1

Product description	Programming interface	Reset	DALI-2 Energy Data
OTi QBM 20/220...240/500 NFC I	NFC	Manual ²⁾	No
OTi QBM 30/220...240/700 NFC I	NFC	Manual ²⁾	No
OTi QBM 40/220...240/1A0 NFC I	NFC	Manual ²⁾	No

Product family datasheet

Product description	DALI-2 Diagnostic Data
OTi QBM 20/220...240/500 NFC I	No
OTi QBM 30/220...240/700 NFC I	No
OTi QBM 40/220...240/1A0 NFC I	No

1) For maximum nominal output current

2) see additional product information

Programming

Product description	Programming device	Tuner4TRONIC Field App	Tuner4TRONIC
OTi QBM 20/220...240/500 NFC I	NFC	Yes	Yes
OTi QBM 30/220...240/700 NFC I	NFC	Yes	Yes
OTi QBM 40/220...240/1A0 NFC I	NFC	Yes	Yes

Product description	Box programming
OTi QBM 20/220...240/500 NFC I	Yes
OTi QBM 30/220...240/700 NFC I	Yes
OTi QBM 40/220...240/1A0 NFC I	Yes

Programmable features

Product description	DALI-2 Luminaire Data	Emergency Mode
OTi QBM 20/220...240/500 NFC I	No	Yes
OTi QBM 30/220...240/700 NFC I	No	Yes
OTi QBM 40/220...240/1A0 NFC I	No	Yes

Product family datasheet

Certificates & standards

Product description	Approval marks – approval	Standards	Protection class	Type of protection
OTi QBM 20/220...240/500 NFC I	CE / EL / EAC ¹⁾	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 62479/Acc. to ETSI EN 300 328/Acc. to ETSI EN 301 489-17/Acc. to ETSI EN 301 489 - 1	II	IP20
OTi QBM 30/220...240/700 NFC I	CE / EL / EAC ¹⁾	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 62479/Acc. to ETSI EN 300 328/Acc. to ETSI EN 301 489-17/Acc. to ETSI EN 301 489 - 1	II	IP20
OTi QBM 40/220...240/1A0 NFC I	CE / EL / EAC ¹⁾	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 62479/Acc. to ETSI EN 300 328/Acc. to ETSI EN 301 489-17/Acc. to ETSI EN 301 489 - 1	II	IP20

¹⁾ In preparation

Logistical data

Product description	Commodity code
OTi QBM 20/220...240/500 NFC I	850440909000
OTi QBM 30/220...240/700 NFC I	850440909000
OTi QBM 40/220...240/1A0 NFC I	850440909000

Environmental information

Product description	Date of Declaration	Primary Article Identifier	Candidate List Substance 1
OTi QBM 20/220...240/500 NFC I	23-12-2021	4062172115025	Lead
OTi QBM 30/220...240/700 NFC I	23-12-2021	4062172115049	Lead
OTi QBM 40/220...240/1A0 NFC I	23-12-2021	4062172115063	Lead

Product family datasheet

Product description	CAS No. of substance 1	Safe Use Instruction	Declaration No. in SCIP database
OTi QBM 20/220...240/500 NFC I	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	bbb90217-dacd-4d8e-a7d8-c2e4de73f5d1
OTi QBM 30/220...240/700 NFC I	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	53fdf505-2f9c-4e08-8a16-1393bcfb6b63
OTi QBM 40/220...240/1A0 NFC I	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.	624a7446-8896-4d4e-a2a1-9b44646a9ff8

Application advice

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

Additional product information











- By integrating the device into a casing the wireless range could be affected, in particular by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device has passed successfully the SILVAIR Testing process.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth mesh Standard v1.0. It can also be used in 3rd party Bluetooth mesh network, that complies with this standard and that supports the mesh models of this device, and with certain 3rd party commissioning tools, that support the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components and the 3rd party commissioning tool is necessary in advance. Please contact OSRAM (support@hubsense.eu) to receive the actual list of supported models for this device.
- OSRAM shall have no liability for any 3rd party commissioning tool and does not make any representations, express or implied, about the availability and/or performance of such commissioning tool.
- OSRAM shall have no liability for and does not make any representations, express or implied, about the connectivity of OSRAM QBM products with any other products, that have passed the SILVAIR Testing process.
- Reset to factory setting: (1) Power off device and disconnect from mains, apply short circuit between LED+ and LED-, (2) connect device to mains and power on for at least 2 seconds, (3) power off device, disconnect from mains and remove short circuit. Reset completed.

Sales and Technical Support

Sales and Technical Support www.osram.com

Download Data

Product family datasheet

File	
	User instruction OPTOTRONIC LED Power Supply
	User instruction OPTOTRONIC LED Power Supply
	Certificates OTi QBM NFC S I UK DoC 4281118 010621
	Certificates OT ENEC 40038447 161221
	Certificates OT EMC 40044675 250621
	Declarations of conformity OTi QBM NFC S I CE 4200206 200821
	CAD data 3-dim PTi 20 I CAD3PDF
	CAD data 3-dim PTi 20 I IGS
	CAD data 3-dim PTi 20 I STEP
	CAD data PDF PTi 20 I CAD2PDF

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
4062172115025	OTi QBM 20/220...240/500 NFC I	Shipping carton box 20	428 mm x 173 mm x 121 mm	8.96 dm ³	3467.00 g
4062172115049	OTi QBM 30/220...240/700 NFC I	Shipping carton box 20	428 mm x 173 mm x 121 mm	8.96 dm ³	3467.00 g
4062172115063	OTi QBM 40/220...240/1A0 NFC I	Shipping carton box 20	428 mm x 173 mm x 121 mm	8.96 dm ³	3467.00 g

Product family datasheet

Logistical Data

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.

Disclaimer

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