TRIDONIC

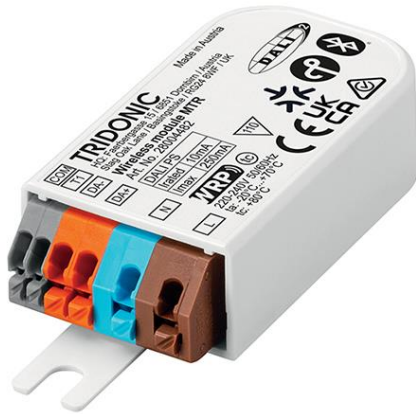## Wireless Module MTR

Matter wireless module

Product description

_ Matter certified device

_ Communication via an IPv6 Thread Network

_ Thread Border Router is required (e.g. Apple HomePod mini or Google NestHub)

_ Small form factor for luminaire installation

_ Digital output: DALI (Broadcast DT6)

_ Integrated 10 mA DALI power supply

_ Independent push-button input for free configuration

_ Wireless firmware updates possible
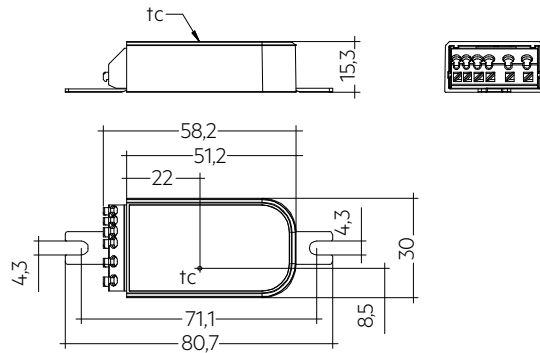
_ 5 years guarantee (conditions at www.tridonic.com)

Website

http://www.tridonic.com/28004482

Wireless Module MTR

Matter wireless module

Ordering data

Type	Article number	Packaging, carton	Weight per pc.
Wireless module MTR	**28004482**	60 pc(s).	0.02 kg

Technical data

Rated supply voltage	220 – 240 V
Mains frequency	50 / 60 Hz
Max. mains current	10 mA
Typ. power consumption on stand-by	< 0.4 W
Input	1 momentary-action switch
Max. cable length push button	5 m bei 0,14-0,5 mm²
Radio transceiver operating frequencies	2.4 – 2.483 GHz
Max. output power radio transceiver (E.R.I.P.) [1]	< + 20 dBm
Output	Broadcast, DT6, DALI (compatible)
Guaranteed output current, DALI [2]	10 mA
Max. output current, DALI	250 mA
Max. DALI wiring length	5 m at 1 mm²
Starting time	≤ 2 s
Ambient temperature ta	-20 … +70 °C
Max. casing temperature tc	80 °C
Storage temperature ts	-25 … +75 °C
Lifetime	up to 50,000 h
Guarantee	5 Year(s)
Dimensions L x W x H [3]	80.7 x 30 x 15.3 mm
Type of protection	IP20

Approval marks

WRP · DALI 2 · KC · CQC · CE · UKCA · RoHS

Standards

EN 55015, EN 55022, EN 55032, EN 61347-1, EN 61347-2-11, EN 61547, ETSI EN 300 328, ETSI EN 301 489-1, ETSI EN 301 489-17

[1] E.I.R.P.: Equivalent Isotropically Radiated Power.
[2] Max. 5 loads.
[3] Screw fixings can be removed.

1. Standards

EN 55015
EN 55022
EN 55032
EN 61347-1
EN 61347-2-11
EN 61547
ETSI EN 300 328
ETSI EN 301 489-1
ETSI EN 301 489-17

1.1 Glow wire test

according to EN 61347-2-11 with increased temperature of 850 °C passed.

2. Common

2.1 Description

The Wireless Module MTR is a Matter-capable DALI controller with a freely configurable push-button input and integrated DALI power supply, therefore no external DALI power supply is necessary.

Connection of one or more DALI drivers to the module is possible (Broadcast DT6). Max. 5 drivers can be connected.

The Matter-enabled products from Tridonic communicate via IPv6 thread network and require a thread border router (e.g. Apple HomePod mini or Google Nest Hub).

2.2 Operation

Matter products from Tridonic are compatible with the Matter ecosystem of other manufacturers.
Multiple devices automatically form a threaded mesh network.

Radio-based Matter products have an integrated 2.4 GHz antenna.
To achieve optimum RF performance when installing the module in a luminaire, follow the instructions in chapter 5.3 Placement.

3. Thermal details and lifetime

3.1 Expected lifetime

Expected lifetime

Type	t_a	75 °C	70 °C	60 °C
Wireless Module MTR	t_c	80 °C	76 °C	66 °C
	Lifetime	40,000 h	50,000 h	100,000 h

The device is designed for a lifetime stated above under reference conditions and with a failure probability of less than 10 %.

tc (top side)
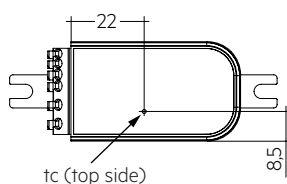
4. Interfaces / communication

4.1 DALI output

The Wireless Module MTR has an integrated DALI power supply.
A maximum of 5 drivers can be connected to this interface.

⚠️ Before connecting the Wireless Module MTR to a DALI line, please make sure that no other DALI power supply (including drivers with integrated PS) is powering the bus.

4.2 Push-button input

An independent push-button can be connected to the input terminals of the Wireless Module MTR.
The max. cable length between push-button and terminal is 5 m.

With the push-button input it is possible to control individual luminaires of a Matter network or the whole network (depending on the functionality of the Matter ecosystem).

5. Installation / wiring

5.1 Wiring diagram DALI

* Max. wiring length 5 m with integrated DALI power supply and a cross section of 1 mm².
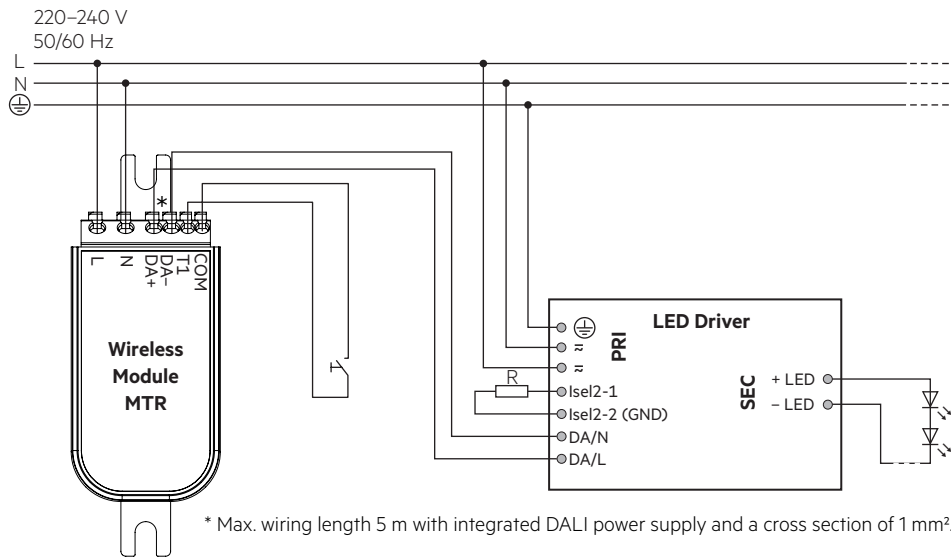
5.2 Wiring type and cross section

Mains supply / DALI wires:
For wiring use stranded wire with ferrules or solid wire from 0.2–1.5 mm² (16–24 AWG).
Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.
Use one wire for each terminal connector only.

wire preparation:
0.2 – 1.5 mm² / 16 – 24 AWG
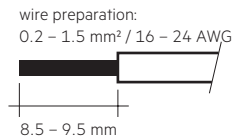
8.5 – 9.5 mm

Push-button input wires:
For wiring use stranded wire with ferrules or solid wire from 0.14–0.5 mm² (20–25 AWG).
Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.
Use one wire for each terminal connector only.

wire preparation:
0.14 – 0.5 mm² / 20 – 25 AWG

8.5 – 9.5 mm
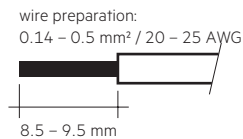
5.3 Placement

Wireless Module MTR has an integrated antenna for easy integration.
In order to maximize the range in every direction some design guidelines should be taken into consideration when mounting the device.
The antenna is located at the end of the enclosure.
When the device is mounted on a metal plate (e.g. frame of a luminaire), it may efficiently block the radio frequency signal. In this case, a cut-out underneath the antenna may be needed for the RF signal to exit the structure. The cut-out area should be as large as possible. Also the device should be placed as far away from any vertical metal structures as possible.

■ Antenna location

⚠ The range of the communication signal is depending on the environment e.g. luminaire, construction of the building, furnitures or humans and needs to be tested and approved in the installation.

⚠ To ensure a good radio connection, do not cover the Matter device completely with metal!

5.4 Installation note

Max. torque at screw fixing: 0.4 Nm / M3.

5.5 QR code

The unit contains 2 QR codes that are identical. One is permanently attached to the unit and the second is to be torn off and then stuck on the luninaire or stored in the commissioning documentation.

⚠️ These QR codes contain device-specific data that is required to commission the Matter luminaire. Without this, it is not possible to commission a Matter luminaire.

The QR code that is placed on the luminaire should be easy for the commissioner to reach and scan, but not visible to everyone!
If this is not possible, collect and keep the QR code stickers after commissioning.
Be sure to inform the end customer of the consequences if they are lost. With the QR code it is possible to commission the unit to a network. The QR code represents access to the network itself!

6. Restore factory defaults

To restore the factory settings, the module must be switched on and off in the following sequence.
If the sequence was entered correctly, the luminaire (driver) flashes 2 times.

Stage	Duration	State
1	< 5 s	ON
2	>30 s	OFF
3	5 – 15 s	ON
4	>30 s	OFF
5	< 5 s	ON
6	>30 s	OFF
7	< 5 s	ON
8	>30 s	OFF
9	permanent	ON

1	2	3	4	5	6	7	8	9
2 s	>30 s	10 s	>30 s	2 s	>30 s	2 s	>30 s	permanent ON

7. Miscellaneous

7.1 Disposal of equipment

Return old devices in accordance with the WEEE directive to suitable recycling facilities.

7.2 Conditions of use and storage

Environmental conditions: 5 % up to max. 85 %, not condensed

Storage temperature: -25 °C up to max. +75 °C

The devices have to be acclimatised to the specified temperature range (ta) before they can be operated.

7.3 Matter certified

The device is a Matter certified device and listed in the Matter product database.
The Connectivity Standard Alliance (CSA) offers the Certification Transfer Program for re-branding/white labeling while maintaining the Certified status of those products.
To guarantee compliance while integrating these devices into luminaires, it is recommended to verify any additional requirements with the Connectivity Standards Alliance and the Transfer Program:
https://csa-iot.org/certification/transfer-program/

7.4 Additional information

The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Zumtobel Group AG is under license.
Tridonic GmbH & Co. KG is a subsidiary of Zumtobel Group AG.

Additional technical information at www.tridonic.com → Technical Data

Lifetime declarations are informative and represent no warranty claim.
No warranty if device was opened.