TRIDONIC

basicDIM Wireless 0-10V 2CH

Casambi Ready wireless modules



Product description

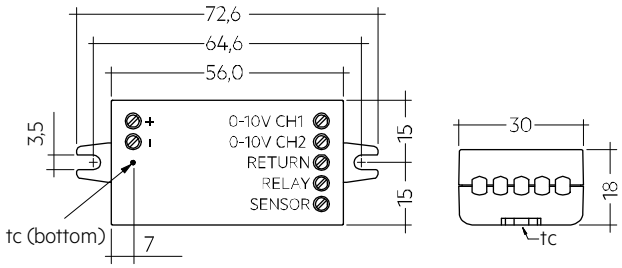
- Can be integrated in Casambi systems (Casambi Ready)
- Wireless controllable with an Android / iOS smart device
- No need for an external gateway device
- Forms automatically a wireless communication network with up to 250 nodes
- Small form factor for luminaire installation
- 2 channel 0 – 10 V dimmer
- Easily implemented colour temperature controls
- Device firmware can be updated over-the-air
- 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)
- We will provide security updates for the next five years after the date of purchase of this product

Website

http://www.tridonic.com/28002576

basicDIM Wireless 0-10V 2CH

Casambi Ready wireless modules



Ordering data

Type	Article number	Packaging, carton	Weight per pc.
basicDIM Wireless 0-10V 2CH	**28002576**	120 pc(s).	0.022 kg

Technical data

Supply voltage DC (class 2)	12 – 24 V
No-load input current	30 mA
Output voltage DC (0-10V)	0 – 10 V
Max. output current (0-10V) / channel (sinking and sourcing)	5 mA
Output voltage DC (relay)	12 – 24 V
Max. output current (relay)	100 mA
Input voltage range DC (sensor)	0 – 24 V
Input resistance (sensor)	81.5 kΩ
Radio transceiver operating frequencies	2.4 – 2.483 GHz
Max. output power radio transceiver (E.I. R.P.) ①	< + 20 dBm
Max. casing temperature tc	75 °C
Ambient temperature ta	-25 … +45 °C
Storage temperature ts	-25 … +75 °C
Lifetime	50,000 h
Guarantee (conditions at www.tridonic.com)	5 Year(s)
Dimensions L x W x H	72.6 x 30 x 18 mm
Type of protection	IP20

Approval marks

Standards

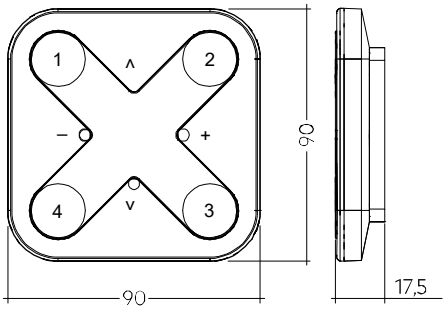
EN 55022, EN 55032, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-29, EN 61347-1, EN 61347-2-11, EN 61347-2-13, FCC 47CFR Part 15

① E.I.R.P.: Equivalent Isotropically Radiated Power.

basicDIM Wireless User Interface

Accessory





Product description

_ Can be integrated in Casambi systems (Casambi Ready)
_ Battery powered, wireless wall switch
_ Forms automatically a wireless communication network with up to 250 nodes ①
_ Controls all types of basicDIM Wireless devices
_ 4 scenes
_ Dim up / down
_ Colour temperature control
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)
_ We will provide security updates for the next five years after the date of purchase of this product

① Depends on production number, see data sheet basicDIM Wireless User Interface.

Website
http://www.tridonic.com/28002213

Ordering data

Type	Article number	Colour	Packaging, carton	Weight per pc.
basicDIM Wireless User Interface	**28002213**	Black	50 pc(s).	0.078 kg
basicDIM Wireless User Interface white	**28002420**	White	50 pc(s).	0.078 kg

Approval marks

RoHS

1. Standards

EN 55022
EN 55032
EN 61000-4-2
EN 61000-4-3/A2
EN 61000-4-4
EN 61000-4-5
EN 61000-4-6
EN 61000-4-29
EN 61347-1
EN 61347-2-11
EN 61347-2-13
FCC 47CFR Part 15 Class B Sub part C

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

1.1 Glow wire test

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

2. Common

2.1 Description

The basicDIM Wireless 0-10V 2CH module is a Bluetooth-compatible, 2-channel control unit for dimmable 0-10V LED loads and luminaires.
The module features a relay output for controlling an external relay and a sensor input.
Power is supplied via an external 12-24 V DC class 2 power supply unit.

The basicDIM Wireless 0-10V 2CH module can control two channels, making it an ideal complement for Tunable White (TW) applications.
Both channels can be configured individually.

All basicDIM Wireless devices can be controlled via smartphones or tablets with the Tridonic app „4remote BT“. The app can be downloaded for free from the Apple App Store or Google Play Store.

2.2 Operation

The basicDIM Wireless 0-10V 2CH module is fully compatible with networks which support up to 250 nodes (Evolution networks). If the module is used with different types of basicDIM Wireless devices in an Evolution network, their compatibility has to be checked before. If a device is not compatible with Evolution networks, it can be only used in networks which support up to max. of 127 devices (Classic networks).

Multiple devices automatically form a mesh network that can be controlled from any point. These networks communicate wirelessly directly with the smartphone or tablet. Therefore, an external gateway or wireless LAN network is not required.

basicDIM Wireless devices have an integrated 2.4 GHz antenna.
For optimum RF performance, special attention is required if the device is to be integrated into a luminaire.
See also chapter 5.4 Placement for further instructions.

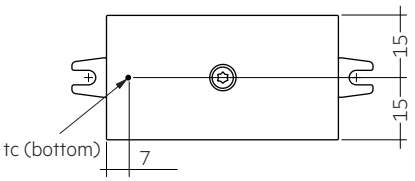
The settings and operating modes can be configured using the 4remote BT App. They are automatically stored in the Tridonic Cloud Service. This way, the same settings are available to everyone connected to the network.

3. Thermal details and lifetime

3.1 Expected lifetime

Expected lifetime		
Type	**ta**	**45 °C**
basicDIM Wireless 0-10V 2CH	tc	75 °C
	Lifetime	50,000 h

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



4. Interfaces / communication

Connect a class 2 power supply with an output voltage of 12-24 V DC to the input connector of the basicDIM Wireless 0-10V 2CH module.

Note: Make sure the polarity of the cable is correct.

The module has a common “return” terminal which is used with the two 0-10V outputs, the relay control output and the sensor input.

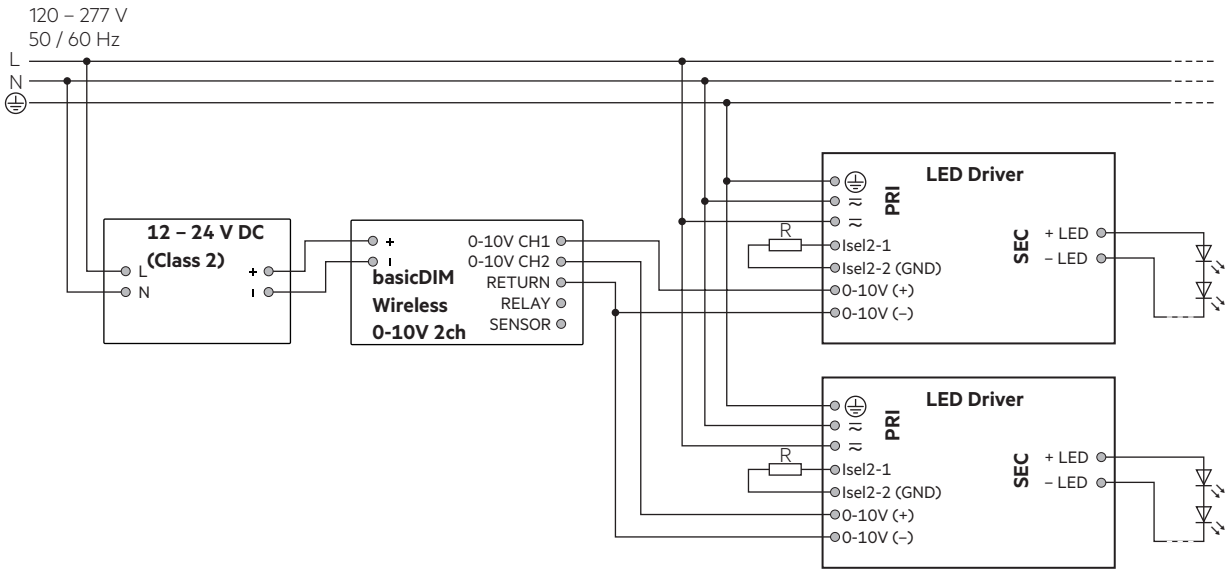
The two 0-10V outputs are capable of controlling each one 0-10V driver. It has to be considered, that a driver in the operating mode “sourcing” connected to a channel will increase the input current of the module slightly. drivers with “sinking” operating mode do not have influence on the current consumption of the module.

The device also has a control connector for an external relay and a 0-24 V DC analog input that can be used with various types of analog sensors.
It is essential to protect the relay against inductive over voltage spikes by installing a flyback diode.
The module is capable of receiving and processing presence signals.
If the correct device profile is selected, a voltage of > 8 V on the sensor input is registered as presence by the module.

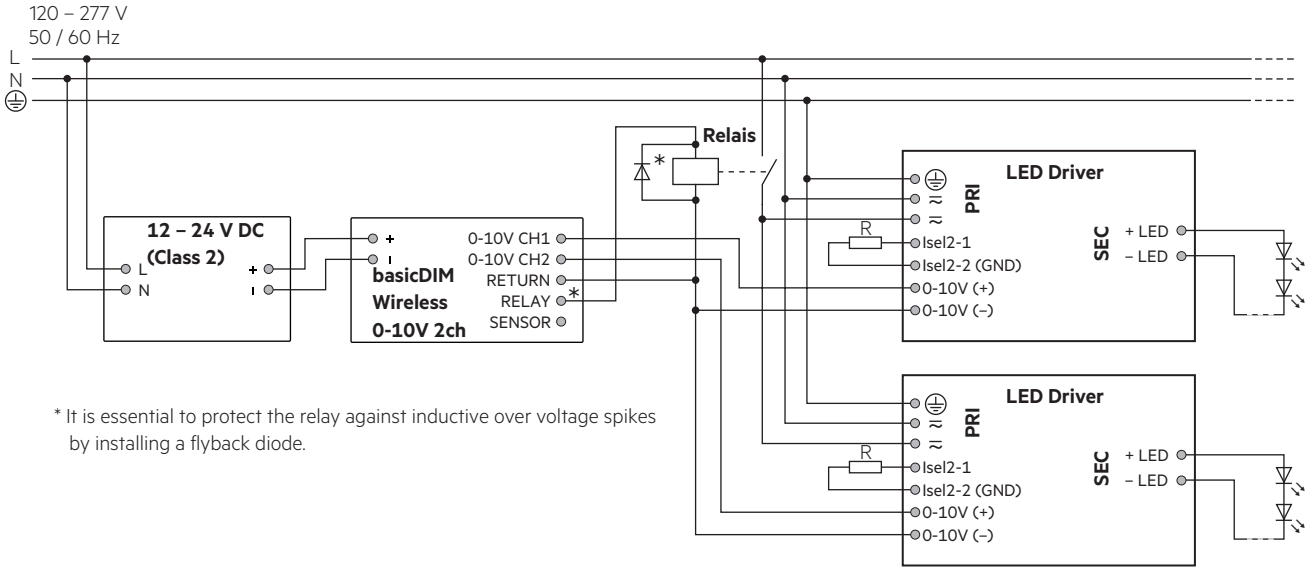
The two 0-10V outputs can be configured for different functions, such as 2 channel Tunable White or as common or individually dimmable channels.
The default configuration at delivery is 2 channel dimming, but the configuration can be changed by the end user via the 4remote BT App.
For Tunable White device profiles, channel 1 is responsible for controlling the warm white (WW) and channel 2 for the cold white (CW) light portion.

5. Installation / wiring

5.1 Wiring diagram



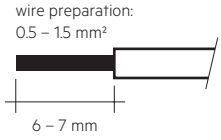
5.2 Wiring diagram with external relay contact



* It is essential to protect the relay against inductive over voltage spikes by installing a flyback diode.

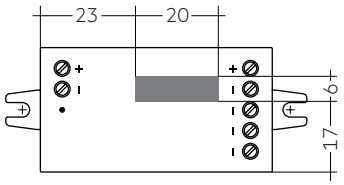
5.2 Wiring type and cross section

For wiring use stranded wire with ferrules or solid wire from 0.5 – 1.5 mm² (AWG 22 – 14).
Strip 6 – 7 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.
Use one wire for each terminal connector only.



5.3 Placement

basicDIM Wireless devices have 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 on the corner of the enclosure. It is on the top side of the internal PCB (Printed Circuit Board).
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 cutout underneath the antenna may be needed for the RF signal to exit the structure. The cutout area should be as large as possible. Also the device should be placed as far away from any vertical metal structures as possible.



■ Antenna cutout on bottom of device

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 basicDIM Wireless completely with metal!

5.4 Installation note

Max. torque at the clamping screw: 0.4 Nm / M3.

6. Miscellaneous

6.1 Disposal of equipment

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

6.2 Conditions of use and storage

Environmental conditions:	0 % up to max. 80 %, 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.

6.3 Additional information

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

Guarantee conditions at www.tridonic.com → Services

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