TRIDONIC

traluxSENSE SFI 40 PIR 3DP bDW

Casambi Ready wireless modules





Product description

_ Monitoring of ambient light and occupancy detection
_ Can be integrated in Casambi systems (Casambi Ready)
_ Wireless controllable with an Android / iOS smart device
_ Forms automatically a wireless communication network with up to 250 nodes
_ Digital output: Standalone DALI (compatible)
_ Low energy consumption over bus supply
_ Lifetime up to 50,000 h at tc = 60 °C
_ 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

Housing properties

_ Two colour options white (RAL 9016) or black (RAL 9005)
_ Type of protection IP20
_ Impact protection degree IK08 (lens excluded)

Benefits

_ Flexible: Individual adjustment of parameters with configuration software
_ Integrated solution: Combines connected luminaires and light-on-demand functionality in a single device

Typical applications

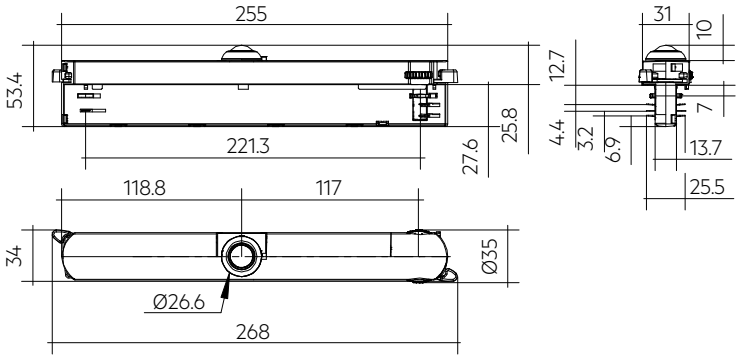
_ Round detection area for indoor applications, office, factory, storage buildings and warehouses

Website

http://www.tridonic.com/28006657

traluxSENSE SFI 40 PIR 3DP bDW

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Ordering data

Type	Article number	Suitable for	Colour	Dimensions L x W x H	Packaging, carton	Weight per pc.
traluxSENSE SFI 40 PIR 3DP bDW WH	**28006657**	In-track	White	268 x 53.4 x 35 mm	4 pc(s).	0.093 kg
traluxSENSE SFI 40 PIR 3DP bDW BK	**28006658**	In-track	Black	268 x 53.4 x 35 mm	4 pc(s).	0.093 kg

Technical data

Sensor type	PIR sensor
Supply via	DALI
Supply voltage ①	9.5 – 22.5 V
Current draw	10 mA (max. 30 mA)
Starting time	≤ 30 s
Supported operating modes	0
Mounting height	2.5 – 4 m
Mounting	In-track
Detection angle for PIR detection (tagential / radial)	105° / 55°
Detection angle for light measurement	100°
Detection range for light measurement ②	1 – 1,000 lx
Light measurement resolution	10 lx
Min. temperature difference between ambient temperature and detected object	± 4 °C
Ambient temperature ta ③	-20 … +50 °C
Humidity	20 … 90 % not condensed
tc point	55 °C
Storage temperature ts	-25 … +60 °C
Housing material body	PC polycarbonate
Housing material lens	HDPE
Housing colour body	White (similar to RAL 9016), Black (similar to RAL 9005)
Housing colour lens	Milky white to slightly translucent
Type of protection	IP20
Lifetime	up to 50,000 h
Guarantee (conditions at www.tridonic.com)	5 Year(s)

Approval marks

① Uin acc. IEC 62386-101.
② The measured value at the sensor head corresponds to 20 – 90 % of the lux value measured on the surface located below the sensor.
③ Correct sensor operation can not be guaranteed if operated outside this ta window.

1. Standards

EN 61347-1
EN 61347-2-11
RoHS Directive 2011/65/EU
EN IEC 55015
EN IEC 61547
IEC 62479
IEC 62493
EN 300 328
EN 301 489-1
EN 301 489-17
IEC 62386-101
IEC 62386-103
UK 2023
UK 2022
EN 18031-1:2024
EN 18031-2:2024

1.1 Glow wire test

according to EN 61347-1 passed with 750 °C.

2. Common

The Tridonic traluxSENSE SFI 40 PIR 3DP bDW is one of the first motion sensor developed especially to fit office, factory, storage buildings and warehouses.
The flexible mounting height from 2.5 – 4 m allows in addition a huge variation of use-cases to be covered.

The sensor is powered by a IEC 62386 compatible power supply.

All basicDIM Wireless devices can be controlled with the Tridonic app “4remote BT“. The app can be downloaded free of charge from the Apple App Store and Google Play Store.

2.1 Operation

The traluxSENSE SFI 40 PIR 3DP bDW 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.

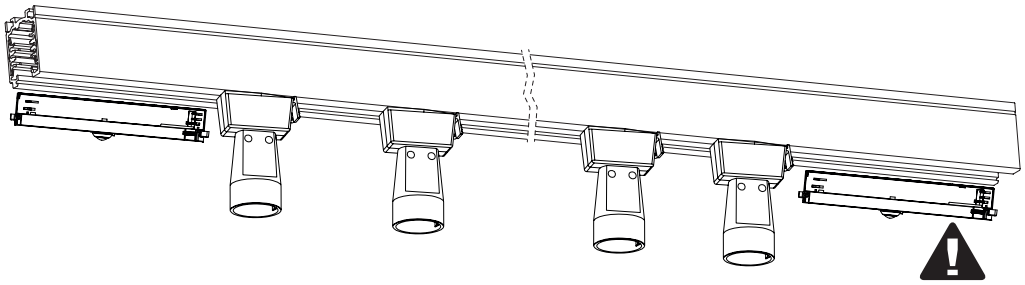
Multiple devices automatically form a mesh network that can be controlled from any point. These networks communicate wirelessly directly with the smartphone or tablet. Therefore, an external gateway or wireless LAN network is not needed.

basicDIM Wireless devices can be used very flexible for different use cases. The operating modes (profiles) can be changed in the 4remote BT app.

3. Installation

- The traluxSENSE must not be connected to mains. It is supplied directly via the BUS power supply.
- DALI is not SELV. The installation instructions for mains voltage therefore apply.
- Please ensure that the detection ranges of the sensors do not overlap. This may have influence to the light measurement.
- When installed at another height than the recommended installation height, the presence sensor might show different characteristics. When mounted at a higher level, the sensitivity is reduced. If mounted at a lower level, the range is reduced.
- Heat sources located in the detection zone may cause incorrect presence detection.
- traluxSENSE is developed to cover the mentioned detection area. Depending on the environment, sensor may also detect objects located outside the mentioned detection area.
- Correct sensor operation can not be guaranteed if operated outside it´s ta window.
- Make sure the sensor is mounted correctly and locked in place.
- Min. temperature difference between ambient temperature and detected object is ± 4°C. Objects inside this window may not be detected by the sensor.
- Avoid direct illumination of the light source on the sensor including housing.

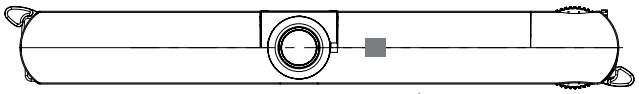
Only one traluxSENSE SFI 40 PIR 3DP bDW per track may be configured with a luminaire-control profile.
This device acts as the primary controller for the associated luminaires. Additional sensors installed on the same track must be configured as sensor-only devices and must not contain luminaire-control functionality. Using more than one luminaire-control sensor in the same track can cause conflicting control commands and is not supported.



3.1 Placement

TraluxSENSE SFI 40 PIR 3DP bDW has an integrated Bluetooth antenna for easy integration. In order to maximize the range in every direction consider the following design guidelines:

- The Bluetooth antenna is located at the end of the enclosure.
- When mounting the device 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 Bluetooth antenna may be needed for the RF signal to exit the structure. The cut-out area should be as large as possible.
- Place the device as far away as possible from any vertical metal structures.



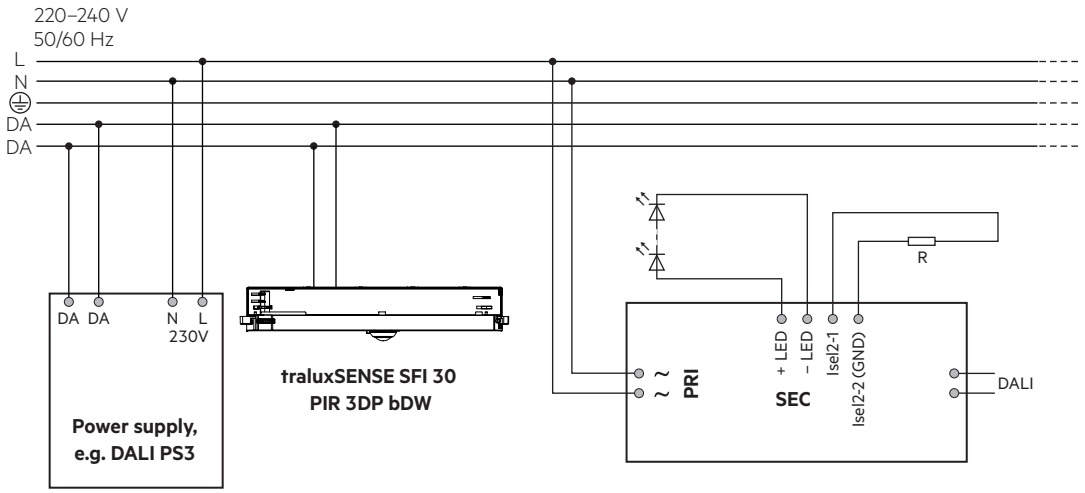
Antenna location

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.

3.2 Wiring

For EN 62386-101 Ed. 2 systems:

Wiring diagram with an external bus supply



* Max. 4 single / group addresses (A0 … A3 / G0 … G3) controllable, depending on the device profile of the basicDIM Wireless module. The rest of the connected drivers can be controlled via broadcast – depending on the device profile.

3.3 Compatible tracks

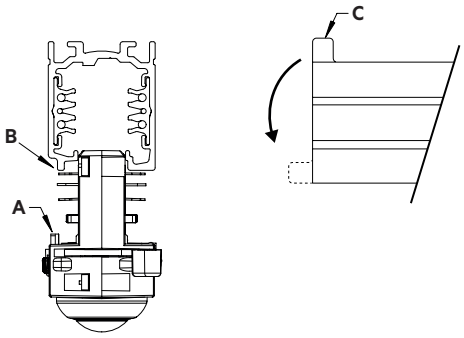
Manufacturer	Type
Stucchi	9000A Series
Powergear	PRO-R610 PRO-R620 PRO-R630 PRO-R6400 PRO-R0610 PRO-R0620 PRO-R0630 PRO-R06400

Tests have been done with Powergear track.

Tridonic has no control or responsability on any future or past possible changes made by different manufactures that could affect the compatiblity between tracks and adapters.

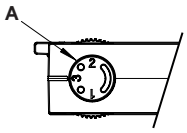
3.4 Adapter mounting into the track

Insert the adapter into the track, so that the mechanical key (A) in the adaptor matches the groove (B) in the track. Rotate of about 90° the lever of the cam (C) until it reachs the locking position.
To open rotate the lever the opposite direction.



3.5 Phase selection

For mains connected intrack devices, the track is connected to a three-phase system it is possible to select the phase (L1, L2 or L3). For the traluxSENSE SFI 30 PIR 3DP bDW this is not applicable as only DALI lines are connected to the system.



4. Sensor function

4.1 Occupancy / motion detection

For occupancy detection PIR technology is used. The PIR Lens is made to detect moving people in areas such as office, open space or corridors with the following performance criteria:

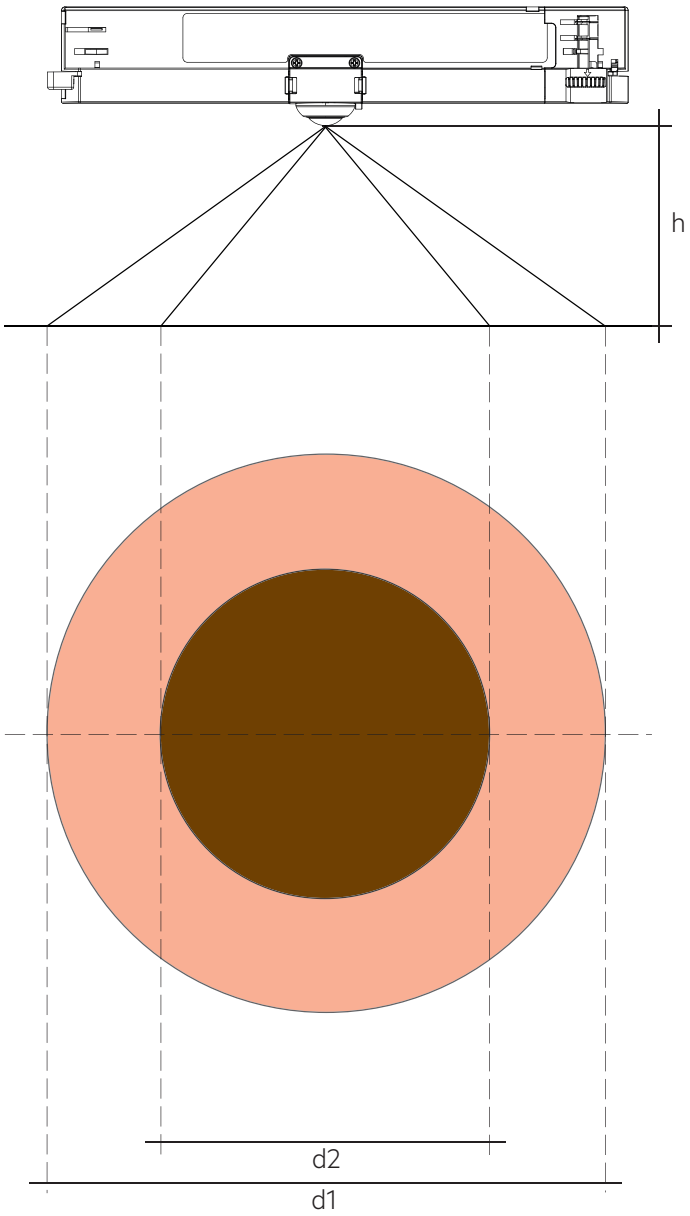
- Ceiling height from 2.5 to 4 m
- Movement of human body
- Movement speed ≥ 1.0 m/s for mounting heights up to 3 m

Reaction time of the sensor (time between occupancy detected and event information send to DALI Bus) is ≤ 25 ms.

The reaction time of the system can be extended by factors such as the amount of data on the bus, the number of connected devices or the control device used (Application Controller).

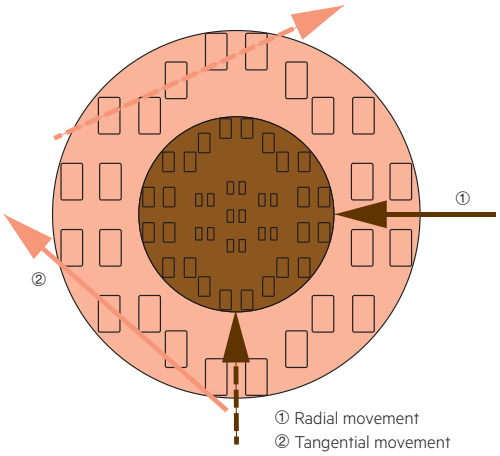
The point at which the light responds must therefore not be equated with the outer detection range.

4.2 Detection area

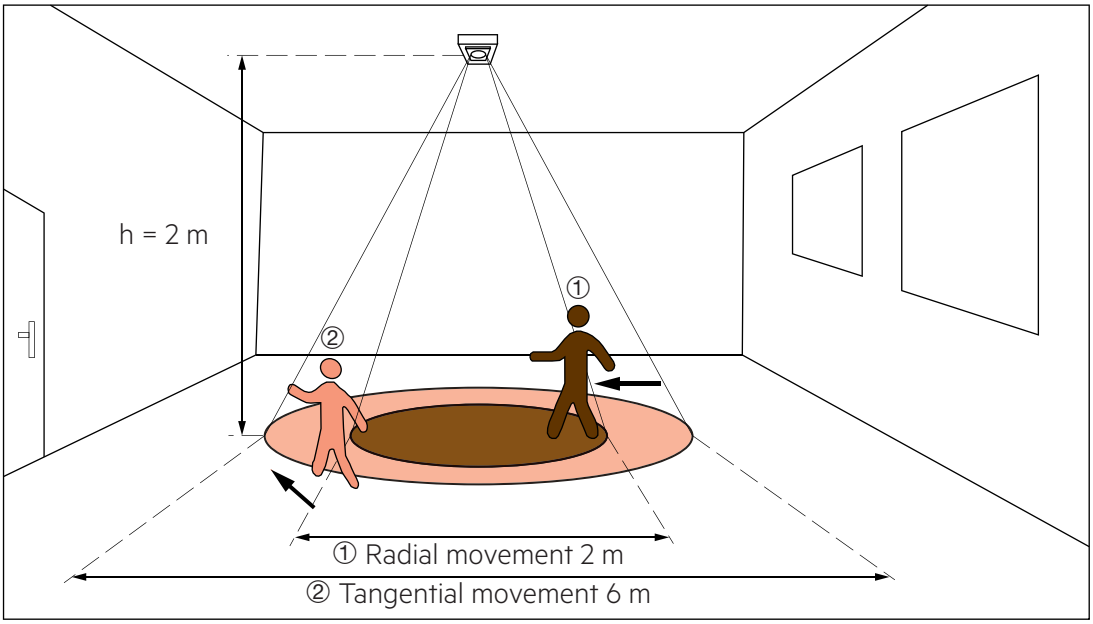


h = Height	d1 = Tangential movements	d2 = Radial movements
	Diameter	Diameter
2.0 m	6.0 m	2.0 m
2.5 m	7.0 m	2.5 m
3.0 m	8.0 m	3.0 m
3.5 m	9.0 m	3.5 m

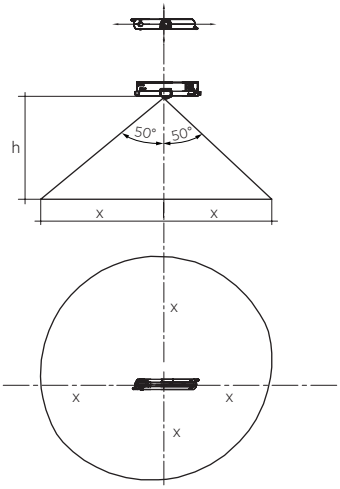
Schematic illustration of radial / tangential movements:



Detection example at 2 m mounting height:



4.3 Light measurement



	50°
h [m]	X [m]
2.0	2.4
2.7	3.2
3.0	3.6
4.0	4.8

4.4 Status LED's

There is a LED built in to indicate different status information to the user.

Event	LED Color
Identify device	Red
Motion detection Remove Blinkning sequence column completely	Red

5. Miscellaneous

5.1 Disposal of equipment



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

5.2 Additional information

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.

5.3 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.

Wireless Reference Plattform (WRP) is Tridonic's own wireless architecture which is build in this product.

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