TRIDONIC

battenSENSE SFI 40 PIR 12DPI bDW WH

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
_ Digital output: Standalone DALI (compatible)
_ Designed for mid-bay applications (installation height up to 3–12 m)
_ Integrated daylight sensor for ambient light measurement and daylight harvesting
_ Integrated DALI power supply
_ IP65 protection for robust installation
_ Suitable for mounting onto batten-style luminaires
_ 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

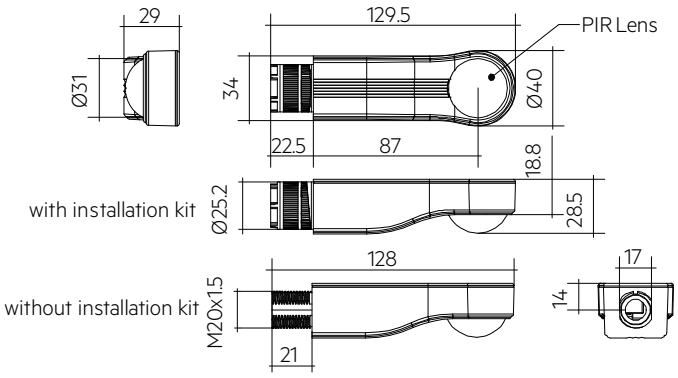
_ Casing: polycarbonate, white
_ Type of protection IP65

Website

http://www.tridonic.com/28006601

battenSENSE SFI 40 PIR 12DPI bDW WH

Casambi Ready wireless modules



Ordering data

Type	Article number	Packaging, carton	Weight per pc.
battenSENSE SFI 40 PIR 12DP bDW WH	**28006601**	7 pc(s).	0.095 kg

Technical data

Sensor type	PIR sensor
Rated supply voltage	220 – 240 V
Mains frequency	50 / 60 Hz
Typ. power consumption on stand-by	< 0.5 W
Radio transceiver operating frequencies	2.402 – 2.483 GHz
Max. output power radio transceiver (E.I. R.P.) ①	< + 8 dBm
Min. receiver sensitivity	- 95 dBm
Radio protocol	Bluetooth 4.0 or 5.0 Low Energy (BLE)
Capable for mesh network	Up to 250 nodes
Interface	Digital interface according to DALI
Guaranteed output current, DALI	20 mA
Max. output current, DALI	125 mA
Max. DALI wiring length	300 m at 1.5 mm²
Starting time ②	≤ 30 s
Mounting height	3 – 12 m
Mounting hole diameter	20 mm
Housing thickness of the luminaire	0.75 – 2.2 mm
Detection angle for PIR detection ③	90°
Detection angle for light measurement	120°
Detection range for light measurement ④	1 – 1,000 lx
Light measurement resolution	10 lx
Min. temperature difference between ambient temperature and detected object	± 4 °C
Ambient temperature ta	-20 … +50 °C
tc point	60 °C
Storage temperature ts	-25 … +60 °C
Housing material body	PC polycarbonate
Housing material lens	HDPE
Housing colour body	telegrey (similar to RAL 7047)
Housing colour lens	Milky white to slightly translucent
Lifetime	up to 50,000 h
Guarantee (conditions at www.tridonic.com)	5 Year(s)
Type of protection	IP65

Approval marks

DALI IP65

① E.I.R.P.: Equivalent Isotropically Radiated Power.
② Starting time is the time until the PIR element of the sensor is ready and delivers correct values.

③ For details see chapter detection area in data sheet.
④ The measured value by the sensor is typically 2-4 times less than the lux value measured on the surface below the Sensor.

1. Standards

EN 55015
EN 61547
EN 61000-3-2
EN 61000 3-3
EN 61347-1
EN 61347-2-11
EN 62386-101
EN 62386-103
IEC 62479
IEC 65493
EN 300 328
EN 301 489-1
EN 301 489-17
UK 2023
UK 2022
EN 18031-1:2024
EN 18031-2:2024

1.1 DALI note

FELV terminals marked.
"Risk of electric shock" are not safe to touch. Circuits connected to any FELV control terminal shall be insulated from the LV supply voltage of the control gear.

Any terminals connected to the FELV circuit shall be protected against accidental contact."

Device is developed as Single master application controller and is only applicable for DALI-2 installations according to EN 62386-101.

1.2 Glow wire test

according to EN 61347-2-11 passed for temperatures up to 850°C housing and 750°C lens.

2. Common

This sensor provides measurement of ambient light, occupancy detection via PIR sensor.
Device is created for low to high height buildings such as:

- Factory buildings
- Storage buildings and warehouses
- Garages

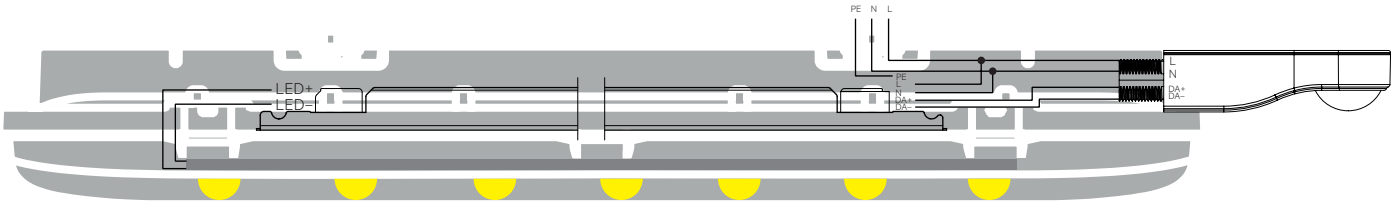
All basicDIM Wireless devices can be controlled with the Tridonic 4remote BT app. The app is available free of charge from the Apple App Store and Google Play Store.

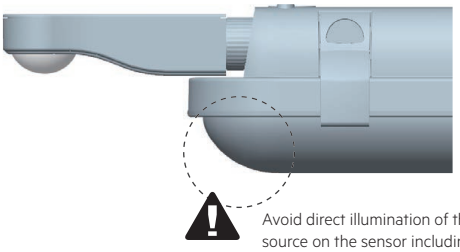
2.1 Operation

The battenSENSE SFI 40 PIR 12DPI bDW is fully compatible with networks which support up to 250 nodes (Evolution networks). If the sensor is used with different types of basicDIM Wireless devices in an Evolution network, check their compatibility in advance.
Multiple devices automatically form a mesh network that is controllable from any point. These networks communicate wireless directly with the smartphone or tablet. Therefore an external gateway or wireless LAN network is not needed.
battenSENSE SFI 40 PIR 12DPI bDW devices have an integrated 2.4 GHz Bluetooth antenna.
For optimal RF performance when integrated into a luminaire, special attention is required. See chapter 3.1 Placement for further instructions.
Configure the settings and operating modes using the 4remote BT app.

3. Installation

- DALI is not SELV.
  The installation instructions for mains voltage therefore apply.
- Please ensure that the detection range of the sensor lies in the lighting area of the controlled luminaires.
- Please ensure that the detection ranges of the sensors do not overlap. This may have influence to the lighting control.
- When installed at a height other than the recommended installation height, the sensor might show different characteristics.
- Heaters, fans, printers and copiers located in the detection zone may cause incorrect occupancy detection.
- Do not use aggressive detergents to clean the e.g. sensor lens. Always make sure that the used detergent does not harm the sensor materials.





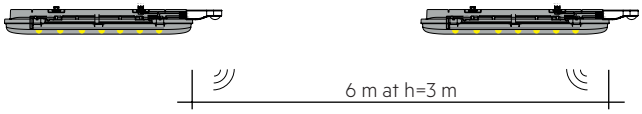
Avoid direct illumination of the light source on the sensor including housing.

3.1 Placement

The battenSENSE SFI 40 PIR 12DPI 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.
- Place the device as far away as possible from any vertical metal structures.

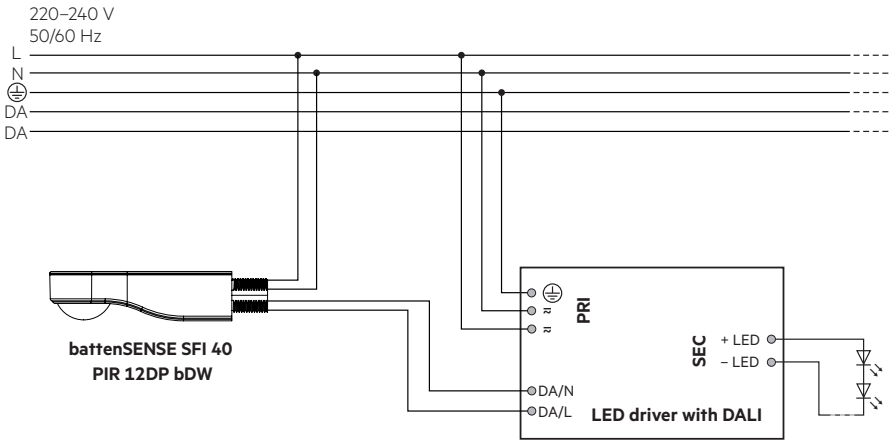
Minimum distance for proper light regulation:



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 and function do not cover the battenSENSE SFI 40 PIR 12DPI bDW completely with metal!

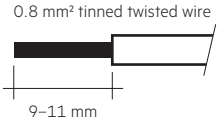
3.2 Wiring



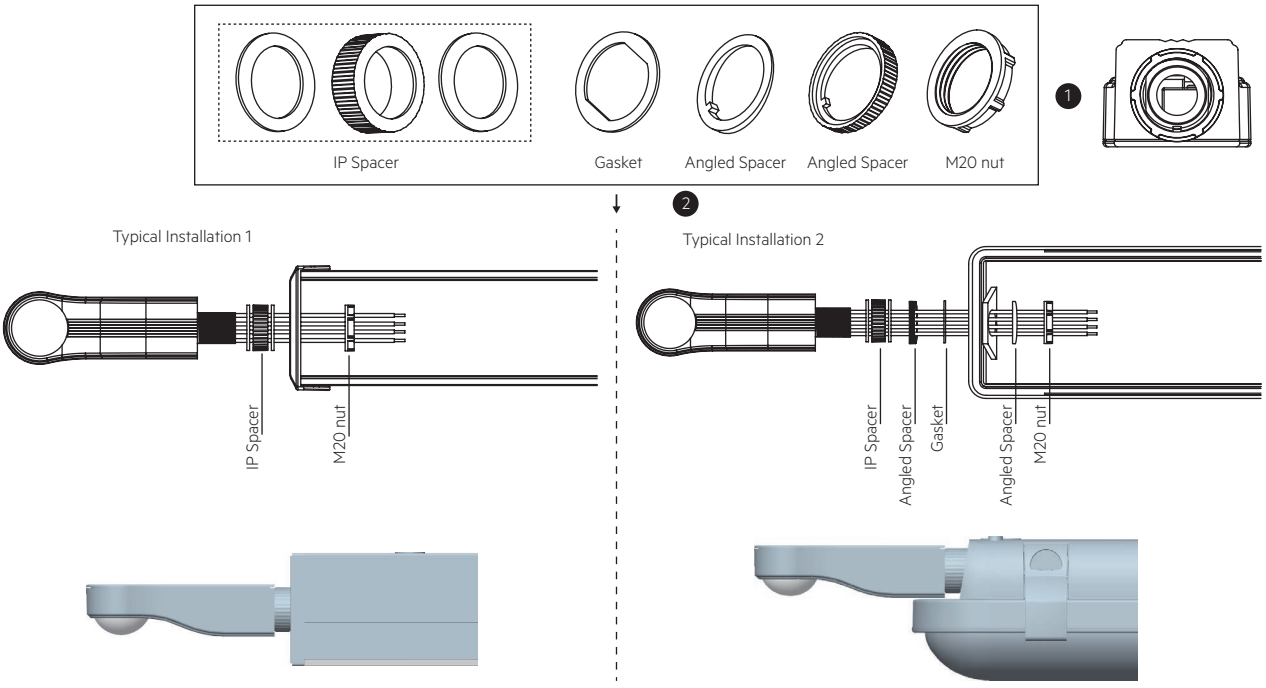
3.3 Wiring type and cross section

Wires:
Wire length 600 +-5mm
Diameter 0,158mm
Area 0,823mm²
Tinned twisted wire 10+-1mm

Wire	
Brown	L
Blue	N
Red	DA+
White	DA–



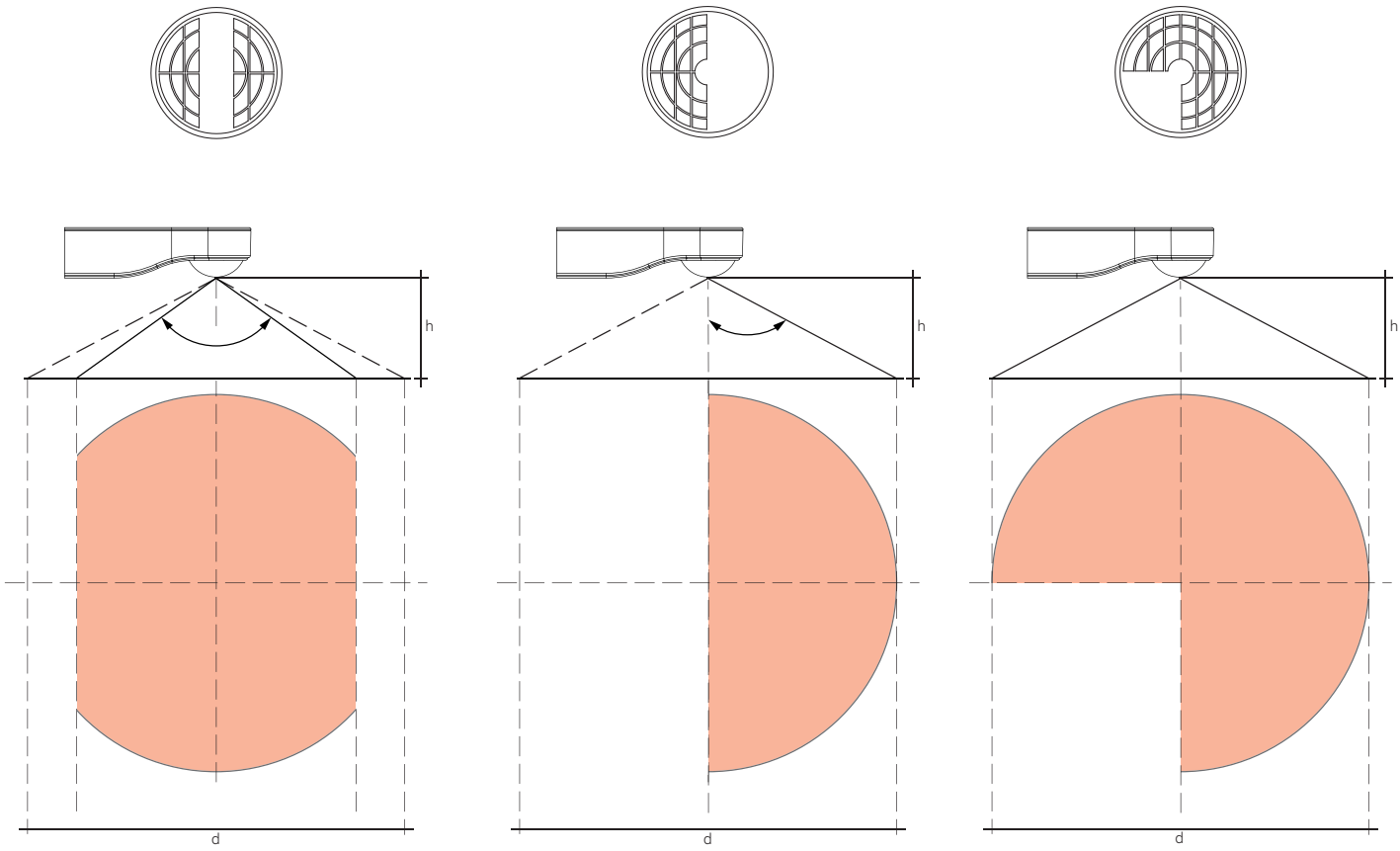
3.4 Mounting:



3.5 Detection area covers

Each product comes with a rotating shutter. The shutter consists of several segments that can be broken off to create the needed masks. Below follow a few examples.

Area which is masked by the shutter:



4. Sensor function

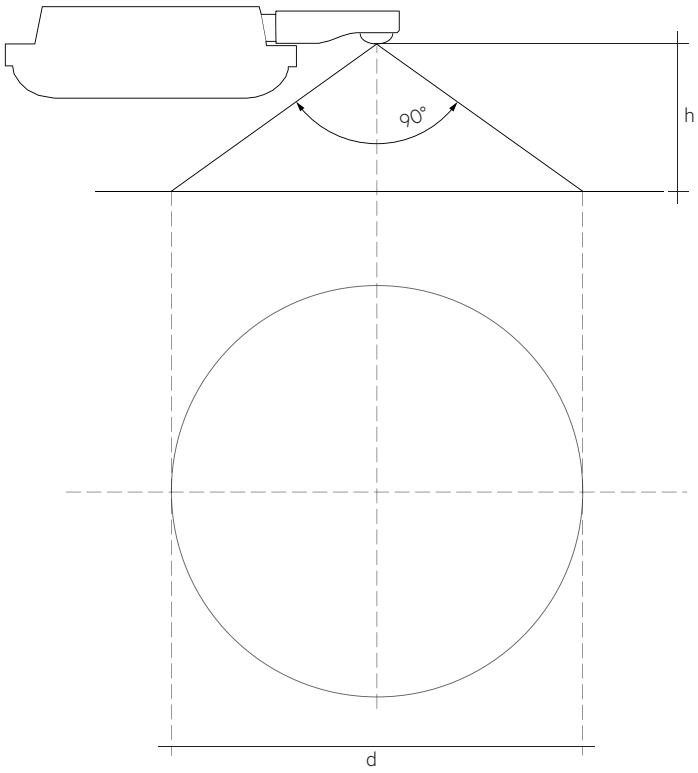
4.1 Occupancy / motion detection

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 3 up to 12 m
- Movement of human body

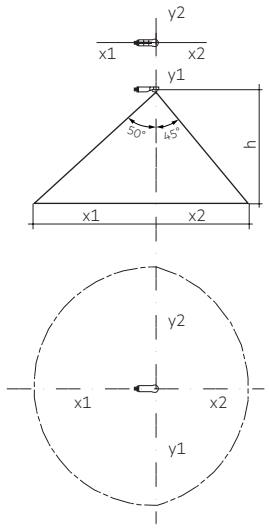
The range of the radio signal depends on the environment, weather conditions, installation height and network mode.
Network mode better performance: up to 50 m
Network mode balanced: up to 100 m
Network mode long range: > 100 m
To ensure a good radio connection, do not cover the sensor with any materials!

4.2 Detection area



h = height	d = Detection range (diameter)
3.0 m	6.0 m
4.0 m	8.0 m
5.0 m	10.0 m
6.0 m	6.0 m
7.0 m	6.5 m
8.0 m	7.5 m
9.0 m	8.5 m
10.0 m	9.5 m
11.0 m	10.0 m
12.0 m	11.0 m

4.3 Light measurement



	50°	45°	50°
h [m]	x1 [m]	x2 [m]	y [m]
3	3.6	3.0	3.6
5	6.0	5.0	6.0
8	9.6	8.0	9.6
12	14.4	12.0	14.4

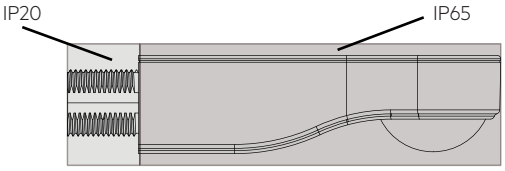
4.4 Status LED's

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

Event	LED Color
Turning on the power supply	Red

4.5 Ingress protection

This device contains IP-protection to use it also in applications with the need of protection against dust and water ingress. IP65 protection applies to the front of the sensor whereas the back of the sensor is IP20 rated.



5. Configuration

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.

6. Miscellaneous

6.1 Disposal of equipment



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

6.2 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.

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