

MSensor G3 PIR 16DPI WH

DALI-2 multi-sensor

Product description

- Sensor developed to work with the latest DALI specification
- Monitoring of ambient light and occupancy detection
- Remote control interface allowing infrared remote control interaction
- Individual adjustment of the parameters
- Power supply via DALI line
- Mounting ring and gasket included to reach IP65 protection
- Wide range of accessories allowing extended application range
- Double terminals for through wiring
- 5 years guarantee (conditions at www.tridonic.com)



Housing properties

- Casing: polycarbonate, white
- Type of protection up to IP65

Note

- Tridonic MSensor G3 family sensors are developed according to DALI Standard EN 62386-101 Ed.2, also known as DALI-2.

To be able to use the sensor in such installation, an application controller is necessary.

List of approved application controller can be found on our WEB page „[Application controllers MSensor G3.pdf](#)“



Wiring diagrams and installation examples, page 5

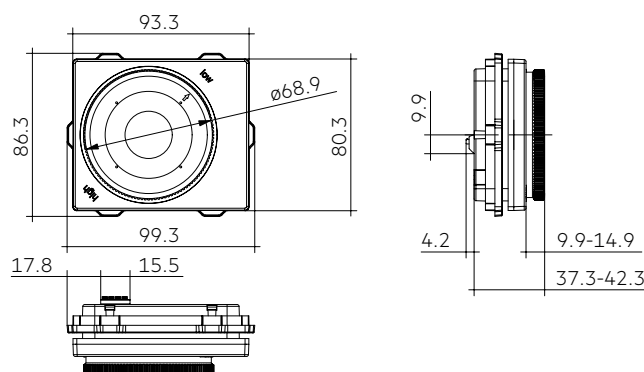


MSensor G3 PIR 16DPI WH

DALI-2 multi-sensor

Technical data

Supply via	DALI
Supply voltage ^①	9.5 – 22.5 V
Current consumption (no LED)	max. 8 mA
Current consumption (with LED)	max. 9 mA
Supported operating modes	0 or 128 (default)
Mounting height ^②	8 – 18 m
Adjustment range position "low"	8 – 12 m
Adjustment range position "high" ^②	12 – 18 m
Mounting opening	70 x 83 mm
Housing thickness of the luminaire	0.75 – 4.00 mm
Detection angle for PIR detection angle "low"	72°
Detection angle for PIR detection angle "high"	60°
Detection angle for light measurement	13°
Detection range for light measurement ^③	0.5 – 2,000 lx
Min. temperature difference between ambient temperature and detected object	± 4 °C
Ambient temperature ta	-20 ... +50 °C
tc	60 °C
Storage temperature	-25 ... +60 °C
Dimensions L x W x H	99.3 x 86.3 x 46.5 mm
Housing material body	PC polycarbonate
Housing material lens	PE polyethylene
Housing colour body	White (similar to RAL 9016)
Housing colour lens	White
Type of installation	Fitted in luminaires
Type of protection ^④	Up to IP65
Guarantee (conditions at www.tridonic.com)	5 years



Ordering data

Type	Article number	Suitable for	Packaging carton	Weight per pc.
MSensor G3 SFI 30 PIR 16DPI WH	28002234	Luminaire installation	10 pc(s).	0.105 kg

^① Uin acc. IEC 62386-101.

^② For mounting height higher than 16 m it is recommended to use several sensors grouped together in one occupancy group. As the sensitivity for the detection diameter can not be guaranteed for high over 16 m.

^③ The measured value at the sensor head corresponds to approx. 3 to 6,300 lux on the surface measured.

^④ Depending on the installation type up to IP65 for more details see chapter 3.1.

ACCESSORIES

REMOTECONTROL IR6

Product description

- Optional infra-red remote control
- Switching on and off (On/Off button)
- Dimming (Up/Down button)
- Activation of automatic lighting control
- Setting the threshold control point (Set button)



Ordering data

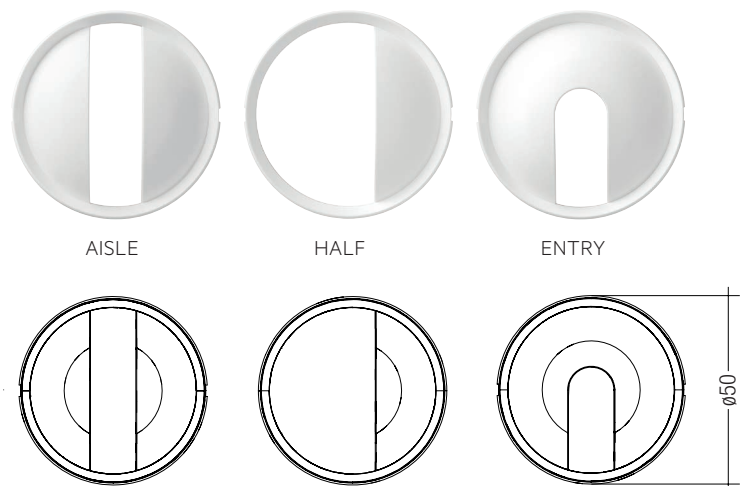
Type	Article number	Dimensions L x W x H	Packaging carton	Weight per pc.
REMOTECONTROL IR6	28000647	86.5 x 40.5 x 7.2 mm	500 pc(s).	0.019 kg

ACCESSORIES

Shading Set

Product description

- Shading set consisting of 3 different types of lenses
- Three different covers for the MSensor G3 SFI 30 PIR 16DPI WH give the ability to reduce the detection area in aisle applications
- These covers can be attached or removed from/to the front of the sensor at any time without the need of opening the luminaire
- To have a maximum of flexibility these covers can be attached in every direction of 0°, 90°, 180° and 270°



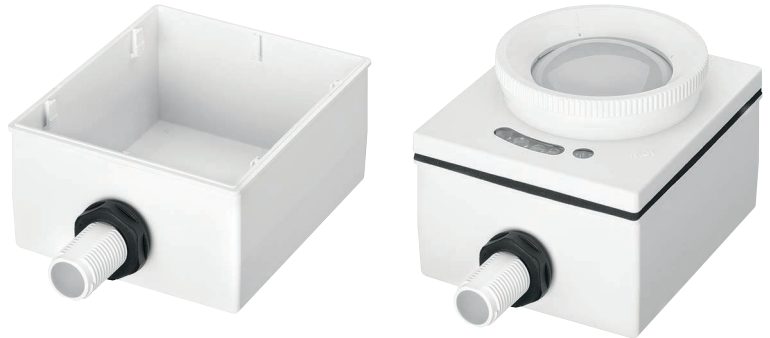
Ordering data

Type	Article number	Packaging carton	Weight per pc.
ACU SHADING AISLE 16DPI highbay	28001658	500 pc(s).	0.002 kg
ACU SHADING HALF 16DPI highbay	28001660	500 pc(s).	0.002 kg
ACU SHADING ENTRY 16DPI highbay	28001659	500 pc(s).	0.003 kg

Mounting box 16DPI

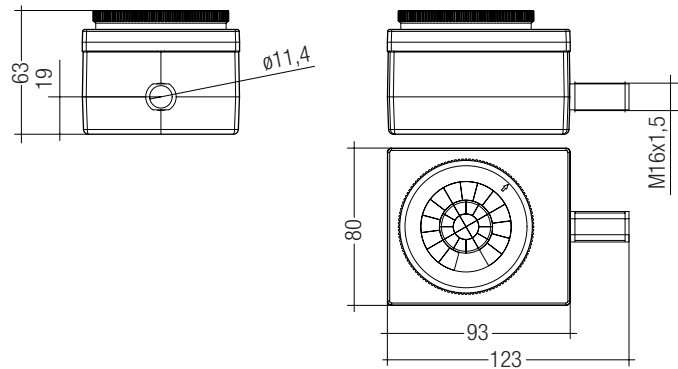
Product description

- Easy adaptation of suspended lighting fixtures to a sensor solution, just by adding one additional hole
- Side entry screw connection in combination with rubber gasket gives a true IP65 protection for industrial applications
- Easy remote commissioning with IR interface while sensor is still protected
- Tightening torque = 0.6 Nm



ACU MOUNTING BOX 16DPI HIGHBAY

ACU MOUNTING BOX 16DPI HIGHBAY with sensor



Ordering data

Type	Article number	Packaging carton	Weight per pc.
ACU MOUNTING BOX 16DPI HIGHBAY	28001568	64 pc(s).	0.105 kg

1. Standards

EN/IEC 61347-2-11
 EN 55015
 EN 61000-3-2
 EN 61000-3-3
 EN 61547
 EN 62386-101
 EN 62386-103
 EN 62386-301
 EN 62386-303
 EN 62386-304
 EN 62386-351

1.1 DALI note



Sensor is only applicable for DALI-2 installations according to EN 62386-101 Ed.2.
 List of approved application controller can be found on our WEB page „[Application_controllers_MSensor_G3.pdf](#)“

Following table shows the instances and which values they provide.

DALI instances	
Instance number	Explanation
0	Occupancy sensor DALI Part 303
1	Light sensor DALI Part 304
2 – 19 ^①	Push button DALI Part 301

^① Sensors produced before 25.07.23 do provide 13 instances and do not support Tridonic IR6+ remote control.

1.2 D4i note

D4i luminaire-mounted control devices (part 351) = Type B

1.3 Glow wire test

according to EN 61347-2-11 passed for temperatures up to 750 °C.

2. Common

MSensor G3 SFI 30 PIR 16DPI WH is one of the new generation of Tridonic sensors.

With this Sensor, the customer gets a sensor for height applications from 8 up to 18 m and a protection against environmental influence up to IP65.

This sensor provides measurement of ambient light, occupancy detection via PIR sensor and IR remote control input as well as a LED output for signalization.

MSensor G3 SFI 30 PIR 16DPI WH is created for following main applications:
 For buildings with mid to high ceiling heights such as:

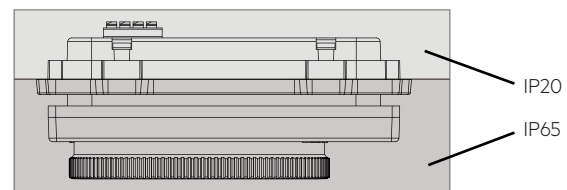
- Factory buildings
- Storage buildings and warehouses
- Corridors, passages und Garages

3. Installation

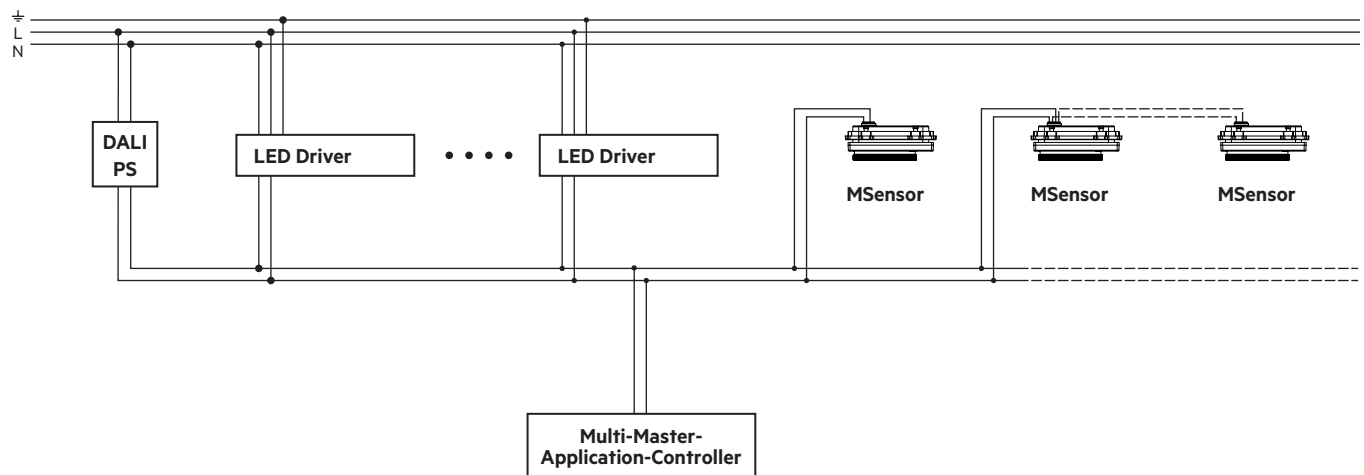
- DALI is not SELV.
 The installation instructions for mains voltage therefore apply.
- The maximum cable length of the DALI control signal must not be exceeded.
- Please ensure that the detection range of the sensor lies in the lighting area of the controlled luminaires.
- Please ensure that the detection ranges of the sensors do not unnecessarily overlap. This may have influence to the lighting control.
- Heaters, fans, printers and copiers located in the detection zone may cause incorrect occupancy detection.
- Surface temperature is detected by the sensor.
 Clothing or covers which reduce the surface temperature affect the detection.
- To avoid false readings, the sensor should be installed so there is no direct light from the lamp in the detection zone. Reflections can disturb the measurement results as well (e.g. high-bay warehouse of metal shelves).
- To avoid false measurements caused by the light from other luminaires we recommend that the sensor should be located centrally in the luminaire.
- By repeatedly adjusting the zoom (> 10), the IP protection may be impaired.
- Sensor must be installed according to the installation instructions to ensure the IP protection.
- Sensor head is not UV resistant.
- In case of pollution or mechanical damage of the lens, the functionality of the sensor may be limited.
- When installed at a height other than the recommended installation height, the sensor might show different characteristics.
 When mounted at a higher level, its sensitivity is reduced.
 If mounted at a lower level, its range is reduced.
- Avoid direct illumination of the light source on the sensor including housing.

3.1 Ingress protection

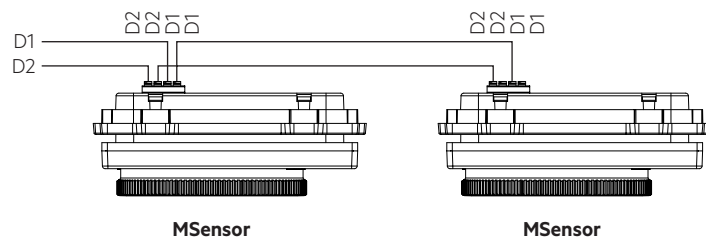
This device contains IP-protection to use it also in applications with the need of protection against dust and water ingress. IP65 protection applies to the front of the sensor whereas the back of the sensor is IP20 rated.



3.2 Wiring

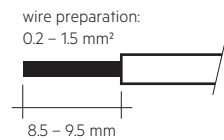


Through wiring:



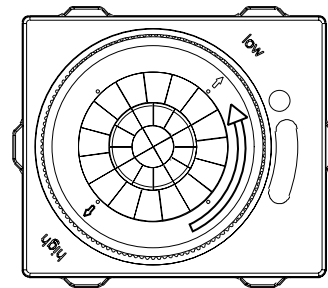
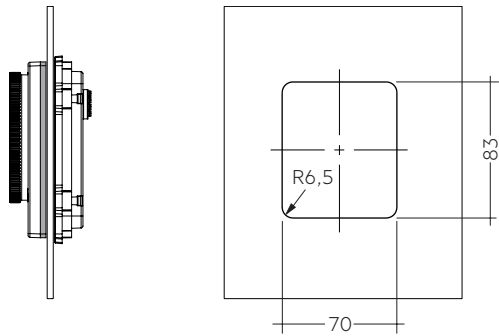
3.3 Cable types and cable cross-sections

For wiring use solid wire from 0.2 to 1.5 mm².



3.4 Mounting variant luminaire housing:

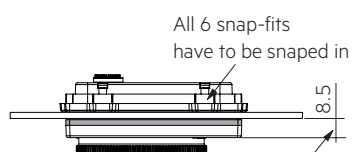
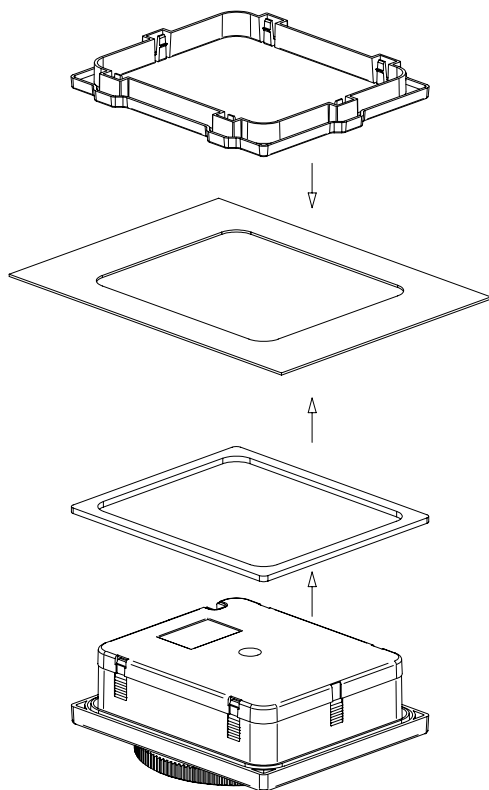
Sheet thickness: 1 – 4 mm



To change from position Low to High rotate lens in arrow direction until it stops at High!

- Arrow shows the zoom position.
- To change the zoom rotate the lens until it stops at High or Low position.
- Positions in between High and Low are not allowed.
- See installation notes!

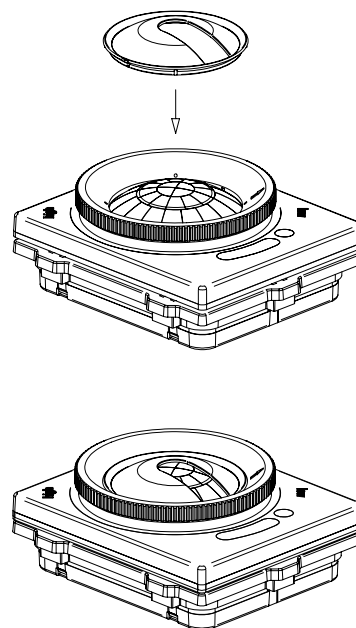
3.5 Sensor mounting



All 6 snap-fits
have to be snapped in

To guarantee IP65 the distance between
sensor surface and luminaire surface
must be less than 8.5 mm

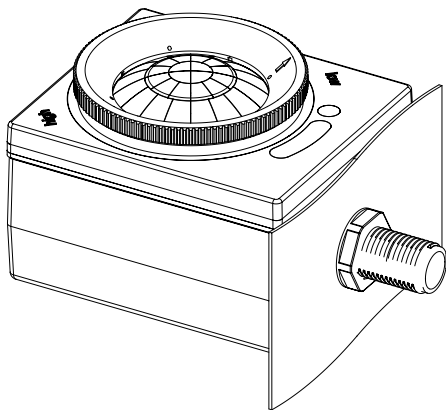
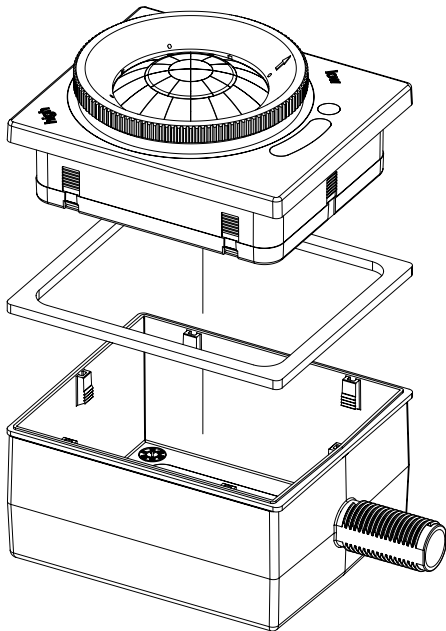
3.6 Shader mounting



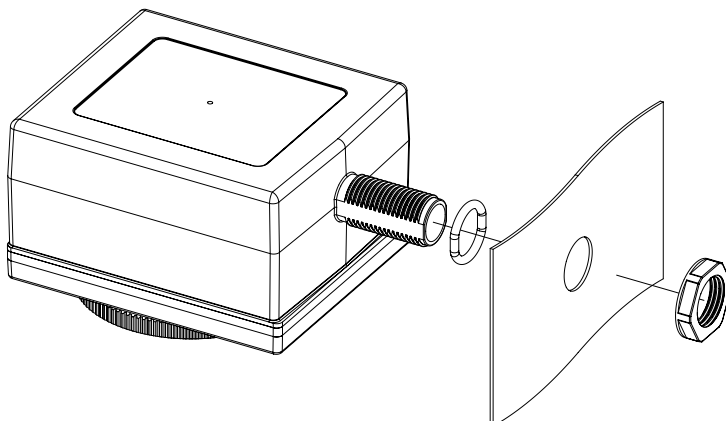
3.7 Mounting box mounting



- The sensor can be installed only once in the mounting box (Sensor snap in permanent)!
- Insert the cable of the sensor before installing.
- There are 2 installation variants possible for the sensor. The sensor can be turned through 180°.



3.8 Mounting box in luminaire housing:

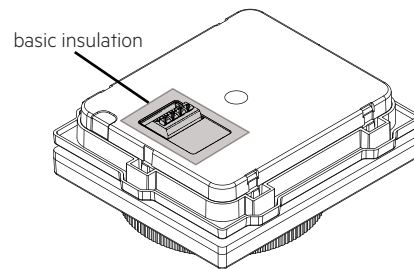


3.9 Mounting in class II luminaire

The Sensor provides basic insulation as required by IEC 62386-101 and defined in IEC 61347-1.

If the sensor is built in to a class II luminaire which has to provide double or reinforced insulation it has to be considered that the Sensor is not a class II device. Still the Sensor can be used for such projects as the most part of the sensor is tested to fulfil the class II requirements for double or reinforced insulation. Basic insulation is illustrated in the graphic below and covers an area 2,5 mm around the terminal.

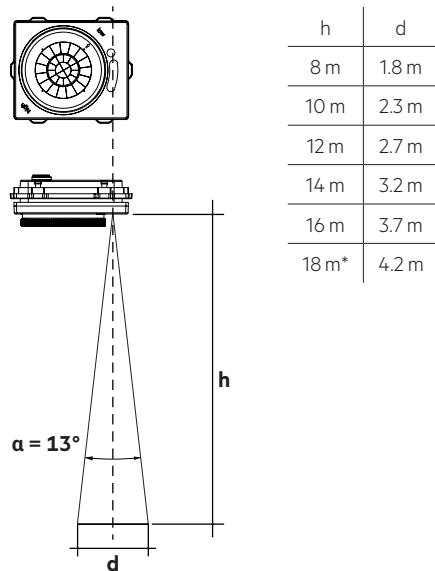
The rest of the sensor fulfils class II requirements.



4. Sensor functions

4.1 Light level recognition area

The light measurement has a cone-shaped detection area with a half angle of approximately 6.5°.



4.1.1 Light value format

The default operating mode is 128.

In this mode the user is able to choose from fixed point and floating point values for the light measurement. The default setting are floating point values.

In addition to operation mode 128 also operating mode 0 is implemented. In operating mode 0 the fixed point values are supported for the light measurement values.

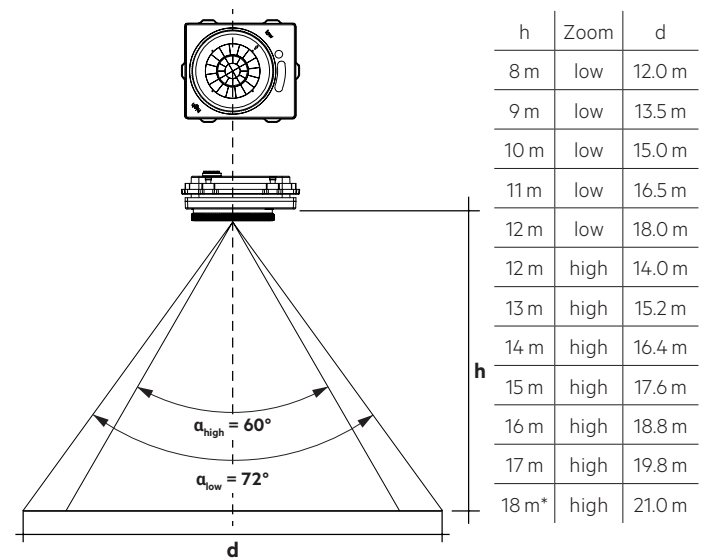
Resolution for fixed point and floating point = 1/64 Lux

The measurement range is between 1 and 2,000 lx.
Measured at the sensor head.



To be able to measure values < 5 lx in an accurate way it is needed to change integration time of light sensor to 800 ms. Integration time of light sensor is set to 100 ms by default. For values > 5 lx there is no difference in between these measurements.

4.2 Occupancy / motion detection



* For mounting heights over 16 m it is recommended to use several sensors grouped together in one occupancy group. As the sensitivity for the detection diameter can not be guaranteed for heights over 16 m.

4.3 Status LED's

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

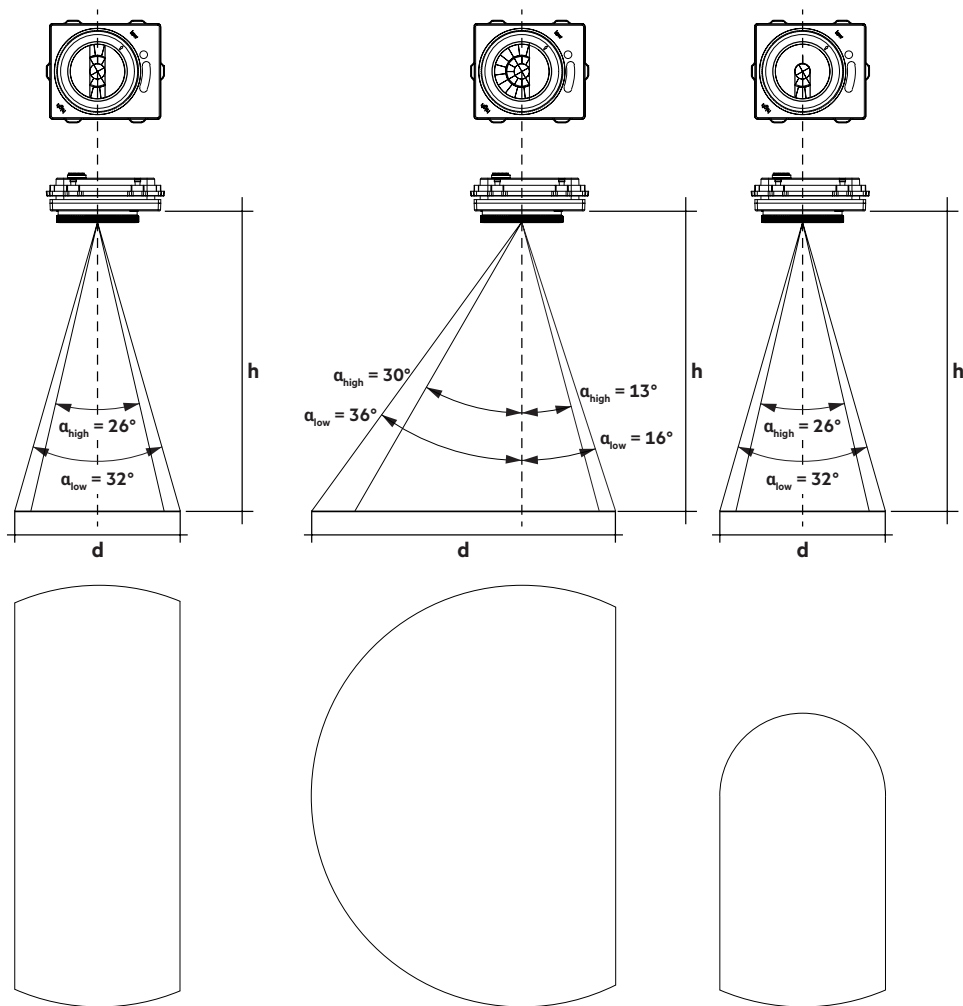
Event	Blinking sequence	LED Color
DALI command „identify device“	500 ms on / 500 ms off for 10 s	Red
Motion detection ^①	Default deactivated but can be activated by the application controller. If active, 1000 ms on every time Motion is detected.	Red
IR-Signal received ^①	Double blinking (150 ms on / 150 ms off) on every received IR-command.	Red

Light measurement priority

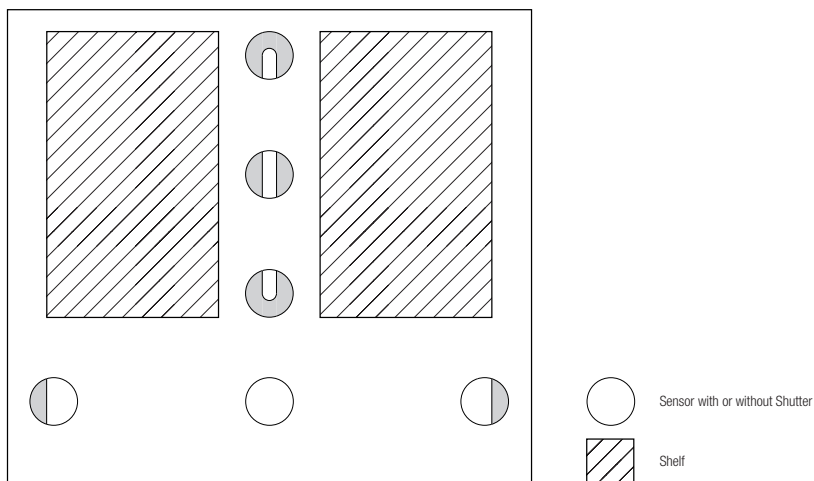
① By default, these blinking patterns are interrupted by the light measurement, because the light measurement has a higher priority.

This behavior can be changed via the application controller, i.e. it can be configured that the blinking patterns are carried out, regardless of an ongoing light measurement. Consequently, the accuracy of the light measurement will become worse, because the brightness of the LED distorts the measurement.

4.4 Occupancy / motion detection with shader



4.5 Application



5. Configuration

Optimized for the operation in conjunction with the Tridonic application controller sceneCOM S.

For commissioning and configuration the App „sCS commissioning“ (sceneCOM S) is provided by Tridonic. App can be installed on iOS and Android devices. Compatible with Android 6.0 / iOS 10 or later, devices with a min. screen size of 20 cm diagonal and a min. resolution of 1024 x 768 pixels.

Android:



iOS:



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.