

### basicDIM ILD G2 FSL 5DPI

Compact control module with ambient light sensor and motion sensor



#### Product description

- \_ For up to 20 DALI drivers, expandable with DALI-2 Input Devices (see data sheet 3.1 Wiring)
- \_ Integrated application controller
- \_ Flexible configuration via companionSUITE
- \_ 2 independently controllable DALI groups
- \_ Supports Tunable White and SWARM module
- \_ Monitoring of ambient light and motion detection
- \_ Infrared remote control for configuration and operation
- \_ Power supply via DALI line
- \_ Shutter for preventing occupancy detection in one direction included
- \_ Small dimensions allowing easy and inconspicuous integration in luminaries
- \_ For luminaires of protection class I and protection class II
- \_ Wide range of accessories allowing extended application range
- \_ 5 years guarantee (conditions at <https://www.tridonic.com/en/int/services/manufacture-guarantee-conditions>)

#### Housing properties

- \_ Casing: polycarbonate, black or white
- \_ Type of protection IP20

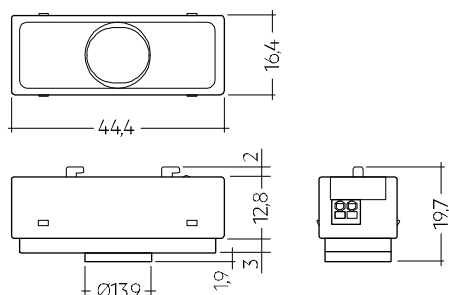
#### Website

<http://www.tridonic.com/28004413>



## basicDIM ILD G2 FSL 5DPI

Compact control module with ambient light sensor and motion sensor



### Ordering data

Type	Article number	Suitable for	Colour	Dimensions L x W x H	Packaging, carton	Weight per pc.
basicDIM ILD G2 FSL SFI 30 5DPI WH	28004413	Luminaire installation	White	44.4 x 16.4 x 19.7 mm	40 pc(s).	0.01 kg
basicDIM ILD G2 FSL SFI 30 5DPI BK	28004414	Luminaire installation	Black	44.4 x 16.4 x 19.7 mm	40 pc(s).	0.01 kg

### Technical data

Sensor type	PIR sensor
Supply via	DALI cable
Supply voltage <sup>①</sup>	11.5 – 20.5 V
Current consumption (no LED)	max. 11 mA
Current consumption (with LED)	max. 12 mA
Mounting height	5 m
Mounting hole diameter	14.1 mm
Detection angle for PIR detection	84°
Detection angle for light measurement	30°
Detection range for light measurement <sup>②</sup>	2 – 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 ts	-25 ... +60 °C
Housing material body	PC polycarbonate
Housing material lens	PE polyethylene
Housing colour body	White (similar to RAL 9010)
Housing colour lens	White
Type of protection	IP20
Guarantee (conditions at <a href="http://www.tridonic.com">www.tridonic.com</a> )	5 Year(s)

### Approval marks



### Standards

EN 61347-2-11, EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547

<sup>①</sup> 14 – 20.5 V if use PBI1.

<sup>②</sup> The measured value at the sensor head corresponds to approx. 10 to 10,000 lux on the surface measured.

## REMOTECONTROL IR6+

Accessory



### Product description

- \_ Optional infra-red remote control
- \_ Switching on and off (On/Off button for group 1 and 2)
- \_ Dimming (Up/Down button for group 1 and 2)
- \_ Tunable White (warmer or colder) and Sensor pairing
- \_ Activation of automatic lighting control (Automatic button)
- \_ Setting the threshold control point (Set button)
- \_ IR range typical 5 m

### Website

<http://www.tridonic.com/28004415>



### Ordering data

Type	Article number	Dimensions L x W x H	Packaging, carton	Weight per pc.
REMOTECONTROL IR6+	28004415	86.5 x 40.5 x 7.2 mm	500 pc(s).	0.019 kg

## basicDIM ILD G2 FSL Programmer

Accessory



### Product description

- \_ Optional infra-red programming unit for basicDIM ILD G2 FSL
- \_ Setting of predefined parameter values
- \_ Programmable functions such as light level, time delay, P.I.R., bright-out, power up, grouping and swarm function
- \_ IR range up to 20 m

### Website

<http://www.tridonic.com/28004416>



### Ordering data

Type	Article number	Dimensions L x W x H	Packaging, carton	Weight per pc.
basicDIM ILD G2 FSL PROGRAMMER	28004416	130 x 56 x 15 mm	150 pc(s).	0.02 kg

## 5DPI 14f Mounting Kit

Accessory



### Product description

- \_ Mounting frame for attaching all 5DP 14f sensor directly to the luminaire housing
- \_ Optional shutter to prevent presence detection in a specific direction (for PIR sensors)
- \_ Glow wire test with 750 °C according to EN 61347-1

### Website

<http://www.tridonic.com/28001558>



### Ordering data

Type	Article number	Packaging, carton	Weight per pc.
5DPI 14f mounting kit	28001558	100 pc(s).	0.004 kg
5DPI 14f mounting kit black	28001575	100 pc(s).	0.004 kg

## ACU Sensor Housing 14rs IP20

Accessory

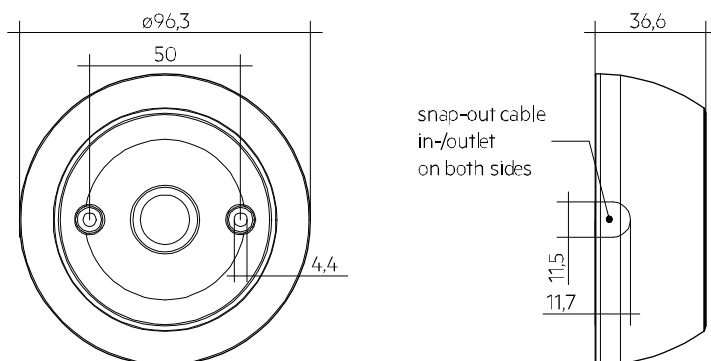


### Product description

- \_ Mounting frame for wired 5DP 14f sensors allowing direct mounting to the ceiling
- \_ Easy „click in“ installation of the sensor
- \_ IP20
- \_ Casing: plastic, white
- \_ UV stabilized plastic
- \_ DALI MSensor 5DPI 14 is powered via DALI circuit, basicDIM DGC Sensor 5DPI 14f powered via control unit
- \_ Optional shutter to reduce the detection area, which makes it possible to reduce the detection area from 360° to 240° (for PIR sensors)
- \_ Mounting kit with screws and decorative plugs
- \_ 0.5 mm² wiring for the sensor
- \_ Two 3 x 1.5 mm² clamps with cable management (2 entry points on opposite sides)
- \_ Glow wire test with 750 °C according to EN 61347-1
- \_ Sensor not included

### Website

<http://www.tridonic.com/28001872>

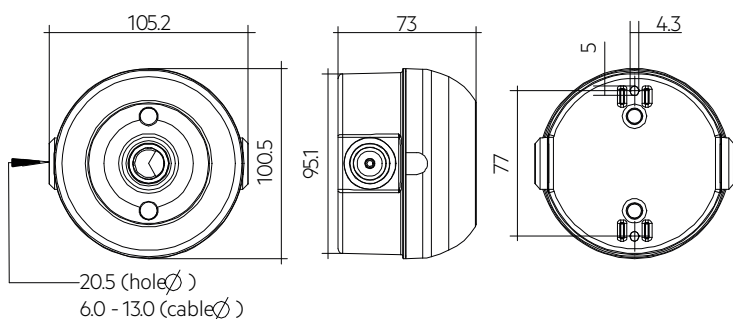


## Ordering data

Type	Article number	Packaging, carton	Weight per pc.
ACU Sensor Housing 14rs IP20	28001872	57 pc(s).	0.054 kg

## Housing base ACU 037 IP20 WH

Accessory



## Product description

- \_ Mounting base for wired 5/10/DPI/WDA sensors allowing direct mounting to the ceiling
- \_ 2x mounting options for Tridonic standard control units-housing with mounting flaps (e.g. DALI PS3 or sceneCOM RTC) allowing vertical or horizontal fixation
- \_ Vertical fixation possible using special fixation slots and horizontal fixation can be done using screw connection points in the bottom part of the accessory
- \_ Housing provides IP 66, depending on the used Sensor and housing it can be less
- \_ Casing: polycarbonate, white
- \_ UV stabilized plastic
- \_ Mounting kit with screws
- \_ Casing passed glow wire test with 850 °C according to EN 61347-1
- \_ compatible with: 28005943 Sensor Housing ACU 035 5DPI IP20 WH & 28005944 Sensor housing ACU 036 10DPI/WDA IP20 WH (not included in the scope of delivery)
- \_ The dimensional drawing shows the final dimensions when mounted with 28005943 or 28005944
- \_ System Solution: MSensor G3, basicDIM ILD G2/FSL, MSensor G3 SSM, basic DIM ILD G2 SSM, DALI PS3, airASECT, basicDIM IPS, basicDIM Wireless module G2, basicDIM Wireless passive module G2, sceneCOM S RTC
- \_ Sensor not included

## Website

<http://www.tridonic.com/28005945>


## Ordering data

Type	Article number	Packaging, carton	Weight per pc.
Housing base ACU 037 IP20 WH	28005945	57 pc(s).	0.068 kg

## Sensor Housing ACU 035 5DPI IP20

Accessory

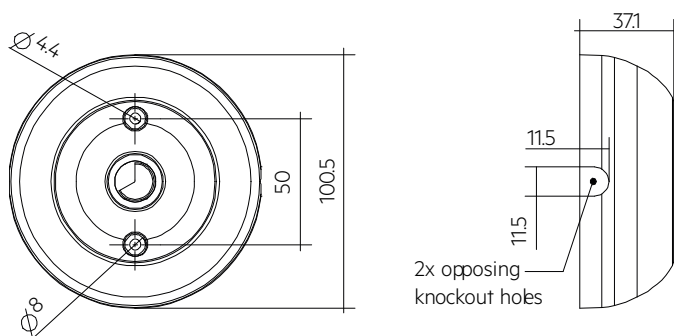


### Product description

- \_ Mounting frame for wired 5DPI sensors allowing direct mounting to the ceiling
- \_ Easy „click in“ installation of the sensor
- \_ Additional bracket to fix sensor, to prevent its drop inside the housing
- \_ IP20
- \_ Casing: polycarbonate, white
- \_ UV stabilized plastic
- \_ Mounting kit with screws and decorative plugs
- \_ 0.5 mm<sup>2</sup> wiring for the sensor
- \_ Two 3 x 1.5 mm<sup>2</sup> clamps with cable management (2 entry points on opposite sides)
- \_ Optional shutter to reduce the detection area, which makes it possible to reduce the detection area from 360° to 240° (for PIR sensors)
- \_ Casing passed glow wire test with 850 °C according to EN 61347-1
- \_ compatible with Housing base ACU 037 IP20 WH Art.-No.: 28005945
- \_ Sensor not included

### Website

<http://www.tridonic.com/28005943>

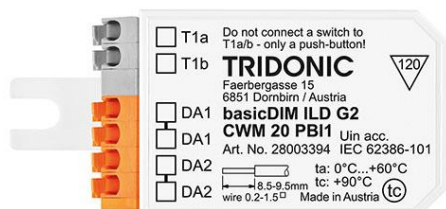


### Ordering data

Type	Article number	Packaging, carton	Weight per pc.
Sensor Housing ACU 035 5DPI IP20 WH	28005943	57 pc(s).	0.052 kg

## basicDIM ILD G2 CWM 20 PBI1

Accessory



## Product description

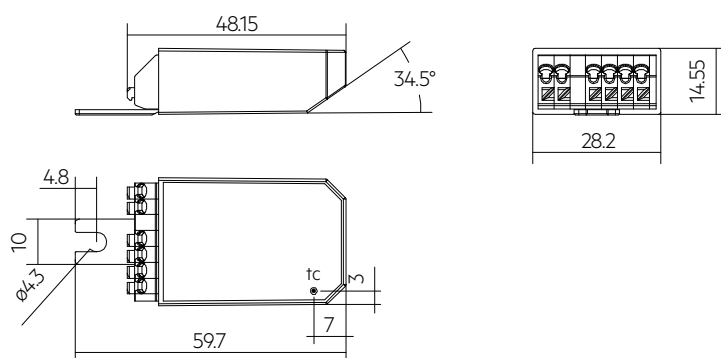
- \_ Push Button Interface (PBI) for ILD G2 and ILD G2 FSL system
- \_ Flexible configuration via the ILD G2 and ILD G2 FSL in combination with the companionSUITE
- \_ Short push button action: automatic / fade off (factory default)
- \_ Long push button action: dim up / dim down (factory default)
- \_ Double push button action: set new target value for light regulation (factory default)
- \_ Through-wiring DA1 / DA2 possible
- \_ Detachable mounting flaps, allow installation in flush-mounted boxes and luminaires

## Note

- \_ A permanent short circuit between T1a and T1b results in limited function
- \_ Only push buttons can be used

## Website

<http://www.tridonic.com/28003394>



## Ordering data

Type	Article number	Packaging, carton	Weight per pc.
basicDIM ILD G2 CWM 20 PBI1	28003394	15 pc(s).	0.012 kg

## Approval marks



## 1. Standards

EN/IEC 61347-2-11  
EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61547

### 1.1 DALI standard

The basicDIM ILD G2 FSL is designed to control control gear with DALI standard IEC 60929 (DALI V0), IEC 62386 (DALI V1/DALI-2).

### 1.2 Glow wire test

according to EN 61347-2-11 passed for temperatures up to 850°C.

## 2. Common

The basicDIM ILD G2 FSL provides the basis for an easy-to-use and cost-effective lighting system with motion detection. When the sensor detects movement it triggers a individual adjustable motion detection profile in the control unit.

As the amount of natural ambient light changes the illuminance from the artificial lighting system is adjusted.

The connected luminaires can be switched on and off via momentary-action switch or remote control possible.

Color control commands are always sent as broadcast commands and are only supported for manual control.

IR is always active.

SWARM control enables the FSL luminaires to communicate with each other wirelessly via IR, for this functionality a SWARM module is required. If a luminaire detects presence, it assumes the role of a Detecting FSL in the SWARM system and sends IR commands to the surrounding neighbour luminaires. Depending on the distance from the detecting FSL luminaire, the neighbour luminaires can assume 2 distinct roles: Direct or indirect neighbours and the luminaires switch on with a reduced light level according to their role.

The SWARM control system is plug and play (no configuration required) it just has to be activated with the basicDIM ILD G2 FSL Programmer. SWARM function does not support color control.

Detecting FSL:

The detecting FSL is the free standing luminaire that detects presence, goes to presence light level and sends a presence event to the surrounding luminaires (direct neighbour FSL). If presence is no longer detected the luminaire will slowly dim to the direct neighbour level than to the absence level before it turns off.

Direct neighbour FSL:

The direct neighbour free standing luminaires are the luminaires that get a IR signal directly from the detecting FSL. The luminaire will go to the direct neighbour level and send a presence event to surrounding luminaires, if a luminaire already received a presence event from the detecting FSL the event will be ignored. If presence is no longer detected the luminaire will slowly dim to the absence level before it turns off.

Indirect neighbour FSL: The indirect neighbour free standing luminaires are the luminaires that only get an IR signal from the direct neighbour luminaire and haven't received a signal before. These luminaires will go to the absence level. If presence is no longer detected the luminaire will slowly dim to off.

This sensor provides measurement of ambient light, motion detection via PIR sensor and IR remote control input as well as a LED output for signalisation. basicDIM ILD G2 FSL is created for following main applications:

- Free standing luminaires



The basicDIM ILD G2 FSL was developed and tested exclusively for Tridonic SWARM Module, XC G3 and PBI1. The use of other sensors and push button modules can lead to errors.

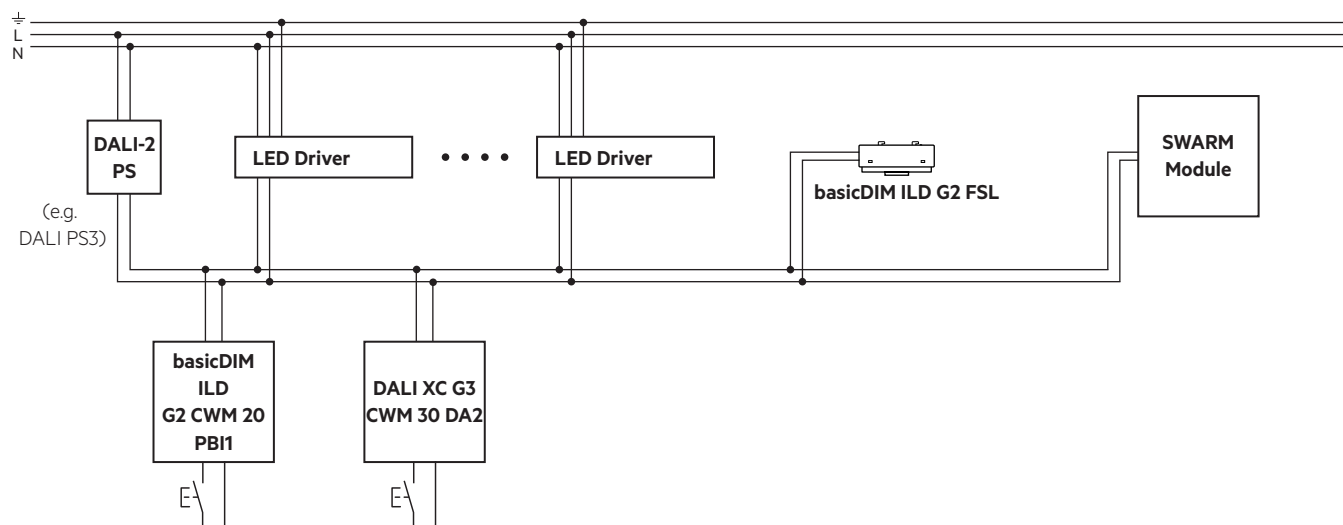
## 3. Installation

- The basicDIM ILD G2 FSL must not be connected to the mains. It is supplied directly via the DALI power supply.
- basicDIM ILD FSL is intended for 1-head luminaires only.
- When using a luminaire with direct / indirect lighting, the system has to be commissioned. Group 1 is intended for the direct lighting only and Group 2 for the indirect lighting.
- DALI is not SELV. The installation instructions for mains voltage therefore apply.
- The detection range of the sensor must be within the lighting range of the controlled luminaires.
- The detection range of the sensor must be within the lighting area of the controlled luminaires.
- To avoid deviating characteristics, install the presence detector at the recommended height. If the installation is higher than recommended, the sensitivity is reduced. If the installation is lower than recommended, the detection range is reduced.
- Incorrect presence detection occurs if heaters, fans, printers or copiers are in the detection area.
- Avoid direct illumination of the light source (luminaires) on the sensor including housing.
- Additional IR sources can disturb the sensor.
- The maximum permissible current consumption of all components on the bus must not exceed the maximum permissible current of the connected DALI Power Supply.
- Double addressing is possible with pre-addressed DALI components. Press the reset button on the basicDIM ILD G2 FSL programmer to correct the error. Be sure to carry out the commissioning again.

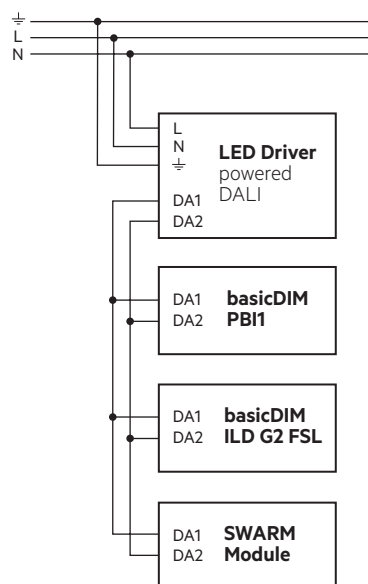


## 3.1 Wiring

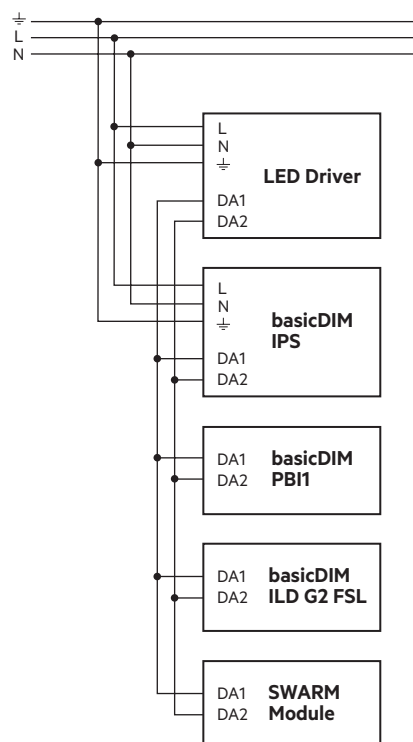
## Room application:



## Single / free-standing luminaires, driver with integrated power supply (DALI):



## Single / free-standing luminaires, driver with separate power supply (DALI):



## Maximum number of connected devices:

Devices	Number
ILD G2	1 pc.
DALI PS	2 pc. (max. 250 mA)
LED driver	20 pcs.
Input devices (XC G3)	4 pcs.
Input devices (SWARM Module)	1 pcs.
PBI1	4 pcs.

DALI repeater must not be used.

## Compatible accessories:

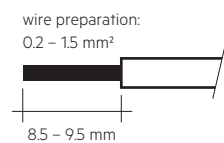
- XC G3 as multi channel push button interface

## Factory settings for DALI XC G3:

Button	Action	Factory settings
PBI	Short press	Automatic / Fade off (Broadcast)
	Long press	Dim up / Dim down (Broadcast)
	Double click	SET (Broadcast)
T1	Short press	Automatic / Fade off (Broadcast)
	Long press	Dim up / Dim down (G1)
	Double click	SET (Broadcast)
T2	Short press	Automatic / Fade off (Broadcast)
	Long press	Dim up / Dim down (G2)
	Double click	not used
T3	Short press	Automatic / Fade off (Broadcast)
	Long press	Tune warm / cool (Broadcast)
	Double click	not used
T4	Short press	Automatic (Broadcast)
	Long press	not used

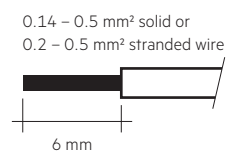
### 3.2 Wiring type and cross section for rc version

For wiring use stranded wire with ferrules or solid wire from 0.2 to 1.5 mm<sup>2</sup>.



### 3.3 Wiring type and cross section for f version

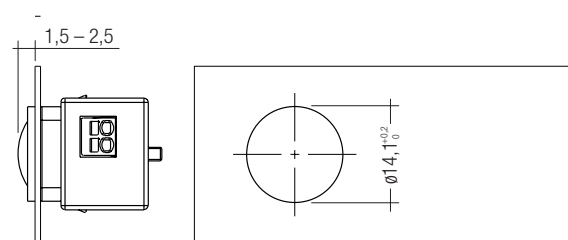
For wiring use stranded wire with ferrules from 0.2 to 0.5 mm<sup>2</sup> or solid wire from 0.14 to 0.5 mm<sup>2</sup>.



### 3.4 Mounting variants luminaire installation sensor:

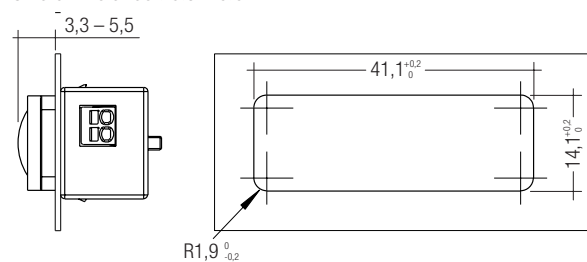
Variant 1:

Size of the sheet: 0.8 – 1.8 mm



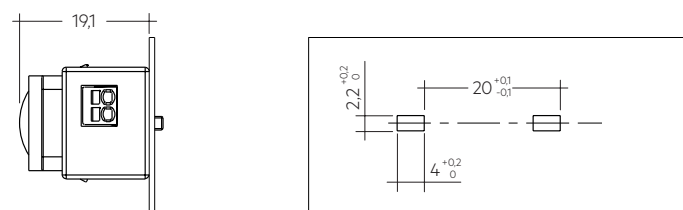
Variant 2:

Size of the sheet: 0.8 – 3.0 mm



Variant 3:

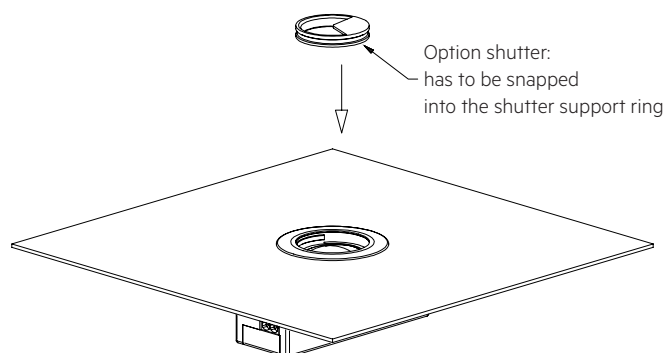
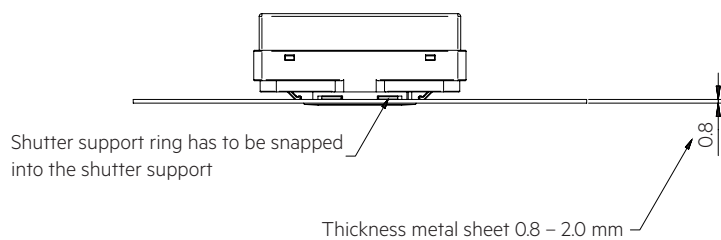
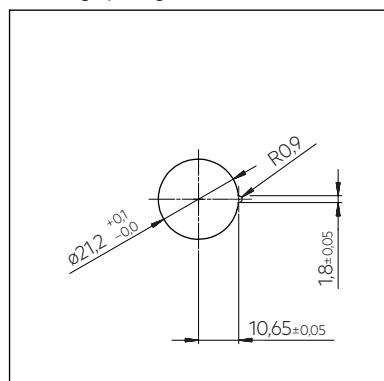
Size of the sheet: 0.6 – 0.8 mm



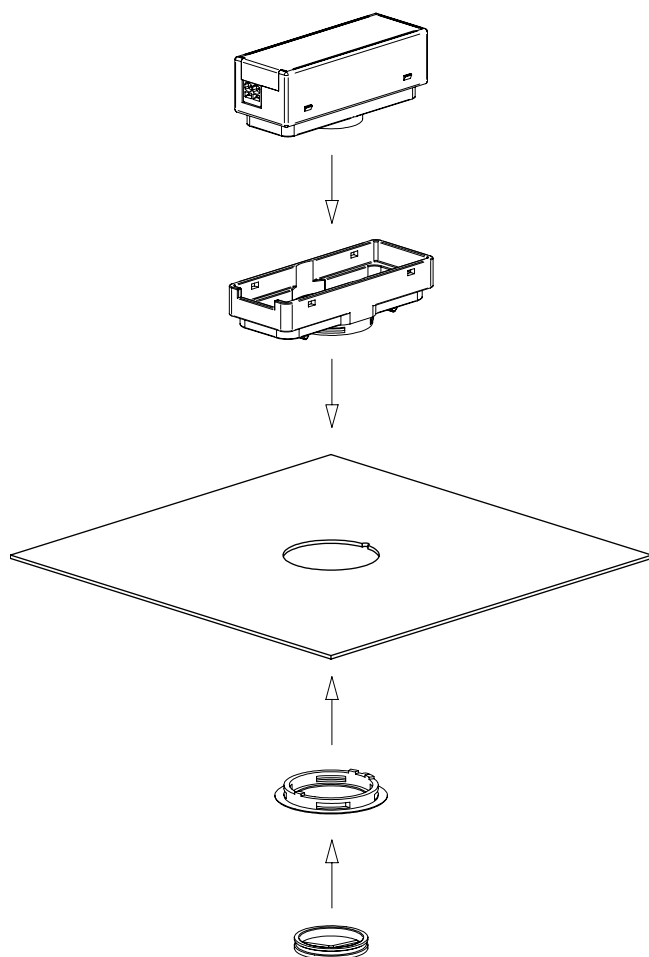
### 3.5 Mounting in luminaire housing with Mounting Kit:

Size of the sheet: 0.8 – 2.0 mm

Dimension drawing for needed mounting opening

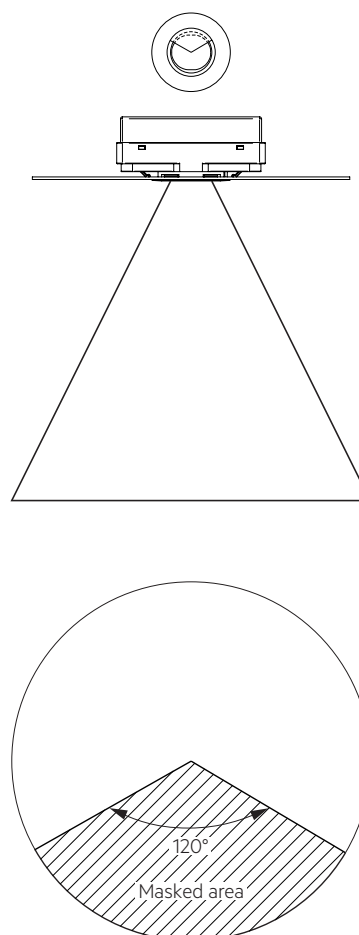


### 3.6 Mounting Kit mounting

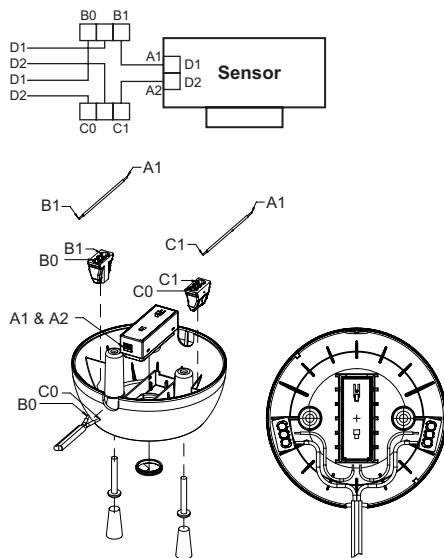


### 3.7 Mounting Kit Shutter

Area which is masked by the shutter.



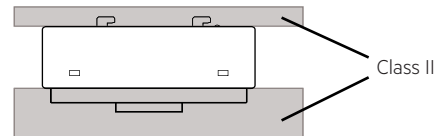
### 3.8 Wiring and mounting ACU Sensor Housing 14rs IP20



### 3.9 Mounting in class II luminaire

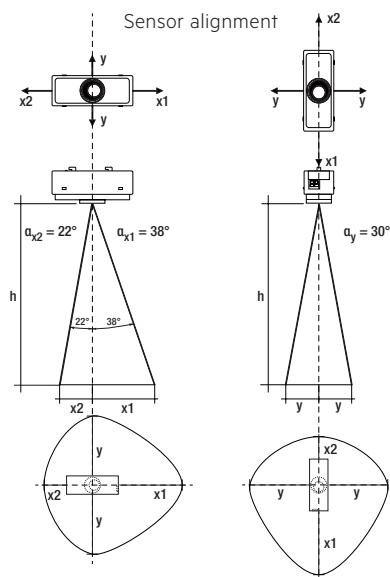
The Sensor provides basic insulation as required by IEC 62386-101 and defined in IEC 61347-1.

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 front and the back of the sensor is tested to fulfill the class II requirements for double or reinforced insulation.



## 4. Light level recognition area

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



h *	x1	x2	y	d
1.7 m	1.3 m	0.7 m	1.0 m	3.0 m
2.0 m	1.6 m	0.8 m	1.2 m	3.6 m
2.3 m	1.8 m	0.9 m	1.3 m	4.1 m
2.5 m	2.0 m	1.0 m	1.4 m	4.5 m
2.7 m	2.1 m	1.1 m	1.6 m	4.9 m
3.0 m	2.3 m	1.2 m	1.7 m	5.4 m
3.5 m	2.7 m	1.4 m	2.0 m	6.3 m
4.0 m	3.1 m	1.6 m	2.3 m	7.2 m

\* The recommended maximum room height for office applications is 3 m and for corridor applications for example 4 m. Up to 2 m mounting height presence is detected and over 2 m motion is detected.

Calculation of the diameter (light area):

$$x1 = \tan(\alpha_{x1}) \times h$$

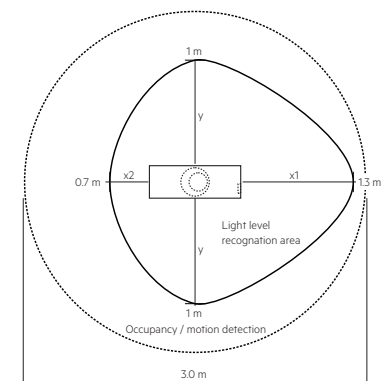
$$x2 = \tan(\alpha_{x2}) \times h$$

$$y = \tan(\alpha_y) \times h$$

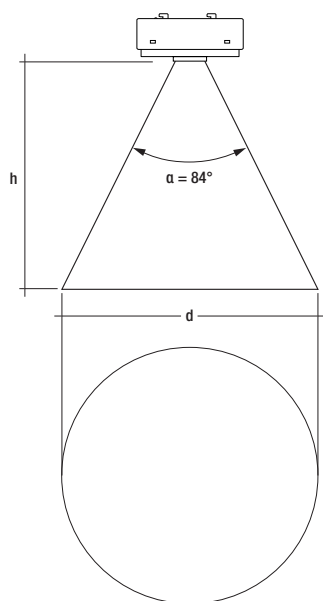
Calculation of the diameter (motion area):

$$d = 2 \times \tan(0.5 \times \alpha) \times h$$

Example for light and motion detection area at height of 1.7 m:



#### 4.1 Presence / motion detection



#### 4.2 Motion detection

For motion detection PIR technology is used. PIR Lens is made to detect moving people in working areas such as corridors, passages, garages, office buildings or educational institutions with the following performance criteria:

- Ceiling height from up to 5 m
- Movement of human body:
  - up to 2 m mounting height: detection of slight motion.
  - above 2 m mounting height: no slight motion (no sitting person) detection.
- Movement  $\geq 1.0$  m/s for mounting heights up to 5 m

#### 4.3 Status LED's

The status LED is deactivated by default.

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

This LED is controlled from the sensor itself.



To avoid any influence from status LED to the light measurement, LED is disabled while light sensor is measuring by default.

Status	Pattern	Incident
–	–	Normal operation
Single red flash	0.2 s on. all 6 s	Motion has been detected
Permanent red flashing	0.2 s on. all 1 s	System error: - Second basicDIM ILD G2 FSL available - Stuck button time out
Long green flashing	1 s on. all 6 s	Bright-out active
Orange flashing	0.5 s on. all 0.5 s	Start-up, Grouping, Test mode, Reset active
Short blue flashing	0.2 s	Receive infrared command from basicDIM ILD G2 FSL Programmer or IR6

## 4.4 User-definable parameters

Parameter (Multi parameter)	Range (Factory Settings)	Description
power-up behavior	on / off (on)	If the parameter is set to "on", the luminaire switches on after a mains break. If the parameter is set to "off", the luminaire does not switch on after a mains break.
presence level (G1, G2, SWARM)	1 to 100 % (100 %)	Brightness value that the ILD G2 FSL occupies as soon as presence has been detected.
absence level (G1, G2, SWARM)	1 to 100 % (1 %)	Brightness value that the ILD G2 FSL occupies while the switch-off delay is running.
fade-in time (G1, G2)	0 to 15 (1)	Period of time starting as soon as presence is detected. During fade-in time, the luminous intensity fades to the presence value. 1 = 0.7 s   2 = 1 s   3 = 14 s   4 = 2 s   5 = 2.8 s   6 = 4 s   7 = 5.7 s   8 = 8 s   9 = 11.3 s   10 = 16 s   11 = 22.6 s   12 = 32 s   13 = 45.3 s   14 = 64 s   15 = 90.5 s
fade time (G1, G2)	0 to 15 (8)	Period of time during which the luminous intensity fades from the presence value to the absence value. 1 = 0.7 s   2 = 1 s   3 = 14 s   4 = 2 s   5 = 2.8 s   6 = 4 s   7 = 5.7 s   8 = 8 s   9 = 11.3 s   10 = 16 s   11 = 22.6 s   12 = 32 s   13 = 45.3 s   14 = 64 s   15 = 90.5 s
run-on time (G1, G2)	15 s to 60 min (20 min)	Time that begins to run from the last moment that presence was detected. After the run-on time the fade-off time is started. If another presence is detected in the room during run-on time, the run-on time is started again.
switch-off delay (G1, G2)	off / 15 s to 60 min / never OFF (off)	Time in which the absence value is held. After expiration, the luminaire is either switched off or the absence value is held (never OFF).
fade-off time (G1, G2)	0 to 15 (2)	Period of time starting after the run-on time. During the fade-off time, the luminous intensity fades to off. 1 = 0.7 s   2 = 1 s   3 = 14 s   4 = 2 s   5 = 2.8 s   6 = 4 s   7 = 5.7 s   8 = 8 s   9 = 11.3 s   10 = 16 s   11 = 22.6 s   12 = 32 s   13 = 45.3 s   14 = 64 s   15 = 90.5 s
constant light control	enabled (G1+G2) / enabled (only G1) / disabled (enabled (G1+G2))	Enables or disables the constant light control
bright-out	on / off (on)	If the parameter is set to "on", the luminaire switches off as soon as the light level exceeds the bright-out threshold of the set point for longer than 10 minutes. This could be the case if, for instance, the room is adequately illuminated by sunlight. If the bright-out threshold falls below 100 % of the set point, the luminaire switches back on again.
bright-out threshold	110 to 400 % (150 %)	Bright-out threshold used by the bright-out function
bright-out-off delay time	0 to 3,600 s (600 s)	Period of time that the light level must exceed the bright-out threshold to activate bright-out.
PIR mode	off / only off / on and off (on and off)	off = In this mode movement detection is deactivated. only off = The movement sensor (local or SWARM) only switches Off the light automatically. In this mode the light can only be switched On manually, which then starts the automation according the configured profile settings in presence state. on and off = The movement sensor (local or SWARM) switches On and Off the light automatically according the configured profile settings.
motion sequence selector	0 to 3 (0)	0 = automatic detection (SWARM profile will be applied if SWARM event is received). 1 = standard profile (disable SWARM function). 2 = SWARM profile with direct neighbor level (SWARM function enabled). 3 = SWARM profile without direct neighbor level (SWARM function enabled).
direct neighbour level	1 to 100 % (50 %)	Brightness value that the ILD G2 FSL occupies as a direct neighbor.
SWARM run-on time	15 s to 60 min (20 min)	Time that begins to run from the last moment that presence was detected by a neighbouring basicDIM ILD FSL.
SWARM switch-off delay	15 s to 60 min / never off (10 min)	Time in which the absence value is held. After expiration, the luminaire is either switched off or the absence value is held (never OFF).

The following parameters are shared between Group 1 and the SWARM profile:

- presence level
- absence level
- fade-in time
- fade time

#### 4.5 Possible push button configuration

Short Press	Long Press	Double Press
Automatic mode	Dimming up	Set target value
Recall max. level	Dimming down	No function
Off	Dimming up / dimming down	
Recall max. level / off	No function	
On with fade	Increase colour temperature	
Off with fade	Decrease colour temperature	
Automatic mode / off with fade	Increase / decrease colour temperature	
No function		

All buttons can be configured to target only Group 1 or only Group 2, or target both Groups at the same time (broadcast).

## 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](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://www.tridonic.com) → Services

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