TRIDONIC

basicDIM ILD 16DPI 69f
Compact control module with ambient light sensor and motion sensor

Product description

- Compact dimensions for luminaire installation
- For up to 10 DSI or DALI devices (max. 5 per output channel)
- 2 DALI/DSI output channels with adjustable negative offset from channel 2 to channel 1
- Ambient light sensor with motion detector
- Max. installation height 16 m
- IP65 sensor head
- Momentary-action switch input for on/off switching and dimming
- Can be remote controlled
- Individual adjustment of the parameters with DSI-SMART Programmer
- 5-year guarantee

→

Wiring diagrams and installation examples, page 4

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CE RoHS

Technical data

Rated supply voltage	220 – 240 V
Mains frequency	50 / 60 Hz
Power	2 W
Stand-by power	0.5 W
Momentary-action switch input for dimming	single
Digital control line DSI/DALI	2
Control output (devices)	10
Max. output cable length at 1.5 mm²	100 m
Operating temperature	0 … +60 °C
Storage temperature	-25 … +70 °C
Type of protection controller	IP20
Type of protection sensor	IP65 ready
Max. casing temperature tc	75 °C
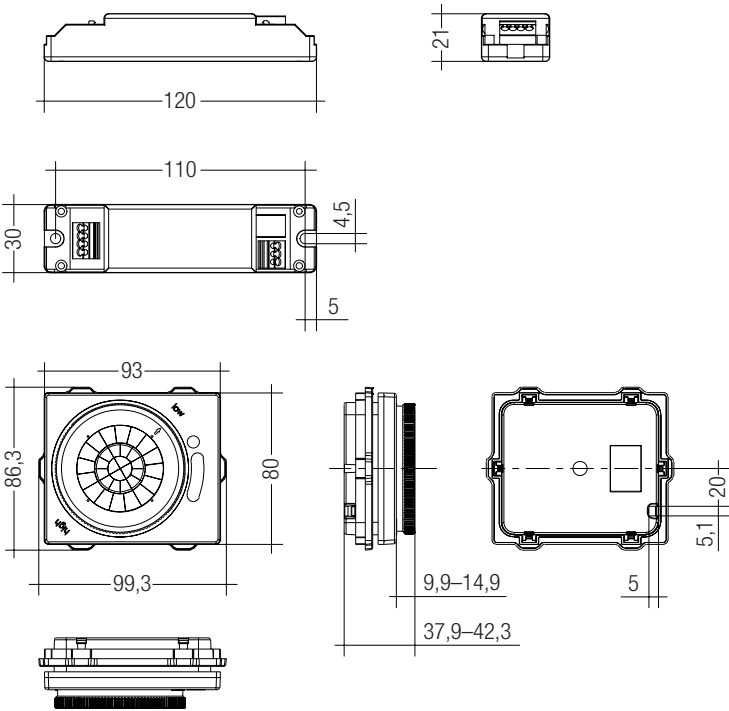
Ordering data

Type	Article number	Mounting	Packaging carton	Weight per pc.
basicDIM ILD 16DPI 69f	**28001277**	Luminaire installation	10 pc(s).	0.199 kg

Specific technical data

Type	Detection					Max. cable length sensor
	Light detection angle	Light measurement at the sensor head[1]	Illuminance (factory default)[2]	Motion detection angle high/low		
basicDIM ILD 16DPI 69f	13°	1 – 500 lx	150 lx	72° / 60°		0.8 m

[1] The measured value at the sensor head corresponds to approx. 15 to 2,000 lux on the surface measured.

[2] The illuminance is set for a room defined by Tridonic. Depending on the actual room (reflectance) the measured illuminance may deviate from this value.
The illuminance should therefore be checked in the installation and adjusted if necessary.

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DSI SMART Programmer

Product description

- Optional infra-red programming unit for DSI-SMART PTM or basicDIM ILD[1]
- Settings can be read and modified
- Programmable functions such as light level, time delay, P.I.R., bright-out, power up

[1] At version 2.41 for basicDIM ILD.
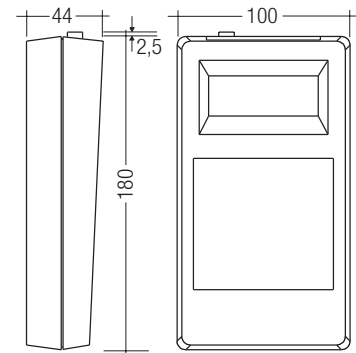
Ordering data

Type	Article number	Packaging carton	Weight per pc.
DSI-SMART Programmer	**28000843**	16 pc(s).	0.35 kg

Shading Set

Product description

- Shading set consisting of 3 different types of lenses

AISLE   HALF   ENTRY
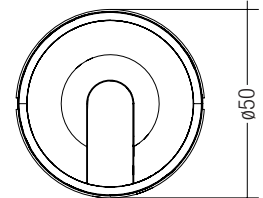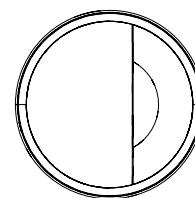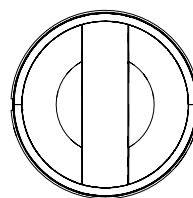
Ordering data

Type	Article number	Packaging bag	Weight per pc.
ACU SHADING AISLE 16DPI highbay	**28001658**	64 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

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ACCES-SORIES

Mounting box 16DPI

Product description

- Easy adaptation of suspended lighting fixtures to a sensor soluti-on, 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 sensor

ACU MOUNTING BOX 16DPI HIGHBAY with
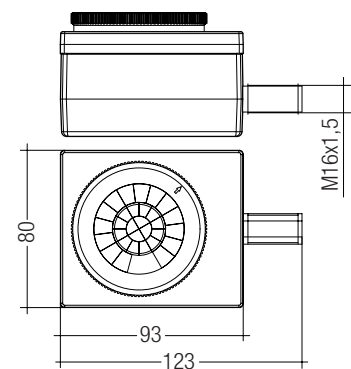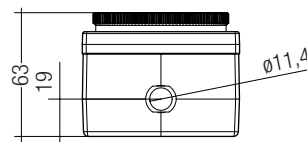
Ordering data

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

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1. Standards

EN 55015
EN 61000-3-2
EN 61347-1
EN 61347-2-11
EN 61547
EN 62386-101

1.1 DALI standard

The basicDIM ILD is designed to control control gear with
DALI standard IEC 60929 (DALI V0) and IEC 62386 (DALI V1).

1.2 Glow-wire test

according to EN 61347-1 passed.

3. Interfaces / communication

3.1 DSI/DALI interface

The interface selection DSI or DALI is made by the DSI SMART Programmer.

3.2 Switch

The basicDIM ILD has an input terminal for an external switch. Any number of switches can be connected in parallel to the terminal.

Short press (> 50–600 ms):	ON/OFF
Long press (> 600 ms):	Dim up/down A change in the light value deactivates lighting regulation only temporarily. As soon as the luminaire has been automatically switched on again (motion detection) or manually switched off and on again, regulation is activated again.
2 x short press:	The overwritten setpoint light value is stored (luminaire acknowledges by flashing twice) Function is lockable via the DSI programmer

⚠ It is not allowed to connect multiple ILDs together over the input terminal.

3.3 Status LED

The basicDIM ILD has a status LED, which flashes at certain events.
These are described in more detail in the table below.

Status	Event
–	Normal operation mode
Green flashing (2 s on, every 3 s)	Bright-out state active
One red flash	Motion detected
Two red flashes	Received infrared command
Three red flashes	Programmer communication running
Red flashing (1 s on, every 2 s)	PTM short circuit

2. Common

The basic DIM ILD 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.
IR is always active.

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4. Installation

⚠️
- Don't use the basicDIM ILD without a sensor.
- DSI/DALI is not SELV. The installation instructions for mains voltage therefore apply.
- The maximum cable length between the external switch and basicDIM ILD is 100 m.
- The cable between the luminaire installation sensor and the base module must not be extended.
- A synchronous operation of DALI and DSI ballasts at the same control gear is not possible.
- The maximum cable length of the DSI / DALI control signal (for a cable cross-section of 1,5 m²) must not be exceeded.
- Any number of push to make switches may be connected in parallel to the inputs.
- Do not connect standard switches to the input.
- 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.
- Heaters, fans, printers and copiers located in the detection zone may cause incorrect presence 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 shelfs).
- To avoid false measurements caused by the light from other luminaires we recommend that the sensor should be located centrally in the luminaire.
- Sensor wires must be routed separately from the lamp wires and mains cables, otherwise the lighting control system may malfunction. If separate routing is not possible (for reasons of space) shielded lamp wires and mains cables must be used.
- 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.
- Avoid direct illumination of the light source on the sensor including housing.

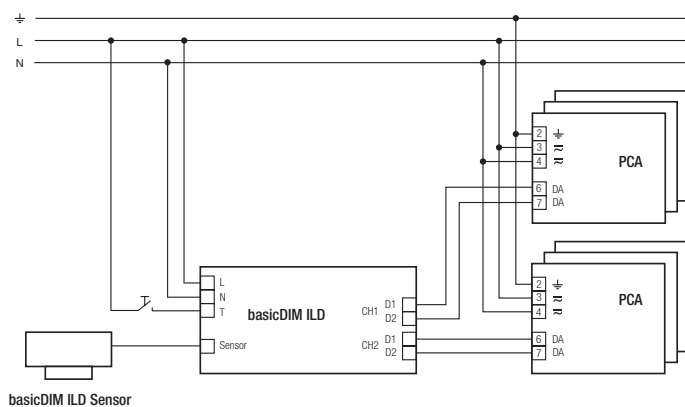### 4.1 Installation Mounting box 16DPI

⚠️
- 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°.

Notes

- In a bright environment the application range of the DSI-SMART programmer may be limited. When programming the programmer should be direct pointed to the sensor.
- In case of pollution or mechanical damage of the lens, the functionality of the sensor may be limited.

4.2 Wiring diagram basicDIM ILD

basicDIM ILD Sensor

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4.3 Enhancement of controllable light point

By using a combination of DALI Repeater and DALI Power Supply it is possible to enhance the sum of controllable light points. The schematic visualizes the wiring.

basicDIM ILD Sensor
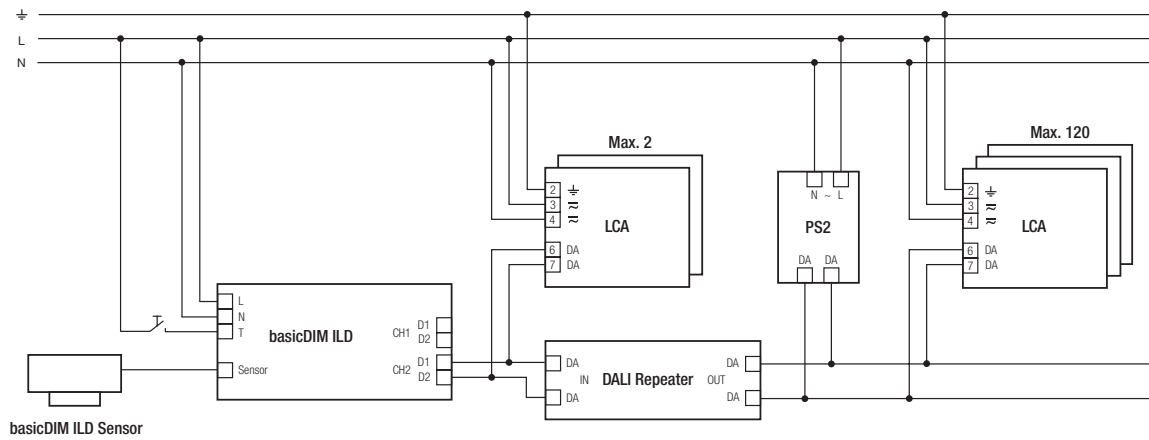
Use only in combination with DALI Repeater (86458401) and one of the following DALI Power Supplies:
DALI PS1 (24034323), 200 mA, max. 100 additional devices
DALI PS2 (28000876), 240 mA, max. 120 additional devices
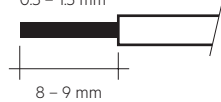
Wire length for 1.5 mm^2 cables:
• from basicDIM to DALI Repeater max. 100 m
• after DALI Repeater max. 300 m

This combination can be used on CH1 and CH2.

4.4 Cable types and cable cross-sections
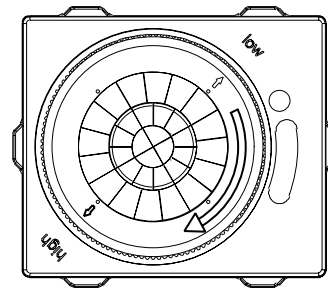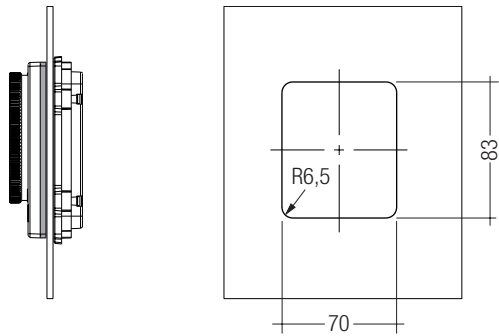
Solid wire with a cable cross-section of 0.5 mm² to 1.5 mm².

wire preparation:
0.5 – 1.5 mm²

8 – 9 mm

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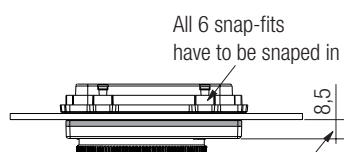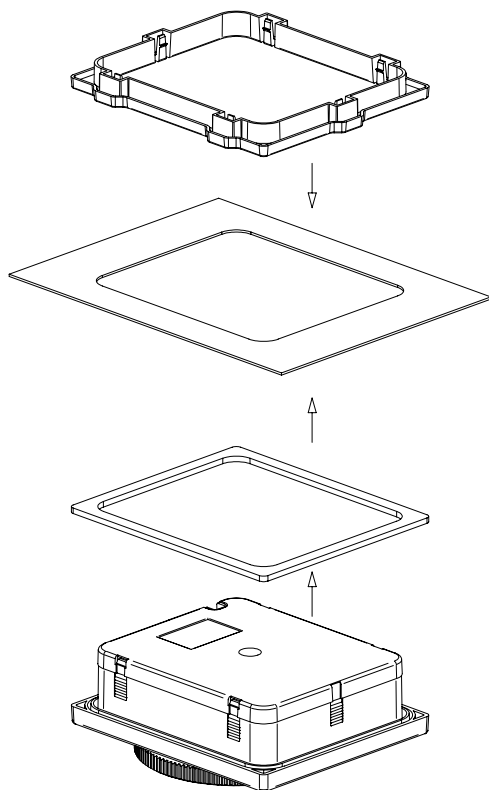
7

4.5 Mounting variant luminair housing:

Sheet thickness: 1 – 4 mm

83

R6,5

70

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!
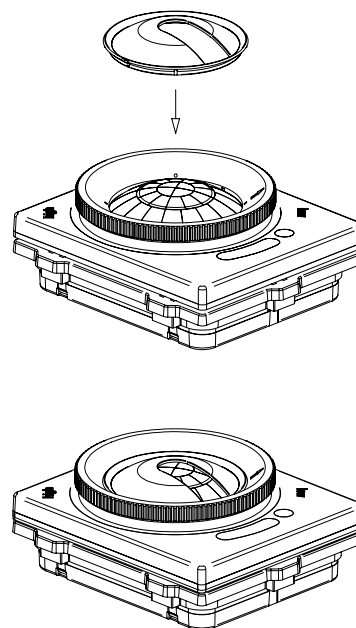
4.6 Sensor mounting

4.7 Shader mounting

All 6 snap-fits have to be snaped in

8.5

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

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4.8 Mounting box in luminair housing:
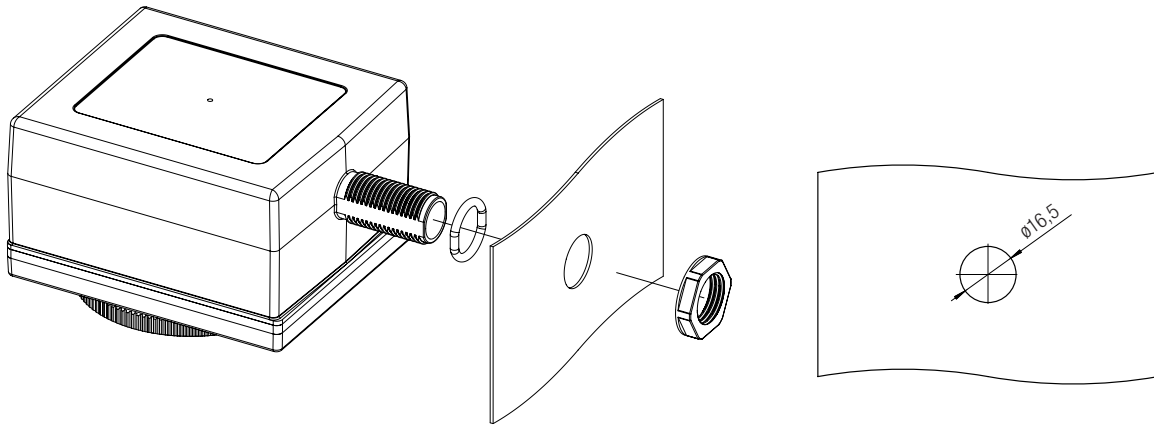
4.9 Mounting box mounting

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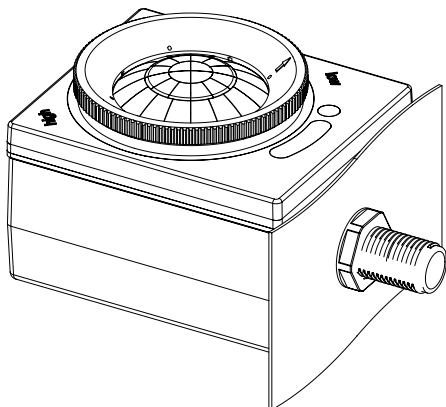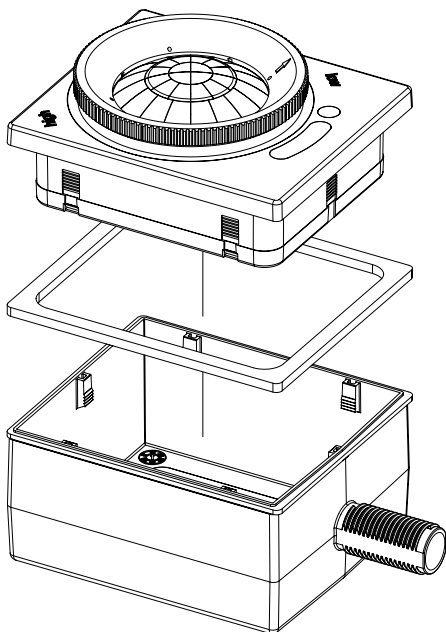
5. Sensor functions

5.1 Light level recognition area

h *	d
8 m	1.8 m
10 m	2.3 m
12 m	2.7 m
14 m	3.2 m
16 m	3.7 m

$\alpha = 13°$

h

d

5.2 Presence / motion detection

h *	Zoom	d
8 m	low	12.0 m
9 m	low	13.5 m
10 m	low	15.0 m
11 m	low	16.5 m
12 m	low	18.0 m
12 m	high	14.0 m
13 m	high	15.2 m
14 m	high	16.4 m
15 m	high	17.6 m
16 m	high	18.8 m

$\alpha_{high} \doteq 60°$

$\alpha_{low} \doteq 72°$

h

d

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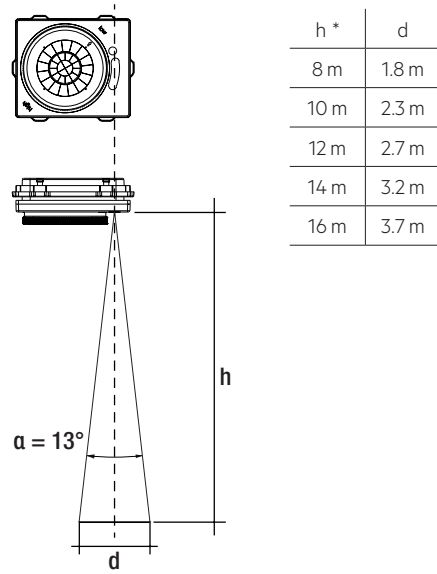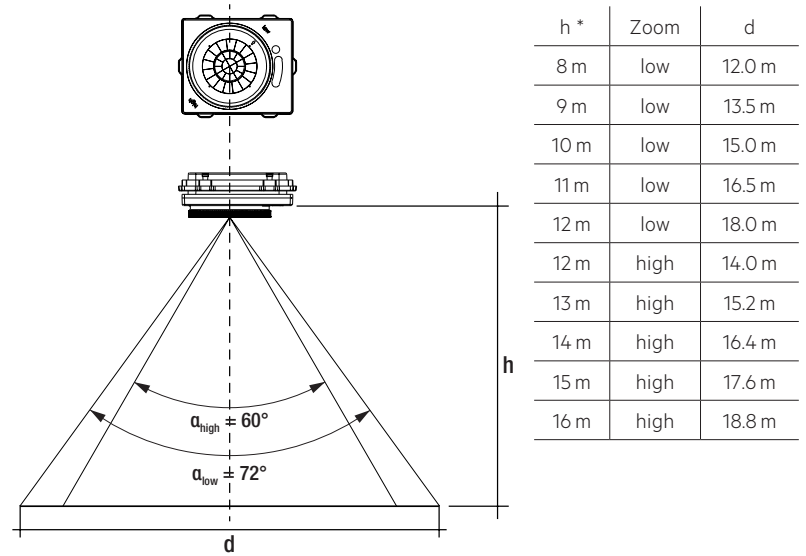
5.3 Presence / motion detection with shader

$\alpha_{high} \doteq 26°$
$\alpha_{low} \doteq 32°$

$\alpha_{high} = 30°$
$\alpha_{low} = 36°$
$\alpha_{high} = 13°$
$\alpha_{low} = 16°$

$\alpha_{high} \doteq 26°$
$\alpha_{low} \doteq 32°$

5.4 Application

Sensor with or without Shutter

Shelf

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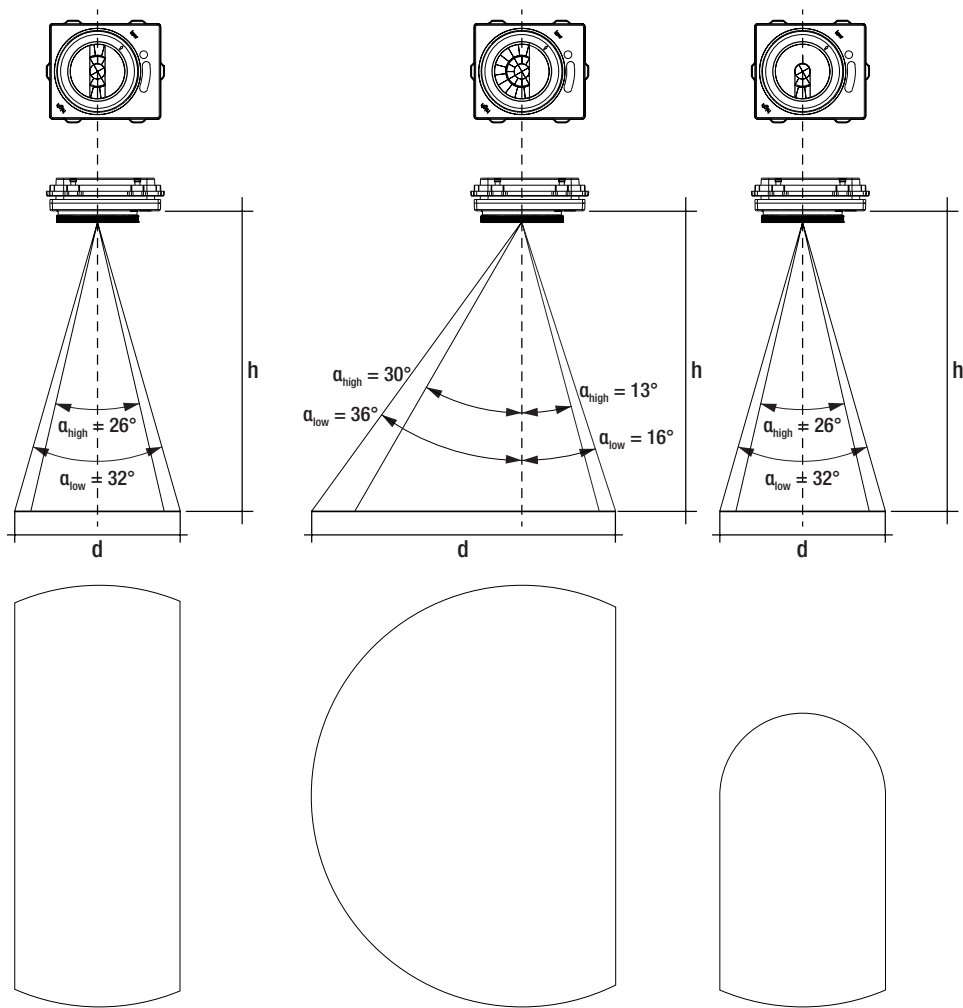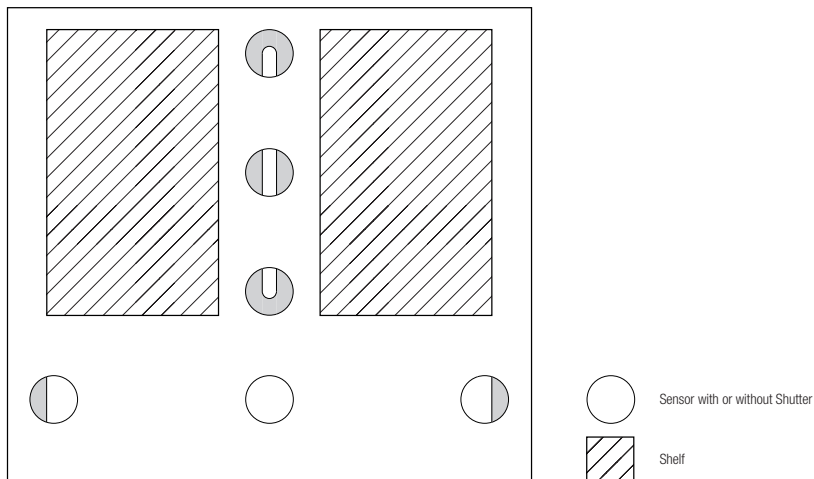
The following operating modes can be set for the motion detector via the basicDIM ILD Programmer or DSI-Smart Programmer:

|	
Active	The light is switched on or off automatically depending on whether or not there is a person in the room.
Off Only	The motion detector only switches the connected lighting off. The luminaires are switched on manually via the connected external switch or infra-red control.
Never Off	If it has not detected any movement the sensor dims to the "second light value" parameter and remains at this value
Inactive	The motion sensor is deactivated. The light must be switched on or off manually.

5.5 Switch-off delay

This is the time after which the lighting is switched off if no movement is detected. It can be set via the "time delay" parameter.

5.6 Second light value

On the basicDIM ILD you can set whether the light is to be switched off after the switch-off delay or dimmed to the second light value. The light value and the dwell time (how long the value is held) can be set via the "when vacant" and "sec. level" parameters.

5.7 Offset

The light level of channel 2 is less then the light level of channel 1. The difference can be set with the parameter „Offset Value" via basicDIM ILD Programmer or DSI-SMART Programmer.
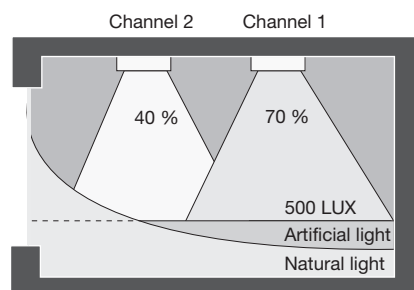
5.8 Manual-off delay

If the system is switched off manually via the switch or remote control the motion sensor is deactivated. At the end of a 10 minutes delay if motion has not been detected the motion sensor is activated again. If the sensor detects motion during the "Manual Off" delay, the time will be reset to the start.

The following operating modes can be set for lighting control via the DSI-Smart Programmer:

Active	Constant light control is active.
Inactive	Constant light control is deactivated. The lighting is switched on at 100%.

The value is set with the "light-level" parameter. If the value is set to "max" then lighting control is deactivated. For all other values lighting control is active.

5.9 Setpoint adjustment

- DSI-SMART Controller: Pressing the Set button stores the current light value as a new setpoint.
- basicDIM ILD Programmer or DSI-SMART Programmer:
  Via the "light-level" parameter
- External switch: Briefly pressing the switch twice stores the current light value as a new setpoint. (Function is lockable via the basicDIM ILD Programmer or DSI Programmer)

5.10 Bright-out

If the nominal illuminance (e.g. 500 lux) is exceeded for 10 minutes by more than 150 % (e.g. 750 lux), the lighting is switched off even if motion is detected. The lighting is switched on again when the measured light value falls below the setpoint.
The bright-out function is displayed by a green status indication LED at the sensor.
This function can be deactivated via the basicDIM ILD Programmer or DSI-SMART Programmer.

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5.11 User-definable parameters

basicDIM ILD have the following user-definable parameters (since DSI-SMART Programmer version 2.30):
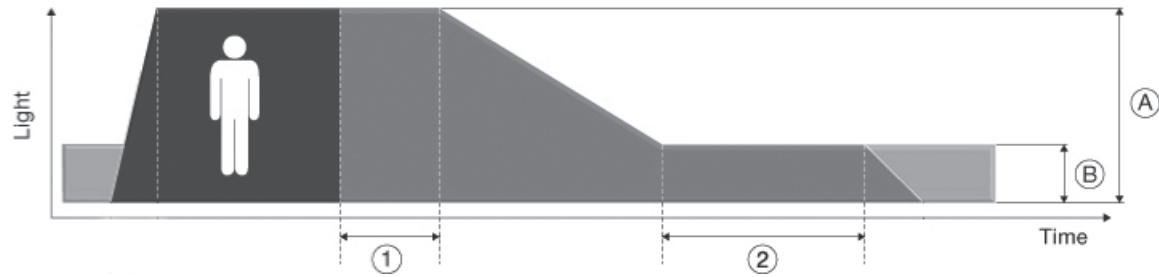The values in parentheses are the factory default settings.

The adjustable values for the basicDIM ILD Programmer is available in a separately documentation on www.tridonic.com.

Parameter	Range (Factory setting)	Description
light-level	1 – 100/max (70)	Selectable lighting control set point, 1 – 100 increments. "max" also makes it possible to set the control gear to full power. (DSI 255) "man" indicates whether the adjustment value was overwritten by the SET function of the SMART Controller.
time delay	30 s – 60 min/con (20 min)	Delay time after the last detected movement The following values can be set: 30 seconds, 1, 2, 3, 5, 10, 15, 20, 30, 45 and 60 minutes and "continuous" (no switch-off)
if vacant	off 30 s – 60 min/con (off)	The "off" setting switches the luminaire off after the delay time has elapsed. If a time value is set, the luminaire dims to the "sec. level" parameter and only switches off after the previously set time has elapsed. The following values can be set: off, 30 seconds, 1, 2, 3, 5, 10, 15, 20, 30, 45 and 60 minutes and "continuous" ("never OFF" function)
sec. level	1 – 100 % (1 %)	Second light level to which luminaire dims after the delay time has elapsed. (in conjunction with the "if vacant" parameter)
P.I.R	active/inactive/off only (active)	With the "active" setting, the lighting is automatically switched on or off depending whether a person is present. With the "inactive" setting, the basicDIM ILD/DSI-SMART (PTM) can, in combination with continuous "time delay", only be used for lighting control. With the "off only" setting, the lighting has to be switched on manually (momentary-action switch, remote control) but is switched off by the presence detector.
bright-out	yes/no (yes)	With the "yes" setting, the lighting switches off as soon as the light level exceeds 150 % of the set point for longer than 10 minutes, for instance, if the room is adequately illuminated by sunlight. If the actual value falls below 100 % of the set point, the lighting switches back on again. With the "no" setting, the lighting remains switched on (at the minimum dimming level) even if the room is adequately illuminated by sunlight and no artificial lighting is required.
Power up	on/off (on)	With the "on" setting, the luminaire switches on after a mains break. With the "off" setting, the luminaire does not switch on after a mains break. The presence detector becomes active again after 15 seconds.
hold overwrite	on/off (off)	If the light level is manually dimmed via a momentary-action switch or remote control, lighting control stops. The previously set dimming level retains its fixed value as long as lighting control is not activated by manual intervention (momentary-action switch or remote control). If there is no movement in the room in this state and the "time delay" has elapsed, the control unit stores the fixed dimming level. With the "off" setting, lighting control is restarted each time movement is detected. With the "on" setting, the control unit switches the luminaires back to the fixed dimming level each time movement is detected and lighting control remains stopped. With this setting, lighting control can be activated again via the remote control (Automatic button). If lighting control was active before repeated detection or if the lighting was switched off manually, the luminaires and lighting control are switched on after movement is detected in order to prevent people having to enter a dark room.
PTM Set	on/off (on)	With the "on" setting, it is possible to save the currently set light level as a lighting control set point by pressing the momentary-action switch twice shortly. With the "off" setting, this function is disabled.
DALIorDSI	DSI/DALI (DSI)	With the "DSI" setting, DSI interface mode is enabled. With the "DALI" setting, DALI interface mode in which DALI broadcast commands are sent is enabled.
Offset Mode	fixed/converging (converging)	This parameter specifies how the adjustable "Offset Value" of the basicDIM ILD behaves from channel 2 to channel 1 over the dimming range. With the "fixed" setting, the previously set "Offset Value" remains the same across the dimming range. (e.g. with an "Offset Value" of -30 %, channel 2 remains at 70 % when channel 1 has reached 100 %). With the "converging" setting, the previously set "Offset Value" remains the same up to a specific dimming level and decreases the closer one gets to 100%. (e.g., with an "Offset Value" of -30 %, the dimming level of channel 2 is 40 % and that of channel 1 is 70 %. but both channels simultaneously change to a dimming level of 100 % if the lighting is dimmed up).
Offset Value	0 to -70 % (-30 %)	Adjustable brightness difference between channel 2 and channel 1 of the basicDIM ILD. The following values can be set: 0 %, -10 %, -20 %, -30 %, -40 %, -50 %, -60 % and -70 %

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5.12 Default Parameter Motion Detector

Parameter

A	light-level
1	time delay
B	sec. level
2	if vacant

6. Miscellaneous

6.1 Additional information

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

Guarantee conditions at www.tridonic.com → Services

Life-time declarations are informative and represent no warranty claim.
No warranty if device was opened.

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