TRIDONIC

DALI CE RoHS

DALI MSensor
Multi-sensor for DALI system

Product description

- Component of the comfortDIM system (DALI standalone)
- With ambient light dependent control and motion detection
- Simple group assignment via rotary switch
- Multiple MSensors possible in a group
- Can be remote controlled
- Lighting control and motion detection can be deactivated
- Individual adjustment of the parameters with configuration software
- Multi-master compatible: Multiple control modules are possible in a DALI system
- Power supply via DALI line

Technical data

Supply via	DALI cable
Current draw	6 mA from DALI
Operating temperature	0 ... +50 °C
Storage temperature	-25 ... +55 °C
Type of protection	IP20

→

Standards, page 4
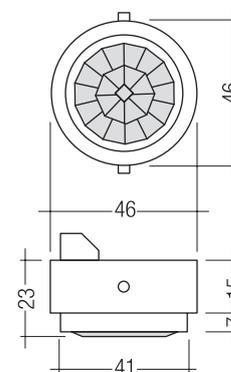
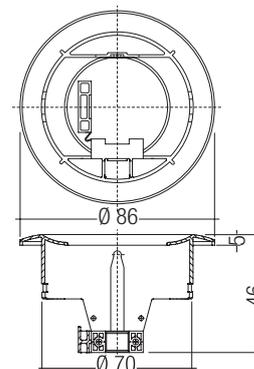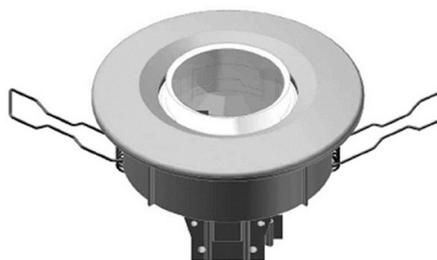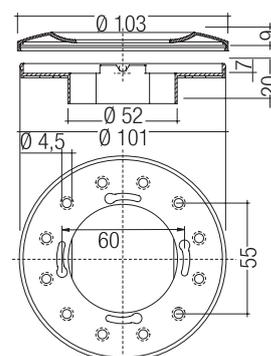**Wiring diagrams and installation examples**, page 4

Fig. 1

Fig. 2
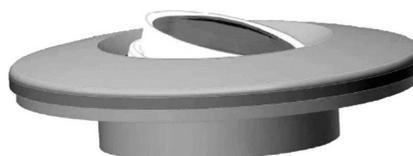
Fig. 3
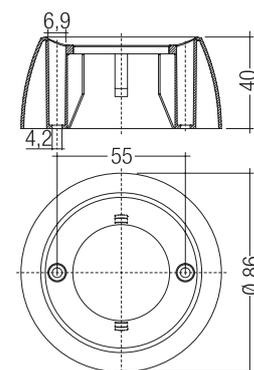
Fig. 4

Ordering data

Fig.	Mounting	Type	Article number
1	Luminaire installation	**DALI-MSensor integrated**	86458265
2	Ceiling installation	**DALI-MSensor remote ceiling**	86458267
3	Box installation	**DALI-MSensor in wall**	86458268
4	Surface mounting	**DALI-MSensor remote surface**	86458269

Packaging: 1 pieces/carton

Specific technical data

Type	Detection						
	Ø of detection range, mounted at a height of 2.5 m	Extension of the detection area[1]	Swivel design	Swivel range	Detection angle	Light measurement at the sensor head[2]	Infra-red control range
DALI-MSensor integrated	5 m	–	no	0°	360°	10 – 650 lx	5 m
DALI-MSensor remote ceiling	5 m	2 m	yes	±15°	360°	10 – 650 lx	5 m
DALI-MSensor in wall	5 m	2 m	yes	±15°	360°	10 – 650 lx	5 m
DALI-MSensor remote surface	5 m	–	no	0°	360°	10 – 650 lx	5 m

[1] If mounted at a height of 2.5 m and swivelled through 15 °

[2] The measured value at the sensor head corresponds to approx. 15 to 2000 lux on the surface measured

IR-SMART Controller

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)
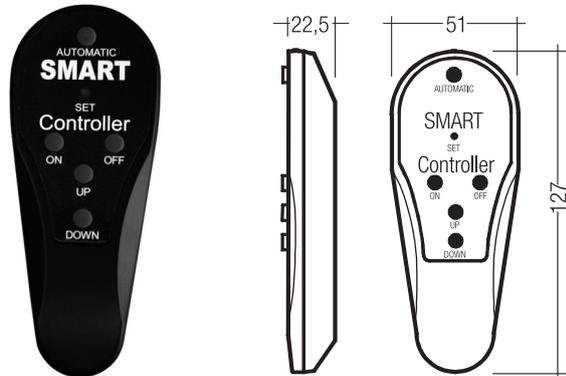
Ordering data

Type	Article number
DSI-SMART Controller	86451922

Packaging: 1 pieces/carton

ACCES-
SORIES

DALI RC

Product description

- Optional infra-red remote control
  and programming unit for DALI MSensor
- For programming the operating parameters
  of the DALI MSensor
- With wall bracket
- Switching on and off (On/Off button)
- Dimming (Up/Down button)
- Activating automatic lighting control (sun/cloud button)
- Calling up two scenes
- Calling up five fixed light output values
  (100, 50, 25, 12 and 6 %)
- Individual adjustment of the button assignments
  with configuration software
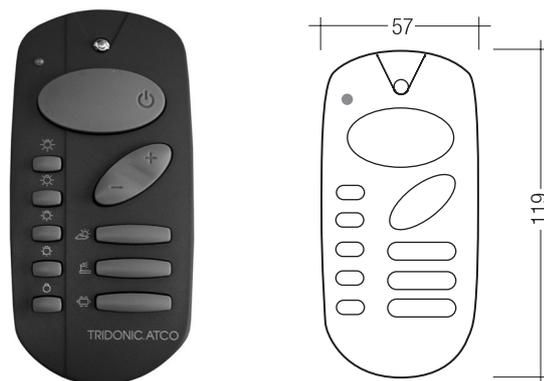
Ordering data

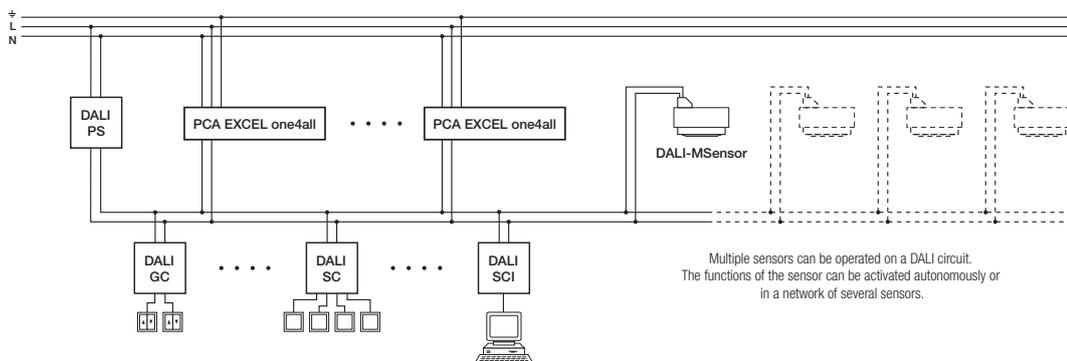| Type	Article number
DALI-RC	86458263

Packaging: 1 pieces/carton

The DALI-MSensor is the ideal addition to the comfortDIM series of products as it offers daylight-dependent lighting control, presence detection and remote control. It has been designed for the following principal applications:
• Individual offices
• Open-plan offices
• Training / presentation rooms
• Corridors, passageways and garages

The DALI-MSensor is designed that it can be used together with the comfortDIM components (e.g. DALI-MC). For this reason the DALI-MSensor can be addressed and grouped like an ECG, making system configuration easier. The DALI-MSensor needs the DALI address for communication between multiple sensors, and the group for communication with other DALI controllers. The DALI-MSensor has special group concept. For further information please refer to the DALI MSensor installation instruction.

A maximum of 12 sensors can be operated on one DALI circuit. This restriction is due to the permitted data traffic on the DALI circuit. If the DALI-MSensors operate independently of each other the maximum number of sensors per DALI circuit is reduced to eight (see DALI MSensor installation instruction).
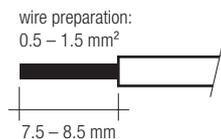
Wiring

Multiple sensors can be operated on a DALI circuit.
The functions of the sensor can be activated autonomously or in a network of several sensors.

Standards
EN 61547
EN 61347-2-11
EN 55015

Wiring type and cross section
The wiring can be solid wire or stranded wire with a cross-section of 0.5 mm² to 1.5 mm².

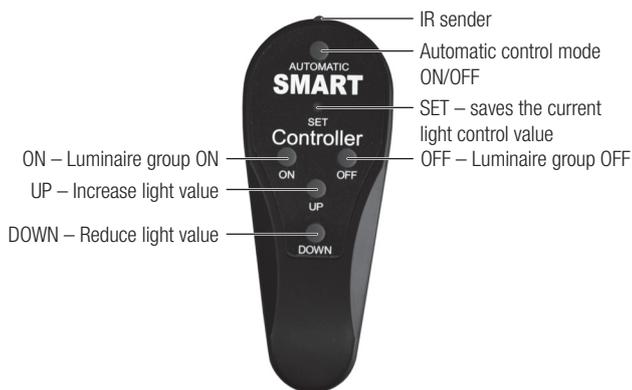wire preparation:
0.5 – 1.5 mm²

7.5 – 8.5 mm

Installation
• DALI is not SELV.
  The installation instructions for mains voltage therefore apply.
• The DALI MSensor must not be connected to the mains. It is supplied directly via the DALI signal line.

Remote control

The DALI MSensor can be controlled with 2 remote controls:

• IR smartController
• DALI-RC

IR smartController

IR sender
Automatic control mode ON/OFF
SET – saves the current light control value
OFF – Luminaire group OFF
ON – Luminaire group ON
UP – Increase light value
DOWN – Reduce light value

DALI-RC

LED status display
IR sender
Switch all luminaires in the DALI system ON or OFF
Light value 100 % brightness
Light value 50 % brightness
Light value 25 % brightness
Light value 12 % brightness
Light value 6 % brightness
Increase or reduce the light value (dimming the DALI system)
Automatic control mode ON
Call up scene 2
Call up scene 1

Light level recognition area
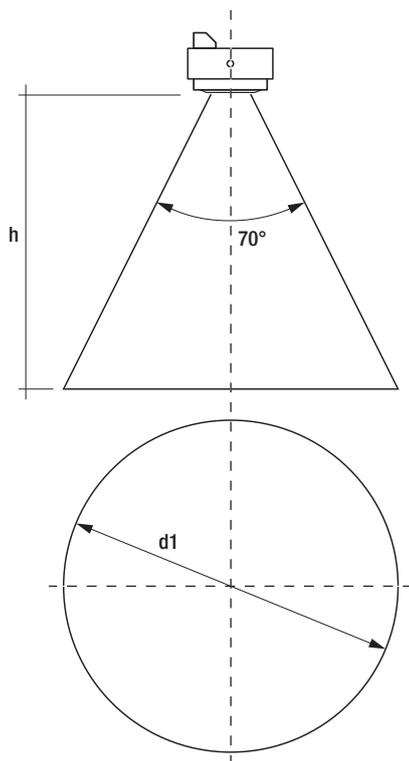
h *	d1	d2
1.7 m	2.4 m	3.4 m
2.0 m	2.8 m	4.0 m
2.3 m	3.2 m	4.6 m
2.5 m	3.5 m	5.0 m
2.7 m	3.8 m	5.4 m
3.0 m	4.2 m	6.0 m
3.5 m	4.9 m	7.0 m
4.0 m	5.6 m	8.0 m

* The recommended maximum room height for office applications is 3 m and for corridor applications for example 4 m.

Calculation of the diameter:
$d = 2 \times \tan(0.5 \times \alpha) \times h$

Motion detection
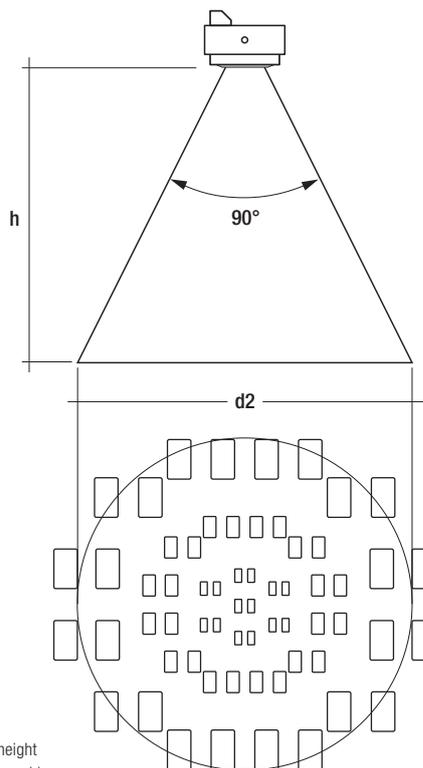
The following operating modes can be set for lighting control via the MasterCONFIGURATOR configuration software:

Active	Constant light control is active.
Inactive	Constant light control is deactivated. The lighting is switched on an adjustable light value.

Setpoint adjustment
- DSI-SMART Controller: Pressing the Set button stores the current light value as a new setpoint.
- DALI-RC:
  In programming mode with the Automatic button (Icons: sun / moon)
- MasterCONFIGURATOR

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.
This function can be adjusted via the MasterCONFIGURATOR.

The following operating modes can be set for the motion detector via the MasterCONFIGURATOR configuration software:

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.

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 "ON time" parameter.

Second light value
On the DSI-Smart PTM 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 "MIN value" and "MIN time" parameters.

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 delay time 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.

Swiveling angle

2,5 m

2 m

5 m

1 m
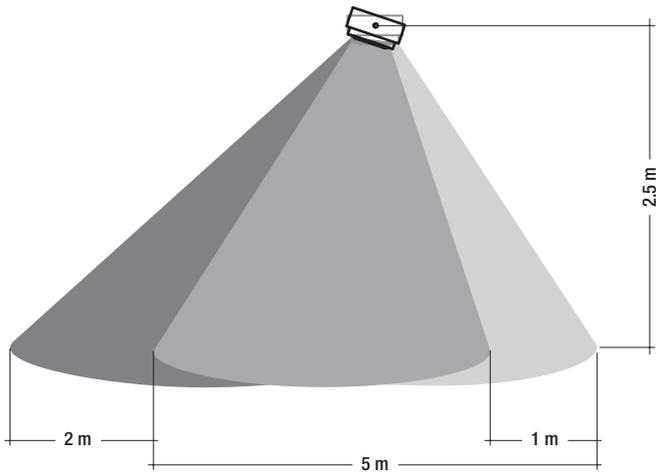
General settings

Parameter	Default Values
Motion Detector	Enabled, on/off
Light Regulation	Enabled
Light Regulation Point	150 lx
Power On Setting	No action
Bright-out timeout	10 min
Bright-out threshold	150 %
Control speed	4
Switch On Level	auto
Rotary Switch	0, Broadcast

Default Parameter Motion Detector

	Parameter	Default Values
1	ON Fading	<0,7 s
	ON Light Level	Regulated
2	ON Delay Time	20 min
3	MIN Fading	5,6 s
	MIN Light Level	3 %
4	MIN Delay Time	10 min
5	OFF Fading	5,6 s
	EXIT Delay Time	10 min

light level

delay time

motion in the room
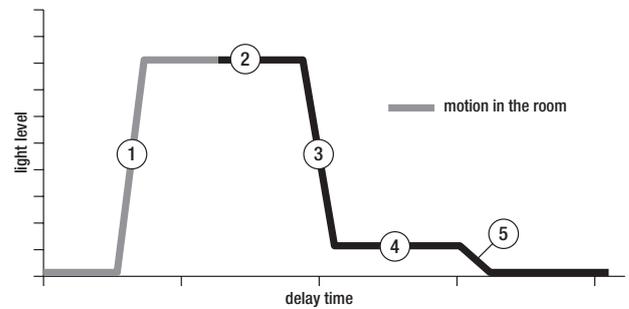
Rotary Switch
DALI-Grouping is done with the rotary switch. The rotary switch is at the backside of the DALI-MSensor.

Position	Luminaire Group	Sensor Input Group
0	Broadcast	DALI Group 1
1	DALI Group 1	DALI Group 2
2	DALI Group 2	DALI Group 3
3	DALI Group 3	DALI Group 4
4	DALI Group 4	DALI Group 5
5	DALI Group 5	DALI Group 6
6	DALI Group 6	DALI Group 7
7	DALI Group 7	DALI Group 8
8	DALI Group 8	DALI Group 9
9	DALI Group 9	DALI Group 10
A	DALI Group 10	DALI Group 11
B	DALI Group 11	DALI Group 12
C	DALI Group 12	DALI Group 13
D	DALI Group 13	DALI Group 14
E	DALI Group 14	DALI Group 15
F	DALI Group 15	DALI Group 16