RoHS

Sensa S2

Multi-sensor for DALI system

Product description

- Component of the Sensa system (DALI standalone)
- With ambient light dependent control and presence detection
- Simple group assignment via rotary switch
- Multiple S2 sensors possible in a group
- Can be remote controlled
- Lighting control and presence 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

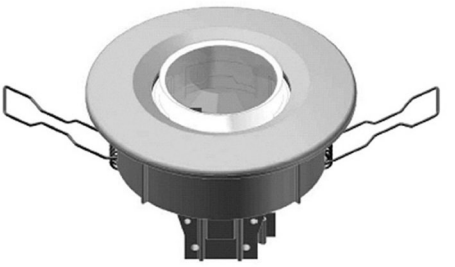
Technical data

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 3

Wiring diagrams and installation examples, page 3



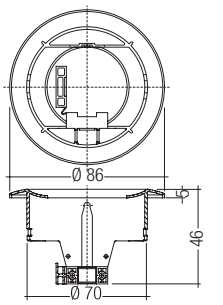
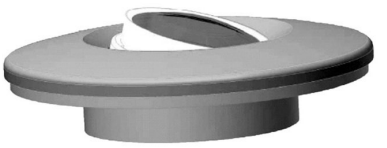


Fig. 1



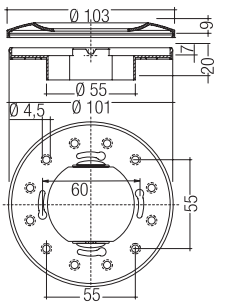


Fig. 2

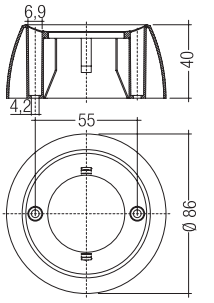


Fig. 3

Ordering data

Type	Article number	Figure	Packaging, carton
Sensa S2RC Remote ceiling	**86459420**	1	1 piece
Sensa S2WM Wall mounted	**86459421**	2	1 piece
Sensa S2SF Surface	**86459419**	3	1 piece

Specific technical data

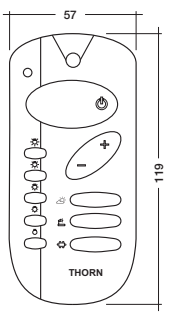
Type	Detection						
	Ø of detection range, mounted at a height of 2.5 m	Extension of the detection area①	Swivel design	Swivel range	Detection angle	Light measurement at the sensor head②	Infra-red control range
Sensa S2RC Remote ceiling	5 m	2 m	yes	±15°	360°	10 – 650 lx	5 m
Sensa S2WM Wall mounted	5 m	2 m	yes	±15°	360°	10 – 650 lx	5 m
Sensa S2SF 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 2,000 lux on the surface measured.

RoHS

ACCES-SORIES

Sensa IRC



Product description

- Optional infra-red remote control
- 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
- Setting the threshold control point
- With wall bracket

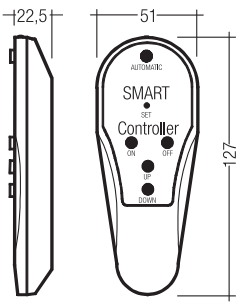
Ordering data

Type	Article number	Packaging, carton
Sensa IRC	86459423 (Tridonic)	1 piece
	96550422 (Thorn)	

RoHS

ACCES-SORIES

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 (Automatic button)
- Setting the threshold control point (Set button)

Ordering data

Type	Article number	Packaging, carton
DSI-SMART Controller	86451922	1 piece

The Sensa S2 is the ideal addition to the Sensa series of products as it offers daylight-dependent lighting control, presence detection and remote control.
It has been designed for the following principal applications:

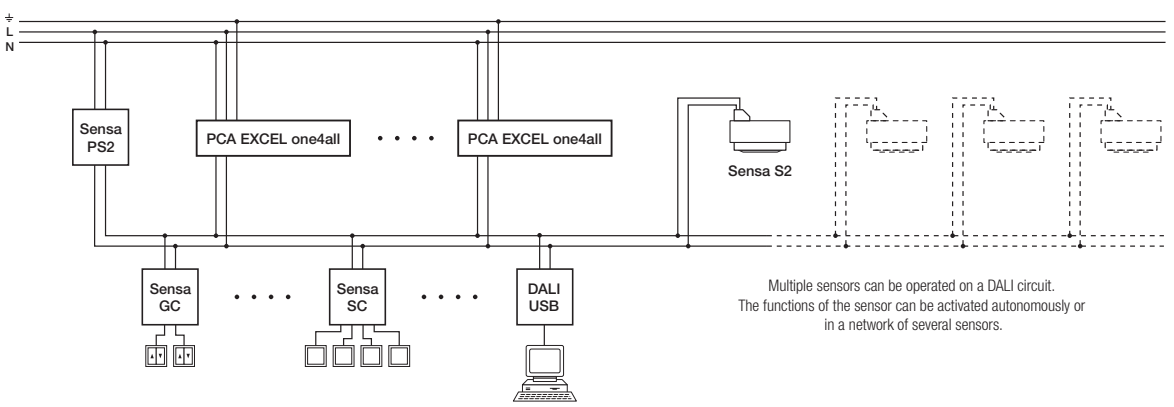
- Individual offices
- Open-plan offices
- Training / presentation rooms
- Corridors, passageways and garages

The Sensa S2 controls a DALI group and is designed that it can be used together with the Sensa components (e.g. Sensa MC). For this reason the Sensa S2 can be addressed and grouped like an ECG, making system configuration easier. The configuration of the sensors is done by the masterCONFIGURATOR software tool (since version 2.02). For further information please refer to the Sensa S2 manual on www.tridonic.com.
As an option, the Sensa S2 can be operated from two remote controls. The remote controls available with the system are: Sensa IRC and IR-SMART Controller.

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.

To use the Sensa S2 in conjunction with an external system some modes are available. To ensure a proper function please take account of the advices in the Sensa S2 manual on www.tridonic.com.

Wiring

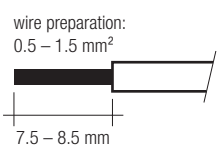


Standards

EN 61547
EN 61347-1
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.



Installation

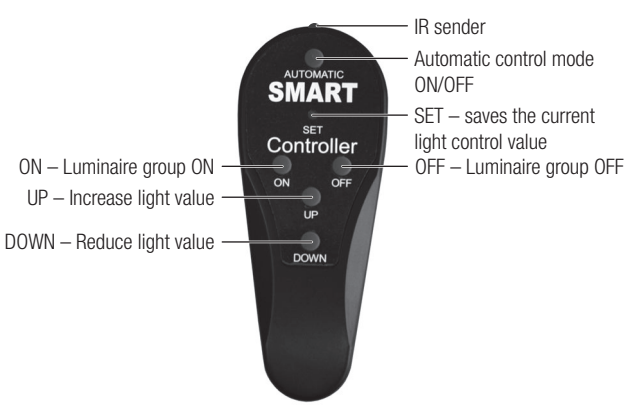
- The Sensa S2 must not be connected to the mains. It is supplied directly via the DALI signal line.
- A maximum of 12 Sensa S2 must be operated in one DALI circuit.
- DALI is not SELV.
  The installation instructions for mains voltage therefore apply.
- Please ensure that the detection range of the 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 (2,5m), the presence sensor might show different characteristics. When mounted at a higher level, its sensitivity is reduced. If mounted at a lower level, its range is diminished.
- Heaters, fans, printers and copiers located in the detection zone may cause incorrect presence detection.

Remote control

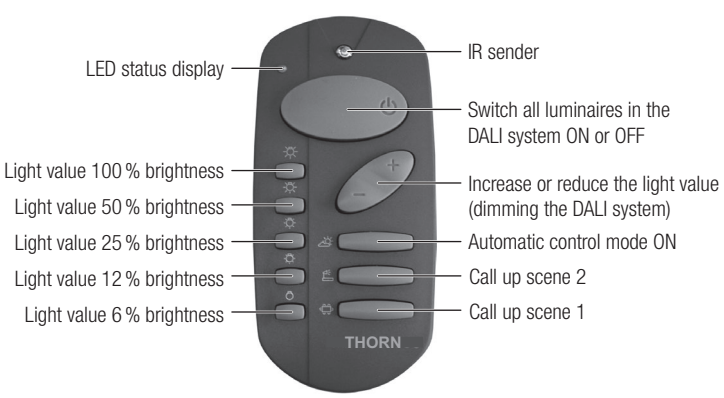
The Sensa S2 can be controlled with 2 remote controls:

- IR-SMART Controller
- DALI-RC

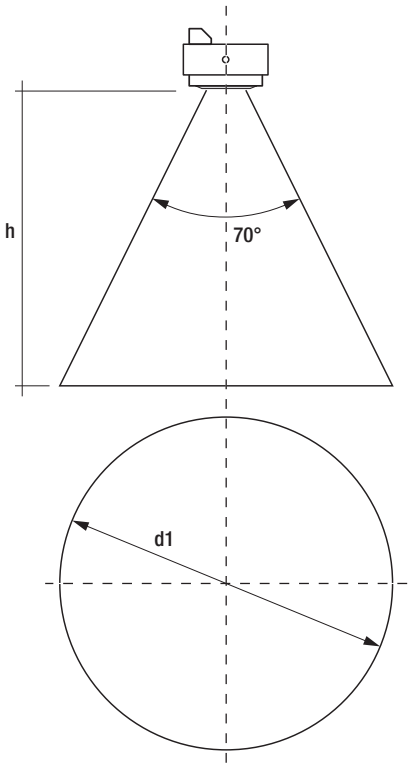
IR-SMART Controller



Sensa IRC



Light level recognition area

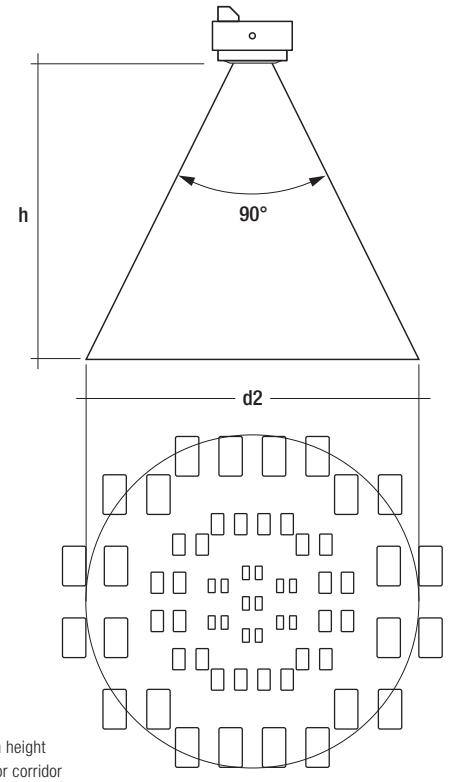


h *	d1	d2
1.7 m	2.4 m	3.4 m
2.0 m	2.8 m	4.0 m
2.3 m	3.2 m	4.6 m
2.5 m	3.5 m	5.0 m
2.7 m	3.8 m	5.4 m
3.0 m	4.2 m	6.0 m
3.5 m	4.9 m	7.0 m
4.0 m	5.6 m	8.0 m

* 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
- IR-SMART Controller: Pressing the Set button stores the current light value as a new setpoint.
- DALI-RC: Holding down the Automatic button (> 3 s) stores the current light value as a new setpoint.
- 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 “Absence value” parameter and remains at this value
Inactive	The motion sensor is deactivated. The light must be switched on or off manually.

Run-on time
This is the time after which the lighting is switched off if no movement is detected. It can be set via the “Run-on time” parameter.

Absence value
On the Sensa S2 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 “Absence value” and “Switch-off delay” parameters.

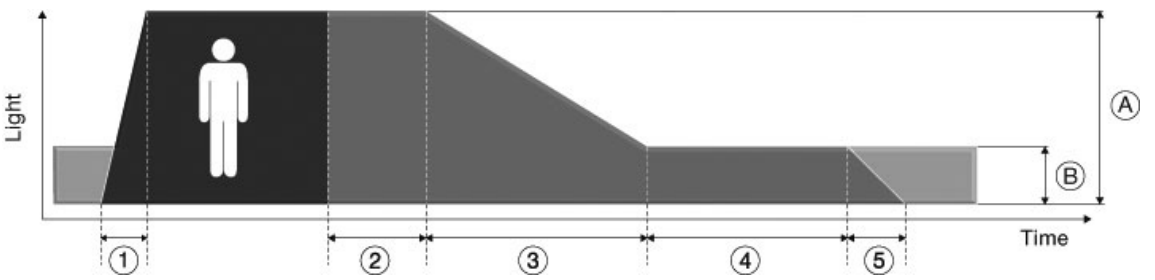
Dead time “Manual-off”
If the system is switched off manually via the switch or remote control the motion sensor is deactivated. At the end of a delay time if motion has not been detected the motion sensor is activated again. If the sensor detects motion during the “Manual-off” delay, the time will be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

General settings

Parameter	Default Values
Motion Detector	enabled, on/off
Light Regulation	enabled
Setpoint Light Regulation	150 lx
Power On Setting	no action
Bright-out timeout	10 min
Bright-out threshold	150 %
Control Speed	4
Switch On Value	auto (calculated)
Rotary Switch	0, Broadcast

Default Parameter Motion Detector

Parameter		Default Values
1	Fade-in time	< 0.7 s
A	Presence value	regulated
2	Run-on time	20 min
3	Fade time	5.6 s
B	Absence value	3 %
4	Switch-off delay	10 min
5	Fade-off time	5.6 s
	Manual-off	10 min



Operating area (grouping)

The setting of the operating area is done with the rotary switch which is at the backside of the Sensa S2. All devices in the setted operating area will be controlled by the sensor.

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