

DALI-2 CS Integration

DALI-2 CS THP

DALI-2 CS THP-AQ



Datasheet

Combi Sensor Modul for Integration

DALI-2 sensor module for
measurement of: motion
and light intensity

additional for DALI-2 CS THP
temperature (T)
relative humidity (H)
air pressure (P)

additional for DALI-2 CS THP-AQ
air quality (AQ)

Art. Nr. 86458670-INT
Art. Nr. 86457786-INT
Art. Nr. 86457786-INT-AQ

Detection range variants: -15, -O
Colour variants: -W16, -B
Installation type variants: -ZD,-AP,-LE

DALI-2 Combi Sensor Integration

Multifunctional Sensor Modul for Integration

Overview

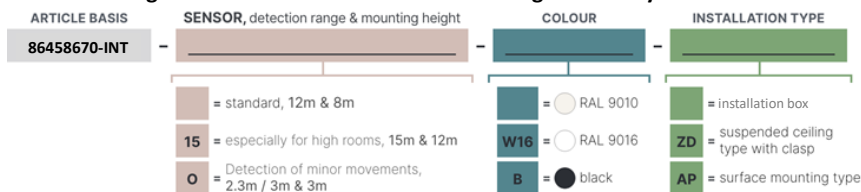
- Sensor module for Integration in systems with a central control or in combination with a DALI-2 CS Master (Art. Nr. 86458670) – www.lunatone.com/en/product/dali-2-cs/
- **DALI-2 CS Integration** (Art. Nr. 86458670-INT) for measurement of motion and light intensity
- **DALI-2 CS THP Integration** (Art. Nr.: 86457786-INT) sensor module for measuring movement, light intensity, temperature (**T**), relative humidity (**H**), and air pressure (**P**)
- **DALI-2 CS THP-AQ Integration** (Art. Nr.: 86457786-INT-AQ) sensor module for measuring movement, light intensity, temperature (**T**), relative humidity (**H**), air pressure (**P**) and air quality (**AQ**)
- Easy configuration via DALI-Cockpit Software Tool and Lunatone DALI USB interface.
- Several sensor modules can be installed within a DALI system.
- Supply via the DALI bus, no additional power supply needed.
- Doubled terminals for easy installation
- DALI -2 Instance types
 motion detection (PIR), instance type 3 (62386-303)
 light intensity measurement, instance type 4 (62386-304)
 temperature measurement, instance type 2 (62386-302)
 relative humidity measurement, instance type 2 (62386-302)
 air pressure measurement, instance type 2 (62386-302)
 air quality measurement, instance type 2 (62386-302)
- Optimized variants for different applications and detection areas (hall, office) available
- Version for integration in luminaires available (Art. Nr. 86457786-INT-LE, Art. Nr. 86457786-INT-AQ-LE)



Specification, Characteristics



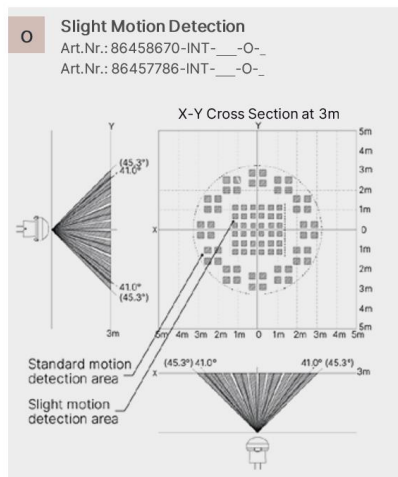
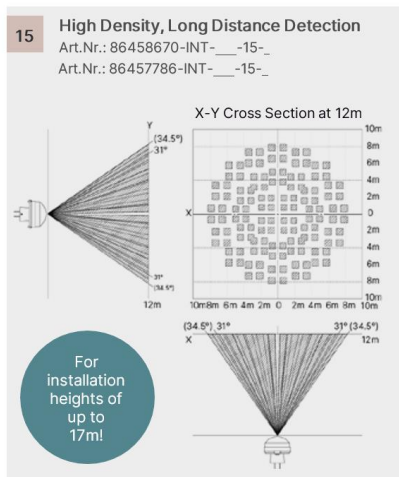
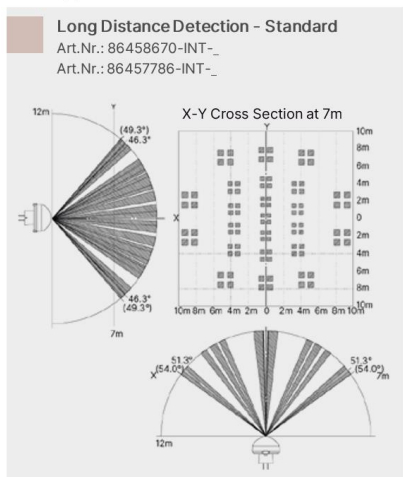
DALI-2 CS Integration: measurement of motion and light intensity



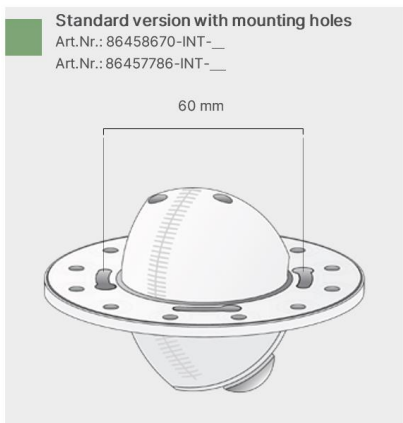
DALI-2 CS THP Integration: measurement of motion, light intensity, temperature, humidity, air pressure and optional air quality (version -AQ)



Lens types:



Installation types:



type	DALI-2 CS THP and DALI-2 CS THP-AQ		
application	standard	hall	office
article number	86458670-INT 86457786-INT 86457786-INT-AQ	86458670-INT-15 86457786-INT-15 86457786-INT-AQ-15	86458670-INT-O 86457786-INT-O 86457786-INT-AQ-O

electrical data:	
supply	via DALI signal line (DALI-voltage according IEC62386)
marking terminals	DA, DA
typical current consumption DALI	3.5 mA
power consumption	<100mW
control	DALI-2

insulation data:	
impulse voltage category	II
pollution degree	2
rated insulation voltage	250V
rated impulse withstanding voltage	4kV
insulation DALI/housing	reinforced isolation
insulation test voltage	3000Vac

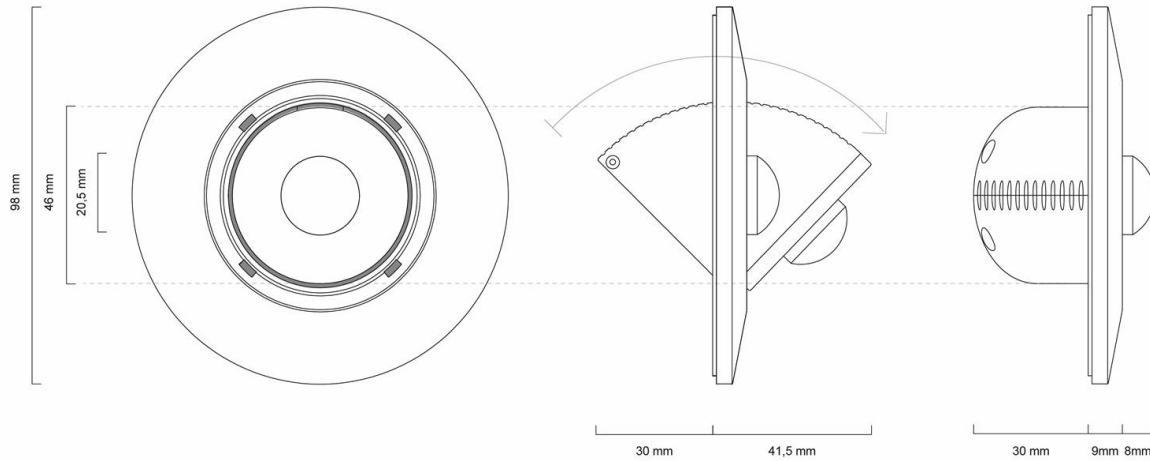
environmental conditions:			
storing and transportation temperature	-20°C ... +70°C		
operational ambient temperature	-20°C ... +60°C	-20°C ... +55°C	-20°C ... +60°C
rel. humidity, none condensing	15% ... 90%		

technical data:			
Motion Detection (62386 -303)			
principle	PIR	PIR	PIR
detection range (at >8°C temperature difference)	12m	15m	3m /2.3m
typical mounting height	8m	12m	3m
zones	92	128	36 / 48
horizontal	±51°	±34,5°	±44°/±90°
vertical	±46°	±34,5°	±44°/±90°
min. temperature difference	>4°C	>4°C	>4°C
details	Figure. 1, page 8	Figure. 2, page 8	Figure. 3, page 9

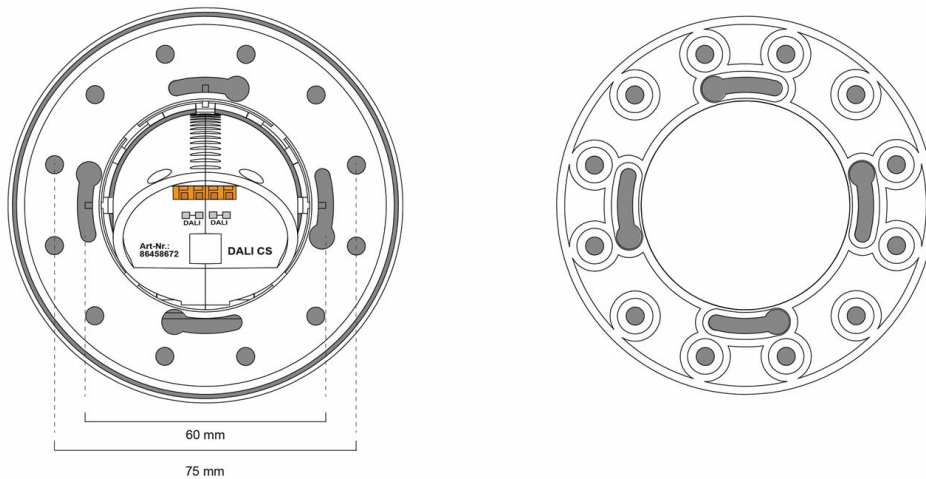
light sensor (62386-304)	range: 0-2046lux (11bit), resolution: 1lux events: 0-2046lux(10bit), resolution: 2lux																			
temperature sensor (62386-302)	for CS THP and CS THP-AQ range: -20°C ... 80°C, resolution: 0,1°C																			
humidity sensor (62386-302)	for CS THP and CS THP-AQ range: 0% ... 100%, resolution: 0,1%																			
Air pressure sensor (62386-302)	for CS THP and CS THP-AQ range: 300hPa ... 1100hPa, resolution: 1hPa																			
air quality sensor (62386-302)	for CS THP-AQ range: 0 ... 500, resolution: 1																			
	<table border="1"> <thead> <tr> <th>index</th> <th>air quality</th> </tr> </thead> <tbody> <tr> <td>0 - 50</td> <td>excellent</td> </tr> <tr> <td>51 - 100</td> <td>good</td> </tr> <tr> <td>101 - 150</td> <td>lightly polluted</td> </tr> <tr> <td>151 - 200</td> <td>moderately polluted</td> </tr> </tbody> </table>	index	air quality	0 - 50	excellent	51 - 100	good	101 - 150	lightly polluted	151 - 200	moderately polluted	<table border="1"> <thead> <tr> <th>index</th> <th>air quality</th> </tr> </thead> <tbody> <tr> <td>201 – 250</td> <td>heavily polluted</td> </tr> <tr> <td>251 -350</td> <td>severely polluted</td> </tr> <tr> <td>> 351</td> <td>extremely polluted</td> </tr> </tbody> </table>	index	air quality	201 – 250	heavily polluted	251 -350	severely polluted	> 351	extremely polluted
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general data:	
protection class	II in intended use
protection degree	IP20
mounting	back box – dimensions see below

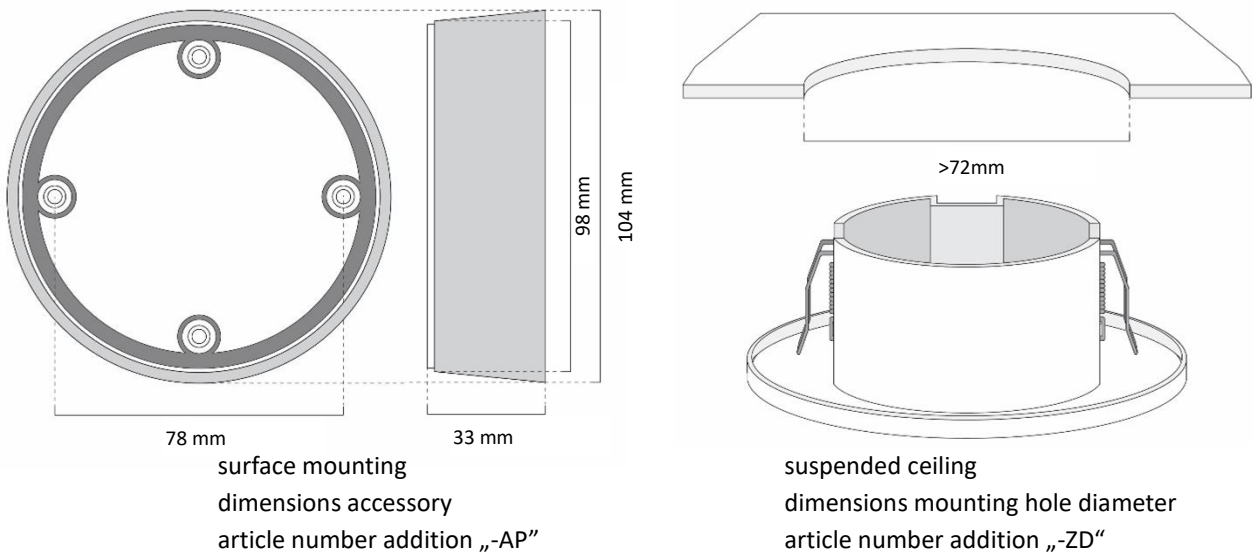
	surface mounted (article number extension „-AP“) – dimensions below suspended ceiling (article number extension „-ZD“) – dimensions below
available colours	RAL9010 RAL9016 (article number extension “-W16“) Black (article number extension “-B”)
DALI-2 functionality	Integration – instance mode



dimensions and space requirements



dimensions mounting ring



surface mounting
dimensions accessory
article number addition „-AP“

suspended ceiling
dimensions mounting hole diameter
article number addition „-ZD“

Specification, Characteristics - Version Luminaire installation



DALI-2 CS THP Integration – for installation in luminaires: measurement of motion, light intensity, temperature, humidity, air pressure and optional air quality (-AQ)



type	DALI-2 CS THP Luminaire installation DALI-2 CS THP-AQ Luminaire installation
article number	86457786-INT-LE 86457786-INT-AQ-LE

electrical data:

supply	via DALI signal line (DALI-voltage according IEC62386)
marking terminals	-
typical current consumption DALI	< 3.5 mA
power consumption	<100mW
control	DALI-2

insulation data:

impulse voltage category	II
pollution degree	2
rated insulation voltage	250V
rated impulse withstanding voltage	4kV
insulation DALI/housing	reinforced isolation
insulation test voltage	3000Vac

environmental conditions:

storing and transportation temperature	-20°C ... +70°C
operational ambient temperature	-20°C ... +60°C
rel. humidity, none condensing	15% ... 90%

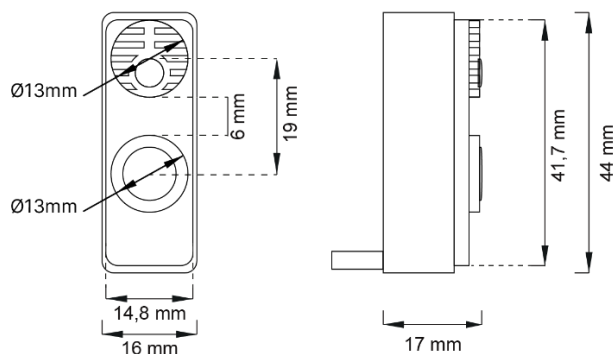
technical data:

Motion Detection (62386 -303)	
principle	PIR
detection range (at >8°C temperature difference)	7m
typical mounting height	3m
zones	32
horizontal	±45°
vertical	±45°
min. temperature difference	>4°C
details	Figure. 4, page 9
light sensor (62386-304)	range: 0-2046lux (11bit), resolution: 1lux

	event: 0-2046lux(10bit), resolution: 2lux																				
temperature sensor (62386-302)	for CS THP and CS THP-AQ range: -20°C ... 80°C, resolution: 0,1°C																				
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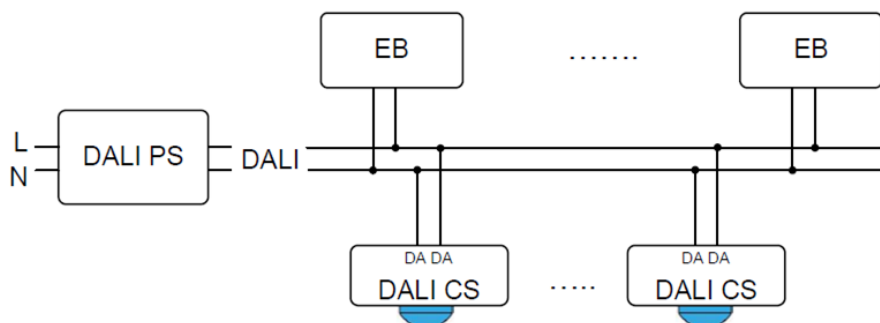
general data:

protection class	II in intended use
protection degree	IP20
mounting	Luminaire installation – dimensions see below
available colours	black RAL9016 (article number extension “-W16”)
DALI-2 functionality	integration – instance mode



dimensions and space requirements – luminaire installation- article number extension „-LE“

Application example



typical application: several sensors on one DALI-line

Sensor types

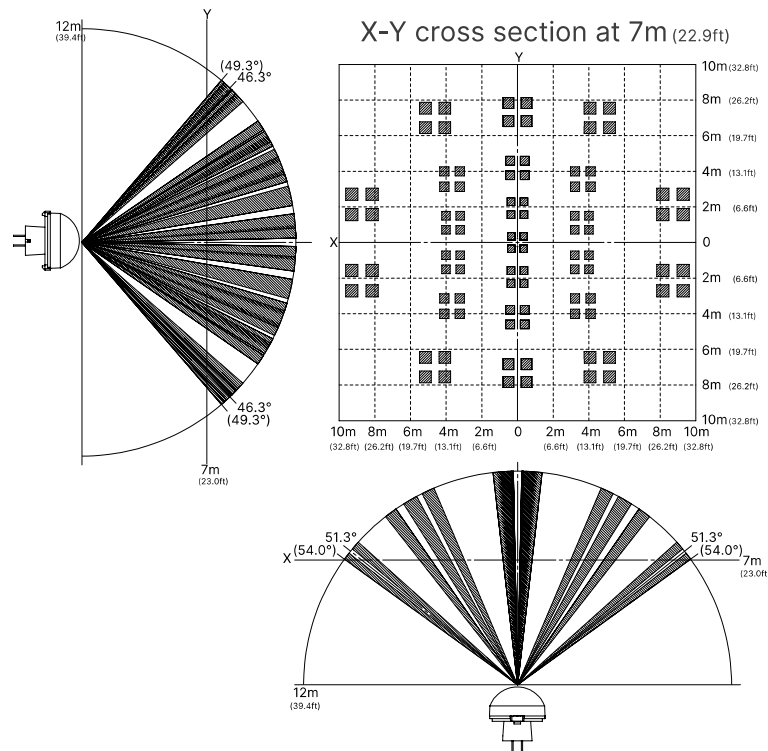


Figure. 1 **CS: Standard** motion detection (Art.Nr. 86458670-INT, Art. Nr.: 86457786-INT, Art. Nr.: 86457786-INT-AQ) Detection area: X-Y cross section at 7m

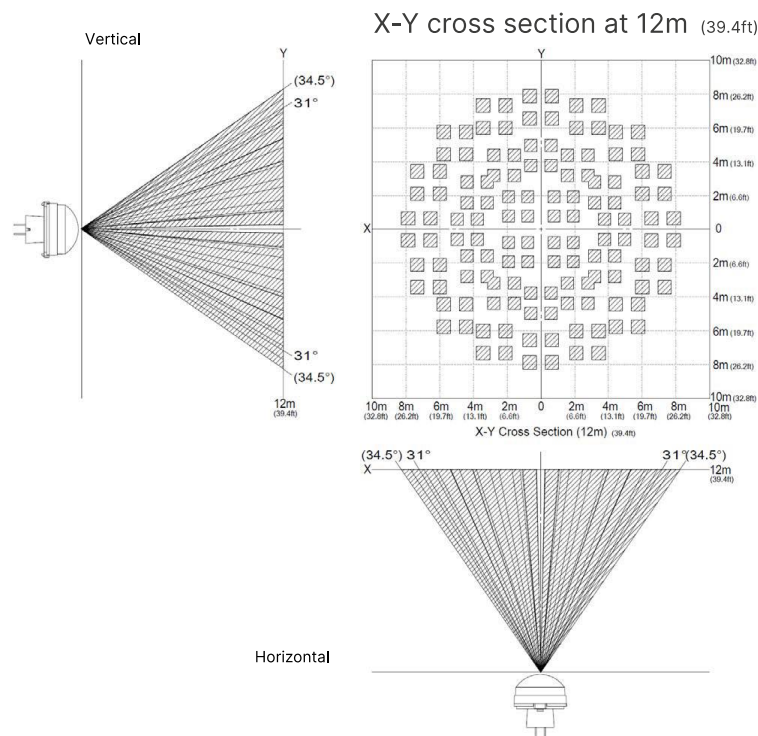


Figure. 2 **CS-15: Hall** motion detection (Art.Nr. 86458670-INT-15, Art. Nr.: 86457786-INT-15, Art. Nr.: 86457786-INT-AQ-15) High density long distance detection type

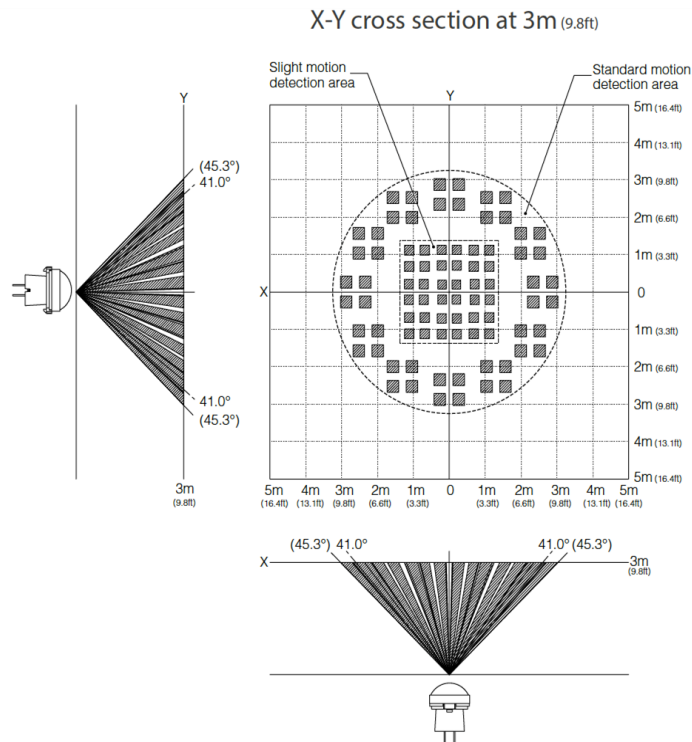


Figure. 3 **CS-O: Office motion detection** (Art. Nr.: 86458670-INT-O und Art. Nr.: 86457786-INT-O, Art. Nr.: 86457786-INT-AQ-O) Detection area: X-Y cross section at 3m - The rectangular centre zone is optimized for detecting smallest movements.

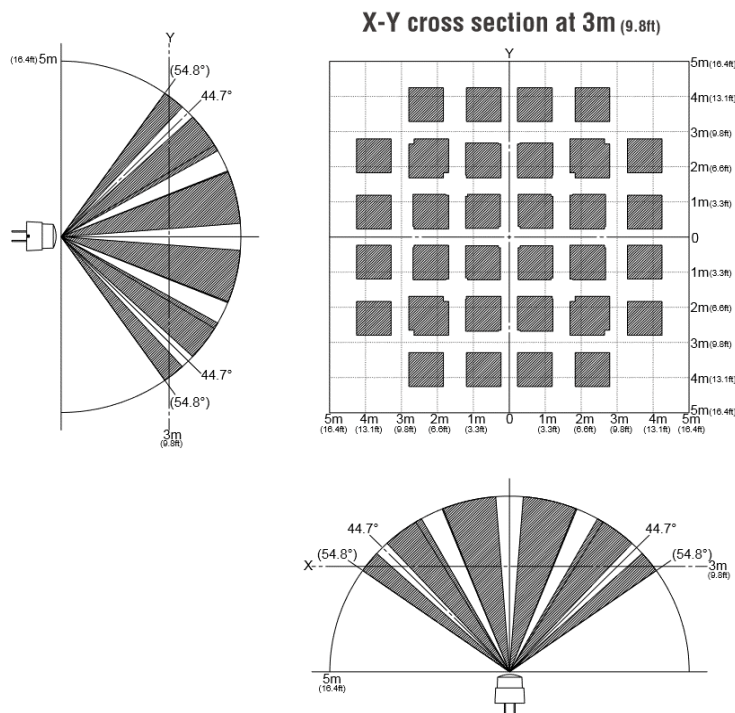


Figure. 4 **CS-LE: luminaire installation: motion detection** (Art. Nr.: 86457786-INT-LE, Art. Nr.: 86457786-INT-AQ-LE) Detection area: X-Y cross section at 3m.

Installation

- the DALI-2 CS is directly connected and supplied by the DALI bus. A general DALI bus power supply is required
- The connection to the DALI terminals can be made regardless of polarity.
- The terminals are suitable for wire cross-sections ranging from 0.5 mm² to 1.5 mm².
- back box mounting: installation of the mounting ring directly on the back box. The housing is then simply plugged onto to the mounting ring. The recessed head has sufficient space within the electrical installation box enabling a completely flat installation.
- The CS Module enables alignment to the desired detection area through 360 ° axial rotation and vertical inclination of up to 40°.
- For mounting the sensor on cavity walls or suspended ceilings a version including additional fixtures with spring-clips is available: article number extension “-ZD”.
- Version for surface mounting is available: article number extension “-AP”.
- Version integration in luminaires is available (Art.Nr.: 86457786-INT-LE, Art.Nr.: 86457786-INT-AQ-LE)
- The wiring should be carried out as a permanent installation in a dry and clean environment.
- Installation may only be carried out in a voltage-free state of the system and by qualified specialists.
- National regulations for setting up electrical systems must be followed.
- The DALI wiring can be realized with standard low-voltage installation material. No special cables are required.
- Only 1 wire may be connected to each terminal. When using double wire end ferrules, the connection capacity of the terminal must be considered.



Attention: The DALI-signal is not classified as SELV circuit (Safety Extra Low Voltage). Therefore, the installation regulations for low voltage apply.



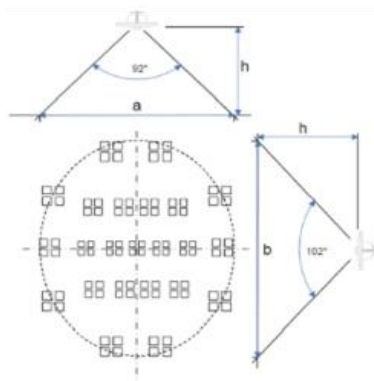
Note: The cross section: the voltage drop on the DALI line must not exceed 2V at maximum length (300m) and maximum bus load (250mA).

Presence Detection

For movement detection a temperature difference between the moving object and environment of at least 4°C is required. Heat sources such as copiers or heaters may have a negative influence on motion detection.

Presence Detection (Standard)

The applied PIR method allows coverage of relatively large areas using only one sensor head. With opening angles of 92° and 102° and a sensor mounted at a height of 5 meters the 92 detection zones cover an area of more than 100m². The distance between sensor and the object of interest should be less than 12 meters, which limits the mounting height to about 8m. See Figure. 1, page 8 und table 1 below.



h [m]	a [m]	b [m]	A [m ²]
2,50	5,2	6,2	25,1
2,7	5,6	6,7	29,3
3,0	6,2	7,4	36,2
3,5	7,2	8,6	49,2
4,0	8,3	9,9	64,3
5,0	10,4	12,3	100,4
6,0	12,4	14,8	144,6
8,0	16,6	19,8	257,1

table. 1 CS-Standard: relation of mounting height and detection area

Presence Detection CS-15

The sensor type „-15“ is suitable for high rooms (e.g. halls) with mounting height up to 12m. The detection range is about 15m. See Figure. 2, page 8 and table 2 below.

h [m]	a [m]	b [m]	A [m ²]
5,0	6,9	6,9	37,1
7,5	10,3	10,3	83,5
10,0	13,7	13,7	148,4
12,0	16,5	16,5	213,7

table. 2 CS- hall (15): relation of mounting height and detection area

Presence Detection CS-O

Suitable for office application where detection of slight motion is required e.g. detection of arm movement of a sitting person. The DALI CS-O is tailored to this application and has a sensitive “inner area” and a standard detection “outer area”. The maximum mounting height is about 3m. See Figure. 3, page 9.

The rectangular central zone is optimized for detection of the slightest motion. The area has an opening angle of 44° x 44° and 36 detection zones. With a mounting height of e.g. 2.2m, an area of 3.24 m² can be covered, see Figure. 5 and table 3.

The outer standard motion detection zone has an opening angle of 90° x 90° and 48 detection zones. With a mounting height of e.g. 2.2m, an area of 15.2m² can be covered. (see table 3).

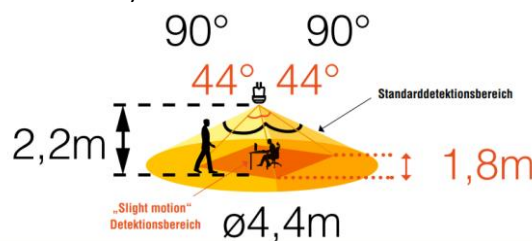


Figure. 5 CS-Office detection range

h [m]	Standard Detection area			Slight motion detection area	
	a [m]	b [m]	A1 [m ²]	l [m]	A2 [m ²]
2,0	4	4	12,5	1,6	2,56
2,2	4,4	4,4	15,2	1,8	3,24
2,5	5	5	19,6	2	4
3,0	6	6	28,2	2,4	5,76

table. 3 CS-Office: relation of mounting height and detection area

The recommended mounting height is 3m. The distance between the sensor and the object to detect should not be greater than 3.1m.

Presence Detection CS-LE

Der DALI-2 CS-LE has a PIR lens with opening angles of 110°x 110° und 32 detection zones. With a typical mounting height of 3m, over 25m² of surface can be covered, see Figure. 4, page 9. The distance between the sensor and the object to be detected should be a maximum of 5m.

Functionality

The *DALI-2 CS Integration* is for use in systems with higher-level controls, such as for example DALI-2 CS, WAGO, Beckhoff, LUNATONE DALI-2 KNX gateway, etc.. The measured values can either be queried or they can automatically trigger events. This functionality is implemented via DALI-2 instances.

Different versions with different sensors are available. The DALI-2 CS (Art. Nr.: 86458670-INT) has a motion sensor and a light intensity sensor. The DALI-2 CS THP (Art. Nr.: 86457786-INT) can also measure: temperature, humidity and air pressure. The DALI-2 CS THP-AQ (Art. Nr.: 86457786-INT-AQ) measures all previously listed values as well as air quality.

For each detectable sensor value a separate DALI-2 instance is implemented in the device. All instances are DALI-2 certified and comply with the DALI-2 standard.

The measured sensor instance values can either be queried via a "Query" command or sent as a DALI-2 event message.

Each instance can be activated or deactivated (independent of the other instances).

It is possible to assign all instances to one or several instance groups.

Die Eventpriorität ist für jede Instanz einzeln einstellbar, ebenso der Eventfilter, Deadtime und Reporttime.

The event priority can be set individually for each instance, as can the event filter, dead-time and report-time.

Instances: General

Each instance can be configured individually. Some settings have the same functionality for all sensor instances and are therefore described in this section. Instance specific settings are explained for each individual instances in the following respective sections.

enable/disable

If instances are not required, they can be deactivated. In this case, event messages are not sent, and the measured values are not updated. They can, however, still be queried via a "Query" command, and the DALI-2 configuration commands and queries are still supported.

Event Scheme

The event scheme determines which information is transferred with the event. This information is required, to enable recognition and / filtering of events on the bus. The following 5 options are available:

- Instance addressing:
instance type and instance number
- Device Addressing:
device address and instance type
- Device/Instance Addressing:
device address and instance number
- Device Group Addressing:
Device group and instance type
- Instance Group Addressing:
Instance group and instance type

Instance group

Up to three instance groups can be assigned for each instance. Only the "Primary Group" is used for the event.

Instance type

The instance type defines which DALI-2 standard is valid for this instance. (The different instance types are specified in the DALI-2 standard.)

Instance number

Each instance in a device has a unique instance number.

Device group

The device can be assigned to up to 32 device groups (0...31). The lowest device group is used for the event.

Device address

A device address (or short address) (0..63) can be assigned to each device. With this the device can be clearly addressed. (Identical short addresses should be avoided.)

Event priority

The event priority determines the order in which events are sent when they occur simultaneously on the bus. Priority 2 = highest and 5 = lowest.

Dead Time

The dead time can be set for each instance. It determines the time that must pass before an event can be sent again. This also applies if the event information (measured value) changes. If no dead time is required, it can be deactivated.

Report Time

If the event information does not change, the event is sent cyclically with the report time. The report time can be set for each instance. It determines the maximum time between a sent event and resending.

Hysteresis

Not every change in value leads to an event being generated. The hysteresis can be used to set which percentage change is necessary to trigger a new transmission. Attention, the hysteresis band is not arranged symmetrically. The following applies:

Increasing value:

The condition for an event is only fulfilled if the next value falls below the previous value minus the hysteresis or if the next value is greater than the previous value.

Decreasing value:

the condition for an event is only fulfilled if the next value exceeds the previous value plus the hysteresis or the next value is smaller than the previous value.

Hysteresis Min

Is the minimal hysteresis value that cannot be fallen below of.

Instance 0: Motion

Is an instance standardized by DALI-2 for motion detection (62386-303). All settings are implemented according to the standard. The instance is DALI-2 certified.

The sensor switches between the following states:

- People in the room and movement (0xFF)
- People in the room and no movement (0xAA)
- Empty room (0x00)

If the sensor detects movement, it immediately changes to the state: "people in the room and movement". This state is exited after 1 second at the earliest if no further movement is detected. In this case it changes to the state "People in the room and no movement". After the hold time has expired it changes to the state "Empty room".

Hold Time: Is the time that must pass before the state "people in the room and no movement" is changed to the state "empty room". If movement is detected during this time the state is changed back to: "People in the room and movement".

Query Input Value: The current sensor state can be queried using this DALI command. The following values are possible: 0x00, 0xAA, 0xFF (see paragraph above for the possible states)

Event: the sensor status is transmitted by events. The following event information is available:

- Bit0 = 0: No Movement
- Bit0 = 1: Movement
- Bit2/Bit1 = 00: Vacant
- Bit2/Bit1 = 10: Still Vacant
- Bit2/Bit1 = 01: Occupied
- Bit2/Bit1 = 11: Still Occupied
- Bit3 = 1: Movement Sensor
- Bit5..Bit9 = 0: unused

More details can be found in the standard 62386-303.

Event filter: The event filter defines for which status change an event is generated.

Filter arrangement:

- Bit0: Occupied Event active
- Bit1: Vacant Event active
- Bit2: Still Vacant/Occupied Event active
- Bit3: Movement Event active
- Bit4: No Movement Event active
- Bit5..Bit7: unused

Instance 1: Light intensity

is an instance standardized by DALI-2 (62386-304). All settings are implemented according to the standard. The instance is DALI-2 certified.

The current light value (lux) is measured by the sensor and can either be queried using a "Query" command or can be automatically provided by the sensor using an event.

The measuring range is 0Lux ... 2046Lux. The resolution differs between queries and generated events. A query supports a

resolution of 1Lux (11Bit) and an event a resolution of 2Lux (10Bit).

Hysteresis: see chapter "*Instances General*" – "*Hysteresis*" page 13.

Hysteresis Min: set in lux. For general information see chapter "*Instances General*" - "*Hysteresis Min*" page 13.

Event Filter: if the filter is deactivated, no events will be sent.

Instance 2: Temperature

Versions: CS THP and CS-THP-AQ

is an instance standardized by DALI-2 (62386-103), instance type 0, generic. All settings are implemented according to the standard. The instance is DALI-2 certified.

The current air temperature (°C) is measured by the sensor and can either be queried using a "Query" command or can be automatically provided by the sensor using an event. The measuring range is -20°C ... 80°C. The resolution for both query and event is 0.1°C (10Bit). The value 0dec corresponds to -20°C and the value 1000dec corresponds to 80°C.

Hysteresis: see chapter "*Instances General*" – "*Hysteresis*" page 13.

Hysteresis Min: set in °C. For general information see chapter "*Instances General*" - "*Hysteresis Min*" page 13.

Event Filter: if the filter is deactivated, no events will be sent.

Instance 3: Humidity

Versions: CS THP and CS-THP-AQ

is an instance standardized by DALI-2 (62386-103), instance type 0, generic. All settings are implemented according to the standard. The instance is DALI-2 certified.

The current relative humidity (%) is measured by the sensor and can either be queried using a "Query" command or can be automatically provided by the sensor using an event. The measuring range is 0% ... 100%. The resolution for both query and event is 0.1% (10Bit). The value 0dec corresponds to 0% and the value 1000dec corresponds to 100%

Hysteresis: see chapter "*Instances General*" – "*Hysteresis*" page 13.

Hysteresis Min: set in %. For general information see chapter "*Instances General*" - "*Hysteresis Min*" page 13.

Event Filter: if the filter is deactivated, no events will be sent.

Instance 4: air pressure

Versions: CS THP and CS-THP-AQ

is an instance standardized by DALI-2 (62386-103), instance type 0, generic. All settings are implemented according to the standard. The instance is DALI-2 certified.

The current air pressure (hPa) is measured by the sensor and can either be queried using a "Query" command or can be automatically provided by the sensor using an event. The measuring range is 300hPa ... 1100hPa. The resolution for both query and event is 1hPa (10Bit). The value 0dec corresponds to 300hPa and the value 800dec corresponds to 1100hPa.

Hysteresis: see chapter "*Instances General*" – "*Hysteresis*" page 13.

Hysteresis Min: set in hPa. For general information see chapter "*Instances General*" - "*Hysteresis Min*" page 13.

Event Filter: if the filter is deactivated, no events will be sent.

Instance 5: air quality

Version: CS THP-AQ

is an instance standardized by DALI-2 (62386-103), instance type 0, generic. All settings are implemented according to the standard. The instance is DALI-2 certified.

The sensor measures the air quality based on the proportion of existing air pollution. The air quality is shown as an index, ranging from 0 ... 500. The following table describes the relationship between the index and air quality:








Index	Air quality	
0-50	Excellent	
51-100	Good	
101-150	Lightly polluted	
151-200	Moderately polluted	
201-250	Heavily polluted	
251-350	Severely polluted	
>351	Extremely polluted	

Table 4 on page 16 describes the possible impact and suggested counter measures in case of poor air quality.

Hysteresis: see chapter "*Instances General*" – "*Hysteresis*" page 13.

Hysteresis Min: set as index. For general information see chapter "*Instances General*" - "*Hysteresis Min*" page 13.

Event Filter: if the filter is deactivated, no events will be sent.

Index	Impact (long-term exposure)	Suggested action
0-50	Pure air; best for well-being	No measures needed
51-100	No irritation or impact on well-being	No measures needed
101-150	Reduction of well-being possible	Ventilation suggested
151-200	More significant irritation possible	Increase ventilation with clean air
201-250	Exposition might lead to effects like headache depending on type of pollution	optimize ventilation
251-350	More severe health issue possible if harmful substances are present	Contamination should be identified if level is reached even w/o presence of people; maximize ventilation & reduce attendance
>351	Headaches, additional neurotoxic effects possible	Contamination needs to be identified; avoid presence in room and maximize ventilation

Table 4 impact and suggested action for different air quality index

Delivery condition / factory setting

On delivery all instance events are active. Usage with a DALI-2 CS is possible without further configuration by assigning the devices to the DALI-2 CS Master.

The settings are distributed on different tabs:

tab: „General“

see Figure. 6, page 17

The basic configuration can be made on the "General" tab.

tab: „Instances“

See Figure. 7, page 17

Depending on the version up to 6 instances are available:

Configuration in the DALI-Cockpit

The DALI CS can be addressed and configured using the DALI-Cockpit PC software tool and a suitable interface to the DALI bus (e.g. DALI USB, DALI SCI RS232 or DALI4Net).

DALI-2 CS:

- Instance 0, motion detection
- Instance 1, light intensity

After the device has been addressed, the parameters can be adjusted to the user application.

DALI-2 CS THP:

- Instance 0, motion detection
- Instance 1, light intensity
- Instance 2, temperature
- Instance 3, humidity
- Instance 4, air pressure

The localisation of the sensor can be carried out by visual means. To do this, the checkbox: "localize" must be selected in the DALI cockpit in order to make the red LED integrated in the sensor flash.

DALI-2 CS THP-AQ

- Instance 0, motion detection
- Instance 1, light intensity
- Instance 2, temperature
- Instance 3, humidity
- Instance 4, air pressure
- Instance 5, air quality



tab: „Overview“

see Figure. 8, page 18

The overview shows which instances are activated / deactivated and enables periodic queries of the currently measured values.

In order to adjust the measured values, it is possible to set an offset value for temperature and relative humidity.

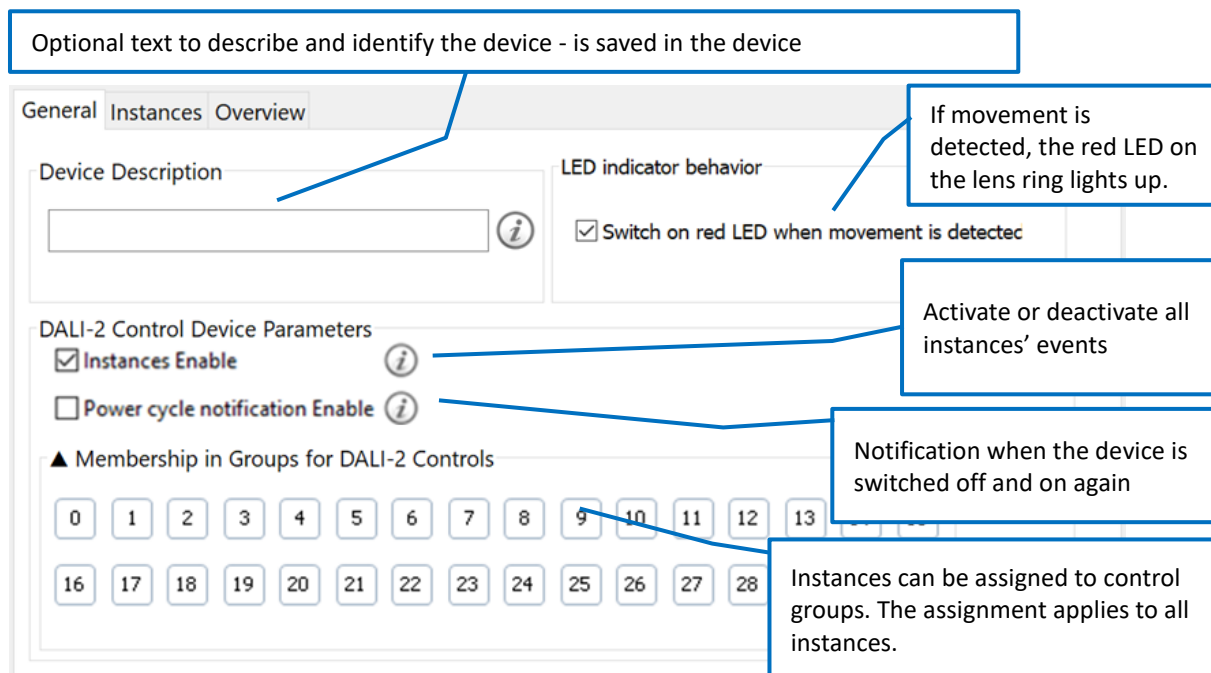


Figure. 6 Cockpit tab General - general settings

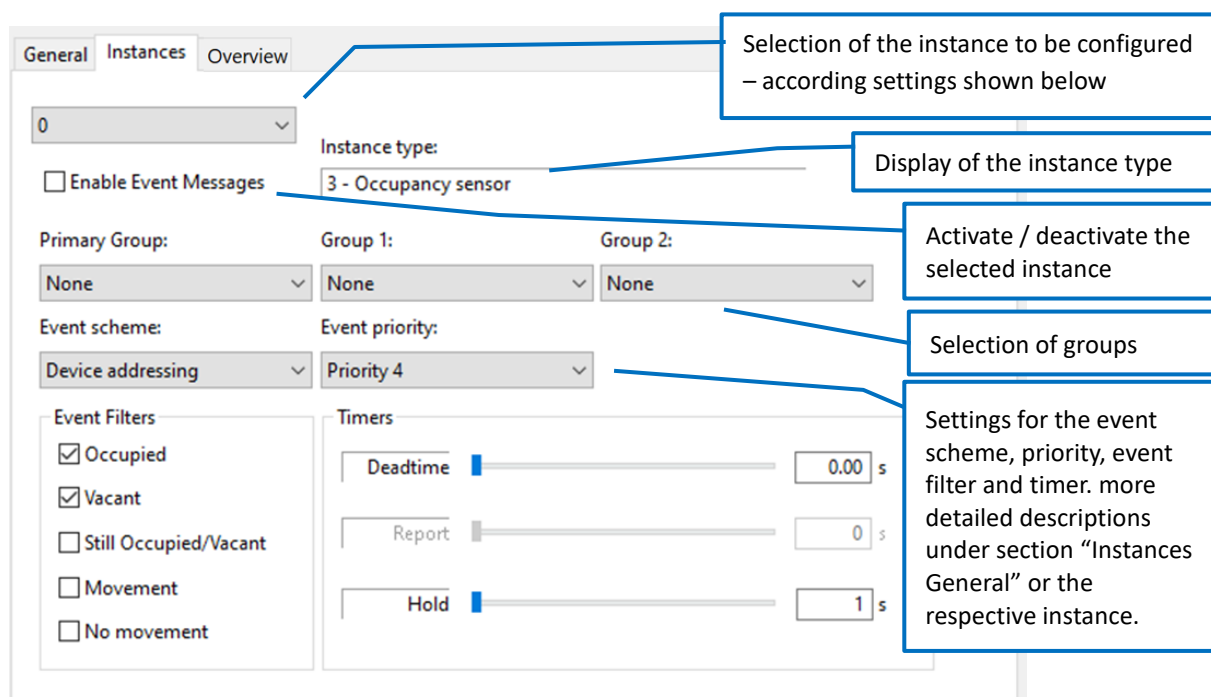


Figure. 7 Cockpit tab Instances - settings for each instance

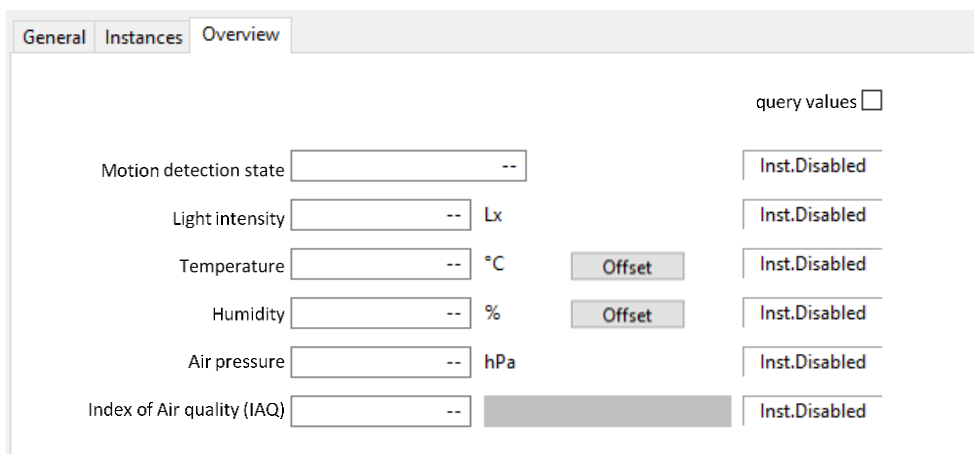
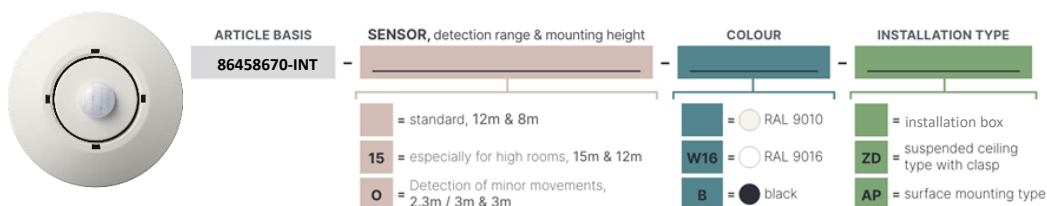


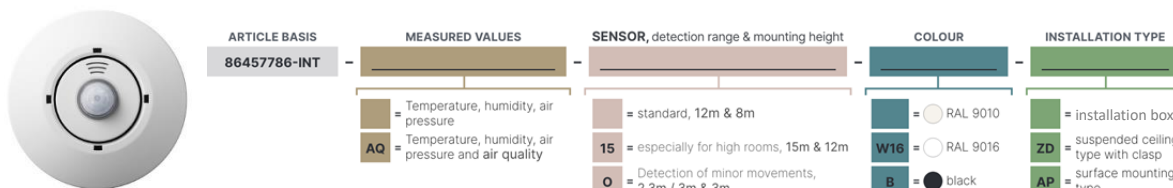
Figure. 8 Cockpit tab Overview - read and display the measured sensor values

Purchase Order Information

DALI-2 CS Integration: measurement of motion and light intensity



DALI-2 CS THP Integration: measurement of motion, light intensity, temperature, humidity, air pressure and optional air quality (-AQ)



Standard Version

Art.Nr. 86458670-INT: DALI-2 CS Integration

Sensor module: motion and light intensity;

Instance mode for Integration pure white (RAL9010), back box installation

- Art.Nr. 86458670-INT-AP: pure white (RAL9010), surface mounting
- Art.Nr. 86458670-INT-ZD: pure white (RAL9010), suspended ceiling (spring)
- Art.Nr. 86458670-INT-W16: traffic white (RAL9016), back box installation
- Art.Nr. 86458670-INT-W16-AP: traffic white (RAL9016), surface mounting
- Art.Nr. 86458670-INT-W16-ZD: traffic white (RAL9016), suspended ceiling (spring)
- Art.Nr. 86458670-INT-B: black, back box installation
- Art.Nr. 86458670-INT-B-AP: black, surface mounting
- Art.Nr. 86458670-INT-B-ZD: black, suspended ceiling (spring)

Art.Nr. 86457786-INT: DALI-2 CS Integration THP

 Sensor module: motion and light intensity, temperature, humidity, air pressure

Instance mode for Integration, pure white (RAL9010), back box installation

- Art.Nr. 86457786-INT-AP:** pure white (RAL9010), surface mounting
- Art.Nr. 86457786-INT-ZD:** pure white (RAL9010), suspended ceiling (spring)
- Art.Nr. 86457786-INT-W16:** traffic white (RAL9016), back box installation
- Art.Nr. 86457786-INT-W16-AP:** traffic white (RAL9016), surface mounting
- Art.Nr. 86457786-INT-W16-ZD:** traffic white (RAL9016), suspended ceiling (spring)
- Art.Nr. 86457786-INT-B:** black, back box installation
- Art.Nr. 86457786-INT-B-AP:** black, surface mounting
- Art.Nr. 86457786-INT-B-ZD:** black, suspended ceiling (spring)

Art.Nr. 86457786-INT-AQ: DALI-2 CS Integration THP-AQ

 Sensor module: motion and light intensity, temperature, humidity, air pressure, air quality

Instance mode for Integration, pure white v(RAL9010), back box installation

- Art.Nr. 86457786-INT-AQ-AP:** pure white (RAL9010), surface mounting
- Art.Nr. 86457786-INT-AQ-ZD:** pure white (RAL9010), suspended ceiling (spring)
- Art.Nr. 86457786-INT-AQ-W16:** traffic white (RAL9016), back box installation
- Art.Nr. 86457786-INT-AQ-W16-AP:** traffic white (RAL9016), surface mounting
- Art.Nr. 86457786-INT-AQ-W16-ZD:** traffic white (RAL9016), suspended ceiling (spring)
- Art.Nr. 86457786-INT-AQ -B:** black, back box installation
- Art.Nr. 86457786-INT-AQ -B-AP:** black, surface mounting
- Art.Nr. 86457786-INT-AQ -B-ZD:** black, suspended ceiling (spring)

Hall Version

for halls / high ceilings: presence detection range 15m

Art.Nr. 86458670-INT: DALI-2 CS Integration, presence detection range 15m,

Sensor module: motion and light intensity

Instance mode for Integration, pure white (RAL9010), back box installation

- Art.Nr. 86458670-INT-15-AP:** pure white (RAL9010), surface mounting
- Art.Nr. 86458670-INT-15-ZD:** pure white (RAL9010), suspended ceiling (spring)
- Art.Nr. 86458670-INT-15-W16:** traffic white (RAL9016), back box installation
- Art.Nr. 86458670-INT-15-W16-AP:** traffic white (RAL9016), surface mounting
- Art.Nr. 86458670-INT-15-W16-ZD:** traffic white (RAL9016), suspended ceiling (spring)
- Art.Nr. 86458670-INT-15-B:** black, back box installation
- Art.Nr. 86458670-INT-15-B-AP:** black, surface mounting
- Art.Nr. 86458670-INT-15-B-ZD:** black, suspended ceiling (spring)

Art.Nr. 86457786-INT-15: DALI-2 CS Integration THP, presence detection range 15m,

 Sensor module: motion and light intensity, temperature, humidity, air pressure

Instance mode for Integration, pure white (RAL9010), back box installation

- Art.Nr. 86457786-INT-15-AP:** pure white (RAL9010), surface mounting
- Art.Nr. 86457786-INT-15-ZD:** pure white (RAL9010), suspended ceiling (spring)
- Art.Nr. 86457786-INT-15-W16:** traffic white (RAL9016), back box installation
- Art.Nr. 86457786-INT-15-W16-AP:** traffic white (RAL9016), surface mounting
- Art.Nr. 86457786-INT-15-W16-ZD:** traffic white (RAL9016) suspended ceiling (spring)
- Art.Nr. 86457786-INT-15-B:** black, back box installation
- Art.Nr. 86457786-INT-15-B-AP:** black, surface mounting
- Art.Nr. 86457786-INT-15-B-ZD:** black, suspended ceiling (spring)

Art.Nr. 86457786-INT-AQ-15: DALI-2 CS Integration THP-AQ, presence detection range 15m,
Sensor module: motion and light intensity, temperature, humidity, air pressure, air quality
Instance mode for Integration, pure white (RAL9010), back box installation

Art.Nr. 86457786-INT-AQ-15-AP: pure white (RAL9010), surface mounting

Art.Nr. 86457786-INT-AQ-15-ZD: pure white (RAL9010), suspended ceiling (spring)

Art.Nr. 86457786-INT-AQ-15-W16: traffic white (RAL9016), back box installation

Art.Nr. 86457786-INT-AQ-15-W16-AP: traffic white (RAL9016), surface mounting

Art.Nr. 86457786-INT-AQ-15-W16-ZD: traffic white (RAL9016), suspended ceiling (spring)

Art.Nr. 86457786-INT-AQ-15-B: black, back box installation

Art.Nr. 86457786-INT-AQ-15-B-AP: black, surface mounting

Art.Nr.: 86457786-INT-AQ-15-B-ZD: black, suspended ceiling (spring)

Office Version

for office applications: detection of small movement / seated people

Art.Nr. 86458670-INT: DALI-2 CS Integration, for office applications (detection of seated persons)

Sensor module: motion and light intensity

Instance mode for Integration, pure white (RAL9010), back box installation

Art.Nr. 86458670-INT-O-AP: pure white (RAL9010), surface mounting

Art.Nr. 86458670-INT-O-ZD: pure white (RAL9010), suspended ceiling (spring)

Art.Nr. 86458670-INT-O-W16: traffic white (RAL9016), back box installation

Art.Nr. 86458670-INT-O-W16-AP: traffic white (RAL9016), surface mounting

Art.Nr. 86458670-INT-O-W16-ZD: traffic white (RAL9016), suspended ceiling (spring)

Art.Nr. 86458670-INT-O-B: black, back box installation

Art.Nr. 86458670-INT-O-B-AP: black, surface mounting

Art.Nr. 86458670-INT-O-B-ZD: black, suspended ceiling (spring)

Art.Nr. 86457786-INT-O: DALI-2 CS Integration THP, for office applications (detection of seated persons)

Sensor module: motion and light intensity, temperature, humidity, air pressure

Instance mode for Integration, pure white (RAL9010), back box installation

Art.Nr. 86457786-INT-O-AP: pure white (RAL9010), surface mounting

Art.Nr. 86457786-INT-O-ZD: pure white (RAL9010), suspended ceiling (spring)

Art.Nr. 86457786-INT-O-W16: traffic white (RAL9016), back box installation

Art.Nr. 86457786-INT-O-W16-AP: traffic white (RAL9016), surface mounting

Art.Nr. 86457786-INT-O-W16-ZD: traffic white (RAL9016), suspended ceiling (spring)

Art.Nr. 86457786-INT-O-B: black, back box installation

Art.Nr. 86457786-INT-O-B-AP: black, surface mounting

Art.Nr. 86457786-INT-O-B-ZD: black, suspended ceiling (spring)

Art.Nr. 86457786-INT-AQ-O: DALI-2 CS Integration THP-AQ, for office applications (detection of seated persons),

Sensor module: motion and light intensity, temperature, humidity, air pressure, air quality

Instance mode for Integration, pure white (RAL9010), back box installation

Art.Nr. 86457786-INT-AQ-O-AP: pure white (RAL9010), surface mounting

Art.Nr. 86457786-INT-AQ-O-ZD: pure white (RAL9010), suspended ceiling (spring)

Art.Nr. 86457786-INT-AQ-O-W16: traffic white (RAL9016), back box installation

Art.Nr. 86457786-INT-AQ-O-W16-AP: traffic white (RAL9016), surface mounting

Art.Nr. 86457786-INT-AQ-O-W16-ZD: traffic white (RAL9016), suspended ceiling (spring)

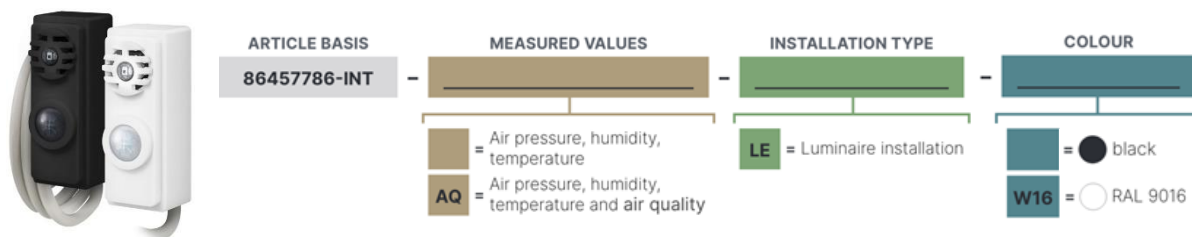
Art.Nr. 86457786-INT-AQ-O-B: black, back box installation

Art.Nr. 86457786-INT-AQ-O-B-AP: black, surface mounting

Art.Nr. 86457786-INT-AQ-O-B-ZD: black, suspended ceiling (spring)

Luminaire installation Version

**DALI-2 CS THP Integration - for installation in luminaires:
measurement of motion, light intensity, temperature, humidity, air pressure and optional air quality (-AQ)**



Art.Nr. 86457786-INT-LE: DALI-2 CS Integration THP for installation in luminaires,
Sensor module: motion and light intensity, temperature, humidity, air pressure
Instance mode for Integration, luminaire installation, black

Art.Nr. 86457786-INT-AQ-LE: DALI-2 CS Integration THP-AQ for installation in luminaires,
Sensor module: motion and light intensity, temperature, humidity, air pressure, air quality
Instance mode for Integration, , luminaire installation, black

Art.Nr. 86457786-INT-LE-W16: DALI-2 CS Integration THP for installation in luminaires,
Sensor module: motion and light intensity, temperature, humidity, air pressure
Instance mode for Integration, luminaire installation, white RAL9016

Art.Nr. 86457786-INT-AQ-LE-W16: DALI-2 CS Integration THP-AQ for installation in luminaires,
Sensor module: motion and light intensity, temperature, humidity, air pressure, air quality
Instance mode for Integration, , luminaire installation, white RAL9016

Version with Application Controller

DALI-2 Combi Sensor: www.lunatone.com/en/product/dali-2-cs/

Additional Information and Equipment

DALI-Cockpit – free configuration tool from Lunatone for DALI systems
<https://www.lunatone.com/en/product/dali-cockpit/>

Lunatone DALI products
<http://www.lunatone.at/en/>

Lunatone datasheets and manuals
<http://lunatone.at/en/downloads/>

Contact

Technical Support: support@lunatone.com

Requests: sales@lunatone.com

www.lunatone.com



Disclaimer

Subject to change. Information provided without guarantee. The datasheet refers to the current delivery.

The function in installations with other devices must be tested for compatibility in advance.