theben

Manual
DALI-2 presence sensor theRonda P360 DALI-2 S UP

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1 General

1.1 Safety information

ATTENTION
Installation should only be carried out by a qualified electrician!

1.2 Proper use

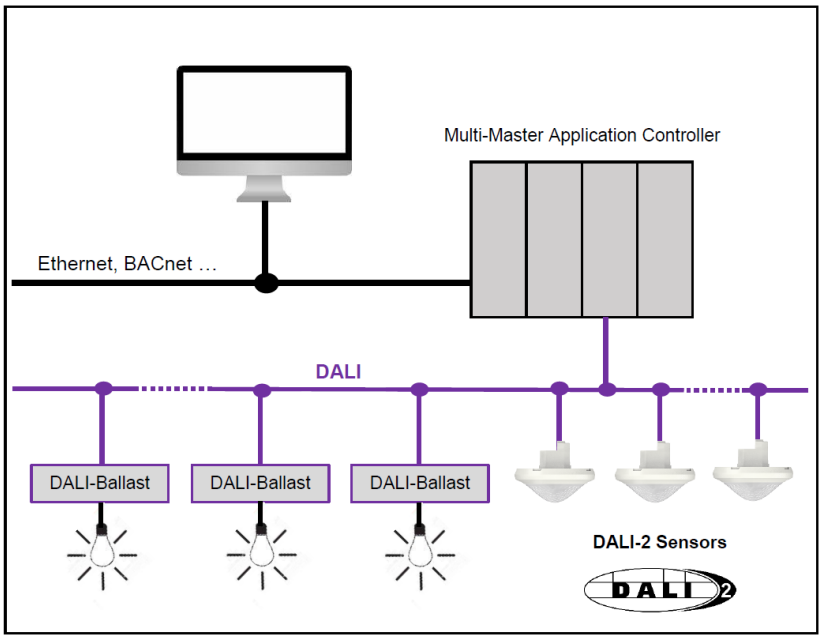
The theRonda P360 DALI-2 S presence sensor is intended for indoor installation. It serves as a DALI-2 input device and transmits the collected sensor data to the multi-master application controller.
The theRonda P360 DALI-2 S presence sensor is exclusively intended for use as contractually agreed between the manufacturer and the user. Any other use is considered to be unacceptable. The manufacturer does not accept liability for any resulting damages.

1.3 Explanation of terms

There is a difference between motion detectors and presence detectors. Motion detectors can only detect large movements. Presence detectors, on the other hand, can detect even the smallest of movements – those made while seated, for example. DALI-2 sensors can detect both large and small movements and are therefore referred to as presence sensors. However, the implementation of the motion detection function in line with IEC 62386 Part 303 is based on the concept of a "movement based sensor".

2 Function description

The theRonda P360 DALI-2 S presence sensor is integrated into a higher-level system. Thanks to the DALI-2 standard, a multi-master application controller from any manufacturer may be used. This controller must support IEC 62386 Parts 101/103 and optionally – in order to use the information regarding presence as well as brightness – Parts 303/304.



The theRonda P360 DALI-2 S presence sensor and other DALI components are connected to the DALI line. The DALI supply is provided by the higher-level system. The assignment of the short addresses and the selection of the required instances for theRonda 360 DALI-2 S are carried out via the multi-master application controller.

After start-up, theRonda P360 DALI-2 S presence sensors supply information regarding room occupancy and motion detection as well as brightness values to the higher-level controller via the relevant instances. The lighting and other systems in a building are controlled on the basis of this information.

2.1 Overview of available instances

Instance no.	Instance name	Instance type	Standard	Memory bank
0	Occupancy sensor	3	IEC 62386-303	2
1	Light sensor, integral	4	IEC 62386-304	3
2	Light sensor, interior	4	IEC 62386-304	4
3	Light sensor, middle	4	IEC 62386-304	5
4	Light sensor, window	4	IEC 62386-304	6
5 / 6	Push button on / off	1	IEC 62386-301	7
7 / 8	Push button on / off	1	IEC 62386-301	8
9 / 10	Push button on / off	1	IEC 62386-301	9
11	Push button scene 1	1	IEC 62386-301	10
12	Push button scene 2	1	IEC 62386-301	11

3 Technical data

Operating voltage	DALI (in accordance with IEC 62386-101): 10 V – 22.5 V
Power input	max. 10 mA
Connection type	Screw terminals
Cable cross-section	max. 2 x 2.5 mm²
Type of installation [1]	Flush-mounted
Size of flush-mounted box	Size 1 (NIS, PMI)
Recommended installation height	2 – 10 m / max. 15 m
Minimum height	> 1.7 m
Detection area, horizontal	360°
Detection area, walking [2]	Ø 24.0 m | 452 m²
Detection area, seated [3]	Ø 6.0 m | 28 m²
Light measurement	approx. 10 – 10,000 lux
Protection rating	IP 20 (IP 54 when installed)
Ambient temperature	-15 °C to +50 °C
CE Declaration of Conformity	This device corresponds to EN 60669-2-5.
RCM conformity	This device is compliant with the ACMA guidelines.
DALI conformity	IEC 62386-101/103/303/304

[1] Surface-mounted installation and ceiling installation using springs also possible with accessories
[2] Transverse movement with an installation height of 3 m
[3] Seated with an installation height of 3 m

4 Product characteristics

4.1 Usage

The focus is on purpose-built facilities, within the following applications in particular:

- Offices
- Large offices
- School rooms
- Conference rooms
- Corridors
- Sports halls
- Garages
- Wet rooms

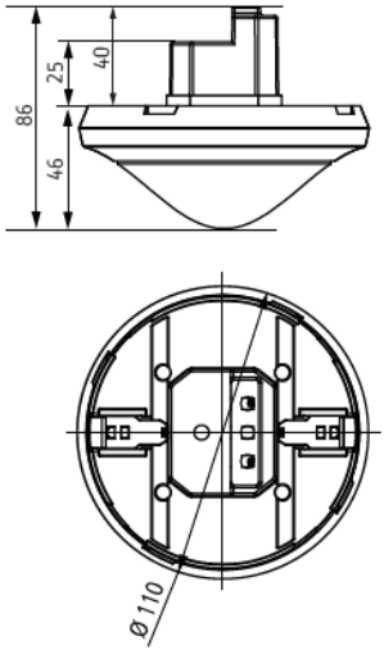
4.2 Functionality

- the Ronda 360 DALI-2 S provides information about presence and brightness in the form of a DALI telegram in line with IEC 62386 Part 303/304.
- 3 mixed light measurements
- Easy to calibrate brightness measurement
- Test mode for checking function and detection area
- Configurable detection sensitivity
- Restriction of detection area
- Can be configured via DALI bus or remote control
- The theSenda S or theSenda B user remote controls can be used to dim or switch the lamps, to control the blinds, or to execute additional functions via the higher-level control.
- Nice design with exchangeable bezel frames in two colours
- Ceiling installation in flush-mounted box
- Surface-mounted installation possible with surface frame 110A (optional)
- theSenda S user remote control (optional)
- theSenda B app remote control (optional) and corresponding theSenda Plug app (for iOS/Android)

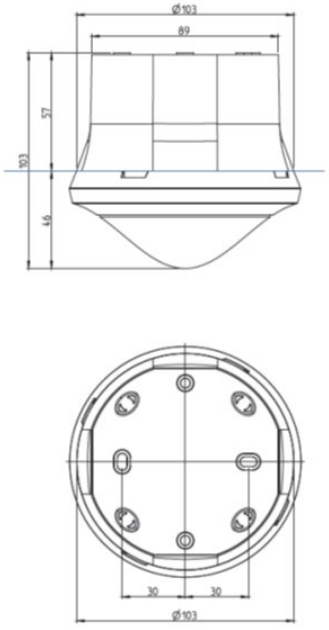
All of the product characteristics are described in detail in the following sections.

4.3 Dimensions

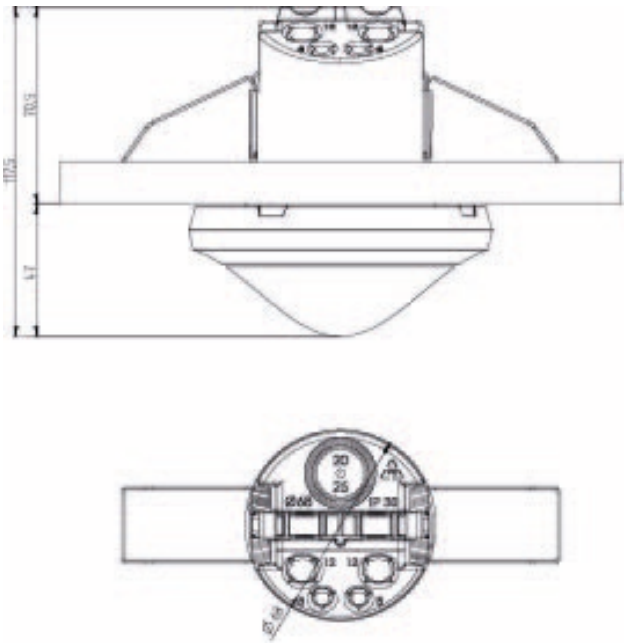
4.3.1 Flush-mounted installation



4.3.2 Surface-mounted installation and ceiling installation with springs



with surface frame 110A



with ceiling flush-mounting box 68A

4.4 Detection area

The circular detection area of theRonda P360 DALI-2 S UP presence sensor covers a large detection area and permits **complete** room coverage with many applications.

Note that seated and walking persons are detected in differently sized areas.

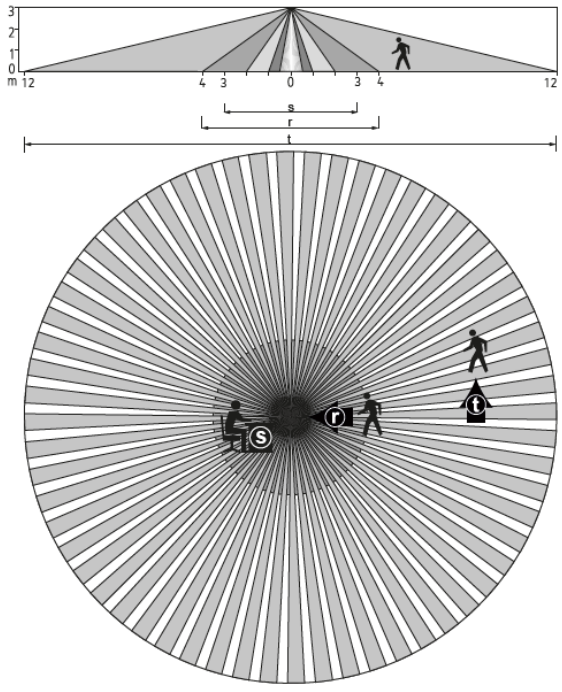
The recommended installation height is 2-10 m. The sensitivity of theRonda P360 DALI-2 S decreases with increasing installation height. From 4 m installation height, walking movements are necessary, and the detection areas of several theRonda P360 DALI-2 S should overlap in the marginal zones. The detection range is reduced as the temperature increases, and the sensitivity can be adjusted in 5 increments via the DALI bus or with the theSenda B/app remote control.

Seated persons
theRonda P360 DALI-2 S responds very sensitively to slightest movements. The specifications refer to slightest movements at table height (approx. 0.8 m).

Walking persons
From an installation height of > 4 m, the size of and distance between the active and passive zones increase. More pronounced movements are required for clear detection.

Installation height (A)	Transverse (t)		Head on to (r)		Seated (s)	
2.0 m	380 m²	Ø 22 m	28 m²	Ø 6 m	16 m²	Ø 4.5 m
2.5 m	415 m²	Ø 23 m	38 m²	Ø 7 m	24 m²	Ø 5.5 m
3.0 m	452 m²	Ø 24 m	50 m²	Ø 8 m	28 m²	Ø 6.0 m
3.5 m	452 m²	Ø 24 m	50 m²	Ø 8 m	38 m²	Ø 7.0 m
4.0 m	452 m²	Ø 24 m	50 m²	Ø 8 m	–	–
5.0 m	452 m²	Ø 24 m	50 m²	Ø 8 m	–	–
6.0 m	452 m²	Ø 24 m	50 m²	Ø 8 m	–	–
10.0 m	491 m²	Ø 25 m	50 m²	Ø 8 m	–	–

All figures are guidance values (Detection areas according to sensNORM, see data sheet)



4.4.1 Area restriction

The detection area is limited by an attachable cover clip with several pre-punched segments (9070921), which are broken out by the installer to achieve the desired detection characteristic.

4.5 Infrared receiver

An infrared receiver can be used to receive parameters and control commands. This process involves unidirectional communication. theRonda P360 DALI-2 S can be operated with the following remote controls:

- theSenda B remote control (9070985)/theSenda Plug app
- theSenda S user remote control (9070911)
- theSenda P installation remote control (9070910) (limited functional support, see section 7.1 Settings via remote control)

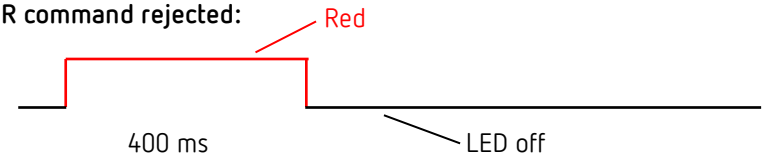
4.6 Display/visualisation

The statuses of theRonda P360 DALI-2 S are indicated via an RGB LED in different colours. The RGB LED is located under the lens. The following statuses are indicated in descending priority:

IR command accepted:

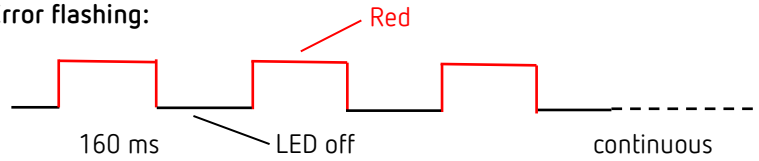
LED flickers (12.5 Hz) when a valid remote control command is received.

IR command rejected:



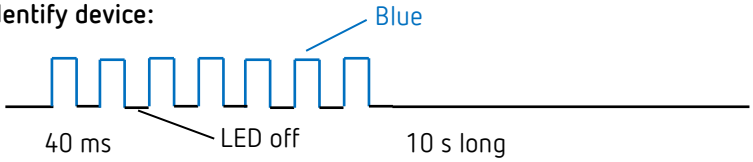
Rejection pulse when an invalid remote control command is received.

Error flashing:



Error flashing (applies until the error has been resolved).

Identify device:

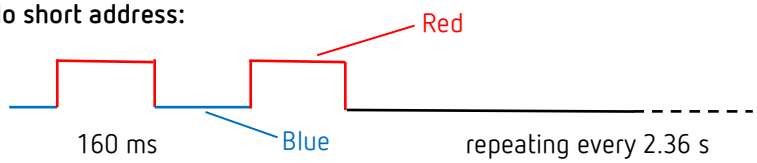


Identification of the sensor by means of the DALI command "IDENTIFY DEVICE"

Presence test:

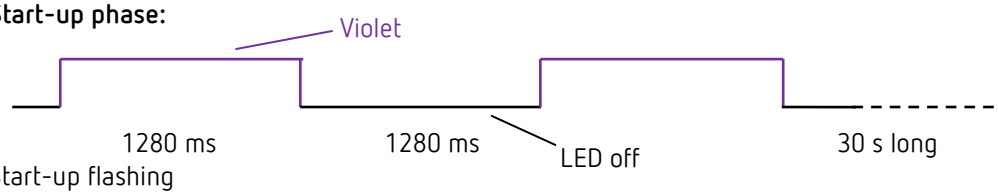
RGB LED lights up in green when motion is detected, otherwise it is switched off; it is valid until the presence test is terminated.

No short address:



No short address was assigned to the sensor.

Start-up phase:



Start-up flashing

Indication of motion:

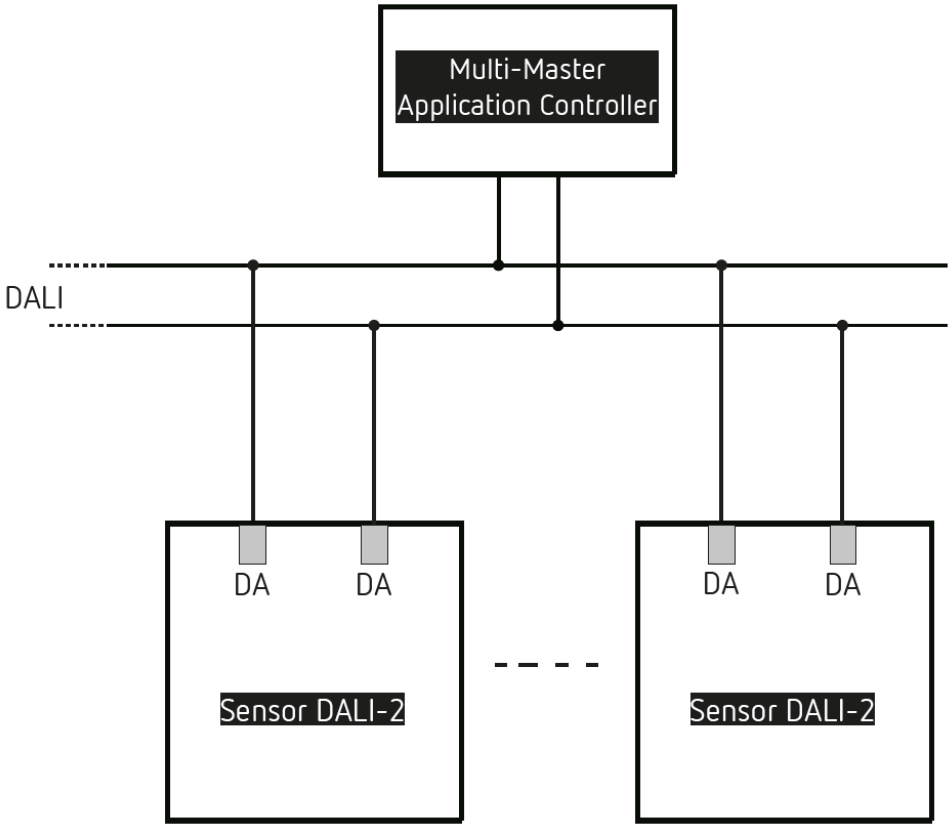
RGB LED lights up in green when motion is detected, otherwise it is switched off; it is valid until the indication of motion is terminated.

5 Connection

The theRonda P360 DALI-2 S presence sensors are connected to the DALI line.

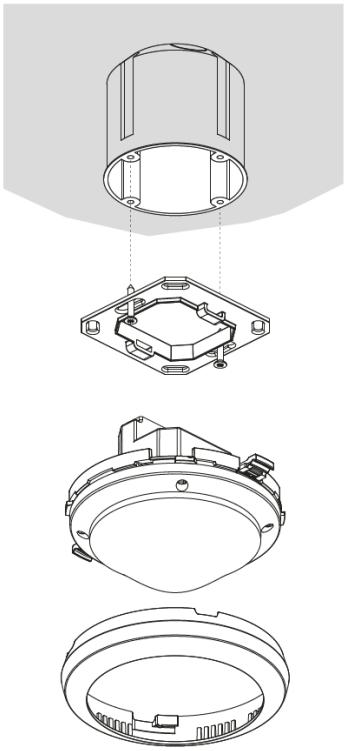
An external DALI supply is required for operation of the theRonda P360 DALI-2 S presence sensors. This DALI supply must be able to ensure a reliable power supply for all connected DALI participants.

A minimum current of 10 mA per theRonda P360 DALI-2 S must be provided.



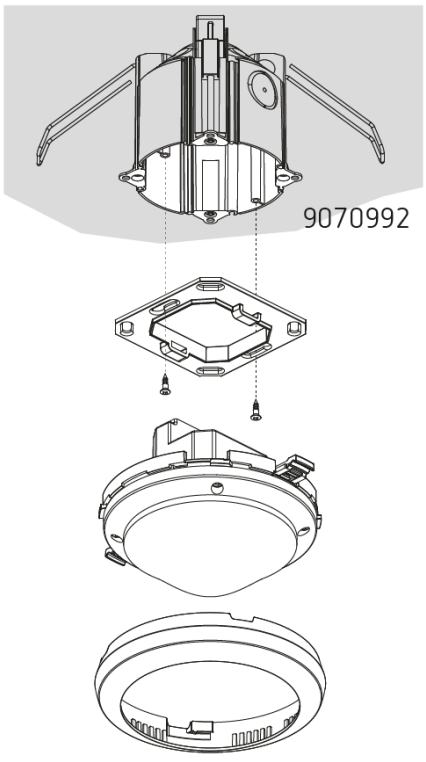
6 Installation

6.1 Flush-mounted installation



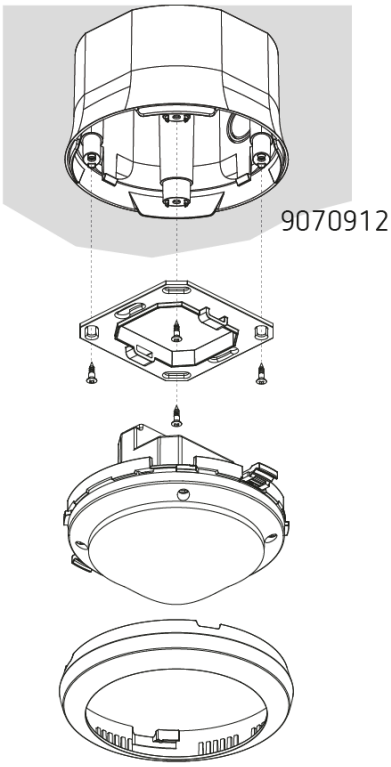
The theRonda P360 DALI-2 S is flush-mounted using a size 1 standard flush-mounting installation socket.

6.2 Ceiling installation



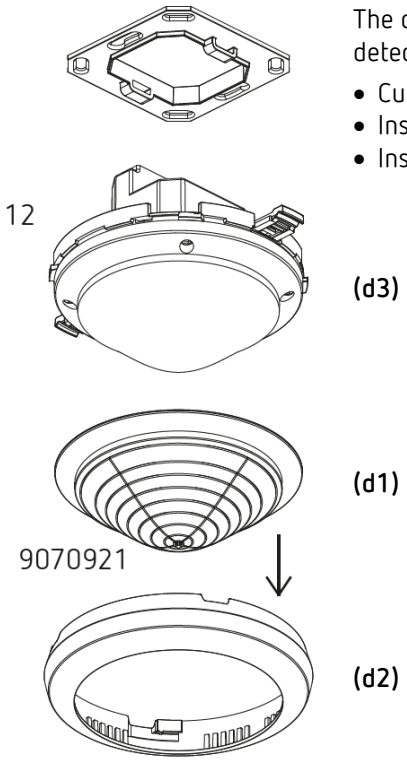
For easier installation of theRonda P360 DALI-2 S in false ceilings with thicknesses between 0.5 mm and 3 cm, a ceiling flush-mounting box 68A is available (see accessories). This also ensures cord grip and contact protection. The installation diameter is 72 mm (drill diameter 73 mm).

6.3 Surface-mounted installation



A surface frame 110A is available for surface mounted installation (see accessories).

6.4 Installation of area restriction



The cover clip accessory can be used to individually restrict the detection area.

- Cut clips as required (d1)
- Insert area restriction in cover ring (d2)
- Install on detector (d3)

7 Operation

All settings are configured via the DALI bus or the remote control.

ⓘ In its initial delivery condition, theRonda P360 DALI-2 S does not have a short address.

7.1 Settings via remote control

The remote control theSenda B/theSenda Plug app and theSenda P can be used to set the following parameters and control commands.

7.1.1 Parameters

Parameters	Description	Can be queried via app	Can be changed via app	Can be changed via theSenda P
Room correction factor Int/1	Integral room correction factor, instance 1 Range 0.05 ../**0.3**/... 2.00	✓	✓	-
Brightness measurement value Int/1	Lux meter brightness value For calibrating the integral brightness measurement, instance 1	-	✓	-
Room correction factor Inn/2	Interior room correction factor, instance Range 0.05 ../**0.3**/... 2.00	✓	✓	-
Brightness measurement value Inn/2	Lux meter brightness value For calibrating the interior brightness measurement, instance 2	-	✓	-
Room correction factor Mid/3	Middle room correction factor, instance 3 Range 0.05 ../**0.3**/... 2.00	✓	✓	-
Brightness measurement value Mid/3	Lux meter brightness value For calibrating the middle brightness measurement, instance 3	-	✓	-
Room correction factor Win/4	Window room correction factor, instance 4 Range 0.05 ../**0.3**/... 2.00	✓	✓	-
Brightness measurement value Win/4	Lux meter brightness value For calibrating the window brightness measurement, instance 4	-	✓	-
Detection sensitivity (PIR)	Increment 1 / 2 / **3** / 4 / 5 All instances	✓	✓	✓
IR group address A	IR group address button instance 5 -6 Range: **I**/II/III/ ../VIII/All	-	✓	-
IR group address B	IR group address button instance 7 -8 Range: I/**II**/III/ ../VIII/All	-	✓	-

IR group address C	IR group address button instance 9 -10 Range: I/II/**III**/ ../VIII/All	-	✓	-
IR group address D	IR group address button instance 11 Range: I/II/III/ ../VIII/**All**	-	✓	-
IR group address E	IR group address button instance 12 Range: I/II/III/ ../VIII/**All**	-	✓	-
LED display – no short address	Selection of LED display if no short address is assigned "**Permit flashing**" / "Suppress flashing"	-	✓	-
LED motion display	Selection LED display for each detected motion "**Off**" / "On"	-	✓	-

Default values and factory setting are printed bold.

Room correction factor/brightness measurement value

The room correction factor is a measurement for the difference between brightness measurements on the ceiling and on the work area. The brightness value on the ceiling is influenced by the installation location, the incidence of light, the position of the sun, the weather conditions, as well as the reflection properties of the room and the furniture.
With the room correction factor, the measured brightness value is adjusted to the conditions in the room and in this way can be matched to the lux meter value (1) measured at the surface beneath theRonda P360 DALI-2 S.

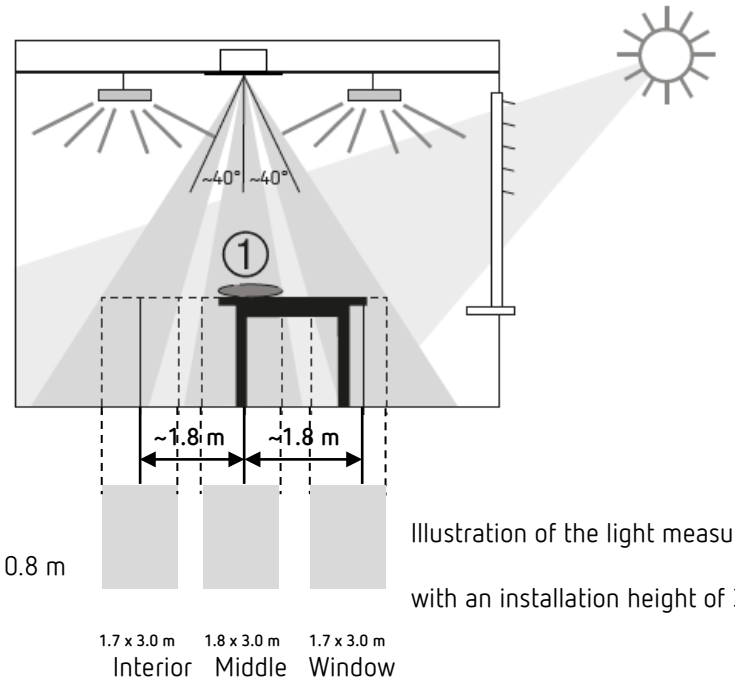


Illustration of the light measurement at table height of

with an installation height of 3 m

$$\text{Room correction factor} = \frac{\text{Brightness value on the ceiling}}{\text{Brightness value on the work surface}}$$

We recommend the following procedure:

➢ Place the lux meter or theSenda B remote control with integrated lux meter on the work surface under theRonda P360 DALI-2 S and enter the measured lux value via theSenda B remote control or app, parameters <Brightness measurement value Int/1, Inn/2, Mid/3, Win/4>, and send them to theRonda P360 DALI-2 S.

ⓘ During lux measurements, observe the relevant distances (see illustration above).

➢ Carry out all measurements at table height.
- <Brightness measurement value Int/1>: Average of all 3 lux measurements Inn/2, Mid/3, Win/4.
- <Brightness measurement value Inn/2>: Lux measurement towards the interior
- <Brightness measurement value Mid/3>: Lux measurement in the middle (below theRonda P360 DALI-2 S)
- <Brightness measurement value Win/4>: Lux measurement towards the window

→ The room correction factor is calculated from this automatically. Values between 0.05 and 2.0 are permitted. Calculated or entered values outside the permitted range are automatically set to the appropriate limit value.

→ The calculated room correction factor is adopted. The room correction factor can be checked via the <Room correction factor Int/1, Inn/2, Mid/3, Win/4> parameter for monitoring purposes.

ⓘ The standard value is 0.3 and is suitable for most applications. Changes are only sensible in strongly deviating situations.

Detection sensitivity

The theRonda P360 DALI-2 S presence sensor has 5 sensitivity increments. The basic setting is the middle increment (3).
Increments 1 to 5 can be selected and sent to theRonda P360 DALI-2 S via remote control theSenda B/app.
On the theSenda P installation remote control, the sensitivity can be decreased by one increment each time the button is pushed or increased with the button.

Value range

Increment	Sensitivity
1	Very insensitive
2	Insensitive
3	Standard
4	sensitive
5	very sensitive

IR group address

The button instances of theRonda P360 DALI-2 S and the buttons on the user remote controls are linked with each other via an IR group address. This means that adjacent theRonda P360 DALI-2 S presence sensors can be separated from each other.
The button instances of theRonda P360 DALI-2 S are only actuated if the IR group address of the button instance matches that of the user remote control.

Users can choose from I, II, III, IV, V, VI, VII, VIII and All for the IR group addresses. On theRonda P360 DALI-2 S presence sensor, the "IR group address" parameters are assigned to the following button instances:

- IR group address A Button instance 5 and 6
- IR group address B Button instance 7 and 8
- IR group address C Button instance 9 and 10
- IR group address D: Button instance 11
- IR group address E: Button instance 12

Further information can be found in section 9.8 Button function.

LED display – no short address

If a theRonda P360 DALI-2 S presence sensor has not yet received a short address, this can be indicated via the red RGB LED. If this indication is desired, the parameter must be set to "**Permit flashing**" or "Suppress flashing".

LED motion display

Motion detection is displayed by the RGB LED. If the parameter is set to "**Off**", there is no display. If set to "On", the RGB LED is on when motion is detected, otherwise it is off.

7.1.2 Control commands

Control command	Description	Can be triggered via app	Can be triggered via theSenda P
Quiescent mode	On / Off	✓	-
Presence test	On / Off	✓	✓
Restart	Restart sensor	✓	✓
DALI reset	Set DALI reset values	✓	-
DALI default	Set DALI default values	✓	-
Factory settings (factory reset)	Reset device to factory settings.	✓	-

Quiescent mode

If quiescent mode (sleep mode) is activated, theRonda P360 DALI-2 S will not send any event telegrams to the DALI bus. Quiescent mode has a time limit of 15 minutes.

Presence test mode

Presence test mode is used to test presence detection. Presence test mode can be activated with theSenda B/app, or theSenda P installation remote control (☑ button). When the test mode is set, theRonda P360 DALI-2 S switches directly to test mode:

- Every movement is indicated by the RGB LED. The hold timer is temporarily set to 10 s and the dead timer is set to 0 s. theRonda P360 DALI-2 S sends event telegrams to the DALI bus in line with the configuration of the presence sensor.
- To ensure that the light is switched on regardless of the brightness, theRonda P360 DALI-2 S sends the lowest brightness value (0).
- Test mode ends automatically after 10 min. The hold timer and dead timer return to the values set before the test. **Note**: The test mode can be terminated at any time with the remote control.

Restart

The restart can be initiated with the theSenda B/app or the theSenda P remote control (↻ button). The subsequent start-up phase takes around 30 seconds. This phase is indicated by the RGB LED, start-up phase flashing pattern (see section 4.6 Display).

DALI reset

All DALI variables are set to the reset values in accordance with IEC 62386-103/301/303/304.

DALI default

All DALI variables are set to the default values in accordance with IEC 62386-103/301/303/304.
Caution! This also means that the short address will be reset.

Factory settings

This control command resets all parameters of theRonda P360 DALI-2 S to the factory settings and sets all DALI variables incl. memory bank entries to the default values (in accordance with IEC 62386-103/301/303/304).
Caution! This also means that the short address will be reset.
The theRonda P360 DALI-2 S presence sensor is supplied with the following parameter values:

Parameters	Value
Room correction factor Int/1	0.3
Room correction factor Inn/2	0.3
Room correction factor Mid/3	0.3
Room correction factor Win/4	0.3
Detection sensitivity (PIR)	3
IR group address A	I
IR group address B	II
IR group address C	III
IR group address D	All
IR group address E	All
LED display – no short address	flashing permitted
LED motion display	OFF

7.2 Settings via the DALI bus

All of the parameters* and control commands described above can also be set by the multi-master application controller via the DALI bus. They are stored in the memory bank.

* Exceptions: "Brightness measurement value Int/1, Inn/2, Mid/3, Win/4" and "LED display – no short address" parameters. These cannot be transferred via the DALI bus (see table in section 7.1.1).

7.3 Status messages via the DALI bus

The "QUERY INPUT DEVICE ERROR" command can be used to query the error status of theRonda P360 DALI-2 S (no response means no error):

Bit	Name	Value	Measures
0	Checksum_Error_Info	1 = Yes	return theRonda P360 DALI-2 S for repair
1	Reserve	1 = Yes	
2	Checksum_Error_Parameter	1 = Yes	Reset to factory settings
3	No_HTS_Code	1 = Yes	return theRonda P360 DALI-2 S for repair
4	EEPROM_Error	1 = Yes	return theRonda P360 DALI-2 S for repair
5	Checksum_Error_DALI	1 = Yes	Reset to DALI default values
6	Reserve	1 = Yes	
7	instanceError	1 = Yes	Further queries are required, see below

In the event of instanceError, the "QUERY INSTANCE ERROR" command must be used to query at the instances "Occupancy sensor", "LightSensor" and "Button instance":

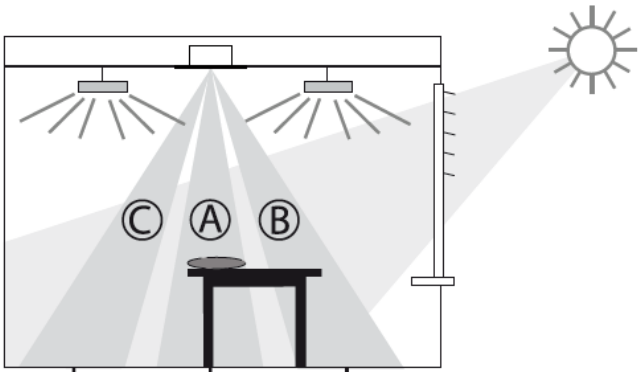
- If the "Occupancy Sensor" instance returns an error notification: Return theRonda P360 DALI-2 S for repair.
- If the "LightSensor" instance returns an error notification: Return theRonda P360 DALI-2 S for repair.
- If the button instance returns an error notification: Check the remote control, push buttons.

8 Light measurement

8.1 Light measurement

The mixed light measurement measures artificial light and daylight. It provides consistent measurement results regardless of the light source. The artificial light from fluorescent lamps and LEDs is detected correctly despite the discrete spectrum. The light measurement device is located under the lens and receives diffuse light as a result.

theRonda P360 DALI-2 S has 3 light measurements:



The light guide is designed in such a way that the light measurement covers an opening angle of approx. ± 40° below theRonda P360 DALI-2 S and to the side.
The central light measurement detects the brightness directly below the "Middle brightness value" detector (A), while the other two light measurements detect the brightness close to the window ("Window brightness value"; B) or in the interior ("Interior brightness value"; C). The installation location is the reference point for the lighting level.

The measured brightness value can be adapted to the conditions in a room with the room correction factor. The transmitted brightness value of instances 1 to 4 therefore corresponds to the measured brightness value / room correction factor.

See also the description of the room correction factor on page 15.

The measurement range of the light measurement is around 10 to 10,000 lux.

8.2 Determining a value via the DALI bus

According to DALI standard IEC 62386-103/304, the value of a light sensor instance is obtained either by querying directly or by evaluating the events.

8.2.1 Direct queries

The following steps must be carried out in order to query the value directly:

1. Address the DALI telegram "QUERY INPUT VALUE" to the desired device and with the desired instance number of a light sensor.
2. Multiply the returned value by 64 and save it in a variable of at least 16 bits.
3. Address the DALI telegram "QUERY INPUT VALUE LATCH" to the previous device with the previous instance number.
4. Divide the returned value by 4 and add it to the previous variable.

Example as pseudo code:
inputValue = QUERY_INPUT_VALUE()
Variable = inputValue × 64
inputValue = QUERY_INPUT_VALUE_LATCH ()
Variable = Variable + inputValue ÷ 4

8.2.2 Evaluating events

A light sensor instance event can be triggered cyclically or in the case of certain changes to the value. The following steps are necessary in order to present the value that has been received in lux:

1. Extract the 10-bit event information from the 24-bit light sensor event telegram that has been received and save it in a variable of at least 16 bits.
2. The variable must then be multiplied by 16 in order to present the value in lux.

Example as pseudo code:
inputValue = EVENT_INFO
Variable = inputValue × 16

ⓘ As the event information is limited to 10 bits, only increments of 16 lux are possible. If a more precise value is required, this can be queried directly in full resolution. See 8.2.1 Direktes Abfragen.

9 Operating modes

The theRonda P360 DALI-2 S presence sensor is an input device and is exclusively intended to provide information about room occupancy and motion detection in accordance with IEC 62386 Part 303 (movement based sensor) as well as brightness values in accordance with IEC 62386 Part 304 to a higher-level controller via the DALI bus. The controller ensures the full range of functionality, including switching, constant lighting control, fully automatic/semi-automatic, manual override, scenes, etc.

theRonda P360 DALI-2 S is delivered and operated with operating mode 0x00 ex works. The operating mode cannot be changed.

9.1 Memory bank 2 – occupancy sensor

The parameters of occupancy sensor instance 0, which are not defined by DALI-2, are stored in memory bank 2.

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	Detection sensitivity	0x03	0x03	NVM
0x04-0xFF	Not implemented / Reserved	Response NO	no change	ROM

The value range for the "Detection sensitivity" instance variables is 1 to 5, see section 7.1.1 Parameters.

9.2 Memory bank 3-6 – light sensors

The parameters of light sensor instances 1 to 4 are stored in memory banks 3-6. In the same way that the light sensor instances do not differ in terms of their function, the structure of the corresponding memory banks is also the same.

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	Room correction factor	0x1E	0x1E	NVM
0x04-0xFF	Not implemented / Reserved	Response NO	no change	ROM

The value range for the "Room correction factor" variables is 5 to 200. To calculate the actual "Room correction factor" value, divide by 100.

The assignment of the memory banks to the light sensors is as follows:

- Instance 1 provides integral brightness values: Memory bank 3
- Instance 2 provides interior brightness values: Memory bank 4
- Instance 3 provides middle brightness values: Memory bank 5
- Instance 4 provides window brightness values: Memory bank 6

9.3 Memory bank 7-11 – button instance

The IR group addresses of button instances 5 to 12 are stored in memory banks 7-11.

Memory bank 7 (IR group A)

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	IR group address button instance 5 -6	0x01	0x01	NVM
0x04-0xFF	Not implemented / Reserved	Respons e NO	no change	ROM

The value range for the "IR group address button instance 5 -6" instance variables is I (0x01) to VIII (0x80) and All (0xFF), see also section 7.1.1 Parameters.

Memory bank 8 (IR group B)

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	IR group address button instance 7 -8	0x02	0x02	NVM
0x04-0xFF	Not implemented / Reserved	Respons e NO	no change	ROM

The value range for the "IR group address button instance 7 -8" instance variables is I (0x01) to VIII (0x80) and All (0xFF), see also section 7.1.1 Parameters.

Memory bank 9 (IR group C)

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	IR group address button instance 9 -10	0x04	0x04	NVM
0x04-0xFF	Not implemented / Reserved	Respons e NO	no change	ROM

The value range for the "IR group address button instance 9 -10" instance variables is I (0x01) to VIII (0x80) and AII (0xFF), see also section 7.1.1 Parameters.

Memory bank 10 (IR group D)

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	IR group address button instance 11	0xFF	0xFF	NVM
0x04-0xFF	Not implemented / Reserved	Respons e NO	no change	ROM

The value range for the "IR group address button instance 11" instance variables is I (0x01) to VIII (0x80) and AII (0xFF), see also section 7.1.1 Parameters.

Memory bank 11 (IR group E)

Address	Description	Default value (factory)	RESET value	Memory type
0x00	Address of last position in this MB	0x03	no change	ROM
0x01	Indicator byte (defined by manufacturer) – version of the memory bank	0x01	no change	ROM
0x02	Memory bank lock byte	0xFF	0xFF	NVM
0x03	IR group address button instance 12	0xFF	0xFF	NVM
0x04-0xFF	Not implemented / Reserved	Respons e NO	no change	ROM

The value range for the "IR group address button instance 12" instance variables is I (0x01) to VIII (0x80) and All (0xFF), see also section 7.1.1 Parameters.

9.4 Start-up behaviour

When theRonda P360 DALI-2 S is connected to a power supply or if it is restarted, it goes into the start-up phase for a defined period of time before switching to normal operation. This is indicated by the flashing RGB LED.

After the power supply is switched on (restoration of the bus supply), a motion sensor element may provide signals as a result of physical properties until the PIR has stabilised. It is therefore not possible to determine whether signals occurring immediately after start-up indicate genuine presence or are merely transient electrical responses.

theRonda P360 DALI-2 S suppresses the signals from the motion sensor element during the start-up phase (30 s). After 30 s (end of the start-up phase), theRonda P360 DALI-2 S sends the current events in line with the current settings.

To ensure that anyone present is not left standing in the dark for 30 s after a bus failure, the higher-level controller should always switch on the light when the bus supply is restored.
In accordance with IEC 62386-103, theRonda P360 DALI-2 S can send a telegram with the information "Power Notification" following start-up if required. This telegram will contain information about a bus failure or restart of theRonda P360 DALI-2 S. The higher-level controller can then decide whether or not to switch on the light following the restoration of the bus supply.

9.5 Addressing

The addressing of theRonda P360 DALI-2 S (assignment of short addresses) is carried out on the basis of the algorithm defined in IEC 62386-102, Annex A1 (informative). The 24-bit commands do not overlap with the 64 devices in the 16-bit address space.

9.6 Presence

Instance 0 provides information regarding room occupancy and motion detection according to standard IEC 62386 Part 303.

9.7 Brightness

The theRonda P360 DALI-2 S presence sensor has four instances for brightness measurement:
- Instance 1 provides integral brightness values
- Instance 2 provides interior brightness values
- Instance 3 provides middle brightness values
- Instance 4 provides window brightness values

on the DALI bus in accordance with IEC 62386 Part 304.

The integral brightness value is the average of the interior, middle and window brightness measurements.

9.8 Button function

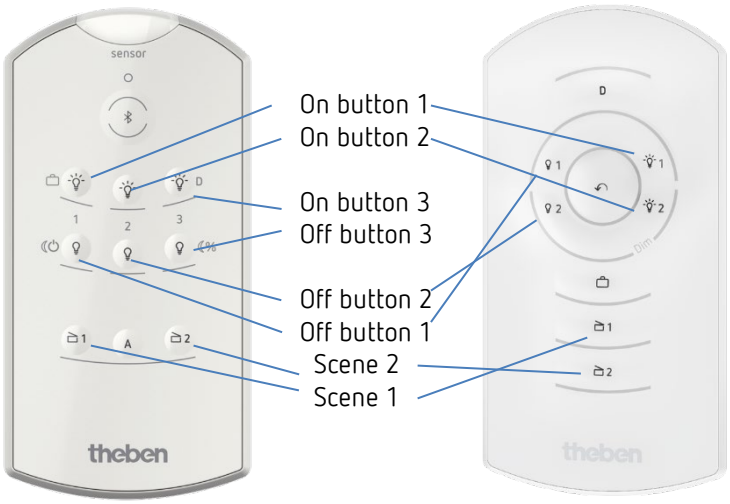
The theRonda P360 DALI-2 S presence sensor partially supports the button instance defined in IEC 62386 Part 301. The theSenda S or theSenda B user remote controls can be used to dim or switch the lamps, to control the blinds, or to execute additional functions. The remote control commands are sent to theRonda P360 DALI-2 S via the IR interface. theRonda P360 DALI-2 S sends this information via the DALI bus to the higher-level controller. Using this information, the controller can trigger the desired actions.
The "push button input events" and "event timer settings" are partially supported in line with IEC 62386 Part 301.
The following "events" are supported:

- Short press
- Long press start / repeat / stop [1)]
- Double press
- Button free / stuck [1)]

The following "timer settings" are supported:

- tDouble
- tRepeat [1)]
- tStuck [1)]

[1)] is not supported by the Scene 1 and 2 buttons.



theSenda B **theSenda S**

The theRonda P360 DALI-2 S presence sensor provides "events" relating to the individual buttons on the DALI bus in line with IEC 62386 Part 301 via the following instances:

- Instance 5/7/9 provides events relating to any On button with the configured IR group address
- Instance 6/8/10 provides events relating to any Off button with the configured IR group address
- Instance 11 provides events relating to the Scene 1 button with the configured IR group address
- Instance 12 provides events relating to the Scene 2 button with the configured IR group address

Events are only triggered if the IR group address set in the relevant memory bank matches the IR group address for the remote control.

Further information about setting the IR group addresses for the remote control can be found in the operating instructions for theSenda B or theSenda S.

Important information:

The "SET SHORT TIMER" variable can be set via the DALI bus. However, this value has no influence on the button function, because the time is defined by the remote control.

When querying the "QUERY EVENT FILTER" variable via the DALI bus, a value is returned. Itemized, this value means

Bit	Description	Value	Default	Button On/Off	Button scene
0	Button released event	1=Yes 0=No	0	x	x
1	Button pressed event	1=Yes 0=No	0	x	x
2	Short press event	1=Yes 0=No	1	✓	✓
3	Double press event	1=Yes 0=No	0	✓	✓
4	Long press start event	1=Yes 0=No	1	✓	x
5	Long press repeat event	1=Yes 0=No	1	✓	x
6	Long press stop event	1=Yes 0=No	1	✓	x
7	Button STUCK/free event	1=Yes 0=No	1	✓	x

However, on theRonda P360 DALI-2 S, the scene buttons only support the "Short press" and "Double press" events. The On/Off buttons additionally support all "Long press" and "Button STUCK" events.
All other events are not supported, even if the value is set to 1 or "Yes" in the query.

10 Accessories

Surface frame 110A WH
Item no.: 9070912
Details > www.theben.de/en

Surface frame 110A GR
Item no.: 9070913
Details > www.theben.de/en

Ceiling flush-mounting box 68A
Item no.: 9070992
Details > www.theben.de/en

Cover 110 GR
Item no.: 9070591
Details > www.theben.de/en

Cover clip
Item no.: 9070921
Details > www.theben.de/en

theSenda B
Item no.: 9070985
Details > www.theben.de/en

theSenda P
Item no.: 9070910
Details > www.theben.de/en

theSenda S
Item no.: 9070911
Details > www.theben.de/en

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