

theben

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EN Presence detector**theRonda S360 KNX UP WH**

2089520

theRonda S360 KNX AP WH

2089550

theRonda S360 KNX AP GR

2089551

theRonda S360 KNX FLAT DE WH

2089560



1. Product characteristics

- Passive infrared presence detector for ceiling installation
- Circular detection area 360°, up to Ø 9 m (64 m²)
- Restriction of detection area with cover clips (type UP)
- Automatic presence- and brightness-dependent control for lighting and HVAC
- Mixed light measurement suitable for fluorescent (FL/PL/ESL), halogen/incandescent lamps and LEDs
- 2 light channels C1, C2
- Switching operation or constant light control with standby function (orientation light)
- Switching mode with dimmable lighting
- Choice of fully or semi-automatic
- Brightness switching value or set point value can be set in lux by using parameters, the object or via remote control
- Teach-in of the brightness switching value or the set point value
- Reduction of time delay when present briefly (short-term presence)
- Manual override by telegram or remote control
- 2 presence channels C4, C5, individually configurable
- Switch-on delay and time delay configurable
- Setting the room correction factor for brightness measurement comparison
- Adjustable sensitivity
- Test mode for checking function and detection area
- Scenes
- Parallel switching of multiple presence detectors (Master/Slave or Master/Master)
- Protection class IP 54 when installed
- Installation in false ceilings with springs (type FLAT DE)
- Ceiling installation - surface mounted (type AP)
- User remote control «theSenda S» (option)
- Installation remote control «theSenda P» (option)
- Management remote control «SendoPro 868-A» (no longer available)
- App remote control «theSenda B» (option) and corresponding app «theSenda Plug» (iOS/Android)

- Accessories:
 - theSenda B (9070985), theSenda P (9070910), theSenda S (9070911)
 - theRonda S360 KNX UP: surface frame 110A WH (9070912), surface frame 110A GR (9070913), cover 110 GR (9070591), ceiling installation box 68A (9070992), masking clips (9070921), QuickSafe safety cover (9070531)

2. Safety

**WARNING****Danger of death through electric shock or fire!**

- Installation should only be carried out by a professional electrician!

- Work on electrical systems may only be carried out by electricians or by instructed persons under the guidance and supervision of an electrician in accordance with the technical regulations applying to electricity!
- Comply with the country-specific safety regulations for work on electrical systems!
- The device is maintenance-free. If the device is opened or penetrated with any object, the guarantee lapses.

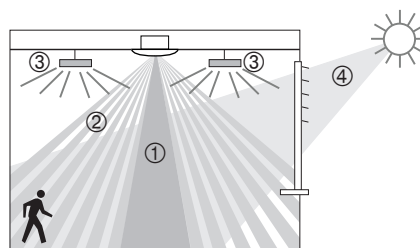
3. Proper use

The presence detector is intended for interior installation. The presence detector is exclusively intended for the 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.

4. Function

The presence detector is primarily used in offices, corridors, storage rooms and toilets for easy and energy-efficient control of lighting as well as HVAC. The lighting is accordingly influenced by switching or constant light control.

Function



- ① Mixed light measurement
- ② Presence detection
- ③ Artificial light
- ④ Incident daylight

Light channel C1, C2

The presence detector detects people present based on smallest movements. 1 light sensor simultaneously measures the brightness in the room and can thus smoothly control the lighting or switch it on and off according to the daylight. The light outputs can be dynamically faded up and down by the integrator. The brightness switching value or set point value can be set via parameters, object or the management remote control.

Switching

The lighting switches on with presence and insufficient brightness, and off with absence or sufficient brightness. Manual switching or dimming can be performed with a push button. Manual switching off, dimming and scenes stop the control for the duration of the presence.

Constant light control

When constant light control is active, the brightness is held constant at the brightness set point value. Control is started fully automatically or manually via push button or remote control. Manual switching off, dimming and scenes stop the control for the duration of the presence.

Time delay

The minimum time delay can be set for all light channels in the range of 30 seconds to 60 minutes. If someone goes into an unoccupied room only briefly and leaves it within 30 seconds, then the light shuts off prematurely after 2 minutes (short-term presence).

Standby

The standby function acts as an orientation light. After the time delay expires, the lighting is set to the standby dimming value (1 - 25 %). The standby time can be set between 30 s and 60 min or permanently. The lighting switches off if the brightness level in the room exceeds the brightness switching value/set point value. The lighting switches to the standby dimming value automatically if the room brightness falls below the brightness switching value/set point value. The standby function can be activated or locked via an object. In conjunction with a time switch, this allows energy-saving solutions to be implemented.

Push button control

The lighting can be manually switched or dimmed at any time via a push button. If the light is switched on manually, the light will remain on during switching operation for at least 30 minutes provided people are present. It then switches off when there is enough brightness. The light is forced off after a preset time delay if the room was (previously) vacated. If artificial lighting is switched off manually, the lighting remains switched off as long as the room is occupied. The lighting switches again automatically after the time delay has expired.

Fully or semi-automatic

Lighting control via the presence detector operates fully automatically for increased comfort or semi-automatically for greater energy savings. In «fully automatic» the lights switch on and off automatically. In «semi-automatic», the lighting must always be switched on manually. The lighting is switched off automatically.

Presence channel C4, C5

The presence channels are typically used for HVAC control. According to the selection, a telegram will only be sent due to presence, completely independently of the brightness and after expiry of the switch-on delay. The time delay will be restarted at every movement. The presence channel is not influenced by push buttons.

Switch-on delay

The switch-on delay prevents instantaneous switching on. The telegram is sent only on expiry of the switch-on delay, provided that people are present at this time.

Time delay

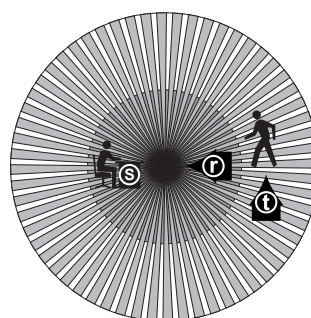
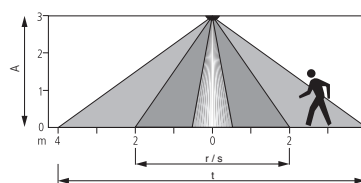
The time delay enables delayed switching off of HVAC devices and systems after the room is vacated. If selected, a telegram can be sent after the expiry of the presence time delay (once or cyclical).

5. Detection area

The circular detection area of the Ronda presence detector covers a middle detection area and permits a good room coverage with many applications. Note that seated and moving persons can be detected in differently-sized areas. The recommended installation height is 2.0 m – 3.0 m. As installation height increases, the sensitivity of the presence detector decreases. Walking motions are necessary from installation heights of 3.5 m, and the detection areas of several detectors should overlap in the marginal zones. The detection range is reduced as the temperature increases. As installation height increases, the sensitivity of the presence detector decreases. The extent and distance between the active and passive zones of the presence detector also increases.

Seated persons:

The details relate to smallest movements at table height (approx. 0.8 m).

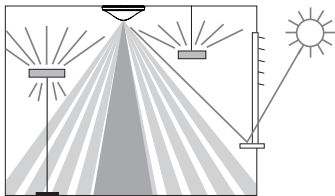


Installation height (A)	moving persons Frontal (r)		moving persons Across (t)		seated persons (s)	
	Area	Width	Area	Width	Area	Width
2,0 m	38 m ²	Ø 7 m	5 m ²	Ø 2,5 m	5 m ²	Ø 2,5 m
2,5 m	38 m ²	Ø 7 m	7 m ²	Ø 3,0 m	7 m ²	Ø 3,0 m
3,0 m	50 m ²	Ø 8 m	13 m ²	Ø 4,0 m	13 m ²	Ø 4,0 m
3,5 m	50 m ²	Ø 8 m	13 m ²	Ø 4,0 m	–	–
4,0 m	64 m ²	Ø 9 m	13 m ²	Ø 4,0 m	–	–

All figures are guidance values.

Brightness measurement

The presence detector measures artificial light and daylight that is reflected below the detector (opening angle of approx. 120°). The installation location is the reference point for the lighting level. If the brightness measurement is deactivated, the light channel only switches depending on the presence.



Switching

Direct light influences the light measurement. The placement of the floor lamps or suspended lighting directly below the detector is to be avoided.

Constant light control

The detector must be positioned in such a way that it only detects artificial light that it controls itself. Artificial light that is controlled by other detectors, or manually switched work lighting, influence the brightness measurement of the detector. Direct artificial light on the detector must be avoided.

Suitable lamps

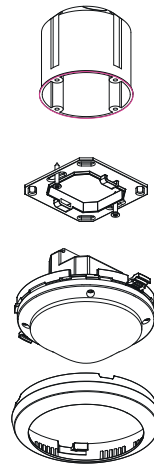
The presence detector is designed for the operation of fluorescent, compact fluorescent, halogen and incandescent lamps as well as LEDs.

6. Installation

The detector requires a clear line of sight to people. The installation height must not be less than 1.7 m and should not exceed 4 m.

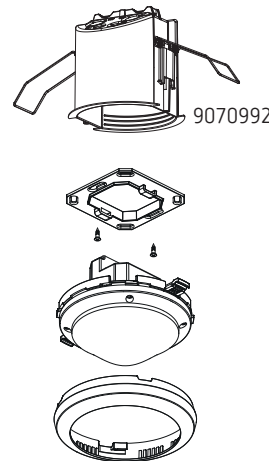
Flush-mounted fitting (theRonda S360 KNX UP)

The presence detector is flush-mounted using a size 1 standard flush-mounting installation socket.



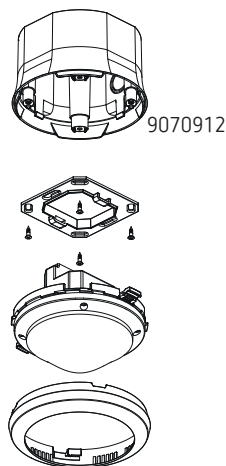
Ceiling installation (theRonda S360 KNX UP)

A ceiling installation unit 68A is available for simplified ceiling installation of the presence detector (see accessories). This also ensures cord grip and contact protection. The installation diameter is 67,5 mm (drill diameter 68 mm).

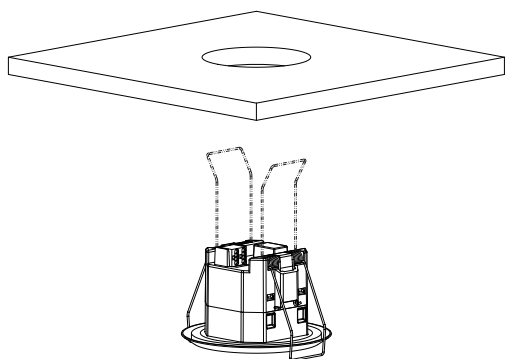


Surface-mounted installation (theRonda S360 KNX UP)

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



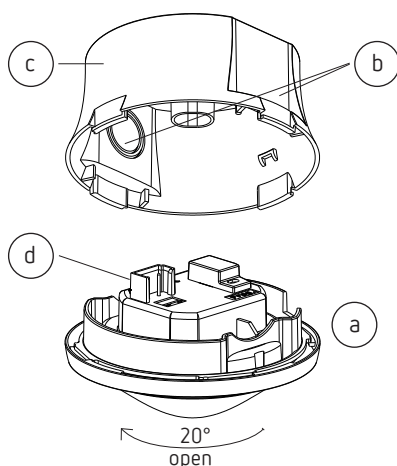
Ceiling Installation (theRonda S360 KNX FLAT DE)



Installation in false ceilings for ceiling thicknesses of 0.5 mm to 3 cm. The diameter of the ceiling cutout must be between 62 mm and 70 mm.

Protection rating IP 54 is only met at the front (side of the lens) and requires a smooth ceiling surface.

Ceiling installation - surface mounted (theRonda S360 KNX AP)



Turn the sensor unit (a) by about 20° counterclockwise, up to the snap-in point. Remove the sensor unit. Break out the required cable passages (b). Mount the surface-mounted housing (c) via the provided fastening holes to the ceiling. Perform the wiring (d). Put on the sensor unit (a).

If a higher protection rating than IP 20 is required, the enclosed seals have to be used in case of ceiling installation (c).

7. Start-up

1. Settings

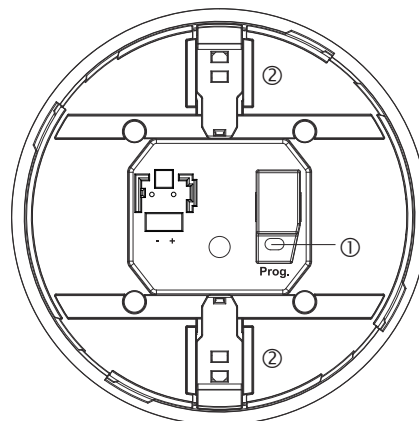
All settings are made via ETS. See document «KNX manual theRonda» (application description). The «theSenda P» remote control or the «theSenda B» app remote control (with «theSenda Plug» app) are optionally available for start-up support. The «SendoPro 868-A» can be also used, but is no longer available. Parameters can only be adjusted with the «theSenda P». In this sense, the remote controls serve as set-up aids. A range of alterable parameters is available for adjustment with the remote control (see chapter «Parameters via remote control»).

The response during operation can be changed via the remote control's control commands.

2. Programming mode

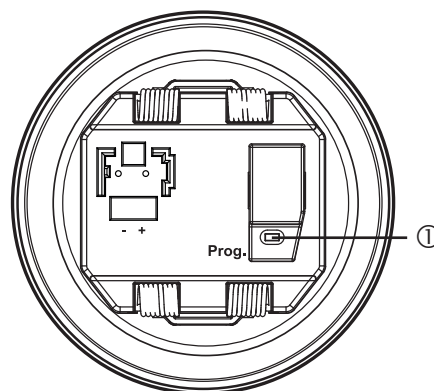
The programming mode can be activated using the programming button on the back of the presence detector or, without dismantling the presence detector, via the «SendoPro 868-A» management remote control, «theSenda P» installation remote control, or «theSenda B» app remote control (with «theSenda Plug» app).

theRonda S360 KNX UP



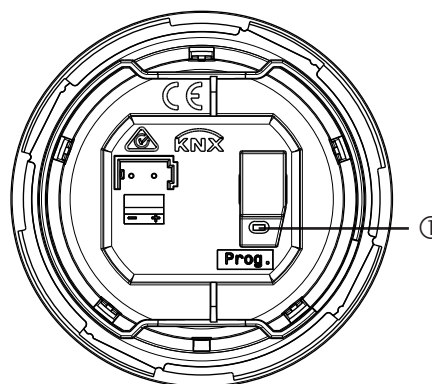
- ① Programming mode button
- ② Mechanical safety lock

theRonda S360 KNX DE



- ① Programming mode button

theRonda S360 KNX AP



- ① Programming mode button

3. Setting the device to the factory setting

The presence detector is supplied with a factory setting. This factory setting can be restored.

Activation	Description
Powerup	Hold down the programming button while switching on bus voltage.

4. Operation mode

The theRonda S360 KNX knows 3 operating modes

- Normal
- test-presence
- test-light

5. Switching behaviour

After the bus voltage is switched on or the parameters are downloaded via the ETS, the detector first runs through the start-up phase of 30 s, then it changes into normal operation. An LED displays the current status.

1. Start-up phase (30 s)

- The LED flashes in one second intervals.
- Switching: Light outputs send an ON telegram regardless of brightness
- Constant light control: control inactive, the lighting will be dimmed up to the maximum (value telegram max. control value).
- When no one is present or there is sufficient brightness, an OFF telegram is sent after 30 s (light off).

2. Operation mode normal

- The detector is ready for operation (LED off).

3. In the event of malfunction

- LED flashes rapidly
- For troubleshooting, see chapter «Troubleshooting»

8. Parameters via remote control

The following parameters can be queried or changed via the remote control for support during installation as well as servicing:

Parameter	Description	Can be queried by SendoPro/theSenda B (app)	Can be changed by SendoPro/theSenda B (app)	Can be changed theSenda P
Brightness set point value C1	Value range in lux	x	x	x
Alternative brightness set point value C1	Value range in lux	x	x	
Brightness measurement value C1	Lux meter brightness value in lux		x	
Brightness actual value C1	Measured brightness value in lux	x		
Lighting time delay	Value ranges in seconds/minutes		x	x
Detection sensitivity (PIR)	Value range in levels		x	x

With the «SendoPro 868-A» management remote control, as well as with «theSenda B» app remote control (with «theSenda Plug» app), parameters can be queried by sending values level-by-level to the detector. If the sent values are below the set parameter, the LED illuminates briefly. If the sent values are equal or above the set parameter, the LED flickers for 2 seconds.

This adjustment of parameters does not change the settings in ETS.

Alterable parameters via remote control

1. Adjustment with the remote control

The parameters are sent to the presence detector via infrared by using the «SendoPro 868-A» management remote control, the «theSenda P» service remote control, or «theSenda B» app remote control (with «theSenda Plug» app). Changed parameters are immediately applied and used by the detector.

LED description

Flickering for 2 s

After sending the new parameter with remote control or app, the presence detector indicates the correct reception by flickering for 2 s.

Lighting up briefly

The parameter/command sent from the remote control was rejected by the presence detector. The command is not valid. Check the selected detector type and sent parameters with management remote control or app remote control (app).

2. Brightness switching value/set point value channel C1 light

The brightness switching value/set point value defines the minimum desired brightness. The currently prevailing brightness is measured below the presence detector. If the prevailing brightness is below the switching value/set point value, the light is switched on when a presence is detected (in configuration type fully automatic).

Value range

Adjustable values "SendoPro 868-A" / "theSenda B" (app)	10–3000 lux
Adjustable values "theSenda P"	10, 15, 300, 500, 800 lux
Deactivation of brightness measurement (brightness measurement has no effect) The light channels only switch according to presence and absence.	
"SendoPro 868-A" / "theSenda B" (app)	Measurement off
"theSenda P"	Button ☼

3. Alternative brightness switching value/set point value channel C1 light

The alternative brightness switching value/set point value can be used to define a second, different brightness switching/set point value. For example, a day and night mode with two different brightness levels can be set up in combination with the brightness switching value/set point value channel C1 light. The alternative brightness switching value/set point value is activated or switched via bus object.

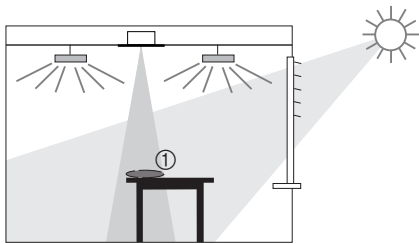
Value range

cf. 2. Brightness switching value/set point value channel C1 light

4. Brightness measurement value C1

The brightness measurement value at the ceiling is influenced by the installation location, incidence of light, position of the sun, weather conditions, the reflection properties of the room, and the furniture. In order to be able to adhere to the required lux value in the desired area, a comparison of the brightness measurements as necessary.

When sending the brightness measurement value, the room correction factor of the corresponding lighting channel is automatically adjusted to the conditions inside the room. The measured lux value ① below the presence detector is sent to the detector by the remote control. Two different procedures can be selected for the comparison.



Brightness value at the ceiling

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

① Please note the instructions in the «KNX theRonda» manual concerning the calibration of light measurements or setting the room correction factor.

Using management „SendoPro 868-A“ remote control and lux meter:

- Dim all lights to maximum power. If possible, move down the blinds.
 - The lux meter is placed on the work surface below the sensor and the measured lux value is entered via the management remote control «SendoPro 868-A», parameter <brightness measurement value C1>.
 - The room correction factor will be calculated automatically. Values between 0.05 and 2.0 are permitted. Calculated or entered values outside the permitted range will automatically be set to the appropriate limit value.
 - The calculated room correction factor will be applied.

Using „theSenda B“ remote control and „theSenda Plug“ app:

- Connect «theSenda B» remote control with the corresponding «theSenda Plug» app.
- Select the appropriate detector type and load the parameter set.
- Select <Brightness measurement value C1> parameter.

Using theSenda B remote control

- Set up theSenda B according to the drawing, and move away a few steps from the measurement location, so the lux measurement will not be influenced.
- Press OK.
 - A new window with the measured brightness measurement value is shown. If you would like to apply this value,
- press OK.

- **Important:** Press the send button (📶). After this, the brightness measurement is harmonised.

Using lux meter

- Set up or align the lux meter according to the drawing, and read the lux value.
- Press «Enter» in the app.
 - A new window opens.
- And the lux value and press OK.
 - Brightness measurement value appears in the display.
- **Important:** Press the send button (📶). After this, the brightness measurement is harmonised.
 - The room correction factor will be calculated automatically. Values between 0.05 and 2.0 are permitted. Calculated or entered values outside the permitted range will automatically be set to the appropriate limit value.
 - The calculated room correction factor will be applied.

For monitoring purposes, the room correction factor can be queried via object 8.



The room correction factor can be changed directly only via the ETS. The standard value is 0.3 and is suitable for most applications. Changes are only sensible in sharply varying situations.

5. Lighting time delay

Value range

Adjustable values "SendoPro 868-A" / "theSenda B" (app)	30 s - 60 min
Adjustable values "theSenda P"	30 s, 60 s, 2 min, 10 min, 20 min, 60 min

6. Detection sensitivity

The detector has 5 sensitivity increments. The basic setting is the middle increment (3). With the «SendoPro 868-A» management remote control, as well as with «theSenda B» app remote control (with «theSenda Plug» app), the increments 1 to 5 can be selected and sent to the detector. With the «theSenda P» installation remote control, the sensitivity can be decreased ⚡ or increased ⚡+ by one increment each time the button is pushed.

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

By selecting the test presence operating mode, the set sensitivity increment is not changed.

Control commands

The following control commands can be triggered with the remote control:

Control command	Description	Can be triggered by SendoPro / theSenda B (app)	Can be triggered theSenda P
Programming mode	Activation of programming mode	x	x
Teach-in channel C1		x	x
Master/Slave query	Master/Slave	x	
Switching light	All lighting groups can be switched on and off.	x	x
Presence test	On/Off	x	x
Test light	On/Off	x	
Restart	Restart detector	x	x

Teach-in

The currently measured brightness value will be accepted as the brightness set point value. Transfer is made to the currently active brightness setpoint value. That is, if the alternative brightness set point value is switched to, the currently measured brightness value [lux] is transferred to the alternative brightness set point value via the teach-in command. Values outside the permitted range will automatically be set to the appropriate limit value.



Test mode

The theRonda S360 KNX has two test modes.

- Presence test
- Light test

1. Presence test

The presence test is used for checking the detection area and the parallel switching.

Activation	Presence test control command "On" with "SendoPro 868-A" management remote control or with "theSenda B" app remote control (with "theSenda Plug" app). On "theSenda P" installation remote control with the button  . ON telegram via bus object (51). The presence test can be activated anytime.
End	With subsequent restart: Presence test control command "Off" with "SendoPro 868-A" management remote control or with "theSenda B" app remote control (with "theSenda Plug" app). On "theSenda P" installation remote control with the button  (reset). OFF telegram via bus object (51) Mains failure and thus power up Automatically according to the time set in the ETS Without restart: Activation of light test with "SendoPro 868-A" management remote control or with "theSenda B" app remote control (with "theSenda Plug" app).

Indication of LED status channels	Description
On	When movement occurs, the LED goes on and channels C1, C2 switch on.
Off	After the movement stops, the LED is off and the channels C1, C2 switch after approx. 10 s.

Test response

- Deactivated brightness measurement, light output does not react to brightness
- The detector reacts as in configuration type fully automatic, even if semi-automatic is set.
- The control type changes to switching if the control type is set to constant light control. The light is not controlled.
- Light «On» during motion; light «Off» during absence
- Channels C1 and C2 light have a fixed time delay of 10 s.
- The presence channels react unchanged as in normal operation.

Commands and adjustable parameters



In the presence test, the following commands are possible with «SendoPro 868-A» management remote control and «theSenda B» app remote control (with «theSenda Plug» app):

- Ending the presence test
- Activating the light test
- Changing detection sensitivity

The selected detection sensitivity (1 .. 5) is unchanged on activation of the presence test. The sensitivity can be adjusted during the test and will remain unchanged after completion of the presence test. The presence detector performs a restart after the end of the test mode.

2. Light test

The light test is used to check the brightness switching value/set point value.

Activation	Presence test control command "On" with "SendoPro 868-A" management remote control or with "theSenda B" app remote control (with "theSenda Plug" app). ON telegram via bus object (52) The light test mode can be activated anytime.
End	With subsequent restart: Light test control command "Off" with "SendoPro 868-A" management remote control or with "theSenda B" app remote control (with "theSenda Plug" app). On "theSenda P" installation remote control with the button  (reset). OFF telegram via bus object (52) Mains failure and thus power up Automatically according to the time set with the ETS Without restart: Activation of presence test with "SendoPro 868-A" management remote control, "theSenda B" app remote control (with "theSenda Plug" app), or "theSenda P" installation remote control using the "test" button 
LED display	Description
Flashing, 5 s On 0.3 s Off	The LED flashes as long as the light test is active.

Test response

The presence detector responds 100 % like in normal operation, only the reaction to bright/dark is faster. This makes it possible to test the brightness threshold and the adaptive response. The control is also faster. All selected functions and parameters remain unchanged.

Commands and adjustable parameters

In the light test mode, the following commands are possible with «SendoPro 868-A» management remote control and

«theSenda B» app remote control (with «theSenda Plug» app):

- End light test
- Change brightness switching value / set point value channel C1 light
- Activate presence test

The presence detector performs a restart after the end of the test mode.



Do not use a pocket lamp to switch the presence detector. The presence detector will learn this and thereby distort the adaptive light thresholds and hysteresis values.

In order to simulate this behaviour, the area below the presence detector should be illuminated or the blinds operated. Reactivate the light test for a new test.

Troubleshooting

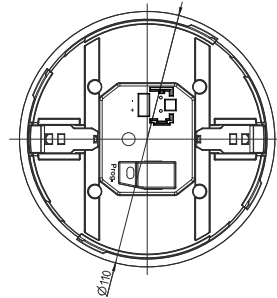
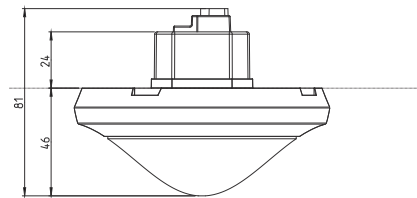
Fault	Potential cause
Light does not switch on or switches off if presence is detected and in darkness	Lux value is set too low; detector set on semi-automatic; light was switched off manually via push button or with remote control; person not within detection range; obstruction(s) interrupting detection; time delay set too short.
Light stays on when someone is present despite sufficient brightness	Lux value is set too high; light was recently switched on manually via push button or by remote control (wait 30 min during switching operation); detector is in test mode.
Light does not switch off or light switches on spontaneously when no one is present	Wait for time delay (self-learning); thermal sources of interference in the detection area: fan heaters, incandescent lamps/halogen spotlights, moving objects (e.g. curtains hanging in an open window).
Error flashing (3 x per second)	Error in self-test; Invalid parameter values in the detector (see KNX manual theRonda S360 KNX Chapter 2.4.2 Settings, parameter settings with download). Device not properly functional!

LED display

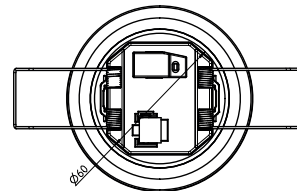
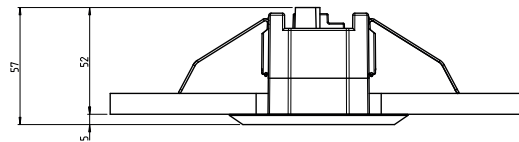
LED	Description
Flashing at one second intervals	The presence detector is in the start-up phase.
Flickering for 2 s	The command sent from the remote control via infrared was accepted by the presence detector.
Lighting up briefly	The command sent from the remote control via infrared was rejected by the presence detector. The command is not valid. Check the selected detector type or parameters on the SendaPro or in the app.
Error flashing (3 x per second)	Error flashing; The presence detector has found an error.
Flashing, 5 s On 0.3 s Off	The presence detector is in light test mode.
Lights up or flickers irregularly	The presence detector is in presence test mode or "LED display movement" is activated. The LED indicates the detection of movements.

Dimensions diagrams

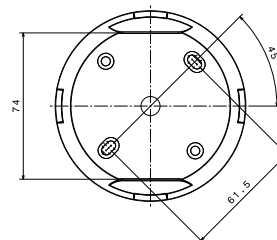
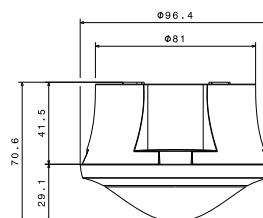
theRonda S360 KNX UP



theRonda S360 KNX FLAT DE



theRonda S360 KNX AP



9. Technical data

Operating voltage	Bus voltage KNX, max. 30 V
Power consumption	max. 9 mA/13 mA with LED
Type of installation	Ceiling installation
Recommended installation height	2.0 – 3.0 / max. 4.0 m (minimum height > 1.7 m)
Detection area horizontal	360°
Maximum range	Ø 4 m (Mh. 4 m) / 13 m ² radially moving Ø 9 m (Mh. 4 m) / 64 m ² tangentially moving
Setting range of brightness switching value / set point value	approx. 10 – 3000 lux / measurement OFF
Lighting time delay	30 s – 60 min
Presence time delay	10 s – 120 min
Presence switch-on delay	10 s – 30 min / inactive
Standby dimming value	1 – 25 % of the lamp output
Standby time	30 s – 60 min / inactive / permanently on
All settings are remotely configurable	see KNX manual
Connection type	Plug-in terminals, type WAGO 243
Protection rating (surface-mounted)	IP 54
Protection rating (flush-mounted)	IP 20 (IP 54 installed)
Protection rating (FLAT DE)	IP 20 (IP 54 installed)
Ambient temperature	-15 °C ... +50 °C
CE Declaration of Conformity	This device conforms to the safety regulations of the EMC Directive 2014/30/EC.
RCM compliance	This device is compliant with the ACMA guidelines.

Product overview

Type of installation	Channel	Colour	Type	Item number
Ceiling installation	2 Light 2 HVAC	White	theRonda S360 KNX UP WH	2089520
Ceiling installation	2 Light 2 HVAC	White	theRonda S360 KNX AP WH	2089550
Ceiling installation	2 Light 2 HVAC	Grey	theRonda S360 KNX AP GR	2089551
Ceiling installation	2 Light 2 HVAC	Special colour in accordance with customer information	theRonda S360 KNX AP SF	2089553
Ceiling installation	2 Light 2 HVAC	White	theRonda S360 KNX FLAT DE WH	2089560

10. Contact

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