thebenHTS

EN Presence detector

theRonda S360-100 UP WH
2080520

theRonda S360-100 UP GR
2080521

1. Product characteristics

- Passive infrared presence detector for ceiling installation
- Circular detection area 360°, up to Ø 9 m (64 m^2)
- Restriction of detection area with cover clips
- Automatic presence- and brightness-dependent control for lighting
- Mixed light measurement suitable for fluorescent lamps (FL/PL/ESL), halogen/incandescent lamps and LEDs
- Channel A light: relay, 230 V
- Fully or semi-automatic operation, switchable
- Brightness setpoint adjustable, teach-in function
- Reduction of time delay when present briefly (short-term presence)
- Connection option for push buttons or switches for manual switching with automatic detection of push button/switch
- Pulse function for staircase light timer switch
- Detection sensitivity configurable
- Ready for immediate use due to factory presetting
- Test mode for checking function and detection area
- Ceiling installation in flush-mounted box
- Surface mounting on ceilings possible with back box (option)
- User remote control "theSenda S" (option)
- Management remote control "SendoPro" (option)
- Installation remote control "theSenda P" (option)
- App remote control "theSenda B" (option) and corresponding app "theSenda Plug" (iOS/Android)

2. Security

⚠ **WARNING**

Danger of death through electric shock or fire!
➢ Installation should only be carried out by a qualified electrician!

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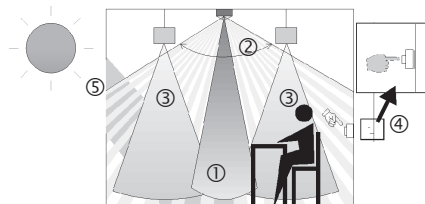
3. Proper use

The presence detector is intended for indoor 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, stairs, toilets, basements and garages as well as in homes for easy and energy-efficient control of lighting. The switch contact "light" switches lighting on with presence and insufficient brightness, and off with absence or sufficient brightness. The light can also be switched on/off manually using push buttons or switches.

Function description

① Mixed light measurement
② Presence detection
③ Artificial light
④ Push button for manual lighting control
⑤ Incident daylight

Channel A light ☀

Switching response is controlled by presence and brightness. The switch contact closes during darkness and when someone is present. It opens with a delay when there is brightness or when no one is present.

Time delay

The time delay enables delayed switching off of lighting after the room is vacated. The time delay is adjustable in a range of 10 s to 60 min. If someone goes into an unoccupied room only briefly and leaves it within 30 seconds, then the light will be switched off prematurely after 2 minutes (short-term presence).

Push button control

The lighting can be manually switched at any time via a push button or switch. If the light is switched on manually, it will remain on for at least 30 minutes provided that people are present. It then switches off when the brightness is adequate. The light is forced off after the 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 device

Lighting control via the presence detector operates fully automatically for increased comfort or semi-automatically for greater energy savings. The lighting switches on and off automatically as a "fully automatic device". As a "semi-automatic

device", the lighting must always be switched on manually. The lighting is always switched off automatically.
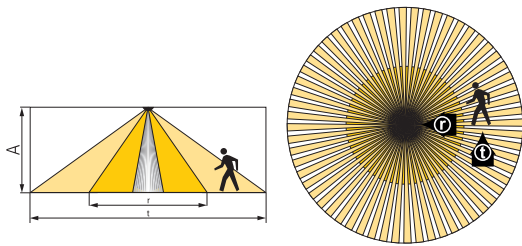
Pulse function

Time delay can be set to pulse for controlling existing staircase light timer switches. To do so, the light output produces a pulse of 0.5 s in duration every 10 s if people are present or it is dark.

5. Detection area

The circular detection area of theRonda S presence detector covers an average detection area. Note that seated persons are detected in differently-sized areas. The recommended installation height is 2 m − 4 m. 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. The detection range is reduced as the temperature increases.

Seated persons:

The presence detector reacts very sensitively to the slightest movements. The details refer to smallest movements at table height (approx. 0.80 m). The detection sensitivity is reduced from an installation height of > 3 m. More pronounced movements are required for clear detection.
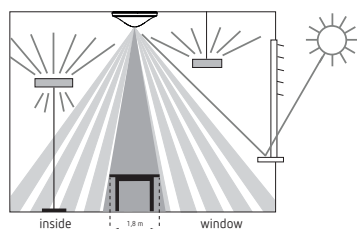

Installation height (A)	Across (t)	Frontal (r)	Seated (s)
2.0 m	Ø 7.0 m (38 m²)	Ø 2.5 m (5 m²)	Ø 2.5 m (5 m²)
2.5 m	Ø 7.0 m (38 m²)	Ø 3.0 m (7 m²)	Ø 3.0 m (7 m²)
3.0 m	Ø 8.0 m (50 m²)	Ø 4.0 m (13 m²)	Ø 4.0 m (13 m²)
3.5 m	Ø 8.0 m (50 m²)	Ø 4.0 m (13 m²)	−
4.0 m	Ø 9.0 m (64 m²)	Ø 4.0 m (13 m²)	−

All figures are guidance values.

Brightness measurement

The presence detector measures artificial light and daylight that is reflected below the detector. The light measurement area maps a rectangle of about 1.8 x 3 m at table height. The installation location is the reference point for the lighting level. Direct light influences the light measurement.
Avoid placing floor lamps or suspended lighting directly below the detector.
If the brightness measurement is deactivated, channel A light only switches depending on the presence (brightness setpoint set to "measurement off" via the remote control).
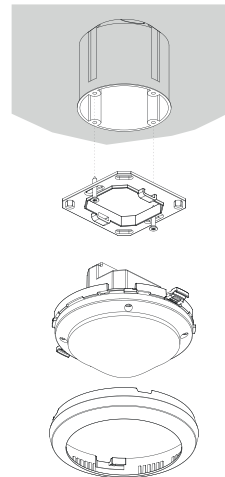

Suitable lamps

The presence detector is designed for the operation of fluorescent, compact fluorescent, halogen and incandescent lamps as well as LEDs. The maximum number of switchable lights is restricted due to the high inrush current levels of the EBs and LED drivers. The use of an external contactor helps with large loads.
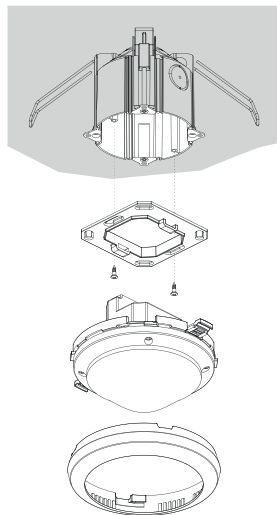
6. Installation

Flush-mounted fitting

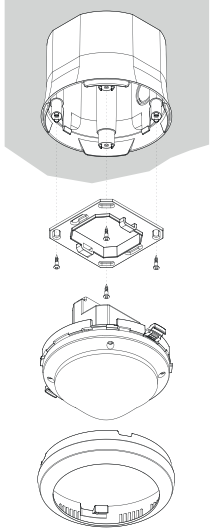The presence detector is flush-mounted using a size 1 standard flush-mounting installation socket.

Ceiling installation

A ceiling installation unit 73 A is available for simplified ceiling installation of the presence detector (see accessories). This also ensures cord grip and contact protection. The installation diameter is 72 mm (drill diameter 73 mm).

Surface-mounted installation

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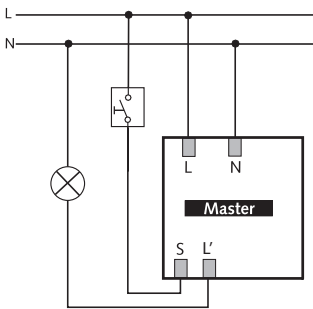

7. Switching

The motion detectors can be operated as a master in individual switching. With parallel switching of the light outputs (L'), it must be ensured that all detectors connected in parallel are connected to the same phase.

Individual switching

In individual switching, the presence detector, as Master, detects presence and brightness and controls lighting.

8. Settings

The presence detector theRonda S does not have a potentiometer. The presence detectors are supplied with basic settings ready for operation. The specifications are guidance values. Management remote control "SendoPro 868-A", service remote control "theSenda P" and app remote control "theSenda B" (with "theSenda Plug" app) are available for start-up. They allow the remote adjustment of the setting values.

Parameters and control commands via remote control

The following parameters can be checked or changed via the remote control for support during start-up as well as servicing:

Parameter	Description	Can be queried by SendoPro 868-A/ theSenda B (app)	Can be changed by SendoPro 868-A/ theSenda B (app)	Can be changed by theSenda P
Brightness set-point value A	Value range in lux	x	x	x
	Measurement off	x	x	x
Time delay A	Value ranges in seconds/minutes		x	x
	Pulse		x	x
Short presence A	On/Off		x	
Configuration type	auto/man	x	x	x
Control input S	Auto/switch/push button S/push button O		x	
Detection sensitivity (PIR)	Value range in increments		x	x
Group address	All/I/II/III		x	x
LED display motion	Off/On		x	

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.

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 value is below the set parameter, the LED illuminates briefly. If the sent value is equal to or above the set parameter, the LED flickers for 2 seconds.

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

Control command	Description	Can be triggered by SendoPro 868-A/ theSenda B (app)	Can be triggered by theSenda P
Teach-in channel A	Activation	x	x
Switching light	Lighting group can be switched on and off.	x	x
Presence test	On/Off	x	x
Restart	Restart detector	x	x
Factory settings	Set all parameters and settings to factory setting.	x	

Brightness setpoint channel A light

Brightness setpoint A defines the minimum desired brightness. The currently prevailing brightness is measured underneath the presence detector. If the prevailing brightness is below the setpoint value, the light is switched on when a presence is detected (in configuration type fully automatic device).

Value range

Adjustable values "SendoPro 868-A"/"theSenda B" (app)	30 – 3000 lux
Adjustable values "theSenda P"	30, 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 ☼

Teach-in channel A light

During teach-in, the currently measured brightness value is accepted as brightness setpoint value A. Values outside the permitted range will automatically be set to the appropriate limit value.

"SendoPro 868-A"/"theSenda B" (app)	Teach-in
"theSenda P"	Button 👁

Time delay channel A light

Value range

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

Control for staircase light timer switch (0.5 s "on"/10 s "off")	
"SendoPro 868-A"/"theSenda B" (app)	Pulse
"theSenda P"	Button ⊓

Short presence channel A light

The time delay of channel A light can be switched off sooner if a room is occupied only for a short time.
(In fully automatic device and semi-automatic device configuration type)

The time delay is used according to the set parameter.	Off
If someone enters an unoccupied room and it is only occupied for up to 30 s, the light will be switched off prematurely after 2 min.	On

Configuration type

Fully automatic device: The lighting is switched on and off automatically. (due to presence/absence and brightness)	
"SendoPro 868-A"/"theSenda B" (app)	auto
"theSenda P"	Button A

Semi-automatic: Lights must always be switched on manually. Switching off occurs automatically by the presence detector. (due to absence or brightness)	
"SendoPro 868-A"/"theSenda B" (app)	man
"theSenda P"	Button 🖑

Control input S

Control input S for manual switch on/off of channel A light automatically detects push buttons or switches.
Several push buttons can be connected to control input S.
➤ Use light push button only with neutral conductor connector

Value range

Automatic detection of push button or switch. A signal that is present for less than 0.7 s is detected as a push button. Longer signals are evaluated as a switch.		auto
To adapt to user behaviour, the type of the used signal transmitter can have a fixed setting. Automatic detection is deactivated. When selecting the push button, opening contact or NO contact can also be specified.	Switch	Switch
	Push button (NO contact)	Push button S
	Push button (opening contact)	Push button O

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.

Group address

This parameter is applied when using the "theSenda S" user remote control.
A group address can be assigned to channel A light.
The group addresses can be programmed with the following remote controls:

Group address value range

Adjustable values "SendoPro 868-A"	I, II, III, All
Adjustable values "theSenda B"	I, II, III
Adjustable values "theSenda Plug"	I – VIII, All
Adjustable values "theSenda S"	I, II

LED display motion

The motion detection can be displayed via the LED.

Value range

No display of motion detection.	Off
The LED is switched on when motion is detected, otherwise switched off.	On

Settings are possible with "SendoPro 868-A" management remote control or with "theSenda B" app remote control (with "theSenda Plug" app).

Factory settings

The theRonda S360-100 UP presence detector is delivered with the following parameter values:

Parameter	Value
Brightness setpoint value A	300 lux
Time delay A	10 min
Short presence A	On
Configuration type	auto
Control input S	auto
Detection sensitivity (PIR)	Increment 3
Group address	I
LED display motion	Off

9. Start-up

Switch-on behaviour

Every time the power supply is switched on, the presence detector runs through two phases that are shown by an LED:

1. **Start-up phase (30 s)**

   - The red LED flashes at one second intervals, both switch contacts are closed (light on).
   - The detector does not respond to push button commands and remote control commands.
   - When no one is present, the contact open after 30 s.

2. **Operation**

   The detector is ready for operation (LED off).

Presence test 🚶

Presence test mode is used to test presence detection and wiring. Presence test mode can be activated with "SendoPro 868-A" management remote control, with "theSenda B" app remote control (with "theSenda Plug" app) and with "theSenda P" installation remote control.

Setting the presence test mode via remote control

The detector goes directly into test mode when the test mode is set via the remote control:
Every movement is indicated by the LED.

- When movement occurs, the light switch contact close.
  - When no one is present, the light switch contact opens after 10 s.
  - Brightness measurement deactivated, detector does not react to brightness.
  - The detector reacts as in configuration type fully automatic device, even if semi-automatic is set.
  - Teach-in cannot be activated in test mode.

- Test mode ends automatically after 10 min. The detector restarts itself (see switch-on behaviour).

10. Technical data

Operating voltage	110−230 V AC +10 % / −15 %
Frequency	50−60 Hz
Upstream protection device:	13 A
Power consumption	approx. 0.1 W
Type of installation	Ceiling installation; flush / surface mounted or ceiling installation
Recommended installation height	2.0−3.0 m / max. 4 m
Minimum height	> 1.7 m
Detection area horizontal	360°
Maximum range	Ø 4 m (Mh. 3 m) / 13 m² seated Ø 4 m (Mh. 3 m) / 13 m² radially moving Ø 8m (Mh. 3m) / 50 m² tangentially moving
Setting range brightness setpoint value	30−3000 lux
Light time delay	10 s−60 min / pulse
Presence time delay	10 s−120 min
Switch-on delay "Presence"	0 s−10 min
Channel A light	Relay 230 V / 10 A, µ-contact
Max. switching capacity cos φ 1 resistive	2300 W ☼ (max 10 A)
Max. switching capacity cos φ 0.5	1150 VA ▭ ▱⊗ ▯⊗
Max. switching capacity LED LED lamp < 2 W LED lamp > 2 W	see manufacturer concerning cos φ 60 W 180 W
Guidance values max. switch-on current	800 A / 200 µs
Maximum number EBs T5 / T8	16x 54 / 58 W, 24x 35 / 36 W 8x 2x 54 / 58 W 12x 2x 35 / 36 W
Connection type	Screw terminals
Max. cable cross-section	Max. 2 x 2.5 mm²
Size of flush-mounted box	Size 1, Ø 55 mm (NIS, PMI)
Protection rating	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 / EU and of directive 2014 / 35 / EU.

Product overview

Type of installation	Channel	Operating voltage	Colour	Type	Item number
Ceiling installation	Light	110−230 V AC	White	theRonda S360-100 UP WH	2080520
			Grey	theRonda S360-100 UP GR	2080521
			Special colour in accordance with customer information	theRonda S360-100 UP SF	2080523

Troubleshooting

Fault	Cause
Light does not switch on or 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 button or "theSenda S"; person not within detection area; obstruction(s) interrupting detection; time delay set too short
Light stays on with detection of presence despite sufficient brightness	Lux value is set too high; light was briefly switched on manually via button or with "theSenda S" (wait 30 min.); 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 open windows); Load (EBs, relays) not cleared
Push button does not work	Device still in the start-up phase; illuminated button was used without neutral conductor; Push button not fed to the Master
Light cannot be switched off with the push button	Push button not fed to the detector. Check wiring to the push button.
Device does not respond	Short circuit or several phases in parallel switching! Disconnect detector from the power supply for 5 min (thermal fuse)
Error flashing (4 x per second)	Error in self-test; device not functional!

LED display

LED	Description
Flashing at 1 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 SendoPro or in the app.
Fast flashing	Error flashing; The presence detector has found an error.
Lights up or flickers irregularly	The presence detector is in presence test mode or "LED display movement" is activated. The LED displays detection of movement.

Guarantee

Theben HTS presence detectors are manufactured with the utmost care using state-of-the-art technology and are quality-tested. Theben HTS AG therefore guarantees perfect operation when used correctly. Should a fault occur, Theben HTS AG will fulfil the guarantee within the scope of the general terms and conditions.
Please note in particular:

- that the guarantee period lasts 24 months from the date of manufacture.
- that the guarantee is invalidated if you, or a third party, make changes to or undertake repairs on the devices.
- that, insofar as the presence detectors are connected to a software-controlled system, the guarantee for this connection is only valid when the indicated interface specification is complied with.

We undertake to repair or replace as quickly as possible all components of the delivered device that have become defective or unusable through demonstrably poor material, faulty construction or incomplete delivery up to the end of the guarantee period.
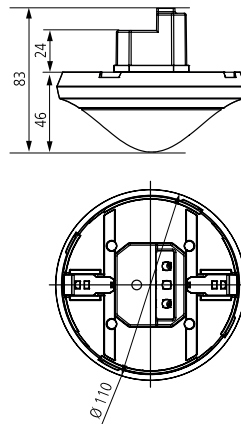
Returns

In the event of a guarantee claim, please return the device to the relevant dealer together with the delivery note and a brief description of the fault.

Industrial property rights

The design as well as hardware and software of these devices are protected by copyright.

Dimensions diagrams

Accessories

Back box 110 A WH
Item no.: 9070912
Details > www.theben.de / en

Back box 110 A GR
Item no.: 9070913
Details > www.theben.de / en

DE (ceiling installation) box 73 A
Item no.: 9070917
Details > www.theben.de / en
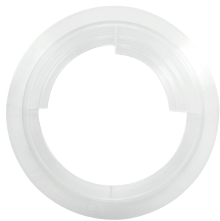
Cover clip for area restriction
Item no.: 9070921
Details > www.theben.de/en

SendoPro 868-A
Item no.: 9070675
Details > www.theben.de/en

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

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

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

11. Contact

Theben HTS AG
Im Langhag 7b
8307 Effretikon
SWITZERLAND
Phone +41 52 355 17 00
Fax +41 52 355 17 01

Hotline
Phone +41 52 355 17 27
hotline@theben-hts.ch
www.theben-hts.ch

All countries except Switzerland
Theben AG
Hohenbergstraße 32
72401 Haigerloch, Germany
GERMANY
Tel.: +49 7474 692-0
Fax: +49 7474 692-150

Hotline
Tel.: +49 7474 692-369
hotline@theben.de
www.theben.de