

## **EN** Motion detector

theMova S360-101 DE WH  
1030565

theMova S360-101 DE GR  
1030566

theMova S360-101 AP WH  
1030555

theMova S360-101 AP GR  
1030556



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# 1. Product characteristics

- Passive infra-red motion detector for ceiling installation
- Circular detection area 360°, up to Ø 9 m (64 m<sup>2</sup>)
- Automatic motion and brightness-dependent control for lighting and HVAC
- Mixed light measurement suitable for fluorescent lamps (FL/PL/ESL), halogen/incandescent lamps and LEDs
- Channel A light: relay, 230 V
- Operation as fully automatic device
- Brightness switching value configurable, teach-in function
- Pulse function for staircase light time switch
- Channel H, presence: relay, floating e.g. for HVAC control
- Time delay configurable
- Detection sensitivity configurable
- Ready for immediate use due to factory presetting
- Test mode for checking function and detection area
- Installation in false ceilings with springs, type DE
- Surface mount on ceiling, type AP
- User remote control „theSenda S“ (option)
- Management remote control „SendoPro“ (optional)
- Service remote control „theSendaP“ (option)



## 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 leadership 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! Ensure absence of voltage in the cable before installation!
- The device is maintenance-free. If the device is opened or penetrated with any objects the guarantee lapses.

## 3. Intended use

The motion detector is intended for interior installation. The motion 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.

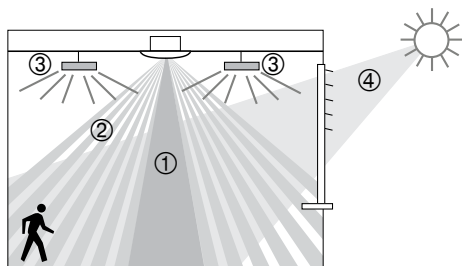
## 4. Function

The motion detector is primarily used in passage ways such as corridors, stairs, toilets, basements and garages as well as in homes for easy and energy-efficient control of lighting plus HVAC. The switch contact „light” switches lighting on with presence and insufficient brightness, and off with absence.

The „Presence” switch contact controls heating, ventilation and air conditioning systems. The contact closes when people are present.



### Functional description



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

## Channel A light

Switching response is controlled by presence and brightness. The switch contact for channel A light closes during darkness and when someone is present. It opens with a delay once the room is vacated after the set time delay.

### 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.

### Fully automatic

Lighting control of the motion detector operates fully automatically for increased comfort. In „fully automatic“ the lights switch on and off automatically.

### Pulse function

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

## Channel H presence

Channel H presence is used for HVAC control. The switching response of the floating contact is



influenced only by presence and not by brightness. If the contact is closed, the time delay will be restarted at every motion.

### **Time delay**

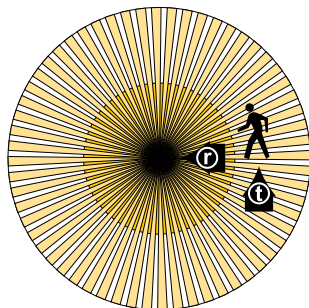
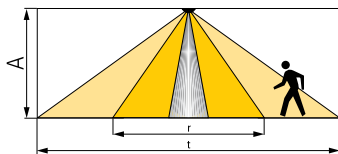
The time delay enables delayed switching off of HVAC devices and systems after the room is vacated. The time delay is adjustable in a range of 10 s to 120 min.

## **5. Detection area**

The circular detection area of the Mova S motion detector covers an average detection area. Note that moving persons can be detected in differently-sized areas. The recommended installation height is 2.0 m – 4.0 m. As installation height increases, the sensitivity of the presence detector decreases. The extent and distance between the active and passive zones of the motion detector also increases. The detection range is reduced as temperatures increase.





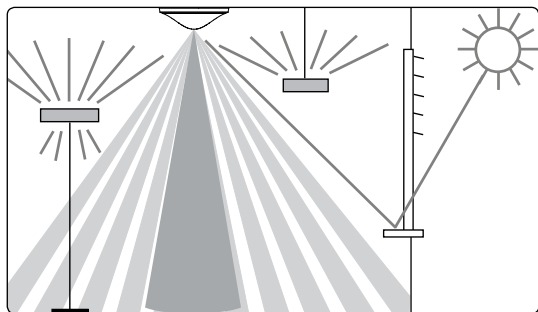


Installation height (A)	Moving persons Frontal (r)		Moving persons Across (t)	
2.0 m	5 m <sup>2</sup>	Ø 2.5 m	38 m <sup>2</sup>	Ø 7 m
2.5 m	7 m <sup>2</sup>	Ø 3 m	38 m <sup>2</sup>	Ø 7 m
3.0 m	13 m <sup>2</sup>	Ø 4 m	50 m <sup>2</sup>	Ø 8 m
3.5 m	13 m <sup>2</sup>	Ø 4 m	50 m <sup>2</sup>	Ø 8 m
4.0 m	13 m <sup>2</sup>	Ø 4 m	64 m <sup>2</sup>	Ø 9 m

## Brightness measurement

The motion detector measures artificial light and daylight that is reflected below the detector (opening angle approx. 120°). The installation site is a reference point for the lighting level. The light measurement is switched off when the light relay is switched on. If the brightness measurement is deactivated, the channel A light only switches depending on the presence (brightness switching

value set to „measurement off“ via the remote control).

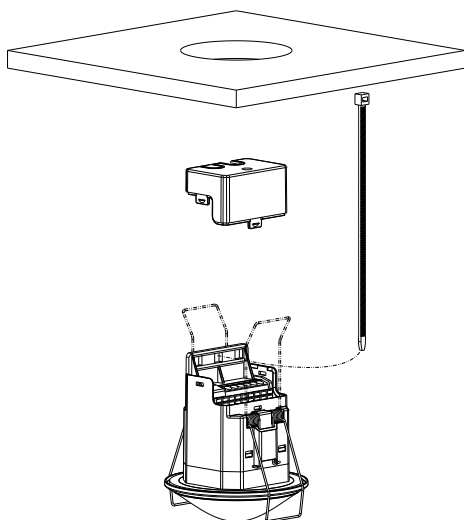


## Suitable lamps

The motion detector is designed for the operation of fluorescent lamps, compact fluorescent lamps, halogen/incandescent lamps and 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. All switched loads must be properly suppressed.

## 6. Installation

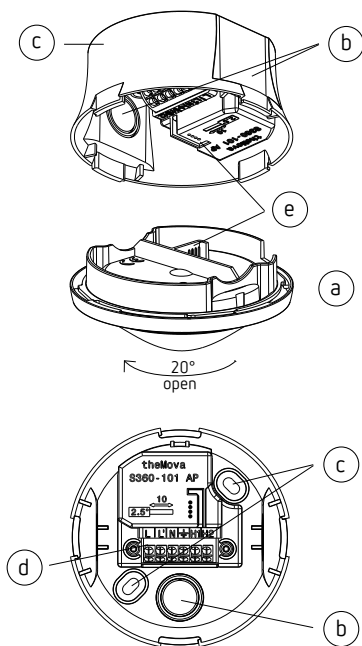
### Ceiling installation



Installation in false ceilings for ceiling thicknesses of 0.5 mm to 3 cm. The diameter of ceiling cutouts must be between 62 mm and 70 mm. The cable strain relief is with using a cable tie (width: 3.5 – 4.8 mm).

The detector requires a clear line of sight to people. The installation height must be no less 1.7 m and no higher than 4 m.

## Surface mount on ceiling



- Rotate sensor assembly approx. 20° anticlockwise until it clicks.
- Detach sensor assembly.
- Open knock-outs as needed to feed wires through.
- Mount power assembly on ceiling via the fixing holes.
- Connect wiring according to markings on push-in terminals; conductor cross-section 0.25 – 2.5 mm<sup>2</sup>.

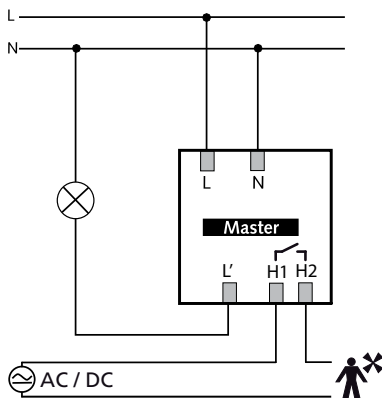
- Attach sensor assembly (a), taking care to insert plug-in connector (e)

## 7. Switching

The motion detectors can be operated as a master in individual switching. With parallel connection 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 motion detector as master detects presence and brightness and controls lighting.



## 8. Settings

Motion detector theMova S does not have a potentiometer. The motion detectors are supplied with basic settings ready for operation. The specifications are guidance values. The service remote control „theSendaP” or the management remote control „SendoPro 868-A” are available as an option for start-up. They enable remote setting of all required settings.

### 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 Sendo-Pro 868-A	Can be changed Sendo-Pro 868-A	Can be changed the-Senda P
Brightness switching value Channel A light	Value range in lux	x	x	x
	Measurement off	x	x	
Brightness actual value channel A light	Value range in lux	x		



Parameter	Description	Can be queried Sendo-Pro 868-A	Can be changed Sendo-Pro 868-A	Can be changed the-Senda P
Lighting time delay	Value ranges in seconds and minutes		x	x
	Pulse		x	x
Presence time delay	Value ranges in seconds and minutes		x	x
Detection sensitivity (PIR)	Value range in levels		x	x
Group address channel A light	All / I / II / III		x	
LED display motion	Off / On		x	

The parameters are sent to the motion detector with the „SendoPro 868-A“ management remote control or with „theSenda P“ installation remote control via infra-red. Changed parameters are immediately applied and used by the detector.

With the „SendoPro 868-A“ management remote control, 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.

## Control commands via remote control

Control command	Description	Can be triggered SendoPro 868-A	Can be triggered the-Senda P
Teach-in channel A light	The currently measured brightness value will be accepted as the brightness switching value. Values outside the permitted range will automatically be set to the appropriate limit value.	x	x
Switch lights on/off	Lighting group can be switched on and off.	x	x
Presence test	On / Off	x	x
Restart	Restart detector	x	x
Factory regulations	Set all parameters and settings to factory setting.	x	



## Brightness switching value Channel A light

The brightness switching value defines the minimum desired brightness. The current prevailing



brightness is measured below the motion detector. If the prevailing brightness is below the switching value, the light switches on as soon as a presence is detected.

## Value range

<p>Lux values with "SendoPro 868-A" management remote control</p> <p>The "theSenda P" installation remote control offers the following values</p> <p>(The currently measured brightness value (Lux) can be adopted with the "SendoPro 868-A" management remote control, with the teach-in control command or with the "theSenda P" installation remote control via the teach-in button.)</p> <p>Values outside the permitted range will automatically be set to the appropriate limit value.</p>	<p>30 - 3000 Lux 30, 300, 500, 800 lux</p>
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<ul style="list-style-type: none"> <li>- Deactivating the brightness measurement (the brightness has no influence)</li> <li>- Channel A lighting always switches with presence/absence.</li> </ul> <p>"SendoPro 868-A" Management remote control, "theSenda P" installation remote control</p>	<p>Measure- ment off Button☀</p>
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## Time delay channel A light

### Value range

Adjustable values with "SendoPro 868-A" management remote control In the "theSenda P" installation remote control, the following values are available	10 s - 60 min 10 s, 30 s, 60 s, 2 min, 10 min, 20 min, 60 min
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Control for staircase light timer switch (0.5 s "on" / 10 s "off") "SendoPro 868-A" "theSenda P"	Pulse Button  1
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## Time delay channel H Presence

The presence channel switches on the basis of the presence (without brightness as a factor). The relay contact opens once the room is vacated after the set time delay expires.

### Value range

Adjustable values "SendoPro 868-A"	10 s ... 120 min.
Adjustable values "theSenda P"	10 s, 30 s, 60 s, 2 min, 10 min, 20 min, 120 min

## Detection sensitivity

The detector has 5 sensitivity increments. The basic setting is the middle level (3).

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

With the „SendoPro 868-A“ management remote control, levels 1 to 5 can be selected and sent to the detector.

With the „theSenda P“ installation remote control, the sensitivity can be reduced or increased by one level with every button press.



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

## Group address channel A light

This parameter is applied when using the „theSenda P“ user remote control.

A group address can be assigned to the channel A light.

The „SendoPro 868-A“ or „theSenda S“ can be used to program the group addresses in the detector.

## Group address value range

Adjustable values "SendoPro 868-A"	I, II , III , 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 switches on when motion is detected, otherwise switches off.	On

Adjustment possible only with „SendoPro 868-A“.

## Factory settings

The theMova P360-101 motion detector is supplied with the following parameter values:

Parameter	Value
Brightness switching value Channel A light	300 lux
Lighting time delay	10 min
Presence time delay	10 min
Detection sensitivity (PIR)	Stage 3
Group address channel A light	T
LED display motion	Off

## 9. Start-up

### Switching behaviour

Every time the power supply is switched on, the motion detector first runs through a start-up phase of 30 s, and then switches to normal operation. A LED displays the current status:

#### 1. Start-up phase (30 seconds)

- The red LED flashes every second, both switch contacts are closed (light and presence on).
- The detector does not react to remote control commands.
- When no one is present both contacts open after 30 seconds.

#### 2. Operation

The detector is ready for operation (LED off).

### Test detection area

The test mode detection area is used to test presence detection and wiring. Presence test mode can be activated with the „SendoPro 868-A“ management remote control and with the „theSenda P“ installation remote control.



## Setting test mode detection area with 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 and presence switch contacts close.
  - When no one is present the light switch contact opens after 10 seconds.
  - Brightness measurement deactivates, detector does not react to brightness.
  - Teach-in cannot be activated in test mode.
- Test mode ends automatically after 10 mins. The detector performs a new start (see switch-on behaviour).



## 10. Technical data

Operating voltage	230 V AC +- 10 %
Frequency	50 Hz
Upstream protection device:	13 A
Power consumption	approx. 0.5 W
Type of installation	Ceiling installation
Recommended installation height	2.0 – 4.0 m
Minimum height	> 1.7 m
Detection area    horizontal vertical	360° 120°



Maximum range	Ø 4 m (Mh. 3 m) / 13 m <sup>2</sup> radially moving Ø 8 m (Mh. 3 m) / 50 m <sup>2</sup> tangentially moving
Setting range brightness switching value	30 – 3000 Lux
Lighting time delay A light	10 s – 60 min / Pulse
Presence time delay	10 s – 120 min
Channel A light	Relay 230 V / 10 A, μ-contact
Max. switching capacity cos φ 1 resistive	2300 W 
Max. switching capacity cos φ 0.5	1150 VA   
Max. switching capacity LED	see manufacturer concerning cos φ
Guide values	< 2 W : 25 W / > 2 W : 70 W
Guidance value max. inrush current level	400 A / 200 μs
Maximum number EBs T5/T8	10 x 54/58 W, 16 x 35/36 W 5 x 2 x 54/58 W 8x 2x 35/36 W
Channel H, presence	Floating relay
Maximum voltage	220 V DC / 250 V AC
Maximum switching capacity	50 W / 50 VA (max. 2 A)
Recommended minimum load	0.5 mV / 10 mA
Connection type	Screwless terminals
Max. cable cross-section	max. 2.5 mm <sup>2</sup>
Protection rating: theMova S360- 101 DE Protection rating: theMova S360- 101 AP	IP 20 IP 40 in installed state IP 54

Ambient temperature	-15 °C to +50 °C
CE Declaration of Conformity	This device conforms to the safety regulations of the EMC directive 2004/108/EC and of NSR 2006/95/EC.

## Product overview

Type of installation	Channel	Operating voltage	Colour	Type	Item No.
Ceiling installation	Light   HVAC	230 V AC	White	theMova S360 -101 DE WH	1030565
Ceiling installation	Light   HVAC	230 V AC	Grey	theMova S360 -101 DE GR	1030566
Ceiling installation	Light   HVAC	230 V AC	Special colour in accordance with customer information	theMova S360 -101 DE SF	1030568
Ceiling installation	Light   HVAC	230 V AC	White	theMova S360 -101 AP WH	1030555
Ceiling installation	Light   HVAC	230 V AC	Grey	theMova S360 -101 AP GR	1030556





Ceiling installation	Light   HVAC	230 V AC	Special colour in accordance with customer information	theMova S360 -101 AP SF	1030558
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## Troubleshooting

Fault	Cause
Light does not switch on if presence is detected and in darkness	Lux value is set too low; light was switched off via theSenda S; person not within detection area; obstruction(s) interrupting detection; time delay set too short
Light does not switch off and/ or light switches on spontaneously when no one is present	Wait for time delay; Thermal sources of interference in the detection area: fan heaters, incandescent lamps/halogen spotlights, moving objects (e.g. curtains hanging in an open windows); Load (EBs, relays) not cleared
Error flashing (4 x per second)	Error in self-test; Device not properly functional!



## LED display

LED	Description
Blinking in 1 second cycle	The motion detector is in the start-up phase.
Flickering for 2 s	The command sent from the remote control via infrared was accepted by the motion detector.
Lights up briefly	The command sent from the remote control via infrared was rejected by the motion detector. The command is not valid. Check the detector type or parameter selected in the "SendoPro".
Fast blinking	Error blinking; The motion detector has found an error.
Lights or flickers irregularly	The motion detector is in detection area test mode or "LED display movement" is activated. The LED displays detection of movement.

## Guarantee

ThebenHTS motion detectors are manufactured with the utmost care and using state-of-the-art technology and are quality-tested. ThebenHTS AG therefore guarantees perfect operation when used correctly. Should a fault occur, however, ThebenHTS 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 or undertake repairs to the devices.
- that, insofar as the motion 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 place 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**

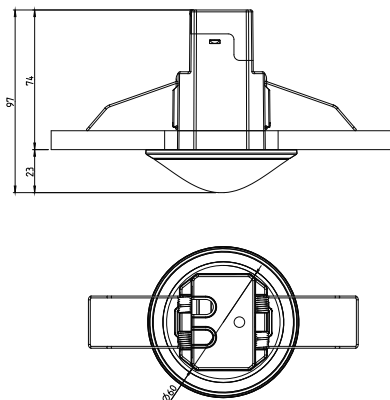
In the event of a guarantee claim, please return the device to the relevant dealer together with the delivery note and a brief description of the fault.

## **Industrial property rights**

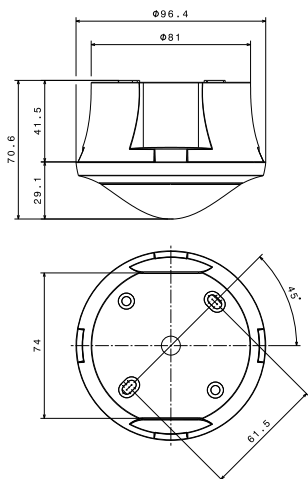
The design as well as hardware and software of these devices are protected by copyright.

## Dimensional drawings

### theMova S360-101 DE



### theMova S360-101 AP



## 11. Accessories

SendoPro 868-A

Item No: 9070675

Details > [www.theben.de](http://www.theben.de)



theSenda S

Item No: 9070911

Details > [www.theben.de](http://www.theben.de)



theSenda P

Item No: 9070910

Details > [www.theben.de](http://www.theben.de)



## 12. Contact

ThebenHTS 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](mailto:hotline@theben-hts.ch)

Addresses, telephone numbers etc.

[www.theben-hts.ch](http://www.theben-hts.ch)

## **All countries except Switzerland**

Theben AG

Hohenbergstraße 32

72401 Haigerloch

GERMANY

Phone: +49 7474/692-0

Fax: +49 7474/692-150

Hotline

Phone: +49 7474/ 692-369

hotline@theben.de

www.theben.de

