

## EN Motion detector/Daylight sensor

theMova S360-101 DE WH

1030565

theMova S360-101 FLAT DE WH

1030545

theMova S360-101 AP WH

1030555

theMova S360-101 AP GR

1030556

theMova S360-101 AP BK

1030557

theMova S360-101 AP SF

1030558



## 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>)
- Daylight sensor mode for brightness-dependent control of the lighting, switchable via app
- Mixed light measurement
- 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 (option)
- Service remote control theSendaP (option)
- App remote control theSenda B (option) and corresponding app theSenda Plug (iOS/Android)

## 2. Safety



Assembly and installation should only be carried out by a qualified electrician, somebody who has completed appropriate professional training and has the knowledge and experience necessary to be able to recognise and avoid the potential dangers posed by electricity.



Before installation/disassembly, disconnect the supply voltage and ensure that the parts are no longer live.



Prior to start-up and using the product, read and observe all the operating instructions.

## 3. Intended use

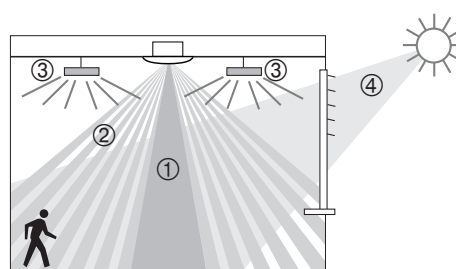
- The motion detector controls the lighting and HVAC depending on motion and brightness.
- It is designed for ceiling installation indoors, e.g. in corridors, staircases, basements, garages, etc.

## 4. Function

The motion detector is used for convenient and energy-efficient control of lighting and 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

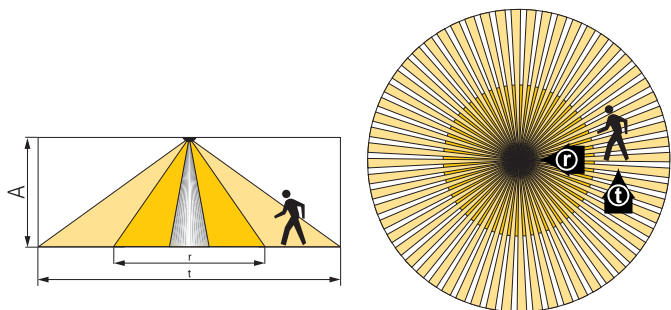
The time delay enables delayed switching off of HVAC devices and systems after the room is vacated. The time delay is adjustable in a range of 10 s to 120 min.

## 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 motion 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.

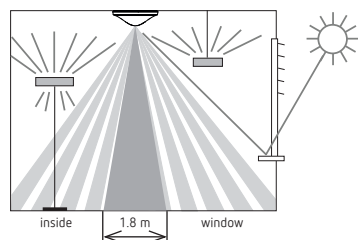


| Installation height (A) | Moving persons Frontal (r) | Moving persons Across (t) |
|-------------------------|----------------------------|---------------------------|
| 2.0 m                   | 5 m <sup>2</sup> Ø 2.5 m   | 38 m <sup>2</sup> Ø 7 m   |
| 2.5 m                   | 7 m <sup>2</sup> Ø 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   |

All figures are guidance values (detection areas according to sensNORM IEC 63180, see data sheet).

### Brightness measurement

The motion 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 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).



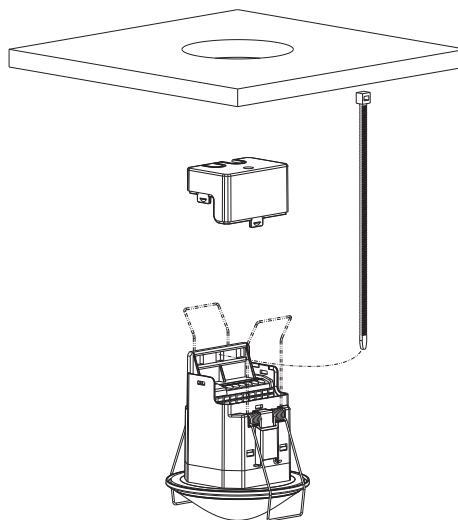
### Suitable lamps

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

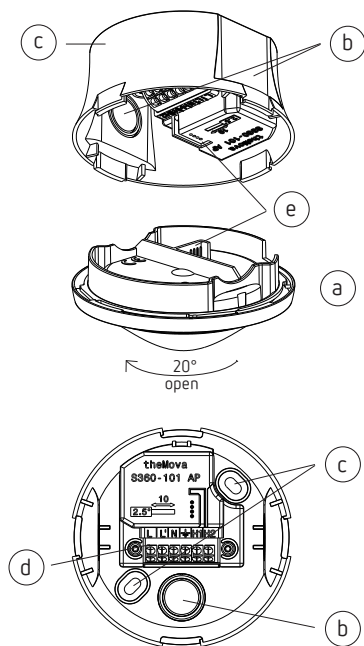
### Ceiling installation



ⓘ 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.

- 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).

## Surface mount on ceiling



- Rotate sensor assembly (a) approx. 20° anticlockwise until it clicks.
- Detach sensor assembly.
- Open knock-outs (b) as needed to feed wires through.
- Mount power assembly (c) on ceiling via the fixing holes (d).
- Connect wiring according to markings on push-in terminals; conductor cross-section 0.25 – 2.5 mm<sup>2</sup>.
- Attach sensor assembly, taking care to insert plug-in connector (e).

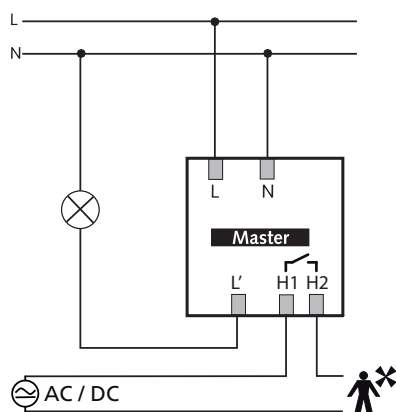
## 7. Connection

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. 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 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 868-A / theSenda B (app) | Can be changed by SendoPro 868-A / theSenda B (app)                 | Can be changed theSenda 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   |   |   |
| 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 increments and changeover to daylight sensor mode |   | x (without change-over to daylight sensor mode with SendoPro 868-A) | x (without change-over to daylight sensor mode) |
| Group address channel A light              | All / I / II / III   |   | x   |   |
| LED display motion                         | Off / On   |   | x   |   |

The parameters are sent to the motion detector via infra-red 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 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 by SendoPro 868-A/theSenda B (app) | Can be triggered theSenda P |
|--------------------------|--|---|-----------------------------|
| Teach-in channel A light | Activate   | 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

|   |                       |
|---|-----------------------|
| 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)<br>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 ⏏ |

## 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/theSenda B (app) | 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 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.

| Level | Sensitivity          |
|-------|----------------------|
| 1     | very insensitive     |
| 2     | insensitive          |
| 3     | Standard             |
| 4     | sensitive            |
| 5     | very sensitive       |
| 6     | Daylight sensor mode |

## Daylight sensor mode

With this setting, the detector does not switch the lighting depending on motion, but only depending on brightness. If the brightness is below the set brightness setpoint A, the lighting will be switched on. To prevent short brightness disturbances caused by clouds, glare from windows, etc. from switching on and off unnecessarily, the brightness must remain below the brightness setpoint A for a certain time. This time depends on the lighting conditions.

If the brightness exceeds the set brightness setpoint A with a defined hysteresis and remains above the brightness setpoint A + hysteresis for at least the set time delay, the lighting will be switched off. The time delay can be set from 2 – 60 min.

## Group address channel A light

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 (only with management remote control SendoPro 868-A/theSenda B (App))**

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

## 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).

### Presence test mode

The test mode detection area 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 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                | 360°   |
| Maximum range                            | ∅ 4 m (Mh. 3 m) / 13 m <sup>2</sup> radially moving<br>∅ 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        | 2300 W   |
| Max. switching capacity cos φ = 0.5      | 1150 VA  |
| Max. switching capacity LED              | < 2 W: 25 W / > 2 W: 250 W   |
| Guide values                             | (see manufacturer concerning cos φ)  |
| 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<br>5 x 2 x 54/58 W<br>8 x 2 x 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:                       | IP 20 (IP 54 installed)  |
| Ambient temperature                      | -15 °C to +50 °C   |
| CE Declaration of Conformity             | This device conforms to the safety regulations of the EMC directive 2014/30/EC and of directive 2014/35/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          | White  | theMova S360-101 FLAT DE WH | 1030545  |

|                      |              |          |  |                         |         |
|----------------------|--------------|----------|--|-------------------------|---------|
| 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 | Black  | theMova S360 -101 AP BK | 1030557 |
| Ceiling installation | Light   HVAC | 230 V AC | Special colour in accordance with customer information | theMova S360 -101 AP SF | 1030558 |

## 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;<br>Thermal sources of interference in the detection area: fan heaters, incandescent lamps/halogen spotlights, moving objects (e.g. curtains hanging in an open windows);<br>Load (EBs, relays) not cleared |
| Error flashing (4 x per second)   | Error in self-test;<br>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 selected detector type or parameters on the SendaPro or in the app. |
| 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.   |

## Cleaning and service

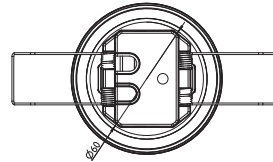
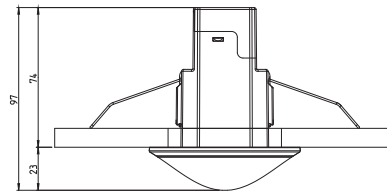
- Only use a dry, soft cloth to clean the device surface.
- Do not use any cleaning agents or solvents.

## Disposal

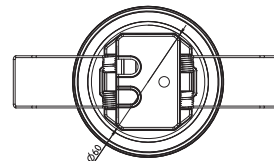
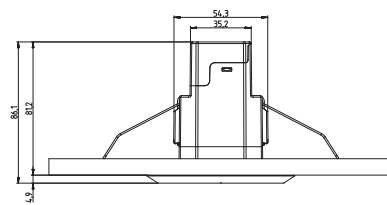
- Dispose of device in environmentally sound manner (electronic waste).

## 11. Dimensional drawings

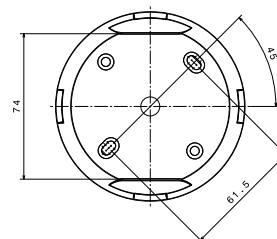
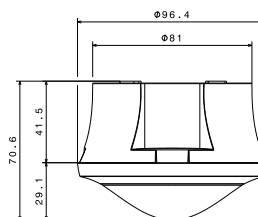
### theMova S360-101 DE



### theMova S360-101 FLAT DE WH



### theMova S360-101 AP



## 12. Accessories

### **theSenda B**

Item No.: 9070985

### **theSenda S**

Item No.:9070911

### **theSenda P**

Item No.: 9070910

### **Cover 85**

Bezel frame in grey or black for theMova DE

- Cover 85 GR: Item number: 9070594 (grey)
- Cover 85 BK: Item number: 9070852 (black)

### **Cover FLAT 85**

Bezel frame in grey or black for theMova S60 FLAT DE WH

- Cover FLAT 85 GR: Item number: 9070597 (grey)
- Cover FLAT 85 BK: Item number: 9070853 (black)

## 13. Contact

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