

EN Motion detector

theMova S360 KNX DE WH
1039560

theMova S360 KNX DE GR
1039561

theMova S360 KNX AP WH
1039550

theMova S360 KNX AP GR
1039551



1. Product characteristics

- Passive infra-red motion detector for ceiling installation
- Circular detection area 360°, up to Ø 9 m (64 m²)
- Automatic motion and brightness-dependent control for lighting and HVAC
- Mixed light measurement suitable for fluorescent (FL/PL/ESL), halogen/incandescent lamps and LEDs
- 1 Light channel C1
- Switching operation
- Choice of fully or semi-automatic
- Brightness switching value can be set in lux by using parameters, the object or via remote control
- Teach-in of the brightness switching value
- Reduction of time delay when present briefly (short-term presence)
- Manual override by telegram or remote control
- 1 Separate presence channel C4
- Switch-on delay for presence and time delay for light and presence configurable
- Adjustable sensitivity
- Test mode for checking function and detection area
- Parallel switching of several motion detectors (Master/Slave or Master/Master)
- Installation in false ceilings with springs, type DE
- Ceiling installation surface mounted, type AP
- User remote control "theSenda S" (option)
- Management remote control "SendoPro" (option)
- Installation remote control "theSenda P" (option)

2. Safety



Make yourself familiar with the motion detector, prior to installation and start-up. To do so, read the operating manual and the "KNX manual theMova".

- 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!

- The device is maintenance-free. If the device is opened or penetrated with any object, the guarantee lapses.

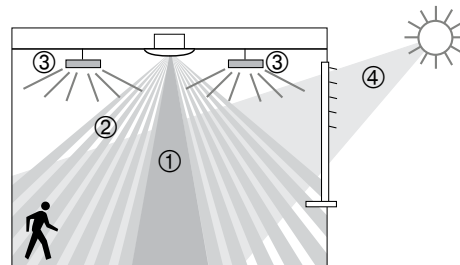
3. Proper use

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, staircases, toilets, basements and garages for the convenient and energy-efficient control of lighting and HVAC. The lighting is accordingly influenced by switching.

Function



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

Light channel C1

The motion detector detects people present based on movements. 1 light sensor simultaneously measures the brightness in the room and can thus switch on the lighting, depending on the daylight. The light output can be dynamically faded up and down by the integrator. The brightness switching value can be set via parameters, object or the management remote control.

Switching

The lighting is switched on during presence and insufficient brightness, and off during absence. Manual switching can be performed with a push button. Manual switching off stops the control for the duration of the presence.

Time delay

The minimum time delay can be set for the light channel 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 will be switched off prematurely after 2 minutes (short-term presence).

Push button control

The lighting can be switched manually at any time via a push button. If the light is switched on manually, the light will remain on as long as people are present, and will be switched off after the set time delay. 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 of the motion detector is either fully automatic for increased comfort, or semi-automatic for greater energy savings. In "fully automatic device" the lighting is switched on and off automatically. In "semi-automatic", the lighting must always be switched on manually. The lighting is switched off automatically.

Presence channel C4

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

Switch-on delay

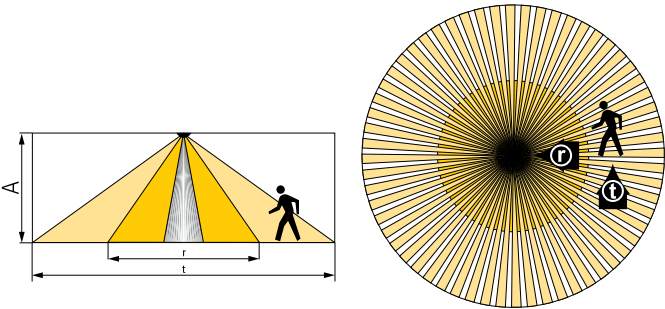
The switch-on delay prevents instantaneous switching on. The telegram is sent only on expiry of the switch-on delay, provided that people are present at this time.

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 theMova 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 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 motion detector also increases. The detection range is reduced as the temperature increases.

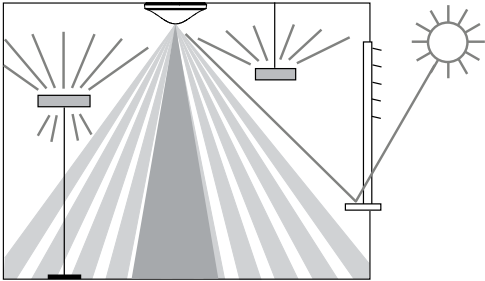


Installation height (A)	moving persons Frontal (r)		moving persons Across (t)	
2.0 m	5 m²	Ø 2.5 m	38 m²	Ø 7 m
2.5 m	7 m²	Ø 3 m	38 m²	Ø 7 m
3.0 m	13 m²	Ø 4 m	50 m²	Ø 8 m
3.5 m	13 m²	Ø 4 m	50 m²	Ø 8 m
4.0 m	13 m²	Ø 4 m	64 m²	Ø 9 m

All figures are guidance values.

Brightness measurement

The motion detector measures the surrounding brightness below the detector at an opening angle of approx. 120°. The installation location is the reference point for the lighting level. The light measurement is switched off when the light channel C1 is switched on. If the brightness measurement is deactivated, light channel C1 only switches depending on the presence (brightness switching value set to "measurement off" via the remote control).



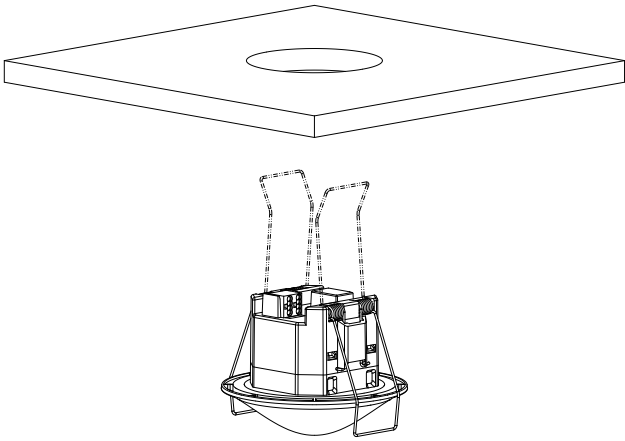
Direct light influences the light measurement. The placement of floor lamps or suspended lighting directly below the detector is to be avoided.

Suitable lamps

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

6. Installation

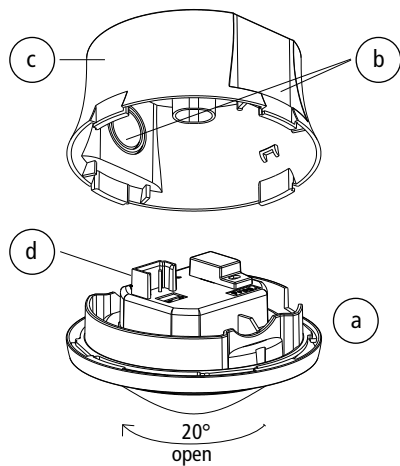
Ceiling installation



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.

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.

Ceiling installation - surface mounted



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). Also, the enclosed sticker «IP54» has to be applied to the outside.

7. Start-up

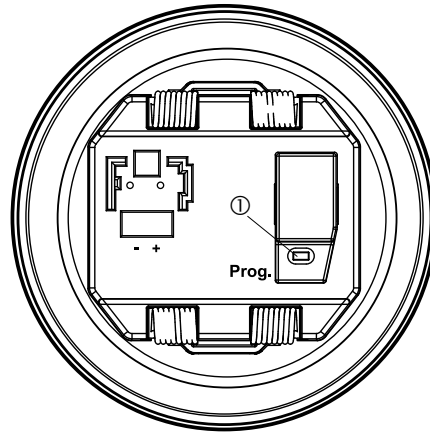
1. Settings

All settings are made via ETS. See document "KNX manual theMova" (application description).
The "SendoPro 868-A" management remote control or the installation remote control "theSenda P" are optionally available for start-up support. The "SendoPro 868-A" can be used to query, adjust and optimise the parameters. 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

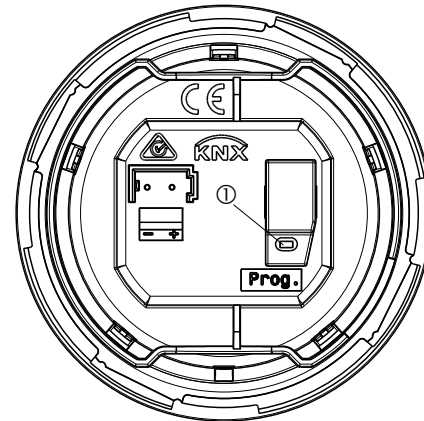
The programming mode can be activated using the programming button on the back of the motion detector or, without dismounting the motion detector, via the "SendoPro 868-A" management remote control or "theSenda P" installation remote control.

theMova S360 KNX DE



① Programming mode button

theMova S360 KNX AP



① Programming mode button

3. Setting the device to the factory setting

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

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

4. Operation mode

The theMova S360 KNX knows 2 operating modes

- Normal
- Test presence

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 at one second intervals.
- The light output sends an ON telegram, independent of the brightness
- 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 SendoPro	Can be changed SendoPro	Can be changed the-Senda P
Brightness switching value C1	Value range in lux	x	x	x
Alternative brightness switching value C1	Value range in lux	x	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 increments		x	x

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

9. Alterable parameters via remote control

1. Adjustment with the remote control

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.

LED description

Flickering for 2 s

After activating the send function on the management remote control or pressing the corresponding push button on the theSenda P, the motion 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 motion detector. The command is not valid. Check selected detector type and sent parameters with management remote control.

2. Brightness switching value of light channel C1

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

Value range

- Lux values with "SendoPro 868-A" management remote control: 30-3000 lux
- In the "theSenda P" installation remote control, the following values are available: 300, 500, 800 lux (The values 5, 10, and 15 are set to the limit of 30 lux.)
- The currently measured brightness value (lux) can be adopted with the "SendoPro 868-A" management remote control by using the teach-in control command, or with the "theSenda P" installation remote control via the teach-in button. Values outside the permitted range will automatically be set to the appropriate limit value.

- Deactivating the brightness measurement (the brightness has no influence)	
- The light channel only switches depending on presence/absence.	
Possible with "SendoPro 868-A" management remote control or "theSenda P" installation remote control.	Measurement off Button 

3. Alternative brightness switching value of light channel C1

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

Value range

cf. 2. Brightness switching value of light channel C1

4. Lighting time delay

Value range

Adjustable values with "SendoPro 868-A" management remote control	30 s - 60 min.
In the "theSenda P" installation remote control, the following values are available	30 s, 60 s, 2 min., 10 min., 20 min., 60 min.

5. Detection sensitivity

The detector has 5 sensitivity increments. The basic setting is the middle increment (3). By selecting the test presence operation mode, the set sensitivity increment is not changed. With the "SendoPro 868-A" management remote control, increments 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 increment with every button press.

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

10. Control commands via remote control

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

Control command	Description	Can be triggered SendoPro	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
Restart	Restart detector	x	x

Teach-in

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

Test mode

The theMova S360 KNX has one test mode.

- Presence test

1. Presence test

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

Activation	Control command presence test "On" with management remote control "SendoPro 868-A" or installation remote control "theSenda P" button (Test). ON telegram via bus object (51). The presence test can be activated anytime.
End	With subsequent restart: Control command presence test «Off» via "SendoPro 868-A" management remote control, or with «theSenda P» button (Reset). OFF telegram via bus object (51) Mains failure and thus power up Automatically according to the time set in the ETS.
Indication of LED status of the light channel	Description
On	In the event of movement, the LED is on, and channel C1 switches on.
Off	After the movement stops, the LED is off, and channel C1 switches off 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 device, even if semi-automatic device is set.
- Light "On" during motion; light "Off" during absence
- Light channel C1 has a fixed time delay of 10 s.
- The presence channel reacts 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 P" installation remote control:

- Ending the presence 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 motion detector performs a restart after the end of the test mode.

Troubleshooting

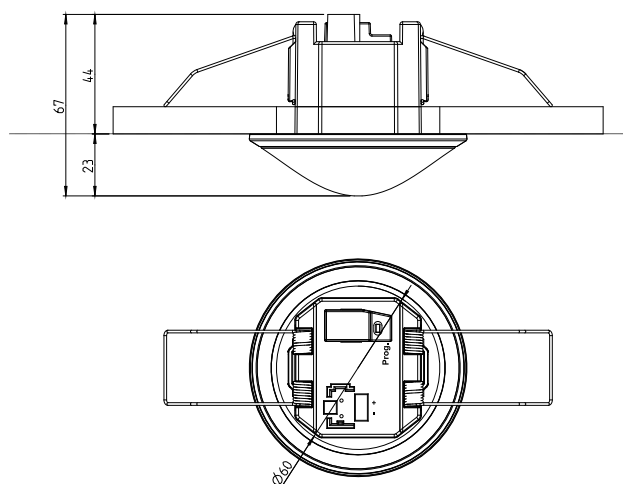
Fault	Potential cause
Light does not switch on or switches off during presence	Lux value is set too low; detector set on semi-automatic; light was switched off manually via push button or with remote control; person not within detection area; obstruction(s) interrupting detection; time delay set too short.
Light does not switch off or light switches on spontaneously during absence	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 window).
Error flashing (3 x per second)	Error in self-test; Invalid parameter values in the detector (see KNX manual theMova S360 KNX Chapter 2.4.2 Settings, parameter settings with download). Device not properly functional!

LED display

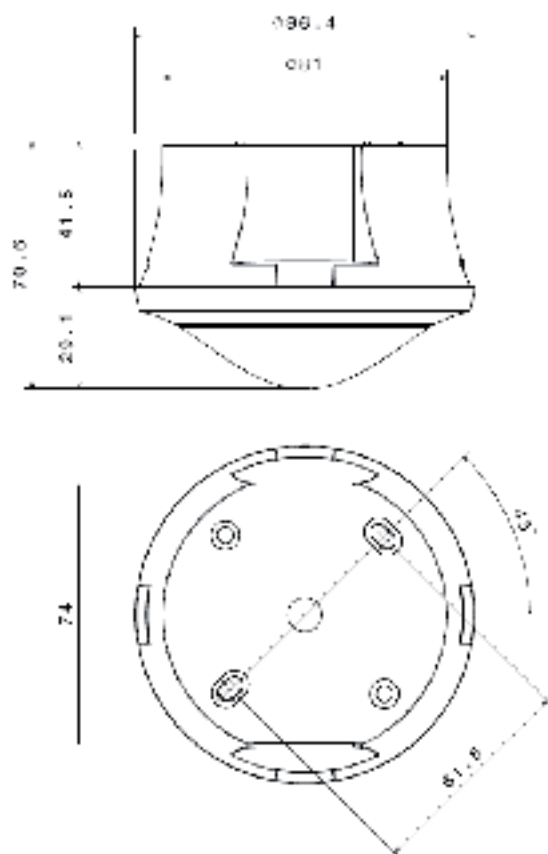
LED	Description
Flashing at one second intervals	The motion detector is in the start-up phase.
Flickering for 2 s	The command sent from the remote control via infrared was accepted by the motion detector.
Lighting up briefly	The command sent from the remote control via infrared was rejected by the motion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

Dimensions diagrams

theMova S360 KNX DE



theMova S360 KNX AP



11. Technical data

Operating voltage	Bus voltage KNX, max. 30 V
Power consumption	approx. 8 mA / 9 mA with LED on
Type of installation	Ceiling installation
Recommended installation height	2.0 – 4.0 m
Minimum height	> 1.7 m
Detection area	
horizontal	360°
vertical	120°
Maximum range	Ø 4 m (Mh. 3 m) / 13 m ² radially moving Ø 8 m (Mh. 3 m) / 50 m ² tangentially moving

Setting range brightness switching value	approx. 30 – 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
All settings are remotely configurable	see KNX manual
Connection type	Plug-in terminals, type WAGO 243
Protection rating theMova S360 KNX DE:	IP 20, IP 40 when installed
Protection rating theMova S360 KNX AP:	IP 54
Ambient temperature	-15 °C – +50 °C
CE Declaration of Conformity	This device conforms to the safety regulations of the EMC Directive 2004/108/EC
RCM compliance	This device is compliant with the ACMA guidelines

Product overview

Type of installation	Channel	Colour	Type	Item number
Ceiling installation	1 Light 1 HVAC	White	theMova S360 KNX DE WH	1039560
Ceiling installation	1 Light 1 HVAC	Grey	theMova S360 KNX DE GR	1039561
Ceiling installation	1 Light 1 HVAC	Special colour in accordance with customer information	theMova S360 KNX DE SF	1039563
Ceiling installation	1 Light 1 HVAC	White	theMova S360 KNX AP WH	1039550
Ceiling installation	1 Light 1 HVAC	Grey	theMova S360 KNX AP GR	1039551
Ceiling installation	1 Light 1 HVAC	Special colour in accordance with customer information	theMova S360 KNX AP SF	1039553

Guarantee

ThebenHTS motion detectors are manufactured with the utmost care and 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 or undertake repairs to the devices.
- that, insofar as the motion detector is 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.

All countries except Switzerland

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12. Accessories

SendoPro 868-A

Item No.: 9070675

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



theSenda S

Item No.: 9070911

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



theSenda P

Item No.: 9070910

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



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