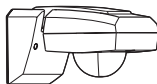


# theben

309 397 01

**Motion detector**

**SPHINX 105-300 KNX 105 9 203**



## 1. Designated use

- The SPHINX 105-300 KNX is a motion detector for the automatic control of outdoor lighting; the motion detector is not suitable for security applications (e.g. monitoring and alarms)
- Easy to install on walls, ceilings or on external corners of buildings
- Designed for use in various locations such as corridors, gardens, staircases, entrances, garages, car parks etc.
- Can also be operated using SPHINX RC 105 Pro (907 0 537) and SPHINX RC 105 (907 0 539) remote controls

## 2. Basic safety instructions



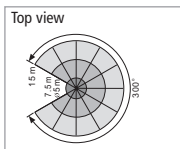
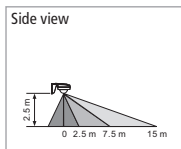
Please note the provisions of EN 50428 for switches or similar installation material for use in building systems technology with regard to the correct installation of bus lines and start-up procedure.

- High-frequency electromagnetic fields above 1 GHz (e.g. from mobile phones) can cause temporary faults.
- Designed to be used under normal ambient conditions
- For installation outdoors

### 3. Installation

#### Detection range

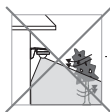
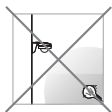
An installation height of 2.5 m is recommended; the detection range is up to 15 m at this height.



#### Installation tips

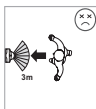
Avoid the following situations:

- Do not direct motion detectors at objects with highly-reflective surfaces such as mirrors, monitors etc.
- Do not install motion detectors near heat sources such as heating outlets, air conditioning systems, lamps etc.
- Do not direct the motion detector at objects that turn in the wind such as curtains, large plants etc.
- Take account of direction of motion when carrying out test. At an installation height of 2.5 m, the detection range covered by the motion detector is up to 15 m across and up to 3 m to the front.



reacts more sensitively  
to movements across the  
detection area

less sensitive to movements directly  
in front of the motion detector

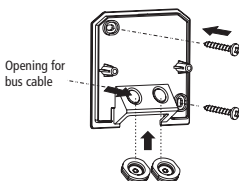


## Installation

The SPHINX 105-300 KNX can be mounted on ceilings and walls as well as on internal or external corners using a corner installation bracket (907 0 535).

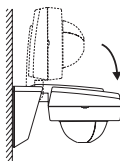
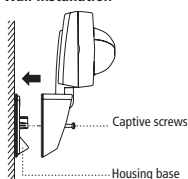
### Wall installation, ceiling installation

- Remove housing base from motion detector.
- Feed the bus cable through the rubber seal and secure the base to the wall or ceiling with two screws.

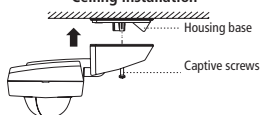


- Turn the detector head upwards and secure the base with two screws.
- Turn the detector head back (only when installed on wall).

### Wall installation



### Ceiling installation



## Installation on internal or external corners using corner installation bracket

The eight openings enable a range of applications.

- Select suitable position.
- Feed the bus cable through the cable guide using the desired opening. Secure the holder with two wood screws ( $\varnothing 4 \times 25.4$  mm) to external or internal corner.

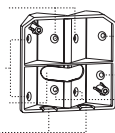
### Corner installation bracket

Screw hole

Screw hole

Cable guide

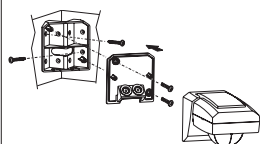
Cable opening



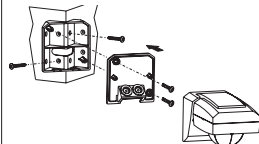
Screw hole for securing to internal corners

Screw hole for securing to external corners

### Internal corner installation



### External corner installation

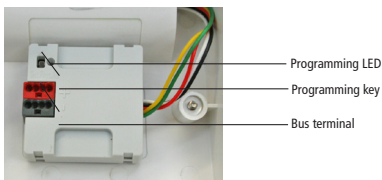


## 4. Bus connection

- Connect bus cable to the bus line (red + / black -).
- Attach bus terminal.

### Physical address

- Program physical address.



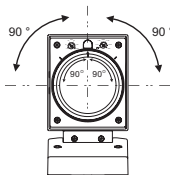
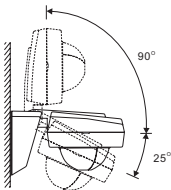
- Press programming key.  
The programming LED lights up.

The device is in programming mode.

Start-up, diagnostics and configuration are handled by the ETS software.

### Align motion detector

- The motion detector can be adjusted 90° upwards, 25° downwards.



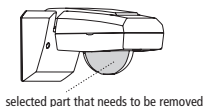
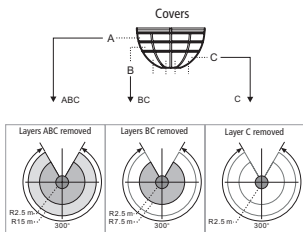
- The head of the motion detector can be adjusted by up to 90° on each side.

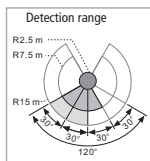
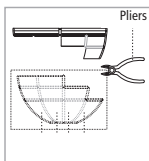
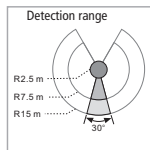
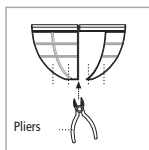
## Adjust detection range

SPHINX has 3 screens each with three layers (A, B, C). Each layer is divided into four small sections (I, II, III, IV) with each section covering an angle of 30°.

- Remove layers A+B+C: The detection range covers approximately 15 m in fan shape.
- Remove layers B+C: The detection range covers approximately 7.5 m in fan shape.
- Remove layer C: The detection range covers approximately Ø 5 m (circular).

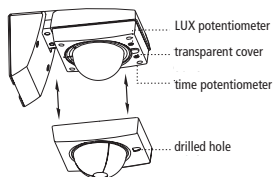
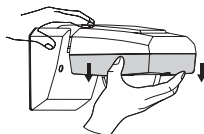
The individual cover can be removed using pliers to adjust to the desired detection range.



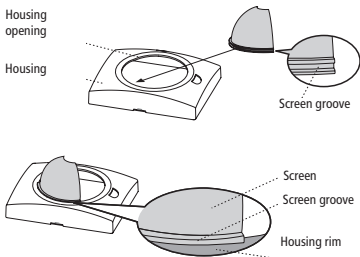


## Removing and resealing housing

- Remove the housing until the potentiometers for time (TIME) and brightness (LUX) become visible.
- Resecure frame by aligning the drilled hole with the position of the transparent cover.



- Secure cover: Remove the housing and attach the relevant screens in the housing.
- Reattach housing.

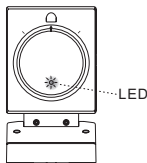


The red LED lights up for approx. 40 secs after bus reset.

### With ETS setting

#### Setting of switch-off delay on device

=> both channels transmit ON  
(approx. 1 min) – independent of  
potentiometer setting for TIME  
and LUX



### via ETS

=> both channels switch ON independent of movement/brightness.  
The switch-on period is parameter dependent (min/s). Brightness  
is transmitted.

The start-up phase lasts for approx. 60 s; the direction test can then  
be performed.

## 7. Perform direction test

The direction test serves to identify the appropriate installation site  
for the best possible detection range.

- Set the time (TIME) potentiometer to TEST. The detector moves to  
test mode.



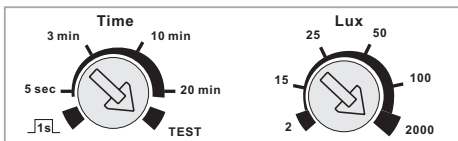
When the device is triggered, both channels transmit ON and the LED lights up for 2 secs (no brightness level is transmitted).

- Walk across detection area from outside.
- Adjust the head of the motion detector to alter the detection direction.
- Detection area and angle can be changed by adjusting the screens (see below).
- Repeat following steps until the requirements have been met.
- Note direction of motion during the test.
- Adjust the time (TIME) potentiometer to amend switch-off delay time.



## 8. Setting potentiometer

- Remove housing.



### With ETS setting

#### Setting of switch-off delay on device

##### Set time (TIME) potentiometer

6 setting options: 5 s/3 min/10 min/20 min and TEST (2 s)

+ 1

##### Set brightness (LUX) potentiometer

6 setting options: 2/15/25/50/100/2000 Lux

**Note:** The following conditions may lead to reduced sensitivity:

- due to moisture (with fog) that collects on the lens
- in hot weather as the device finds it difficult to differentiate between the high ambient temperature and body temperature.
- in very cold weather when the body emits little heat which the device is less responsive to.
- Cleaning – only use dry and clean cloths.  
Soap or rough cloths can damage the motion detector.

## 9. Technical data

Operating voltage:	Bus voltage
Power supply:	<10 mA
Brightness range:	0–650 Lux, with calibration factor 0–5200 Lux
Detection angle:	up to 300°
Detection range:	at a height of 2.5 m: external fan shaped cover: of 2.5 m to 15 m, inner circular cover: Ø 5 m
Brightness setting range:	6 Setting options: 2/15/25/50/100/ 2000 lux
Power-on time range:	6 setting options: 5 s/3 min/10 min/ 20 min and TEST (2 s) + 1 $\frac{1}{15}$ s
Protection class:	III in accordance with EN 60730-1 for des- ignated installation
Protection rating:	IP 55 in accordance with EN 60529
Permissible ambient temperature:	–25 °C to 55 °C

The ETS database is available at **[www.theben.de](http://www.theben.de)**  
Please refer to the KNX handbook for detailed functional  
descriptions.

### **Theben AG**

Hohenbergstr. 32  
72401 Haigerloch  
GERMANY

Phone +49 (0) 74 74 6 92 0  
Fax +49 (0) 74 74/6 92-150

### **Hotline**

Phone +49 (0) 74 74 6 92 -369  
Fax +49 (0) 74 74/6 92-207  
[hotline@theben.de](mailto:hotline@theben.de)

**Addresses, telephone numbers etc.**  
**[www.theben.de](http://www.theben.de)**