

Presence detector

compact office 24V compact office 24V Lux

Art. Nr. 201 4 000

Art. Nr. 201 4 001



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Presence detector**compact office 24V****compact office 24V Lux**

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Thank you for purchasing an Theben HTS presence detector and putting your trust in us.

1. Safety

Familiarise yourself with the compact office 24V (Lux) before assembly and start-up by reading this operating instructions.

IMPORTANT!

The unit requires no maintenance. Opening the unit or inserting foreign bodies into it will invalidate the warranty.

Proper use

The presence detector serves exclusively for the purpose contractually agreed between the manufacturer and the user. Any other use is regarded as improper. The manufacturer is not responsible for any resulting damage.

2. Function and performance characteristics

The presence detector compact office 24V (Lux) detects persons within a room on account of slightest movements. Simultaneously, its light sensor measures the brightness in the room and compares it to the preset brightness threshold. Two relays (compact office 24V) or one relay (compact office 24V Lux) serve as switching outputs.

The presence detector compact office 24V (Lux) is used preferably in offices, small passageways and ancillary rooms. A mechanical safety lock protects the detector against unauthorised removal.

The **switching contact A «Light»** switches on the lighting in case of presence **and** insufficient brightness, and off in case of absence **or** sufficient brightness.

- Switching contact «Light»: potential-free relay
- Adjustable brightness threshold and switch-off delay
- Suitable for fluorescent and compact energy saving lamps as well as for halogen and incandescent lamps
- Pulse function for staircase lighting timer
- SendoPro 868-A management remote control (optionally)

The **switching contact B «Presence» (compact office 24V only)** controls heating, ventilation and air-conditioning systems. The contact closes in case of presence, a switch-on delay allows a delayed switching on.

The contact can also be used for room surveillance purposes. Using reduced sensitivity, it only responds on very distinct movements.

- Switching contact «Presence»: potential-free relay
- Adjustable switch-on delay and switch-off delay
- Surveillance function

The **analog output 0-10V (compact office 24V Lux only)** provides the brightness measured by the detector's light sensor as an analog signal. The output can be used like a light sensor and functions independently from the presence detector.

- Analog output 0-10V
- Linear or logarithmic output of brightness

3. Fitting and connection

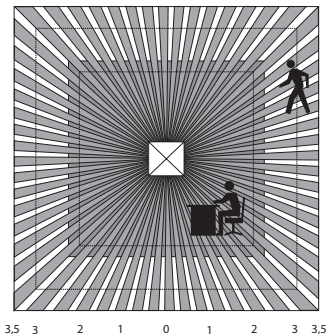
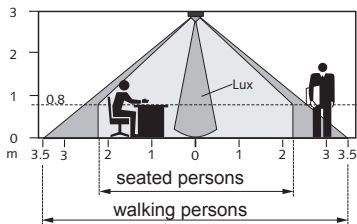
3.1 Presence detection

The ideal mounting height is 2,0 - 3,0m.

The sensitivity of the detector decreases with increasing mounting height. In order to ensure proper detection of persons, the detector requires an unobstructed "view" of the persons. Office equipment, plants, suspended lamps etc. may affect the presence detection (shading).

M'height	Seated persons		Walking persons	
2,0m	9 m ²	3,0m x 3,0m	20 m ²	4,5m x 4,5m ± 0,5m
2,5m	16 m ²	4,0m x 4,0m	36 m ²	6,0m x 6,0m ± 0,5m
3,0m	20 m ²	4,5m x 4,5m	49 m ²	7,0m x 7,0m ± 1,0m
3,5m	---	---	64 m ²	8,0m x 8,0m ± 1,0m

Detection range (mounting height 3,0m)

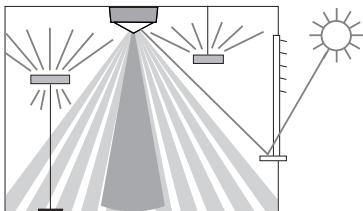


3.2 Light measurement

The detector measures artificial light and daylight reflected directly beneath the detector (beam width approx. $\pm 30^\circ$).

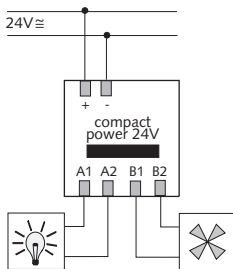
The mounting location is used as the reference for the lighting levels.

With indirect lighting, the artificial light at the detector's mounting location should not exceed 2000 Lux (Brightness value > 2000 Lux).

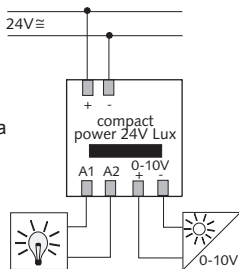


3.3 Connection

A concealed housing should be used for flush-mounted fitting of the presence detector. A surface frame is available for surface mounting.



See the technical data



4. Start-up

The detectors are supplied ready for operation with a factory setting of recommended standard values. The SendoPro 868-A management-remote control for starting-up the system is optionally available. With the remote control all potentiometer values can be set from a distance.

4.1 Settings for switching contact A «Light»

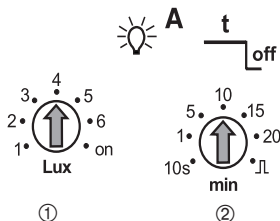
Potentiometer

① **Brightness threshold “LUX”**


- | | Scale |
|--|-----------|
| • Transfer zones (no working area) | approx. 2 |
| • Working areas (office, conference room) | approx. 4 |
| • Activities requiring good visibility (laboratory, drawing, etc.) | > 5 |
| • Deactivation of brightness measurement | «on» |

Depending on the installation location, natural light intensity, furniture, reflection characteristics of the room and the furniture it may be necessary to correct the settings by 1-2 steps on the scale.

For ease of setting up, we recommend the management remote control SendoPro 868-A.









② Switch-off delay time

- Transfer areas approx. 5min.
- Working areas approx. 10min.
- In the range between 2 - 15min the switch-off delay varies according to its self-learning behavior. The set values <2min or >15min remain fixed.
-  «Pulse»: staircase lighting timer control (0.5sec. "on" / 10sec. "off")

DIP switch

③ Light measurement: adaptive or fixed hysteresis

-   auto : the light measurement is in adaptive mode.
-   fix : if the lighting is continuously overridden by a superordinate logic, the adaptive mode can be deactivated.

  auto
0-10V lin

  fix
0-10V log



4.2 Settings for analog output 0-10V (compact office 24V Lux only)

④ Linear or logarithmic output of brightness

- „0-10V lin“: linear output of brightness
- „0-10V log“: logarithmic output of brightness; improved resolution at low lux values

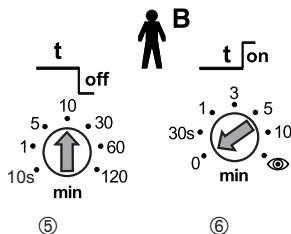
4.3 Settings for switching output B «Presence» (compact office 24V only)

⑤ Switch-off delay time for presence

- The pre-set values remain unchanged (no self-learning effect).

⑥ Switch-on delay time for presence

- In case of presence, the contact does not close before the set switch-on delay has elapsed.
- 0 = Contact closes immediately in case of presence.
- 👁 Room surveillance function; the contact closes only in case of distinct movements (effective protection against false alarms).



4.4 Behaviour on switching on

Whenever the sensor module is plugged onto the power module or the unit is energised, the detector goes through three phases which are indicated by an LED.

1. Start-up phase (30sec)

- LED flashes every second, both contacts are closed (light and presence on)
- In case of absence, both contacts open after 30sec.

2. Service phase (10min)

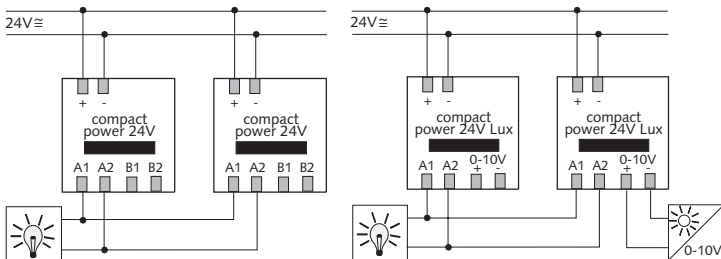
- The “Light” contact reacts instantaneously on brightness in order to check the brightness threshold.
- If the brightness is insufficient the lighting is switched on (LED on), and if the brightness is sufficient the lighting is switched off (LED off).

3. Operation

- The detector is ready for operation (LED off).

5. Parallel circuit operation

- The relay outputs of a number of detectors can be connected in parallel circuit operation. This enables coverage of large and irregularly shaped rooms such as corridors, underground parkings e.g.
- A parallel connection of 0-10V analogue outputs is not permissible.
- The total permissible load does not increase.
- Presence detection and brightness measurement by all detectors together.
- The brightness threshold value and switch-off delay time must be adjusted individually for each detector.



See the technical data

6. Test Operation

The test mode serves to check the presence detection and the wiring.



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6.1 Setting the test mode with DIP-Switch

- Set DIP switch to «Test».

1. Start-up phase (30sec)

- Both contacts are closed for 30sec. (LED 20s «on», 10s «off»)


2. Test mode

- In case of movement (LED on), both contacts close.
- In case of absence (LED off), both contacts open after 10sec.
- NOTE: no brightness measurement.
- The detector remains permanently in the test mode.

6.2 Setting the test mode with SendoPro 868-A

- While setting the test mode with the management remote control SendoPro 868-A, the detector jumps the start-up phase and changes directly into the test mode.
- Test mode ceases automatically after 10 minutes. The detector performs a reset (see section 4.3).

7. Technical specifications

Sensor module		compact office 24V
Detection range:	horizontal	360°
Recommended mounting height (Mh)		2,0 - 3,0m / max. 3.5m
Maximum range		6 x 6 m (Mh. 2.5m) 8 x 8 m (Mh 3.5m)
Mixed light control Light measurement deactivated		ca. 10 - 1500Lux „on“
Switch off delay for light Short pulse		10sec. - 20min. 0.5sec. „on“/ 10sec. „off“
Switch off delay for presence		10sec. - 120min.
Switch on delay for presence Room surveillance		0sec. - 10min. 
Power modules		compact power 24V compact power 24V Lux
Nominal voltage		24V AC/DC ± 20%
Relay output A1, A2 for „light“		Relais, potential free
Type of contact potential-free micro-contact		24V ≅ AC/DC ±20%
Switching capacity:	minimal maximal	1V / 1mA *) 50W / 460VA

*) A load of more than 60V or 100mA on the switching contact (max. 1.5W) changes its characteristics permanently; the minimum load specification of 1V/1mA can no longer be guaranteed.

Relay output B1, B2 for „presence“ (compact power 24V only)		Relay potential-free
Type of contact potential-free micro-contact		24V \cong 2A μ , 230V~2A μ
Switching capacity:		
minimum		1V / 1mA *)
maximum		50W / 460VA
Analog output 0-10V (compact power 24V Lux only)		0-10V
Output voltage		0-10V DC
Load resistor		> 10k Ω
Mixed light measurement		
linear		approx. 10 - 1500 Lux
logarithmic		approx. 10 - 5000 Lux
Depth		40mm
Diameter		48mm
Mounting plate		70 x 70mm
Screw terminals		max. 2x 2.5mm ²
Size of concealed housing (for flush-mounting)		Dim. 1, (NIS, PMI)
Ambient temperature		0° - 50°C
Degree of protection		IP 20 (installed IP 40)
Article numbers		
compact office 24V		201 4 000
compact office 24V Lux		201 4 001
Surface frame for compact		907 0 514
Management remote control SendoPro 868-A		907 0 675

8. Warranty declaration

Theben HTS presence detectors are manufactured and quality-tested with the utmost care using state-of-the-art technologies. Theben HTS therefore guarantees perfect function, provided the detectors are used as intended. However, should a defect occur, Theben HTS offers the following warranty within the scope of its General Terms and Conditions of Business:

Please bear in mind the following points:

- The warranty period is 24 months, commencing from the manufacturing date.
- The warranty becomes null and void if you or third parties undertake alterations to the units.
- If the presence detector is connected to a software-controlled system, the warranty for this connection is only valid provided the stated interface specification is adhered to.

We undertake to repair or replace as quickly as possible all supplied components which have become defective or unusable as a result of demonstrably bad material, faulty design or defective workmanship up to the expiry of the warranty period.

Returns

In the event of a warranty claim please send the unit together with the delivery note and a brief description of the fault to the dealer concerned.

Industrial property rights

The concept including hardware and software of these units is protected by copyright.

9. Troubleshooting

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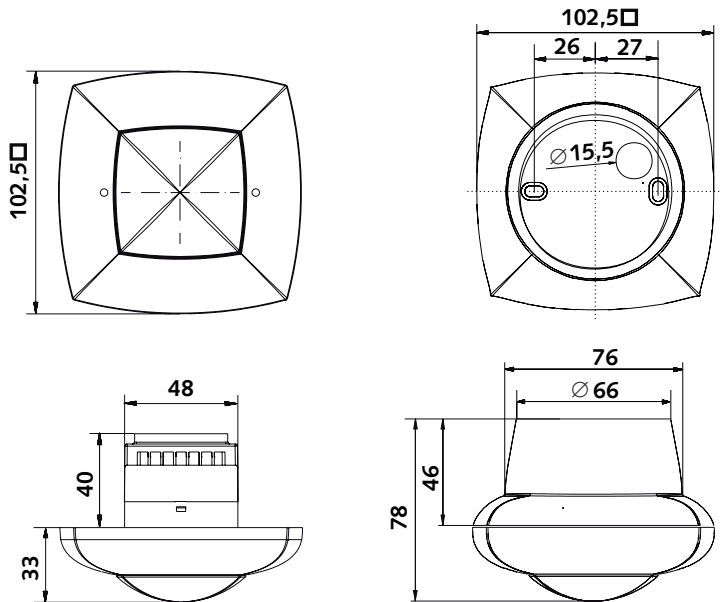
Fault	Cause
Lighting does not switch on or switches off in case of presence and darkness	Lux value setting is too low; Lighting was switched off manually with clic; Person is outside the detection range; Detection is disturbed by obstacles; Set switch-off delay setting is too short
With persons present, the lighting is on although the brightness is sufficient	Lux value setting is too high; The lighting has been switched on manually with clic recently (wait for 30 min); Detector is in test mode
Lighting does not switch off or switches on spontaneously in case of absence	Wait until the switch-off delay time has elapsed (self-learning effect); Disturbing heat sources within the detection range (heaters, incandescent lamp/ halogen lamp, moving objects (e.g. curtains due to open windows)
Lighting keeps switching on and off during the service phase	Too much artificial light is falling on the detector, increase lux value. Set DIP switch to „fix“ or reposition the detector.
Error blinking (4x per second)	Failure during self test; Device not working!

CE Declaration of Conformity



It conforms to the EMC Directive 2014/30/EU and Directive 2014/35/EU

Dimensions compact office 24V, compact office 24V Lux



Subject to change without prior notice. Errors and omissions excepted.

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