Presence detector

PlanoCentro 101-A-230V

PlanoCentro 101-E . .

PlanoCentro 101-U . .

Art. Nr.
203 0 . . .

thebenHTS

English　　　　**Operating Manual**

Presence detector

PlanoCentro 101-A-230V
PlanoCentro 101-E . .
PlanoCentro 101-U . .

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thebenHTS

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

1. Safety

	CAUTION!
⚠️	**Danger of death through electric shock or fire!** Installation should only be carried out by a qualified electrician! Work done on electrical installations may only be conducted by an authorised electrician or trained persons under the supervision and charge of an authorised electrician according to electrotechnical regulations!

Observe country-specific safety guidelines for working on electric installations! **The voltage supply must be disconnected before installation!**

	CAUTION!
⚠️	The device is maintenance-free. The warranty terminates if the device is opened or entered with any kind of object.

1.1 Designated use

The presence detector is intended for indoor installation.

The presence detector is solely intended for the purpose contractually specified between the manufacturer and the user. Any other or extended use has to be regarded as not complying with the designated use. The manufacturer is not liable for any resulting damage. Radio frequency has to be followed.

2. Function and performance

The presence detector series PlanoCentro is intended for ceiling mounting.

- Installation in suspended ceilings (false ceilings)
- Installation in flush-mounted junction box (set into concrete ceiling)

Devices are available in the delivery unit with matching assembly sets for ceiling installation and flush-mount ceiling installation.

The presence detector PlanoCentro 101 is intended for use in offices, schools and residential premises for comfortable and energy efficient control of lighting, HVAC and shading.

- Detection range up to 100m^2 moving and 64m^2 seated persons at 3.5 m installation height
- Mixed light measurement
- Adjustable sensitivity

The PlanoCentro 101 has 2 channels:

- **Channel A light**
- **Channel H presence**

Helpful functions are available for start up and subsequent maintenance support.

- Data read-out (parameters, actual brightess, diagnostic and statistic data)
- Diagnostic functions

The presence detector can send configuration and diagnostic information to the SendoPro Management remote control via radio transmission (868MHz).

The channel A *light* switches on the lighting in case of presence **and** insufficient brightness, and it switches off in case of absence **or** sufficient brightness. The light can be manually switched on/off by means of push-buttons or switches.

- Switching contact *light*: Relay 230V
- Automatic recognition of push-button or switch
- Half or fully automatic function mode
- Crossover switch
- Adjustable brightness value and switch-off delay time
- Self-learning switch-off delay time
- Suitable for fluorescent lamps, compact fluorescent lamps, halogen, incandescent lamps and LEDs.
- Pulse control for controlling staircase lighting timer
- Reduced switch-off delay time in case of a short presence
- Remote operation with SendoClic

The channel H *presence* controls heating, ventilation and air conditioning systems (HVAC). The contact closes with presence, a switch-on delay enables delayed switching on. The contact can be used for room monitoring. Thereby, it reacts to significant movement with lower sensitivity.

- Switching contact *presence*: Relay potential-free
- Programmable switch-on delay
- Programmable switch-off delay time
- Monitoring function
- Switch to the functionality like the channel A light

2.1 Scope of delivery

Ceiling installation

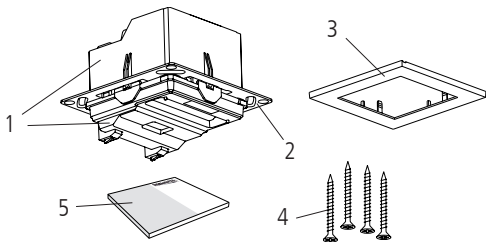1 Presence detector with installation protection cover (removable)
2 PlanoCap (terminal cover)
3 PlanoFix E (installation frame)
4 Strap, 6 pieces
5 PlanoCover (frame)
6 Template for ceiling cut out
7 Operating Manual
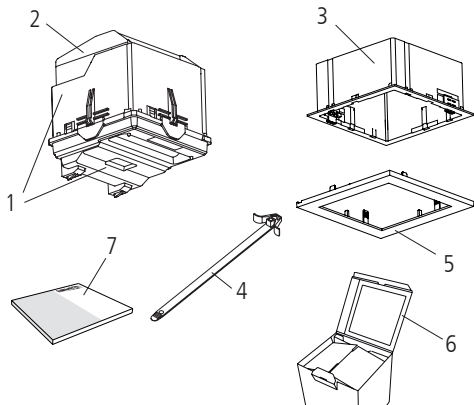
Flush-mounted installation

1 Presence detector with installation protection cover (removable)
2 PlanoFix U (installation plate)
3 PlanoCover (frame)
4 4 screws
5 Operating Manual

3. Installation

3.1 Presence detection

The ideal installation height is between 2.0 - 3.5 m. The sensitivity of the detector reduces with higher installation heights. The presence detector requires a clear view of people in order to clearly detect people. Offices, mobile partition walls, plants, hanging lighting etc. can hinder (shadowing) the presence detector.

install. height	seated persons		moving persons	
2.0 m	20 m^2	4,5m x 4,5m	36 m^2	6,0m x 6,0m $\pm$ 0.5m
2.5 m	36 m^2	6,0m x 6,0m	64 m^2	8,0m x 8,0m $\pm$ 0.5m
3.0 m	49 m^2	7,0m x 7,0m	81 m^2	9,0m x 9,0m $\pm$ 1.0m
3.5 m	64 m^2	8,0m x 8,0m	100 m^2	10,0m x 10,0m $\pm$ 1.0m

Detection range (installation height 3.0m)
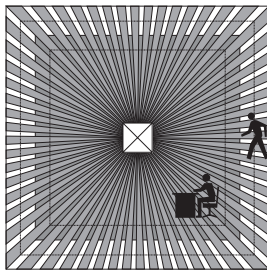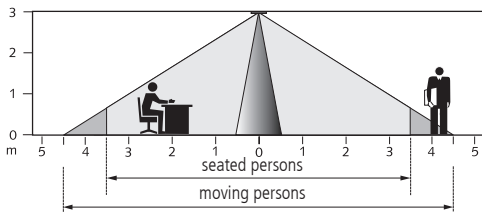
3.2 Light measurement

The detector measures artificial and daylight that is reflected directly below the detector (aperture ± 30°).

The surface brightness below the installation site is used as a lighting level reference.

With indirect lighting, the artificial light at the detector installation site must not exceed 2000 lux (with brightness value >200 lux).
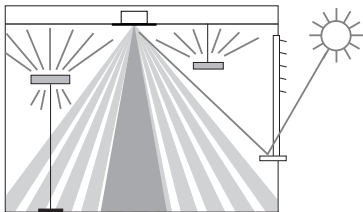
3.3 Ceiling installation

Ceiling installation of the presence detector takes place via the PlanoFix E installation frame and straps in the cut out ceiling element.

PlanoFix E installation frame

1. Draw ceiling cut out ①
   (A hinge is integrated into the top of the packaging)
2. Cut out the drawn form according to the materials with suitable tools, 100 x 100 mm ± 1mm ②
3. Insert 4 straps into the PlanoFix E ③
4. Insert the PlanoFix E into the ceiling cut out with the straps ④
5. By pulling on the straps and pushing against the PlanoFix E, the PlanoFix E is snapped securely into the ceiling element. ⑤
6. Cut the ends of the 4 straps ⑥
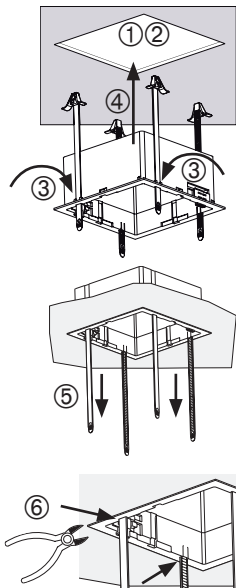
Monitoring the presence detector

1. Connect wires, see technical data page 123.
2. Fasten cable to the strain relief clamps and remove the excess
3. Fasten the PlanoCap
4. Make sure the locks on the PlanoFix E are open ①
5. Insert the presence detector into the PlanoFix E ②
6. Close the locks on the PlanoFix E ③
7. Remove installation protection
8. Attach the PlanoCover
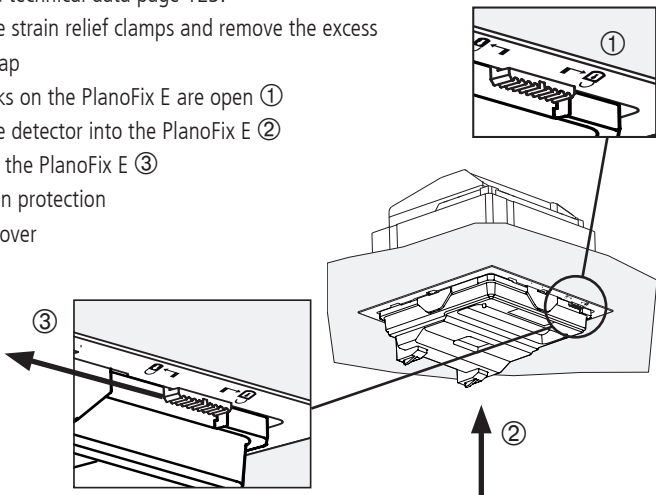
The technical data is to be followed during assembly and installation.
See page 123 and following.

3.4 Flush-mounted ceiling installation

Flush-mounted ceiling installation of the presence detector takes place via PlanoFix U in a flush mounted socket. Details about the flush mounted socket can be found in the technical data page 126, section flush mount installation. The screws included are intended for installation in the flush-mounted socked. Suitable pan head screws are to be used for the installation of other materials.

Install presence detector with PlanoFix U

1. Connect wires, see technical data page 123.
2. Insert the presence detector into the flush-mounted junction box (check the wire progression)
3. Screw the PlanoFix U metal plate tightly to the flush-mounted junction box
4. Remove installation protection
5. Attach the PlanoCover
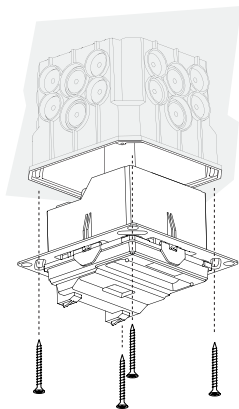
4. Connection / Operation mode

The PlanoCentro presence detector can be combined as master and slave.

● Master in single unit operation
● Master in parallel switching mode
● Master - slave parallel switching

4.1 Single unit operation

In single unit operation, a PlanoCentro 101-A-230V controls lighting as «Master» and with presence output e.g. an HVAC application.

4.2 General parallel connecting

The parallel signal is sent via P-terminal and also received. Every detector, regardless of whether it is master or slave, sends the presence signal via P-terminal. Thus, one master and one slave as well as two masters can be connected together with the parallel signal. See following chapter with parallel connecting variations.
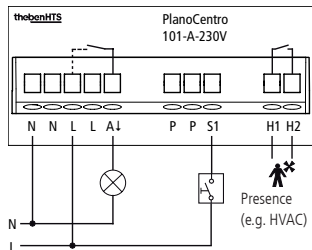
- The parallel signal is compatible with the compact range.
- The parallel signal is basically included for the light and presence channel.

Parallel signal response

Fully automatic function mode	The parallel signal is included for the light and presence output. Parallel signals are incorporated for adaptable switch-off delay time light.
Semi-automatic function mode	The parallel input signal only activates the H presence channel (HVAC). The channel A light has to be switched on via push-button or switch. Once channel H presence (HVAC) and channel A light are switched on, the will be continuously triggered with parallel signals.
Room monitoring	Information about room monitoring is also transmitted with the parallel signal.

⚠	**CAUTION!** Power supply: Detectors linked to one another via the parallel signal have to be connected to the same phase.

4.3 Master-Slave parallel circuit operation

Several detectors switch one lighting group

- The Master switches the lighting. All other detectors are slaves.
- Presence detection through all detectors together.
- Light measurement only with master.
- Parameter only with master.
- Maximum of 10 detectors can be connected in parallel.
- Use the same phase for all detectors.

Master: PlanoCentro 101-A-230V
Slave: PlanoCentro 000-A-230V
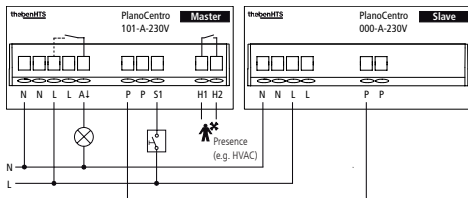
4.4 Master-Master parallel circuit operation

Several masters switch several lighting groups

- One master per lighting group with individual brightness measurement.
- Each master switches its lighting according to the set brightness level
- Presence detection through all detectors together.
- Individually set parameter with each master.
- Maximum of 10 detectors can be connected in parallel.
- Use the same phase for all detectors.
- The switching contact presence can be tapped by any Master.
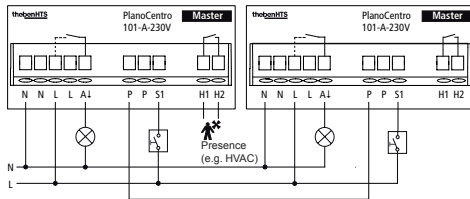
4.5 Parallel circuit operation with external staircase lightning timer

- Channel A light directly switched parallel with several detectors.

- All presence detectors check brightness

- Set switch-off delay time for channel A light to short pulse for all detectors with the SendoPro.

- Use the same phase for all devices.

- Staircase time switch e.g. Theben ELPA 1
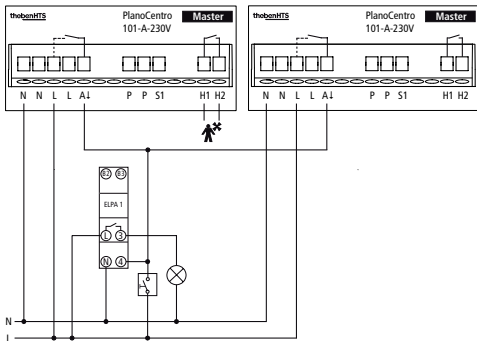
4.6 Detector as staircase lightning timer

- Master switched direct lighting.

- The staircase function «On» prevents switching off via push-button.

- Push-button activates channel A light

- If necessary, parallel switch additional slaves via P-terminal.

- Set parameter value only with master.
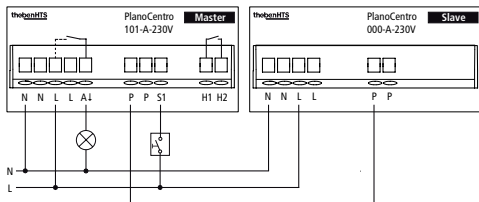
5. Start-up

The detector is delivered ready for operation with basic settings. The specifications are guide values. The management remote control SendoPro is available as an option for start-up. It enables remote setting of all parameter values. See chapter 6 page 109.

5.1 Basic settings

The PlanoCentro has 6 basic settings. These are selected with the SW1 rotary switch and subsequently activated, see page 107. The parameter function type and brightness level vary with the 6 basic settings. All other parameters are the same with all basic settings.

SW1

Rotary switch position SW1	1	2	3	4	5	6
Basic settings Parameter	Auto/bright	Auto/average	Auto/dark	Manual/bright	Manual/average	Manual/dark
Function mode	Auto	Auto	Auto	Manual	Manual	Manual
Brightness level channel A light	800	500	200	800	500	200

Values of other parameters of the basic settings:

Parameter	Value
Room correction factor channel A light	0.3
Switch-off delay time channel A light	10 min
Short-presence channel A light	On
Function channel H	Presence
Switch-off delay time channel H presence	20 min
Switch-on delay time channel H presence	0
Staircase lighting function	Off
Room monitoring	Off
Control input S1 (channel A)	Auto
Detection sensitivity (PIR)	3
Reduction of detection sensitivity when monitoring	2
Group address channel A light	I
scene 1	On
scene 2	Off
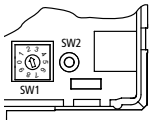
5.2 Activating the basic settings

The basic settings have to be activated after the rotary switch position SW1 has changed.

> ⓘ   Adjusting the rotary switch during operation (live) does not have an effect.

Activation	Description	
Powerup	The rotary switch position SW1 is monitored during the first 5 hours of operation. The rotary switch position is read if the position is changed during powerup and the value is adopted according to the table.	
SW2 (3 sec)	The SW2 button can be pressed and held down for 3 seconds to revert back to the basic settings (SW1). The presence detector restarts at this point.	
SendoPro	The basic settings according to the rotary switch position can be adopted with the SendoPro Management remote control command.	

5.3 Behaviour on switching on

Every time the voltage is switched on, the detector goes through the start-up phase, which is indicated by the LED. The presence detector runs through several tests during the start-up phase. If the tests run without any problems, then the presence detector switched to normal operation mode. If there is a problem (LED blinks rapidly), the light is switched on and does not switch off.

1. Start-up phase (30 seconds)

- LED blinks in second intervals, channel A light as well as channel H presence are active (relay contacts light and presence are closed)
- Control input S1 is not active (no reaction to push-button/switch)
- Parallel output is active
- Parameter adjustment is possible (active after start up phase has run)
- Test modes can be activated
- The learned response is reset
- User remote commands are blocked
- Both relay contacts open after the start-up phase, if no presence is detected

2. Operation mode normal

- The detector is ready for operation (LED off)

3. Event of malfunction

- LED flashes rapidly
- The light is switched on and does not switch off as long as there is a malfunction
- Troubleshooting see page 124

6. Parameters

The basic settings are selected with a rotary switch on the back of the presence detector, see page 105. Parameters can be adjusted and optimised with the SendoPro Management remote control.

The following parameters are available with the PlanoCentro 101-A-230V:

Parameter		Page
Operation mode	Normal / test presence / test light	110
Function mode	Fully-automatic / semi-automatic	110
Staircase lightning function	On/Off	110
Brightness level channel A light	Value range in lux	111
Room correction factor channel A light	Value range	111
Switch-off delay time channel A light	Value range in seconds / minutes	113
Short presence channel A light	On/Off	113
Control input S1 (channel A)	Auto / switch / push-button N/C / push-button N/O	114
Detection sensitivity (PIR)	Value range in increments	114
Function channel H	Presence / = Channel A	115
Switch-on delay channel H presence	Value range in seconds / minutes	115
Switch-off delay time channel H presence	Value range in seconds / minutes	115
Reduction of detection sensitivity when monitoring	Value range in increments	116
Group address channel A light	I , II , III , All	117
Scene 1, state of channel A lighting	On/Off	117
Scene 2, state of channel A lighting	On/Off	117

6.1 Adjustment with the remote control

Parameters are sent to the presence detector via infrared with the SendoPro. The parameters can be read-out before changes take place. Changed parameters are immediately accepted and applied by the detector.

LED	Description
Flickering during 3 sec	After pressing the send function on the management remote control, the presence detector displays correct receiving by flickering for 3 sec
lights up shortly	The command/parameter sent from the management remote control via infrared is rejected by the presence detector. The command is not valid. Check the selected detector type and the sent parameters.

6.2 Operation mode

The PlanoCentro has 3 operation modes

- Normal
- Test presence (page 118)
- Test light (page 120)

6.3 Function mode

The function type only influences channel A light.

Fully automatic: Lighting switches on and off automatically. (Based on presence, absence and brightness)	auto
Semi-automatic: Switching on must always be done manually. The presence detector automatically switches it off. (Based on absence or brightness). Response with parallel signals see page .	man

6.4 Staircase lightning function

Manual switching on and off possible.	Off
The presence detector is used as staircase time switch. Manual switching off with push-buttons or SendoClic is not possible.	On

6.5 Brightness level channel A light

Brightness level define the minimum brightness required. Current prevalent brightness is measured below the presence detector. If the prevalent brightness is below the setpoint value, the light will switch on as long as presence is detected.

Value range

lux (The current measured brightness level can be adopted by the SendoPro command Teach-in.)	5 - 2000 lx
- Deactivation of brightness measurement (Brightness has no influence) - Channel A lighting only switches on according to presence/absence.	Measurement off

6.6 Room correction factor channel A light

The room correction factor is a measurement for various brightness measurements on the ceiling and the work area.

The brightness measured value on the ceiling is influenced by the installation point, light reception, position of the sun, weather conditions, the reflection properties of the room and furniture.

The presence detector's brightness actual values is adjusted to the room properties with the room correction factor and thus, the area under the presence detector can be ① compared to the measured lux meter value.
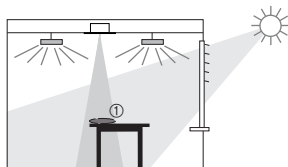
⚠	The standard value is 0.3 and is suitable for most applications. Changes only make sense in extreme situations.

Value range

Adjustable values	0.05 - 10
Standard value, suitable for most applications.	0.3

Adjustment of the detector brightness actual value

Procedure:

1. Determine the lux values below the presence detector with the lux meter
2. Brightness actual value is read from the detector
3. Compare lux values
4. Change and send room correction factor (table 1)
5. Brightness actual value is read from the detector
6. Compare lux value and if necessary repeat the procedure

Table 1

for higher detector brightness actual value	→	select lower room correction factor
for lower detector brightness actual value	→	select higher room correction factor

Setting limits

Set the room correction factor in such a way that
room correction factor x brightness actual value is between 5 lx and 13,000 lx.

112

6.7 Switch-off delay time channel A Light

$\dfrac{t}{\lfloor_{off}}$

Value range

Adjustable values	10 sec .... 60 min
Self-learning switch-off delay time (normal energy saving mode) The switch-off delay time is adjusted and if necessary increased according to user behaviour. The set value is not accepted.	between 2 .... 30min
switch-off delay time remain fixed	<=2 min. or >=30 min.
«Impulse» ⎍ : Control of staircase time switch (0.5 sec "on" / 9.5 sec "off")	Impulse

> **Note:**
> Up to 2 min and above 30 minutes the switch-off delay time remains fix. The self-learning switch-off delay time applies until the device is restarted, through switching the power off or a restart.

Practice values

Transfer zones	approx. 5min
Work stations	approx. 10min

6.8 Short presence channel A light

The switch-off delay time of channel A lighting can be switched off sooner when a room is only occupied for a short time. (With function modes fully-automatic and semi-automatic)

The switch-off delay time is used according to set parameters.	Off
When entering an unoccupied room for a maximum of 30 seconds, the light switches off after two minutes. The monitoring applies in combination with the self-learning switch-off delay time.	On

6.9 Control input S1 (channel A light)

Control input S1 for manually switching lighting (channel A lighting) on/off is automatically recognized by the push-button or switch.

● Several push-buttons/switsches are possible on the S1 control input
● Only use light buttons with zero wire connections

Value range

Automatic recognition of push-button or switch. A signal indicated as less than 0.7 sec is recognised as a push-button. Longer signals are evaluated as switches.		auto
The type of signal transmitter used can be fixed set for adjustment to user behaviour. Automatic detection is deactivated. Additional NC contact or NO contact can be selected for the push-button.	switch Push-button (NO contact) Push-button (NC contact)	switch P-button N/O P-Button N/C

6.10 Detection sensitivity

The detector has 5 sensitivity levels. The basic setting is the middle level (3). A level can be selected with the SendoPro management remote control. Sensitivity also applies during the test-modes.

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

The parameter can be changed during test presence.

Level	Sensitivity
1	less sensitive
2	Interim value
3	Standard
4	Interim value
5	very sensitive

6.11 Function channel H presence

The potential-free relay contact may be used either for presence depending HVAC control or the control of lighting. No direct connection of the luminaire! At a higher power rating a relay or contactor shall be interconnect.

Value range

The channel H presence only responds to the presence and is affected by the selected switch-on delay time and the switch-off delay time.	Presence
The channel H presence switches according to the channel A light. The switch-on delay time and the switch-off delay time of channel H presence have no influence. No direct connection of the luminaire, max. 60 W!	= Channel A light

6.12 Switch-on delay channel H presence

The presence channel always switches, regardless of whether the function mode is set to full or semi-automatic. The relay contact only closes on completion of the switch-on delay when a presence is detected.

t ⌐on

Value range

Adjustable values	0, 1 …. 10 min.
No switch-on delay (relay contact closes immediately if presence is detected)	0
Room monitoring (see page 116)	Surveillance

6.13 Switch-off delay time channel H presence

The presence channel always switches, regardless of whether the function mode is set to full or semi-automatic. Set values remain unchanged (no self-learning effect). The relay contact only opens upon completion of the set switch-off delay time when presence is detected.

t ⌐off

Value range

Adjustable values	10 sec .. 120 min

6.14 Room monitoring

The channel H presence can be used as a signal transmitter for room monitoring.

The switch-on delay is deactivated.

The base sensitivity is influenced by the level of detection sensitivity. In order to prevent unwanted triggering, the sensitivity for room monitoring can be reduced, see chapter 6.15. Channel H presence switches on with obvious movement. The channel H presence switches off after completion of the set switch-off delay time.

Room monitoring is independent of switching commands via remote or push-button/switch.

Information about room monitoring is also transmitted with the parallel signal.

6.15 Reducing sensitivity with room monitoring

In order to prevent false alarms, the sensitivity is reduced in levels relative to the base detection sensitivity.

Level	Reduction
1	less
2	Standard
3	intense

6.16 Group address channel A light

This parameter is used when using the SendoClic.

Channel A lighting can be allocated a group address (basic setting is I). The group address allocated to the channel is also to be allocated the SendoClic button.

Group addresses can be programmed with the SendoClic in the PlanoCentro or adjusted with the SendoPro.

Additional information can be found in the SendoClic operation manual.

Value range

Adjustable values	I , II , III , All

6.17 Scenes 1 , 2

These parameters are used when using the SendoClic. The switching status of channel A lighting can be allocated scene 1 and scene 2.

Additional information can be found in the SendoClic operation manual.

Value range

Adjustable values	On/Off

7. Read-out data

By means of the SendoPro management remote control the actual brightness value A as well as the diagnostic and statistical data can be read-out.

The actual brightness value A is displayed in the parameter list, together with the brightness set point A.

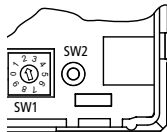Additional information can be found in the SendoPro operation manual.

8. Test-Mode

The PlanoCentro has two test modes.

- Test presence, page 118
- Test lighting, page 120

The test mode can only be started with voltage.

8.1 Test presence

The test presence serves to test presence detection and parallel switching.
The test presence can activated directly on the presence detector (without
power up) or with the SendoPro management remote control.

Activate	- Push-button SW2; short button push 1x - "Test presence on" with the SendoPro management remote control The test mode presence can always be activated.
Terminate	With subsequent restart: - Repress SW2 ends operation mode and restarts the detector. - Command "Test presence off" with the SendoPro management remote control - Power outage and thus power up - The detector automatically restarts after 10 minutes (see page 108) Without restart: - Activation of test lighting with the SendoPro management remote control

LED display	Description
On	With movement (LED on) close channels A lighting and H presence.
Off	With absence (LED off) open both channels after 15 secs.

Test response

- Deactivate brightness measurement, light output does not react to brightness
- Detector does not respond as in fully-automatic function mode, also if semi-automatic is set.
- Channel A lighting and H presence have a fixed switch-off delay time of 15 sec.
- Room monitoring responds normally as in normal mode.
- Switch delay channel H presence is set fixed on 0.

Commands and adjustable parameters

During test mode the following commands are possible with the SendoPro management remote conrol:
- Terminate test presence
- Activate basic settings (Reset)
- Activate test lighting
- Change detection sensitivity
- Change reducing sensitivity with room monitoring

The selected detection sensitivity (1 .. 5), see page 114, is not changed with the test presence activation. Sensitivity can be adjusted during the test.

The presence detector resets after test mode has terminated.

8.2 Test lighting

Activation of test lighting with the SendoPro management remote control.

Activate	- Test lighting «On» with the SendoPro management remote control The test lighting can always be activated.
Terminate	With subsequent restart: - Test lighting «Off» with the SendoPro management remote control - Power outage and thus power up - The presence detector automatically restarts after 10 minutes (see page 108) Without restart: - Activation of test presence with the SendoPro management remote conrol or push-button SW2

LED display	Description
Blinking, 3 sec On 0.3 sec Off	The LED blinks, as long as the test lighting is active.

Test response

The presence detector behaves 100% as in normal operation, only the reaction to light/dark is faster. Thus the brightness threshold and the adaptive response is tested.

All selected functions and parameters remain unchanged.

Commands and adjustable parameters

During test mode the following commands are possible with the SendoPro management remote conrol:
- Terminate test lighting
- Activate basic settings (Reset)
- Change detection sensitivity
- Change brightness set point channel A light
- Activate test presence

The presence detector resets after the test mode has terminated.

> ⚠ Do not get the presence detector to switch by means of a flash light. The presence detector will learn this and thus falsify the adaptive threshold settings and and the hysteresis.
> In order to simulate this response, it is ideal to light the area below the presence detector or open the blinds. Reactivate test brightness for a new test.

9. Control commands

Control commands are available as follows:

Teach-in channel A	The actual measured brightness value is applied to the brightness level channel A.
Switching light	The switching output light can be switched on and off. Select <On> or <Off> with the function keys.
Test presence	See chapter 8.1 page 118
Test lighting	See chapter 8.2 page 120
Restart	The detector restarts. Setting values are retained.
Restore basic settings SW1	Set settings and configuration to factory settings and select configuration according to rotary switch position (Plano series).

10. Diagnostics and statistics

10.1 Status information

Diagnostic and statistic information can be read-out by the SendoPro management remote control.

Furthermore, the parameters and the actual brightness value of the presence detector can be read-out. see page 117.

10.2 Malfunction information

Malfunction information can be read with the SendoPro management remote control.

Error display	Solution
Hardware malfunction	Send in device for repairs with a short description of the problem to the responsible specialised dealer.
Parameter error	Change and send parameter set
Combination of brightness set point and room correction factor is not valid.	Change and send brightness set point value or room-correction factor
Invalid rotary switch position SW1	Check position SW1
P-terminal overload	Fix parallel switching wiring malfunction

10.3 Diagnostic- and statistic values

The values can be reset using the SendoPro management remote control.

	Value	Description
Diagnostic	Number of parallel signals	Counts incoming parallel signals.
Statistic	Hours of operation channel A lighting	Number of hours of operation since the start-up of the presence detector. If the swicht-off delay time channel A light is set on "pulse", the operating hours are not counted.
Statistic	Hours of operation channel H presence	Number of hours of operation since the start-up of the presence detector.

11. Troubleshooting

Fault	Cause
Light does not switch on and/or off when presence and darkness	Lux value is set too low; detector set on semi-automatic; light was switched off manually via push-buttonor or with SendoClic; person not within detection range; obstruction(s) interrupting detection; switch-off delay time set too short
Light stays on with presence even though it is bright enough	Lux value is set too high; light was switched off manually via push-button or with SendoClic (wait 30 min.); detector is in testing mode
Light does not switch off and/or light switches spontaneously on when no one is present	Wait for the switch-off delay time (self-learning); thermal interruption source in the detection range: Fan heater, incandescent lamps / halogen spotlight, moving objects (e.g. curtains hanging in an open window); load (EBs, relay) not suppressed; Start up does not run smoothly.
Push-button / switch does not work	Device is still in start-up phase; light button without zero wire connection was used; push-button does not lead to the master; push-button wire has a short
Light cannot be switched off with the push-button / switch	The staircase function is «On» ; the push-button wire has a short
Malfunction blinking (4x per second)	Malfunction during start-up phase or during operation; device is not fully functional! Press reset, if the malfunction blinking remains, prompt a diagnostic, see page 123.

11.1 LED display

LED	Description
Blinking in 1 second tact	The presence detector is in the start-up phase. See page 108.
Flickering during 3 sec	The command sent from the management remote via infrared is rejected by the presence detector.
lights up shortly	The command sent from the management remote via infrared is rejected by the presence detector. The command is not valid. Check the detector type selected in the SendoPro.
Fast blinking	Error blinking; The presence detector has found an error. See page 124
Blinking, 3 sec On 0.3 sec Off	The presence detector is in test lighting. See page 120
Lights or flickers irregularly	The presence detector is in test presence see page 118. The LED displays detection of movement.

12. Technical data

Presence detector		PlanoCentro 101-A-230V
Detection angle	horizontal / vertical	360° / 120°
Recommended installation height		2.5 - 3.5m
Detection range	3.5m installation height	64 m² (8 x 8 m) seated persons 100 m² (10 x 10 m) moving
Light measurement		Mixed light
Brightness range Light measurement deactivated		approx. 5 - 2000Lux Measurement off
Mains voltage		230V ±10%
Frequency		50Hz
Power consumption		approx. 0.8W
Push-button pulse length in automatic mode, control input S1		< 70ms
Parallel switching, max. number of presence detectors		10
Connection type		Screwless terminals, 1x 2.5mm²
Strip length		10 - 11mm
Receiving	communication data sending data	IR Radio 868 MHz
Ambient temperature		0° - +50°C
Storage temperature		-25° - +60°C
Protection rating		IP 20, IP 40 (when fitted)

Channel A, light	
Type of contact	Relays 230V/10A
Series-connected protection	13A
Maximum switching capacity cos φ 1 resistive	2300W ☼
Maximum switching capacity cos φ 0.5	1150VA ▭
Maximum switching capacity LED	see respective manufacturer cos φ
Electronic transformers for low voltage incandescent lamps	1150VA
Iron core transformers for low voltage incandescent lamps	1150VA
"Light" switch-off delay time Short pulse	10 sec. - 60min. 0.5sec. "on"/ 9.5sec. "off"
Maximum number of EVG T5/T8 A relay or contactor is to be provided for bigger outputs. The number is to be halved when using the 80W-FL in comparison to the 58W-FL.	20x 54/58W, 25x 35/36W 10x 2x 54/58W 15x 2x 35/36W
Channel H, presence	
Type of contact	Relay, potential-free
Maximum voltage	220V DC / 230V AC
Maximum switching capacity	60 W / 62.5 VA
Recommended minimum load	0.5mV/10mA
"Presence" switch-off delay time	10 sec. - 120min.
"Presence" switch-on delay Room monitoring	0 sec. - 10min. monitoring

Ceiling installation (false ceilings)	
Installation type	PlanoFix E installation frame
Ceiling cut out	100 x 100 mm ± 1 mm
Ceiling strength	up to approx. 26 mm
Flush-mounted installation (concrete ceiling)	
Installation type	PlanoFix U , flush-mounted junction box
Flush-mounted junction box, Agro/Kaiser	115 x 115 x 100 mm, 9908.01/1298-07
PlanoFix U (installation plate)	Metal 118 x 118 mm

CE declaration of conformity

This device complies with the protection regulations of the EMC directive 2004/108/EC and of NSR 2006/95/EC.

$C\:\epsilon$

Item numbers	
PlanoCentro 101-EWH, Ceiling installation set, white	203 0 102
PlanoCentro 101-EBK, Ceiling installation set, black	203 0 103
PlanoCentro 101-ESR, Ceiling installation set, silver	203 0 104
PlanoCentro 101-UWH, flush-mounted installation set, white	203 0 202
PlanoCentro 101-UBK, flush-mounted installation set, black	203 0 203
PlanoCentro 101-USR, flush-mounted installation set, silver	203 0 204
PlanoCentro 101-A-230V	203 0 000
Management remote control SendoPro 868-A	907 0 675
SendoClic user remote control	907 0 690
PlanoCover EWH-112x112, white	907 0 677
PlanoCover EBK-112x112 , black	907 0 678
PlanoCover ESR-112x112 , silver	907 0 679
PlanoCover UWH-123x123 , white	907 0 680
PlanoCover UBK-123x123 , black	907 0 681
PlanoCover USR-123x123 , silver	907 0 682

13. Dimension drawings

13.1 Ceiling installation PlanoCentro 101-E..

100 x 100 ± 1

□112
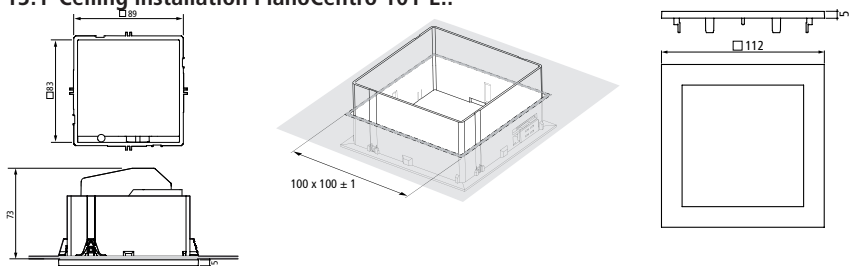
13.2 Flush-mount installation PlanoCentro 101-U..

□118

□123
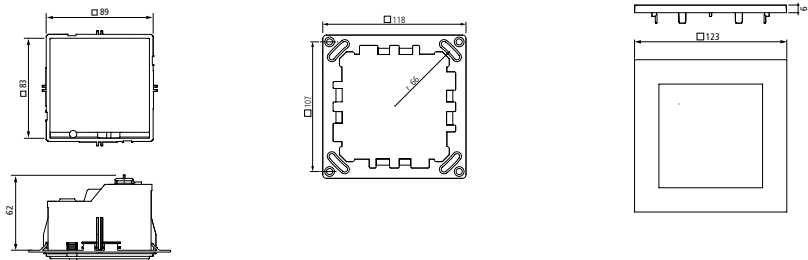
14. Warranty declaration

Theben HTS presence detectors are manufactured and tested for quality with greatest of care and most modern technology. Theben HTS AG thus guarantees smooth function with correct use. Should a malfunction appear, Theben HTS AG guarantees within the scope of the General Terms and Conditions:

Please notice specifically:

● that the warranty is valid for 24 months from date of manufacture.
● that the warranty becomes void if you or a third party makes modifications or repairs to the devices.
● that, as long as the presence detector is connected to a software controlled system, the warranty for this connection is only valid if the interface specifications are adhered to.

We are obligated to improve or replace as quickly as possible all damaged or unusable parts within the scope of delivery, proven insufficient materials, faulty construction or lacking models up to the end of the guarantee period.

Dispatching

For cases covered by the guarantee, send the device, together with the shipping order and a short description of the problem to the responsible specialised dealer.

Industrial property rights

Concept, as well as hard and software of this device are copyrighted.

Subject to alteration and printing errors.

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