

PlanoCentro 201-A-230V

PlanoCentro 201-E . .

PlanoCentro 201-U . .

PlanoCentro 300-A-230V

PlanoCentro 300-E . .

PlanoCentro 300-U . .

Art. Nr.

203 0 3. .

203 0 4. .

203 0 5. .

203 0 6. .

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thebenHTS



Presence detector**PlanoCentro 201-A-230V****PlanoCentro 201-E . .****PlanoCentro 201-U . .****PlanoCentro 300-A-230V****PlanoCentro 300-E . .****PlanoCentro 300-U . .****Table of contents**

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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 PlanoCentro 201 and PlanoCentro 300 presence detectors are primarily used in offices and schools, as well as in homes, for easy and energy-efficient control of lighting plus HVAC and shading (PlanoCentro 201 only).

- Detection range up to 100m² moving and 64m² seated persons at 3.5 m installation height
- Mixed light measurement
- Adjustable sensitivity

The presence detectors each have 3 channels:

- **PlanoCentro 201: Channels A, B light, channel H presence**
- **PlanoCentro 300: Channels A, B, C light**

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

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

The presence detectors can transmit parameters and diagnostic information by radio (868MHz) to the SendoPro management remote control.

Channels A, B light switch lighting on with presence and insufficient light, and off with absence or sufficient light. The light can also be switched on/off manually using push buttons or switches.

Channel C light on the PlanoCentro 300 only controls lighting by presence, for example for switching on blackboard lighting in classrooms.

- Switching contacts **light**: Relay 230V
- Automatic recognition of push-button or switch
- Half or fully automatic function mode
- Crossover switch
- Brightness threshold (channels A, B only) and time delay are adjustable
- Self-learning switch-off delay time
- Suitable for fluorescent lamps, compact fluorescent lamps, halogen-, incandescent lamps, LEDs.
- Reduced switch-off delay time in case of a short presence
- Remote operation with theSenda S

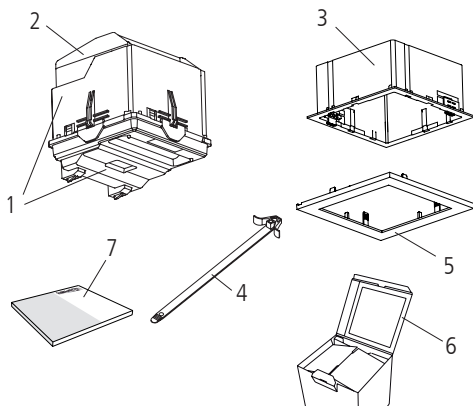
Channel H presence (PlanoCentro 201 only) controls heating, ventilation and air conditioning systems (HVAC). The contact closes with presence, a switch-on delay enables delayed switching on. The contact can be used for room monitoring. Thereby, it reacts to significant movement with lower sensitivity.

- Switching contact **presence**: Relay potential-free
- Programmable switch-on delay
- Programmable switch-off delay time
- Monitoring function

2.1 Scope of delivery

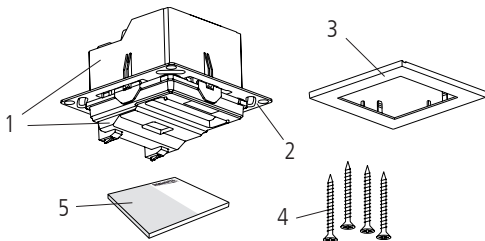
Ceiling installation

- 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

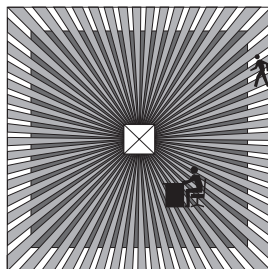
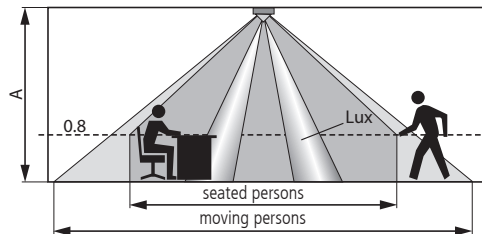
3.1 Presence detection

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.

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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 ± 0.5m
2.5 m	36 m ²	6,0m x 6,0m	64 m ²	8,0m x 8,0m ± 0.5m
3.0 m	49 m ²	7,0m x 7,0m	81 m ²	9,0m x 9,0m ± 1.0m
3.5 m	64 m ²	8,0m x 8,0m	100 m ²	10,0m x 10,0m ± 1.0m

Detection range (installation height 3.0m)



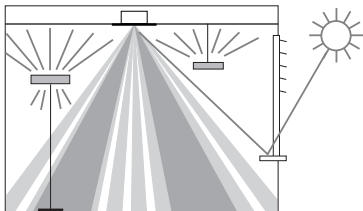
3.2 Light measurement

The detector measures artificial and natural light, which is reflected from surfaces below the detector (beam angle for each $\pm 30^\circ$).

The presence detector has two targeted light measurements, which separately record the light from two lighting groups.

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).



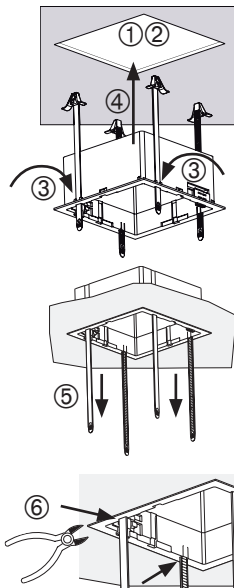
3.3 Ceiling installation

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

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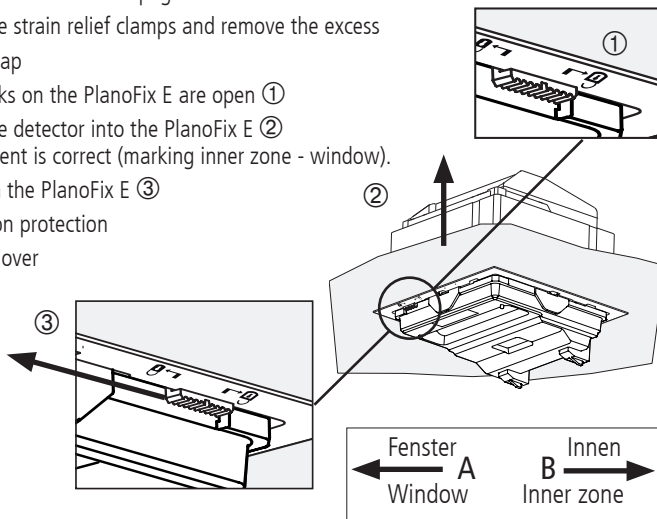
PlanoFix E installation frame

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 \pm 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 129.
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
Ensure the alignment is correct (marking inner zone - window).
6. Close the locks on the PlanoFix E ③
7. Remove installation protection
8. Attach the PlanoCover



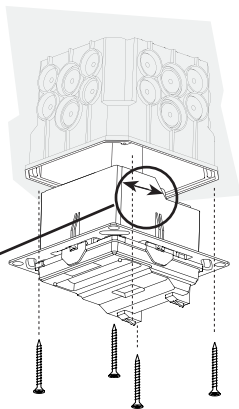
The technical data is to be followed during assembly and installation.
See page 129 and following.

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 131, section flush mount installation. The screws included are intended for installation in the flush-mounted socket. 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 129.
2. Insert the presence detector into the flush-mounted junction box
Ensure the detector is correctly aligned
(marking inner zone - window).
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

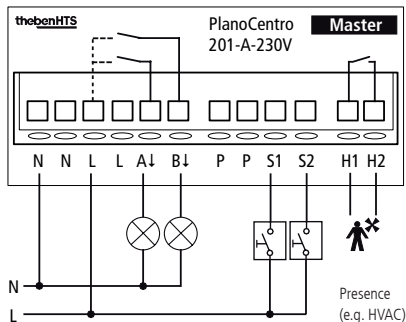
The PlanoCentro presence detector can be combined as master and slave.

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

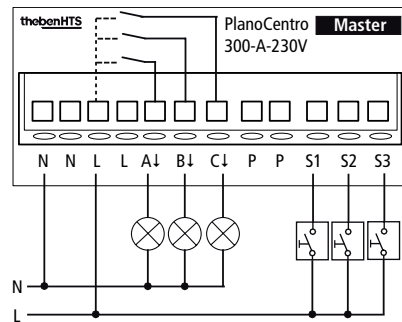
4.1 Single unit operation

With individual switching, a PlanoCentro 201 controls two lighting groups as a «Master» as well as e.g. an HVAC application with the presence output. The PlanoCentro 300 controls three lighting groups as a «Master».

PlanoCentro 201



PlanoCentro 300



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. This allows a Master and Slaves, as well as several Masters, to be switched together with a parallel signal. See following chapter on parallel switching options.

- The parallel signal is compatible with the compact range.
- The parallel signal applies to all light channels and the presence channel (PlanoCentro 201 only).

Parallel signal response

Fully automatic function mode	The parallel signal applies to all lighting channels as well as the presence channel (PlanoCentro 201 only). The parallel signals are taken into account for learned lighting time delay.
Semi-automatic function mode	The parallel input signal only activates the H presence channel (HVAC). The light channels have to be switched on via push buttons. Once the presence channel H (HVAC, PlanoCentro 201 only) and the light channels are switched on, they are constantly triggered by the parallel signal.
Room monitoring	Information about room monitoring is also transmitted with the parallel signal.



CAUTION!

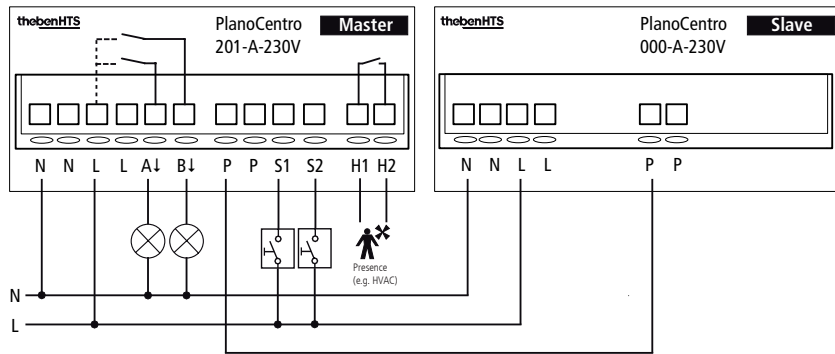
Power supply:

Detectors linked to one another via the parallel signal have to be connected to the same phase.

4.3 Master-Slave parallel circuit operation PlanoCentro 201

Several detectors switch two lighting groups

- The Master has two individual brightness measurements for its two lighting groups.
- The Master switches the lighting. All other detectors are slaves.
- Presence detection through all detectors together.
- Parameter only with master.
- Maximum of 10 detectors can be connected in parallel.
- Use the same phase for all detectors.



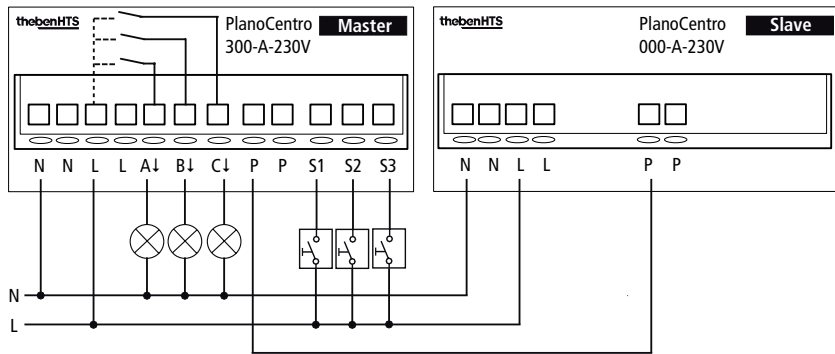
Master: PlanoCentro 201-A-230V

Slave: PlanoCentro 000-A-230V

4.4 Master-Slave parallel circuit operation PlanoCentro 300

Several detectors switch three lighting groups

- The Master has two individual brightness measurements for its lighting groups. Lighting group C does not have a brightness measurement and only switches according to presence.
- The Master switches the lighting. All other detectors are slaves.
- Presence detection through all detectors together.
- Parameter only with master.
- Maximum of 10 detectors can be connected in parallel.
- Use the same phase for all detectors.



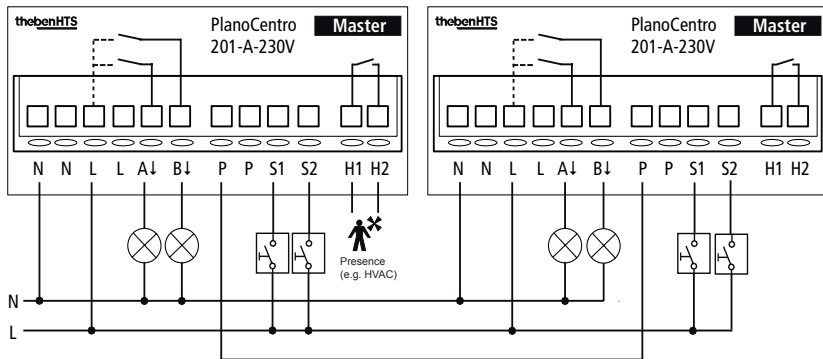
Master: PlanoCentro 300-A-230V

Slave: PlanoCentro 000-A-230V

4.5 Master-Master parallel circuit operation PlanoCentro 201

Several Masters switch more than two lighting groups

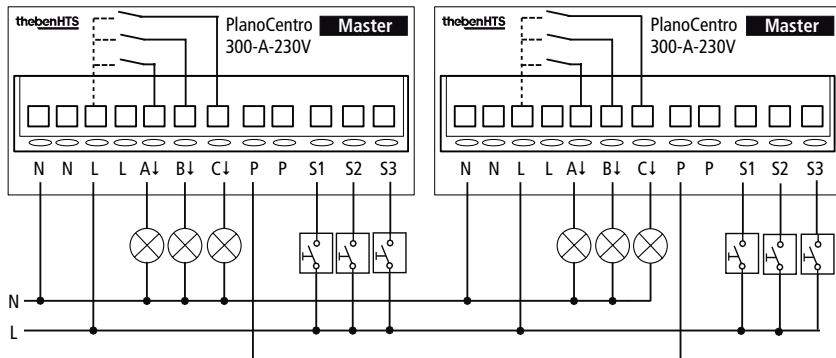
- Each Master has two individual brightness measurements for its two lighting groups.
- Each Master switches its lighting outputs according to the allocated brightness setpoint values.
- Presence detection through all detectors together.
- Individually set parameter with each master.
- Maximum of 10 detectors can be connected in parallel.
- Use the same phase for all detectors.
- The switching contact presence can be tapped by any Master.



4.6 Master-Master parallel circuit operation PlanoCentro 300

Several Masters switches more than three lighting groups

- Each Master has two individual brightness measurements for its three lighting groups. Lighting group C does not have a brightness measurement and only switches according to presence.
- Each Master switches its lighting outputs A, B according to the set brightness setpoint values.
- 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.

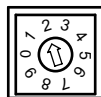


5. Start-up

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 114.

5.1 Basic settings

The PlanoCentro has 6 basic settings. These are selected with the SW1 rotary switch and subsequently activated, see page 111. The parameter function type and brightness level vary with the 6 basic settings. All other parameters are the same with all basic settings.



SW1

Values of other parameters of the basic settings:

Rotary switch position SW1	1	2	3	4	5	6
Basic settings	Auto/bright	Auto/average	Auto/dark	Manual/bright	Manual/average	Manual/dark
Parameter						
Type of function channels A, B light	Auto	Auto	Auto	Manual	Manual	Manual
Type of function channel C light (PlanoCentro 300 only)	Manual	Manual	Manual	Manual	Manual	Manual
Brightness level channel A light	800	500	200	800	500	200
Brightness level channel B light	800	500	200	800	500	200

5.2 Activating the basic settings

Parameter	Value	Presence detector
Room correction factor lighting A	0.3	PlanoCentro 201/300
Room correction factor lighting B	0.3	PlanoCentro 201/300
Lighting time delay A, B, C	10 min	PlanoCentro 201/300
Short presence channels A, B, C light	On	PlanoCentro 201/300
Function channel H	Presence	PlanoCentro 201
Switch-off delay time channel H presence	20 min	PlanoCentro 201
Switch-on delay time channel H presence	0	PlanoCentro 201
Room monitoring	Off	PlanoCentro 201
Staircase lighting function	Off	PlanoCentro 201/300
Control input Lighting A, B, C	Auto	PlanoCentro 201/300
Detection sensitivity (PIR)	3	PlanoCentro 201/300
Reduction of detection sensitivity when monitoring	2	PlanoCentro 201
Group address channel A light	I	PlanoCentro 201/300
Group address channel B light	I I	PlanoCentro 201/300
Group address channel C light	I I I	PlanoCentro 300
scene 1	On	PlanoCentro 201/300
scene 2	Off	PlanoCentro 201/300

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 flashes every second, channels A, B light and channel H presence or channel C lighting are active (light and presence relay contacts are closed)
- Control inputs S1, S2, S3 are inactive (no reaction to push buttons/switches)
- 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
- The relay contacts open after the start-up phase with absence or brightness

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 129

6. Parameters

The basic settings are selected with a rotary switch on the back of the presence detector, see page 110. Parameters can be adjusted and optimised with the SendoPro Management remote control.

The following parameters are available with the PlanoCentro 201 and PlanoCentro 300:

Parameter		Page
Operation mode	Normal / test presence / test light	115
Function mode	Fully-automatic / semi-automatic	115
Brightness set point value channels A, B light	Value range in lux	116
Room correction factor channels A, B light	Value range	116
Time delay channels A, B light or channel C light	Value range in seconds / minutes	118
Short presence channels A, B light or channel C light	On/Off	118
Control inputs S1, S2, S3 (light channels A, B, C)	Auto / switch / push-button N/C / push-button N/O	119
Detection sensitivity (PIR)	Value range in increments	119
Function channel H	Presence / = Channel A	120
Switch-on delay channel H presence	Value range in seconds / minutes	120
Switch-off delay time channel H presence	Value range in seconds / minutes	121
Reduction of detection sensitivity when monitoring	Value range in increments	121
Group address channels A, B, C light	I , II , III , All	122
Scene 1, state of channels A, B, C lighting	On/Off	122
Scene 2, state of channels A, B, C lighting	On/Off	122

6.1 Adjustment with the remote control

The parameters are sent to the presence detector via SendoPro management remote control. The parameters can be selected before making changes. 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 123)
- Test light (page 125)

6.3 Function mode

The type of function can be chosen in common for channels A, B light as well as separately for channel C 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
---------------------------------------	-----

Presence detector is used as staircase time switch. Manual switching off with push-buttons or the Senda S not possible..

On

6.5 Brightness set point value channels A, B light

The brightness level defines the minimum required brightness. The current prevailing brightness is measured separately below the presence detector to the window (A) and to the room interior (B). If the prevailing brightness is below the set point value for one of the channels, the light on the relevant channel, is switched on as soon as presence is detected.

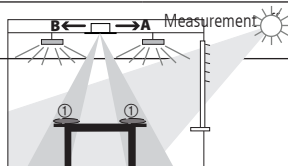
Value range

lux

10 - 2000 lx

(N.B.: The current measured brightness can be transferred via teach-in function.)

- Deactivation of brightness measurement (Brightness has no influence)
- Channels A, B light only switch on/off according to presence/absence.



6.6 Room correction factor channels A, B light

The room correction factor is a measurement for the difference in brightness on the ceiling and the working 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 room correction factor makes it possible to adjust the brightness measurement of the presence detector to the conditions in the room and can therefore be separately adapted to the measured lux meter value at the area to the window (A) and to the room interior (B).



The standard value is 0.3 and is suitable for most applications.
Changes only make sense in extreme situations.

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Value range

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

Adjustment of the detector brightness actual value

Procedure:

1. Lux value below the presence detector to the window (A) or to the room interior (B) can be set separately via 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 10 lx and 26000 lx.



6.7 Time delay channels A, B light or channel C light

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.



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 channels A, B light or channel C light

The time delay for channels A,B light or channel C light can be ended sooner if 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.

On

6.9 Control inputs S1, S2, S3 (channels A, B, C light)

Control inputs S1, S2, S3 for manually switching lights on/off (channels A, B, C light) automatically recognise push buttons or switches.

- Several push buttons can be connected to control inputs S1, S2, S3
- Only use light buttons with neutral wire connections
- The setting applies to all control inputs S1, S2 or S1, S2, S3 simultaneously

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.

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.

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

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.

6.11 Function channel H presence (PlanoCentro 201 only)

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!	t_{on} = Channel A light

6.12 Switch-on delay channel H presence (PlanoCentro 201 only)

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.

Value range

Adjustable values	0, 1 10 min.
No switch-on delay (relay contact closes immediately if presence is detected)	t 0
Room monitoring (see page 121)	Surveillance t_{off}

6.13 Switch-off delay time channel H presence (PlanoCentro 201 only)

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.

Value range

Adjustable values

10 sec .. 120 min

6.14 Room monitoring (PlanoCentro 201 only)

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.

Level	Reduction
1	less
2	Standard
3	intense

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.

6.16 Group address channels A, B, C light

This parameter is used when using the theSenda S.

Channels A, B light can be allocated a group address (basic setting is I for channel A, I I for channel B and I I I for channel C).

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

Additional information can be found in the theSenda S operation manual.

Value range

Adjustable values

I , II , III , All

6.17 Scenes 1 , 2

This parameter is applied when using theSenda S. The switching status of channels A, B, C light can be allocated to scene 1 and scene 2.

Additional information can be found in the theSenda S operation manual.

Value range

Adjustable values

On/Off

7. Read-out data

The SendoPro management remote control can be used to select actual brightness level A, actual brightness level B, all parameters, diagnostic data and statistical data.

Actual brightness levels A, B are displayed in the parameter list together with the brightness set point values A, B.

Additional information can be found in the SendoPro operation manual.

8. Test-Mode

The PlanoCentro has two test modes.

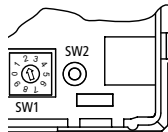
- Test presence, page 123
- Test lighting, page 125

The test mode can only be started with voltage.

GB

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	<ul style="list-style-type: none">- Push-button SW2; short button push 1x- "Test presence on" with the SendoPro management remote control <p>The test mode presence can always be activated.</p>
Terminate	<p>With subsequent restart:</p> <ul style="list-style-type: none">- 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 113) <p>Without restart:</p> <ul style="list-style-type: none">- Activation of test lighting with the SendoPro management remote control

LED display	Description
On	With movement (LED on) close channels A, B, (C) lighting.
Off	With absence (LED off) open both channels after 15 secs.

Test response

- Brightness measurements deactivated, lighting outputs do not react to brightness
- Detector does not respond as in fully-automatic function mode, also if semi-automatic is set.
- Channels A, B, C lighting have a fixed switch-off delay time of 15 sec.
- Channel H presence / 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 control:

- 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 119, 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

The test light operating status is activated via the SendoPro management remote control.

Activate	<ul style="list-style-type: none">- Test lighting «On» with the SendoPro management remote control The test lighting can always be activated.
Terminate	With subsequent restart: <ul style="list-style-type: none">- 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 113) Without restart: <ul style="list-style-type: none">- Activation of test presence with the SendoPro management remote control or push-button SW2

GB

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 control:

- 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 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.
Teach-in channel B	The current measured brightness value is accepted as brightness setpoint value.
Teach-in channels A, B	The current measured brightness value is accepted as brightness setpoint value.
Switching light	The light switching outputs A, B or A, B, C can be switched on and off together. Select <On> or <Off> with the function keys.
Test presence	See chapter 8.1 page 123
Test lighting	See chapter 8.2 page 125
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).

GB

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 122.

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	Operating hours channel A light	Number of operating hours of channel A light since first use of presence detector.
Statistic	Operating hours channel B light	Number of operating hours of channel B light since first use of presence detector.
Statistic	Operating hours channel C light (PlanoCentro 300 only)	Number of operating hours of channel C light since first use of presence detector.
Statistic	Operating hours channel H light (PlanoCentro 201 only)	Number of operating hours of channel H light since first use of 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-button or with the Senda S; 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 the Senda S (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 neutral 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 128.



11.1 LED display

LED	Description
Blinking in 1 second tact	The presence detector is in the start-up phase. See page 113.
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 129
Blinking, 3 sec On 0.3 sec Off	The presence detector is in test lighting. See page 125
Lights or flickers irregularly	The presence detector is in test presence see page 123. The LED displays detection of movement.

12. Technical data

Presence detector		PlanoCentro 201-A-230V PlanoCentro 300-A-230V
Detection angle	horizontal	360°
Recommended installation height		2.5 - 3.5m
Detection range	3.5m installation height	64 m ² (8 x 8 m) seated persons 100 m ² (10 x 10 m) moving
Light measurement		Mixed light
Brightness range		approx. 10 - 2000Lux
Light measurement deactivated		Measurement off
Mains voltage		230V ±10%
Power consumption		approx. 0.8W
Push button pulse length for control inputs S1, S2, S3		< 70ms
Parallel switching, max. number of presence detectors		10
Connection type		Screwless terminals, 1x 2.5mm ²
Strip length		10 - 11mm
Receiving	communication data	IR
	sending data	Radio 868 MHz
Ambient temperature		0° - +50°C
Storage temperature		-25° - +60°C
Protection rating		IP 20 (IP 40 installed)

GB

Channels A, B, C light	
Type of contact	Relays 230V/10A
Upstream protection device	13A
Maximum switching capacity, Total of all contacts resistive $\cos \varphi 1$	2300W 
Maximum switching capacity $\cos \varphi 0.5$	1150VA 
Maximum switching capacity LED LED lamp < 2W LED lamp 2-8 W LED lamp > 8 W	see respective manufacturer $\cos \varphi$ 60 W 180 W 200 W
Electronic transformers for low voltage incandescent lamps	1150VA
Iron core transformers for low voltage incandescent lamps	1150VA
"Light" switch-off delay time	10 sec. - 60min.
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.	20 x 54/58 W, 25 x 35/36 W, 10 x 2 x 54/58 W, 15 x 2 x 35/36 W
Channel H, presence	
Type of contact	Relay, potential-free, basic insulation
Maximum voltage	220V DC / 230V AC
Maximum switching capacity	60 W / 62.5 VA
Recommended minimum load	10mV/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 \pm 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

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

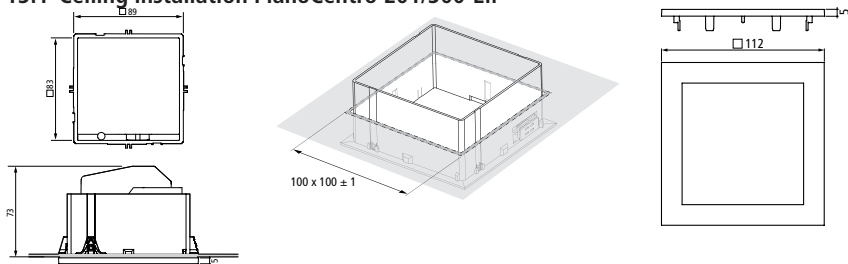


Item numbers	
PlanoCentro 201-EWH, Ceiling installation set, white	203 0 502
PlanoCentro 201-EBK, Ceiling installation set, black	203 0 503
PlanoCentro 201-ESR, Ceiling installation set, silver	203 0 504
PlanoCentro 201-UWH, flush-mounted installation set, white	203 0 602
PlanoCentro 201-UBK, flush-mounted installation set, black	203 0 603
PlanoCentro 201-USR, flush-mounted installation set, silver	203 0 604
PlanoCentro 201-A-230V	203 0 500
PlanoCentro 300-EWH, Ceiling installation set, white	203 0 302
PlanoCentro 300-EBK, Ceiling installation set, black	203 0 303
PlanoCentro 300-ESR, Ceiling installation set, silver	203 0 304
PlanoCentro 300-UWH, flush-mounted installation set, white	203 0 402
PlanoCentro 300-UBK, flush-mounted installation set, black	203 0 403
PlanoCentro 300-USR, flush-mounted installation set, silver	203 0 404
PlanoCentro 300-A-230V	203 0 300

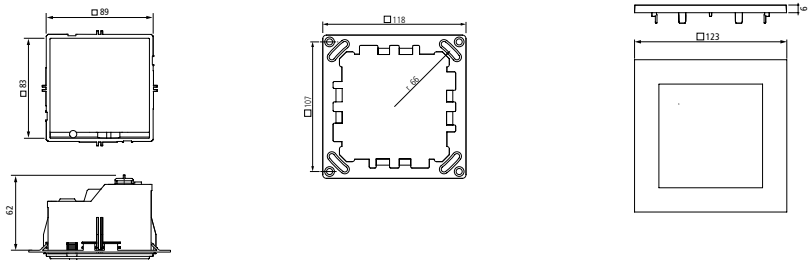
Management remote control SendoPro 868-A	907 0 675
theSenda S user remote control	907 0 690
PlanoCover EWH-112x112, white	907 0 677
PlanoCover EBK-112x112 , black	907 0 678
PlanoCover ESR-112x112 , silver	907 0 679
PlanoCover UWH-123x123 , white	907 0 680
PlanoCover UBK-123x123 , black	907 0 681
PlanoCover USR-123x123 , silver	907 0 682

13. Dimension drawings

13.1 Ceiling installation PlanoCentro 201/300-E..



13.2 Flush-mount installation PlanoCentro 201/300-U..



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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