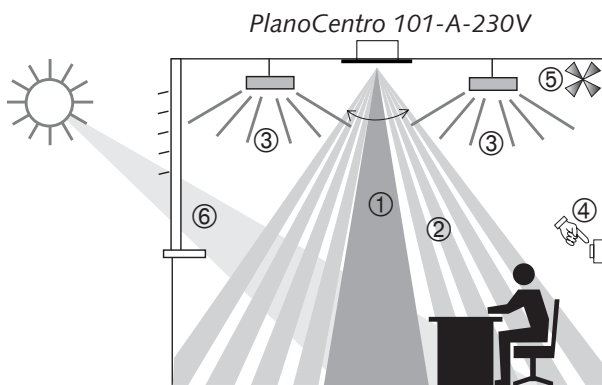
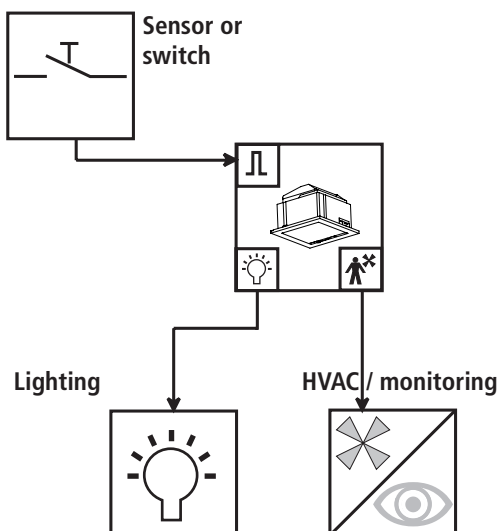


## PlanoCentro 101-A-230V presence detector flush mounting



- ① Mixed light measurement
- ② Presence detection
- ③ Artificial light
- ④ Sensor/switch for manual lighting control
- ⑤ HVAC / monitoring
- ⑥ Available daylight



## PlanoCentro 101-A-230V Product Features

- ◆ Passive infra-red presence detector for ceiling installation and flush-mounting
- ◆ Square 360° detection range (up to 100m<sup>2</sup>, 10 x 10m) enables reliable and straightforward planning
- ◆ Automatic presence and brightness-dependent control for lighting and HVAC systems
- ◆ Flat design with exchangeable cover frame in a range of shapes, colours and materials
- ◆ Mixed light measurement
- ◆ Adjustable sensitivity
- ◆ Can be configured remotely and read out of the parameters
- ◆ 6 defined basic parameter settings directly on device
- ◆ 2 channels; 1 x light, 1 x presence
  - Crossover switch
  - Choice of fully or semi-automatic operation
  - Connection option for push-buttons or switch controls for manual switching with automatic recognition of push-button or switch control
  - Pulse function for staircase light control
- ◆ Channel H, presence: Relay, potential-free
  - e.g. for HVAC control
  - Switch-on delay and switch-off delay time
  - Room monitoring
- ◆ SendoPro management remote control (optional)
- ◆ SendoClic user remote control (optional)

## Channel A, light

Switching behaviour is controlled by presence and brightness. The switch contact closes when dark and if somebody is present. It opens when light or if nobody is present (see section on function modes). The desired brightness set point value and the minimum switch-off delay time are adjustable. The switch-off delay time adjusts to occupants behaviour through auto-learning. It can increase automatically or fall back to the set minimum time. The switch-off delay time has auto learning facility of between 2 and 30 minutes.

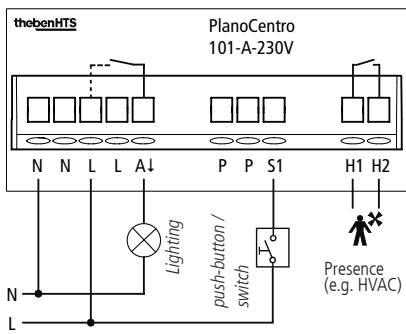
## Function mode (fully / semi-automatic)

Lighting control via the PlanoCentro operates fully automatically for increased comfort or semi-automatically for greater energy savings. Lighting can be controlled manually at any time via sensors (or switches) with both function modes. Several sensors can be connected to one control input (illuminated push button switches can only be used with zero conductor connection).

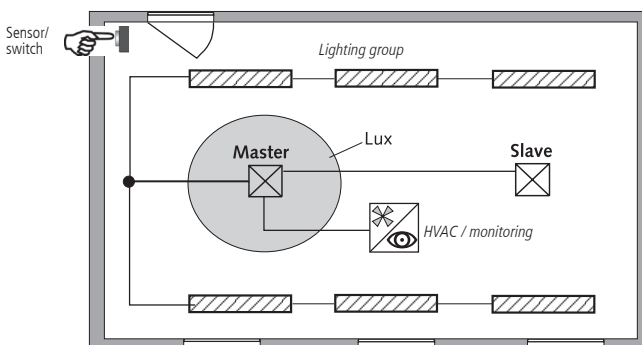
## Fully automatic function mode

With "fully automatic" function mode, lighting switches on and off automatically depending on presence and brightness. If the light is switched on manually, the light will remain on for at least 30 minutes providing people are present. It will then switch off when there is sufficient brightness. The light will go off after a preset switch-off delay time if the room is vacated. Lighting can be switched off manually at any time. The light will remain off for as long as people are present. If the room is unoccupied for a long time (switch-off delay time has expired) the lighting will switch automatically again.

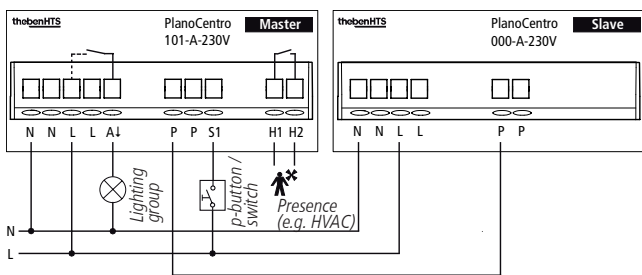
## Single unit operation layout



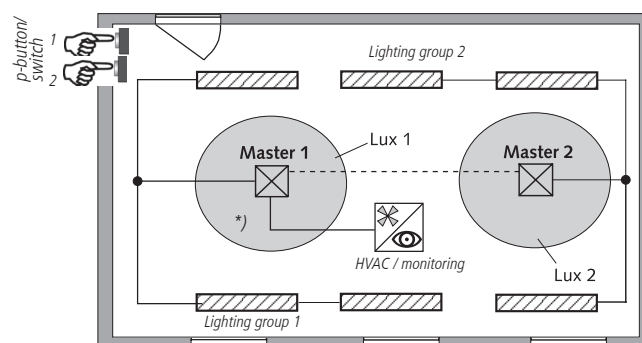
## Parallel Master-Slave switching for a lighting group



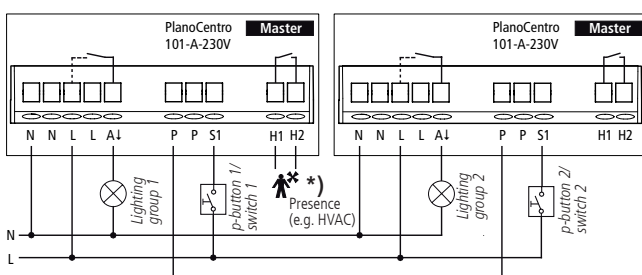
## Master-Slave parallel switching layout



## Master-Master parallel switching for two lighting groups



## Master-Master layout for two lighting groups



\*) The presence output can be tapped by any Master.

## Semi-automatic function mode

In *semi-automatic* mode, switching on must always be performed manually: switching off occurs automatically. Otherwise, the presence detector operates as in *fully automatic* mode.

## Staircase light function

The staircase light function can be set to On or Off using the SendoPro management remote control. Lighting can be switched on and off manually at any time in the 'Off' setting. The detector operates as staircase light control in the 'On' setting. Manual switch off is no longer possible.

## Pulse function

The switch-off delay time can be set to pulse for controlling existing staircase light control. The light output produces a pulse if people are present or it is dark.

## Channel H, presence

Channel H, presence, is used for HVAC control or room monitoring. The switching behaviour of the floating contact is only influenced by presence and not by brightness. If the contact is closed, the switch-off delay time will be restarted at every movement. The contact closes if people are present and opens when the room is vacated. Sensors or switches do not influence the contact.

## Switch-on delay

The switch-on delay prevents instantaneous switch on. The contact only closes when the switch-on delay is completed providing people are present all the time.

## Switch-off delay time

The switch-off delay time enables delayed switching off of HVAC devices and system after the room is vacated.

## Room monitoring

If the switch-on delay is set to *monitoring* this reduces the sensitivity of the presence switching output. The contact closes with significant movement and indicates the presence of people with a high degree of certainty. The switch-off delay time remains active. The switch-on delay is inactive.

## Switching

In single unit operation, PlanoCentro detects presence and brightness and its two channels control lighting and HVAC/monitoring. If the detection area covered by one detector is insufficient (larger rooms), then up to 10 detectors can be operated in parallel. The detectors are connected to each other via P-terminals. Depending on the application, the devices are designated as Master or Slave. A device without the light and presence channels is available for the Slave application.

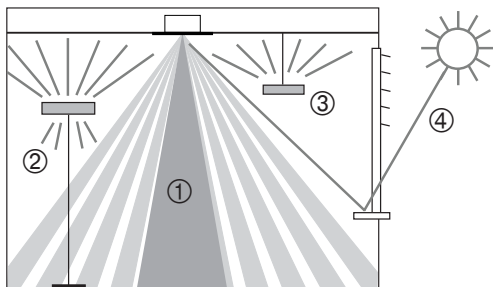
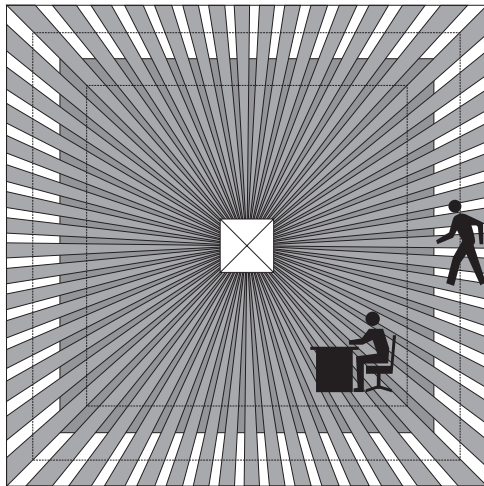
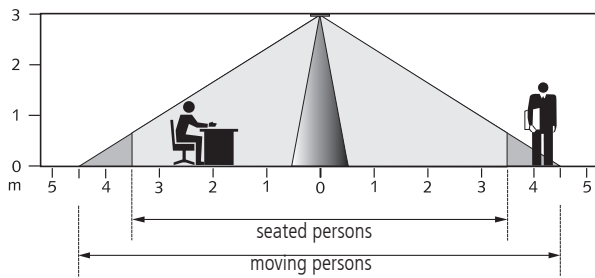
## Master/slave parallel switching

A detector is designated as a Master if it switches lighting. Brightness measurement and the setting of all parameters is only performed centrally with the Master. Sensor/switch are only lead to the Master. The Master switches the load. All other detectors are designated as Slaves. They only provide presence information.

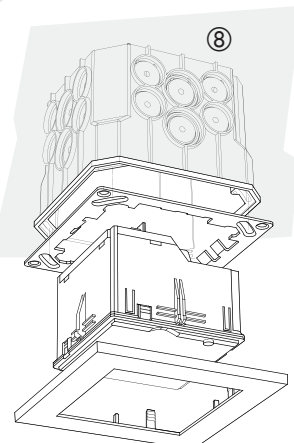
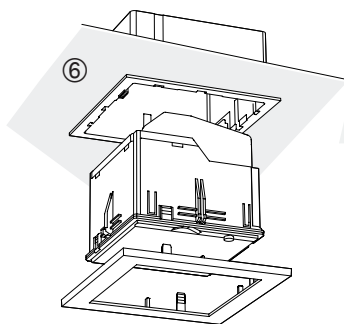
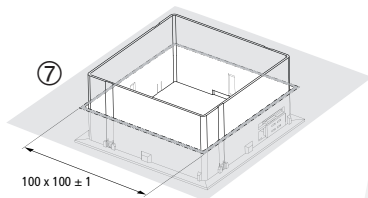
## Master-Master parallel switching (for several lighting groups)

Several Masters can be used in parallel switching setup. Each master controls its lighting group according to its own brightness measurements. Delay times and brightness switching values are set individually on each Master. The switching load is allocated to the individual Masters. Presence continues to be detected by all the detectors.

## Detection range (mounting height 3.0 m)



- ① Mixed light measurement
- ② Artificial light
- ③ indirect lighting
- ④ Available daylight



## Placement

### Detection range

The square detection area guarantees accurate and simple planning. A whole room can be covered with parallel switching. Note that seated and moving persons can be detected in differently-sized areas.

The recommended mounting height is 2.5 - 3.5 m. The sensitivity of the detector reduces with higher mounting heights. The detection areas of several detectors should meet in the marginal zones.

M.height	seated persons	moving persons
2.0 m	20 m <sup>2</sup> 4.5m x 4.5m	36 m <sup>2</sup> 6,0m x 6,0m ± 0,5m
2.5 m	36 m <sup>2</sup> 6.0m x 6.0m	64 m <sup>2</sup> 8,0m x 8,0m ± 0,5m
3.0 m	49 m <sup>2</sup> 7.0m x 7.0m	81 m <sup>2</sup> 9,0m x 9,0m ± 1,0m
3.5 m	64 m <sup>2</sup> 8.0m x 8.0m	100 m <sup>2</sup> 10,0m x 10,0m ± 1,0m

### Seated persons

The presence detector is very sensitive and reacts to the slightest movements. This is particularly required for office areas where people are seated for a long period of time. The details relate to the detection area for movements at table height (approx. 0.80 m).

### Moving persons

This area is for motion detection such as walking.

## Brightness measurement

PlanoCentro measures artificial and daylight that is reflected directly below the detector. The installation site is a reference point for the lighting level. Brightness measurement can be adapted to the conditions in a room with the room correction factor.

With indirect lighting, the artificial light at the detector installation site must not exceed 2,000 lux (with brightness switching value >200 lux). Direct light influences the light measurement.

If the brightness set point value is set to On, channel A light only switches on dependent on presence (the brightness measurement is switched off).

## Suitable light sources

PlanoCentro is designed to operate fluorescent lamps (FL/PL), halogen, incandescent lamps and LEDs.

The maximum number of switchable lights is restricted due to the high switch-on peaks of the EBs. The use of an external contactor helps with large loads. Parallel switching enables allocation of load to several Masters. All switched loads must be properly suppressed.

## Installation types

The PlanoCentro is available in installation sets for ceiling mounting and flush-mounted installation. The housing conforms with the fire safety standard EN 60670-1 (glow wire tested 850°).

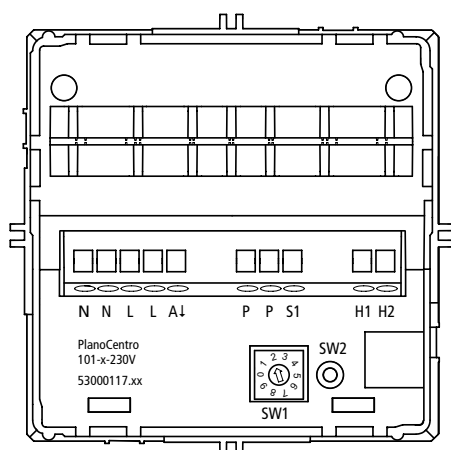
### False ceiling installation (false ceilings) ⑥

The false ceiling installation is completed using a supplied installation frame into a ceiling cut out of 100 x 100 mm ⑦

### Flush-mounted installation (set into concrete ceiling) ⑧

The PlanoCentro fits in the Agro/Kaiser flush-mounted junction box/ connection box 115 x 115 x 100 mm. The concrete installation of the junction box has to be done at the time of the building construction.

## Back of sensor part



### Settings on PlanoCentro (figure above)

- SW1 Rotary switch for basic settings  
 SW2 Sensors for presence test mode and reset

## Technical data

Presence detector	PlanoCentro 101-A-230V
Horizontal detection angle	360°
vertical	120°
Recommended installation height	2.5 - 3.5 m
Detection range 3.5m installation height	100 m <sup>2</sup> (10 x 10 m)
Light measurement	Mixed light
Brightness range	approx. 5 - 2000 Lux
Light measurement deactivated	Measuring off
Mains supply	230V ± 10%, 50Hz
Power consumption	0.8 W
Sensor pulse length in automatic mode	< 70ms
Parallel switching max. number of presence detectors	10
Connection type	Screwless terminals, 1x 2.5 mm <sup>2</sup>
Strip length	10 - 11 mm
Receiving communication data	IR
Sending data	Radio 868 MHz
Ambient temperature	0° - +50°C
Storage temperature	-25° - +60°C
Protection rating	IP 40
Channel A, light	
Type of contact	Relay 230V / 10A
Maximum switching capacity cos φ 1 resistive	2300 W
Maximum switching capacity cos φ 0.5	1150 VA
Maximum switching capacity LED	see respective manufacturer cos φ
Electronic step-down converter for extra low-voltage incandescent lamps	1150 VA
Iron core transformer for extra low-voltage incandescent lamps	1150 VA
"Light" switch-off delay time	10 sec. - 60 min.
Short pulse	0.5 sec. "on" / 9.5 sec. "off"
Maximum number EB T5 *)	20x 54W 25x 39W 10x 2x 54W 15x 2x 39W
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.	

## PlanoCover cover

A wide range of designs (colour, material and shape) allow the flat PlanoCentro presence detector to be harmoniously integrated in great number of architectural styles.

PlanoCovers are available in the standard colours of white, black or silver.

Individual covers in various shapes, colours and materials are available to suit the individual ambience of rooms and open up a wide range of opportunities to provide a particular look.

## Accessories:

### Management remote control SendoPro 868-A

The SendoPro management remote control is available for start-up, configuration and service. All parameters are easy to set remotely.

### SendoClic user remote control

SendoClic user remote control is available for the user. This makes it possible to switch a maximum of two lighting groups individually regardless of product type. Two programmable scenes are available to the user. Neighbouring lighting groups can be divided from each other.

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. - 120 min.
"Presence" switch-on delay	0 sec. - 10 min.
Room 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 in flush-mounted junction box
Flush-mounted junction box, Agro/Kaiser	115 x 115 x 100 mm 9908.01/1298-07
PlanoFix U (Assembly plate)	Metal 118 x 118 mm
Item numbers	
PlanoCentro 101-EWH, false ceiling installation set, white	203 0 102
PlanoCentro 101-UWH, flush-mounted installation set, white (set into concrete ceiling)	203 0 202
PlanoCentro 101-A-230V (spare part)	203 0 000
Management remote control SendoPro 868-A	907 0 675
SendoClic user remote control	907 0 690
PlanoCover EWH-112x112	907 0 677
PlanoCover EBK-112x112	907 0 678
PlanoCover ESR-112x112	907 0 679
PlanoCover UWH-123x123	907 0 680
PlanoCover UBK-123x123	907 0 681
PlanoCover USR-123x123	907 0 682

## CE declaration of conformity

This device conforms with the provisions of the EMC directive 2004/108/EC and of NSR 2006/95/EC.

