Presence Detector compact office DIM

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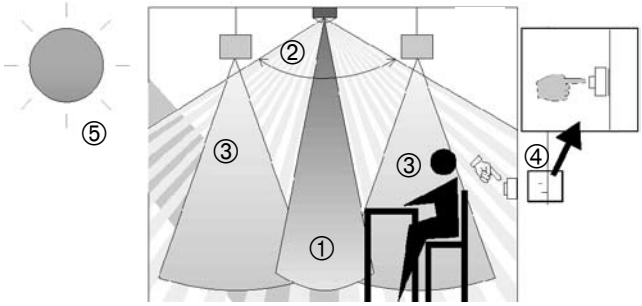
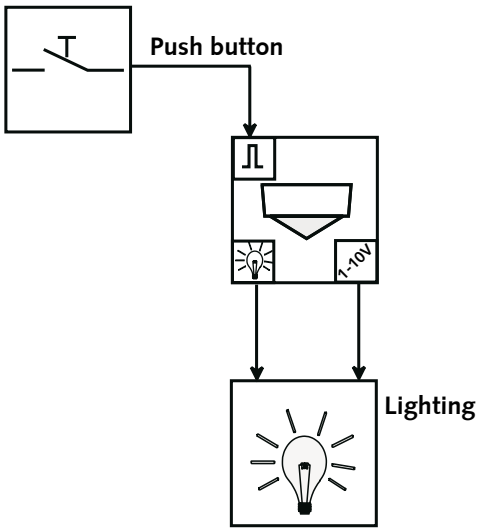


① *Mixed light measurement*
② *Presence detection*
③ *Artificial light*
④ *Push button for manual lighting control*
⑤ *Incident daylight*



compact office DIM Product Features

- *Passive infrared presence detector for ceiling mounting*
- *Square 360° detection range*
- *Mixed light measurement*
- *Automatic lighting regulation with constant light control*
- *Switching contact (relay, 230V) and 1-10V interface*
- *Facility to connect a push button for manual dimming and switching (single-button control)*
- *Fully or semi-automatic operation switch-selectable*
- *Brightness switching level, self-learning switch-off delay time and stand-by time can be adjusted*
- *User remote control clic (option)*
- *Service remote control QuickSet plus (option)*

Lighting Control

The lighting is controlled by presence **and** *brightness. The contact closes in case of insufficient daylight* **and** *presence. The 1-10V interface controls the artificial light to a constant brightness level (50-1500Lux) depending on the daylight. The contact opens in case of sufficient daylight* **or** *absence.*

The minimum switch-off delay time (10 s - 20 min) is adjustable. It automatically adapts to the occupant's behavior (self-learning characteristic) and is able to automatically extend the switch-off delay time to max. 15 min. or reduce it to the minimum set time. With settings of <2min. or >15min. the switch-off delay time remains unchanged at the set value.

Push Button Control

A single-button control enables the lighting to be manually switched or dimmed at any time. Pressing the button briefly switches the light on or off, pressing the button for a longer period increases or decreases the intensity of the lighting. (The dimming direction is reversed each time the button is pressed). Several push buttons can be connected to a single control input (use luminous push buttons only with neutral wire connection).

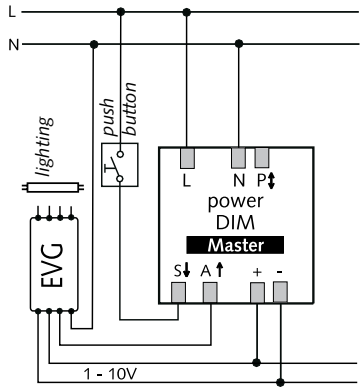
Constant Light Control ON

The constant light control (DIP: reg.on) ensures highest energy efficiency and maximum comfort. Fluctuations in daylight are compensated with controlled artificial light. The overall brightness is maintained at the desired brightness level.

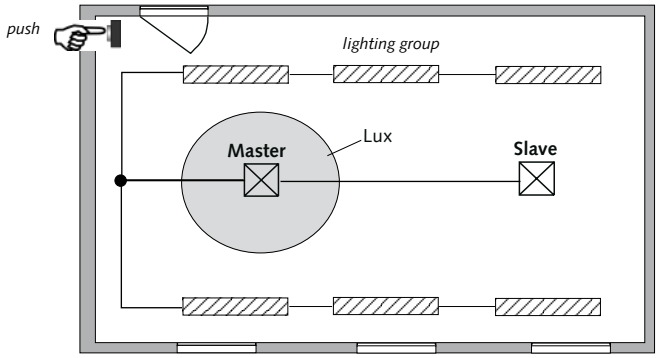
As part of the set-up procedure a desired value in Lux is defined (DIP: preset). If the lighting is dimmed using the push button, the control is temporarily deactivated, i.e. the artificial light remains at the current level irrespective of the daylight. After switching the lighting off and on again, control is restored at the preset value.

Setting the desired value can also be left up to the user (DIP: user). Manual dimming using the push button then also determines the new desired brightness value. The control remains switched on at all times.

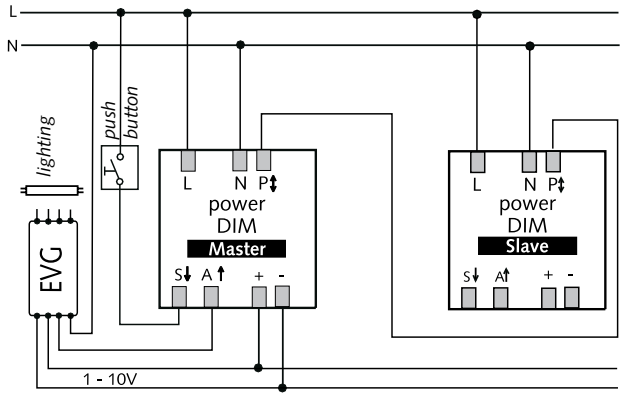
Circuit diagram for single unit operation



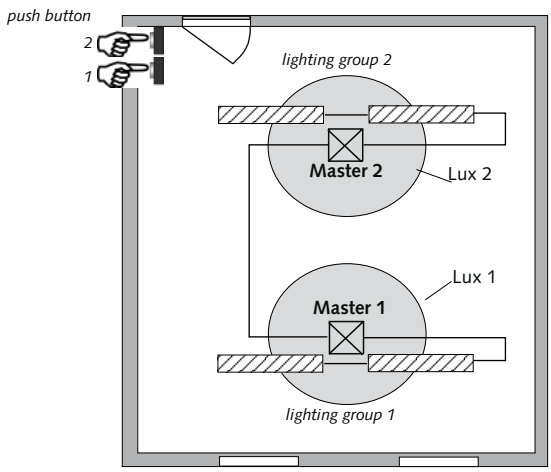
Parallel circuit operation master-slave for one lighting group



Circuit diagram for parallel circuit operation master-slave



Parallel circuit operation master-master for 2 lighting groups



Constant Light Control OFF

If automatic light control is not required or there is no daylight, the constant light control can be switched off (DIP: reg.off). This causes the brightness measurement to be switched off. The lighting control only functions if someone is present.

As part of the set-up procedure, the desired artificial light intensity is preset as a percentage (DIP: preset). When switched on, the lighting dims to this preset value irrespective of the daylight. The push button can be used to temporarily alter the intensity of the artificial light. When switched on next time, the lighting returns to the preset value.

The setting of the start-up value can also be left to the user (DIP: user). Each dimming of the lighting using the push button also determines the new start-up value.

Fully or Semi-Automatic Operation

The compact office DIM optionally allows fully automatic lighting control for more convenience, or semi-automatic control for better energy-saving results.

In the "fully automatic" operation mode, the lighting is switched on and off automatically. If the artificial lighting is switched off manually, the lighting remains off while persons are present. If the room is left unoccupied for an extended period (expiry of the switch-off delay time) the lighting reverts to automatic operation. In the operation mode "Semi Automatic" the lighting must always be switched on manually.

Stand-by Time

When stand-by time is activated, the lighting does not switch off on expiry of the switch-off delay time, but remains in the stand-by mode for the preset time (0sec. to 60min. Control voltage 2V, equivalent to approx. 10% light output). When someone enters the room, the lighting increases immediately to the desired brightness. If the daylight is adequate, the lighting is always switched off. The stand-by time reduces the number of switching operations to a minimum and avoids time delays when switching on the electronic ballasts.

Special case: stand-by time ON

On expiry of the switch-off delay time, the lighting remains continuously in stand-by mode. If the room brightness increases above the desired value, the lighting switches off. If the room brightness falls below the desired value, the lighting switches automatically back to stand-by mode, even if no one is present. This guarantees low-level lighting during hours of darkness.

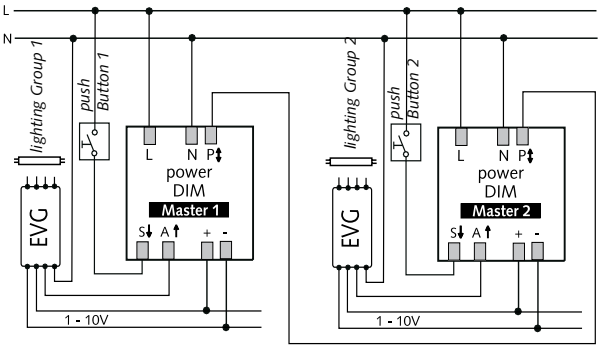
Configuration

Depending on the application the devices are designated as master or slave. This involves identical devices with different wiring.

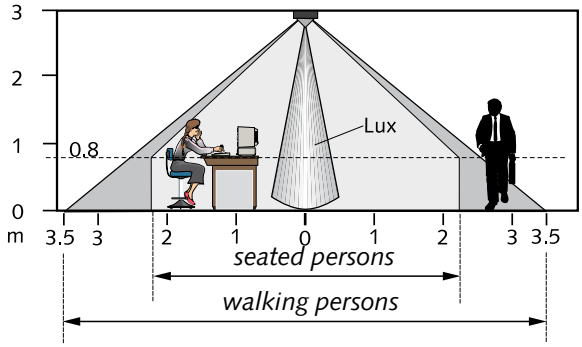
Single Unit Operation

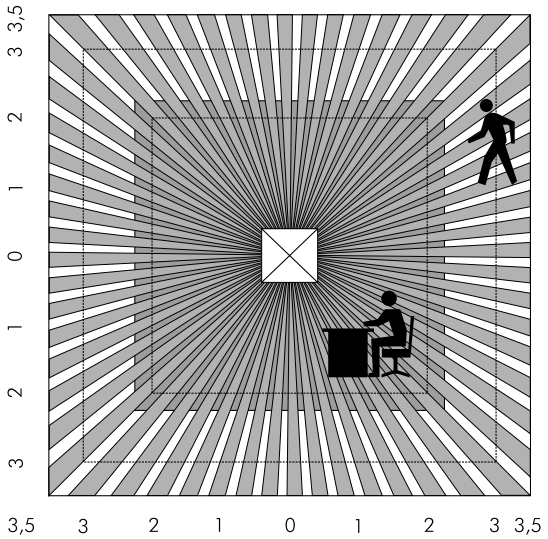
During single unit operation the compact office DIM detects presence and brightness, and controls the lighting as a master.

Circuit Diagram Master-Master for Two Lighting Groups



Detection Range (mounting height 3.0m)





The detection range in elevation view (top) and top view (bottom).

Seated Persons:

The values given refer to the restricted detection range for movements taking place at table height, i.e. approx. 0.80m above the floor. From a mounting height of > 3m, the sensitivity of the detector is limited, and more distinct movements are required for detection.

Walking Persons:

For walking persons, the entire detection range is valid with a small tolerance in the fringe zone (+/- 0.5m).

Parallel Circuit Operation Master-Slave

If the detection range of a single detector is insufficient (large rooms), a maximum of 10 detectors can be operated in parallel by connecting the P terminals. In this case the presence detection is carried out by all detectors jointly.

One compact office DIM is used as master. It measures the brightness, processes the push buttons and controls the lighting. All other detectors are used as slaves. They only supply presence information.

Parallel Circuit Operation Master-Master (several lighting groups)

In a parallel circuit operation it is also possible to use several masters. Each master controls its own light group in line with its own brightness measurement. Delay times and brightness levels are defined separately for each master. The presence continues to be measured by all detectors working together.

Location

Detection Range

The square detection ranges ensure safe and simple planning. Connected in parallel, they allow the entire room to be covered. Please note the difference in size of the detection ranges for seated and walking persons.

Mounting hight	*Seated persons*	*Walking persons*
2,0m	*3,0m x 3,0m*	*4,5m x 4,5m ±0,5m*
2,5m	*4,0m x 4,0m*	*6,0m x 6,0m ±0,5m*
3,0m	*4,5m x 4,5m*	*7,0m x 7,0m ±1,0m*
3,5m	*- -*	*8,0m x 8,0m ±1,0m*

The recommended mounting height is 2m - 3m.

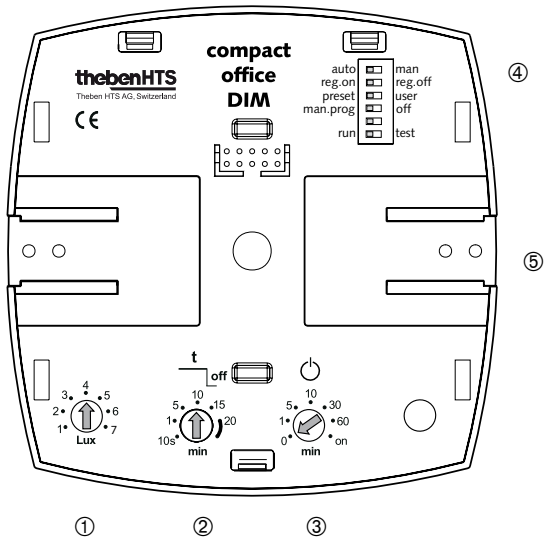
The sensitivity of the detector decreases with increasing mounting height. Form a mounting height of >3m walking movements are required for detection, and the detection ranges of multiple detectors should overlap in their fringe zones.

Brightness Measurement

The compact office DIM incorporates a mixed light measurement system which is sensitive to artificial light. The brightness measurement detects the light intensity reflected from the area directly below the detector (angle of beam approx. 30°). For control operation, a master must be placed in a position where it only detects the artificial light which it controls itself.

Artificial light controlled by other detectors or manually operated working lights influence the detector's brightness measurement. The point where the detector is installed becomes the reference for the lighting level in the room. Artificial light should not be allowed to fall directly on the detector. The brightness measurement is switched off if the constant light control is deactivated.

Sensor Module - Rear Side



Setting on the compact office DIM (see figure above)

① *Desired brightness level (Lux) (reg.on)*
Start-up value (0-100%) (reg.off)

② *Lighting switch-off delay time*

③ *Stand-by time*

④ *DIP switch:*
DIP1 fully / semi-automatic
DIP2 Constant light control on/off
DIP3 Desired value adjustment preset/user
DIP4 Adaptation of the desired brightness enabling/off
DIP6 Operation mode: normal operation/test

⑤ *Mechanical safety lock*
The mechanical lock serves to secure the sensor module firmly on the power module.

Suitable Lamps

The compact office DIM is designed for use with fluorescent lights (FL/PL) as well as halogen/incandescent lights. The maximum number of electronic ballasts that can be controlled is limited due to the high inrush currents. In case of high loads, this can be overcome by using an external protection. In parallel connection, the load can be split up between multiple master detectors. All loads switched must be provided with adequate interference suppression.

Accessories

QuickSet plus Service Remote Control

For the start-up procedure, the QuickSet plus service remote control is available for the installation personnel or the technical service. It allows convenient remote adjustement of all potentiometer values. Manual adjustement of the potentiometers directly on the device remains possible at all times.

Clic User Remote Control

The clic user remote control is available for the user enabling product-spreading, individual switching of up to two lighting groups. The user can choose between two programmable scenes. Adjoining groups can be demarcated from each other.

Surface Frame

A suitable frame for surface mounting is also available.

Technical Specifications for Presence Detector compact office DIM

Sensor module	**compact office DIM**
Detection range: horizontal vertical	360° 120°
Recommended mounting hight (Mh)	2.0m - 3.0m
Maximum range	6 x 6m (Mh = 2.5m) 8 x 8m (Mh = 3.5m)
Mixed light measurement	env. 10 - 1500Lux
Switch-off delay	10sec. - 20min.
Stand-by time	0sec. – 60min. / on
Power module	**compact power DIM**
Mains voltage	230V± 10%, 50Hz
Relay output A	**Relais 230V**
Nominal voltage	230V ± 10%
Max. switching capacity ohmic incandescent lamps, halogen	1400VA 1200W
Maximum number of switchable electronic ballasts *) A relay or contactor mus be connected in case of more devices	10x (1x58W); 5x (2x58W) 16x (1x36W); 8x (2x36W) 16x (inférieur à 36W)

**) Use of T5-FL: When using T5-FL lamps with a comparable wattage, the same number of electronic ballasts may be connected to the detector's switching contact as for the T8-FL. When using the 80W-FL, the number should be halved in comparison to the 58W-FL.*

1-10V Interface (EN 60929/A1)	
Control output Max. number of electronic ballasts	1-10VDC / 100mA, 50x
Depth Diameter Mounting plate	40mm 48mm 70 x 70mm
Screw-Terminals	max. 2x 2.5mm²
Size of concealed housing (for flush-mounting)	taille. 1, (NIS,PMI)
Ambient temperature	0° - 50°C
Degree of protection	IP 40
Article numbers	
compact office DIM complete	201 0 001
• sensor module compact office DIM	907 0 553
• power module power DIM	907 0 554
Surface frame for compact office	907 0 514
QuickSet plus service remote control	907 0 532
clic user remote control	907 0 515

CE Declaration of Conformity CE

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