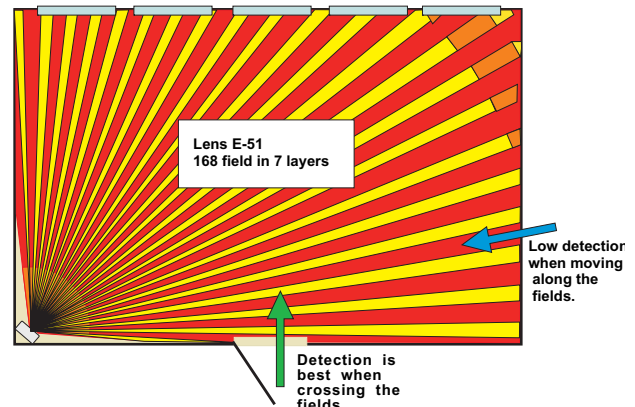


Basic knowledge before projection is to be collected from the handbook "Presence Detection" (Art. No. 35100)



(See handbook for "Presence Detection" for placing advice)



The diagram shows the PD-2210HF device with the following components and labels:

- Walking test diode HF detection, green**: Points to the green LED indicator.
- LED Selector, walking test**: Points to the LED selector switch.
- Walking test diode HF detection, green**: Points to the green LED indicator.
- Adjustment of: TIME Delay**: Points to the yellow knob labeled "Time".
- Sensitivity, IR**: Points to the red knob labeled "IR sens".
- Sensitivity, HF**: Points to the green knob labeled "HF sound sens".
- Photocell Light level**: Points to the yellow knob labeled "Photocell".
- Photocell element**: Points to the photocell sensor.
- Activity jumper**: Points to the activity jumper switch.
- HF-detection jumper**: Points to the HF-detection jumper switch.
- Relay**: Points to the relay switch.
- 30 VDC**: Points to the power supply terminal.
- 2 A**: Points to the power supply terminal.
- Pattern Degrees**: Points to the pattern degrees scale.
- NO C NC - + TP**: Points to the terminal block.

Change over contacts. At detecting C and NO close. After chosen time laps, contact C and NO in relay open.

Voltage supply; + - Detector supplies with 10-16 VDC. Suitable supply is EXE2000.

TP; Test-Point 0-5 VDC

If a digital multimeter is connected and voltage between – and TP is measured, is that a measure of signal strength.

The sensitivity adjustment does not effect this signal output.

- At low noise level you can await a voltage level not over 0.3 VDC
- At strong detection, the voltage level is at close 5V.
- At maximum sensitivity lies the trigger level at 0.6 V.

Jumper

“LED”; If jumper is placed at “ON” the LED will light at detection. When placed in “OFF” LED will not light at detection. LED should be disabled after adjustments to prevent and minimise sabotage.

The detector should be adjusted to the room with the two jumpers “Occupancy Activity” and “HF-start”.

“Occupancy Activity” (different activity)

- “Low/Office” is used in premises where one is sitting still i.e. office, storage room and libraries. Sensitivity increases when relay is activated.
- “Activity High” is used where people is visiting the premises for a short time, in other word in well-defined passages.

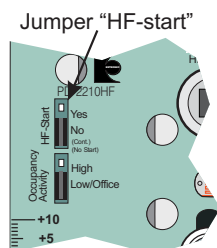
HF-start (the function of the HF-sound)

The jumper “HF-start” prescribes how the IR-detector and the acoustic detector should work together.

“HF-start” position “Yes”

The lighting is activated when sound is detected in the stated frequency range. Lights are kept on so long as sound is detected (steps, talk, etc).

The relay remains energised during the detection period, both acoustic and IR (and the lights are keep on).



“HF-start” position “No”

Only the IR detector can activate the lighting. The lighting is not activated if only the acoustic detector detects sounds. The lighting then remains activated for a regulated time when presence is detected only by the acoustic detector. The time that the lighting remains activated only by the acoustic detector is limited to four times the time set on potentiometer “Timer”.

If the timer is set on 5 minutes the lighting remains on for 4 x 5 minutes = 20 minutes. This means that different kind of noise can not keep the lighting activated. It can for example be used where the

detector detects passages in and out to the room, but then is hided for further detection.

“HF-start” position “Continue No-Start”

Same function as position “NO”, but the lighting remains activated for as long as presence is detected by the acoustic detector.

Memory

The relay can always be activated again with sounds up to 15 seconds after deactivation.

It can't be done if the jumper “HF-start” is i position “No” and the time x 4 is out.

Potentiometer

Time; time delay until relay drops after last detection. Time can be set from 2 sec. to 20 minutes.

Sensitivity; chose direct signal strength, sum of pulse and sensitivity at low activity/office with potentiometer.

PD-2210HF will automatically adjust sensitivity after current noise level.

HF-sound sens; for adjusting of the sensitivity of the acoustic HF detection.

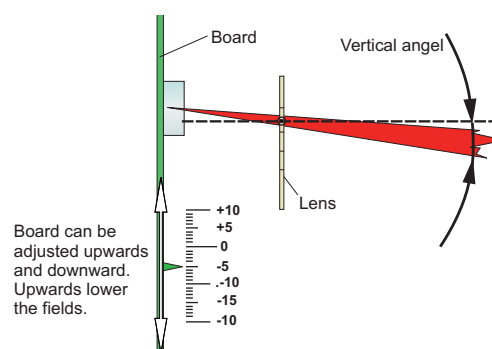
Photocell; the photocell will block the light when its darker than chosen level. When relay is activated the photocell is disabled.

When photocell is turned down to min. photocell is likewise disabled. When potentiometer is turned towards max. Detector LED will start indicate photocell status. LED flash faster when blocking and slow when not blocking.

LED will go back to normal function 30 sec. after adjustment is finished. When Logic Module's are used, the photocell shall be disabled (off).

Vertical adjustment

Adjusting the vertical detecting fields by pushing the board upwards and downwards. The scale gives angel between upper field and the given horizontal line. Board being pushed upward detecting fields will go lower vice versa.



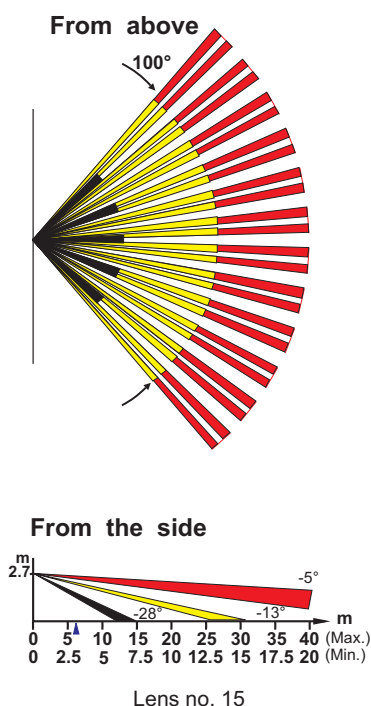
Board vertical adjustment is factory set for - 5°.

3. Choice of lens

There are several different lenses for PD-2210HF that can be used for different functions. Long distance lenses for corridors up to 80 meter (lens 41 and 43). Lenses with many narrow fields for use i.e classrooms (lens 51).

All lenses are described in handbook for "Presence Detection".

PD-2210HF are supplied as standard with lens no. 15. With 58 fields in 3 layers. Detection area is 40 x 40 meters and suitable to be placed in a corner.



The detector is positioned in the corner furthest away from the entrance at a height of 2 - 2.5 m. The mounting height is very important to reliable detection. Mounting too high up can result in relatively large areas with poor detection.



4. Changing and adjusting a lens

Changing lens

1. Press the looking device inside the cover lose.
2. Remove the old lens
3. Fit the new lens with the ribbed surface outwards and with the lens number in the top right hand-hand corner, as seen from the front.

Adjusting the lens

With field indicator diode BL-1 you can "see" the sensing fields of the detector in the room. Especially recommended when long-range lenses are used.

Vertical angel is adjusted by moving the board upwards and downward.

Horizontal angel is adjusted by moving the lens right or left.

Masking of lens element.

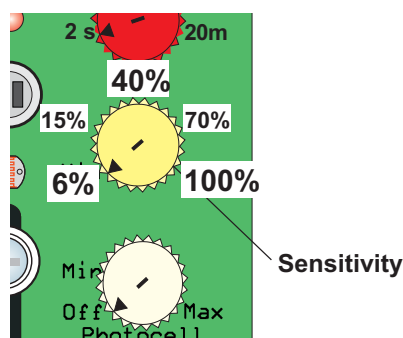
For limited detection area the lens can be masked. Self-adhesive aluminium folio tape of the same type used for window glass-break protections will block the sensitivity 100%.

5. IR-signal analyse

PD-2210HF with microprocessor analysing the signals from the pyroelectric detector has algorithms that continuous counts single pulse, sum of pulse and noise level.

Single pulse is a method used for ex. entering into a premises. A fast method that activate when signal is strong enough.

Sum of pulse a slower method of measurement that takes longer detecting a human. Used i.e. when low activity, as for sitting people and signal does not reach level single pulse.

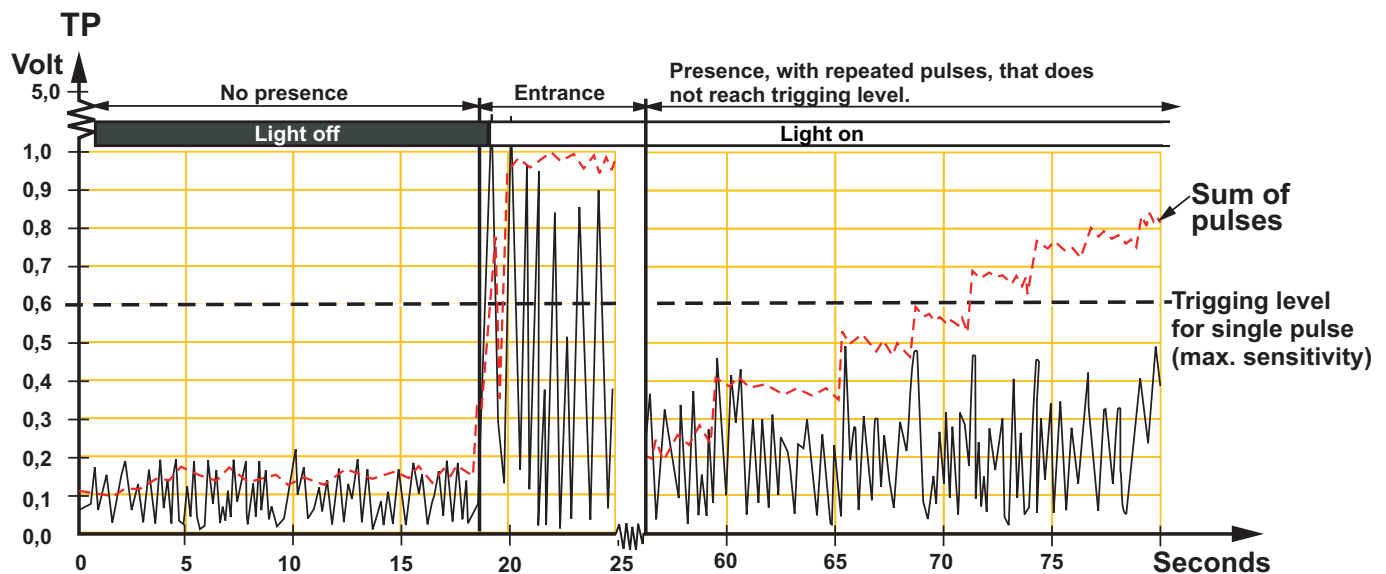


Level is chosen with potentiometer "Sensitivity"

PD-2210HF automatically adjust sensitivity after estimated noise level. A time laps of 1-2 minutes after movements detected by detector before the detector will increase sensitivity. Change of sensitivity with up to 20% from adjusted value.

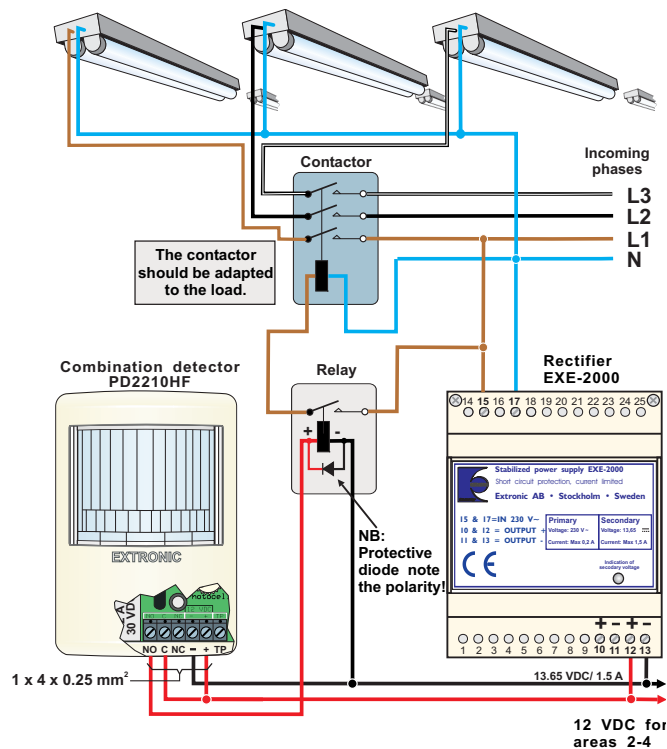
With jumper "Activity High/Low-Office" adjustment of detector is possible according to locality.

In localities with part time low activity where detection is unclear the detector could let the light be switched on for a longer period.



6. Applications

Appliction with non-dimmable HF ballasts

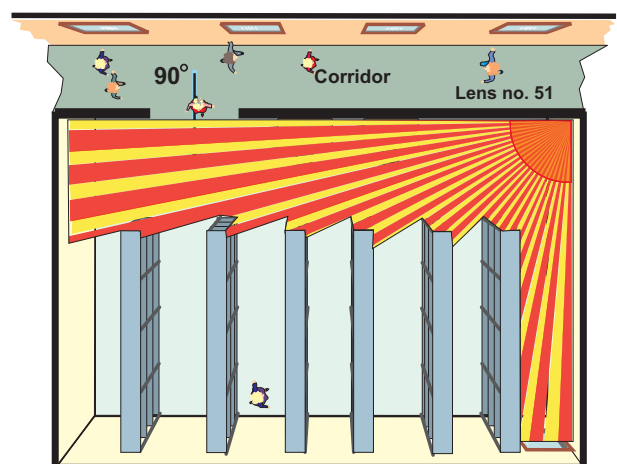
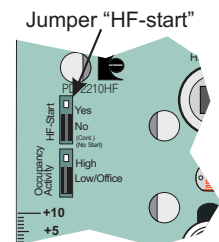


Archives with "Dynamic lighting control"

Dimmable HF ballasts

Put the jumper "HF-start" in position "No".

Suitable adjustment of the timer is 5 minutes.



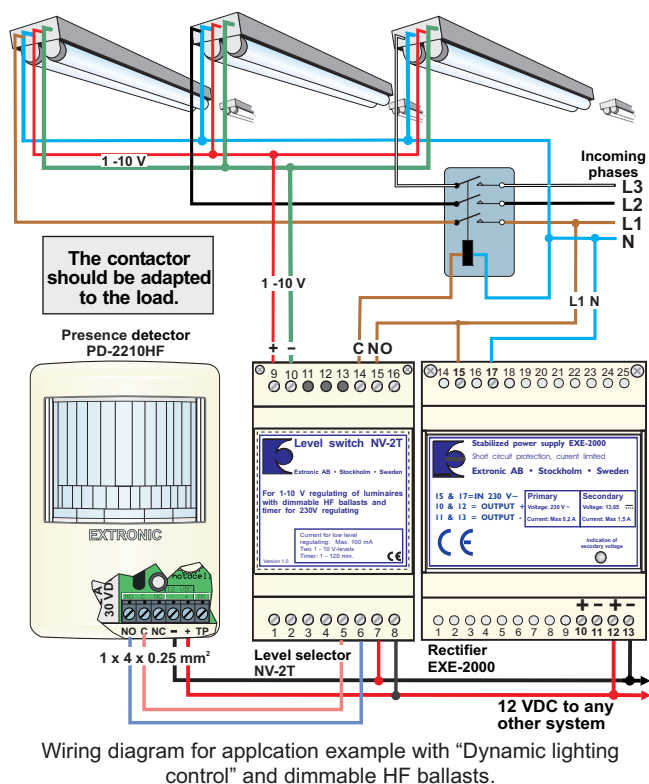
See wiring diagram on next page!

Dynamic lighting control provides the following function:

In the event of presence the lighting is switched on to approx. 80 per cent, set in NV-2T. The acoustic

detector can hear if anyone “hides” behind the archive shelves and the lighting remains activated for maximum four times the time set on potentiometer “Timer”. If the timer is set on 5 minutes the lighting remains on for 4 x 5 minutes = 20 minutes. The detection must take place within that time.

When the presence has ceased the lighting is reduced to approx. 2 per cent. After two hours without any presence the lighting is completely switched off to eliminate no-load losses.



7. Accessories

Field indication diode BL-1

Used for adjusting detection area. Art. No. 13035.

For further information see handbook “Presence Detection”

Protective Grille

For mounting in exposed premises as for indoor sports. There is also one model that can be used for mounting a detector in 45° with angel plate to a wall.

For further information see handbook “Presence Detection”

Universal bracket

BR1, BR2, BR3 can be used when the detector cannot be mounted directly in the corner. With the bracket the detector can be moved out a short distance and still give maximum coverage.

Use with precaution.

Contact Extronic for further advice and information when a bracket is used.

Logic modules

As for manually switched on lighting.

EX-11: Two channels i.e. one channel for main lighting and one for board lighting.

EX-13: Four + One channel i.e. in a divided Gym with two levels of lighting in each half and air-condition.

EX-22: Like EX-11 but guided by DSI-protocol and constant-lighting with compensation for lights from windows.

For further information see handbook “Presence Detection”

Level control

Level switches NV2 / NV2-DSI: Are intended for use on HF fittings with 1-10 V low-level input, dimmable 1-100%, and for control by presence sensors. Using the level switch, one can switch between two preset lighting levels.

Level switches NV2T / NV2T-DSI: As NV2 / NV2-DSI but they also have a built-in timer for control of the supply voltage. Push-buttons, photocells etc. can also be connected.

Acoustic detectors

Detector AD-500 / AD-600 has an input for PIR presence detector.

Lens-library

See lens-library in handbook for a great number of changeable lenses.

Rectifier EXE-2000 (13,65 VDC)

A Rectifier for mounting on DIN rail and suitable for NORM box.

It has current limitation / short-circuit proof, max. 1,5 A and suitable as power supply for PD-2210HF.

Handbook

Handbook “Presence Detection”.

7. Technical specification.

Adjustment

Vertical: +10° to –20° calibrated scale
Horizontal: Up to 30°

Electrical

Voltage: 10-16 VDC
Current: 40 mA at 13,8 VDC
Relay output: Changeover contacts
2 A / 30 VDC,
0,5 A // 60 VDC (resistive)

LED

Test point: Red IR, green HF
For background interference.
Detector: Dual-elements, low-noise,
pyroelectric detector

Environment

Ambient temp.: 0° to + 50°C
Storage temp.: - 20° to + 60°
Dimensions: 102 x 70 x 50 mm
Weight: 100 g
Colour: White