

PIR 20



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Passive Infrared Motion Detector PIR 20

PIR 20 – Passive Infrared Motion Detector

Function / Adjustments / Mounting

Function

PIR Motion Detectors do not emit any rays as indicated by their name Passive Infrared Motion Detector. When an object with a surface temperature other than that of the environment enters the detection area, its heat radiation is directed via lenses on sensor elements and triggers a switching operation.

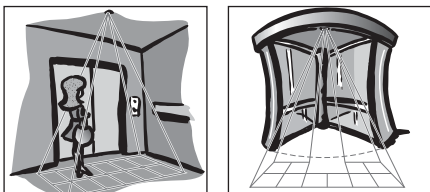
Field adjustment PIR 20

The PIR 20 has 12 Fresnel lenses which are fitted directly into the cover of the housing. Two additional masking diaphragms are supplied with every unit (1 for replacement). This diaphragms can be clipped into the cover when required and can be notched or cut out individually. Thus, each open lens (= 1 field segment on the floor) can be masked individually.

Some field diagrams

Drawn up for 2 m mounting height.

Note: Moving door panels should not reach into the detection area. Check the adjusted detection area by moving a bare hand or a burning lighter 3 to 5 cm above the floor.



New zoom technique

Patent has been applied for for this concept which was put into practice by our development engineers. The detection angles are infinitely adjustable between pos. 0 and 10 by means of a zooming screw. The detection range which is defined by the opening of the Fresnel lenses, can be set accurately to the centimeter by the zooming adjustment.

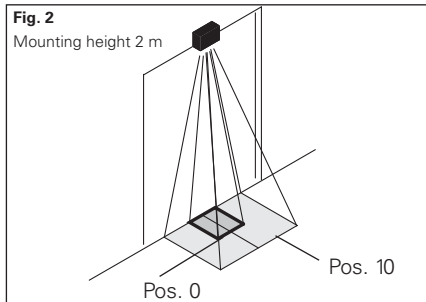
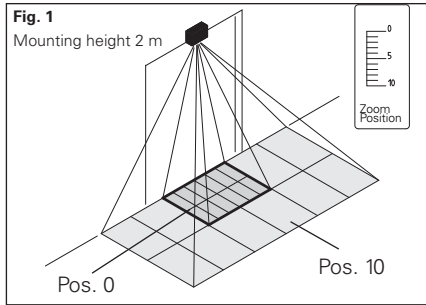
Field dimensions PIR 20

Largest fields (see fig. 1)

Without diaphragm – all lenses are open		
	Field dimension	Zoom position
min. field	800 x 1600 mm	0
max. field	1500 x 3000 mm	10

Smallest fields (see fig. 2)

Original diaphragm used – only two lenses are open		
	Field dimension	Zoom position
min. field	200 x 300 mm	0
max. field	800 x 1000 mm	10

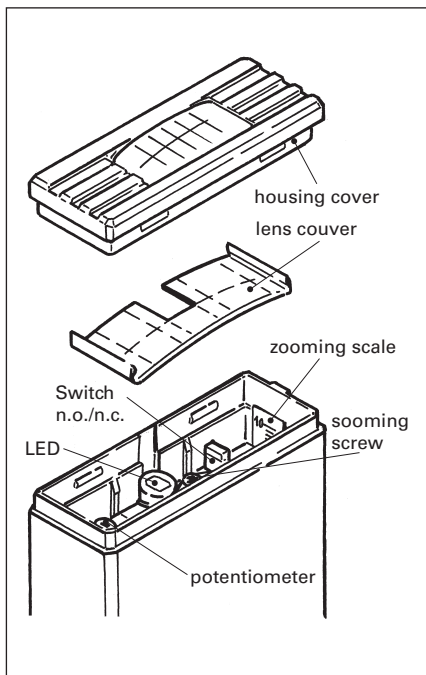


Note

The best depth of focus is at pos. 0. Zooming up to pos. 10 infinitely enlarges the detection fields in every direction, however reduces the marginal sharpness slightly.

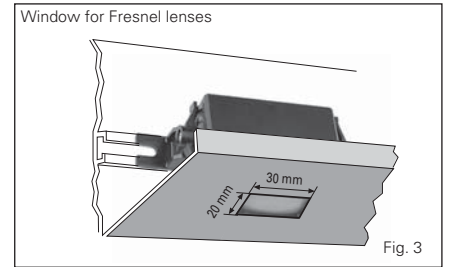
Electrical adjustments

- Switch active/passive (n.o./n.c.)
- Potentiometer for altering the temperature response threshold. At maximum sensitivity the required temperature difference to the environment is approx. $\pm 0.5^\circ\text{C}$, at min. sensitivity approx. $\pm 6^\circ\text{C}$.
- Fixed fall-delay time of 0.5 s



Benefits of the PIR 20

- Excellent possibilities for integration due to small dimensions (see fig. 3)
- Field adjustment accurate to the cm

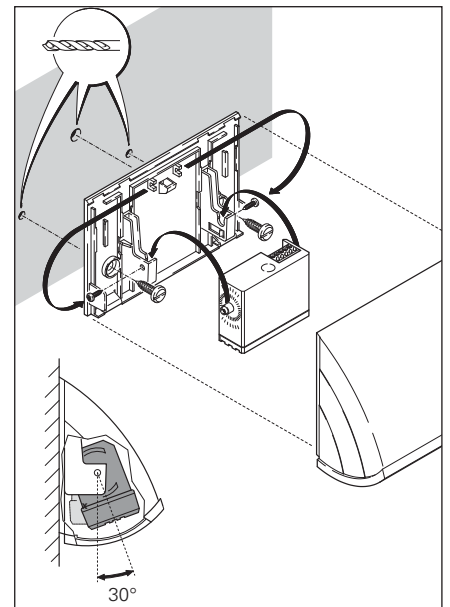
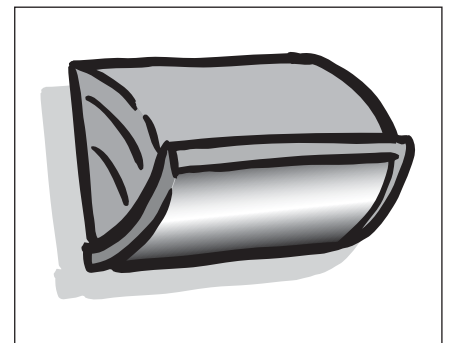


Drawbacks of the PIR 20

- Fall-delay time not adjustable as with the PIR 30
- Does not fit into concealed and surface-mounted box as with PIR 30

Accessories

Weather protective cover PIR 20



Technical data

PIR 20

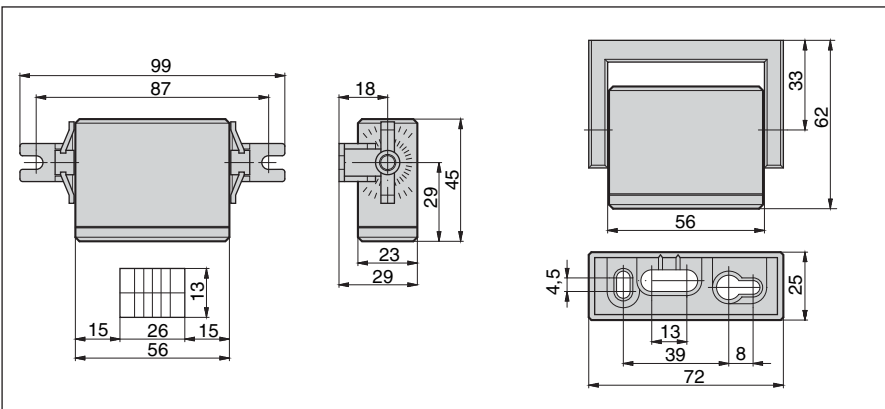
Field dimensions	adjustable by means of diaphragms and zoom technique – see page 2
Detection range	max. frontal range 12 m
Mounting height	recommended mounting height max. 3.5 m
Sensitivity adjustment	by potentiometer
Optics/lenses	12 Fresnel lenses + zoom technique
Operating voltage	12–24 V AC / 12–30 V DC (-0 % / +15 %)
Current consumption	approx. 15 mA at 24 V AC
Power consumption	approx. 350 mW at 24 V AC
Signal output	PIR 20/31 1 x potential-free change-over contact switching voltage 48 V AC/DC switching current 1 A switching capacity max. 30 W / 60 VA
Fall-delay time	0.5 s – fixed setting
Switching mode	active/passive (normally open n.o./normally closed n.c.) with internal switch
Function indication	LED red/green – red: lit when output active
Connection	plug-in screw terminal
Protection class	IP52
Operating temperature	-40°C to +60°C (-40°F to 140°F)
Weight	approx. 40 g without cable
Housing/color	plastic, black ABS
EMC compatibility	89/336 EEC, EN 61000-6-1, EN 61000-6-2

Options

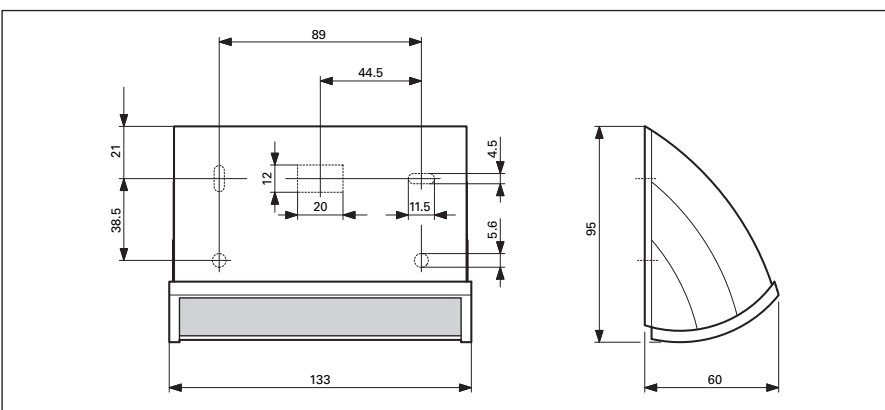
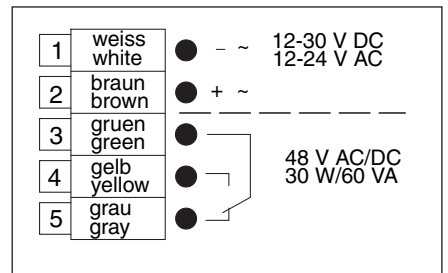
PIR 20

Housing colour white	Option – on request (please note on order)
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Dimensions



Wiring diagrams



Applications

Door

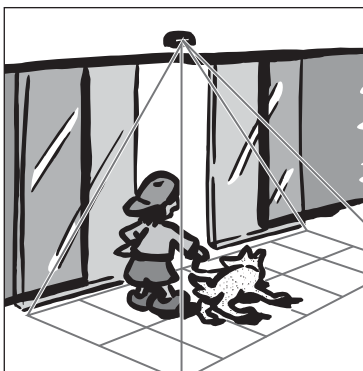
- Pinching protection on all automatic doors, sliding doors, revolving doors, semi-circular doors etc.
- Integrated as jack plug for swing doors
- Small surface triggering sensor for limited space conditions
- Opening sensor for swing doors

Elevators / escalators / moving sidewalks

- Monitoring sensor for control of cabin access. No unintentional closing of the door while loading/unloading the elevator
- Starter for escalator/moving sidewalks

Train / bus / trolley-bus

- Encompassing monitoring of automatically closing vehicle doors
- Opening impulse for automatic doors inside trains



Ordering information

Article no.	Designation	Specification
212657	PIR 20/31	Signal output: relay; Colour: black
212658	PIR 20/31	Signal output: relay; Colour: white

Scope of delivery

2 mounting brackets (for integration), 1 swivel bracket (for surface mounting),
2 lens diaphragms, 2 adhesive tapes (double-sided)

Your contact

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