

Satel®

AQUA S



DIGITAL PASSIVE INFRARED DETECTOR



aqua_s_en 07/11

The microprocessor-based, fully digital AQUA S detector is characterized by high sensitivity and interference resistance. A dual pyroelectric sensor is used in the detector. AQUA S can be supplied with AC or DC 24 V voltage.

The detector is provided with a **prealarm feature**. Prealarm is signaled by a short flash of the LED after changes which do not meet the alarm criteria have been sensed within the detector coverage area. The prealarm sensitivity depends on what sensitivity is set on the detector pins. Frequently occurring prealarms may cause an alarm.

For 30 seconds after the power-up, the detector warms up. Only after this time has elapsed, the detector will be ready to work. Warm-up is indicated by a rapid LED blinking.

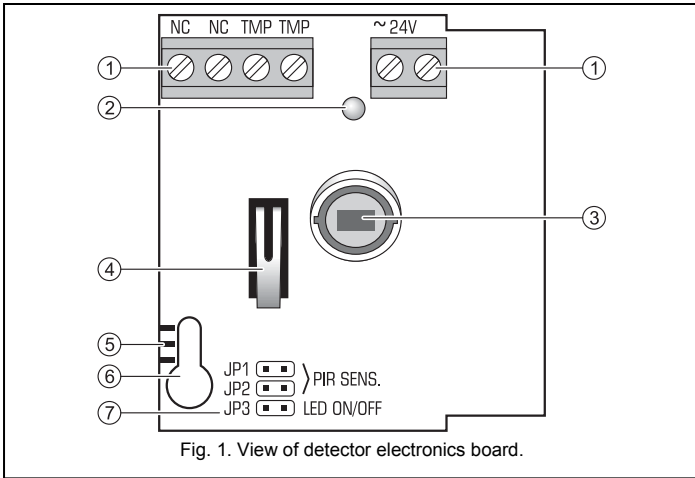


Fig. 1. View of detector electronics board.

Explanations to Fig. 1:

1 - terminals:

- NC** - relay (NC)
- TMP** - tamper contact
- ~24V** - supply input (AC/DC)

2 - red LED to indicate:

- prealarm - short flash (approx. 120 ms);
- alarm - ON for 2 seconds;
- warm-up - blinking rapidly;
- low supply voltage - ON.

3 - pyroelectric sensor.

4 - tamper contact.

5 - scale for positioning of pyroelectric sensor against the lens (see Figure 7).

6 - fixing screw hole.

7 - detector configuration pins:

- PIR SENS.** - setting detector sensitivity (see Fig. 2);
- LED ON/OFF** - enabling/disabling the LED signaling. The signaling is enabled when the pins are shorted.

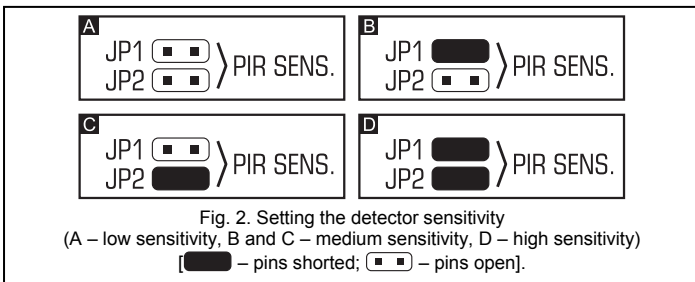


Fig. 2. Setting the detector sensitivity (A - low sensitivity, B and C - medium sensitivity, D - high sensitivity) [■ - pins shorted; □ - pins open].

Lenses

An extra wide (EWA) lens is installed in the detector. Optionally, lenses with other characteristics (coverage patterns) can be purchased and installed.

Name	Description	Range	Angle of view
EWA	extra wide angle	15 m	141.2°
LR	long range with access zone monitoring	30 m	main beam - 3 m wide (at the end of range)
VB	vertical barrier	22.5 m	2.2 m wide (at the end of range)

Table 1. Available lenses.

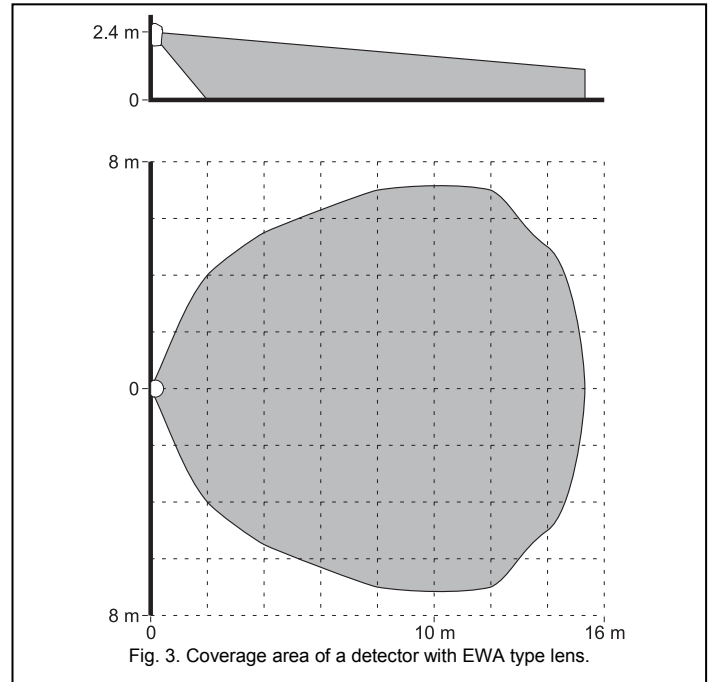


Fig. 3. Coverage area of a detector with EWA type lens.

Installation



1. Open the enclosure as shown on Figure 4.

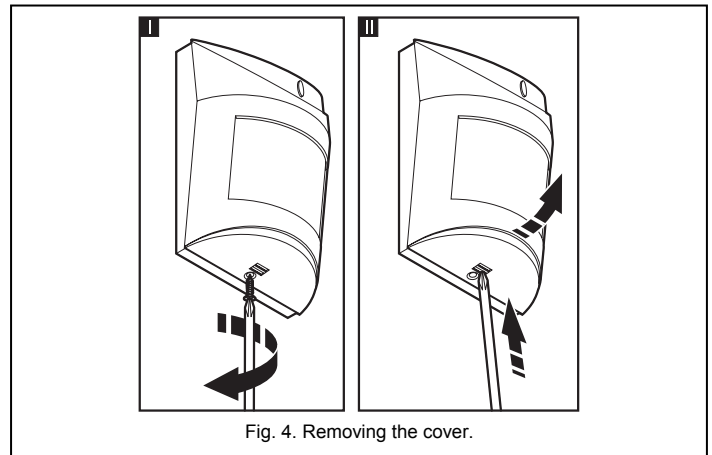


Fig. 4. Removing the cover.

2. Remove the electronics board.

3. Make suitable openings for screws and cable in the enclosure base.

4. Pass the cable through the prepared opening.

5. Fix the enclosure base to the wall or to the attached bracket.

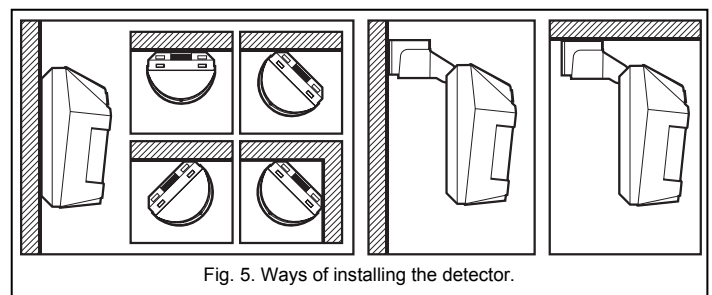
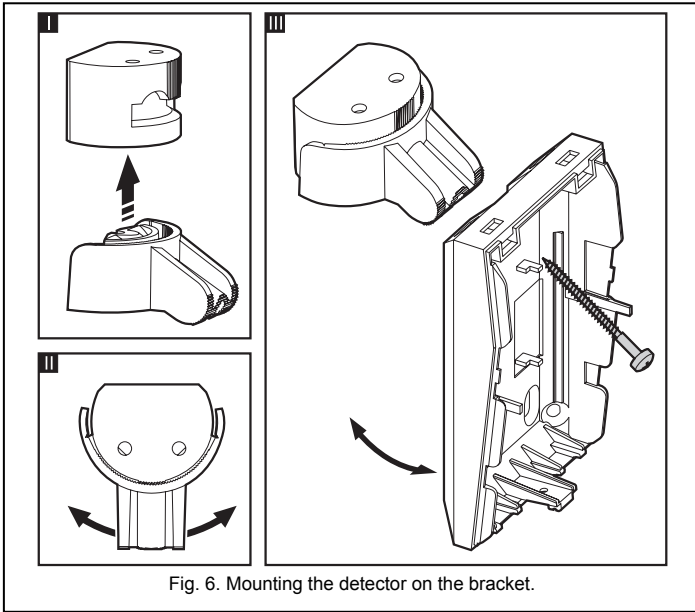


Fig. 5. Ways of installing the detector.



6. Fasten the electronics board, taking into consideration the height of detector installation (see Figure 7).

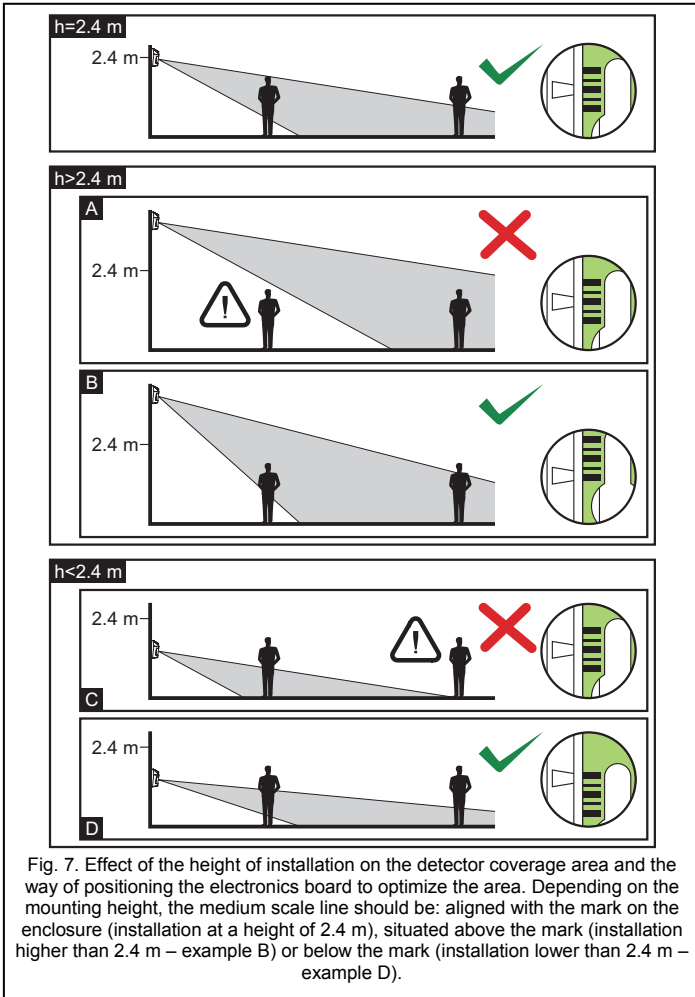


Fig. 7. Effect of the height of installation on the detector coverage area and the way of positioning the electronics board to optimize the area. Depending on the mounting height, the medium scale line should be: aligned with the mark on the enclosure (installation at a height of 2.4 m), situated above the mark (installation higher than 2.4 m – example B) or below the mark (installation lower than 2.4 m – example D).

7. Connect the wires to the corresponding terminals.
8. Using jumpers, set the working parameters of the detector.
9. Close the detector enclosure.

Start-up

1. Switch the detector power on. The LED will start blinking (if the JP3 pins are shorted).

2. When the detector is ready to work (the LED will stop blinking), carry out the detector range test, i.e. check that movement within the coverage area will activate the alarm relay and lighting of the LED.
3. If necessary, change the detector sensitivity (pins PIR SENS.).

Specifications

Supply voltage	24 V AC/DC ±15%
Max. current consumption (±10%)	27 mA for 24 V AC
.....	14 mA for 24 V DC
Relay contacts rating (resistive load)	40 mA / 27 V AC/DC
Alarm signaling time	2 s
Detectable speed	0.3...3 m/s
Environmental class according to EN50130-5	II
Operating temperature range	-30...+55 °C
Maximum humidity	93±3%
Dimensions	63 x 96 x 49 mm
Recommended installation height	2.4 m
Weight	93 g

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The declaration of conformity may be consulted at www.satel.eu/ce