

aqua_plus_en 08/09

The microprocessor-based, fully digital AQUA PLUS detector is characterized by high sensitivity and interference resistance. Due to an advanced digital temperature compensation feature, the device can work in a wide temperature range. A dual element pyrosensor is used in the detector. The processor performs two-way signal analysis, based on value and quantity.

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 remains in the **starting state**, which is signaled by a rapid LED blinking. Only after this time has elapsed, the detector will be ready to work.

The detector monitors the supply voltage. If the voltage drops below 9V ($\pm 5\%$) for more than 2 seconds, the detector will signal a trouble by activation of the alarm relay and by steady light of the LED indicator. Restoration of a minimum 9V ($\pm 5\%$) voltage will turn the signaling off.

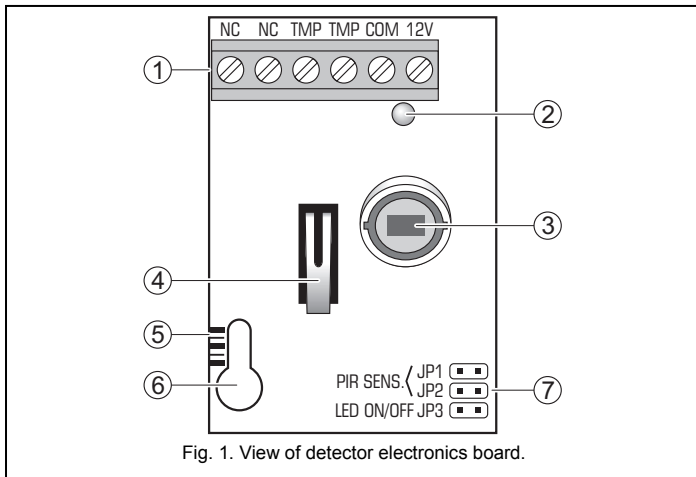


Fig. 1. View of detector electronics board.

Explanations to Fig. 1:

1 – terminals:

- NC** – relay (NC)
- TMP** – tamper contact
- COM** – common ground
- 12V** – supply input

2 – red color LED to indicate:

- prealarm – short flash (approx. 120 ms);
- alarm – lit up for 2 seconds;
- starting state – blinking rapidly;
- low supply voltage – red light.

3 – pyroelement.

4 – tamper contact.

5 – scale for positioning of pyroelement against the lens (see: Fig. 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.

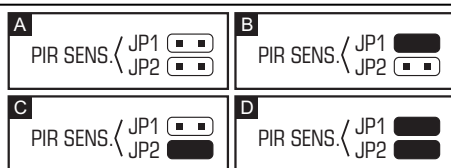


Fig. 2. Setting the detector sensitivity

(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.

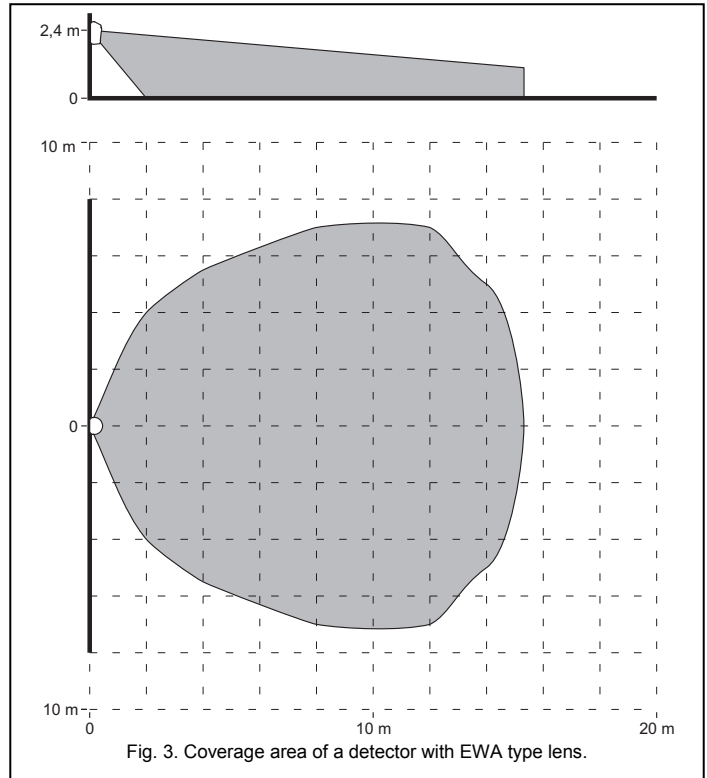


Fig. 3. Coverage area of a detector with EWA type lens.

Note: The detector operating range should be selected to match the size of space where the detector will be installed. The size of the space along the main direction of detector positioning is not to be less than 1/3 the nominal range of the detector. Improper selection of the lens may cause excessive sensitivity and trigger false alarms.

Installation



1. Open the housing as shown on Fig. 4.

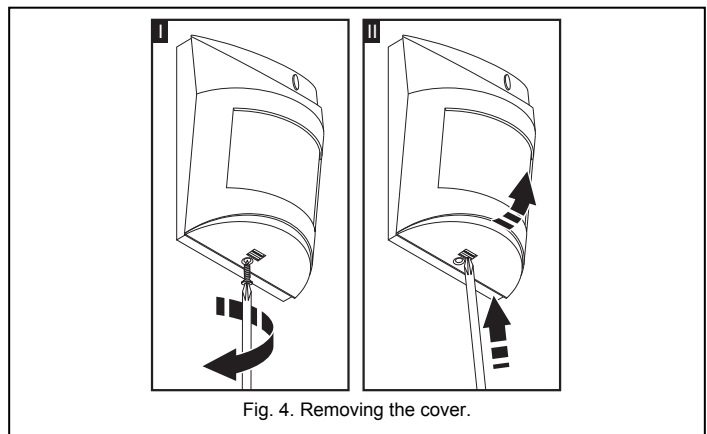


Fig. 4. Removing the cover.

2. Remove the electronics board.

3. Make suitable openings for screws and cable in the rear panel of the housing.

4. Pass the cable through the prepared opening.

5. Fix the rear housing panel to the wall or to the attached holder.

Note: For compliance with the requirements of EN50131-2-2, the detector shall be installed directly on the mounting surface, without the additional bracket.

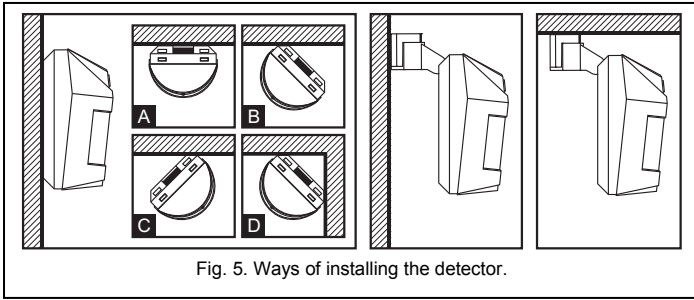


Fig. 5. Ways of installing the detector.

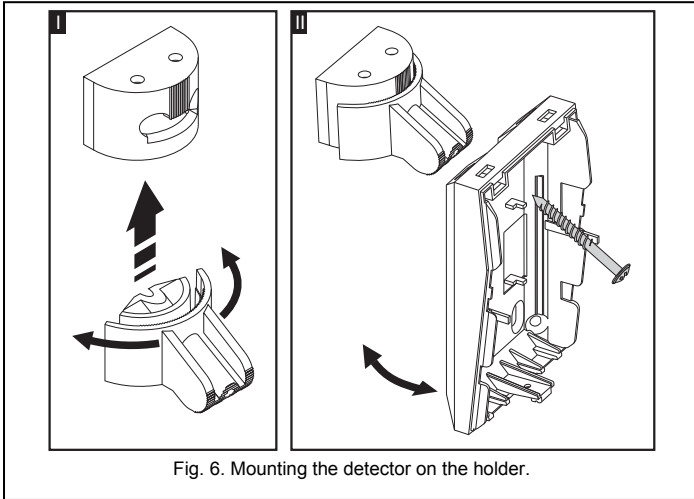


Fig. 6. Mounting the detector on the holder.

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

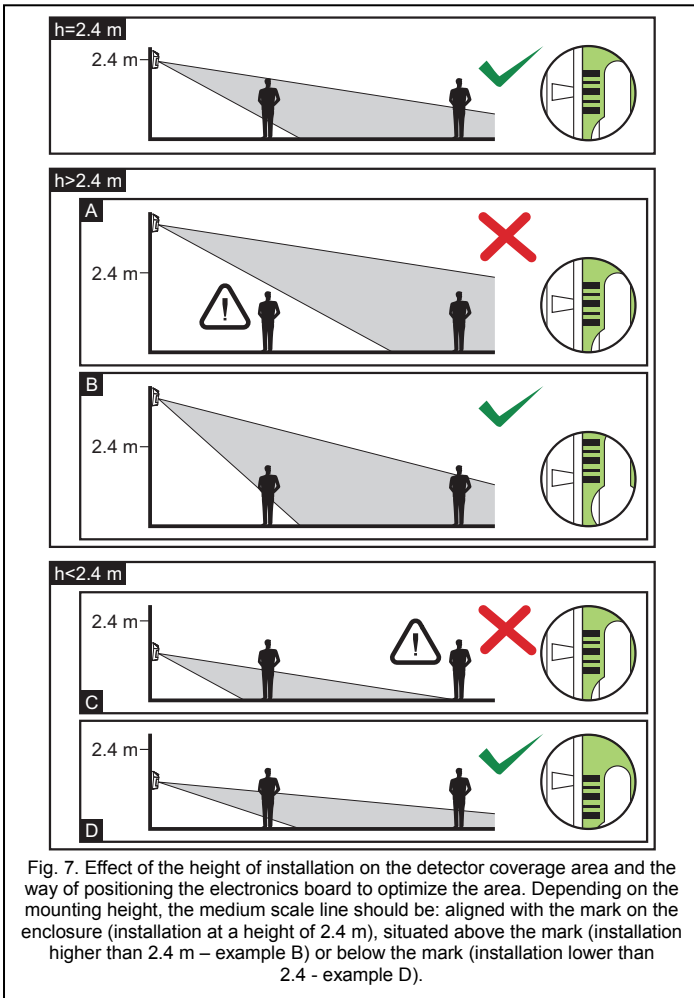


Fig. 7. Effect of the height of installation on the detector coverage area and the way of positioning the electronics board to optimize the area. Depending on the mounting height, the medium scale line should be: aligned with the mark on the enclosure (installation at a height of 2.4 m), situated above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

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

Start-up

1. Switch the detector power on. The LED will start blinking (if the LED ON/OFF pins are shorted).
2. When the detector enters its working state (the LED will stop blinking), carry out the detector range test, i.e. check that movement within the supervised area will activate the alarm relay and lighting of the LED.
3. If necessary, change the detector sensitivity (pins PIR SENS.).

Specifications

Supply voltage	.....12 V DC \pm 15%
Current consumption, standby	.....10 mA
Current consumption, maximum	.....12 mA
Relay contacts rating (resistive)	.....40 mA / 16 V DC
Alarm signaling time	.....2 s
Detectable speed	.....0.3...3 m/s
Security grade according to EN50131-2-2	.....Grade 2
Environmental class according to EN50130-5	.....II
Operating temperature range	.....-10...+55°C
Standards complied with	.....EN50131-1, EN50131-2-2, EN50130-4, EN50130-5
Dimensions63 x 96 x 49 mm
Recommended installation height2.4 m
Weight90 g

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