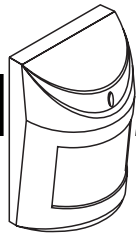


# Satel®

## AQUA LUNA

DIGITAL PASSIVE INFRARED DETECTOR  
WITH BACKLIGHT FEATURE



aqua\_luna\_en 05/09

The microprocessor-based, fully digital AQUA LUNA 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. Additionally, the detector is provided with a set of LEDs, which are used for backlighting. The backlight is remotely controlled.

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 9 V ( $\pm 5\%$ ) 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 9 V ( $\pm 5\%$ ) voltage will turn the signaling off.

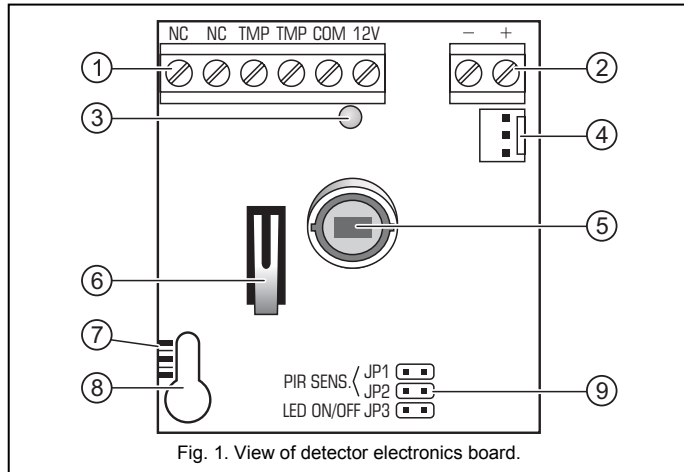


Fig. 1. View of detector electronics board.

Explanations to Fig. 1:

1 – detector terminals:

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

2 – terminals for connecting the backlight control signal. If low-current, OC type outputs are used for backlight control, connect +12V voltage to the “+” terminal, and output signal to the “-” terminal (a single OC type output can control backlight in up to two detectors). If high-current outputs are used for backlight control, connect output signal to the “+” terminal, and common ground to the “-” terminal. The control output can be programmed as e.g. MONO SWITCH (the output is activated for a preset time after violation of the detector) or TIMER (the output is timer controlled).

3 – 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.

4 – socket for connection of LEDs to provide backlight feature.

5 – pyroelement.

6 – tamper contact.

7 – scale for positioning of pyroelement against the lens (see Fig. 6).

8 – fixing screw hole.

9 – 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.

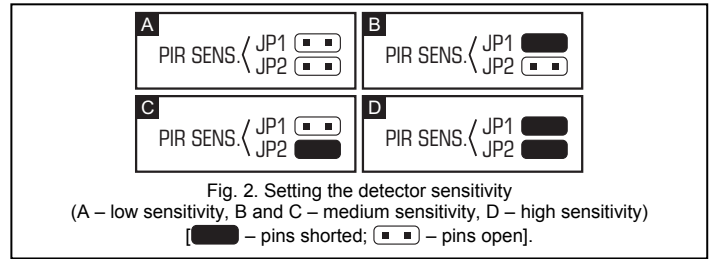


Fig. 2. Setting the detector sensitivity  
(A – low sensitivity, B and C – medium sensitivity, D – high sensitivity)  
[■ – pins shorted; □ – pins open].

### Installation



1. Open the housing as shown on Fig. 3 and disconnect the LED backlight from its socket on electronics board.

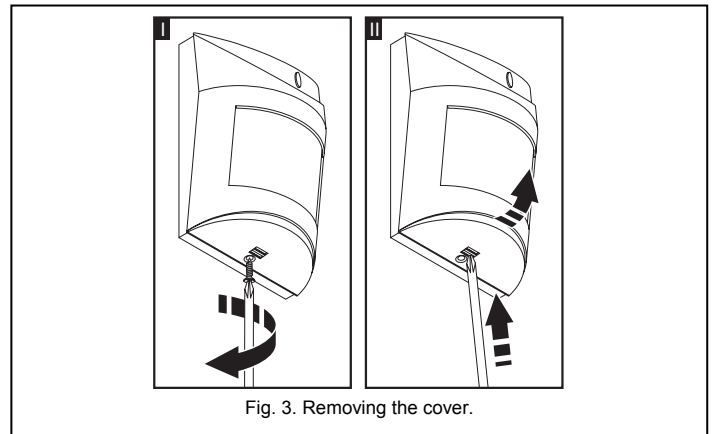


Fig. 3. Removing the cover.

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.

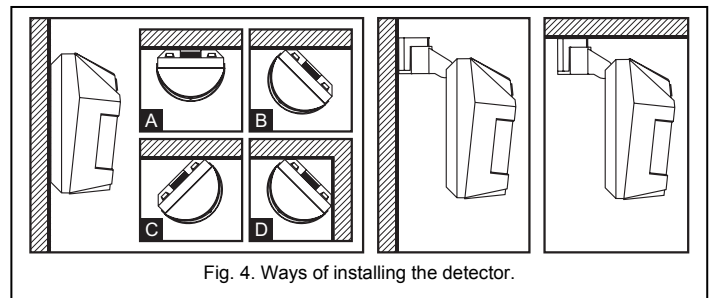


Fig. 4. Ways of installing the detector.

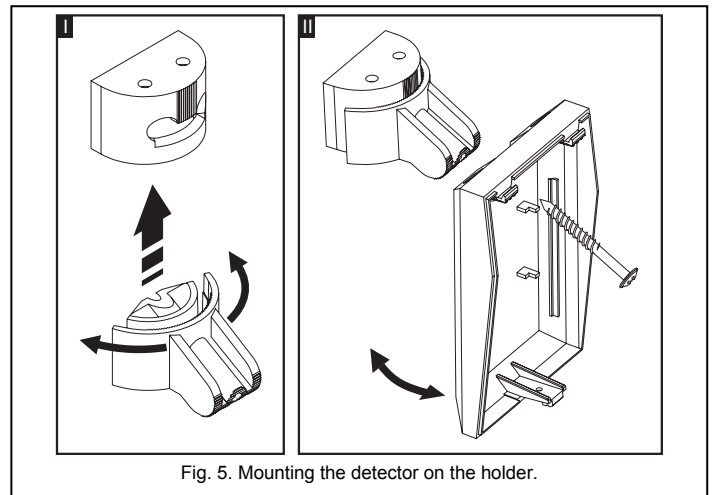
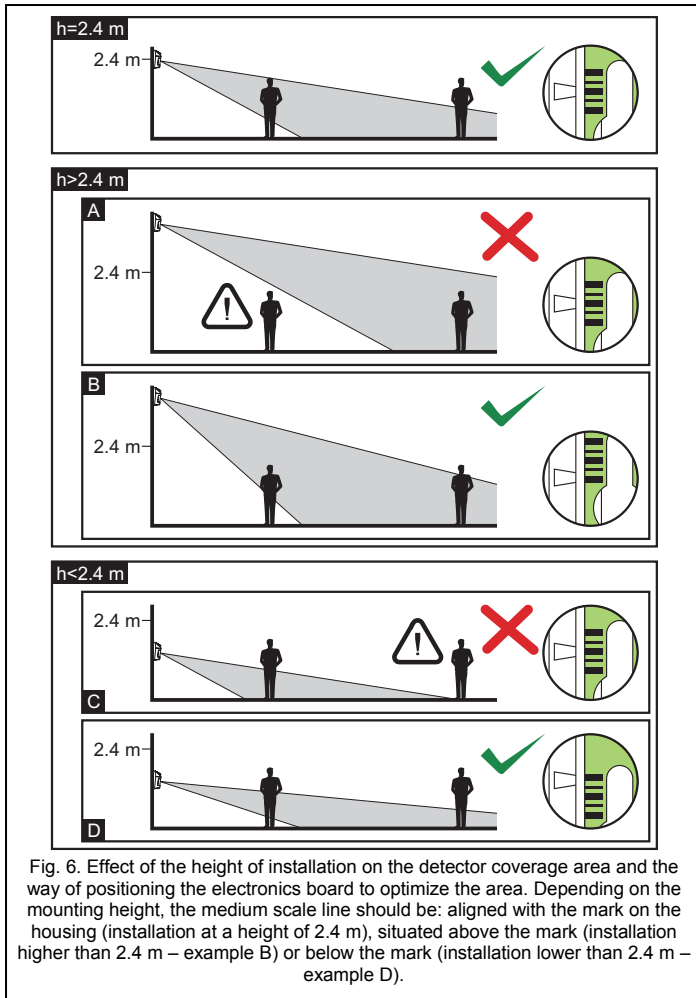


Fig. 5. Mounting the detector on the holder.

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



7. Connect the leads to the corresponding terminals.
8. Using jumpers, set the working parameters of the detector.
9. Connect the LED backlight to its socket on electronics board and 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.).

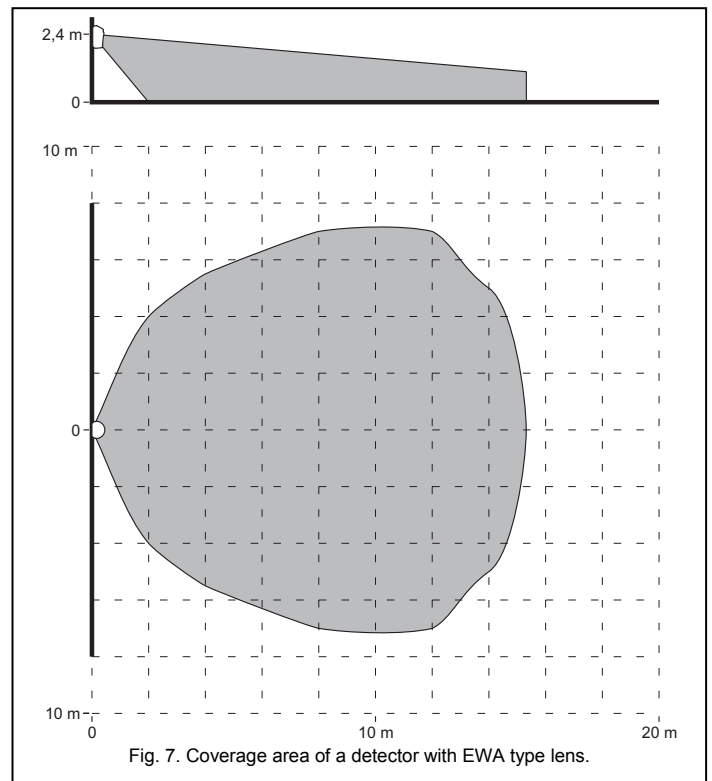
## Lenses

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

**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.

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.



## Specifications

Supply voltage	12 V DC ±15%
Detector current consumption, standby	10 mA
Detector current consumption, maximum	12 mA
Maximum backlight current consumption	25 mA
Relay contacts rated load (resistive)	40 mA / 16 V DC
Alarm signaling time	2 s
Detectable speed	0.3...3 m/s
Standards complied with	EN50131-1, EN50131-2-2, EN50130-4, EN50130-5
Security grade according to EN50131-2-2	Grade 2
Environmental class according to EN50130-5	II
Operating temperature range	-10...+55 °C
Dimensions	63 x 96 x 49 mm
Recommended installation height	2.4 m
Weight	92 g

The latest EC declaration of conformity and product approval certificates are available for downloading on website [www.satel.pl](http://www.satel.pl)



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