

graphite_en 08/09

The GRAPHITE digital motion detector is characterized by high sensitivity, as well as high immunity to interference and false alarms. The detector construction is based on an advanced signal processor with a high resolution transducer. A dual element pyrosensor is used in the detector. An advanced digital temperature compensation feature enables operation within a wide range of temperatures. Other advantages of the detector include alarm memory and remote on/off switching of the LED indicator.

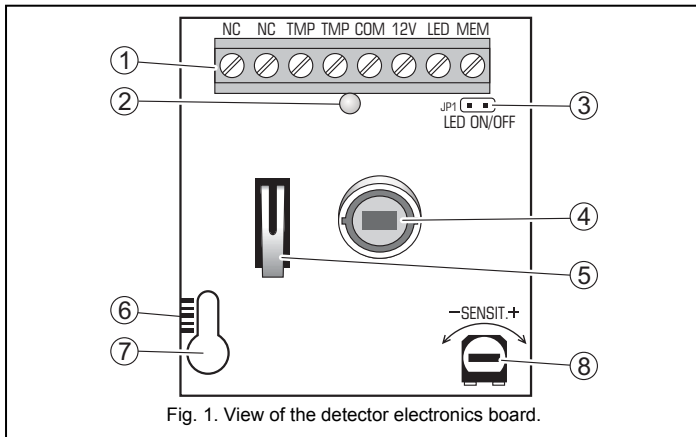


Fig. 1. View of the detector electronics board.

Explanations for Figure 1:

1 – terminals:

- NC** – relay (NC).
- TMP** – tamper contact.
- COM** – common ground.
- 12V** – power supply input.
- LED** – the input enables the LED indicator to be remotely switched ON/OFF, if the jumper is removed from the LED ON/OFF pins. The LED will signal violations, when the LED input is short-circuited to the common ground. For control of the input, you can use the OC type output of the control panel, programmed e.g. as SERVICE MODE INDICATOR or BI SWITCH.
- MEM** – the alarm memory control input. It is required that the OC type output of the alarm control panel, programmed as ARMED STATUS INDICATOR be connected to the input. When the input is shorted to the ground and the detector registers a motion, thus triggering the alarm, the LED blinking will signal the alarm memory. The alarm memory signaling will continue until the input is shorted to the ground again. Cut-off of the input from the ground (disarming) will not erase of the alarm memory.

- 2 – LED indicator. It lights red for approx. 2 seconds after registration of movement by the detector and activation of the relay (opening of the NC contacts). It allows the installer to check the detector performance and to approximately determine the coverage area. Blinking of the LED indicates alarm memory.
- 3 – LED ON/OFF pins. Setting the jumper will activate signaling by means of the LED, irrespective of the LED input status.
- 4 – dual element pyrosensor.
- 5 – tamper contact.
- 6 – graduation for positioning the dual element pyrosensor against the lens (see Table 1 and Figure 5).
- 7 – mounting screw hole.
- 8 – potentiometer for detector sensitivity adjustment.

For 30 seconds after power-up, the detector remains in the **starting state**, which is signaled by short flashes of the LED indicator. Only after this time has elapsed, the detector will be ready to work.

The detector is monitoring power supply voltage and availability of the signal path. In case of a voltage drop below 9 V ($\pm 5\%$), lasting longer than 2 seconds, or detection of a fault in the signal path, the detector will signal a trouble by activating the alarm relay and steady lighting of the LED. The signaling continues as long as the trouble exists.

Installation



1. Open the housing as shown in Figure 2.

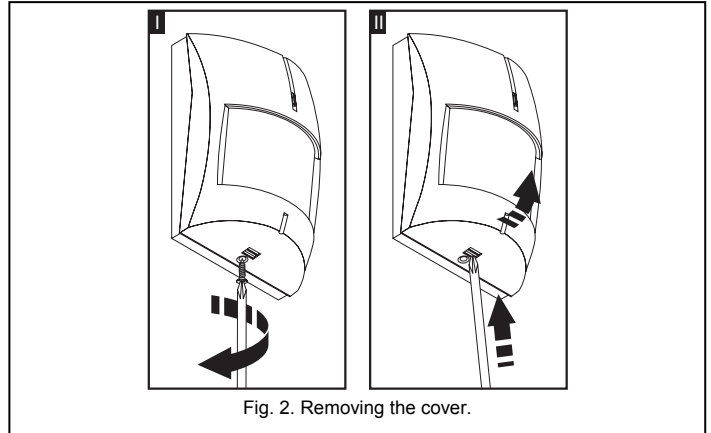


Fig. 2. Removing the cover.

- 2. Remove the electronics board.
- 3. Make suitable holes for screws and cable in the rear housing panel.
- 4. Pass the cable through the prepared opening.
- 5. Secure the rear housing panel to the included holder or the wall.

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

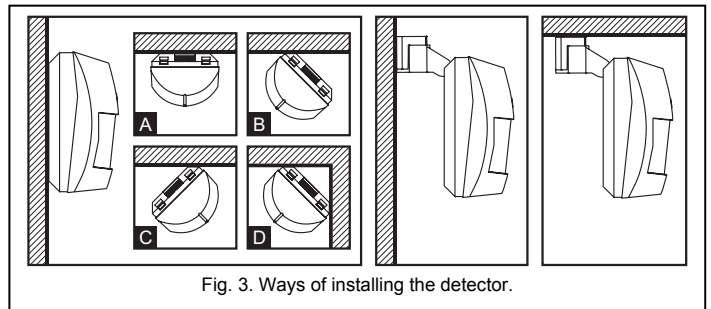


Fig. 3. Ways of installing the detector.

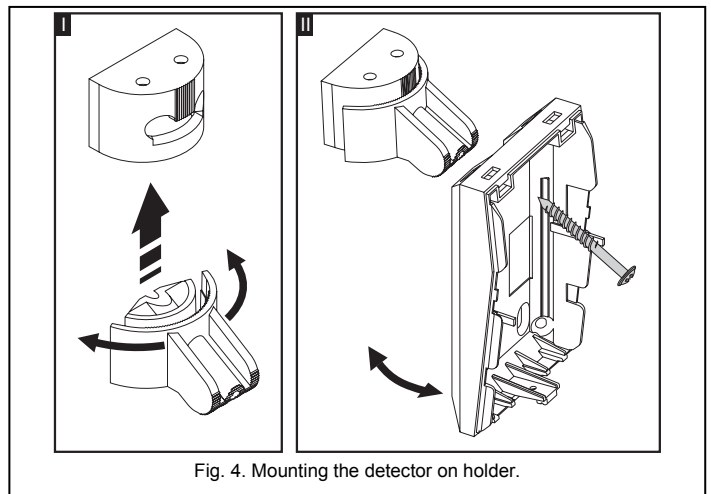


Fig. 4. Mounting the detector on holder.

6. Fasten the electronics board, taking into account the height at which the detector is mounted (see Table 1 and Figure 5).

Mounting height	Graduation position against housing index
above 2.4m	middle graduation mark above the index
2.4m	middle graduation mark aligned with the index
below 2.4m	middle graduation mark below the index

Table 1. Positioning the pyroelectric element against the lens.

Note: If the detector is installed at a height above 2.4m, it is recommended that the holder be used, and the detector be mounted in inclined position.

7. Connect the wires to corresponding terminals.
8. Using potentiometer, determine sensitivity of the detector.
9. Close the detector housing.

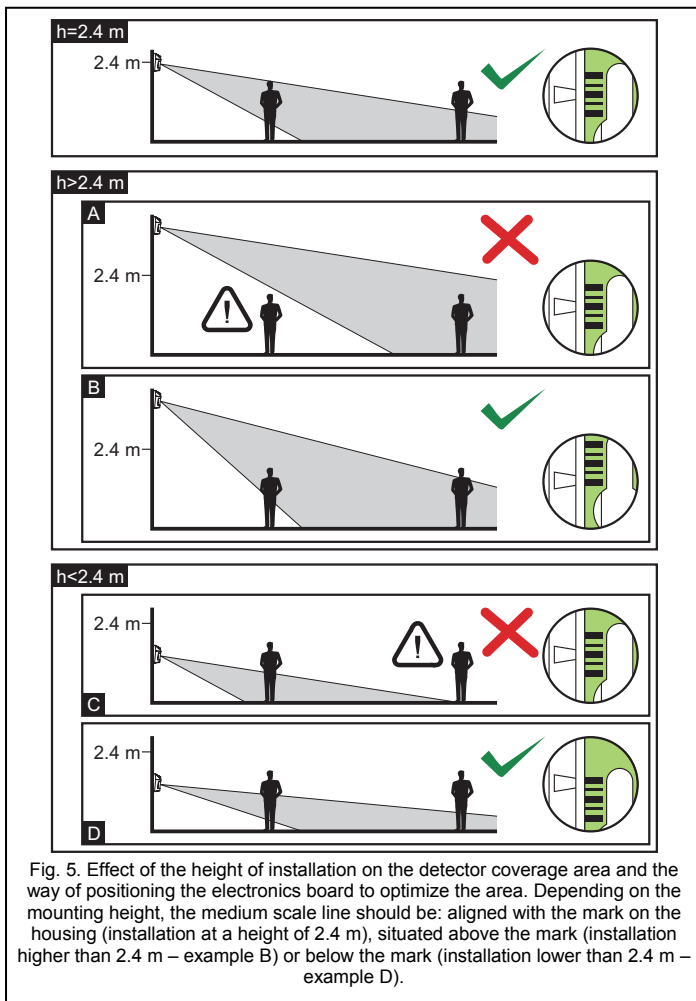


Fig. 5. Effect of the height of installation on the detector coverage area and the way of positioning the electronics board to optimize the area. Depending on the mounting height, the medium scale line should be: aligned with the mark on the housing (installation at a height of 2.4 m), situated above the mark (installation higher than 2.4 m – example B) or below the mark (installation lower than 2.4 m – example D).

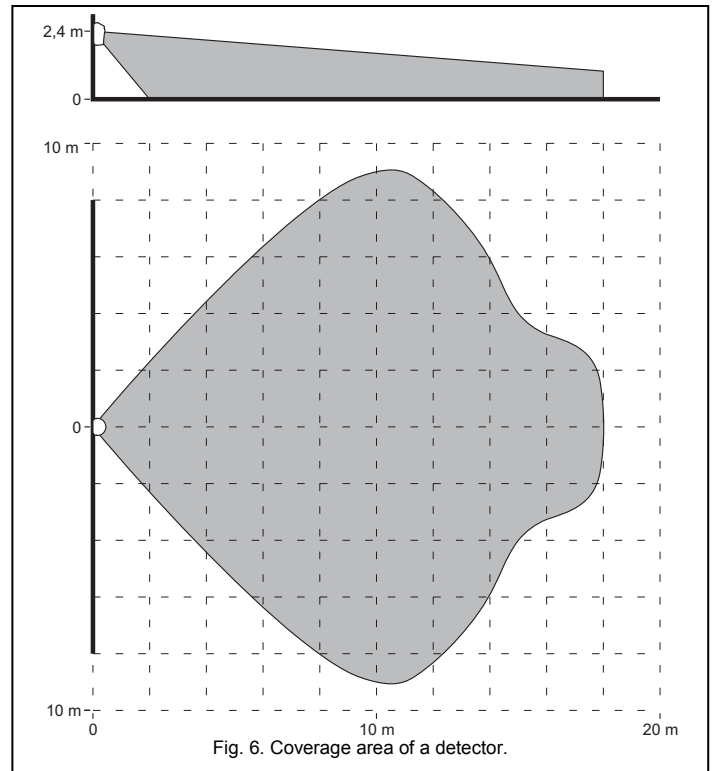


Fig. 6. Coverage area of a detector.

Start-up

1. Turn power supply on (the LED will start blinking, which indicates the starting state).
2. When the detector enters the working state (the LED stops blinking), carry out a test for the detector range, i.e. check that a movement within the supervised area will activate the alarm relay or cause the LED light up. During the test, the LED ON/OFF pins must be shorted, or the LED input must be shorted to the common ground.
3. If necessary, change the detector sensitivity.

Technical data

Supply voltage	12 V DC \pm 15%
Current consumption, standby	12 mA
Current consumption, maximum	14 mA
Relay contacts rated load (resistive)	40 mA / 16 V DC
Violation signaling time	2s
Detectable motion 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
Dimensions	62x96x48 mm
Recommended mounting height	2.4 m
Weight	96 g

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