

# IVORY

## PASSIVE INFRARED DETECTOR WITH MIRROR OPTICS

ivory\_en 01/15

The IVORY detector allows detection of motion in the protected area. This manual applies to the detector with electronics version 2.3 or newer.

### 1. Features

---

- High-quality segmented mirror.
- Advanced digital signal processing.
- Digital temperature compensation.
- Adjustable detection sensitivity.
- Built-in EOL resistors.
- LED to indicate alarm status.
- Remote LED enable/disable.
- Alarm memory.
- Supervision of detector signal path and supply voltage.
- Tamper protection against cover removal.

### 2. Description

---

After motion is sensed by the detector in the coverage area, the alarm relay contacts will open for 2 seconds.

#### Supervision features

In the event of the voltage drop below 9 V ( $\pm 5\%$ ) for more than 2 seconds or the signal path failure, the detector will signal a trouble. The trouble is indicated by the activation of alarm relay and the steady red light of LED indicator. The trouble signaling will continue as long as the trouble persists.

#### Remote LED enable/disable

The LED can be enabled/disabled remotely when the jumper is placed across the LED pins in OFF position. The LED terminal is provided to allow remote LED enable/disable. The LED is enabled, when the terminal is connected to the common ground, and disabled, when the terminal is disconnected from the common ground. You can connect to the LED terminal an OC type control panel output programmed e.g. as the SERVICE MODE STATUS, BI SWITCH or ZONE TEST STATUS.

#### Alarm memory

If the LED is enabled, the detector can signal the alarm memory. The MEM terminal is provided to allow the alarm memory enable/disable. The alarm memory is enabled, when the terminal is connected to the common ground. The alarm memory is disabled, when the terminal is disconnected from the common ground. If the alarm memory is enabled and an alarm occurs, the LED will start blinking. Indication of the alarm memory will continue until the alarm memory is enabled again (the MEM terminal is connected to the common ground). Disabling the alarm memory will not stop the alarm memory indication. You can connect to the MEM terminal an OC type control panel output programmed e.g. as the ARMED STATUS.

### 3. Electronics board

- ① fixing pins for terminal block. Description of terminals:

**NC** - alarm output (NC relay).

**TMP** - tamper output (NC).

**COM** - common ground.

**12V** - power input.

**LED** - remote LED control.

**MEM** - alarm memory control.

- ② configuration pins for detector outputs:

the built-in resistors are to be used – place the jumpers as shown in Fig. 2 (connect the outputs as shown in Fig. 10),

the built-in resistors are not to be used – place the jumpers as shown in Fig. 3 (connect the outputs as shown in Fig. 9).

- ③ red color LED to indicate:

alarm – ON for 2 seconds,

alarm memory – blinking rapidly,

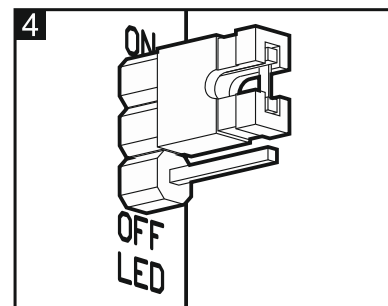
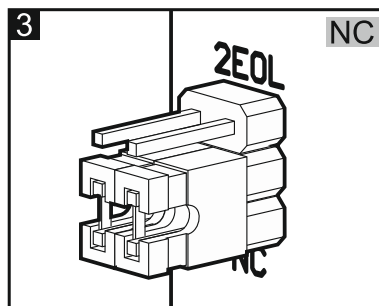
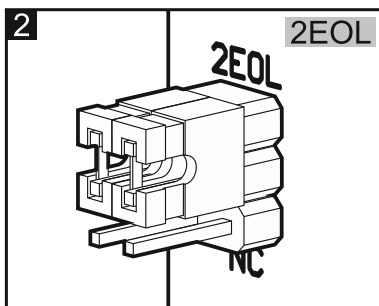
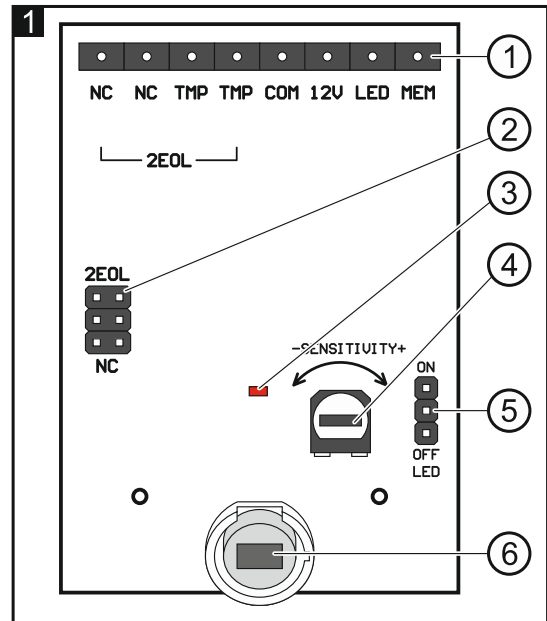
trouble – ON,

warm-up – blinking slowly.

- ④ potentiometer for sensitivity adjustment.

- ⑤ LED enable/disable pins. If the LED is to be enabled, place the jumper as shown in Fig. 4 (the remote LED enable/disable is not available then).

- ⑥ dual element pyrosensor. **Do not touch the pyroelectric sensor, so as not to soil it.**



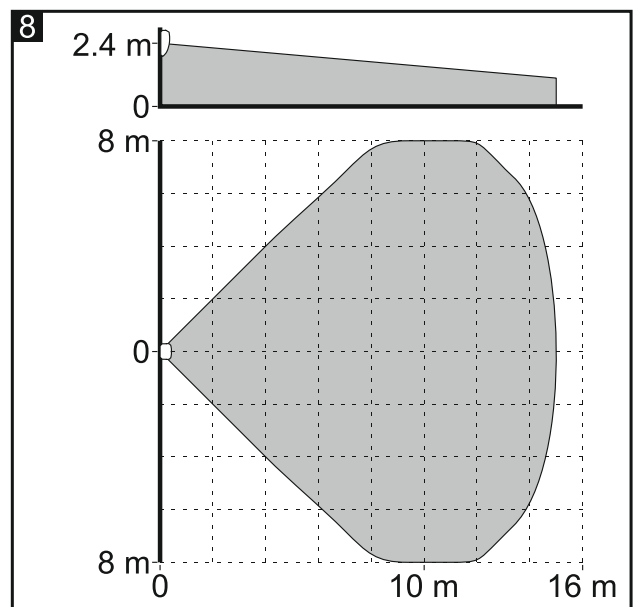
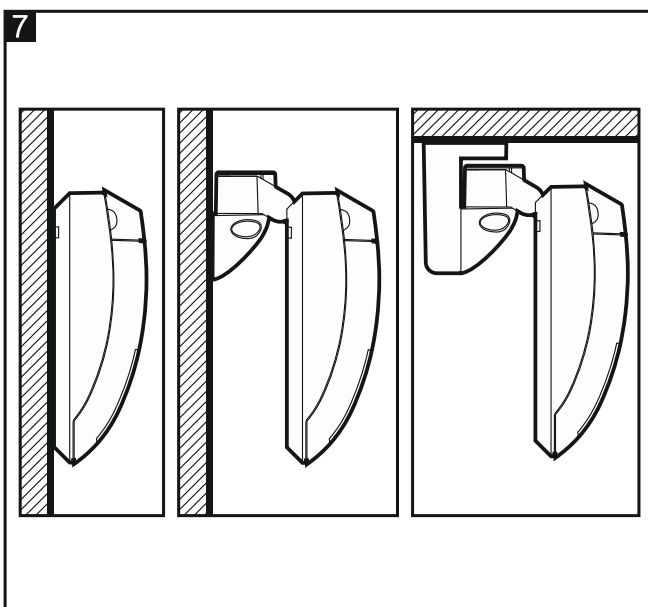
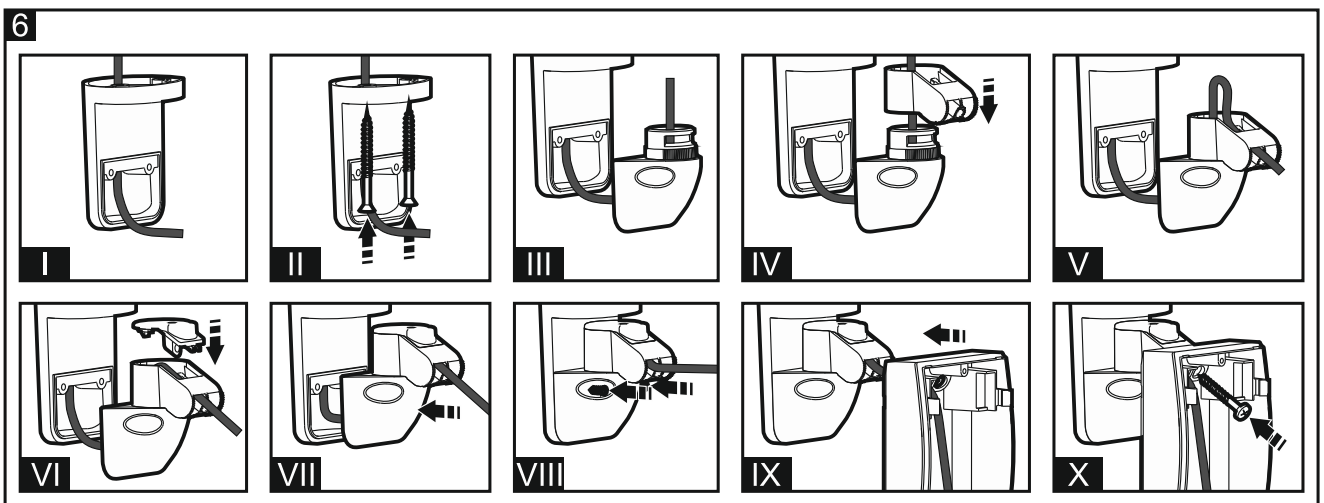
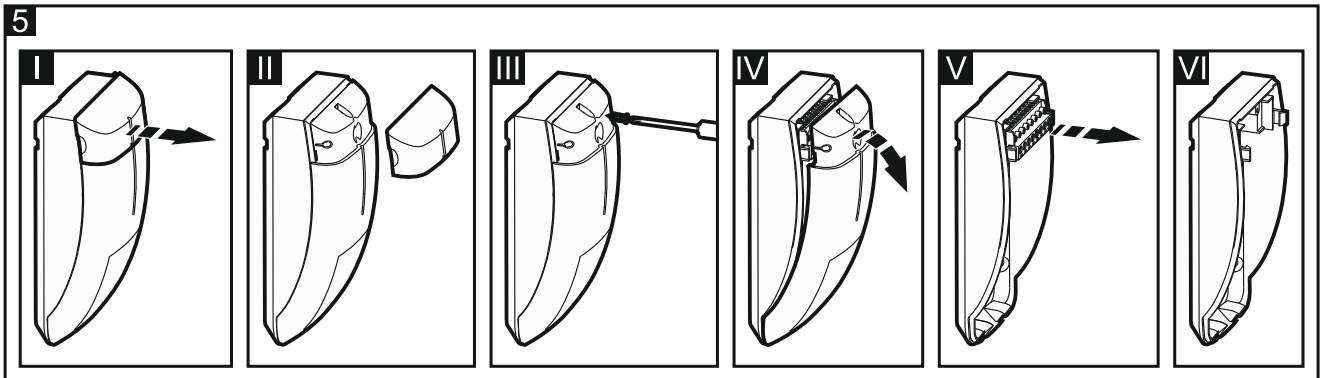
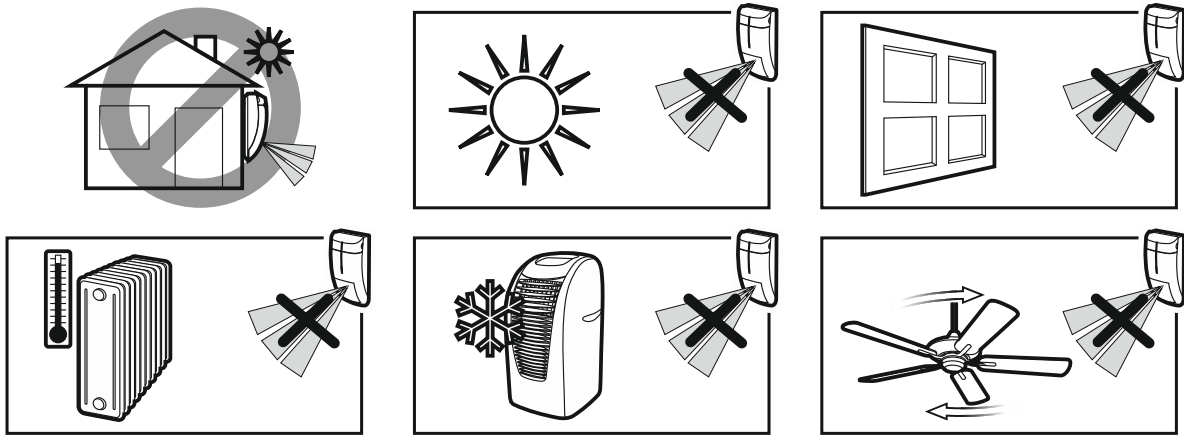
### 4. Installation

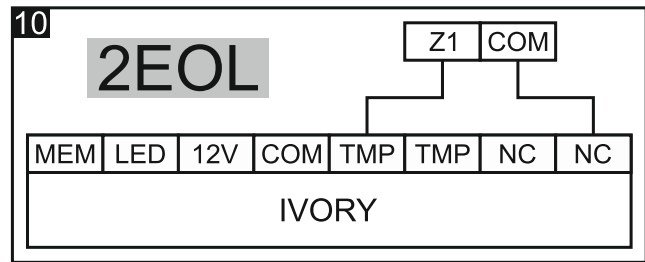
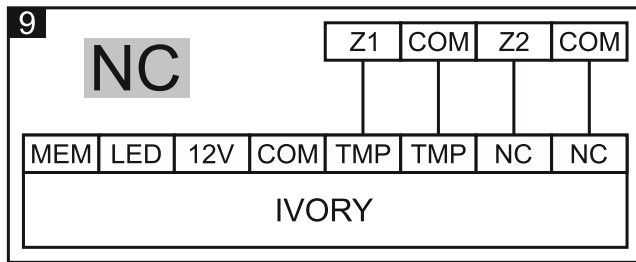


**Disconnect power before making any electrical connections.**

**The mirror requires no cleaning. The sealed structure of the optical chamber is dustproof. Removal of the electronics board or the mirror is not recommended.**

1. Remove the front cover (Fig. 5).
2. Make the openings for screws and cable in the enclosure base.
3. Run the cable through the cable opening, and if the detector is to be mounted on a bracket, also through the bracket (Fig. 6).
4. Fix the enclosure base to the wall or to the bracket (Fig. 7).





5. Connect the wires to the corresponding terminals.
6. Using the potentiometer and jumpers, set the detector working parameters.
7. Replace the cover.

## 5. Start-up and walk test

**Note:** When testing the detector, the LED should be enabled.

1. Power-up the detector. The LED will start blinking, which indicates the detector warm-up.
2. When the LED stops blinking, check that moving within the coverage area (Fig. 8 shows the maximum coverage area – at the maximum sensitivity) will activate the alarm relay and make the LED light up.

## 6. Specifications

Supply voltage .....	12 V DC $\pm$ 15%
Standby current consumption .....	7.5 mA
Maximum current consumption.....	9 mA
EOL resistors .....	2 x 1.1 k $\Omega$
Relay contacts rating (resistive load).....	40 mA / 16 V DC
Detectable speed .....	0.3...3 m/s
Alarm signaling period .....	2 s
Warm-up period .....	30 s
Recommended installation height.....	2,1...3 m
Security grade according to EN50131-2-2.....	Grade 2
Standards complied with.....	EN 50131-1, EN 50131-2-2, EN50130-5
Environmental class according to EN50130-5.....	II
Operating temperature range.....	-30...+55 °C
Maximum humidity .....	93 $\pm$ 3%
Dimensions .....	57 x 123 x 42 mm
Weight.....	112 g

The declaration of conformity may be consulted at [www.satel.eu/ce](http://www.satel.eu/ce)