VD-1

VIBRATION DETECTOR AND MAGNETIC CONTACT

vd1_en 07/16

The VD-1 detector senses vibrations associated with attempts to force a door or window (vibration detector), as well as detects opening of a door or window (magnetic contact).

1. Features

- Piezoelectric sensor.
- Advanced processing of signal from piezoelectric sensor.
- Two reed switches allowing to select the magnet installation manner.
- LED indicator.
- Tamper protection against cover removal and tearing enclosure from the wall.

2. Specifications

Supply voltage ..... 12 V DC ±15%
Standby current consumption ..... 3.5 mA
Maximum current consumption ..... 5.4 mA
Relay contacts rating (resistive load) ..... 40 mA / 16 V DC
Typical detection range of vibration detector, depending on mounting surface:
- concrete ..... 1.5 m
- brick ..... 2.5 m
- wood ..... 3.5 m
- steel ..... 3 m
- PVC ..... 2.25 m

Environmental class according to EN50130-5 II
Operating temperature range ..... -10 °C...+55 °C
Detector enclosure dimensions ..... 26 x 112 x 29 mm
Surface mounted magnet enclosure dimensions ..... 26 x 13 x 19 mm
Surface mounted magnet spacer dimensions ..... 26 x 13 x 3,5 mm
Flush mounted magnet enclosure dimensions ..... 28 x 10 x 10 mm
Weight ..... 64 g

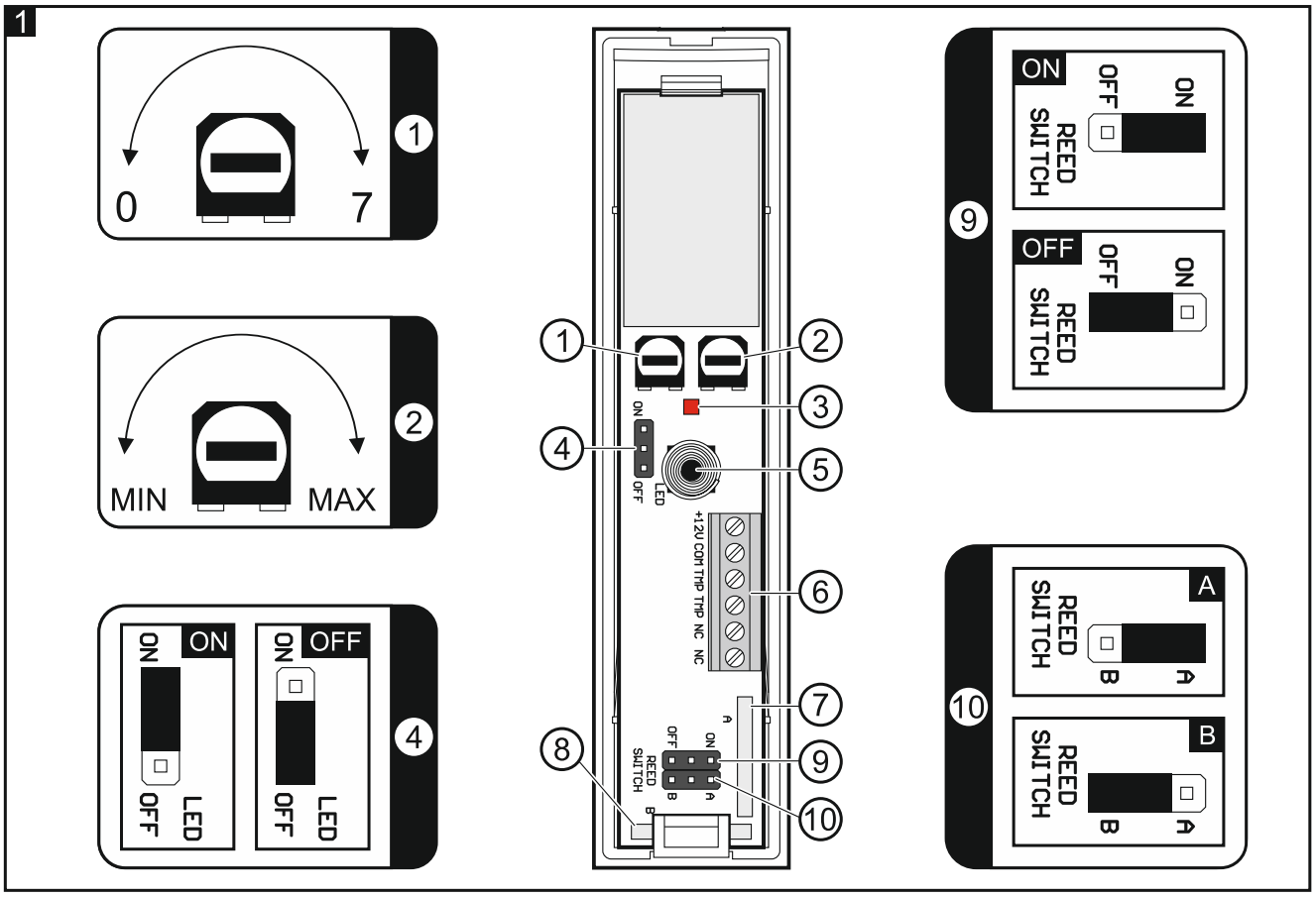
The declaration of conformity may be consulted at www.satel.eu/ce

3. Description

Alarms

The detector reports alarm in the following cases:
- registering of strong vibrations,
- registering of a predefined number of weak vibrations,
- opening reed switch contacts after removal of magnet,
- opening the tamper contact (tamper alarm).

Electronics board



① potentiometer for setting the number of pulses (vibrations), the recording of which during 30 seconds will cause an alarm. The pulses need not meet the sensitivity criterion. You can set from 0 to 7 pulses. If you set 0, only the vibration that meet the sensitivity criterion will cause an alarm. After the settings are changed, the new value is indicated by the LED (the number of flashes corresponds to the number of pulses).

② potentiometer for setting sensitivity of the vibration detector. Registering a single vibration meeting the sensitivity criterion will cause alarm.

Note: *Working parameters of the vibration detector are independently analyzed. Alarm will be triggered by a single strong vibration caused by a hard strike, or several slight vibrations caused by a series of minor impacts.*

③ red color LED. LED indicates:

– registering of vibrations – short flash,
– alarm triggered by the vibration detector – LED is on for 2 seconds,
– alarm triggered by the magnetic contact – LED is on when the reed switch contacts are open.

Additionally, the LED indicates the number of pulses set by using the potentiometer. This information is provided after power up of the detector and after the potentiometer settings are changed. The number of pulses is indicated by means of a corresponding number of flashes. The sequence of flashes is repeated three times.

④ pins for enabling/disabling the LED indicator.

⑤ tamper switch.

⑥ terminals:

+12V - power input.
COM - common ground.

TMP - tamper output (NC).
NC - alarm output (NC relay).

⑦ reed switch A.

⑧ reed switch B.

⑨ pins for enabling/disabling the magnetic contact.

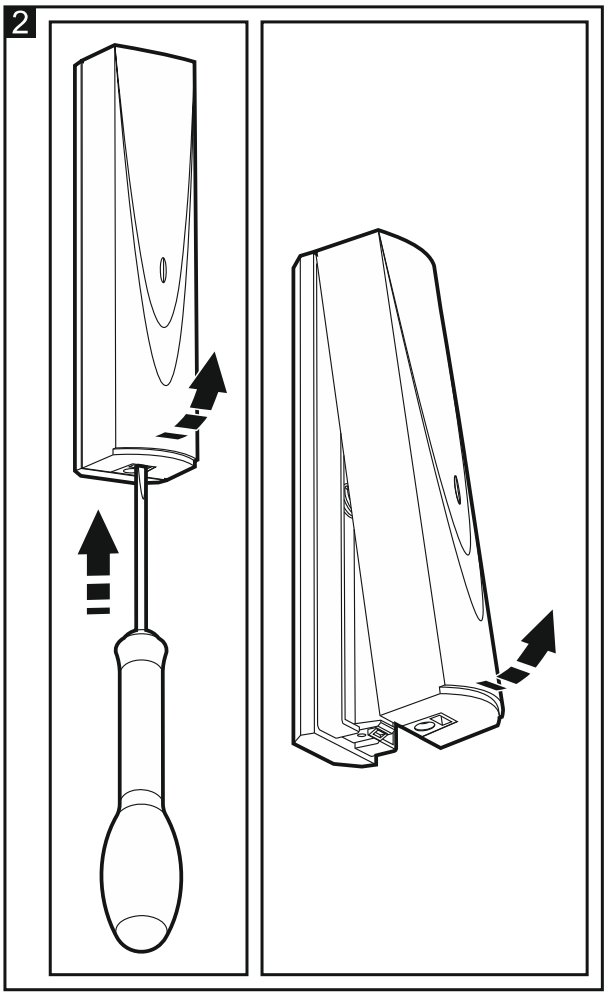
⑩ pins for selecting the supported reed switch (only its status will be analyzed).

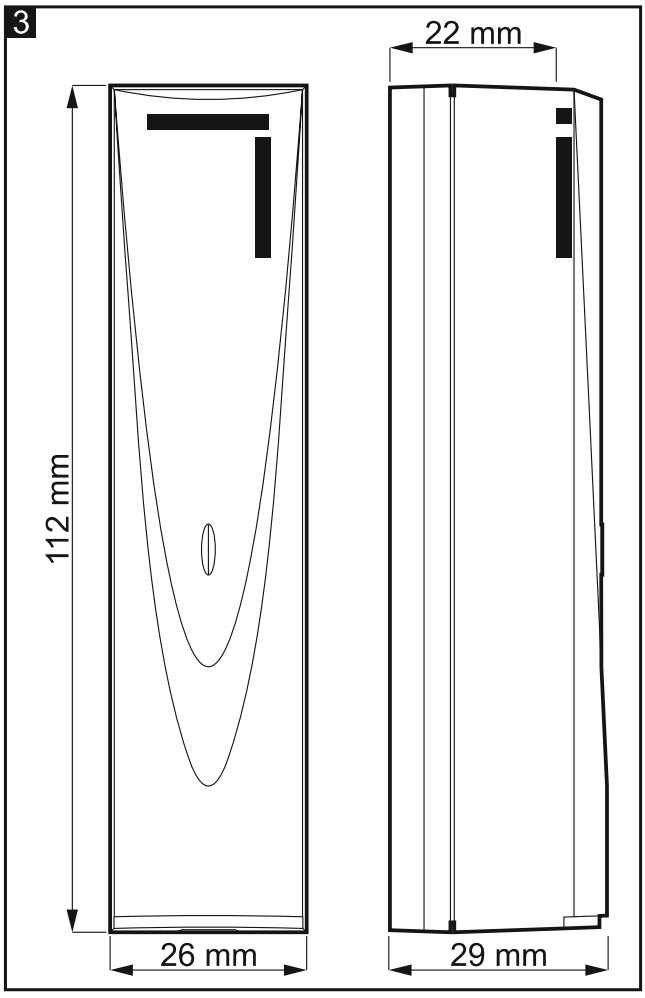
4. Installation

Disconnect power before making any electrical connections.

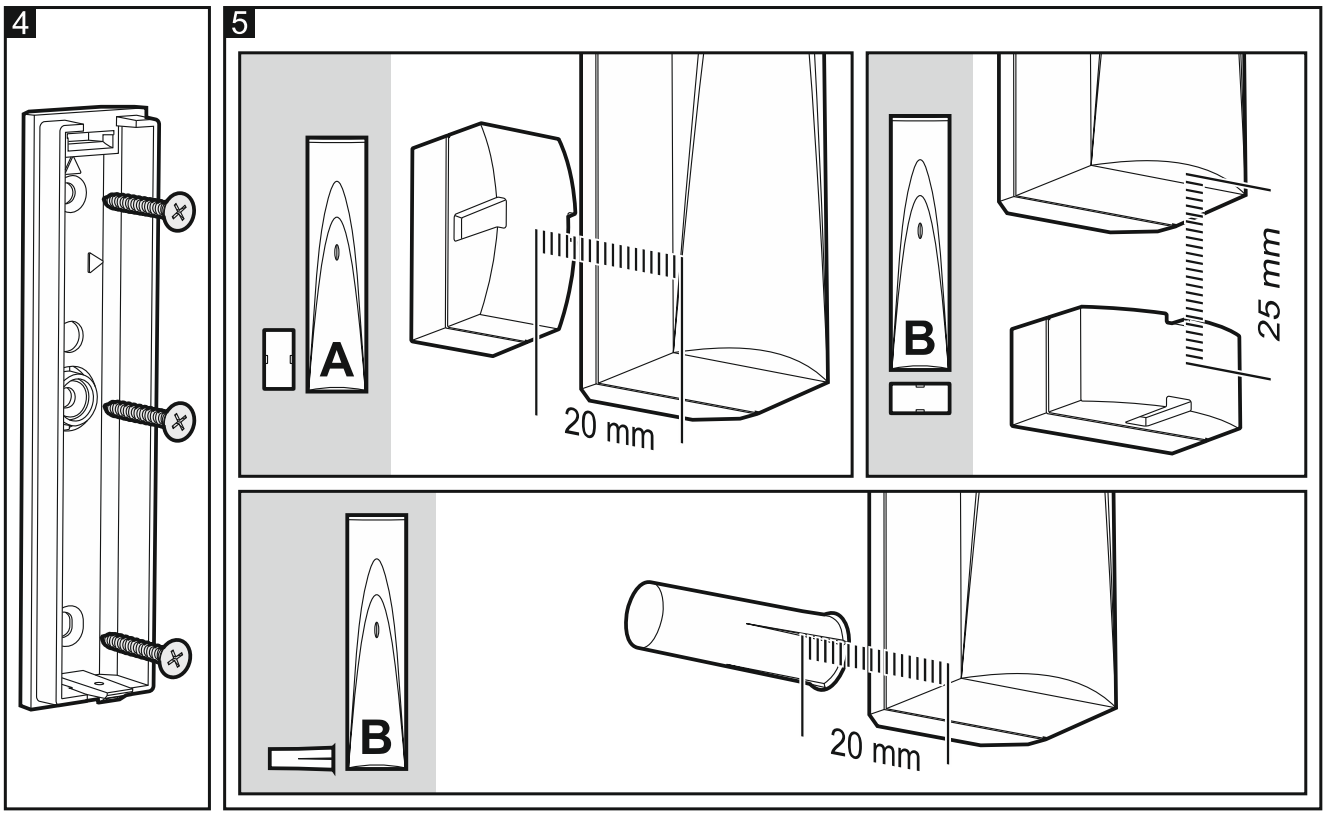
The device is designed for indoor installation. If the magnetic contact is to be used, the detector should be mounted on a fixed surface (e.g. window or door frame), and the magnet on a movable surface (e.g. window or door). Mounting the magnetic contact on ferromagnetic surfaces and/or near to strong magnetic and electrical fields is not advisable, because it can result in malfunctioning of the device.

1. Open the detector enclosure (Fig. 2).

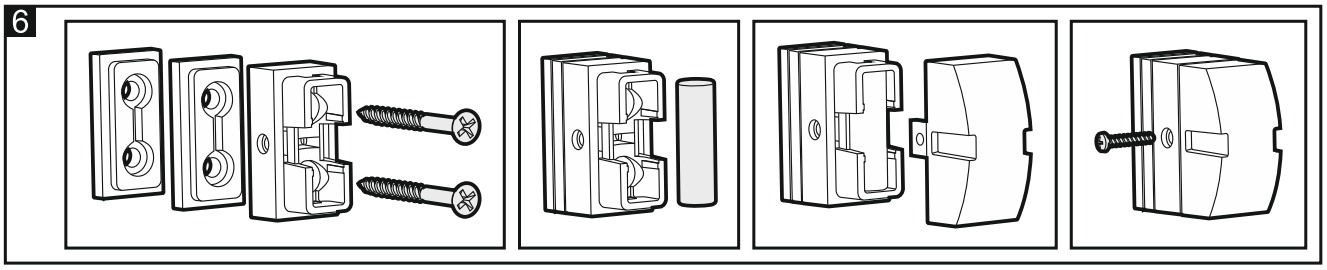




2. Make the opening for the wires in the enclosure base.
3. Pass the wires through the prepared opening.
4. Use screws to fix the enclosure base to the mounting surface (Fig. 4). Wall plugs (screw anchors) and screws are included in the detector delivery set.
5. Connect the wires to the corresponding terminals.
6. Using potentiometers and jumpers, configure the detector settings.
7. Close the detector enclosure.



8. Secure the magnet, taking into account the maximum permissible distance from the reed switch (Fig. 5). The distance shown applies to the magnet located at the reed switch height. Location of the reed switches in the enclosure is shown in Fig. 3.



5. Start-up and test of the detector

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

1. Power-up the detector. Flashing of the LED indicates the number of vibrations that will trigger alarm.
2. Strike the surface on which the detector is installed. The LED should go on for 2 seconds.
3. If the magnetic contact is enabled, move the magnet away from the detector (open the window / door). The LED should come on.