VIBRATION DETECTOR WITH MAGNETIC CONTACT

VD-1

vd1_en 09/08

The VD-1 vibration detector with magnetic contact is designed for use in burglary and panic alarm systems. It is characterized by low current consumption. Owing to its advanced features of piezoelectric sensor signal processing, the vibration detector can distinguish between the natural vibrations received from the environment, and those caused by an attempt to force the door or window. The sensor signal is analyzed for amplitude, duration and number of the vibrations. The magnetic contact signals violation after the magnet is moved away from the reed switch, which means breaking the electric circuit.

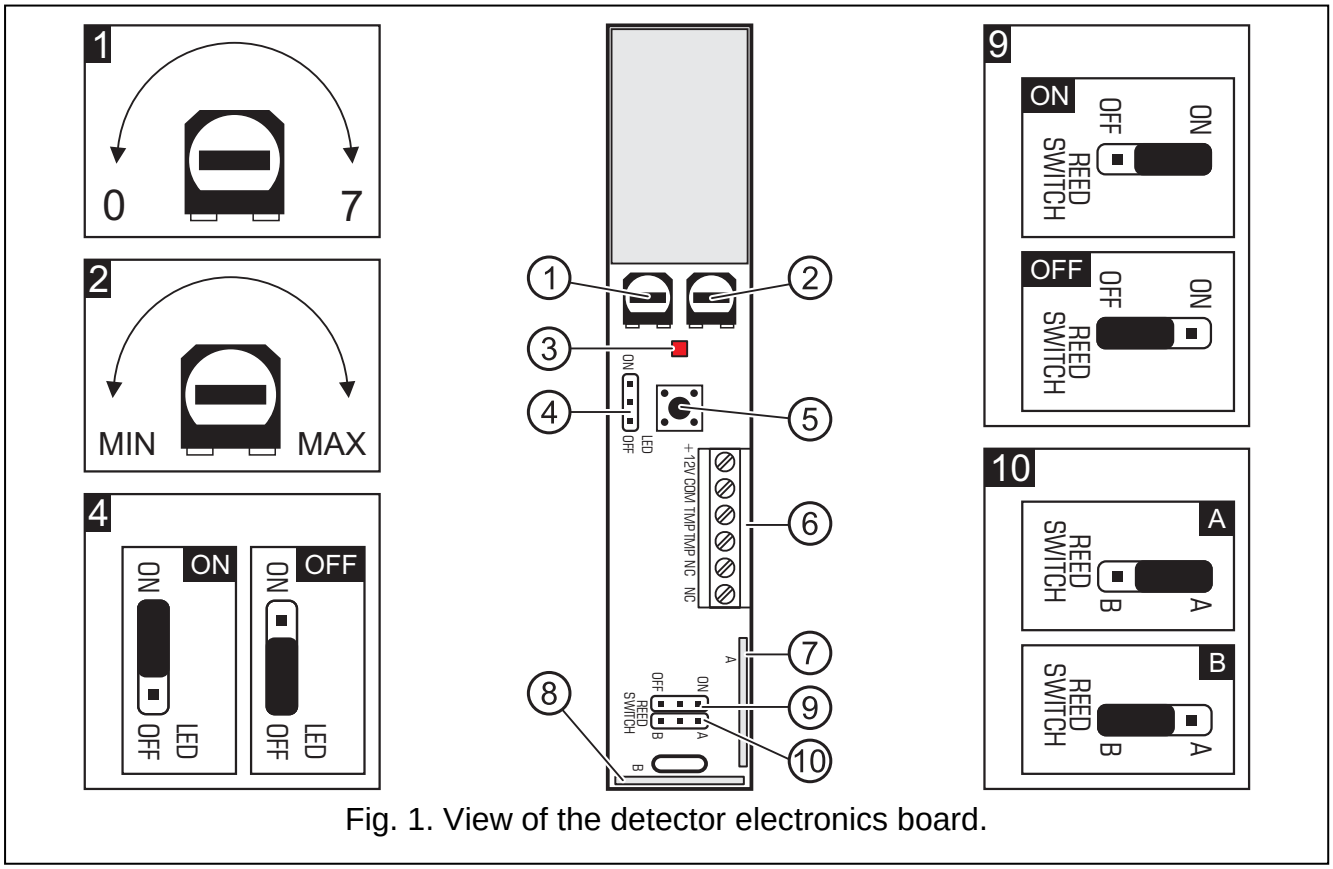

Fig. 1. View of the detector electronics board.

Explanations for Figure 1:

1 - potentiometer for setting the number of pulses (vibrations), the recording of which during 30 seconds will result in violation of the detector. All vibrations are included (whether or not they meet the sensitivity criterion). Values ranging from 0 to 7 can be set. The set value is indicated by the LED (a change in settings will generate a suitable sequence of flashes). For value 0 the pulses are not counted.

2 - potentiometer for setting sensitivity of the vibration detector. Recording a single vibration which meets the criterion of sensitivity will cause violation of the detector.

Note: *The sensitivity and the number of pulses are analyzed independently. The detector can signal violation after recording a single strong vibration, resulting from a hard stroke, as well as after recording several small vibrations caused by a series of weak knocks.*

3 - red color LED to indicate:

– registering of vibrations (short flash),

– violation of the vibration detector (goes on for 2 seconds),
– violation of the magnetic contact (lit all the time when the magnetic contact is violated),
– the number of pulses set for the vibration detector (the number of flashes corresponds to the number of pulses set by means of the potentiometer; the sequence of flashes is repeated three times) – this information is presented after the detector power supply is turned on and after changing the potentiometer settings.

4 - pins for switching the LED on/off.

5 - tamper contact reacting to an attempt to open or pull off the enclosure from mounting surface.

6 - terminals:

+12V - power input.

COM - common ground.

TMP - tamper contact.

NC - relay (NC).

7 - reed switch A.

8 - reed switch B.

9 - pins for switching the magnetic contact on/off.

10 - pins for selecting the active reed switch (only the status of this reed switch will be analyzed).

1. Installation

The detector is designed for indoor installation.

Be particularly carefull during installation so as not to damage the reed switches on the electronics board.

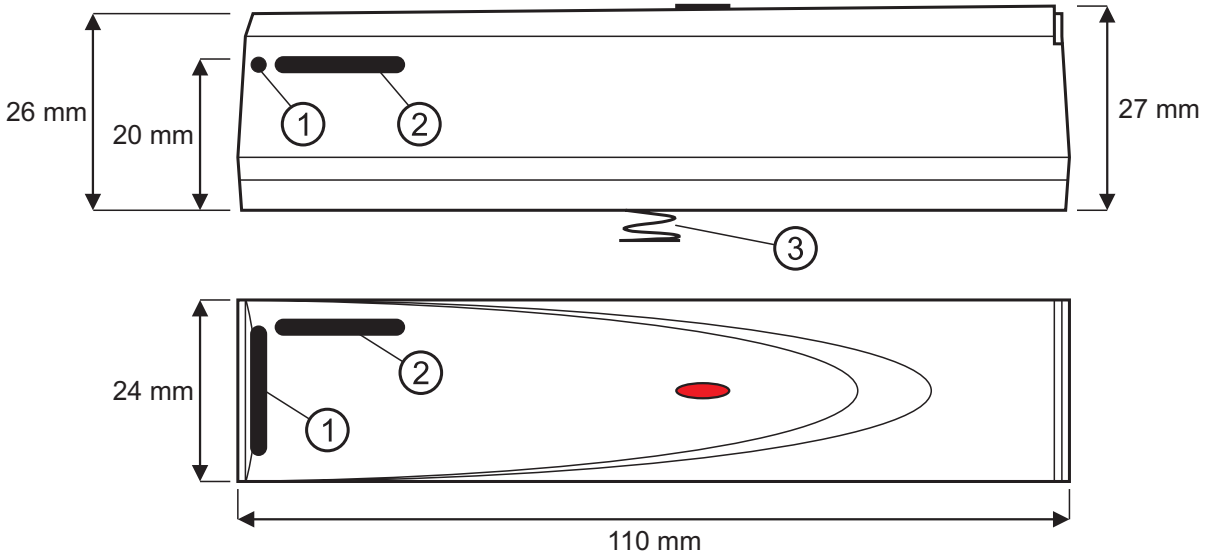

Fig. 2. View of the VD-1 detector, showing location of the reed switches.
1 – reed switch B. 2 – reed switch A. 3 – tamper contact spring.

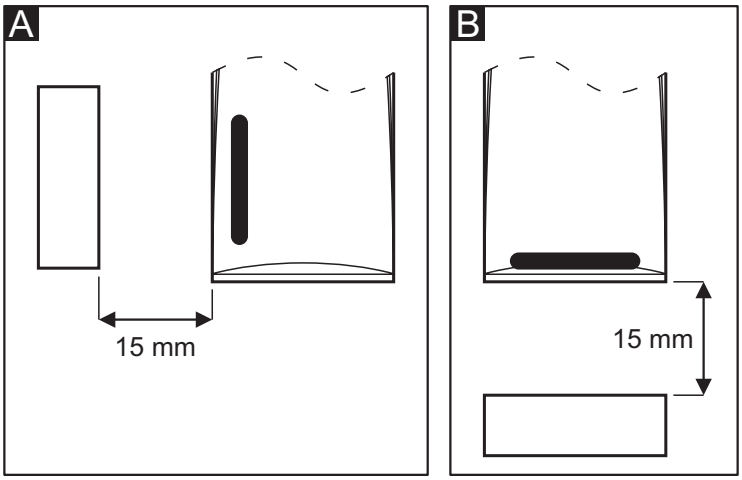

Fig. 3. Max. operation ranges of the reed switches (top view). The indicated ranges are valid for the magnet situated in the presented position, at the height of detector electronics board.

2. Initializing

1. Power on the detector. If the jumper on the LED pins is set in the ON position, the LED will indicate by flashing the number of pulses set for the vibration detector.
2. Define the operating parameters of the vibration detector (using potentiometers indicated in Figure 1 by numbers 1 and 2) and magnetic contact (using pins indicated in Figure 1 by numbers 9 and10).
3. Make sure that the detector responds properly to the vibrations. If necessary, change the sensitivity or the number of pulses.
4. If the magnetic contact has been turned on, check that it responds properly to moving the magnet away from the selected reed switch.

3. Technical Data

Supply voltage ..... 12 V DC ±15%
Current consumption, stand-by ..... 3.5 mA
Current consumption, max. ..... 5.4 mA
Permissible switching capacity of relay switches (resistive load) ..... 40 mA / 16 V DC
Approx. operation 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 II
Operating temperature range ..... -10...+55 °C
Enclosure dimensions ..... 24 x 110 x 27 mm
Weight ..... 44 g

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