



SD-03 is a highly reliable seismic detector that is used for the protection against vandalism or penetration of safes, ATMs, treasuries, walls, and general storage areas of valuable items.

For its operation it uses state-of-the-art sensors such as:

- 3-Axis Accelerometer, for detecting the noise created on the surface on which the detector is mounted, as well as inclination's variation of the protected object.
- a temperature detector that detects temperature variations on the protected surface.

Function description

The device analyzes all the changes it detects in five ways:

1. It analyzes very low noise (oxygen flame, drill sound, etc.) and its sensitivity is adjusted depending on the surface we want to protect by means of the P-1 potentiometer.
2. Analyzes the medium intensive impacts generated on the protected surface and triggers an alarm if they exceed 5 or 10 impacts, depending on the position of DIP switch
3. Analyzes high-intensity impacts created on the protected surface, and triggers an alarm if they exceed the default LOW or HIGH limit, depending on the position of DIP switch 4. In all the above cases, the detector operates cumulatively, adding the pulses it detects and triggers an alarm when it exceeds the set limit while, on the other hand, it subtracts pulses when it stops receiving noises for some time. This reduces the possibility of false alarms, despite the sensitivity of the detector.
4. Analyzes the tilt variations of the object on which the detector is mounted and triggers an alarm if the slope changes from the original position from 5° to 45°. The slope change is adjusted by means of potentiometer P-2.
5. The fourth channel analyzes the temperature variations that appear on the protected surface and triggers an alarm if the temperature changes by 5 or 10 degrees Celsius within a period of 15 or 30 seconds (selected with DIP switches 1 and 2). It also gives an alarm when the temperature exceeds 60°C, regardless of the speed of temperature rising.

Also, the device triggers an alarm when someone tries to open the lid or detach the detector from its mounting position (from the wall or from the safe).

Technical Characteristics	
Power Voltage	11- 14 V DC
Consumption (Stand By)	20-22 mA
Consumption (Alarm)	26 mA
Alarm output	Solid State Relay with N.C output (160hm at 50mA)
TAMPER output	Output N.C.: 50mA / 12 V DC.
Noise detection area	>5 meters circumferentially from the detector (depends on the material of the protected surface)
Weight	325 gr
Dimensions	62.5 x 99 x 22 χιλιοστά

Explanation of LED's indication

GREEN

- It is in the detector and is used to indicate the noise level of the detector, increasing its luminance during noise and lowering noise in case of no noise.

RED

- Turns on momentarily every 2 seconds to indicate normal operation of the detector.
- Turns on for 2 seconds every time the detector triggers an alarm. It turns off when the RELAY is at stand by.








YELLOW

- Turns on when there is an alarm (alarm memory). Turns off via TC.
- It flashes when there are 12VDC on "TC". **In this case the detector is not in operation.**

TC Operation

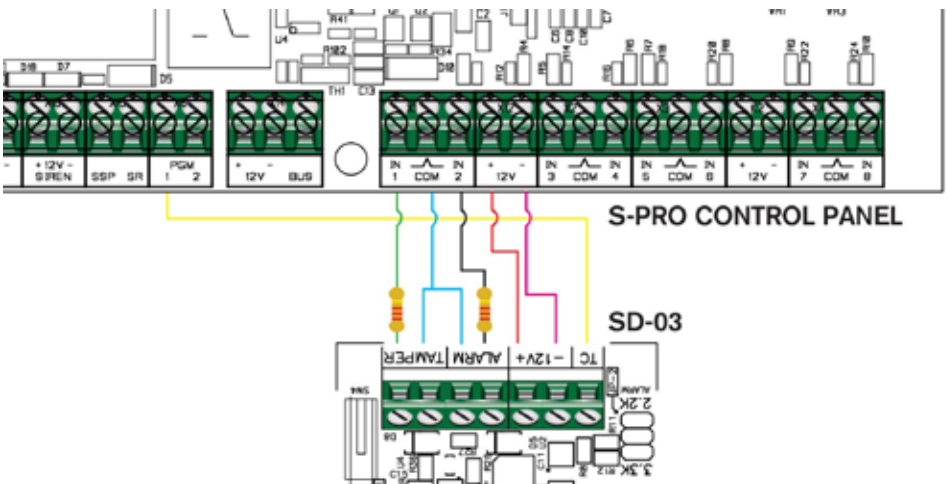
- In the case the detector's Alarm output is connected to a 24hours zone, the user must be able to open the box without triggering an alarm. In this case, when the alarm panel is disarmed, 12V must be applied on the TC input, in order to cancel the operation of the detector.
- If the alarm panel is armed, the voltage 12V is not applied any more on the TC input and the detector is active, once again. At the same time the memory is reset (the yellow LED turns off).
- If you use the detector to protect an ATM, connect the TC input on the ATM output that activates the bank notes counter. In this way the detector is deactivated for as long the bank note counting procedure lasts.

Explanation of connection terminals

TAMPER		 	TAMPER output (NC or 2.2KOhm or 3.3KOhm) Selection of output type is made via jumper JP-1
ALARM		 	Alarm output (NC or 2.2KOhm or 3.3KOhm) Selection of output type is made via jumper JP-2
12V	+ -	 	Power supply input 12V for the detector
TC			Input 12Vfor controlling the operation of the detector

Installation - Connections

- Mount the detector on the protected area.
Attention: Use the screws supplied with the detector to mount it. Avoid using Double-sided tape or silicone, as they both substantially, decrease sensitivity of the detector.
- Pass the cable connecting the detector to the panel, from the hole which is at the bottom of the detector.
- Connect the “TAMPER” output to a 24hours zone input of the alarm control panel.
- Connect the “RELAY” output to one of the Alarm control panel’s zone inputs.
- Connect the power supply “12V” to the relative terminals of the Alarm Control Panel. Please, beware to use correct polarity.
- Connect the “T.C.” input to a “PGM” output of the alarm control panel (this output must be programmed to operate as needed) or to the “T.C.” input if you have a SIGMA Security Control panel.



Adjusting the detector's sensitivity

Use the potentiometer on the detector's PCB to adjust the sensitivity on very low noise. Turning the potentiometer clockwise increases the detector's sensitivity on low noise while turning anti-clockwise the sensitivity decreases. The rest of the adjustments are displayed in the following table.

Dip switches for the detectors adjustment		
DIP SWITCH	ON	OFF
1	The detector triggers an alarm if the temperature variants rapidly 10°C	The detector triggers an alarm if the temperature variants rapidly 5°C
2	The detector triggers an alarm if the temperature variants rapidly within 30 seconds	The detector triggers an alarm if the temperature variants rapidly within 15 seconds
3	The detector triggers an alarm when it detects, within 30 seconds, 10 consecutive knocks of medium strength.	The detector triggers an alarm when it detects, within 30 seconds, 5 consecutive knocks of medium strength
4	The detector triggers an alarm if it detects one very strong knock	The detector triggers an alarm if it detects one strong knock

ATTENTION!

For improved security the testing and adjustment of the detector must be performed regularly.

WARRANTY

Thank you for selecting our products which have been designed and manufactured to offer you security and safety for many years. They have been thoroughly tested before reaching your hands, and have passed all necessary performance tests. All our products are covered by a **6 (six) years warranty of good operation**, from the date of purchase and cover the products that are accompanied by invoice or receipt of purchase.

This warranty covers the free of charge repair of the device (parts and labor) in case the malfunction is due to failure of device itself and not if the failure is cause to any wrong installation, improper use or external factors such as lightning's, floods, excess power voltage etc. Warranty ceases to exist if the device has been installed or repaired by an unauthorized person. Also, this warranty does not cover the **losses, failures or injuries that might happen to the secured area, in case of miss operation of the device.**

Finally, our company is not responsible for the correct installation and use of the security system, for which solely responsible is the installer.



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