

SHOCKGARD 1 & 2

INSTALLATION INSTRUCTIONS

DESCRIPTION

The Shockgard 1 and 2 electronic shock sensors have been designed utilizing the most advanced microchip technology to provide reliable effective false alarm resistant protection.

The Shockgard series offers a wide range of facilities including remote l.e.d. reset, first to latch indication and subsequent to alarm latch information. Other features include automatic relay reset and dual stage linear sensitivity adjustment by selection offering a broad band of sensitivity control. Selectable pulse count and dual colour l.e.d. information provides the installer with every aspect he requires for this type of detector.

Alarm output is provided by a pair of non latching, normally closed relay contacts, opening for a minimum of 1 second on detection of an alarm. This relay is normally energised to give fail safe operation in the event of a power loss.

Indication is provided by a l.e.d. situated on the front cover.

On board circuitry allows for the selection of momentary or latching indication. An automatic l.e.d. inhibit feature is also included. Latch enable and reset may be remotely controlled by standard control panel signals.

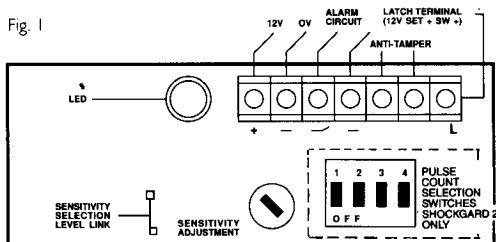
The unit is fully protected from tampering by a N.C. switch operated by removal of the cover. Moisture repelling rubber grommets are provided with the Shockgards.

CONNECTION DETAILS Refer to Fig. 1

Terminals

- + - 12V power connection, reverse polarity protected.
- /- N.C. Alarm output contacts, with 10 ohm resistor in series
- A/T N.C. Anti-tamper contacts.
- L Connection for +12V remote latch control signal, usually SET+ or SW+ control equipment signal.

Fig. 1



When using the sensor in momentary mode, it will usually be necessary to connect using a 6 core cable. If the latch facility is being used an additional core will be required for the connection of the latch terminal.

MODES OF OPERATION

In all modes of operation the N.C. alarm contacts are non-latching. Upon alarm activation the alarm contacts will open circuit momentarily for a minimum time of 1 second, before automatically resetting.

Momentary — latch terminal unconnected

The l.e.d. will illuminate whilst the alarm contacts are open circuit in response to an input signal.

L.E.D. Indication

During the sensitivity test procedure, indication of the green L.E.D. denotes alarm and relay operation. Indication of the red L.E.D. denotes vibration detected but insufficient to create alarm conditions.

Dual stage linear sensitivity

This facility permits the installer a greater threshold of sensitivity adjustment by selection.

Adjustment of the potentiometer through either a low level or high level adjustment. With the level link in situ adjustment of the sensitivity pot permits high level of sensitivity and with the link removed allows adjustment in the low sensitivity area.

Latching — 12V applied to latch terminal

Whilst 12V is applied to the latch terminal the l.e.d. is inhibited. Upon removal of the 12V signal the l.e.d. will indicate the status of the latch, i.e. if the unit has detected an alarm the l.e.d. will be permanently flashing otherwise the l.e.d. will operate in momentary mode. Re-application of the 12V signal will reset the latch and extinguish the l.e.d.

First to Latch — 12V applied to latch terminal via a 47k resistor. See fig. 2.

Operation as in latching mode with the exception that only the first unit to detect an alarm will latch, with a flashing l.e.d. Any subsequent detector to alarm will indicate with a steady l.e.d.

Latch operation 6 wire (Shockgard 2)

Should the Shockgard 2 be wired in a 6 wire configuration, latch reset can be achieved by selection of the fourth switch of the pulse count switch unit. With this switch in the 'ON' position, and the Shockgard 2 activated in full alarm, the l.e.d. will latch on with the l.e.d. flashing red until the supply voltage is interrupted when the Shockgard 2 will reset.

Alternative latch reset, can be achieved by using a seven wire configuration with the latch reset wire connected with terminal 7 on the main terminal block.

CUSTOMER HELP LINE 01706 510200

TECHNICAL SUPPORT 9.00 - 17.30 (MON - FRI)

Pulse count and latch operation (Shockgard 2)

A series of 4 switches are situated below the main terminal block for pulse count selection and operation of latch when using a six wire configuration.

The first three switches, i.e. 1, 2 and 3 are designated for pulse count. Selection as follows:

- A. For pulse count two. Switch No. 1 to 'ON' position. Switches 2 and 3 to 'OFF'.
- B. For pulse count four. Switch No. 2 to 'ON' position. Switches 1 and 3 'OFF'.
- C. For pulse count six. Switch No. 3 to 'ON' position. Switches 1 and 2 'OFF'.
- D. For no pulse count. Switches 1, 2, and 3 in off position.

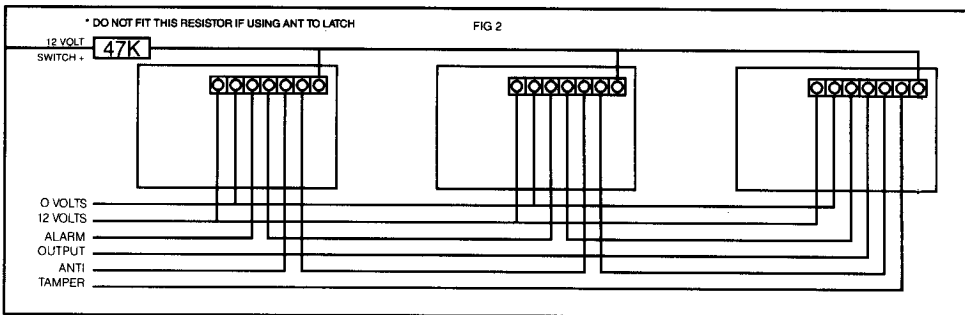
Testing procedure of pulse count.

After selection of number pulse counts required and adjustment of sensitivity level, tap the area of coverage allowing a few seconds between each tap. After each tap, the l.e.d. will indicate red colour mode, confirming receipt of vibration and pulse received. On completion of pulses selected, the Shockgard 2 will activate the relay and the l.e.d. will confirm activation by illumination of a green l.e.d. In the event of gross attack, the unit will disregard the pulse count memory and activate the relay and illuminate green l.e.d. indication.

Multiple Unit Connection Procedure

INSTALLATION PROCEDURE

1. Select the intended position for installation, ensuring the surface is clean and clear of any irregularities.
2. Remove the cover of the sensor by unscrewing the single captive screw, until the cover can easily be removed from the base.
3. Carefully lift the printed circuit board from the base.
4. Present the base to the mounting position and mark the desired fixing holes.
5. If rear cable entry is required, cables should be threaded through the rear of the base.
6. Fix the base in position using the screws provided, or pin nails if preferred (some hard surfaces may require pilot drilling). Ensure the base is in complete contact with the mounting surface.
7. Carefully push the printed circuit board onto the base.
8. Make the electrical connections to the Shockgard.
9. If side cable entry is being used, remove the appropriate knockout from the cover.
10. Setting up and adjustment: With the unit in momentary operation, (See modes of operation. Dual stage linear sensitivity). Use a terminal screwdriver to turn the sensitivity control (See fig. 1) fully clockwise to maximum (Position 6). Using a suitable implement, bang or tap the protected area, observing the l.e.d. response. Reduce the sensitivity by a small amount (turn sensitivity control anti-clockwise) and bang or tap the protected area. Repeat this process until the unit only just responds to the desired impact.
11. Replace the cover of the sensor, tighten the fixing screw and check its response to the desired impact.



Detection range (*)

Surface	Brick Wall	Steel	Wood	Concrete	Plywood	Gyproc	Glass
Radius	2.5m	3m	3.5m	1.5m	4m	2.5m	3.5m

(*) All values quoted are typical and are subject to practical testing which must be made for each installation. In some environments, attenuation may be very high.

TECHNICAL DATA	SHOCKGARD 1	SHOCKGARD 2
Supply Voltage	9V-16V DC	9V-16V DC
Current - quiescent	8mA Maximum	8mA Maximum
- alarm	12mA Maximum	12mA Maximum
Temperature limit	-20°C to +60°C	-20°C to +60°C
Relative humidity at 30°C	0-90%	0-90%
Sensitivity Settling	Dual Stage Potentiometer	Dual Stage Potentiometer
Latching/Non Latching	1st + Subsequent or Any	1st + Subsequent or Any + 6 Wire
Indicator	Two Colour L.E.D.	Two Colour L.E.D.
Dimensions (mm)	25x23x85mm	25x23x85mm
Relay Contact Rating	150mA 24V Resistive 10 Ohm ¼ Watt	150mA 24V Resistive 10 Ohm ¼ Watt
Time Relay Open in Alarm	1 Second Minimum	1 Second Minimum
Pulse Count		2, 4 or 6
Max No. of units on any Latch	80	80
Max No of units on 1st to Latch	10	10