Shockgard USA



SG-1 Shockgard

- Solid State Piezo Electric Sensor
- Latching Bi-Colored LED for Visual Confirmation
- On-Board Tamper Switch in Series with Alarm Relay Contacts
- Wide Range of Surface Protection Including Glass, Walls, Doors

SHOCKGARD USA

Shockgard 1 SG-1



◆ Solid State Piezo Electric Sensor ◆ No Processor Unit Required
◆ Bi-Colored Latching LED Indicator For Visual Confirmation
◆ Pulse Count and Gross Attack ◆ Non-Latching Relay
◆ On Board Tamper Switch, In Series With Alarm Relay Contacts
◆ Wide Range of Surface Protection Including: Glass, Wall, Doors, Etc.
◆ Available In White and Brown ◆ Wide Input Voltage Range
◆ Small Aesthetically Pleasing Design

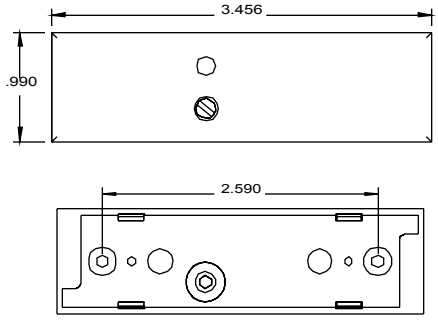
Detection Range (*)

Surface	Brick Wall	Steel	Wood	Concrete	Plywood	Gyproc	Glass
Radius	8 ft.	10 ft.	11.5 ft.	5 ft.	13 ft.	8 ft.	11.5 ft.

(*) 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 Specifications	Shockgard 1
Supply Voltage	9-15 Volt DC, Regulated
Current Consumption Quiescent	15mA Maximum
Current Consumption Alarm	16mA Maximum Flashing LED 27mA
Temperature Limit	- 4°F to +140°F (-20°C to +60°C)
Relative Humidity at 30°C	0-90%
Sensitivity Setting	Dual Stage Potentiometer
Latching/Non Latching	1st + Subsequent or Any + 6 Wire
Indicator	Two Color LED
Dimensions	23 x 25 x 86 mm
Relay Contact Rating	150mA 24V Resistive 10 Ohm 1/4 Watt
Time Relay Open in Alarm	1 Second Minimum
Pulse Count	2, 4 or 6
Max No. of units on any Latch	80
Max. No of units on 1st to Latch	10

This product is suitable for use in systems designed to comply with EN50131-1 and PD6662:2004 at grade 3 and environmental class 2.



BOTTOM
(Mounting Hole)

GEORGE RISK INDUSTRIES, INC.
G.R.I. PLAZA
KIMBALL, NE 69145

TOLL-FREE 1-800-445-5218 • 1-800-523-1227
(308) 235-4645 • FAX (308) 235-3561
E-MAIL: grisales@megavision.com
WEB SITE: www.grisk.com

BA-172 9/13/2007

Detection Range (*)

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

(*) 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

Supply Voltage	9V-16V DC
Current - quiescent	15mA maximum
- alarm	16mA maximum flashing LED 27mA
Temperature limit	-20°C to +60°C
Relative humidity at 30°C	0-90%
Sensitivity setting	Dual stage potentiometer
Latching/Non Latching	1st + subsequent or any
Indicator	Two color LED
Dimensions (mm)	25 x 23 x 85mm
Relay Contact Rating	150mA 24V resistive 10 ohm 1/4 watt
Time relay open in alarm	1 second minimum
Pulse count	2, 4 or 6
Max. No. of units on any Latch	80
Max. No. of units on 1st to Latch	10

CE This product is suitable for use in systems designed to comply with EN50131-1 and PD6662:2004 at grade 3 and environmental class 2.

GEORGE RISK INDUSTRIES INC.
802 S. ELM, KIMBALL, NE 69145

1-800-445-5218 • (308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com • WEB SITE: www.grisk.com

SHOCKGARD INSTALLATION INSTRUCTIONS

DESCRIPTION

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

The Shockgard offers a wide range of facilities including remote LED 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 color LED 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 energized to give fail-safe operation in the event of a power loss.

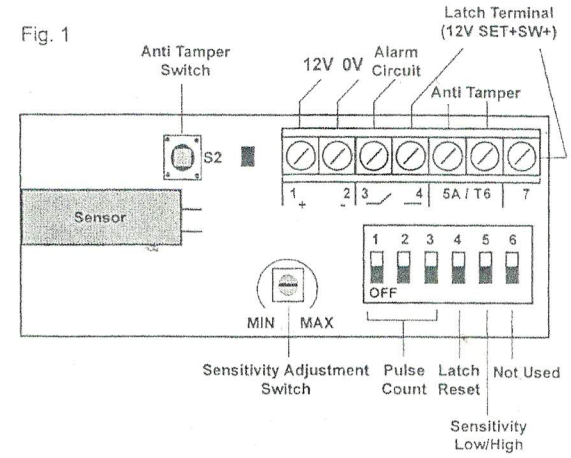
Indication is provided by a LED situated on the front cover. On board circuitry allows for the selection of momentary or latching indication. An automatic LED inhibit feature is also included. Latch enable and reset may be remotely controlled by standard control panel signals. The unit is fully protected 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

1(+) 2(-)	12V power connection, reverse polarity protected.
3 4	N.C. Alarm output contacts, with 10 ohm resistor in series
5A / T6	N.C. Anti-tamper contacts
7	Connection for +12V remote latch control signal, usually SET+ or SW+ control equipment signal.

Fig. 1



con't...

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 LED will illuminate while the alarm contacts are open circuit in response to an input signal.

LED Indication - During the sensitivity test procedure, indication of the green LED denotes alarm and relay operation. Indication of the red LED denotes vibration detected (pulse) but insufficient to create alarm conditions.

Dual stage linear sensitivity - The detector permits the installer a greater threshold of sensitivity adjustment by selection. Adjustment of the potentiometer through either a low level or high level adjustment. When DIP Switch 5 is in the On position the sensitivity potentiometer allows adjustment in the high sensitivity area and when in the Off position the sensitivity potentiometer allows adjustment in the low sensitivity area.

Latching - 12V applied to latch terminal. When 12V is applied to the latch terminal the LED is inhibited. Upon removal of the 12V signal the LED will indicate the status of the latch, i.e. if the unit has detected an alarm the LED will be permanently flashing amber otherwise the LED will operate in momentary mode. Reapplication of the 12V signal will reset the latch and extinguish the LED.

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 LED. Any subsequent detector to alarm will indicate with a steady LED.

Latch operation 6 wire - Should the Shockgard be wired in a 6 wire configuration, latch reset can be achieved by selection of the fourth switch of the DIP Switch unit. With this switch in the 'ON' position, and the Shockgard activated in full alarm, the LED will latch on with the LED flashing amber until the supply voltage is interrupted when the Shockgard 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.

Pulse count and latch operation

A series of 6 switches are situated below the main terminal block for pulse count selection, sensitivity 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.

Switch 4: See **Latch Operation 6 Wire** paragraph.
Switch 5: Enables Sensitivity adjustment - 'ON' - High, 'OFF' - Low.
Switch 6: Not used.

Testing procedure of pulse count

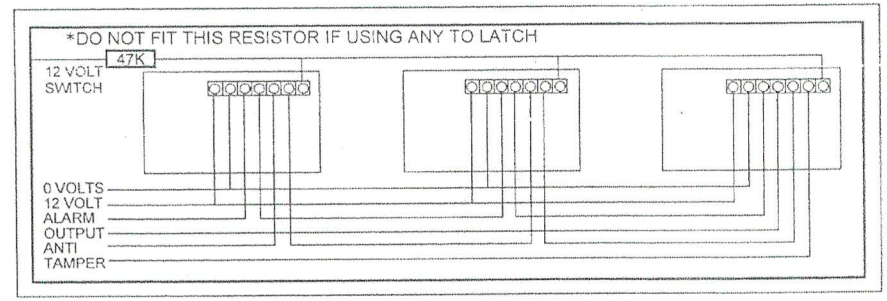
After selection of number pulse counts required and adjustment of sensitivity level, tap the area of coverage allowing a few seconds between each tap. After each tap, the LED will indicate red color mode, confirming receipt of vibration and pulse received. On completion of pulses selected, the Shockgard will activate the relay and the LED will confirm activation by illumination of a green LED. 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.

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).
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 and put in a grommet.
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 LED 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.

Multiple Unit Connection Procedure

Fig. 2



con't...