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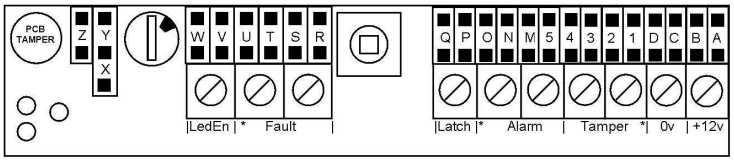
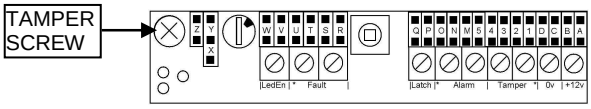
PART CODE: SEISMO-ADVANCE
DESCRIPTION: VIBRATION AND MOTION SENSOR (ADVANCED VERSION)
SECURITY GRADE: 3
ENVIRONMENTAL CLASS: II
STANDARDS MET: EN50131-1 <> TS50131-2-8 <> PD6662:2010

SEISMO-ADVANCE is a fully featured G3 shock & motion sensor. Features include fault output, manual/auto calibration and latching.



INSTALLATION

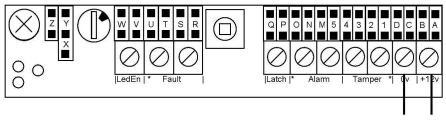
Fit the base tightly to the surface to be monitored and insert the PCB. For grade 3 installations, ensure that a tamper screw is fitted to the top left of the PCB.



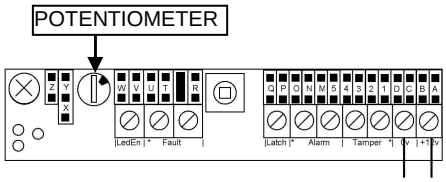
After calibration, configuration and wiring (see below) – place the lid on the unit and screw into place.

MANUAL HARDWARE CALIBRATION

First, fit SEISMO to the monitored surface as described and connect a power supply (10V-15V, nominal 12V) to the 0v/+12v terminals. The red LED will light up for 5 seconds as the unit powers up. The unit **must** be still during this process.



The sensitivity of SEISMO can be directly controlled by adjusting the potentiometer on the PCB. By default, the potentiometer controls the sensitivity to both vibration and motion (one setting for both modes). Ensure the **S** pins are linked to enable LED feedback for this process.



Use a small flat head screwdriver to turn the potentiometer clockwise to increase sensitivity or anticlockwise to decrease it.

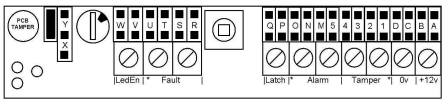
To calibrate vibration, do not fit any links to **W** or **V** (blue detection LED)

To calibrate motion, fit the **W-V** link as shown and remove the link when the desired level is achieved (green detection LED)

Select the desired mode and apply shock/motion to the monitored surface at an intensity you wish to cause an alarm.

If the red LED does not light, increase the sensitivity and repeat the shock/movement until it does.

An overall sensitivity increase can be made by fitting the Z link. This does not affect stored values:



If the desired sensitivity of motion and vibration functions can not be balanced using the potentiometer, the modes will have to be configured individually – see the auto calibration method later in this sheet.

MODE SELECT

To set SEISMO to detect vibration, **do not fit any links to W or V**.

For motion, fit a link between the bottom pins of **W & V**.

For motion *or* vibration (either will trigger alarm), fit a link to the pins marked **W**.

For motion *and* vibration (both required to trigger alarm), fit a link between the top pins of **W & V**.

VIBRATION PULSE SETTING

If SEISMO is set to detect vibration only, a pulse count can be set. This is the number of disturbances required within a rolling 30 second window to trigger the alarm. Fit links to the following points to enable particular pulse settings:

No setting: No additional links

Pulse count 2: Fit link to pins marked **U**

Pulse count 4: Fit link between bottom pins of **V & U**

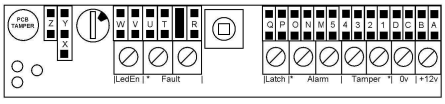
Pulse count 6: Fit link to pins marked **V**

LED OUTPUT

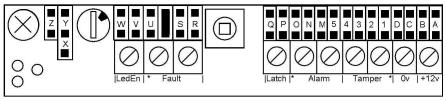
SEISMO is fitted with 3 indicator LEDs – red, green and blue.

Red – power up/alarm condition
Blue – vibration indication/flashing comfort LED
Green – motion indication

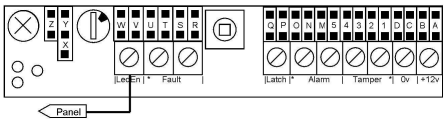
To enable LED output, fit a link to the pins labelled **S**.



To enable the comfort LED, fit a link over **T**. The blue LED will pulse once every 10 seconds when this mode is selected.



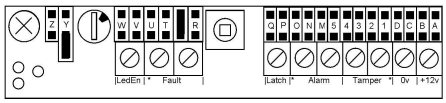
In G3 installations, the LED output can be directly controlled by the panel by wiring the LedEn terminal to a suitable point. In this case, do not fit the **S** link. LED output will always be disabled except when the terminal is linked to 0v (walk test) by the panel. Comfort LED operation is not affected by this setting.



AUTO CALIBRATION

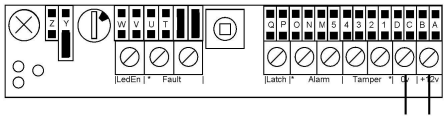
SEISMO can store individual sensitivity levels onboard. If a mode is calibrated in this manner, the setting of the potentiometer will be ignored for that mode.

Fit link **X** to configure SEISMO to use stored values. Also ensure the **S** link is fitted to view LED feedback after calibration.



Vibration Calibration

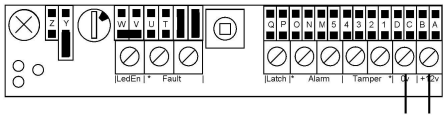
-Connect the power supply and wait for the red LED to extinguish.
-Ensure no links are fitted to **W** or **V**.
-Fit a link to the **R** pins



-The blue LED will begin to flash, signifying vibration calibration is about to begin.
-When the red LED begins flashing, SEISMO is awaiting input. Apply shock to the surface at the desired alarm level.
-If detected, the blue LED will now light constantly.
-When the red LED lights constantly, the calibration is complete.
-Remove the **R** link to complete the procedure.

Motion Calibration

-Connect the power supply and wait for the red LED to extinguish.
-Fit a link between the bottom pins of **W** and **V** (motion mode)
-Fit a link to the **R** pins.



-The green LED will begin to flash, signifying motion calibration is about to begin.
-When the red LED begins flashing, SEISMO is awaiting input. Apply motion to the surface at the desired alarm level.
-If detected, the green LED will now light constantly.
-When the red LED lights constantly, the calibration is complete.
-Remove the **R** link.
-Remove the **W-V** link if you intend to use a mode other than "Motion only". Otherwise, leave the link in place.

SOFTWARE RESET

To reset all stored values for SEISMO, disconnect power from the unit. Fit the **R** link and apply power until the red LED extinguishes. Remove the **R** link after this to complete the procedure.

After resetting, SEISMO will use the hardware configuration by default.

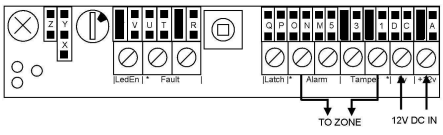
A loss of power alone **will not** reset SEISMO. The **R** link must be fitted for a reset to occur.

SUPERVISED OUTPUT

SEISMO functions on a fully supervised EOL loop. See the table below and fit the needed links for your security panel:

Control Panel	Value		Jumper	
	EOL	Alarm	EOL	Alarm
Honeywell (Ademco/Microtech)	1k	1k	A	1
Cooper (Scantronic, Menvier, Texecom, Pyronix, Castle)	2k2	4k7	B & C	2
Siemens, Aritech, HKC	4k7	4k7	C	2
RISCO (Gardtec)	4k7	6k8	C	3
Guardall	4k1	4k1	B	2 & 4
DSC	5k6	5k6	D	3 & 4
Europlex	2k2	2k2	B & C	5
Inner Range	2k2	6k8	B & C	3

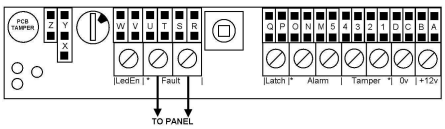
In the example below, SEISMO is configured to trigger an alarm on either motion or vibration with LED output and is set to function on a Guardall panel:



SEISMO can also be used on traditional 4 wire installations. In this case, use the connection terminals as labelled and do not fit any links to **A-D** or **1-5**.

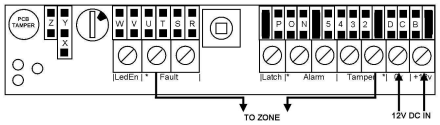
FAULT OUTPUT

In the event of the sensing device failure or a power supply problem, the fault relay will open and the red LED will flash. The output of the fault relay can be connected to a suitable point on the panel (if supported) as below:



Alternatively, the fault output can be integrated into the EOL loop *if supported on the panel*. In this case, fit the EOL/Alarm

links as normal. Add a link to the pins marked **M**. Add an additional link to **N**, **O**, **P** or **Q** depending on your panel (see below table). Finally, ensure your zone wires connect to the tamper and fault terminals marked with an asterisk (*). See an example below:



This table below shows the fault links required for specific resistance values:

FAULT BYPASS	LINK
12k	Q
6k8	P
2k2	N
3k	O

LATCHING

Multiple SEISMO detectors can be connected to a single zone. When multiple detectors share a zone in this way, do not use any on board EOL/Alarm resistors (links **A-D**, **1-5** should be omitted).

A latch terminal is provided on SEISMO for the purpose of identifying units which have caused an alarm condition. When connected to a suitable panel output (often “Set+ve”), LED output is disabled when the panel is set except for the comfort LED if selected.

If set in this way, any units which have caused an alarm condition will flash their red LEDs when the system is unset and/or the latch voltage removed.

If the latch voltage is fed through a 27K resistor, the first unit to cause an alarm will flash red and any subsequent units will light red constantly when the latch voltage is removed. See the diagram overleaf for an example setup.

OPERATING CONDITIONS

Input: 10V-15V – nominal 12V
Quiescent current draw at 12V: 9mA
Maximum current draw at 12V: 15mA

Detection range will vary depending on the mounting surface and distance/force of any impact. Test your setup thoroughly to ensure effective coverage.

SERIAL PROGRAMMING

Using a specified cable, SEISMO may be configured directly through a serial link. See our website for further instructions regarding this method of programming.

NOTICE

Knight Fire & Security Products Ltd reserves the right to make amendments without prior notice. To ensure you are using the most recent instructions, specification sheets & drawings, download them directly from our website:

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Or scan below to be taken directly to the SEISMO product page:

>> SEISMO PRODUCT INFO <<