

MKV Earthquake Trigger



YOUR ELECTRONIC EARTHQUAKE INSURANCE POLICY

It's not just the earthquake that causes all the damage to property, much of the damage is caused by secondary effects such as Similarly expensive machinery can be shut down before it is subject to the full effect of earthquake generated forces.

An earthquake generates two types of shock waves: the pressure waves (P-waves, which produce predominantly vertical accelerations) and the shear waves (S-waves). The S-waves do all the damage but they travel from the earthquake epicentre more slowly than the P-waves.

The MKV Earthquake Trigger continuously monitors the vertical component of the earth's acceleration due to seismic forces. It is designed to detect the faster moving P- waves and when the acceleration exceeds the pre-set level the output relay changes state until 7 seconds after the quake. Contacts on this relay may be used to initiate any desired action. The unit has an event counter mounted on the lid to record the total number of operations, including instrument test operations.

SOME OF THE APPLICATIONS

- > Shutting down gas and fuel lines.
- > Turning off flame sources.
- > Turning off the power to electric cables and lines.
- > Switching on emergency power supplies in hospitals and essential service areas.
- > Switching on emergency lighting.
- > Triggering an emergency stop in an elevator system to take all cars to the nearest floor and open the doors.
- > Stopping escalators, cable cars or trains.
- > Triggering organised power down on computers.
- > Remote earthquake detection for initiating personal inspection of unattended dams, bridges or other structures.
- > Triggering safe storage of nuclear materials.
- > Shutting off high pressure lines to reduce pressure and the chance of rupture.
- > Automatically covering vats of toxic or corrosive liquids to prevent splashing.
- > Removing the tool from the work piece and shutting down lathes, grinders, drill presses and jig borers.

SPECIFICATIONS

Power Supply Requirements:

AC OPTION: 230 V +/-10% 50 Hz Sinewave 3 VA

The AC option has NiCad battery back up.

UPS OPTION: This option is the same as above but using an on board inverter to provide uninterrupted power, for typically 5 minutes, during power cuts or power fluctuations.

DC OPTION 1: 24 V DC +/-20% at 15 ma standby.

DC OPTION 2: 110 V DC +/-20% at 15 ma standby.

The DC options do not have internal battery backup.

Sensitivity: Selected by internal switch to one of the following 0.012, 0.025, 0.05, 0.1, 0.2g. The sensitivity is to the vertical component of the acceleration.

Frequency Response: Flat from 0.3 Hz to 10 Hz (+/-3 dB). 10 dB down at 30 Hz.

Operation Time: Relay fully actuated within 10 ms from the time the set acceleration level is exceeded. The relay is de-energised 7 seconds from when the set acceleration level was last exceeded.

Test Button: Applies a test signal equivalent to a 0.2g earthquake to the input.

Event Counter: A 6 digit counter which records the total number of operations (tests and earthquakes).

Contact Ratings: OMRON LY2 RELAY. 10 A at 230 V AC, 3 A at 24 V DC resistive, 2 A at 24 V DC inductive, 0.6 A at 110 V DC resistive, 0.4 A at 110 V DC inductive.

Weight: 3 Kg

Size: 290 x 220 base (mm) 90 mm high

Construction: The unit is housed in a substantial cast aluminium housing with lid Painted with a white polyester finish.