QUAKELOGIC
Disaster Risk Management Solutions

MASTER SEISMIC CONTROLLER Model MSC–W

INDUSTRIAL QUALITY SEISMIC SHUTOFF & RESERVE POWER SYSTEM

Emergency Control System for Valves / Actuators, Motors & Systems

Complete control panel comprising:

- On-board 24 VDC reserve power system to power actuator(s) / valve(s).
- Separate control switches and indicators for each valve connected.
- Local & remote control.
- Intelligent digital tri-axial seismic sensor, field adjustable setpoints.
- Stores PGA data in memory.
- SCADA ready for simple field installation.

DESCRIPTION:

A completely assembled, ready to install, stand-alone seismic control panel for interface with all types / brands of valve actuators. Individual controls and indicators for manipulation and monitoring of one or more valves. Local and / or remote control and monitoring of system status.

The digital tri-axial seismic sensor measures earthquake intensity in "g" force, and stores Peak Grou nd Acceleration values (PGA) in memory for future engineering analysis. Filtering devices make it immune to industrial vibrations such as heavy equipment etc.

When triggered, a control relay output signal interfaces directly with actuator / valve assemblies or motor starters etc. **This control relay normally remains latched (for safety reasons), until reset by operator.** Various custom logic schemes can be accommodated.

The on-board battery charger system capacity is application specific. Up to ten (10) days 24 VDC autonomous power supply. **System is SCADA ready** with terminations for all functions.

FEATURES:

Fully assembled design allows for rapid on-site installation and control wiring termination.
Separate controls and status indicators for each valve connected.
On-board industrial quality charger and batteries are sized to suit one or more actuators.
Solid-state sensor stores Peak Ground Acceleration values in memory for operator review.

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SPECIFICATIONS*

Seismic Standards:	Compliance with all nominated seismic standards is achieved with this intelligent and flexible, state-of-the-art technology.
Sensors:	Solid state, triaxial accelerometer in three orthogonal axes (X,Y & Z). Detects vertical "P" and horizontal "S" wave accelerations. Captures *Peak Ground Acceleration* (PGA) values upon exceeding setpoint.
Frequency Response:	1 Hz to 15 Hz (1 Hz to 10 Hz for ASCE25 configuration). Digital filter protects from industrial (steady state) vibrations. Impulse filter protects against discrete impulsive events less than 190 msec duration (i.e. dropped tools, objects striking enclosure, sonic booms, etc.)
Setpoints:	User selectable from 0.025g to 0.5g on each axis.
Communications:	RS-232C Serial port. Industrial quality modem optional.
Diagnostics:	Self-diagnostics at power on and reset. LED indicators: "AC power on", "Service required".
Control Outputs:	Multiple independent FORM C relays with dry, isolated contacts. (rated up to 4 Amps, 250 VAC).
Control Inputs:	Via dry, isolated normally open relay contacts rated 1A, 24Vdc. Separate controls for each valve connected. Following seismic trip 'close call' command remains latched until reset.
Power Supply (UL):	120 VAC, 50 / 60 Hz (US spec) or 220 VAC, 50 Hz. Solar optional. Battery capacity and **charging system scaleable** to client's application. **Maintenance-free batteries**.
Physical:	Size, 20" W X 30" H X 12" D (varies with battery capacity). NEMA 4 std., NEMA 4X stainless optional. Fully gasketed door, Optional lockable handle. Status indicators: Fault, A/C power loss, Seismic trip, DC Power "On" Operating temperature, -20º C to +60º C. Humidity, 0% - 100% (non-condensing). Weight, 140 lbs. to 360 lbs. (battery dependent)
Installation:	Via concrete anchor bolts attached to pre-drilled aluminum baseplate provided. Panel may be wall-hung in some circumstances (consult factory for details). Precise leveling not required.
Options:	Various custom logic schemes / redundancies using flow, pressure, leak detection & level monitoring sensors as a positive feedback. Industrial quality communications modem.

*(Subject to change).