



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 Ground 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 (or motor contactors) directly operates the owner’s motor-operated or solenoid-operated valve assemblies; **normally configured to remain latched until reset by operator.** However, auto-reset is an option. 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 in NEMA4 or NEMA 4X enclosure allows for rapid on-site installation and control wiring.
- A **seismically qualified baseplate is supplied with the MSC panel proving that the MSC will not “pull out / topple”** in an earthquake.
- Separate controls and status indicators for each valve connected.
- On-board industrial quality charger and batteries are sized to suit one or more actuators.
- Proven solid-state sensor
- Push-to-test visual indicators.
- Audible trouble alarm (for indoor, external indicator & control units)

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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 ASCE 25 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. High visibility 22 mm or 30 mm visual indicators: "Trouble", "Seismic Trip", "Valve Open", "Valve Closed" and more.
- Control Outputs:** Multiple independent FORM C relays with dry, isolated contacts. (rated up to 4 Amps, 250 VAC). Terminals provided to land actuator power and control wiring.
- Control Inputs:** Via dry, isolated normally open relay contacts rated 1A, 24Vdc. Separate controls for each valve connected. Accepts remote RTU commands for Seismic Trip, Reset, Valve Open & Valve Close Call commands. Following seismic trip 'close call' command remains latched until reset. Pre-configured to accept future Shake Alert Seismic Trip or 'Enable' signal from RTU.
- Power Supply (UL):** **120 VAC, 50 / 60 Hz (US spec) or 220 VAC, 50 Hz. UL, cUL, & CE marked for worldwide operating voltages.** Integral battery backup scaleable to client's application.
- Physical/Features:** Size, 20" W x 30" H x 12" D to 32" W x 42" H x 12" D, NEMA 4 (paint) standard., NEMA 4X stainless optional. Internal condensation heater. Fully gasketed door, Intrusion alarm; optional bypass switch, optional lockable handle, selector switch or key-switch controls. Operating temperature, -20° C to +60° C. Humidity, 0% - 100% (non-condensing). Weight: 140 lbs. to 360 lbs. (per battery & panel sizing).
- Installation:** Via concrete anchored pre-drilled & tapped 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)



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