VSM
VIBRATION SENSING MONITOR

Effectively protects natural gas-fueled engines from damage due to excessive vibration

A single VSM can monitor all major vibration points of interest on a natural gas or diesel engine, compressor (air or gas), pump, or other process

Accepts up to 4 (VSM-400) or 8 (VSM-800) low-cost, piezoelectric vibration sensors as system inputs

Eliminates on-engine mechanical vibration switches that are vulnerable to misapplication, setpoint tampering, and physical damage

Includes alarm and shutdown setpoints and outputs

Full Modbus RTU communications supported for remote monitoring

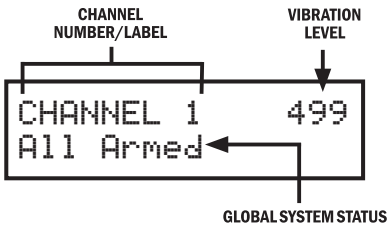
Certified by the Canadian Standards Association (CSA) for use in Class I, Division 2, Group C and D hazardous areas

The Altronic Vibration Sensing Monitor (VSM) is a 32-bit microprocessor-based electronic instrument designed to protect industrial engines, compressors, and associated equipment from damage caused by excessive vibration. The monitor accepts up to four (VSM-400) or eight (VSM-800) industry-standard low-cost, broadband, piezoelectric vibration sensors that are used to transform mechanical vibrations into electrical signals which are then evaluated by the VSM. The resulting vibration levels are displayed on a LCD display and are compared to user adjustable setpoint levels (2 per channel). If a high vibration level surpasses a user-configured setpoint value, an indication is shown on the LCD and an output switch—one for alarm and one for shutdown—is activated.

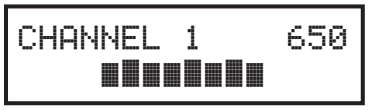
With each input channel operating independently of the other, the VSM can be used as the monitoring device for all of the vibration points of interest on an application. For example, individual sensors mounted on a gas compressor cooler, on each bank of the engine, and on the compressor cross-heads are individually configured for the appropriate vibration characteristics and monitored by a single VSM device. RS-485 Modbus RTU communications is resident in the device allowing the vibration data from each channel to be communicated to a control PC/PLC or remotely as a means of determining the overhaul health and well-being of the equipment. Configuration of the device can be accomplished simply and conveniently directly from the front of the device using the system keypad.

The VSM is housed in a 6.50" x 6.50" powder-coated aluminum case for maximum durability in difficult applications. Rugged, pluggable Phoenix-type connectors are used for all input/output connections to assure long-term, reliable system service. Each VSM is also certified as safe for use in Class I, Division 2, Group C and D hazardous operating areas by the Canadian Standards Association (CSA).

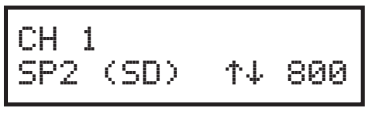
HOME SCREEN



BARGRAPH SCREEN



SHUTDOWN SETPOINT SCREEN



HOERBIGER
Altronic, LLC – A Member of the HOERBIGER Group

CERTIFIED CLASS I, DIVISION 2 GROUPS C AND D

Specifications

Power Requirement..... DC powered, 10-32VDC 0.20 AMP max.
Ambient Temperature Range..... –40°C to 80°C (–40°F to 176°F)
Sensors..... Up to 8
Sensor Type ..... Piezoelectric Vibration Sensor, Altronic 615 107, Bosch 0 261 231 148, or equivalent
Input Frequency Range..... 1Hz to 2kHz
Keypad..... 8-key, membrane
Display..... Backlit, 2x16 character, LCD
Display Update Rate ..... 0.5 seconds nominal
Sensor Scan Rate..... 0.5 seconds
Output Switch Lockout Terminal..... Activated by pulling terminal low
Startup Output Lockout Timer..... 0 to 999 seconds, one per channel
Remote Reset Input ..... Activated by momentarily pulling input low
Output Switch Trip Delay Timer ..... 0 to 15 seconds, one per channel
Output Switch..... 2 programmable, solid-state, rated 32VDC, 0.2 AMP continuous, optically isolated from power supply, one for Alarm, one for Shutdown
Switch Response Time ..... Tied to Filter Value and Display Reading (with filter at 1, max response time is approx. 0.5 sec.)
RS485 Serial Output..... 1 Modbus RTU
Hazardous Area Classification ..... Class I, Div. 2, Groups C & D for direct hook-up, Temp Code T4, max ambient temp 80°C

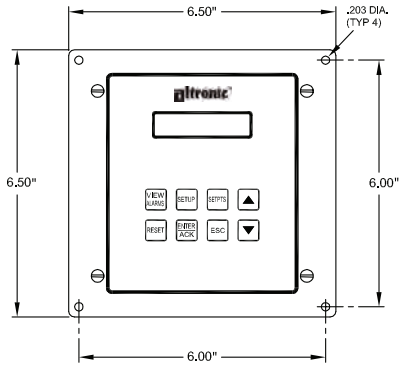
Ordering Information

VSM Vibration Sensing Monitor .... VSM
Vibration Sensor 615107
Sensor Cable, 10’..... 693134-1
Sensor Cable, 20’..... 693134-2
Sensor Cable, 30’..... 693134-3
Sensor Cable, 40’..... 693134-4
Sensor Cable, 50’..... 693134-5
Sensor Cable, 100’..... 693134-6

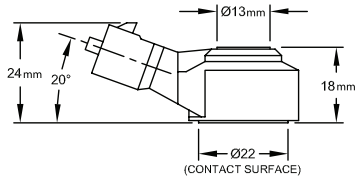
Applications

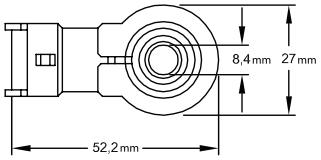
The VSM is designed to be used on any rotating or reciprocating equipment including, but not limited to, engines, compressors, cooling tower turbochargers, motors, gear boxes, pumps, and fans.

Dimensions

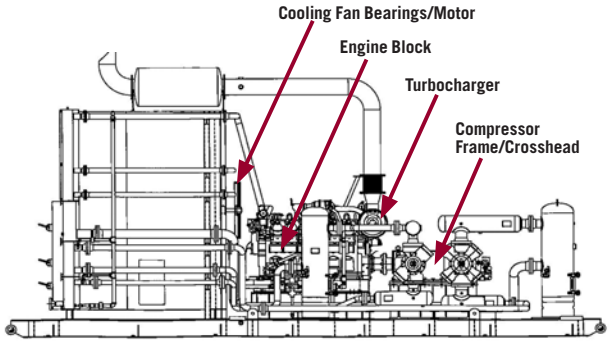


Sensor Dimensions





Typical Sensor Mounting Locations



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