ALTRONIC

VSM+
VIBRATION SENSING MONITOR FOR USE WITH PLC+ PANELS

- **Protects equipment from damage due to excessive vibration**
- **Can monitor up to 8 points of interest on a natural gas or diesel engine, compressor (air or gas), pump, or other process**
- **Specifically designed to interface with PLC+ panels and HMIs**
- **Integral Ethernet port for communications to a PLC/PC or other communication device**
- **User-selectable communication protocols: EtherNet/IP™ or Modbus/TCP**
- **Eliminates vibration switches that are vulnerable to misapplication, setpoint tampering, and physical damage**
- **Uses low-cost automotive, piezoelectric vibration sensors as sensor inputs**
- **Provides two vibration-level setpoints (alarm and shutdown) which are associated with internal output switches**
- **Built-in bad sensor diagnostic**
- **Pluggable connectors with convenient push-in spring-cage connections**
- **On board diagnostic LEDs**
- **"Wink-Mode" for multiple PLC device identification**
- **Din-Rail mounted**
- **Manual and automatic disabling modes which temporarily disable the VSM+ output switches during equipment startups to prevent nuisance alarms and shutdowns**
- **CSA Certified Class I, Division 2, Group C and D**

The PLC+ product line was developed by Altronic to allow easy integration of engine/compressor/generator function specific I/O through Ethernet to industry standard PLCs. The PLC+ Modules are designed to seamlessly deliver efficient, hazardous area approved, cost effective I/O functions that are not normally available by off-the-shelf PLC hardware.
The PLC+ modules were designed with Rockwell Automation Control Logix and Compact Logix in mind. EtherNet/IP, implemented in the PLC+ Monitors, along with ModbusTCP allow seamless communication over Ethernet to Rockwell Automation PLCs as well as a wide range of other industrial PLCs.
The PLC+ Monitors are based upon taking a time tested Altronic designed and tested specialty I/O function such as Analog and digital I/O, vibration, detonation, speed, and others and marrying it to a communications board packaged in a rugged cost effective shock and dust-resistant package.

The VSM+ Vibration Sensing Monitor is a module in the PLC+ product line. It uses the patented vibration monitoring technique of the VSM-800 and adds an integrated Ethernet port. It is designed to protect industrial engines, compressors, and associated equipment from damage caused by excessive vibration. It accepts up to 8 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+. Each input channel operates independently of the other. It is designed for use as a component of a PLC+ Control Panel, or as a stand-alone product. PLC+ panels use one or more such devices for engine control and monitoring. The Ethernet port allows the monitored values to be communicated to a PC, PLC, or other communications device using either Modbus/TCP or EtherNet/IP protocol. These values can be displayed on an HMI display and compared to user adjustable setpoint levels for alarm and shutdown.

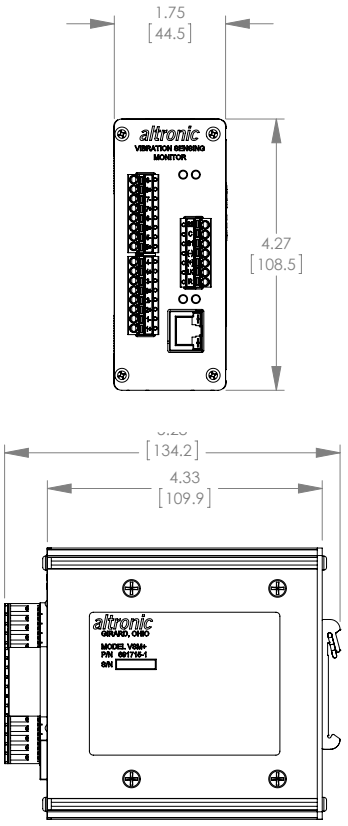
Specifications

Power Requirement	10-32VDC, 0.20 AMP max.
Ambient Temperature Range	-40°C to 80°C (-40°F to 176°F)
Enclosure	Extruded aluminum, NEMA Type 1
Mounting	Mounts to 35mm rails
Sensors	Up to 8 piezoelectric Vibration Sensor, Altronic 615107, Bosch 0 261 231 148, or equivalent
Input Frequency Range	4Hz to 1kHz
Sensor Scan Rate	0.5 seconds
Sensor and Power Connections	Pluggable, push-in, spring-cage
Comm Protocols Supported	EtherNet/IP and Modbus/TCP
Comm Configuration	Built-in web pages
Connector, Ethernet Port	Shielded RJ45 socket
Network Wiring Interface	Auto MDI/MDIX
Connections	Up to 5
Data Rate	Auto-sensed, 10/100Mbps
Address	Auto IP, Boot P. Static
LED Indicators	Power, Status, Link, RX/TX, SW1, SW2
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 Configurations	NC/NO, Failsafe/Shelf
Hazardous Area Classification	Class I, Div. 2, Groups C & D for direct hook-up, Temp Code T4, max ambient temp 80°C

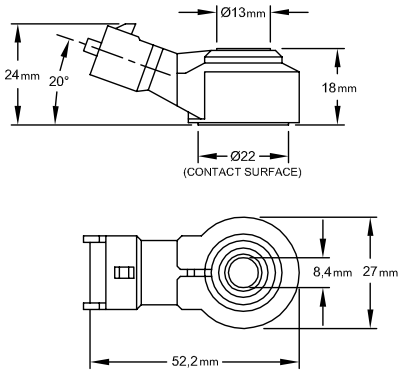
Ordering Information

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

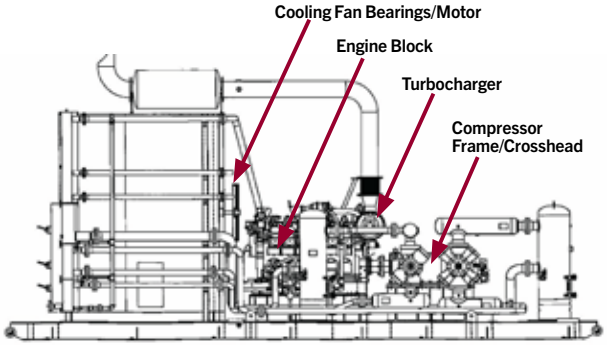
Display Module Dimensions



Sensor Dimensions



Typical Sensor Mounting Locations



ALTRONIC
A Member of the HOERBIGER Group
712 Trumbull Avenue / Girard, Ohio 44420
(330) 545-9768 / Fax: (330) 545-9005
www.altronic-llc.com Email: sales@altronic-llc.com

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