

ELECTRO•SENSORS

Superior • Systems • Solutions

VS1 Vibration Monitor VS2 Vibration Monitor

Compact and rugged stand-alone vibration monitors.

- Adjustable vibration alarm trip-point
- Selectable over- or under-vibration alarm
- Adjustable alarm delay prevents false shutdowns
- Fail-Safe output permits alarm and shutdown control logic
- SPDT relay or NPN output
- Protects machinery and helps prevent costly downtime
- Optional 24 Vdc power supply available
- NEMA 4X housing available: VS-Series NEMA 4X
- Explosionproof housing available: VS-Series XP



Above: VS-Series
NEMA 4X

Left: VS-Series XP

Product Information

Description

Electro-Sensors' VS Series are an excellent choice as compact and rugged stand-alone vibration monitors. They're engineered to protect industrial machinery against catastrophic failure associated with vibration levels above or below the trip point, which can be caused by imbalance, misalignment, looseness or excessive load. They mount directly to the machine being monitored, allowing early detection of a pending malfunction, enabling cost-effective preventive maintenance.

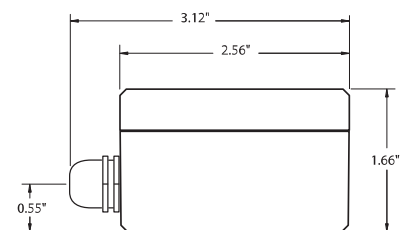
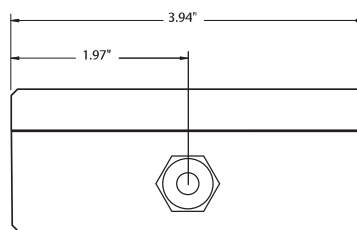
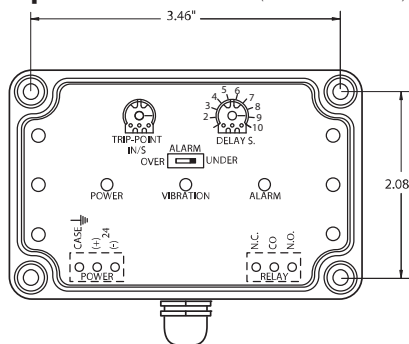
The VS Series have three LED indicators to provide the operator with at-a-glance output status as well as the circuit condition. The NPN or relay output can be wired for machine shutdown or as part of an early warning system. An adjustable alarm delay prevents false alarms by allowing the user to set a minimum fault condition time before the output changes state, thus preventing needless system shutdowns during operation or startup.

VS Series vibration monitors are housed in either a cast aluminum NEMA 4X enclosure or a cast aluminum explosionproof enclosure; both suitable for mounting directly to the measurement point of the machine being monitored. Their compact size makes installation possible in tight spaces on virtually any type of machinery. A 24 Vdc power supply is also available (contact factory for more information).

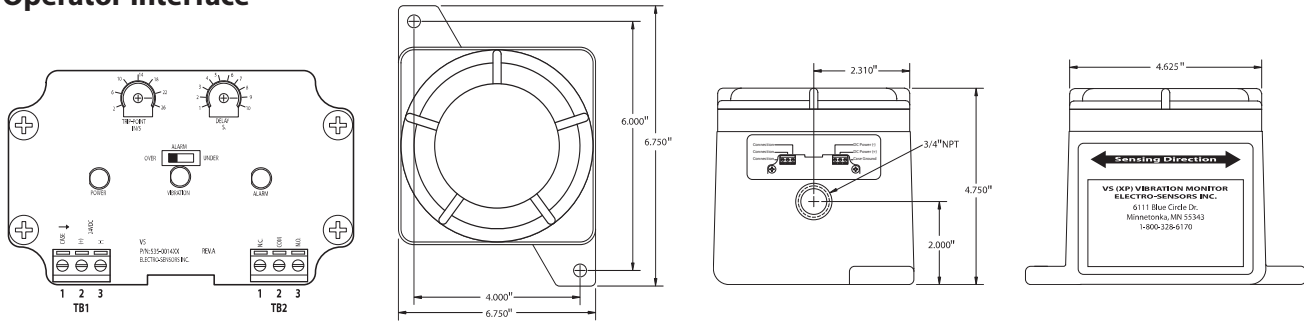
The VS1 is ideal for detecting over- or under-vibration in machinery such as large motors, gearboxes, turbines, pumps, blowers, crushers, compressors, blenders, hammermills and conveyors. **The VS2** is ideal for detecting over- or under-vibration in deliberately vibrating machinery such as vibratory conveyors and feeders.

Enclosure Dimensions • VS-Series NEMA 4X

Operator Interface (cover removed)



Enclosure Dimensions • VS-Series XP Operator Interface



The setting dials and switch are located under the housing cover. Remove the cover to change settings and replace when finished.

Installation • VS1 and VS2 (NEMA 4X and XP Versions)

Orientation IMPORTANT: VS Series vibration monitors sense vibration along the axis indicated by the SENSING DIRECTION arrow. Orient the vibration monitor with the arrow parallel to the vibration axis to be monitored.

Mounting Rigid, tight attachment is necessary for any vibration-sensing device. For this reason the VS-Series must be attached to a smooth, flat surface. Any looseness or rocking will permit error-causing resonance. Therefore, the VS-Series must be tightly and securely bolted to the measurement surface using ALL mounting tabs/holes.

Specifications • VS1 & VS2 (NEMA 4X and XP Models)

LED Indicators

Power	Green
Vibration	Green - indicates vibration above min. detectable level
	VS1: 0.1 in/s rms
	VS2: 2 in/s rms
Alarm	Red - output in alarm state

Settings/Ranges

Alarm trip point	VS1: 0.1 - 2.2 in/s rms 2.5 - 55 mm/s
	VS2: 2 - 26 in/s rms 51 - 660 mm/s
Alarm delay	1 - 10 seconds
Alarm	Over/under select switch

Operational Limits (Vibration)

Min. frequency (-3db)	VS1: 10 Hz
	VS2: 1 Hz
Max. acceleration	± 12 g peak (Relay Option)
	± 50 g peak (NPN Option)

Power Requirements

Voltage	24 Vdc (18 - 30 Vdc)
Current (max)	30 mA @ 24 Vdc

Note: Opt. 24 Vdc/130 mA power supply available, consult factory.

Relay

Type	SPDT
DC rating	5 A @ 30 Vdc
AC rating	5 A @250 Vac
Fail-Safe	Relay energized when powered and not alarmed.

Isolated NPN Output (NPN output option)

Current	50 mA
V_{CE} (max @ 50 mA)	1.0 V
BV_{CEO} (breakdown volts)	100 V
P_D (max power overtemp)	100 m@W
I_{CEO} (max leakage overtemp)	100 μ A
Fail-Safe	Transistor ON when powered and not alarmed.

Terminals/Connections

VS-Series NEMA 4X	10 Feet of 6 conductor, unshielded cable, 22 AWG
VS-Series XP	(2) 3 position screw-type terminal blocks

Enclosure

VS-Series NEMA 4X	Cast Aluminum. NEMA 4X
VS-Series XP	Cast Aluminum, CSA approved, UL Rated: Class I - Group C, D; Class II - Group E, F, G; Class III; NEMA 4X

Operating Temperature

NPN option	-40°C to 85°C (-40°F to 185°F)
Relay option	-40°C to 65°C (-40°F to 149°F)

Weight

VS-NEMA 4X	0.75 lb (0.34 kg)
VS-XP	5.70 lb (2.59 kg)
VS-XP w/window cover opt.	5.90 lb (2.68 kg)

Specifications subject to change without notice.