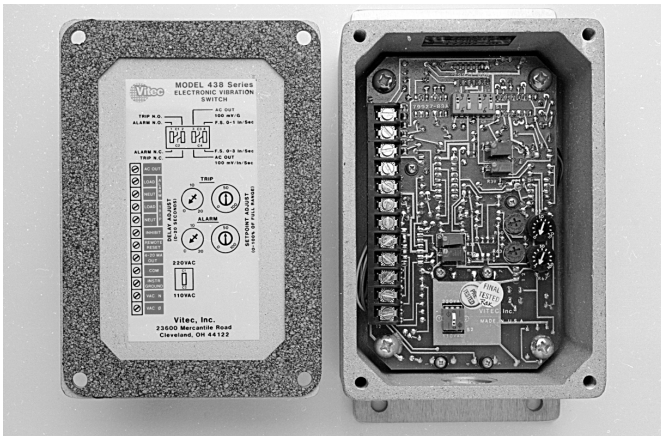
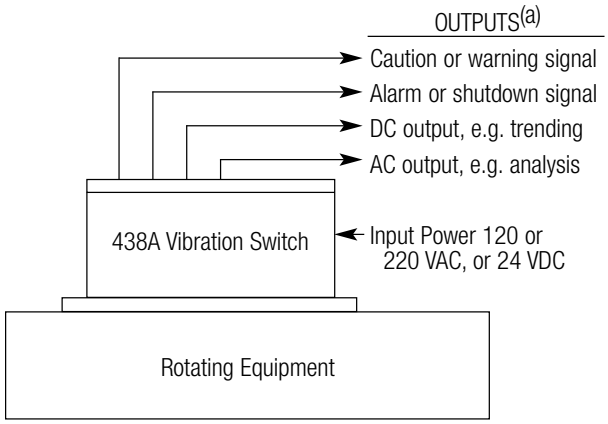
438A Vibration Switch





a. See specifications on back.

Applications

- Cooling Towers, Centrifuges, Hammer Mills, Compressors, Generators, Rolling Mills, Ball Mills
- Fans, Pumps, Motors, Coilers, Grinders, Conveyors, Mixers
- General Purpose Rotating Machinery

438A Lowers Operating Costs

The 438A helps lower your operating costs by giving advance notice of equipment problems and allowing you to plan your repairs in advance. The ability to schedule repairs reduces the cost of parts, overtime and, most significantly, lost revenues due to production downtime.

User Benefits

Helps Eliminate Catastrophic Equipment Failures
Should your equipment vibration level increase, the 438A gives you notification, and can also shut down the equipment, before major damage occurs.

Allows You to Plan Repairs in Advance
Trending the vibration level enables you to detect changes in vibration which allows you to schedule repairs to coincide with your normal maintenance schedule.

Compatible with Predictive Maintenance Programs
The 438A is compatible with most data collectors, analyzers and online analysis systems. Analyzing the vibration signatures allows you to find specific causes of high vibration such as imbalance, misalignment and bent shafts as well as faulty belts, bearings and gears.

Eliminates False Alarms
The 438A replaces mechanical vibration switches that can give false alarms, or trips, at machine startup, or when transient vibrations from external sources occur.

Easy Selection
The 438A is designed to be configured by the Customer in the field to fit a wide variety of applications. When ordering the 438A you only need to specify the type of enclosure and the power input required.

Corresponding Features

Dual Vibration Level Setpoints
Alarm and shutdown, or trip, contact closures are supplied, that activate when Customer specified vibration levels are reached or exceeded.

Analog Output
The 438A has a 4-20 mA DC analog output proportional to the vibration level, typically connected to a PLC, DCS or chart recorder.

AC Signal Output
An AC signal output, field selectable for 100 mV/g or 100 mV/in/sec, is standard. This output is available on a terminal block for connection to a Customer supplied remote connector.

Time Delays and Inhibit Functions
Each relay has a Customer adjustable time delay ranging from 0 to 20 seconds. An inhibit function is included, which eliminates relay operation during machine maintenance.

Multiple Configurations
The 438A comes in three different enclosure types: NEMA 4, NEMA 4X or explosion proof. It also has three different input powers: 120 or 220 VAC, or 24 VDC.

SPECIFICATIONS

Full-Scale Range:
0.0 – 1.0 in/sec or 0.0 – 3.0 in/sec (field selectable)

Frequency Response:
3 – 1,000 Hz

Dual Set Points:
Two Customer selectable, field adjustable from 5 to 100% of full scale

Time Delay:
Field adjustable from 0 – 20 seconds

Relays (solid-state triacs):
Two solid-state relays rated at 10 amp for either 120 or 220 VAC unit, and 1 amp for the 24 VDC unit.

Field selectable, normally open or normally closed below setpoints. Field selectable, latching or non-latching. Remote reset capability. Relay inhibit capability.

Input Power:
A 120 or 220 VAC, Customer selectable, or 24 VDC.

DC Analog Output:
4 – 20 mA DC, proportional to overall vibration

AC Signal Output:
Field selectable, velocity, 100 mV/in/sec, or acceleration, 100 mV/g, for analysis purposes

Temperature Range:
–25 to +160 F

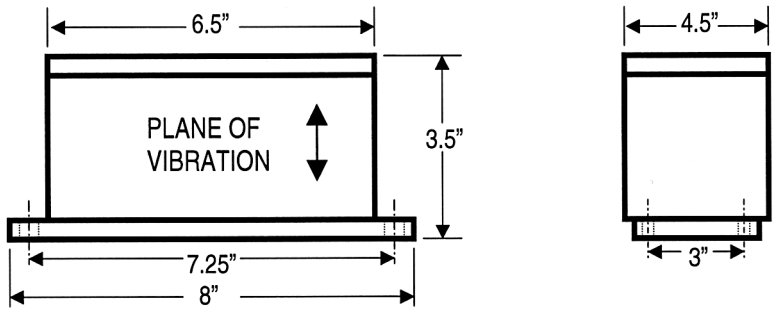
Measurement Mode:
Velocity

Housing:
NEMA 4, cast aluminum
NEMA 4X, epoxy coated cast aluminum with a stainless steel mounting plate
Explosion proof, cast aluminum

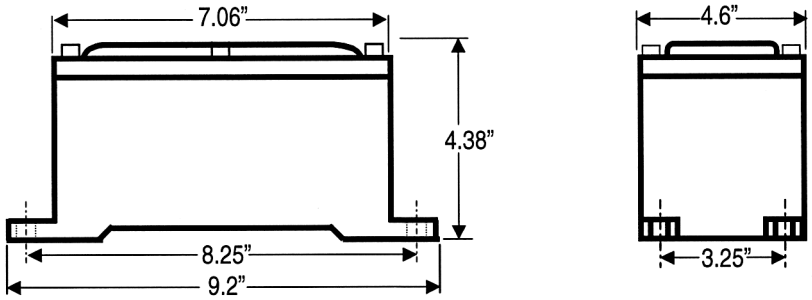
Weight:
5.5 Pounds, NEMA 4 and 4X
7.5 Pounds, Explosion Proof

DIMENSIONS:

NEMA 4 and NEMA 4X Enclosures



Explosion Proof Enclosure



- The NEMA 4 and 4X 438A should be mounted using four 1/4 – 20 UNC x 1/2 inch long bolts, washers and lock-washers.
- The explosion proof 438A should be mounted using four 5/16 – 18 UNC x 3/4 inch long bolts, washers and lock-washers.

Environmental Rating:
NEMA 4 – Weatherproof
NEMA 4X – Weatherproof and corrosion resistant

Hazardous Rating:
Explosion proof –
Class I, Divisions 1 and 2, Groups C and D, and
Class II, Divisions 1 and 2, Groups E, F and G.

Vitec's Vibration Switch Categories:

438A Plate Mounting
- 120 and 220 VAC
- 24 VDC

438D
- Consists of transducer, cable assembly and electronics
- 120 and 220 VAC
- Low-pass, Bandpass, High-pass filter
- Multiple transducers
  - Acceleration
  - Velocity
- Multiple cable assemblies

480 Stud Mounting
- 120 and 220 VAC
- 24 VDC

438R
- Consists of transducer, cable assembly and electronics
- 120 and 220 VAC
- 24 VDC
- Multiple transducers
  - Acceleration
  - Velocity
- Multiple cable assemblies

Protecting the Machines of Production for More than a Quarter-Century.

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