

HAZARDOUS LOCATIONS

BALMAC VIBRATION TRANSMITTER / SWITCH 550-X



550-X

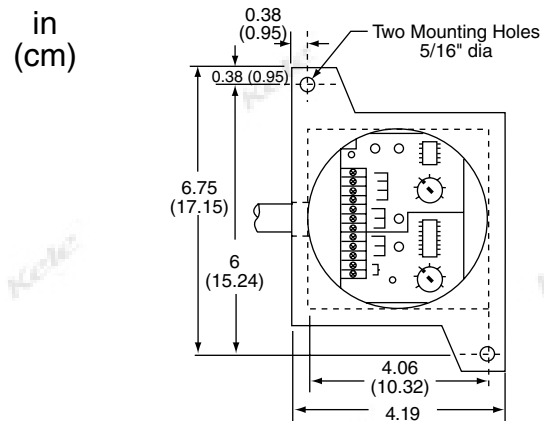
DESCRIPTION

The **Balmac Model 550-X vibration switch** provides low cost, reliable vibration protection for rotating machinery operating within the range of 120-60,000 rpm. The switch's vibration sensor, mounted perpendicular to the unit's base, responds to the velocity signal (in/sec) and effects automatic shut-down or alarm when pre-set limits are exceeded. The unit may be mounted with the sensitive axis in any plane (horizontal, vertical or axial), even in an inverted position. Two limit set points are provided. One is set for the maximum allowable vibration (in/sec), while the other is set for a percentage of that setting, tripping the alarm relay when that percentage is reached. A built-in, adjustable time delay prevents triggering due to transient vibrations. The switch can be wired for latch and remote reset or for automatic reset when vibration falls below set point. The unit has a 4-20 mA output that may be used with a panel meter or data logger, permitting analysis of vibration trends. Once the switch has been installed and the limits set, it requires no attention. The **Model 550-X** vibration switch is enclosed in an explosion proof housing suitable for Class I, Division 1, Groups C, D and Class II, Division 1, Groups E, F, G.

FEATURES

- **Reliable performance**
- **Dual SPDT relay and 4-20 mA output**
- **Easy to install**
- **Class I, Division 1, Groups C, D; Class II, Division 1, Groups E, F, G**
- **NEMA 7 or NEMA 9 (Indoor)**

DIMENSIONS



550-X

SPECIFICATIONS

Supply Voltage	100-130 VAC, 60 Hz	Operation Area	Explosion proof housing Class I, Div 1, Groups C, D; Class II, Div 1, Groups E, F, G; NEMA 7CD, 9EG
Accuracy	±5%	Conduit Connections	3/4" NPT
Signal Output	4-20 mA @ 500Ω	Wiring Terminations	Accept 12 AWG wire
Relay Output	SPDT relay, 5A @ 125 VAC; 5A @ 28 VDC	Operating Temperature	-30° to 165°F (-34° to 74°C)
Limits	Alarm & Shutdown	Mounting	1/4" hardware, 3 mounting holes
Limit #1 (alarm)	Set as a percent of Limit #2 10-100% of Limit #2	Dimensions	5.3"W x 7.4"H x 4.8"D (12.2 x 18.1 x 11.4 cm)
Limit #2 (shutdown)	Set at a velocity level in inches/sec	Enclosure Rating	NEMA 7, NEMA 9EFG, Aluminum
Measurement Range	0.1-2.75 in/sec (2.5-70 mm/sec)	Weight	5.5 lb (2.5 Kg)
Frequency Range	2-1000 Hz (120-60,000 rpm)	Approvals	CSA, FM
Time Delay	1-30 seconds	Warranty	2 years
Vibration Axis	Perpendicular to the base, omnidirectional mounting		
Remote Reset	Circuit closure between latch and common will reset both outputs		



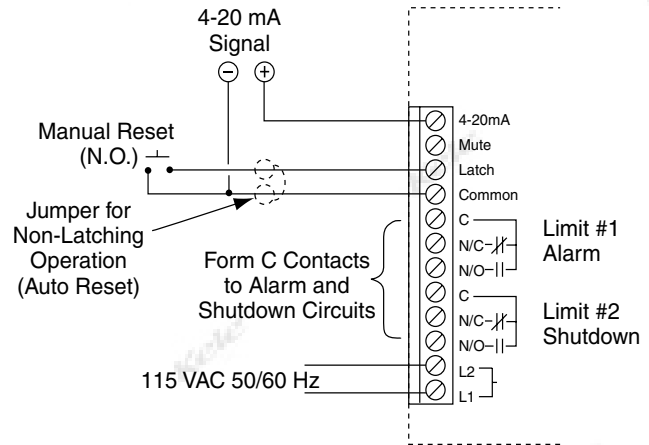
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WIRING

The wiring access is through the 3/4" NPT conduit hole on the side of the switch enclosure. Wiring subject to physical damage should be adequately protected. When installing electrical conduit, a short length (12"/30 cm) of flexible conduit must be used between the vibration switch and an associated junction box. This construction will provide some vibration isolation in the conduit line. Conduit and fittings should conform to the environment of the vibration switch location. Weather-resistant or rain-tight fittings should be used to protect the switch wiring from a humid or corrosive atmosphere. Make all connections in accordance with national and local codes.

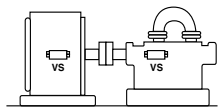
Note: Model EYM-75 conduit seal is required within 18" (45 cm) of the enclosure to maintain explosion proof rating.



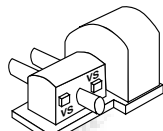
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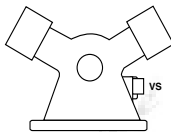
TYPICAL INSTALLATION



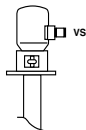
Centrifugal Compressor



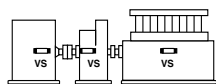
Reciprocating Compressor



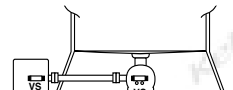
Y-Type Compressor



Vertical Pump



Engine Gear Compressor



Cooling Tower Fan

OPERATION

The **Model 550-X** is a self-contained, vibration protection limit switch. It guards against destructive levels of vibration by tripping a relay that has a user-adjustable limit setpoint in terms of vibration velocity (in/sec). This relay output is connected to an alarm or control system to provide a warning or shutdown. It mounts at the monitoring point and is enclosed in a water-tight, heavy-cast aluminum housing. Terminals are provided for remote or manual reset. A 4-20 mA output for recording or metering can connect to a remote readout panel meter or BAS controller.

CAUTION: Ensure that the switch is rigidly attached to the monitoring point for the proper sensing of the vibration.

ORDERING INFORMATION

MODEL
550-X

DESCRIPTION

Vibration transmitter/switch with 0.1-2.75 in/sec (2.5-70 mm/sec) range, two limits, with contacts

ACK6F

RELATED PRODUCTS

Cement: 1.9 lb * (0.9 kg) Fiber: 0.3 LB (0.14 kg), 25 cu in (410 cu cm) volume when set

* Consists of five 0.4 lb (0.19 kg) cement pouches

EYM-50

1/2" size, 1.06" turning radius, 1 oz Kwiko cement required, Malleable Iron construction