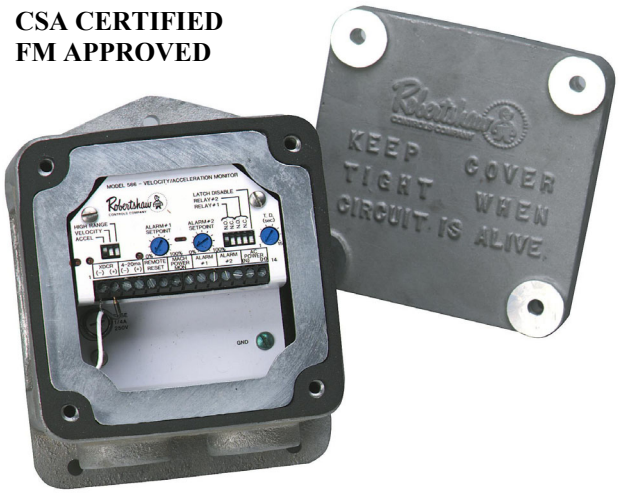
Robertshaw

INDUSTRIAL PRODUCTS DIVISION

Sales Manual Section 140
PRODUCT SPECIFICATION MODEL 566

VELOCITY-ACCELERATION VIBRATION MONITOR MODEL 566

CSA CERTIFIED
FM APPROVED



FEATURES

- **Solid state circuitry.**
- **Two adjustable trip points.**
- **Measuring mode: Velocity or acceleration field selectable without loss of accuracy.**
- **Monitor delay on alarm #1.**
- **Analog output – 4-20 mADC.**
- **NEMA 4/explosion-proof enclosure.**

GENERAL DESCRIPTION

The Robertshaw Model 566 Vibration Monitor is a solid state instrument that encompasses a variety of functions all in one unit.

Vibration can be monitored in either velocity or acceleration. The standard ranges are 0 to 1.5 inches/second or 0 to 3 inches/second when sensing velocity and 0 to 5 g's or 0 to 10 g's when sensing acceleration.

A 4-20 mADC output is provided to drive a 750 ohm maximum load.

The Model 566 includes two solid state Triacs (2 amp @ 120/240 VAC) which can be operated in a N.O. or N.C. configuration. Alarms are capable of being latched or nonlatched (ON-OFF). Alarm # 1 has a monitor time delay adjustable from 0.5 to 15 seconds. LED setpoint indicators are provided to indicate the alarm condition.

The Model 566 vibration instrument and optional remote mounted sensor are housed in a weatherproof and explosionproof enclosure.

NOTE that on the remote sensor unit the connection from the Model 566 to the remote sensor need only be an ungrounded pair of twisted wire.

PRINCIPAL OF OPERATION

The Model 566 employs totally solid state circuitry. Velocity or acceleration sensing mode of operation is field selectable without loss of accuracy. The unit is a factory calibrated in all ranges. Two alarm setpoints and a 4-20 mADC output are standard.

A machine power monitor input, such as 120 or 240 VAC is used to enable the monitor delay and analog output circuitry when the monitored machine is turned on. The time delay period can be set in the field up to 15 seconds.

The indicators (LED) will illuminate when the setpoints are reached. They are electrically connected in the circuit prior to the time delay to allow for field calibration of the alarm setpoints without shutting down the machine being monitored.

- **Alarm #1**- Operates with adjustable time delay (0.5-15 Sec.). When a vibration signal continues to exceed the setpoint for as long as the time delay setting, the alarm actuates.
- **Alarm #2** - Actuates when vibration signal exceeds setpoint. No time delay function available.
- **Latch Disable** - Disables alarm latches. Alarms reset automatically when vibration level returns to normal from an alarm condition.

ORDERING INFORMATION

566	Velocity-Acceleration Monitor. Velocity range 0-1.5, 0-3 inches per second. Acceleration range 0-5 g, 0-10 g. Standard housing is weather-proof/explosion-proof Class I, Division 1, Group C and D; Class II, Division 1, Group E, F and G.

Power Supply

A	120 VAC
B	240 VA

Sensor Location

1	Internal
2	Remote mounted sensor in an explosion-proof conduit outlet box. Can be mounted up to 1,000 feet from the Model 566 using ungrounded twisted pair wires

SPECIFICATIONS

ENVIRONMENTAL

Operating Temperature Range: .....-40 to +176°F
-40 to +80°C

Storage Temperature Range: .....-65 to +200°F
(-54 to 93°C)

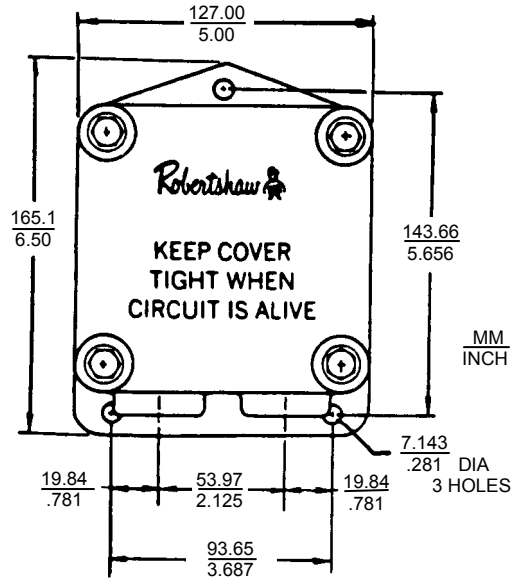
Humidity: .....95% RH @ +100°F. (+37°C)

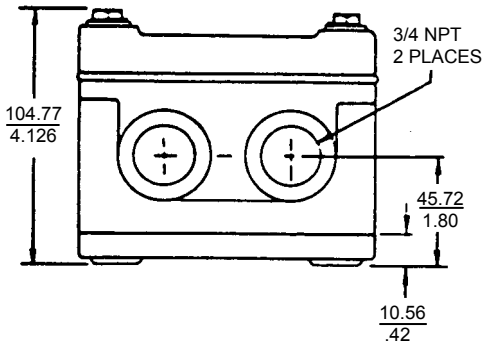
Shock: ..... *75* g's for 11 ms

Housing: ..... FM approved and CSA Certified Explosion-proof for Class I, Div. 1, Groups C & D; Class II, Div. 1, Groups E, F, & G. CSA certified for Enclosure 4 (watertight) - equivalent to NEMA 4.

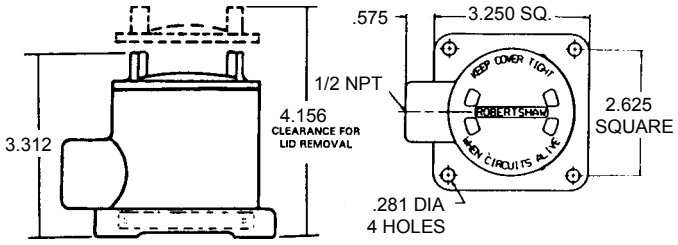
Remote Transducer Housing .. FM approved Explosionproof for Class I, Div. 1, Groups B, C, & D Class II, Div. 1 Groups E, F, & G. NEMA 4 (watertight). CSA certified Explosion-proof for Class I, Div. l, Groups C & D; Class II Div. l, Groups E, F, & G. CSA enclosure 4 (watertight) - equivalent to NEMA 4.

Invensys
An Invensys company

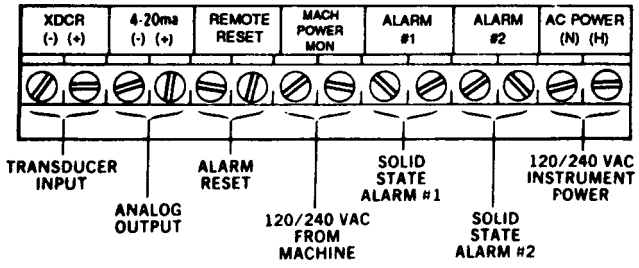




MODEL 566 HOUSING



REMOTE SENSOR HOUSING



CUSTOMER CONNECTIONS

ELECTRICAL:

Supply Voltages ....120 VAC, ±10%, 50/60 Hz.
240 VAC, ±10%, 50/60 Hz.

Input Signal:
Velocity **Low Range:** ..... 0-1.5 in./sec. RMS
High Range: ..... 0-3 in/sec. RMS
Acceleration **Low Range:** ..... 0-5 G's RMS
High Range: ..... 0-10 G's RMS

Output Signal .....4-20 mADC (not isolated)
Output Signal Load Limit: ..... 750 Ohms Maximum
Solid State Relay Rating: .....Triac, 2 amp, 120 or 240 VAC inductive. Leak rate 1 ma maximum

NOTE
AC CURRENT ONLY- Minimum Triac Load Current 50 ma.

Time Delay .....Field Adjustable 0.5 to 15 seconds (alarm # 1 only).

PERFORMANCE

Accuracy:
Relay Setpoint .....±10°/a of setting with a repeatability of 2%
Analog output .....±5% of span (4-20 mADC)
Supply and Load Variation ..... Less than +0.1
Frequency Response .....Flat response 8 Hz. to 1 KHz.
Output Current Limit ..... 22 ma maximum

AVOID CATASTROPHIC FAILURE

Vibration is an excellent early warning of machine deterioration. The Robertshaw Model 566 Vibration Switch senses the causes of excessive machine vibration before failure. The major causes of excessive machine vibration are: imbalance of a rotating member, misalignment, defective bearings and defective belts. The Robertshaw Vibration Switch responds to destructive vibration by shutting down your machine when the vibration trip level is exceeded, preventing catastrophic damage and extensive repairs and down time.

In most cases, vibration monitoring can detect a problem long before damage is done. For example, vibration monitoring provides a much earlier warning of machine deterioration than temperature monitoring.

Small and gradual machine deterioration shows up as significantly increased vibration. Early detection usually permits continued operation until a scheduled shutdown.

Robertshaw

U.S.A. and CANADA
Robertshaw Industrial Products Division
1602 Mustang Drive
Maryville, TN 37801
Phone: (865) 981-3100 Fax: (865) 981-3168
http://www.robertshawindustrial.com

Exports
Invensys Appliance Controls
2809 Emerywood Parkway
P.O. Box 26544
Richmond, Virginia 23261-6544
Phone: (804) 756-6500 Fax: (804) 756-6561

Invensys
An Invensys company

Q-4057 (7/01) Printed in U.S.A.