

162VTRA(H)

Loop-Powered 4-20 mA Vibration Transmitter



The 162VTRA(H) Vibration Transmitter provides a 4-20 mA output that is proportional to Velocity, which represents vibration severity. Vibration is detected using a piezo-electric crystal. The crystal's output signal represents Acceleration and is electronically converted to Velocity. The device is Loop-Powered using a 15-30 VDC power supply. A 250 ohm resistor is usually used to provide a 1-5 VDC voltage drop to the instrumentation sampling the output.

TWO-WIRE VIBRATION TRANSMITTER

Vibration level is an excellent indication of machine condition. The model 162VTR is intended for continuous monitoring where trending, alarm and/or shutdown is to be accomplished with a computer or PLC. Continuous monitoring of critical or unattended machinery is necessary for several important reasons:

- Since monitoring is continuous, faults are recognized immediately.
- By contrast with manual periodic monitoring, faults which develop during the intervals between data collection go undetected.
- Early detection usually permits continued operation until scheduled maintenance—rather than expensive shutdown and correction during the middle of a production run.

Specifications

Frequency Range:	120 to 60,000 CPM
Accuracy:	± 10% of indicated output
Repeatability:	± 2%
Temperature Range:	-20° to 150°F : optional 200°F (AH)
Load Resistance:	<600 ohms (dependent on supply voltage)
Weight:	162VTRA(H): 10 oz. (0.28 kg)
Measurement:	Velocity, peak
Output:	4-20 mA DC
	(-1) 0 to 0.4 in/sec
	(-2) 0 to 0.8 in/sec
	(-3) 0 to 1.6 in/sec
	(-4) 0 to 8 mm/sec
	(-5) 0 to 16 mm/sec
	(-6) 0 to 32 mm/sec
	(-7) 0 to 64 mm/sec
	(-8) 0 to 3.2 in/sec
Ranges F.S.:	
Input Power:	12 – 36 VDC
Explosion Proof:	CSA Class I Div. I, Group B-D

How the 162VTR Works

The 162VTR utilizes a solid state crystal which generates an electrical output when it is deformed by the vibration forces. The output is then electrically converted to the 4-20 mA output signal.

Velocity Monitor

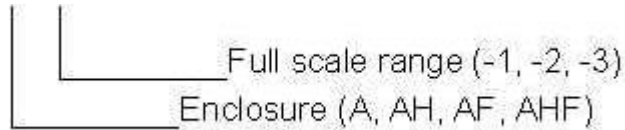
International standards for rotating machinery (ISO 2372, 3945) specify that vibration severity is directly related to vibratory velocity. The PMC/BETA 162VTRA vibration transmitters provide a 4 to 20 mA output proportional to velocity. Further, the measuring circuit uses an RMS detector as required by ISO standards. The 162 VTRAH, to increase the temperature range to 200°F, uses an averaging circuit instead of the RMS detector.

Easy Installation

In both models, removing the top cover permits wiring directly to a terminal strip. Also, electrical conduit can be connected directly to the NPT fittings. Mounting of the 162VTR is accomplished via the mounting stud shown. The unusually small size of the 162VTR-A makes it very attractive in non-explosion proof applications.

How to Order

162VTR A - 2



Example:

A 162VTRA-2 is the vibration transmitter with a weatherproof housing and a 4-20 mA output where 4 mA = 0 vibration and 20 mA = 0.8 in/sec velocity.

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