Vitec, Inc.

4033-400 VELOCITY TRANSDUCER INSTALLATION AND SPECIFICATIONS

APPLICATION

The 4033-400 Velocity Transducer is a high quality transducer used for general purpose machine vibration measurement. It is a self-powered device, capable of being used with cable runs of up to 1,000 ft. The 4033-400 is for use in applications up to 400°F.

INSTALLATION, ELECTRICAL

Cable Type: Use high quality, twisted, shielded cable between the transducer terminals and monitor terminals. Use of Vitec supplied cable assemblies is recommended.

Cable Length: Transducer to monitor cable length should not exceed 1,000 ft.

Cable Splicing: If cable splices are made, complete shielding must be maintained.

Cable Routing: Proper cable routing is required to avoid false signals being introduced into the measuring device (monitor). Avoid running transducer wires adjacent to, or parallel to, AC power lines. Where possible, provide a separate, grounded conduit to enclose the transducer cable. Route cable away from radio transmission equipment, motors, generators, and transformers. Avoid running cable through areas prone to ESD (Electro Static Discharge) or EMI (Electromagnetic Interference).

Cable Grounding: Connect the cable shield to a good, earth ground connection, at one end only (preferably at the monitor end of the cable). Vitec monitors provide this connection as a terminal block connection point.

INSTALLATION, MECHANICAL

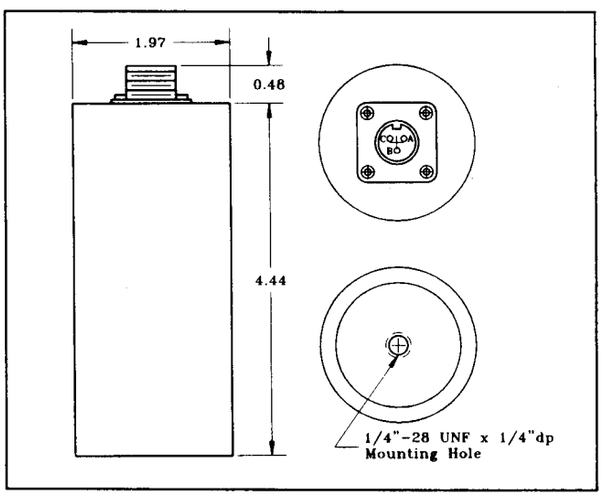
Location: Mount on, or as close as possible to, the bearing being monitored. Preferable mounting location is on the bearing cap.

Direction: The 4033-400 is only sensitive to vibrations that are occurring in the direction of the transducer's axis (the imaginary line running through the center of the connector and the mounting stud). Therefore, mount the transducer in a direction that will sense the vibrations to be measured.

Operating Position: The 4033-400 is limited to a mounting position of +/- 110 degrees off of vertical, with vertical being defined as the connector in the "up", or 12:00 position. Operating the transducer out of this mounting range can cause irreparable damage.

Surface Preparation: The mounting surface must be flat and smooth. For best results, mounting surface should be flat to within 0.001 in TIR (Total Indicated Runout) over the full base dimension of the transducer, with a minimum 63 µin finish.

Stud Mounting: Drill and tap the mounting point for a 1/4-28 UNF stud, with a minimum thread depth of 3/8 in.



SPECIFICATIONS

Dynamic:	
Output, mV peak, +/- 3%, for 1.0 in/sec peak into a 10K ohm resistive load at 100 Hz	200
Linearity, %: from 0.2 to 8.0 in/sec peak from 0.1 to 10.0 in/sec peak	 +/- 2 +/- 3
Frequency Response, %, 20 to 1,500 Hz	+/- 5
Natural Frequency, Hz, approximate	20
Transverse Axis Sensitivity, % at 100 Hz	5
Temperature Sensitivity, % change in output from 20 to 1,000 Hz with a temperature range of: 25 - 400°F	+/- 5
Amplitude Range, inches: minimum maximum	 0.0002 0.100
Operating Gs, maximum	17
Damping	Electro-Magnetic

Electrical:	
Power Requirements	None, Self Generating
Sensing Element Impedance, ohms, +/- 10% at at 75°F 4033 - 400	230
Grounding, Sensing Element	Internally Ungrounded
Connections (Connector): Pin A Pin B Pin C	 Signal Open Signal Return

Environmental:	
Temperature Range, °F 4033 - 400	 -20 to 400
Hazardous Area Rating, when installed per Vitec drawing 602813-137	Intrinsically Safe for Class 1, Group D, Div. 1
Operating Position, degrees from vertical, connector up	+/- 110

Physical:	
Vitec Part No.: 4033 - 400	 602885-49R
Weight, ounces	28
Case Material	2024-T3 Aluminum with Satin Anodized Finish
Dimensions: Height, inches Body Diameter, inches Center Mounting Hole	 4.92 1.97 1/4-28 UNF x 1/4 in Deep
Mating Cable Assembly	Varies with application, contact factory

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