Vitec, Inc.

4073 ACCELEROMETER INSTALLATION AND SPECIFICATIONS

APPLICATION

The 4073 Accelerometer is a good quality transducer used for general purpose machine vibration measurement. It is a constant current type accelerometer that has a 100 mV/G output suitable for cable runs of up to 2,300 feet. The 4073 is rated for use in temperatures up to 250°F.

INSTALLATION, ELECTRICAL

Cable Type: A high quality, twisted, shielded cable, or co-axial cable can be used between the transducer terminals and monitor terminals. Use of Vitec supplied cable assemblies is recommended.

Cable Length: When the 4073 Accelerometer is connected to a Vitec monitoring or measurement device, cable lengths are limited by the type of cable used, and the maximum frequency of vibration to be measured as defined below:

Cable Type Used	Maximum Frequency of Interest, KHz	Maximum Recommended Cable Length, ft
Coaxial	1.0	2,000
	5.0	400
	10.0	200
Twisted, Shielded	1.0	2,300
	5.0	460
	10.0	230

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 at the cable termination point. When co-axial cable is used, the center conductor carries the signal and power while the outer braid provides shielding and signal return.

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 accelerometer 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 4073 Accelerometer can be mounted in any position, there are no mounting position restrictions.

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.

If frequencies above 3.0 KHz are of interest, a coupling fluid such as machine oil or vacuum grease should be used between the mating surfaces.

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

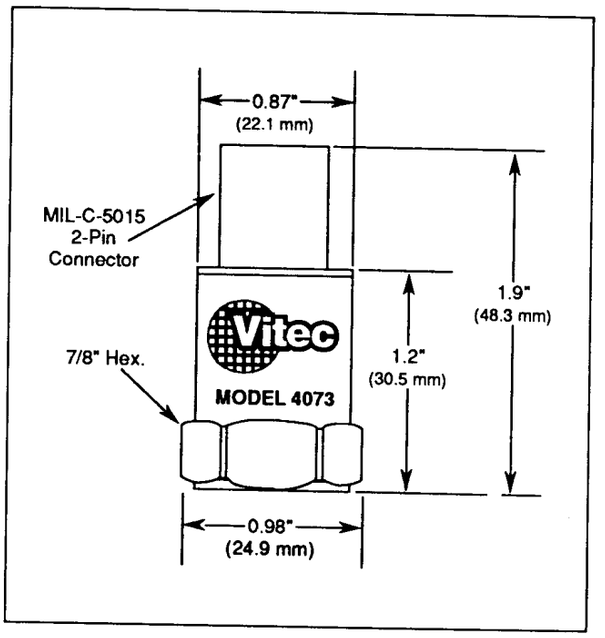
SPECIFICATIONS

Dynamic:	
Output, mV/G, +/- 10%, at 77°F	100
Dynamic Range, Gs peak	50
Frequency Response, Hz: +/- 10% +/- 3db	 1.7 to 6,000 0.8 to 10,000
First Mounted Resonant Frequency, KHz nominal	20
Transverse Axis Sensitivity, % max.	5
Shock Level, Gs maximum, peak	5,000

Electrical:	
Power Requirements, volts DC	18 to 30
Current Draw, mA	2 to 20
Bias Output Voltage, volts DC	8 to 11
Connections (Connector): Pin A Pin B	 Signal Signal Return
Grounding, Sensing Element	Internally Ungrounded and Shielded

Environmental:	
Temperature Range, °F	-65 to 250
Humidity Limit, % relative	100

Physical:	
Vitec Part No.:	412790-77A
Weight, oz.	3.1
Case Material	316 Stainless Steel
Dimensions: Height, inches Body Diameter, inches Center Mounting Hole Wrench Flats, inches, at bottom	 1.9 0.98 1/4-28 UNF x 1/4 in Deep 7/8
Mating Cable Assembly	Varies with application contact factory



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