STI Vibration Monitoring Inc.

Vibration Monitoring and Machine Protection Systems

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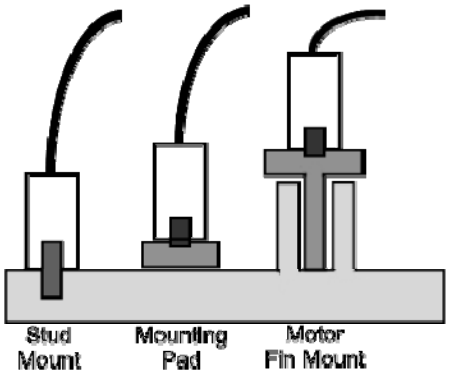
Condition Monitoring Custom Products

CMCP 1100
Accelerometer Mounting Instructions

When using any Piezoelectric sensor to measure vibration, the sensor must directly contact the machine surface, and the sensor should be mounted in a location that minimizes the vibration transmission route through the machine. Avoid mounting the sensor on thin material or vibration-free areas. CMCP1100 Accelerometers are an ICP Accelerometer and must be powered by 24 VDC through a constant current diode (CCD). Powering directly with 24 VDC will destroy the unit and invalidate the warranty.



THREADED STUD INSTALLATION

Stud mounting of the CMCP 1100 requires a hole to be tapped directly into the structure. A threaded stud provides the connection between the accelerometer and surface.

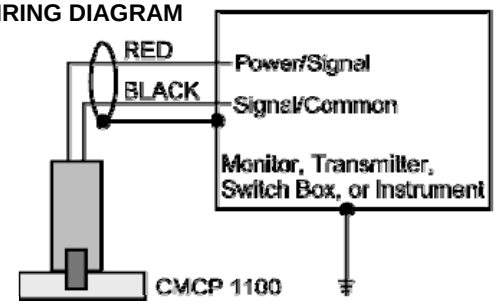
The junction must be a smooth flat surface with a perpendicular tapped hole (within 1°) slightly larger than the case of the accelerometer. For measurements above 1,000 Hz the surface should be smooth within 1 mil and have a surface texture of a maximum of 32 micro inches. The tap drill and spot face can be machined in one stop with proper tooling such as the CMCP 701 Piloted Spot Reamer.

Instructions:

Mount the drill into the CMCP 701 Spot Reamer with a minimum of .35 inches drill extension. Drill and tap.

Apply a service removable threadlock such as Loctite 242 blue to the tapped hole in the sensor, and surface.

WIRING DIAGRAM



MOUNTING PAD INSTALLATION

Mounting pads eliminate drilling into the structure, and provide high frequency capability comparable to stud mounts. The CMCP 1100 should be mounted with CMCP 200-01 or CMCP200-02 Mounting Pads.

Once the pad is bonded to the surface with an appropriate adhesive (CMCP 210 or CMCP 211), the accelerometer screws into the threaded hole with a 1/4-28 stud (CMCP 230). The procedure below leaves the pad and the sensor housing electrically isolated from ground.

Instructions:

Bore a slightly larger spot face than the diameter of the pad to be installed on the machine housing. Do not use cutting fluids as they may contaminate the bonding area.

Prepare epoxy according to manufactures specifications.

Apply a generous amount of epoxy to the spot face and seat the mounting pad with a twisting motion.

Build up the adhesive around the sides of the pad to increase shear strength and assist electrical isolation. Do not get epoxy in the sensor mounting surface. Let the adhesive dry at least 24 hours.

Apply a service removable threadlock such as Loctite 242 blue to the tapped hole in the sensor.

Torque the sensor to 26 to 30 inch-pounds.

MOTOR FIN INSTALLATION

STI's CMCP 205 series Motor Fin Mounts are a convenient way to mount accelerometers to surfaces with cooling fins. The mounts are made in several sizes to fit most applications.

Instructions:

Thoroughly clean the surfaces of the fins where the mount will be applied.

Make sure the tip of the fin mount contacts the case and does not rest on the fins.

Prepare epoxy according to manufactures specifications.

Fill the surrounding area with epoxy, making sure the tip of the motor fin mount is touching the surface, and not the fins. Wait 24 hours for the epoxy to cure.

Apply a service removable threadlock such as Loctite 242 blue to the tapped hole in the sensor, and surface.

Install and torque CMCP 1100 to 26 to 30 inch-pounds.