MOTOR VIBRATION
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Monitoring vibration on induction motors is at the core of any predictive maintenance program. Typical applications demand vibration measurements in the horizontal, vertical and axial direction on both the inboard and outboard motor bearings. Aside from typical mechanical issues, such as misaligned couplings and unbalance, the vibration analyst can also detect electrical issues that cause mechanical vibrations. Some common electrical faults include air gap variation, broken rotor bars and bearing fluting.

Vibration analysts can use one accelerometer, mounted magnetically and rotate it around the motor to capture various data collection points. In some cases the motor is in an inaccessible location and thus permanent mount sensors are used and routed to a junction box for walk up data collection. Accelerometers are permanently mounted by drilling and tapping into the motor housing or they can be adhesively affixed or welded using a mounting pad.

Electric motors driving capital machinery and ancillary equipment are critical plant processes. Unscheduled shutdowns or failures result in costly downtime, equipment damage and possible safety hazards for personnel. Although your maintenance engineers can’t be everywhere at once, IMI® vibration and fault transmitters provide continuous protection and early detection of issues such as soft foot, imbalance, bearing faults, bearing fluting and misalignment. Using a 4-20 mA signal, our transmitters directly communicate with customer PLC, PI, SCADA, or DCS systems and data can be easily trended, managed, with proper alerts and notifications to keep your process up and running.
**SINGLE AXIS ICP® ACCELEROMETERS**

**LOW COST SIDE EXIT ACCELEROMETER**
MODEL 602D01
- Easy installation in tight spaces
- Through-bolt aides in cable orientation
- Low profile, less than 1 in. height
- M12 connector version available

**LOW COST TOP EXIT ACCELEROMETER**
MODEL 603C01
- General purpose, hermetically sealed
- IMI’s most popular accelerometer
- Small footprint
- M12 connector version available

**PRECISION TOP EXIT ACCELEROMETER**
MODEL 622B01
- Full frequency sweep calibration: 5% sensitivity deviation tolerance
- 15 kHz high frequency response ideal for early detection of bearing fluting conditions
- Ideal for route-based data collection

**TRIAXIAL ICP® ACCELEROMETERS**

**LOW COST ACCELEROMETER**
MODEL 604B31
- General purpose, hermetically sealed accelerometer
- Perfect for permanent mount applications

**PRECISION ACCELEROMETER**
MODEL 629A31
- Ideal for route-based data collection, magnet mount
- Full frequency sweep calibration, superior frequency response

**HIGH FREQUENCY ACCELEROMETER**
MODEL 639A91
- Sensitivity: (±10%) 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ±50 g pk (±491 m/s² pk)
- Frequency Range: (±3dB) 0.5 to 13 kHz

**VIBRATION TRANSMITTERS**

**BEARING FAULT DETECTOR**
MODEL 682C05
- Provides early warning of bearing and gear faults
- Operates with PLC, DCS, SCADA, alarm and control systems
- Outputs 4-20 mA signals for peak acceleration and overall vibration

**VIBRATION TRANSMITTER**
MODEL 682C03
- Outputs 4-20 mA signal proportional to acceleration, velocity, or displacement
- ICP® accelerometer input
- Analog vibration output via front BNC

**4-20 MA OUTPUT SENSOR**
MODEL 640B01
- Peak velocity
- Side exit housing available
- Intrinsically safe/explosion proof versions available
IMI Sensors, a division of PCB Piezotronics, Inc. manufactures industrial vibration monitoring instrumentation, such as accelerometers, vibration transmitters and switches that feature rugged stainless steel housings and survive in harsh environments like paper and steel mills, mines, gas turbines, water treatment facilities and power plants. Integrating with portable analyzers and PLC’s, IMI instrumentation helps maintenance departments reduce downtime and protect critical machinery. Visit IMI Sensors at www.pcb.com. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.