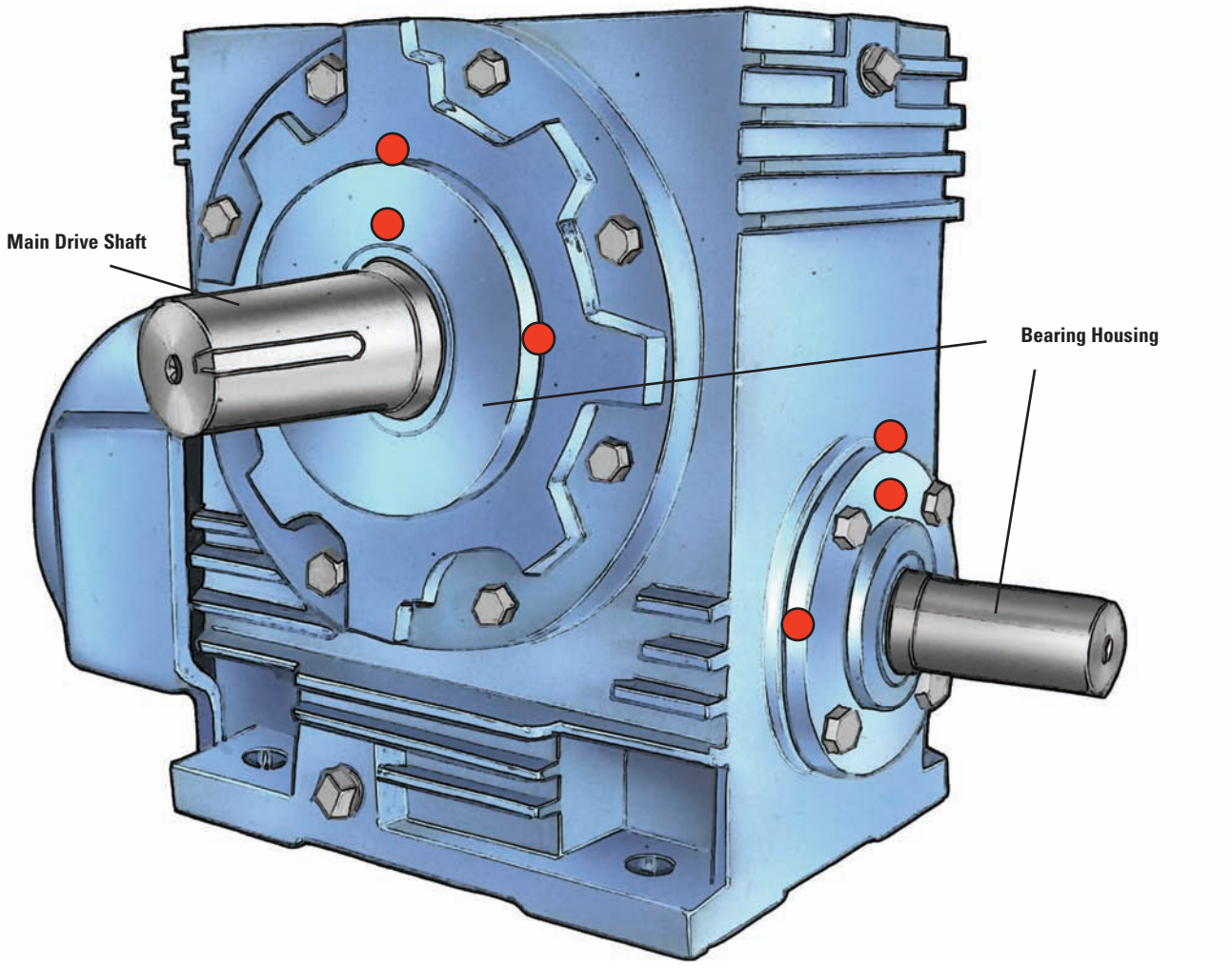
Gearboxes

Instrumentation Built to Survive in Grease & Grime and Pickup Gear Mesh Faults

Predictive Maintenance

Gearboxes

The sensor has to be chosen based on calculated gear mesh frequency and bearing defect frequencies. The gear mesh frequency is easily determined by multiplying the number of teeth on a gear by the rotational frequency. For example, a motor with 1800 rpm (30 Hz) and a gear with 50 teeth results in a gear mesh frequency of 1500 Hz. This result multiplied by a factor of 3.25 will provide the maximum frequency the sensor should be able to measure for best results. If the number of teeth on a gear is unknown, as a rule of thumb, the maximum sensor frequency should be assumed to be 200 times rpm (in Hz). Typically high speed input and low speed output frequencies need to be measured near shaft bearings. Sensors should not be mounted on resonance frequency prone housing locations to improve accuracy of the readings. Sensors can be placed in radial, ideally two sensors with a 90 degree angle and axial locations. Radial sensors can be used to spot imbalance and axial sensors will best analyze gear mesh and bearing faults. Most IMI® sensors can be offered with an option to safely affix them inside of the gear housing for best measurement results. Sensors can be pressure tested, can withstand oils and chemicals inside of the case and are available in high temperature versions. Advanced vibration monitoring systems in combination with experienced analysis can deliver a broad range of results. Tooth wear, gear eccentricity & misalignment, damaged teeth and other potential problems can be spotted instantly while the transmission is in service.



IMI SENSORS
A PCB PIEZOTRONICS DIV.

Complete specifications available at www.imi-sensors.com

☎ Toll-free in the USA 800-959-4464 ☎ 716-684-0003

Reducer / Slow Speed - Predictive Maintenance

Precision ICP® Accelerometer
Model 625B01

- Side exit, ring-style
- Ceramic sensing element
- 100 mV/ips integrated velocity output option available

Precision ICP® Accelerometer
Model 626B01

- High sensitivity
- 12 cpm
- Available with temperature output

High Speed / Gear Mesh - Predictive Maintenance

Low Cost ICP® Accelerometer
Model 603C00

- 10 mV/g sensitivity
- 500 g measurement range
- Small footprint

Low Cost ICP® Accelerometer
Model 607A11, Model 607A11/030BZ
Model M607A11

- Unique 360° swivel design
- Allows for easy cable orientation
- Integral or armored integral cable options available

Precision ICP® Accelerometer
Model 622B01, Model M622B01

- 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

Gearboxes

Accessories

Cables & Connectors

Polyurethane Cabling with MIL-Style Connector
052BRXXXBZ

Polyurethane Cabling with Right Angle MIL-Style Connector
052BQXXXBZ

XXX = Denote cable length, 010 = 10 feet (Metric lengths available)

Mounting Hardware

Sensor Mounting Pad
Model 080A93: Ø0.75"
Model 080A118: Ø1.0"

Flat Surface Magnet
Model 080A157

Small Adhesive Kit
Model 075A05

Product Spotlight

Very High Frequency Accelerometer Kit

Model 600A12

Industry Exclusive!

This high frequency 10 mV/g accelerometer kit features a very small accelerometer with a magnet and cable assembly

- High frequency response to 30 kHz, even when mounted magnetically
- Supplied with 5 ft. cable with BNC plug termination
- Kit features Model 621B40 accelerometer with titanium housing

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