Accelerometer Mounting
Hardware and Installation
Techniques
Mounting Considerations

➤ Is the location for monitoring in a safe, accessible location?
➤ Can the accelerometer be permanently mounted?
  ➤ Can the machine be faced properly?
➤ Mounting location
  ➤ Where is the best location?
  ➤ Are there obstacles?
➤ What are the frequencies of interest?
Accelmerometer Mounting

➤ Hardware Selection
➤ Mounting Location
➤ Surface Preparation
➤ Mounting Resonance's
Mounting Technique Determines the Mounted Resonance

![Diagram showing different mounting techniques and their effect on mounted resonance](mount2.ppt)
Probe Tips

➤ Use on difficult to reach areas and aluminum motor frames

➤ Do not use for measurements less than 10 Hz

➤ Mounted Resonance 800 - 1500 Hz
Magnets for Curved Surfaces

- Use on irregular and curved surfaces
- Magnet made of Alnico 5
- Includes 1/4-28 Stud
- Mounted Resonance 3000 to 7000 Hz
Magnets for Flat Surfaces

➢ Use on flat surfaces or magnet pads
➢ Magnet made of Rare Earth Material
➢ Some have an integral 1/4-28 mounting stud while others have a 1/4-28 Tapped Hole
➢ Other stud sizes are available
➢ Mounted Resonance 5000 to 10,000 Hz
QuickLINK® Mounting Pads

➤ Mounts quickly like a magnet
➤ Uses dual lead threads for less than 1 full turn
➤ High mounting resonance like a stud
➤ Reduces cable and wrist fatigue
Adhesive Mounting Pads

- Provides adequate frequency response
- Pad available for most common thread sizes
- Pad available for tapped holes for use with accelerometers that use captive screws
Adhesive Mounting

➤ Spot Face Surface
➤ Abrade Surface
➤ Clean Surface
➤ Use Proper Adhesive
  ➤ VersiLock® 406 / Cat 19
  ➤ Loctite® Depend
  ➤ Loctite® Liquid Metal
➤ Use Proper Mix Ratios
Mounting Studs

➤ Provides highest frequency response
➤ Various Stud sizes are available
➤ Captive Screws with are available with various mounting threads
Stud Mounting

➤ Tap Drill Hole to Proper Depth
➤ Spot Face Surface Perpendicular to Hole
➤ Tap Proper Threads
➤ Ensure Flatness, Surface Texture, and Perpendicularity
Advantages of Permanently Mounted Sensors

➤ Safety
➤ Convenience
➤ Repeatability of Data
➤ Faster Data Collection
➤ Reduces Auto Collection Errors
Coupling Fluids

- Coupling fluids should be used between the sensor and mounting surface interfaces.

Coupling fluids include:
- Silicone Grease
- Oil
- Petroleum Jelly / Beeswax

[Diagram showing coupling components: 2-Pole Magnet, Flat Magnet, Adhesive Mounting Pad, Stud]
Mounting Responses

Probe Tip

Curved Surface Magnet
Mounting Responses

Flat Magnet

QuickLINK®
Mounting Resonance's

➤ Mounting Resonance's can amplify high frequency signals and increase overload
➤ Mounting Resonance's can appear to be severe rolling element and gear mesh faults

KNOW YOUR MOUNTING CONDITIONS!
Mounting Location

- Mount in the load zone
- Mount as close to the point of interest
- Low profile, side exit designs for confined areas
- Side exit allows for neat cable routing
Switchable Junction Boxes

Junction Boxes:
Provide connection centers for terminating cables and connecting to Portable Data Collectors. They can used in industrial applications and can be powered.