

## TECHNICAL TRAINING

# Online Vibration Monitoring & Protection Systems

*Promote your vibration analysis and diagnostics experience with professional instruments and systems practices to understand online monitoring systems operation and maintenance.*



### Scope

- Instrumentation
- Monitoring systems
- Rotating machinery



### Course Duration

5 days  
(30 hours)



### Availability

- Customer site
- Classroom
- Online (Virtual)



### Audience

- Instruments and systems engineers
- Vibration analysts
- Rotating equipment engineers



### Prerequisites

- Field work awareness
- Instrumentation & systems experience
- Vibration analysis knowledge

## Learning outcome

- Design an online vibration monitoring system for machinery
- Propose protection philosophy and alarm limits for monitoring
- Identify applications of proximity probes for rotating machinery
- Describe the proximity probe transducer system architecture
- Select proper monitoring solutions for of rack-based systems
- Ensure proximity probes linearity through calibration procedures
- Perform thrust probe gapping procedures and configuration
- Conduct field activities for online system troubleshooting

## What will you learn

- **Online vibration monitoring** – Machinery Vibration – Online Monitoring & Protection Systems – Practices and Standards – System Architecture & Wiring – Signal Processing – Global Market
- **Eddy current proximity probes** – Historical Overview – Proximity Probe Construction – Operation & Maintenance – Application & Limits
- **Proximity transducer system** – Data Acquisition – Signal Output – Wiring & System Assembly – Sensitivity & Linearity – Calibration
- **Rack-based monitoring system** – Auxiliary Systems – Trip Multiplier – Relays – Protection – Communication Gateway – Monitoring System Modules – System Commissioning – Inspection Requirements
- **Keyphasor\*** – Signal Overview – Keyphasor Application – Keyphasor Configuration & Triggering – Protection Logic
- **Radial Vibration** – Signal Overview – Radial Probes Application – Installation & Configuration – Protection Logic – Alarm & Danger Limits
- **Thrust position** – Signal overview – Thrust Probes Application – Probe Gapping & Configuration – Protection Logic – Alarm & Danger Limits
- **Monitoring system troubleshooting** – System Component & Potential Failures – Troubleshooting Guidelines – As-found Status – Root-Cause Analysis – Maintenance Planning & Failure Data Recording

\*Keyphasor is a registered trademarks of Bently Nevada company.

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