Machinery protection

Emissions from industrial plants that power plants install protection systems to monitor and measure the events that cause a change in the level of vibration or detect deviations from critical rotating machines. Should a breakdown threaten, our system would initiate a shutdown within a fraction of a second.

Condition monitoring

To achieve higher unattended maintenance, unnecessary inspection and trouble-shooting, system operators must anticipate wear and tear and recognize incipient failure conditions. That’s why, when planning operations, maintenance and inventory, they come to Meggitt for the latest sensing and condition-monitoring tools.

Combustion monitoring

Modern gas turbines emits a harmful, ozone-forming greenhouse gases and NOx through advanced combustor design. A by-product which invokes combustion-driven pressure, heat release and flame oscillation which can damage the turbine package, adversely affecting performance. Our unique turnkey system adds active protection, alerting control systems to the signs of instability in advance in pressure amplitude and discrete frequencies observed within designated frequency range bands.

Combustion monitoring enables continuous output to control systems enabling engineers to determine the cause of instability or high emissions and undertake remedial action such as adjusting gas and air-mixes and combustion sequencing.

Performance monitoring

Performance limitations take a direct effect on operating costs and the production output. VibroSight online thermodynamic performance monitoring and analysis solution provides continuous tracking of equipment condition and enables corrective action when degradation is detected. Sophisticated algorithms enable the users to easily determine machine efficiency and if there has been a loss of efficiency and/or capacity.

Meggitt is the world’s leading provider of high-performance, highly-reliable sensing and monitoring solutions for extreme environments.

Meggitt provides innovative, reliable, high-performance sensing and dynamic pressure sensors, accelerometers and dynamic pressure sensors, add condition and performance monitoring capability to new or retro-fit upgrades your entire protection and monitoring package. Meggitt provides performance monitoring solutions to over 1000+ end-users for 50 years. For the design and operation of your critical power generation machinery operating safely and efficiently.

Meggitt makes hardware, software, sensors and installed equipment to monitor all major gas turbine power systems.

• Ceramic
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Meggitt Sensing Systems product lines

• Ceramic
• Ceramic
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• Ceramic

Meggitt sensors and systems have been the choice of turbomachinery manufacturers and users for years, and are often sold together with the turbine. As a result, Meggitt can provide direct, drop-in replacements for most transducers currently in the field and upgrades to your entire monitoring system.

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After decades working with the world’s turbine manufacturers and power plant operators, Meggitt has developed an extensive array of sensors and systems for monitoring extreme environments. Today, we monitor virtually every parameter with the extreme environment accuracy necessary to provide detailed information on equipment condition.

With field-proven MTBFs as high as one million hours, they are the foundation on which to integrate the advanced diagnostic tools that help users with the prognostics needed to turn data into explicit maintenance actions and monitoring into active management of system condition.

**Accelerometers**

Meggitt offers a variety of high reliability accelerometers through our well-known Vibro-Meter, Endevco and Wilcoxon Research product lines, all with industry leading MTBFs that are typically several times greater than competitor products. Some accelerometers, such as the Vibro-Meter CA series, operate in the charge mode and work in the most severe and highest temperature environments, while others, such as the CE series sensor, include integrated electronics and are hence more economical and easier to integrate.

Meggitt offers a wide range of sensors with options to suit every application.

- **Operating temperature range:** from -40° to 180°C
- **Vacuum operation:** up to 100 mbar
- **Frequency range:** as low as 3 Hz or as high as 20,000 Hz
- **IP65 rated proof certificate**

**Pressure sensors**

Dynamic pressure monitoring is key to optimizing NOx emissions while maintaining ideal fuel efficiency. Meggitt’s dynamic pressure sensors, the DP series from the Vibro-Meter line and the 522 series from the Endevco line, are qualified by most major gas turbine manufacturers for compressor suction and discharge monitoring and offer the highest reliability in the extreme temperature of modern gas turbine combustors. The GaPO (gallium phosphorous) piezoresistive material used ensures outstanding thermal behavior (low piezo-electricity and virtually constant sensitivity). Our accelerometers come with patented technology.

- **The highest sensitivity in the industry, over 1000 fF/psi**
- **Integral ruggedized connector and continuous operation up to 777°C**
- **High ambient capability, up to 500°C**
- **IP65 rated proof certificate**

Meggitt’s dynamic pressure sensors lead the industry in combustion monitoring and, in conjunction with the VM800, provide a complete retrofit combustion monitoring system.

**Proximity transducers**

Meggitt’s Vibro-Meter TD series wide proximity transducers make contactless measurements in gas turbines and turbo-compressors, including shaft relative vibration, radial or axial displacement, differential expansion, thrust and eccentricity. We offer a wide variety of performance to meet any need and Meggitt can provide direct drop-in replacements for most any proximity transducer currently in the field.

- **Vibration**
  - ambient vibration
  - relative shaft vibration (X, Y)
  - absolute shaft vibration
  - shaft position, displacement
- **Standard signals**
  - static (vacuum or dynamic) pressure
  - temperature
  - speed (through spin or dynamic combustion pressure)
- **Switch options**
  - Blade health
  - Emisions
  - Partial discharge

Meggitt’s signal conditioners convert the charge-based signal from a transducer into a current or a voltage signal proportional to the measurement for direct interface with all available machine protective and condition-monitoring systems.

**Signal conditioners**

Meggitt’s signal conditioners provide the security and flexibility to use the OE series (Classes I or 1), also called intrinsically safe, and Classes I Div 2 (Zone 2) hazardous areas.

**Cable assemblies and transmission cables**

Meggitt offers cable assemblies for all sensor types and system requirements. Robust cables from our diverse Endevco, Vibro-Meter and Wilcoxon Research lines are offered in a variety of configurations and can be customized to any length, with a wide selection of connectors to meet almost any system requirement.

**Igniters and flame monitors**

Reliability of start up, as what Meggitt’s ignition products are all about. We specialize in providing bespoke high-energy, high-tension and ATEX-certified ignition systems for large and small gas turbines and generators - from the initial start up of the engine to the operation of the system’s maximum power. As our systems, our igniters and flame monitors cover the entire range of applications, from the highest number of spark gaps down a cable and into an igniter. It fits the opposite is true; it’s already doing its job. The key is to ensure a controlled amount of sparks that will give reliable combustion, so you get the longest lifetime possible.