DL-DAQ-403 Technical Specification

Distributed Torsional Vibration Monitoring System

Distributed torsional vibration monitoring system for rotating shafts, supporting analog and digital pulse sensors, instantaneous angular velocity, average angular velocity, torsional angular velocity, torsional angle analysis, Ethernet expansion, optional PoE, and IEEE 1588 synchronization.

System Category	DL-DAQ
Signal Type	Torsional vibration
Measurement Range	0 to 10 deg torsional-angle range
Sampling / Response	0.1 Hz to 5 kHz torsional-frequency range
Communication	Ethernet with IEEE 1588 synchronization
Protection / Enclosure	Industrial installation enclosure
Power Supply	Ethernet / optional PoE
Installation	Distributed shaft monitoring module

Key Features

- Designed for rotating shaft torsional vibration, speed, and shaft-power measurement workflows.
- Supports eddy-current, Hall, magnetoelectric, and other pulse-type speed sensors.
- IEEE 1588 synchronization supports distributed multi-module monitoring.
- Provides torsional angle, angular velocity, torsional frequency, and speed analysis.

Typical Use Cases

- Rotating shaft torsional vibration monitoring in mechanical, automotive, marine, and energy equipment.
- Distributed shaft monitoring where synchronized Ethernet modules are required.

Deployment Notes

- Confirm sensor type, pulse count, speed range, torsional angle range, synchronization, and power mode.
- Plan sensor mounting, shaft reference marks, cable protection, and network topology.
- Retain IEEE 1588 as a synchronization standard reference.

Technical Highlights and Standards

- 5 channels per unit
- 0 to 10 deg torsional angle
- 0.1 millidegree resolution
- 0.1 Hz to 5 kHz torsional frequency

- 2 to 60000 RPM
- IEEE 1588 synchronization