



# An extremely robust and reliable torque measuring technology

## Dtect.Torque

**Dtect.Torque is an extremely robust and reliable torque measuring technology for continuous operation.**

No modifications are required to your drivetrain, as this single-channel Dtect.Torque sensor system is mounted to the existing shaft using strain gauge technology in order to provide immediate and accurate measurements. This is achieved by measuring the shaft torsion proportional to the torque applied. The use of a telemetry system enables contact- and wear-free operation and provides permanent data access.

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### Your benefits

- + Extremely robust, operating in challenging environments
  - + Designed for industrial applications and long-term work
  - + Highly precise measurements
  - + No maintenance
  - + Permanent data access
  - + Adjustable without drivetrain modifications
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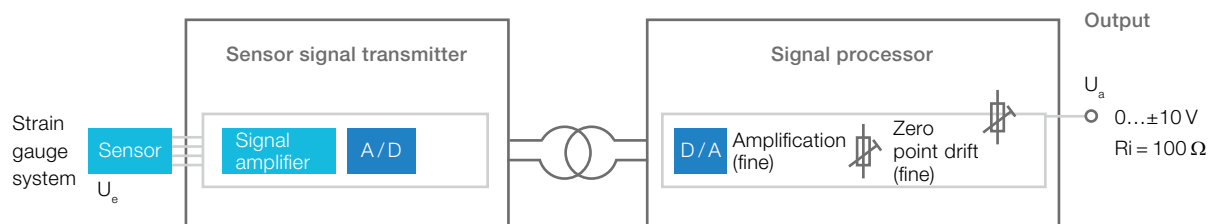
## Technical specifications

- Power supply signal processor 24 VDC +/-10 % /1.1 A max.
- RF output: 3 W
- RF frequency: 3.39 MHz
- Channel sampling: 3.31 kS/s
- No. of channels: 1
- Antenna and system guard ring in plastic with integrated telemetry electronics (rotor)
- Air gap to rotor: adjustable in the range 5 to 25 mm
- Signal processor in die-cast aluminum enclosure
- Output voltage: 0...±10 VDC, Ri = 100 ohm or 4...20 mA on request
- Low pass filter 500 Hz
- Max. mechanical load: < 25 m/s<sup>2</sup>, oscillation < 65 Hz in all 3 axes
- Protection category: IP67
- Temperature range: -45 to 85 °C
- Measurement uncertainty max. 2 % (relative to full scale value)
- Zero drift: ±0.02 % /°C
- Linearity: <0.005 %

## Features

- Suitable for moderate to extremely high torque applications
- Continuous 24/7 measurement
- Rugged ring structure provides sensor system with mechanical protection
- Non-contact transmission of torque signal
- Interference-free as a result of digital signal transmission
- Torque signal transmission in real-time
- Suited for all cylindrical couplings or drive shafts
- All electronic components can be molded sealed to protect from moisture ingress
- Ring components do not affect shaft rigidity
- Analog output signal can be tapped at the signal processor

## Basic system structure



## Installation prerequisites include

A planned installation period of approximately 8 hours per measurement system. During this time, drive system access is required and equipment needs to be shutdown /offline.

When the sensor is applied on third-party products, the provision of technical data is required including shaft diameter (external and internal), material (modulus of elasticity and Poisson's ratio) and maximum torque (considering dynamic overloads and/or safety factors).

## Installation and commissioning service

The complete Voith measuring system installation initially includes the attachment of the strain gauge, antenna, guard ring(s) and setup of the signal processor. Thereafter, commissioning, function testing, documentation and staff training are undertaken.

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