Overview

The TQ-2000 series is the torque detector with high-stiffness and high-response to measure torque variation. 22,000 r/min of rotation can be measured as standard, 25,000 r/min as an option. This new detector is suitable for torque test which requires high-speed rotation measurement such as EV/HEV drive motor. High-speed torque data can be obtained by using with the TQ-5200 High-response torque converter.

Feature

① High-stiffness: High Bending stiffness and torsional stiffness
② High rotation speed: 22,000 r/min (standard), 25,000 r/min (option)
③ Long operating life: Non-contact signal transmission from the rotating section
④ Slim & space-saving design: Easy mounting, easy maintenance

System configuration

① Rotating section (Rotor)
② Signal reception and conversion section (Stator)
③ Display unit: TQ-5200
   (Digital display • high speed analog voltage output by cycle conversion method)
④ Rotation speed detector: <Provided as standard> MP-9820
⑤ Rotation speed detecting gear: <Provided as standard>
**Specification**

- **Rated torque**: 500 N\(\cdot\)m
- **Rotation speed range**: 0 to 22,000 r/min (option: 0 to 25,000 r/min)
- **Linearity**:
  - (including hysteresis): ±0.1 % (frequency output in combination with the TQ-5200)
- **Limited torque**: 200 % or rated torque
- **Breaking torque**: 400 % of rated torque
- **Balance quality grade**: G2.5 (ISO 1940)
- **Signal output format**: Differential pulse output by line driver (conforms to RS485)
- **No-load output**: 10 kHz
- **Output at positive rated torque**: 15 kHz
- **Output at negative rated torque**: 5 kHz
- **Service temperature range**: +10 to +60 °C
- **Storage temperature range**: −20 to +70 °C
- **Effect of temperature change per 10 K**:
  - Span: < ±0.1 %
  - Zero: < ±0.05 %
- **Power supply**:
  - Rated supply voltage: DC18-30 V
  - Rated power consumption: < 5 W

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**Diagram**

- Edge faces of coil and antenna ring are on the same plane.
- Difference of edge faces between sensor body and antenna ring is 0.5 mm.

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**Notes**

- Please keep metal material away from the following area.
  - ※a:20mm  ※X:29.5mm

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