

High Speed Rotary Torque Sensor

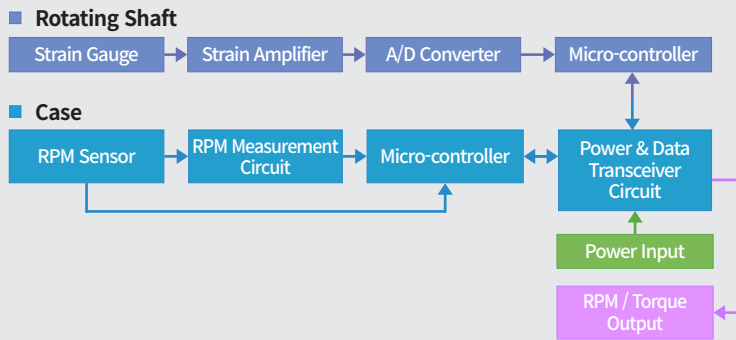
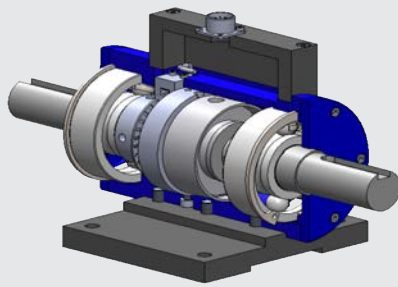
# QRNA



## Non-Contact Rotary Torque Sensor of Soft-Type QRNA

QRNA torque sensor of CAS enables user to simultaneously measure precise torque and rotational speed in a wide range of industrial environments, including testing equipment, factory production lines, and research facilities. It is suitable for high-speed, high-reliability applications such as industrial motor testing, powertrain and drive systems, and turbocharger spindles. Also, It provides stable and accurate measurements up to 10,000 RPM.

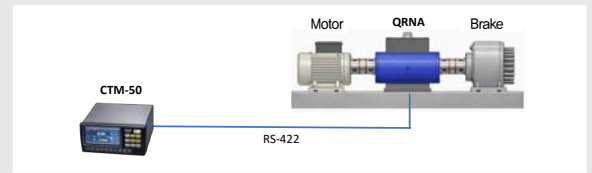
## Block Diagram



- QRNA is torque sensor that detects torque applied to a rotating shaft using strain gauges.
- It converts minute deformation signals generated in the rotating shaft into electrical signals.
- Contactless power and signal transmissions are both contactless, and there is no mechanical contact between the rotating body and the case except for the bearings.

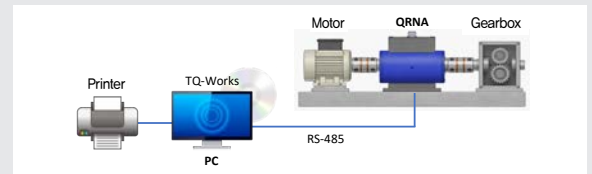
## Application

### • Case 1 – Brake Actuation Test



- \* Indicator for Torque Sensor **CTM-50**
- 4.3" Graphic LCD
  - 9 Function & Numeric Keys
  - Built-in RS232, RS422 (Modbus-RTU)
  - Simultaneous Monitoring of Torque, RPM, Output
  - Power Input : AC 100 ~ 240V, 50/60Hz

### • Case 2 – Gearbox Actuation Test

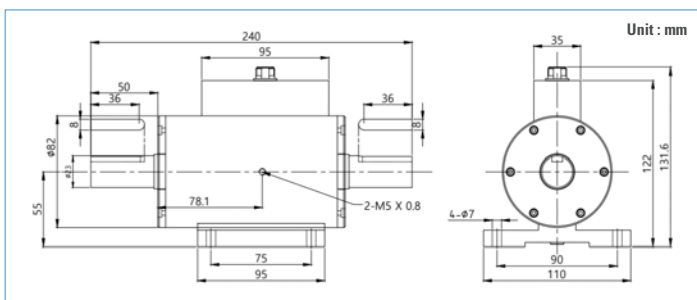


- \* Software for Torque Sensor **TQ-works**
- PC connection directly by RS-485-
  - Simultaneous Monitoring and data logging of Torque, RPM, Output
  - Combined graph display of torque, RPM, Output
  - Export of stored data to Excel format

## ▶ Key Features

- **Built-in RPM sensor**  
Integrated RPM sensor enables simultaneous monitoring of torque, RPM output during torque measurement.
- **Supporting high-speed rotation up to 10,000 RPM**  
Structural design ensures stable and accurate signal output even at high rotational speeds.
- **RS-485 communication interface**
  - Equipped with RS-485 communication (up to 115,200 bps) for fast data transmission and stable performance with high noise immunity.
  - Real-time monitoring of measurement data via CTM-50 dedicated indicator or TQ-Works software
- **Non-contact rotary design minimizes maintenance requirements**  
Non-contact design eliminates the need for brushes or slip rings, significantly reducing maintenance and component replacement

## ▶ Product Dimensions



## ▶ Product Specification

Model	QRNA-10H/20H
Sensor Type	Non-contact Rotating Torque Sensor
Power Supply	24 ~ 28 VDC
Torque Range	10 kgf·m / 20 kgf·m
Max Rotation Speed	10,000 ±0.5% RPM
Torque Accuracy	±0.2 % F.S
Linearity	±0.2 % R.O
Hysteresis	±0.2 % R.O
Repeatability	±0.2 % R.O
Creep(30 min.)	±0.2 % R.O
Overload Capacity	150% R.L
Communication	RS-422/485
Communication Sampling Rate	20 kHz
Operating Temperature	-30 ~ +80 °C
Model	CTM-50
Category	Torque Sensor Indicator
Power Supply	AC 100~240V, 50/60Hz
Power Consumption	20W
Torque Sensor Input Voltage	DC 24V (20mA)
Torque Sensor Communication	RS422 Full Duplex (Max. 115,200bps)
Display	4.3" Graphic LCD
Keypad	Function Keys (9 keys), Numeric Keys (10 keys)
Dimensions	195(W) x 189(D) x 98(H)
Span Adjustment	Full Digital Calibration
Option	Relay Module, RS485, Ehternet

Ver. 1.0 723062



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\* Specifications are subject to change without notice improvement.

