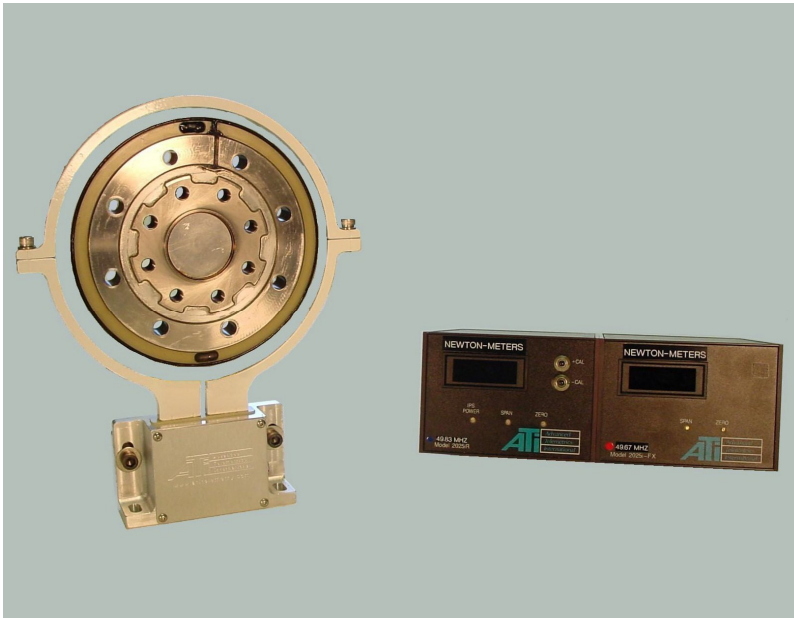


NON-CONTACT DYNAMIC TORQUE SENSING SYSTEM

THE EFFICIENT SOLUTION FOR ROTATING MEASUREMENTS












Model 2140-2KDR Disk Torque Sensor shown with 2025iR Receiver.

ATi's Dynamic Torque Sensing Systems are utilized in applications where conventional rotary torque transducers are not practical due to excessive shaft speeds, vibration, and dirty, oily environments. These factors pose major problems for conventional foot-mounted rotary torque transducers' bearings and slip rings.

Extreme sensitivity. A second dynamic output is available, which can be set for a full range as low as 1% of the primary output. Thus, output resolution can be as low as .0025% of the full primary output range. The secondary dynamic output would also have an overload capability of 500:1. This makes the sensor extremely useful for measuring gear mesh torsional data or extremely small torque fluctuations. This is possible since the data is not corrupted by bearing noise from the sensor. Bandwidth up to 6.8 kHz is available.

Highly reliable and durable. RF Telemetry is used for data transfer while Induction Power is used for power transfer to the rotating sensor. These technologies permit excessive movement between the rotating sensor and stationary loop antenna with no affect on the signal

FEATURES

-  Sensors available in **Disk, Shaft or Flange-Coupled** mounting Configurations
-  **Truly Non-Contact**- no bearings or foot mounting
-  **Dynamic Output.** Can be ranged as low as 1% of primary output. Excellent for measuring gear mesh torsionals
-  **High Speed Operation** with no lubrication – up to 30,000 RPM
-  Can be **customized** to mate with most any type of flange, shaft or coupling
-  **Eliminates Frictional Error** due to bearings
-  **No Maintenance** or slip ring noise
-  High **Torsional Stiffness**
-  Dynamic channel features 5-pole low-pass filter on-board sensor, and 8-pole filter in Receiver

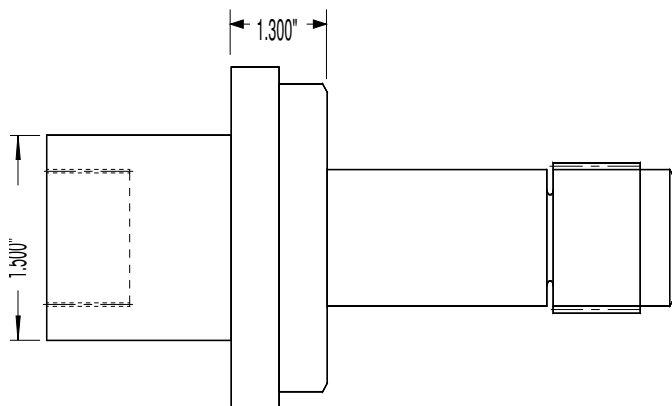
quality – minimal alignment between the stationary and rotating components is required.

Immune to the Environment. The RF Telemetry and Induction Power are also immune to dust and oil build-up.

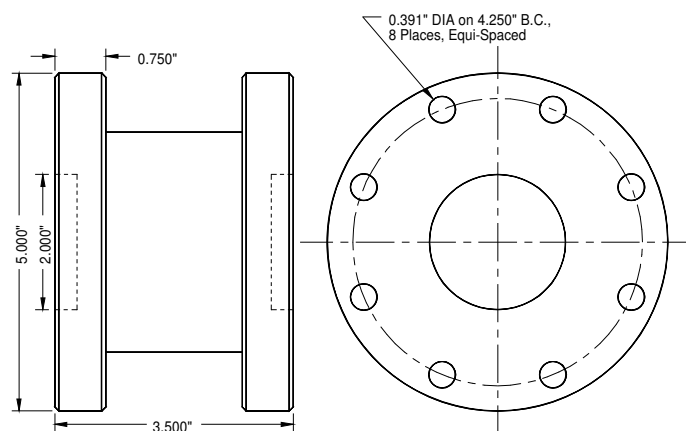


Mechanical Interface

MODEL 2140S: Shaft Coupled



MODEL 2140F: Flange Coupled



Dimensions shown are for 1K and 2K LB-FT 2140F Models.

- Remote Plus and Minus Shunt Calibration activated by push-buttons on Receiver.
- Sensors' electronics, gages and wiring are all embedded; sealed and protected by stainless steel covers.
- Analog outputs supplied; wide band and filtered.
- Most any Torque capacity available.

Specifications

SYSTEM

Bandwidth;Full Range Output: DC to 1100 Hz
 Bandwidth;Dynamic Output: 5Hz to 6.8KHz
 Integral Non-Linearity 0.1% F.S.
 Repeatability $\pm 0.05\%$
 Maximum Error $<0.25\%$ Full Scale

RECEIVER: Model 2025i

Power 120 Volts AC
 and 12 Volts DC
 Output 0 to ± 2 Volts
 (0 to ± 5 Volts Available)
 Display 3 1/2 Digit Backlit LCD
 Output Ripple < 2 mV (Filtered)
 < 12 mV (Wide band)
 Size 8.0"L x 5.0"W x 3.48"H

TORQUE SENSOR: All 2140 Series

Standard Ranges (LB-FT) 1K, 2K, 5K, 10K
 15K, 20K, 25K, 30K
 Maximum RPM up to 30,000
 Signal Coupling RF Telemetry
 Power Coupling 500 KHz Induction Power
 (through stationary loop antenna)
 Usable Temp Range -40 to 250°F
 Compensated Region 50 to 250°F
 Higher Ranges Available
 Temp effect on zero $\pm .01\%$ per °C
 Temp effect on span $\pm .01\%$ per °C
 Dynamic Channel Range ... Specified at time of order.

INDUCTION POWER SUPPLY: Model 2030i

Power supplied by 2025i
 Output 500kHz Induction Power
 Size 6.29"L x 2.95"W x 2.25"

Custom Requirements? ATi will customize a system to meet your special needs.