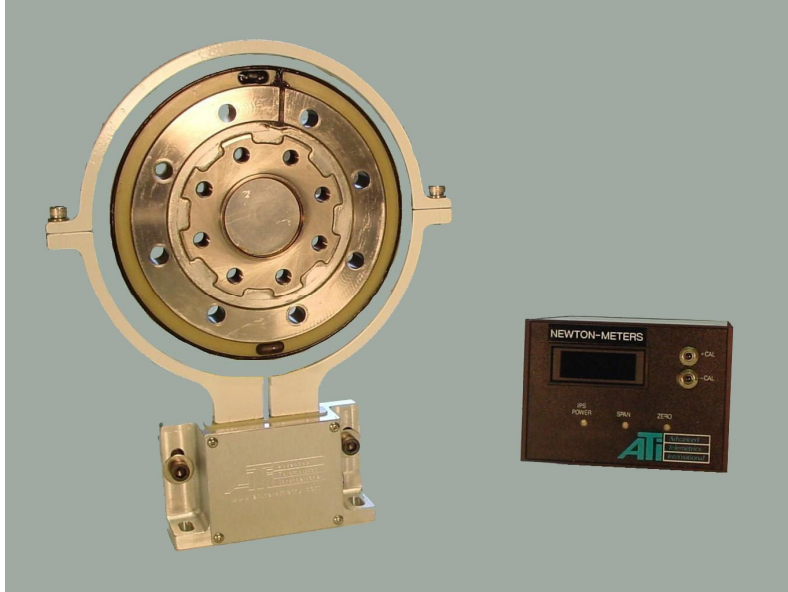


NON-CONTACT TORQUE SENSING SYSTEM

THE EFFICIENT SOLUTION FOR ROTATING MEASUREMENTS

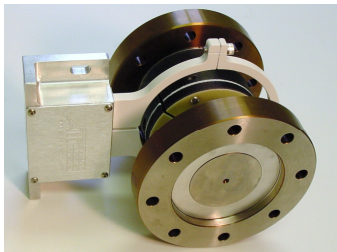


Model 2140D Torque Sensor shown with 2030i Induction Power Supply and 2025i Receiver.

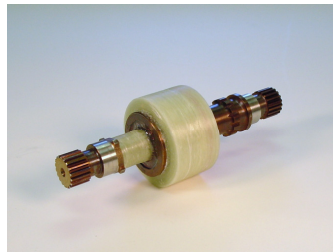
ATi's Torque Sensing Systems are utilized in applications where conventional rotary torque transducers are not practical due to excessive shaft speeds, vibration, and dirty, oily environments. These factors pose major problems for conventional foot-mounted rotary torque transducers' bearings and slip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

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 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, unlike Infrared Torque Sensors which are sensitive to not only dirt build-up but shaft movements as well. Anyone who has struggled with an old-fashioned infrared keyless remote entry system for a vehicle will understand why all major automobile manufacturers have switched to RF technology – no pointing or aiming is required.



Model 2140F Torque Sensor



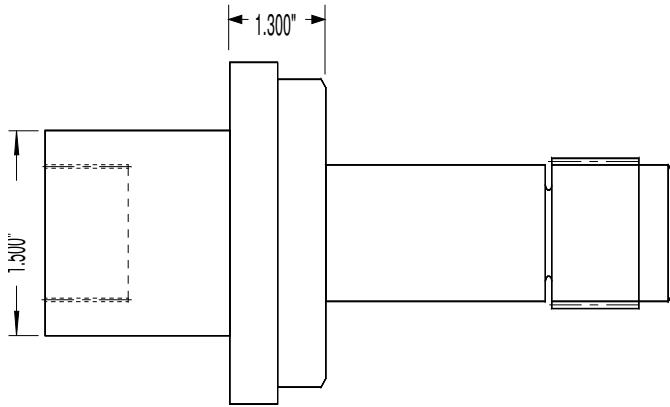
Model 2140S Torque Sensor

FEATURES

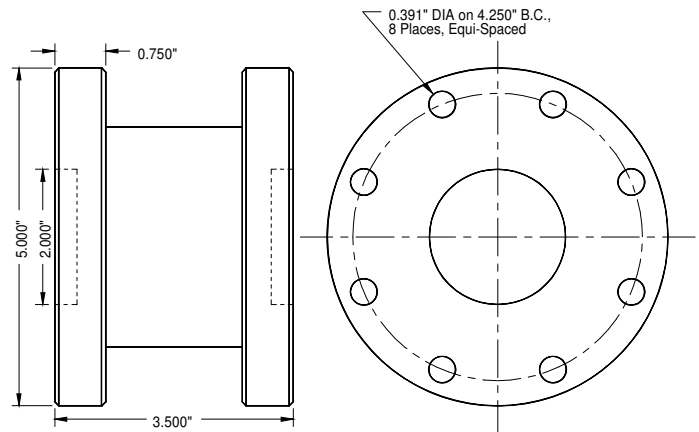
- ATi** Torque Sensing System available in **Disk, Shaft or Flange-Coupled** Mounting Configurations.
- ATi** **Truly Non-Contact** - no bearings or foot mounting.
- ATi** **High Speed Operation** with no lubrication - up to 30,000 RPM.
- ATi** Available for **Most Any Size Shaft**.
- ATi** Short sensor length **Minimizes Coupling Accuracy Requirements**.
- ATi** **Eliminates Frictional Error** due to Bearings.
- ATi** **No Slip Ring Noise or Maintenance**.
- ATi** High **Torsional Stiffness**.
- ATi** **Long Life - No Maintenance**.

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 DC to 1100 Hz
 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 0-2, 0-5, 0-10 VDC
 ± 2 , ± 5 , ± 10 VDC
 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: Model 2140S and 2140F

Standard Ranges (LB-FT)..... 1K, 2K, 5K, 10K
 .. 15K, 20K, 25K, 30K
 Maximum RPM up to 50,000
 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
 Temp effect on zero $\pm .01\%$ per $^{\circ}\text{C}$
 Temp effect on span $\pm .01\%$ per $^{\circ}\text{C}$

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.