

TorqueTrak Revolution | Torque and Power Monitoring System

SPECIFICATIONS

Transmitter Module (mounted inside Rotating Collar)

Sensor Input:	Full Bridge strain gage (4 active arms. 350 Ω standard; up to 1000 Ω acceptable.)
Bridge Excitation:	2.5 VDC, Regulated
Sensor Range:	± 500 microstrain (Full Bridge, 4 active arms - Torque or Bending) ± 769 microstrain (Full Bridge, 2.6 active arms - Tension or Compression) Other microstrain ranges are available
Temp Coefficient - Gain:	$\leq 0.005\% \text{ FS}/^{\circ}\text{C}$ (50 ppm/ $^{\circ}\text{C}$) $+20^{\circ}$ to $+70^{\circ}\text{C}$ • $\leq 0.010\% \text{ FS}/^{\circ}\text{C}$ (100 ppm/ $^{\circ}\text{C}$) -40° to $+85^{\circ}\text{C}$
Temp Coefficient - Zero:	$\leq 0.005\% \text{ FS}/^{\circ}\text{C}$ (50 ppm/ $^{\circ}\text{C}$) $+20^{\circ}$ to $+70^{\circ}\text{C}$ • $\leq 0.010\% \text{ FS}/^{\circ}\text{C}$ (100 ppm/ $^{\circ}\text{C}$) -40° to $+85^{\circ}\text{C}$
Linearity:	$\leq 0.05\% \text{ FS}$
G-force Rating:	3000 g's. For example, 5900 rpm on a 4 inch (102 mm) shaft.
Sensor Connection:	4-conductor cable

Rotating Collar (shaft diameter to be specified by customer)

Material:	Cast nylon standard
Assembly:	Split collar bolts together onto shaft.
Dimensions:	Outer Diameter: 4 to 6 inches (102 to 152 mm) greater than shaft diameter. Width: 1.25 inch (32 mm)

Master Control Unit & Power Coil*

Receiver Output Signal:	Four independent current output signals: 1. Torque: 4-20 mA, (12 ± 8 mA), scalable 2. Power: 4-20 mA, (12 ± 8 mA), scalable 3. Shaft Speed/RPM: Pulse Indicator, 5-19 mA 4. Shaft Direction: Binary Indicator, 5 or 19 mA
Receiver Input Power:	11-16 VDC standard; 2A max, 0.5A nominal (115VAC or 230VAC option available)
Receiver Output Connection:	Screw Terminals
Mounting:	Mounting Flanges on Master Control Unit
Dimensions:	Master Control Unit: 6 x 6 x 4 inches (152 x 152 x 102 mm). Power Coil - Outer Diameter: Same as Rotating Collar Outer Diameter. Width: 0.25 inch (6 mm)

System

Resolution:	14 bits (16384 points of resolution)
Noise Level:	$\leq 0.10\% \text{ RMS FS}$
Frequency Response: (Torque and Power)	Switch selectable: 1000 Hz, 12 Hz, 1.5 Hz or 0.1 Hz (-3dB frequency, typical)
Delay:	1 msec, typical (at 1000 Hz setting)
Sampling Rate:	4800 Hz
Operating Temperature:	-40° to $+85^{\circ} \text{ C}$. 0% to 90% relative humidity, noncondensing

* Dimensions shown are for shaft diameters up to 14 inches (356 mm). For larger shaft diameters, contact factory.
Specifications subject to change without notice.



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