

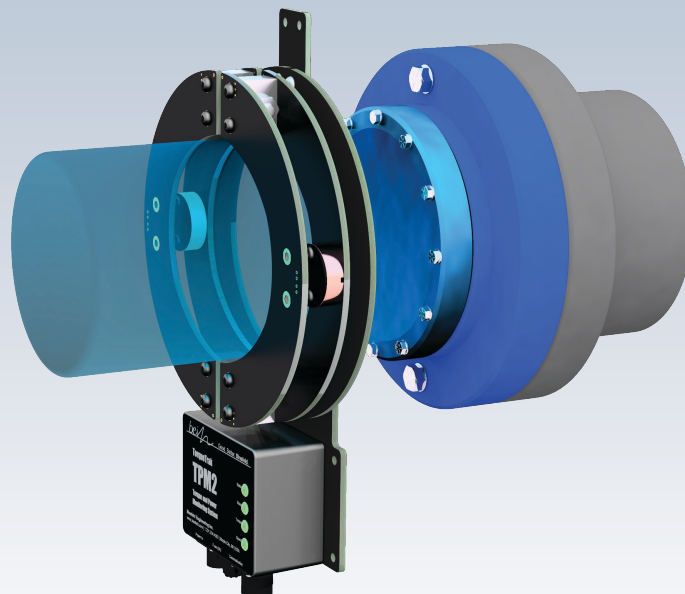
# TorqueTrak TPM2

## TORQUE AND POWER MONITORING SYSTEM



### Continuous Torque and Power Data from a Rotating Shaft

The TorqueTrak Torque and Power Monitoring System (TPM2 series) is a rugged precision instrument designed to measure torque and/or power on rotating shafts in real time using strain gage sensors. The TPM2 can be configured for shaft diameters from 0.75" (19mm) up to 48" (1220 mm). Machine disassembly is not required.



- IP67 Rated
- Shock Tested to MIL-STD-810H
- Vibration Tested to MIL-STD-167-1A
- One-time Calibration (No Re-calibration Required)
- Multiple Outputs (RS422, RS485, Analog)

## FEATURES

### Easy Installation

Rotating Collar and Stationary Ring are split and bolt together around the shaft. No machine disassembly or shaft modification is required.

### Robust Construction

Sturdy hardware and electronics, built for demanding environments. Shock and vibration tested to MIL-SPEC standards.

### Reliable Operation

Inductive power and data transfer with generous clearance between stationary and rotating parts. No wear surfaces.

### System Status Indicators

Confirm proper operation at a glance. Expedites troubleshooting.

### Easy-on Collar

Rotating Collar is designed to accommodate small variations in shaft diameter and clamps to the shaft using standard tools.

### Communication Made Easy

High-speed, bi-directional digital communication link interfaces with PC or PLC. User-selectable sample rate up to 4800 samples/second.

### Product Support

Backed by Binsfeld's outstanding customer service, before and after the sale.



## TorqueTrak TPM2 Specifications

**Power Supply Input:** 10 to 30 VDC @ 10 W (nom), 15 W (max)  
**Torque Sensor Input:** Strain gage bridge, 350  $\Omega$  (std), 120  $\Omega$  (min)  
**Input Range:** User-selectable from 0.025 to 32 mV/V  
 (125 to 32,000 microstrain with gage factor = 2.0)  
**Shunt Calibration:** 2 User-selectable: 1 mV/V and 0.2 mV/V (350  $\Omega$  bridge)

### Torque Signal

**Resolution:** 15 bit (32,768 points)

### Torque Signal

**Accuracy:** Zero error:  $\pm 0.1\%$  FS (max), Scale error:  $\pm 0.2\%$  (max)

### Shaft Speed and

**Direction:** Measured once per revolution

**RPM Resolution:** 15 bit (32,768 points), auto-ranging

**Communication:** IP-67 industrial connector

### Interface:

**Operating Environment:** -40 to +70° C non-condensing

### Shock Rating:

MIL-STD-810H Method 516.8 (15 G, 23 millisecond half sine wave)

### Vibration Rating:

MIL-STD-167-1A (4-33 Hz at 0.010-0.030 inches)

*Specifications subject to change without notice.*

## TorqueTrak TPM2 Data Outputs

Output	Baud Rate	Sampling Rate	Bandwidth	Signal Delay
RS422	1200 to 460.8K*	9,375 to 4800 Samples/Sec*	3 to 1000 Hz	1 to 1700 msec**
RS485 (MODBUS RTU)	9600 to 460.8K*	Max ~240 Samples/Sec***	Max ~80Hz***	1 to 1700 msec**
Analog ( $\pm 5V$ , 0-5V, $\pm 10V$ , 0-10V)	460.8K (fixed)	9,375 to 4800 Samples/Sec*	3 to 1000 Hz*	1.8 to 1860 msec**

\*User-configurable

\*\*Dependent on sampling rate

\*\*\*Dependent on MODBUS baud and polling rate

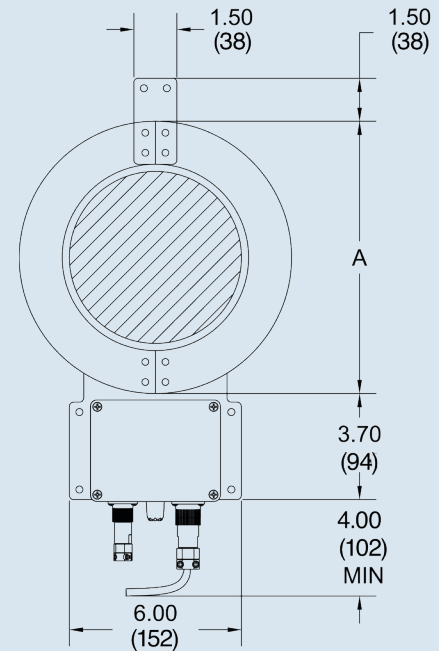
## System Dimensions, inch (mm)

Collar OD Dim. "A"	Shaft OD (min)	Shaft OD (max)	Max Shaft Speed (RPM)
7.5 (191)	.75 (19)	4.0 (102)	6900
9.5 (241)	4.0 (102)	6.0 (152)	5900
11.5 (292)	6.0 (152)	8.0 (203)	4300
13.5 (343)	8.0 (203)	10.0 (254)	3800
15.5 (394)	10.0 (254)	12.0 (305)	3400
17.5 (445)	12.0 (305)	14.0 (356)	3100
19.5 (495)	14.0 (356)	16.0 (406)	2800
21.5 (546)	16.0 (406)	18.0 (457)	2300
23.5 (597)	18.0 (457)	20.0 (508)	2200
25.5 (648)	20.0 (508)	22.0 (559)	2100
27.5 (699)	22.0 (559)	24.0 (610)	1900
31.5 (800)	24.0 (610)	28.0 (711)	1500
35.5 (902)	28.0 (711)	32.0 (813)	1400
39.5 (1003)	32.0 (813)	36.0 (914)	1300
43.5 (1105)	36.0 (914)	40.0 (1016)	1200

For shaft diameters larger than 40 inches (1016 mm) contact Binsfeld Engineering or visit binsfeld.com.

## TorqueTrak TPM2 (6 inch (154 mm) system shown)

### Front View



### Side View

