

Clamp On Rotary Torque Transducer

Model 9300

IDEAL FOR SHORT TERM TESTING

CONVERTS YOUR SHAFT INTO A TORQUE TRANSDUCER

SHAFT SIZES FROM 2.5" TO 15.4"

The Series 9300 Torsionometer is ideal for measuring torque on machinery where little down time can be afforded. The quick installation of the clamp-on collars with the pre-calibrated bending beam converts I/O shafts into instant torque transducers. The 9300 Series are ideal for those applications involving repetitive testing of identical systems.

The clamp-on 9300 Series uses a pre-calibrated bending beam which is clamped at each end by a counterbalanced collar around a heavy-wall or solid shaft to sense torque. The torque generated between the collars is dependant on the shaft diameter, RPM, and the distance between the collars. Each installation uses one of a selection of bending beam lengths to generate the specific output to the on-board RF transmitter.

The RF telemetry package is induction-powered by a stationary loop antenna coupled to a power supply and receiver. The on-board telemetry concept eliminates the need for support bearings and slip rings. The clamp-on feature allows an installation without modifying the shaft surface.

A variety of collars and bending beams are available to accommodate high torque ranges and shafts from 2.5" to 32" in diameter. Running speeds are from 2500 rpm down to zero rpm. The system is insensitive to shaft speed variations, and full accuracy is obtained down to zero RPM. The built-in transmitter can be environmentally sealed for harsh environments and high vibration.

The Series 9300 works in applications where at least 175 micro-strain is induced in the shaft during running conditions.



Specifications

Model 9300 Order Code BT213

PERFORMANCE

Rotary Torque Sensor Combined	
Linearity, Hysteresis, & Repeatability	From 0.25% to 1% FS
Temperature Compensation Range	40-140°F
Static G Force	100
Compensated Temperature Range	5°C to 60°C
Data Bandwidth	DC-100Hz
Minimum Operating Strain	175 micro-strain

ENVIRONMENTAL

RPM Limits	2500 for 2.5" dia to 1000 for 15" dia
Vibration	10 g, any axis
Operating Temperature Range	-15°F to 165°F

ELECTRICAL

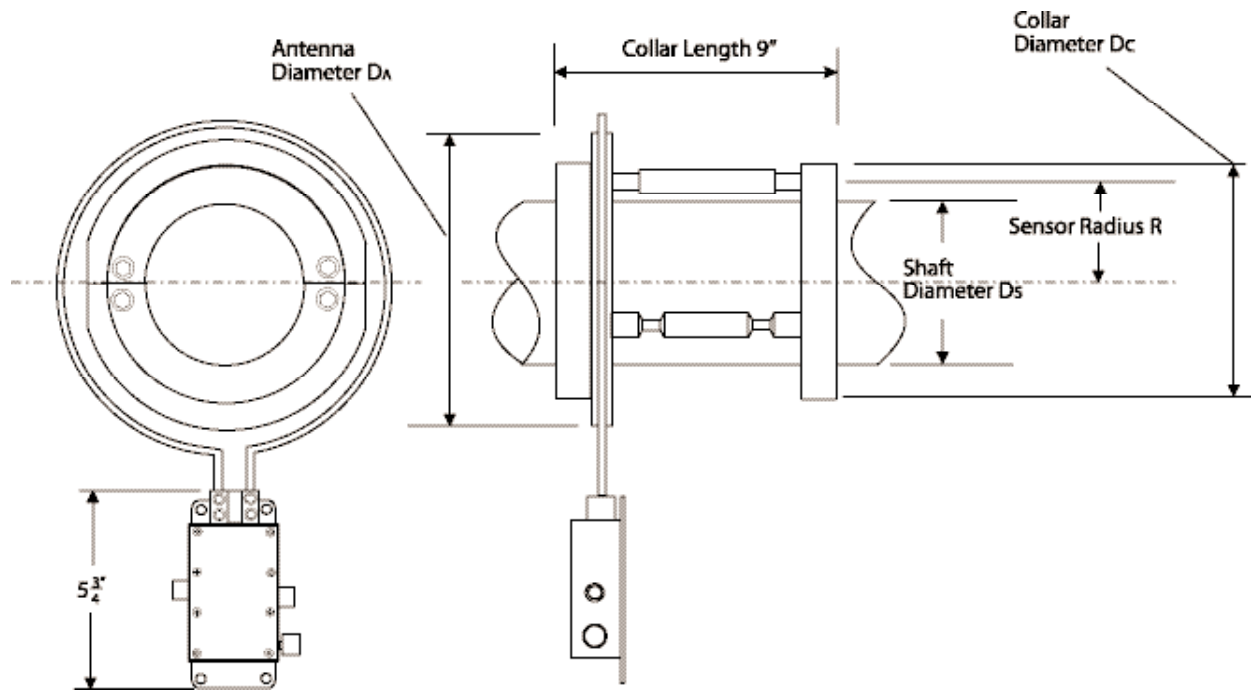
Power Source	160 kHz induction power
RF Operating Frequency	10.7 MHz

PHYSICAL

Weight	Various (3 to 15 pounds)
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SYSTEM

System Consists of	1650B Rotary Torque Transducer 2145A Receiver and Display Unit 2175 Induction Power Supply
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Shaft Diameter	Ds"	Sensor Radius	R"	Antenna Diameter	DA"	Collar Diameter	Dc"
2.5"	3.44"	2.4		7.00		5.88	
3.44"	4.44"	2.9		8.00		6.88	
4.44"	5.44"	3.4		9.00		7.88	
5.44"	6.44"	3.9		10.00		8.88	
6.44"	7.44"	4.4		11.00		9.88	
7.44"	8.44"	4.9		12.00		10.88	
8.44"	9.44"	5.4		13.00		11.88	
9.44"	10.44"	5.9		14.00		12.88	
10.44"	11.44"	6.4		15.00		13.88	
11.44"	12.44"	6.9		16.00		14.88	
12.44"	13.44"	7.4		17.00		15.88	
13.44"	14.44"	7.9		18.00		16.88	
14.44"	15.44"	8.4		19.00		17.88	

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