

# Model 9300 Clamp-on Rotary Torque Transducer System



- Ideal for short-term testing
- Converts shaft into a torque transducer
- Shaft sizes from 63,5 [2.5 in] to 391,16 [15.4 in]

## Notes

1. Consult factory for other cable lengths.
2. Consult factory for higher RPM speeds.

**How to order:** (Quick-ship range/option combinations available. See Web site.)

Combine the order code, range code, and option codes. For example:

**BT213**

Order code

**3000**

Range (lb-in)

**62h**

Option code

## Order codes

BT213 Model 9300 clamp-on rotary torque transducer system

## Specifications

### Performance

Torque range	Varies on application; consult factory
Linearity	±0.15 % full scale
Non-repeatability	±0.05 % full scale
Frequency response	dc to 1000 Hz
Sensitivity (transmitter)	300 microstrain
Number of channels	1
Sampling rate	5 kHz
Receiver readout display type	3.5 digit 7 segment LED

### Environmental

Temperature, operating (transmitter)	-9 °C to 75 °C [16 °F to 167 °F]
Temperature, operating (receiver/IPS/PSU)	4 °C to 60 °C [40 °F to 140 °F]
Temperature, compensated (transmitter)	0 °C to 75 °C [32 °F to 167 °F]
Temperature, compensated (receiver)	0 °C to 53 °C [32 °F to 127 °F]
Temperature effects, zero (max.)	±0.01 % full scale
Temperature effects, span (max.)	±0.005 % full scale
Static G force (rotating components)	100 G
RPM limits (rotating components)	See graph - depends on shaft diameter
Vibration (rotating components)	10 G to 1 kHz
Collar weight	Varies with shaft diameter
Electronics weight (not including cables)	Receiver and IPS 3,4 kg [7.5 lb]

### Electrical

Induction power source	160 kHz ±6 %
Cable length (IPS to receiver)	4,6 m [15 ft]'
Max. cable length (IPS to receiver)	30,48 m [100 ft]
Power supply voltage (receiver)	120/240 Vac user-selectable
Power consumption (receiver)	200 VA max.
RF operating frequency	Factory set, 16 MHz standard
RF modulation type	PWM
Signal strength indicator (receiver)	LED bar graph
Analog output (receiver)	±10 Vdc @ 1 mA max.
Output impedance (receiver)	< 1 Ohm
Electrical termination (receiver output)	BNC female
Mating connector (receiver output)	BNC male
Analog output filter cap. (receiver)	User selectable 1000 Hz; 500 Hz; 200 Hz; 100 Hz; 1 Hz

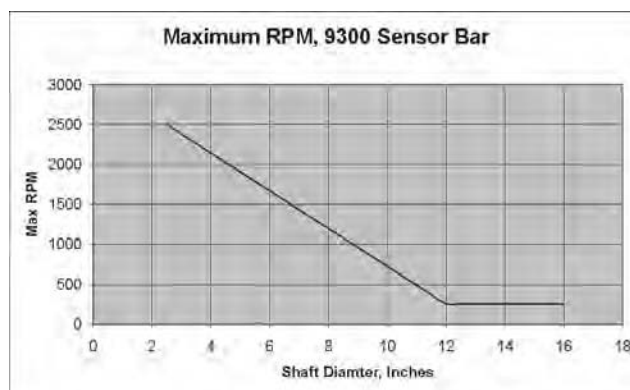
### Mechanical

Dimensions (collar cross section)	Varies with shaft diameter
Dimensions (receiver) (L x W x H)	292,1 mm x 218,44 mm x 88,9 mm [11.5 in x 8.6 in x 3.5 in]
Dimensions (IPS) (L x W x H)	152,4 mm x 101,6 mm x 63,5 mm [6 in x 4 in x 2.5 in]
Rotational clearance (collar)	63,5 mm [2.5 in] all around
Shaft diameter limits (collar)	63,5 mm to 391,16 mm [2.5 in to 15.4 in]
Collar material	Phenolic, steel

### Option codes

	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see <a href="http://sensing.honeywell.com/TMsensor-ship">http://sensing.honeywell.com/TMsensor-ship</a> for updated listings.
<b>Torque range</b>	Varies on application; consult factory
<b>Available frequencies</b>	16 MHz
<b>Environmental protection</b>	62h. NEMA IPS
<b>Receiver power supply</b>	62v. dc (specify 12 Vdc or 24 Vdc)

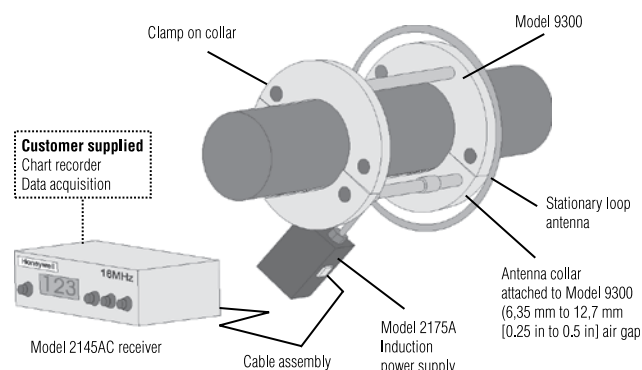
### RPM limits graph<sup>2</sup>



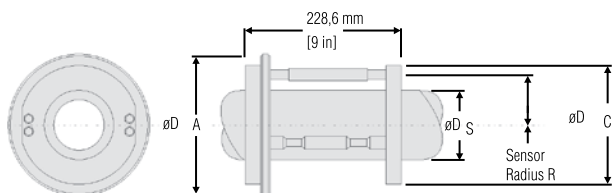
### Mounting dimensions and characteristics

Shaft diameter		Sensor radius	Antenna diameter	Collar diameter
D <sub>s</sub> mm [in] (ID)	D <sub>s</sub> mm [in] (OD)	R mm [in]	D <sub>A</sub> mm [in]	D <sub>C</sub> mm [in]
63,5 [2.5]	87,37 [3.44]	60,96 [2.4]	177,8 [7.00]	149,35 [5.88]
87,37 [3.44]	112,77 [4.44]	73,66 [2.9]	203,2 [8.00]	174,75 [6.88]
112,77 [4.44]	138,17 [5.44]	86,36 [3.4]	228,6 [9.00]	200,15 [7.88]
138,17 [5.44]	163,57 [6.44]	99,06 [3.9]	254 [10.00]	225,55 [8.88]
163,57 [6.44]	188,97 [7.44]	111,76 [4.4]	279,4 [11.00]	250,95 [9.88]
188,97 [7.44]	214,37 [8.44]	124,46 [4.9]	304,8 [12.00]	276,35 [10.88]
214,37 [8.44]	239,77 [9.44]	137,16 [5.4]	330,2 [13.00]	301,75 [11.88]
239,77 [9.44]	265,17 [10.44]	149,86 [5.9]	355,6 [14.00]	327,15 [12.88]
265,17 [10.44]	290,57 [11.44]	162,56 [6.4]	381 [15.00]	352,55 [13.88]
290,57 [11.44]	315,97 [12.44]	175,26 [6.9]	406,4 [16.00]	377,92 [14.88]
315,97 [12.44]	341,37 [13.44]	187,96 [7.4]	431,8 [17.00]	403,35 [15.88]
341,37 [13.44]	366,77 [14.44]	200,66 [7.9]	457,2 [18.00]	428,75 [16.88]
366,77 [14.44]	392,17 [15.44]	213,36 [8.4]	482,6 [19.00]	454,15 [17.88]

### Typical system diagram



Electronics completion package: Part # 060-G834-03 includes Model 2145 ac receiver, Model 2175A induction power supply, 15 feet coaxial cable, and operating manual.



For reference only