

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	3000	62h
Order code	Range (lb-in)	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] ¹
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

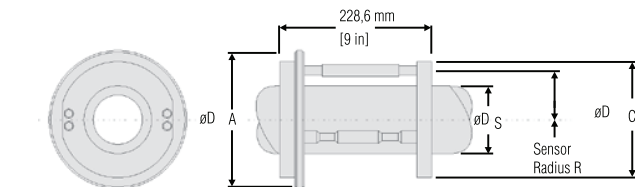
Dimensions (collar cross section)	Varies with shaft diameter
Dimensions (receiver) (L x W x H)	292,1 mm x 218,44 mm x 88,9 mm [11.5 in x 8.6 in x 3.5 in]
Dimensions (IPS) (L x W x H)	152,4 mm x 101,6 mm x 63,5 mm [6 in x 4 in x 2.5 in]
Rotational clearance (collar)	63,5 mm [2.5 in] all around
Shaft diameter 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 http://sensing.honeywell.com/TMSensor-ship for updated listings.
Torque range	Varies on application; consult factory
Available frequencies	16 MHz
Environmental protection	62h. NEMA IPS
Receiver power supply	62v. dc (Specify 12 Vdc or 24 Vdc)

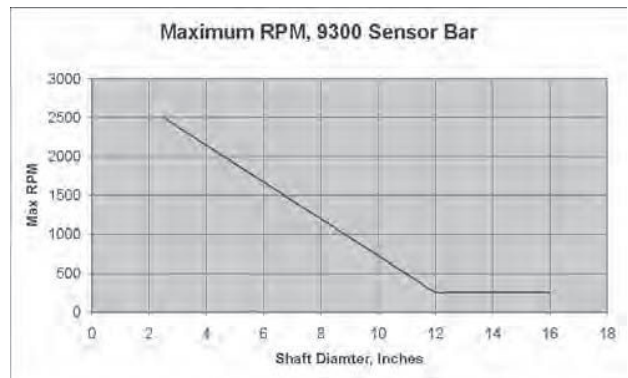
Mounting dimensions and characteristics

Shaft diameter		Sensor radius	Antenna diameter	Collar diameter
D _s mm [in] (ID)	D _s mm [in] (OD)	R mm [in]	D _a mm [in]	D _c 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]

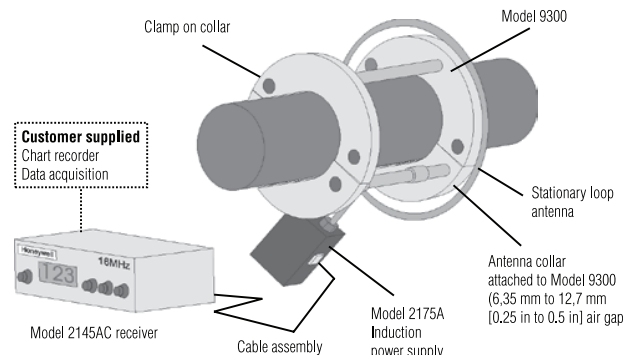


For reference only

RPM limits graph²



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.

Specifications subject to change.

Questions? Contact us at either 1-800-848-6564, +1 614-850-5000, or our Web site for customized options: (<http://sensing.honeywell.com/TMSensor-help>).