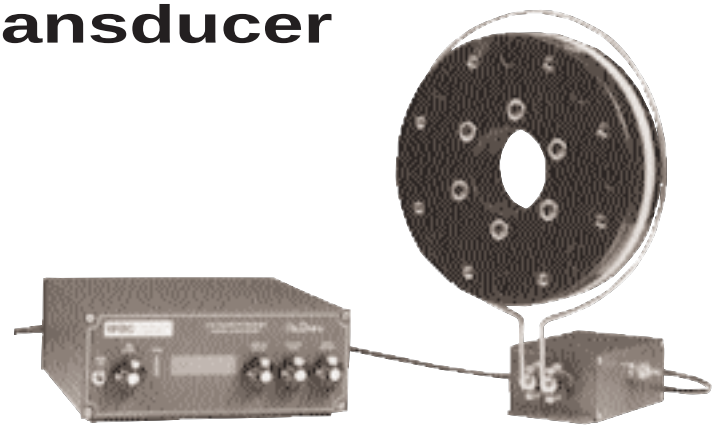
Thin Profile In-Line Rotary Torque Transducer

Model RTC

NON CONTACTING

FRICTIONLESS

100-35,000 LB-INS TORQUE RANGE



The Model RTC is an in-line rotary torque sensor that mounts to standard S.A.E or Metric Flanges, and transmits the torque signal to an RF receiver. The thin profile of this rotary torque sensor minimizes the spacing between shaft mounting flanges. Running speeds up to 15,000 rpm depending on the range. The Model RTC features extremely low maintenance free operation. The on-board RF transmitter may be environmentally sealed and it is available with options to withstand high g forces and elevated temperatures.

The Model RTC is ideal for measuring torque on machinery with existing flanges or for coupling to industry standard drive shafts and commercial coupling halves.

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.

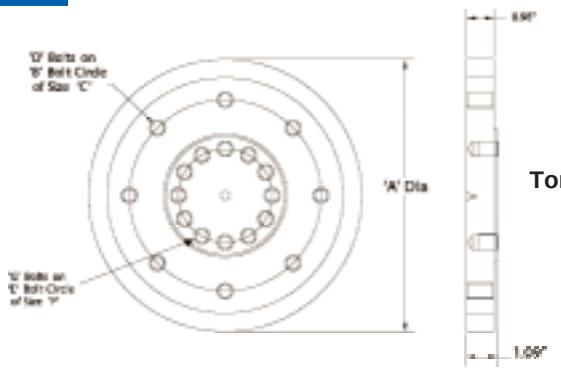
The power to the transmitter is induced into the strain gage type torque sensor through the rf transmitter/receiver loop antennas, and stability is maintained with our power guard regulation circuit. The receiver has a digital torque indicator and features a "received strength indicator" for peaking the antenna coupling and simplifying the installation and start up.

The RTC system consists of the RTC rotary torque sensor with built in transmitter and antenna the model 2175 receive antenna and induction power supply along with the 2145 receiver and display unit. The 2145 provides a 0-10V proportional to torque output or an optional 4-20mA output.

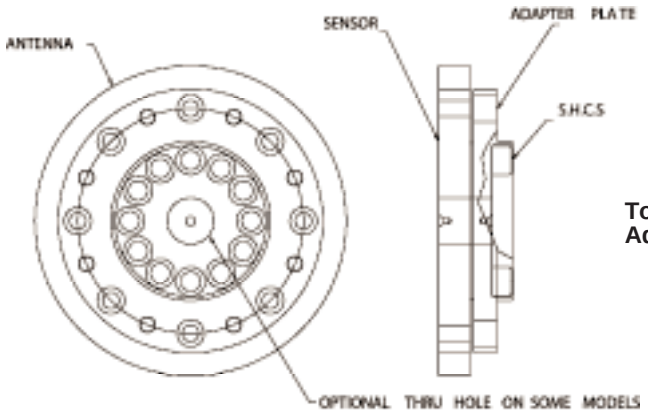
SENSOTEC

	Model RTC Order Code BT211
PERFORMANCE	
Rotary Torque Sensor Combined Linearity, Hysteresis, & Repeatability	From 0.25%
System Accuracy	better than 1% FS
Temperature Compensation Range	40-140°F
Data Bandwidth	DC-1000Hz
Running Limit	6000-15,000 RPM depending on torque range
ENVIRONMENTAL	
Operating Temperature Range	-15°F to 165°F
Temperature Effect on Zero and Span	+/- 0.004% FS / °F
ELECTRICAL	
Power Source	160 kHz induction power
RF Operating Frequency	10.7 MHz
Output	+/-5 Vdc @ 1mA (opt: 4-20 mA)

Dimensions Model RTC



Torque Cell

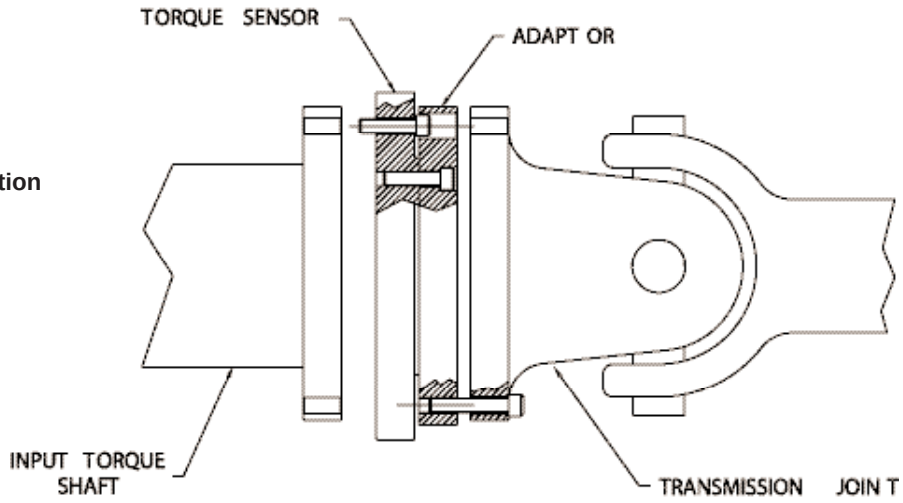


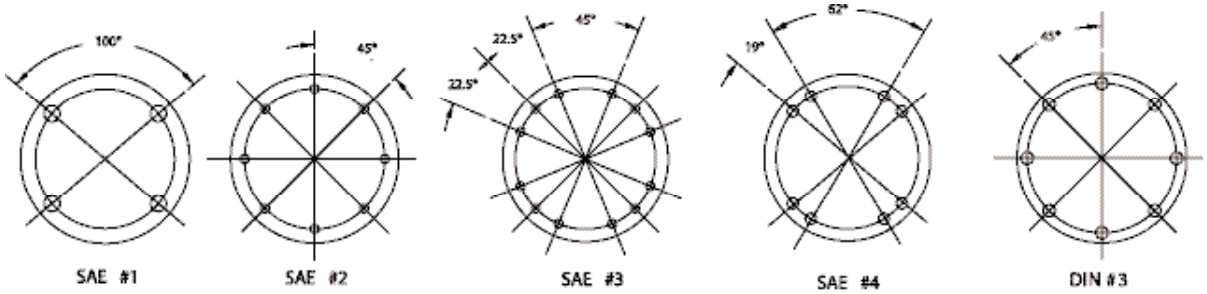
Torque Cell and Adapter Assembly

FLANGE STYLE SAE	BOLT PATTERN STYLE	MAX RATED CAPACITY IN-LBS	A"	B"	C"	D	E"	F"	G
37-41	SAE #1	1,500	5.9	3.75	7/16-20	4	1.863	5/16-24	12
37-41	SAE #1	3,000	5.9	3.75	7/16-20	4	1.863	5/16-24	12
48-55	SAE #1	6,000	7	4.75	1/2-20	4	2.281	7/16-20	10
61	SAE #2	10,000	8.2	6.125	3/8-24	8	3.808	7/16-20	12
71	SAE #2	15,000	9.3	7.250	3/8-24	8	5.036	3/8-24	12
81	SAE #3	30,000	9.4	7.25	7/16-20	12	4.85	7/16-20	16
88-91	SAE #4	70,000	10.7	8.25	5/8-18	8	5.375	5/8-18	14
FLANGE STYLE DIN	**BOLT PATTERN STYLE**	**MAX RATED CAPACITY IN-LBS**	**A"**	**B"**	**C"**	**D**	**E"**	**F"**	**G**
150	DIN #3	10,000	7.3	5.118	12mm-1.75	8	2.75	7/16-20	13
180	DIN #3	15,000	8.5	6.122	14mm-2.0	8	3.375	1/2-20	12
225	DIN #3	42,000	10.2	7.717	16mm-2.0	8	5	1/2-20	18
250	DIN #3	92,000	11.2	8.583	18mm-2.5	8	5.523	5/8-18	16
285	DIN #3	128,000	12.25	9.646	20mm-2.5	8	6.367	3/4-16	16
315	DIN #3	170,000	14	11.024	22mm-2.5	8	7.295	3/4-16	16

Dimensions Model RTC

Typical Installation





Bolt Pattern Style

FLANGE STYLE DIN	MAX RATED CAPACITY IN-LBS	SPEED NOMINAL RPM	TORSIONAL STIFFNESS X10^6 IN-LB/RAD"	ROTATING INERTIA LB-IN2	MAX THRUST LBS	MAX SHEAR (SIDELOAD) LBS	MAX BENDING IN LBS
150	10,000	13,000	115	30	5000	3000	6000
180	15,000	11,000	180	61	6000	4500	9000
225	42,000	9,000	660	141	10000	6000	25000
250	92,000	8,000	1610	219	13000	8000	58000
285	128,000	7,000	2540	330	16000	10000	65000
315	170,000	6,000	3870	608	20000	12000	75000
FLANGE STYLE DIN	MAX RATED CAPACITY IN-LBS	SPEED NOMINAL RPM	TORSIONAL STIFFNESS X10^6 IN-LB/RAD"	ROTATING INERTIA LB-IN2	MAX THRUST LBS	MAX SHEAR (SIDELOAD) LBS	MAX BENDING IN LBS
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250	92,000	8,000	1610	219	13000	8000	58000
285	128,000	7,000	2540	330	16000	10000	65000
315	170,000	6,000	3870	608	20000	12000	75000

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