

RT10E HIGH CAPACITY ROTARY TRANSFORMER TORQUE TRANSDUCER (US & METRIC)

FEATURES & BENEFITS

- 4x overload rating
- Infinite fatigue life
- Hardened to EMI from adjustable speed drives
- Performance to 0.07 %
- Bidirectional operation including stall
- Ferrite-free rotary transformer coupling
- Calibration & balance-free of cable effects
- Unexcelled immunity to machinery magnetic fields
- 15-5 PH stainless shaft, splash-proof & corrosion-resistant
- mV/V output compatible with carrier amplifiers

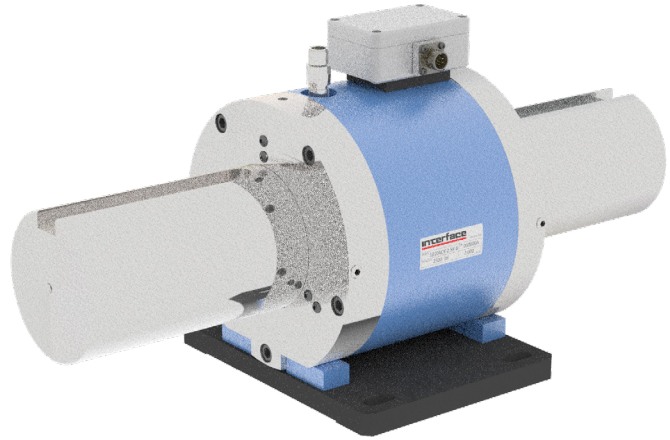
OPTIONS

- On-board Signal Conditioning**
- Digital Output-RS232**
- Enhanced Performance
- Foot Mount (shown in photo)
- Standard & Zero Velocity Speed Pickups
- Flange Style Mount

ACCESSORIES

- Interconnect Cables
 - Digital Readout (9850)
- *Please call for additional information
 ** Please consult factory for specifications

STANDARD CONFIGURATION



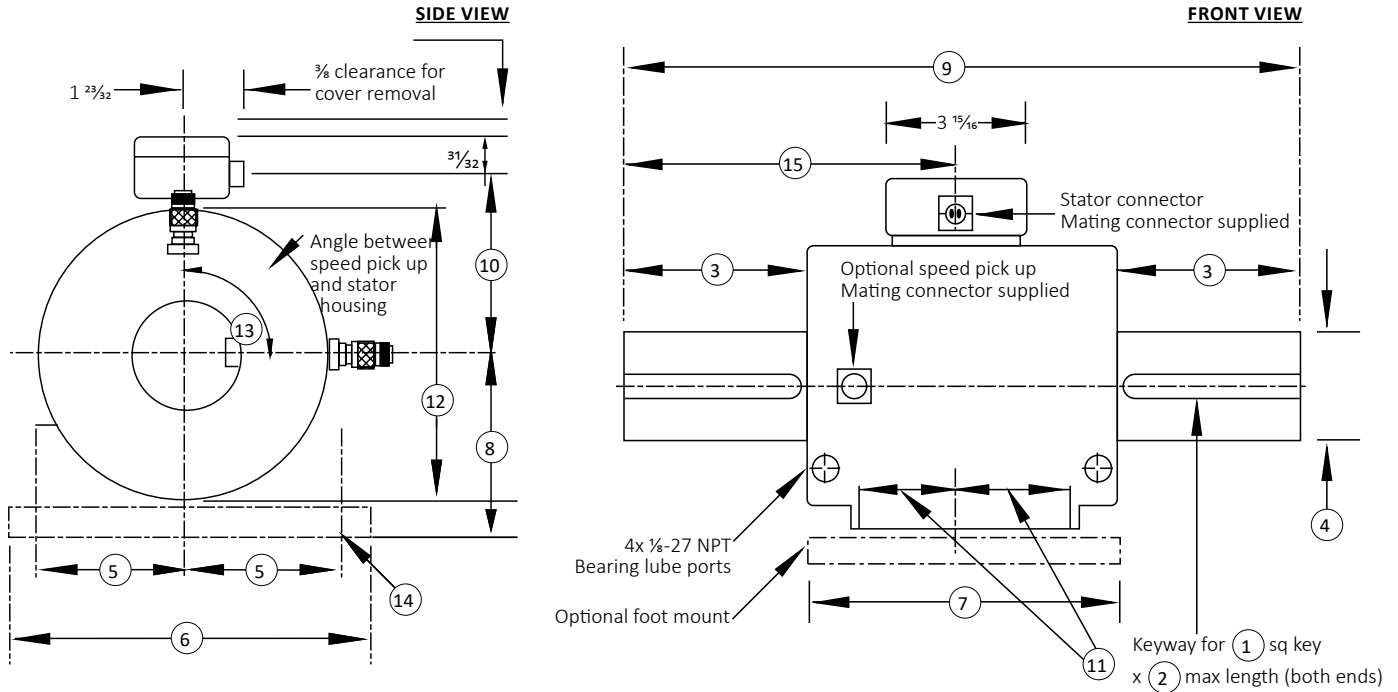
MODEL RT10E (Shown)

SPECIFICATIONS

		STANDARD	ENHANCED
ACCURACY – (MAX ERROR)			
Combined Error – %FS		± 0.10	±0.07
Nonlinearity – %FS		± 0.10	±0.05
Hysteresis – %FS		± 0.10	±0.05
Non-repeatability – %RO		± 0.05	±0.02
Stability, 6 Months – %FS		± 0.15	±0.10
Rotational Effect on Zero – %FS		±0.05	±0.02
TEMPERATURE			
Effect on Zero – %FS / °F		±0.002	±0.001
Span – % / °F		±0.002	±0.001
Compensated Range	°F	+75 to +175	
	°C	+23.89 to +79.44	
Usable Range	°F	-25 to +185	
	°C	-31.67 to +85	
Storage Range	°F	-65 to +225	
	°C	-53.89 to +107.22	
ELECTRICAL			
Fully bi-directional, dual output with common characteristics, as follows			
Clockwise (CW) Torque – mV/V		+1.5	
Counterclockwise (CCW) Torque – mV/V		-1.5	
Zero Balance – % of FS		±1 nominal	
Excitation (MAX) – Vrms – kHz ± %		3-6, 3 ±10 sine wave only	
Readout		Strain gage carrier amplifier	

*Specifications apply to mV/V models only. When selecting the **ON-BOARD SIGNAL CONDITIONING** or **DIGITAL OUTPUT** options please contact factory for specifications details.

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DIMENSIONS

See Drawing	CAPACITY															
	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)	US (lbf-in)	Metric (Nm)
	25, 100	2.82, 11.3	250, 500	28.2, 56.5	1K	113	2.5K, 5K	282, 565	10K, 20K	1.13K, 2.26K	25K, 50K	2.82K, 5.65K	100K, 250K	11.3K, 28.2K	500K	56.5K
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
(1)	0.187	4.75	0.187	4.75	0.250	6.35	0.375	9.53	0.625	15.88	0.750	19.05	1.000	25.40	Note 3	
(2)	1.125	28.58	1.625	41.28	1.750	44.45	2.750	69.85	3.500	88.90	4.500	114.30	6.500	165.10	8.000	203.20
(3)	1.50	38.1	2.00	50.8	2.00	50.8	3.38	85.9	4.13	104.9	5.13	130.3	7.56	192.0	9.00	228.6
(4)	0.625	15.88	0.750	19.05	1.000	25.40	1.500	38.10	2.500	63.50	3.000	76.20	4.500	114.30	7.750	196.85
(5)	2.25	57.2	2.25	57.2	2.625	66.68	2.625	66.68	4.25	108.0	4.25	108.0	4.25	108.0	7.00	177.8
(6)	5.50	139.7	5.50	139.7	6.25	158.8	6.25	158.8	10.00	254.0	10.00	254.0	10.00	254.0	15.50	393.7
(7)	5.50	139.7	5.50	139.7	7.00	177.8	7.00	177.8	8.75	222.3	8.75	222.3	7.75	196.9	18.00	457.2
(8)	2.250	57.15	2.250	57.15	2.500	63.50	2.500	63.50	5.000	127.00	5.000	127.00	5.000	127.00	8.000	203.20
(9)	8.50	215.9	9.50	241.3	10.00	254.0	12.75	323.9	17.00	431.8	19.00	482.6	23.00	584.2	36.00	914.4
(10)	2.563	65.10	2.563	65.10	2.969	75.41	2.969	75.41	4.875	123.83	4.875	123.83	5.125	130.18	7.875	200.03
(11)	1.500	38.10	1.500	38.10	1.500	38.10	1.500	38.10	2.813	71.45	2.813	71.45	2.813	71.45	7.875	200.03
(12)	3.469	88.11	3.469	88.11	4.219	107.16	4.219	107.16	7.938	201.63	7.938	201.63	8.500	215.90	13.875	352.43
(13)	90°		90°		90°		90°		0°		0°		0°		0°	
(14)	Ø 0.406	Ø 10.31	Ø 0.406	Ø 10.31	Ø 0.406	Ø 10.31	Ø 0.406	Ø 10.31	Note 2		Note 2		Note 2		Note 2	
(15)	4.250	107.95	4.750	120.65	5.000	127.00	6.375	161.93	9.500	241.30	9.500	241.30	12.844	326.24	18.000	457.20

Notes:

1. Tolerance on (4) diameter is +0.0000/-0.0005 for diameters ≤ 2.500 inch and +0.000/-0.001 for diameter ≥ 2.500 inch.

2. Slotted 0.531 inch (13.49 mm) wide by 1.125 inch (28.58 mm) long.

3. Dual rectangle keyways at each end are 2.000 inch (50.80 mm) wide by 1.500 inch (38.10 mm) high.

4. Dual rectangular keyways at each end are 2.500 inch (63.50 mm) wide by 1.750 inch (44.45 mm) high.

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PERFORMANCE PARAMETERS

CAPACITY		SPEED RATING	SHAFT STIFFNESS*		ROTATING INTERIA		MAX WEIGHT	
lbf-in	Nm	rpm	lbf-in/radian	Nm/radian	ozf-in sec ²	Nm sec ²	lbs	kg
25	2.82	0 to ±15,000	5.59x10 ³	6.32x10 ²	0.035	2.5x10 ⁻⁴	9	4.08
50	5.65	0 to ±15,000	1.17x10 ⁴	1.32x10 ³	0.035	2.5x10 ⁻⁴	9	4.08
100	11.3	0 to ±15,000	2.14x10 ⁴	2.42x10 ³	0.035	2.5x10 ⁻⁴	9	4.08
250	28.2	0 to ±15,000	5.02x10 ⁴	5.67x10 ³	0.036	2.5x10 ⁻⁴	10	4.54
500	56.5	0 to ±15,000	5.60x10 ⁴	6.33x10 ³	0.036	2.5x10 ⁻⁴	10	4.54
1K	113	0 to ±10,000	2.14x10 ⁵	2.42x10 ⁴	0.11	7.8x10 ⁻⁴	22	9.98
2.5K	283	0 to ±10,000	5.80x10 ⁵	6.55x10 ⁴	0.16	1.1x10 ⁻³	25	11.34
5K	565	0 to ±10,000	5.93x10 ⁵	6.70x10 ⁴	0.16	1.1x10 ⁻³	25	11.34
10K	1,130	0 to ± 8,000	1.80x10 ⁶	2.03x10 ⁵	2.3	1.6x10 ⁻²	105	47.63
20K	2,260	0 to ± 8,000	2.70x10 ⁶	3.05x10 ⁵	2.4	1.7x10 ⁻²	105	47.63
25K	2,820	0 to ±6,000	5.70x10 ⁶	6.44x10 ⁵	2.8	2.0x10 ⁻²	115	52.16
50K	5,650	0 to ±6,000	7.10x10 ⁶	8.02x10 ⁵	3.0	2.1x10 ⁻²	115	52.16
100K	11,300	0 to ±3,600	2.90x10 ⁷	3.28x10 ⁶	11.0	7.8x10 ⁻²	150	68.04
250K	28,200	0 to ±3,600	3.60x10 ⁷	4.07x10 ⁶	11.7	8.3x10 ⁻²	150	68.04
500K	56,500	0 to ±1,800	1.25x10 ⁸	1.41x10 ⁷	207	1.46	780	353.80

*Stiffness is conservatively rated and includes both the torsion section and shaft ends.