

Model RT12E Rotary Transformer Torque Cell

Why the Interface model RT12E Rotary Transformer Torque Cell is the best in class:

- 2X overload rating
- 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, splashproof & corrosion resistant
- mV/V output compatible with carrier amplifiers



OPTIONS*

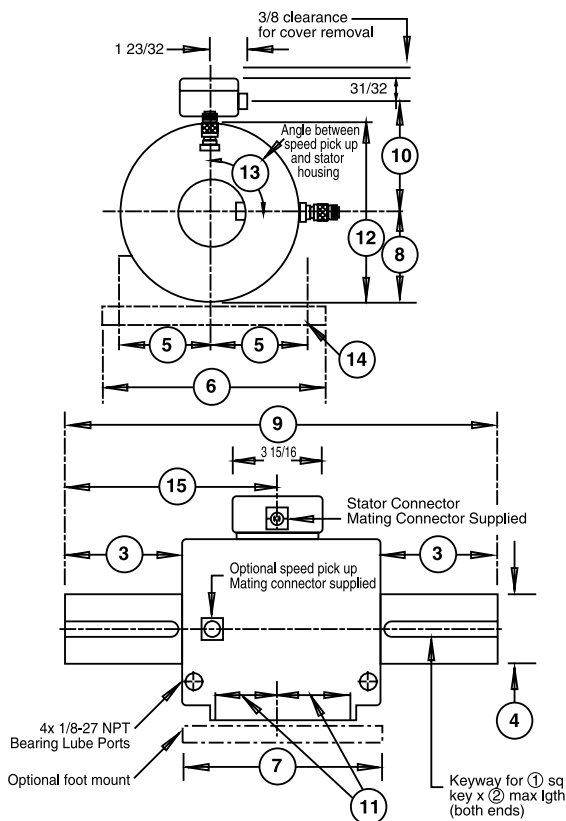
- On-board Signal Conditioning**
- Digital Output-RS232**
- Noise Hardening
- Enhanced Performance
- Foot Mount (shown in photo)
- Standard & Zero Velocity Speed Pickups
- Flange Style Mount

ACCESSORIES*

- Interconnect Cables
- Digital Readout (9850)

*Please call for additional information
 **Please consult factory for specifications

DIMENSIONS (inch)



| See Drawing | CAPACITY (lb-in) | | | | | | | | |
|-------------|------------------|-----------|----------|-----------|------------|-------------|--------------|--------------|----------|
| | 25 to 100 | 500 to 1K | 1K to 2K | 5K to 10K | 20K to 40K | 50K to 100K | 200K to 375K | 750K to 1.5M | 3M to 4M |
| ① | 0.187 | 0.187 | 0.250 | 0.375 | 0.625 | 0.750 | 1.000 | Note 3 | Note 4 |
| ② | 1.125 | 1.625 | 1.750 | 2.750 | 3.500 | 4.500 | 6.500 | 8.000 | 12 |
| ③ | 1.50 | 2.00 | 2.31 | 3.69 | 4.13 | 5.13 | 7.56 | 9.00 | 13.50 |
| ④ | 0.625 | 0.750 | 1.000 | 1.500 | 2.500 | 3.000 | 4.500 | 7.750 | 9.375 |
| ⑤ | 2.25 | 2.25 | 2.625 | 2.625 | 4.25 | 4.25 | 4.25 | 7.00 | 8.50 |
| ⑥ | 5.50 | 5.50 | 6.25 | 6.25 | 10.00 | 10.00 | 10.00 | 15.50 | 18.50 |
| ⑦ | 5.50 | 5.50 | 5.50 | 5.50 | 8.75 | 8.75 | 7.75 | 18.00 | 20.00 |
| ⑧ | 2.250 | 2.250 | 2.500 | 2.500 | 5.000 | 5.000 | 5.000 | 8.000 | 9.750 |
| ⑨ | 8.50 | 9.50 | 10.00 | 12.75 | 17.00 | 19.00 | 23.00 | 36.00 | 47.00 |
| ⑩ | 2.688 | 2.688 | 2.969 | 2.969 | 4.875 | 4.875 | 5.125 | 7.875 | 9.500 |
| ⑪ | 1.500 | 1.500 | 1.500 | 1.500 | 2.813 | 2.813 | 2.813 | 7.875 | 8.875 |
| ⑫ | 3.469 | 3.469 | 3.969 | 3.969 | 7.938 | 7.938 | 8.500 | 13.875 | 17 |
| ⑬ | 90° | 90° | 90° | 90° | 0° | 0° | 0° | 0° | 0° |
| ⑭ | .254 | .304 | .406 | .609 | Note 2 | Note 2 | Note 2 | Note 2 | Note 2 |
| ⑮ | 4.250 | 4.750 | 5 | 6.375 | 8.500 | 9.500 | 12.844 | 18 | 23.500 |

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 wide by 1.125 inch long.
3. Dual rectangular keyways at each end are 2.000 inch wide by 1.500 inch high.
4. Dual rectangular keyways at each end are 2.500 inch wide by 1.750 inch high.

SPECIFICATIONS

| PARAMETERS | MODEL | |
|---|--------------------------------------|----------|
| | STANDARD | ENHANCED |
| ACCURACY – (MAX ERROR) | | |
| Combined Error–%FS | ±0.1 | ±0.07 |
| Nonlinearity–%FS | ±0.1 | ≤±0.05 |
| Hysteresis–%FS | ±0.1 | ±0.05 |
| Nonrepeatability–%FS | ±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 | |
| Minimum Usable Range–°F | -25 to +185 | |
| Storage Range–°F | -65 to +225 | |
| ELECTRICAL | | |
| Fully bi-directional, dual output with common characteristics, as follows | | |
| Clockwise (CW) Torque | +1.5 mV/V | |
| Counterclockwise (CCW) Torque | -1.5 mV/V | |
| Zero Balance | ±1% of FS, nominal | |
| Excitation (MAX) | 3-6 V rms, 3 kHz ±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 specification details.

| TORQUE RANGE | | SPEED RATING | SHAFT* STIFFNESS | ROTATING INERTIA | MAX. WT. |
|--------------|---------|--------------|------------------|----------------------------|----------|
| [lb-in] | [Nm] | [rpm] | [lb-in/radian] | [oz.-in sec ²] | [lbs] |
| 25 | 2.82 | 0 to ±15,000 | 2,150 | 0.034 | 6 |
| 50 | 5.65 | 0 to ±15,000 | 6,030 | 0.034 | 6 |
| 100 | 11.3 | 0 to ±15,000 | 14,700 | 0.034 | 6 |
| 200 | 22.6 | 0 to ±15,000 | 18,900 | 0.034 | 6 |
| 500 | 56.5 | 0 to ±15,000 | 57,900 | 0.035 | 7 |
| 1K | 113 | 0 to ±15,000 | 70,100 | 0.035 | 7 |
| 1K | 113 | 0 to ±8,500 | 197,100 | 0.15 | 11 |
| 2K | 226 | 0 to ±8,500 | 260,000 | 0.15 | 11 |
| 5K | 565 | 0 to ±8,500 | 580,000 | 0.19 | 14 |
| 10K | 1,130 | 0 to ±8,500 | 605,000 | 0.19 | 14 |
| 20K | 2,260 | 0 to ±8,000 | 1,800,000 | 2.3 | 105 |
| 40K | 4,520 | 0 to ±8,000 | 2,700,000 | 2.4 | 105 |
| 50K | 5,650 | 0 to ±6,000 | 5,700,000 | 2.8 | 115 |
| 100K | 11,300 | 0 to ±6,000 | 7,100,000 | 3 | 115 |
| 200K | 22,600 | 0 to ±3,600 | 29,000,000 | 11 | 150 |
| 375K | 42,400 | 0 to ±3,600 | 38,000,000 | 11.7 | 150 |
| 750K | 84,700 | 0 to ±1,800 | 115,000,000 | 205 | 775 |
| 1.5M | 169,000 | 0 to ±1,800 | 136,000,000 | 212 | 790 |
| 3M | 339,000 | 0 to ±1,200 | 221,000,000 | 567 | 1455 |
| 4M | 452,000 | 0 to ±1,200 | 227,000,000 | 582 | 1475 |

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

