SensorData Technologies, Inc.

High Capacity Flange Driven Transformer Coupled Torque Sensor Model T252, T254, T255

- *Capacities from 50K to 500K lb-in*
- *High stiffness and low inertia*
- *On-board shunt calibration circuit*
- *i200 AC carrier electronics (optional)*
- *Internal zero velocity speed sensor (optional)*
- *SAE 4340 alloy steel construction with satin nickel finish*

The T252, T254 and T255 high capacity rotary transformer coupled torque sensors were designed for in-line testing of propellers, pumps, drivelines, and other devices where there is minimal axial space available for the torque sensor. The T252, T254 and T255 require the use of AC carrier strain gage signal conditioning electronics such as SensorData's i200. The optional zero velocity speed sensor is installed inside the T252, T254 and T255 housing. Interconnecting cable assemblies are available as an option. SensorData will provide in-house calibration of the T252, T254 and T255 with customer-supplied electronics for a fee.

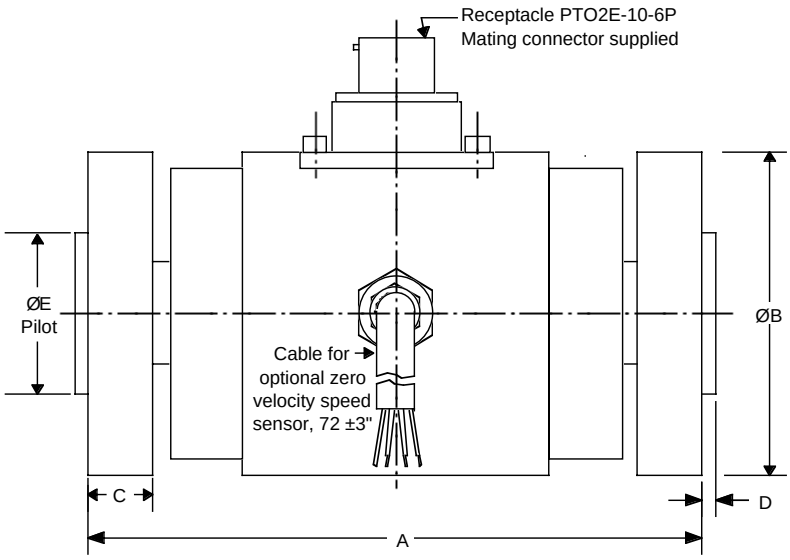
Specifications

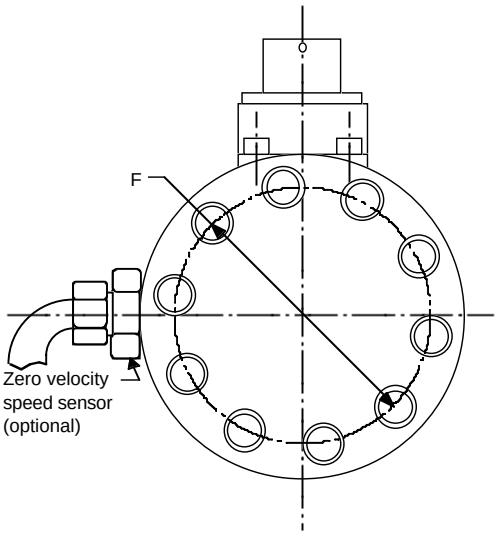
(Subject to change without notice)

Rated Capacity	50K, 100K, 200K, 500K, lb-in
Rated Speed	See table next page
Nonlinearity	0.05% of rated output
Hysteresis	0.05% of rated output
Nonrepeatability	0.02% of rated output
Rated Output, typical	2 mV/V
Zero Balance	+/-0.5% of rated output
Temperature Range, operating	-20 to +200 F
Temperature Range, compensated	+68 to +170 F
Temperature Effect on Output	0.001% of load/F
Temperature Effect on Zero	0.001% of rated output/F
Bridge Resistance, typical	350 ohms
Excitation	2.8 to 5 VAC rms, 3 kHz to 5 kHz
Insulation Resistance, bridge to case	>5000 megohms at 50 VDC
Input voltage, speed sensor, V_{cc} (optional) [1]	4.5 to 24 VDC
Maximum Load, safe [2]	200% of rated capacity
Maximum Load, ultimate [3]	400% of rated capacity
Number of Bridges	1
Weight	28 lb (T252), 41 lb ((T254), 65 lb (T255)
Construction	SAE 4340 alloy steel with satin nickel finish

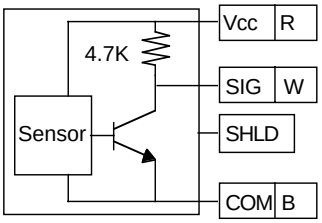
[1] Output is an open collector NPN with internal 4.7K ohm pull up resistor
[2] With load centered, maximum torque that can be applied without producing a permanent shift in performance characteristics.
[3] With load centered, maximum torque that can be applied without physical damage.

High Capacity Flange Driven Transformer Coupled Torque Sensor Model T252, T254, T255

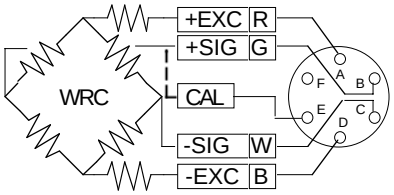




Model	Capacity lb-in	A in	ØB in	C in	D in	ØE Pilot in	F Bolt Info in	Rated Speed RPM	Torsional Stiffness lb-in/rad	Rotating Inertia lb-in-sec^2
T252	50K	6.50	4.50	1.00	.100	1.75 +0.000/-0.002	1/2-20, thru, on Ø3.50 BCD, 10 plc	7,500	9.98 x 10^6	0.038
T254	100K	8.50	5.25	1.50	.125	1.95 +0.000/-0.002	5/8-18, thru, on Ø4.250BCD, 10 plc	6,000	16.1 x 10^6	0.120
T255	200K, 500K	12.25	8.00	2.00	.125	3.34 +0.000/-0.002	7/8-14, thru, on Ø6.75 BCD, 12 plc	3,400	41.0 x 10^6	0.500



Zero Velocity Speed Sensor
(Optional)



PT02E-10-6P w/cal circuit

T252, T254, and T255 if supplied with optional SensorData i200 AC carrier strain gage conditioning electronics, the i200 instruction manual or data sheet should be referred to for wiring information and specifications.

ORDERING INFORMATION

T25X-STD-Capacity	Standard with receptacle and mating connector.
T25X-STD-Capacity-A	Same as T25X-STD-Capacity except supplied with SensorData i200 strain gage conditioning electronics.
T25X-STD-Capacity-S	Same as T25X-STD-Capacity except supplied with zero velocity speed sensor.
T25X-STD-Capacity-S-A	Same as T25X-STD-Capacity except with zero velocity speed sensor & i200 strain gage conditioning electronics.
Cable Assembly	Optional; 10 ft., color coded, shielded, mating connector sensor end, customer specified connector instrument end.
Cable Assembly	Optional; 10 ft., color coded, shielded, mating connector sensor end, leads stripped and tinned instrument end.
Note	Mounting hardware is optional and not included unless specified at time of order

IMPORTANT NOTICE

Dimensions above are in inches unless otherwise noted. Manufacturer not responsible for any modification to product, fixtures, or accessories made by user or third party. User should request certified drawings before designing mountings or fixtures. Manufacturer reserves right to modify or change design, dimensions, specifications, and features of this product without prior written notice. Changes to NOTICE must be in writing and accepted by manufacturer.

SensorData Technologies, Inc., 43626 Utica Road, Sterling Heights, MI 48314
Ph: (586) 739-4254 - Fax: (586) 739-5689 - E-mail: sensdata@aol.com - Web: www. sensordata.com