



**SensorData
Technologies, Inc.**

Small Capacity Transformer Coupled Shaft Torque Sensor Model T231



- 5 9/16" overall length including shafts
- 2 1/2" overall housing diameter
- Weighs 1.3 lbs.
- On-board shunt calibration circuit
- Zero velocity speed sensor (optional)
- SAE 4340 alloy steel - satin nickel finish
- Supplied with mating connector

The T231 is designed for in-line testing of small motors, pumps, compressors, turbines, fans, and other fractional horsepower rated devices. The T231 rotary transformer requires the use of AC strain gage signal conditioning electronics such as SensorData's i200. The T231 is supplied with a foot mount as standard. The optional zero velocity speed sensor is installed inside the T231 housing. Interconnecting cable assemblies are available as an option. SensorData will provide in-house calibration of the T231 with customer-supplied electronics for a fee.

Specifications

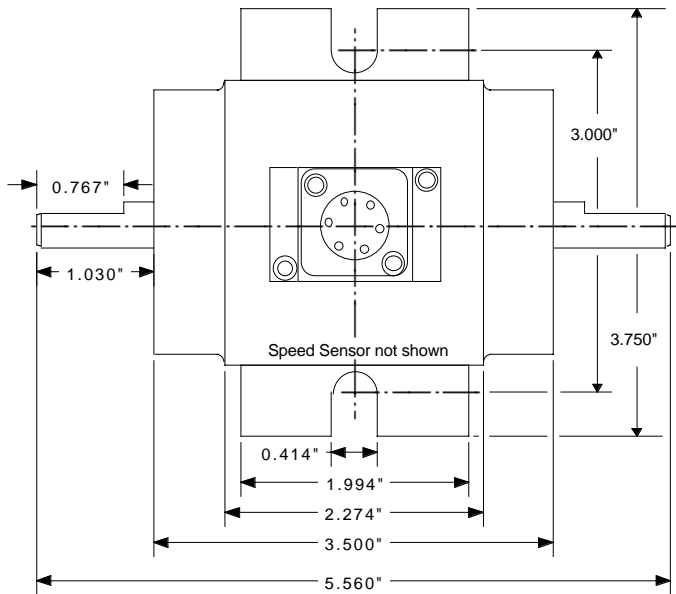
(Subject to change without notice)

Rated Capacity	50, 100, 200, 500, 1K oz-in
Rated Speed	20,000 rpm
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 +220 F
Temperature Range, compensated	+68 to +200 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	1.3 lbs
Construction	SAE 4340 alloy steel with satin nickel finish

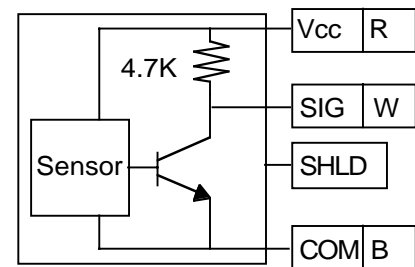
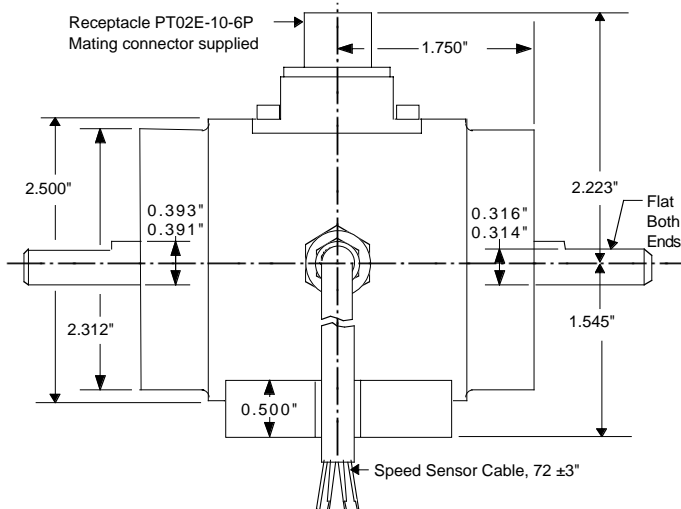
⁽¹⁾ Output is an open collector NPN with internal 4.7K ohm pull up resistor.

⁽²⁾ With load centered, maximum torque that can be applied without producing a permanent shift in performance characteristics.

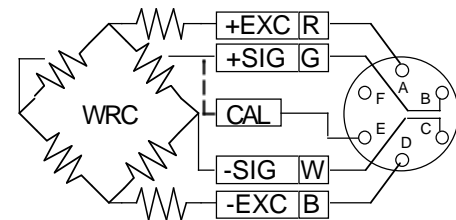
⁽³⁾ With load centered, maximum torque that can be applied without physical damage.



Capacity oz-in	Torsional Stiffness lb-in/rad	Rotating Inertia lb-in-sec ²
50	12.1 x 10 ³	4.5 x 10 ⁻⁴
100	12.1 x 10 ³	4.5 x 10 ⁻⁴
200	12.1 x 10 ³	4.5 x 10 ⁻⁴
500	16.5 x 10 ³	4.5 x 10 ⁻⁴
1K	16.5 x 10 ³	4.5 x 10 ⁻⁴



Speed Sensor (Optional)



PT02E-10-6P w/cal circuit

If the T231 is supplied with the 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

- T231-105-Capacity Standard; supplied with foot mount, receptacle and mating connector. Mounting hardware not included.
- T231-105-Capacity-A Same as standard, and in-addition supplied with SensorData i200 strain gage conditioning electronics.
- T231-105-Capacity-S Same as standard, and in-addition supplied with internal zero velocity speed sensor with integral 6ft. cable.
- T231-105-Capacity-S-A Same as standard, and in-addition supplied with i200 conditioning electronics, and zero velocity speed sensor.
- 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.

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.

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