

Amber Instruments Ltd

High Capacity Shaft Driven Transformer Coupled Torque Sensor Model T262, T264, T265



T260 and i200

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

The T262, T264 and T265 rotary transformer coupled torque sensors were designed for in-line testing of motors, engines, transmissions, propellers, pumps, drive lines, and similar rotating devices. They feature greater stiffness, less rotating inertia, and smaller size than comparable models available from other suppliers. The T262, T264 and T265 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 sensor housing. Interconnecting cable assemblies are available as an option. SensorData will provide in-house calibration of the T262, T264 and T265 with customer-supplied electronics for a fee.

Specifications

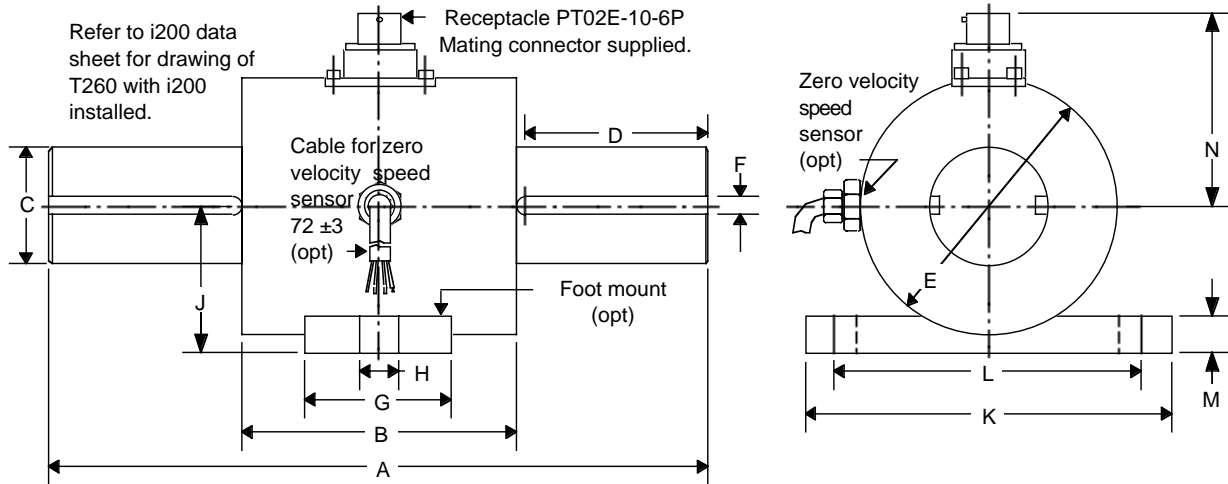
(Subject to change without notice)

Rated Capacity	50K, 100K, 200K, 500K lb-in
Rated Speed	7,500 (T262), 6,000 (T264), 3,400 (T265) rpm
Nonlinearity	0.05% of rated output
Hysteresis	0.05% of rated output
Nonrepeatability	0.02% of rated output
Rated Output, bridge, 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 (T262), 41 lb (T264), 65 lb (T265), add 1 lb for i200
Construction	SAE 4340 alloy steel with satin nickel finish

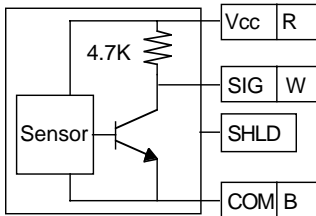
⁽¹⁾ Output is an open collector NPN with internal 4.7K ohm pull up resistor.

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

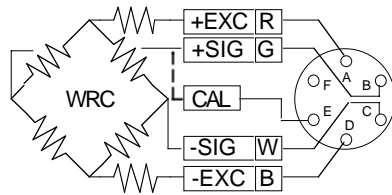
⁽³⁾ With load centered, maximum torque that can be applied without physical damage.



Mod	Capacity lb-in	A in	B in	C in	D in	E in	F in	G in	H in	J in	K in	L in	M in	N in
T262	50K	9.750	4.000	2.165/2.163	3.000	4.500	0.375	2.000	0.650	2.562	6.500	4.500	3.25	0.75
T264	100K	12.000	4.250	2.755/2.753	3.750	5.250	0.500	2.000	0.650	2.938	6.500	4.500	3.61	0.75
T265	200K, 500K	19.000	5.000	4.724/4.722	7.000	8.000	0.750	3.000	0.775	4.500	10.00	8.500	5.00	1.00



Zero Velocity Speed Sensor (Optional)



PT02E-10-6P w/cal circuit

Model	Capacity lb-in	Torsional Stiffness lb-in/rad	Rotating Inertia lb-in-sec ²
T262	50K	16.7 x 10 ⁶	1.1 x 10 ⁻²
T264	100K	12.5 x 10 ⁶	0.9
T265	200K, 500K	55.1 x 10 ⁶	0.4

If the T262, T264, and T265 are 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

- T26X-STD-Capacity Standard with receptacle and mating connector.
- T26X-STD-Capacity-A Same as T26X-STD-Capacity except supplied with SensorData i200 strain gage conditioning electronics.
- T26X-STD-Capacity-S Same as T26X-STD-Capacity except supplied with zero velocity speed sensor.
- T26X-STD-Capacity-S-A Same as T26X-STD-Capacity except with zero velocity speed sensor & i200 strain gage conditioning electronics.
- Foot Mount Option Replace STD with 105 in above model designations; e.g., T262-105-Capacity-S-A.
- Cable Assembly Optional; 10 ft., color coded, shielded, mating connector sensor end, customer specified connector instrument end.
- Cable Assembly Note 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.



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Torque Transducers, Load Cells (general purpose, weighing & fatigue rated). Multi-Axis Force/Torque, Weighing Instruments, Process Instruments, Portable Data Loggers, Pressure Sensors, Proximity Sensors, Laser (Distance Measuring) Sensors, & more.