



T251-109 with optional i200 AC carrier strain gage signal conditioning electronics

- Drop-in replacements for flange driven MCRT Torquemeters
- Capacities from 5K to 20K lb-in
- On-board shunt calibration circuit
- i200 AC carrier electronics (optional)
- Zero velocity speed sensor (optional)
- SAE 4340 alloy steel construction with satin nickel finish

The T251-109 can be supplied as a drop-in replacement for the flange driven MCRT Torquemeters and the older 6-02T Torquemeters. The T251-109 is also available as a replacement for the MCRT with SensorData's i200 AC carrier strain gage signal conditioning electronics attached to the T251-109 housing as shown in the photo above. An optional zero velocity speed sensor is available. Interconnecting cable assemblies are available as an option. SensorData will provide in-house calibration of the T251-109 with customer-supplied electronics for a fee. The T251-109 offers performance superior to the MCRT and 6-02T products.

Specifications

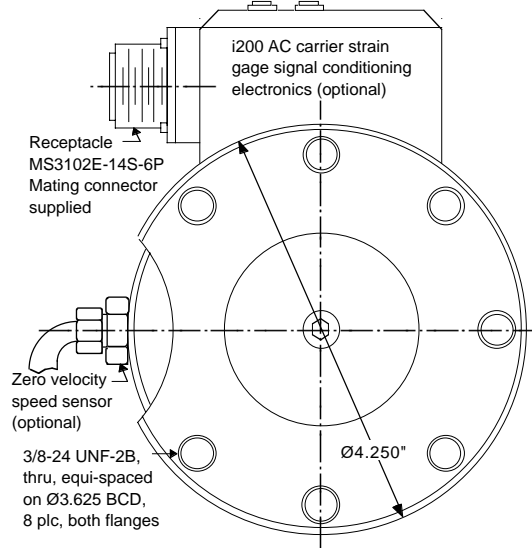
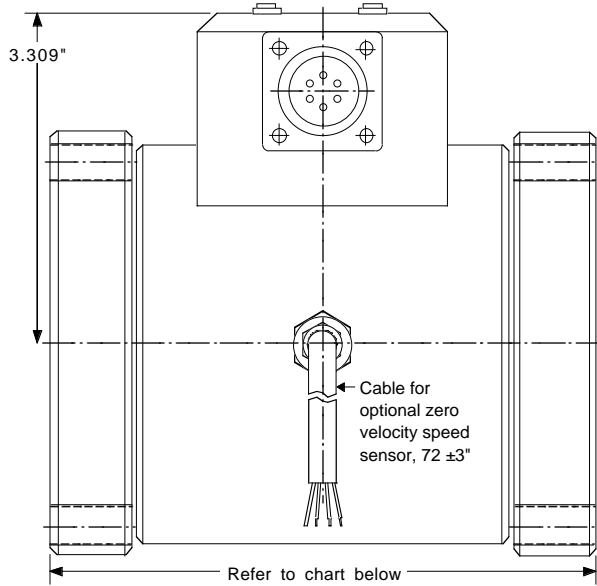
(Subject to change without notice)

Rated Capacity	5K, 10K, 15K, 20K lb-in
Rated Speed	10,000 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 +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 Voltage, bridge, typical	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	14 lb without i200, 15 lb with 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

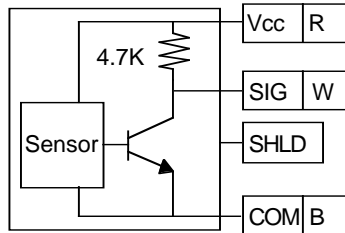
⁽²⁾ With load centered, maximum torque that can be applied without producing a permanent shift in performance characteristics.

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

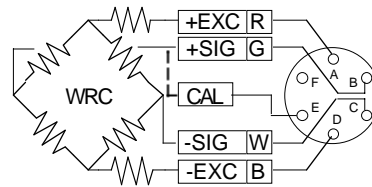


MCRT Torquemeter	MCRT Torquemeter	MCRT Torquemeter	MCRT Torquemeter	MCRT Torquemeter	Torquemeter	SensorData Replacement	OAL in	Cap lb-in
	29061T(3-3)	3961X(3-3)		49061V(3-3)			5.938	3K
	29061T(5-3)	3961X(5-3)		49061V(5-3)		T251-109-5K	5.938	5K
28061T(6-3)			48061V(6-3)				5.938	6K
28061T(1-4)			48061V(1-4)			T251-109-10K	5.938	10K
	29061T(12-3)	3961X(12-3)		49061V(12-3)			5.938	12K
					6-02T(15-3)	T251-109-15K	5.450	15K
28061T(18-3)			48061V(18-3)				5.938	18K
						T251-109-20K	5.938	20K

All of the above: Flange Diameters; 4.250 ± 0.001 in - Bolt Holes; 3/8 24-2B thru on Ø3.625 BCD, 8 plc, equi-spaced, both flanges



Zero Velocity Speed Sensor (Optional)



MS3102E-14S-6P w/cal circuit
Customer requirements may vary and should be specified with order

If the T251-109 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

- T251-109-Capacity Replacement for MCRT. Supplied with receptacles and mating connectors. Mounting hardware not included.
- T251-109-Capacity-A Same as T251-109-Capacity except supplied with SensorData i200 strain gage conditioning electronics.
- T251-109-Capacity-S Same as T251-109-Capacity except supplied with zero velocity speed sensor.
- T251-109-Capacity-S-A Same as T251-109-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.