

Amber Instruments Ltd

Torque/Thrust Sensor Model M211-114



- *Low inertial mass and high stiffness*
- *Deflection less than 0.002 inch*
- *Height 1.4 inch and diameter 1.75 inch*
- *Crosstalk less than 2%*
- *SAE 4340 alloy steel construction with satin nickel finish*
- *Supplied with mating connectors*

The M211-114 Torque/Thrust Sensor, originally designed for use in tire rubber testing rheometers, is ideally suited for applications where low torque levels need to be measured in the presence of relatively high compression loads and temperature extremes. The M211-114 features low inertial mass and high stiffness in both axes. Overall height is 1.4 inches, and the diameter is 1.75 inches. Standard capacities are 50 lb-in of torque and 2,000 lbs of thrust and 100 lb-in of torque and 2,500 lbs of thrust. Other capacities can be quoted upon request. The M211-114 can be used with AC carrier and DC strain gage signal conditioning electronics. Interconnecting cable assemblies are available as an option. SensorData will provide in-house calibration of the M211-114 with customer-supplied electronics for a fee.

Specifications

(Subject to change without notice)

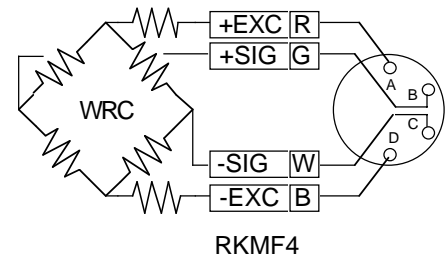
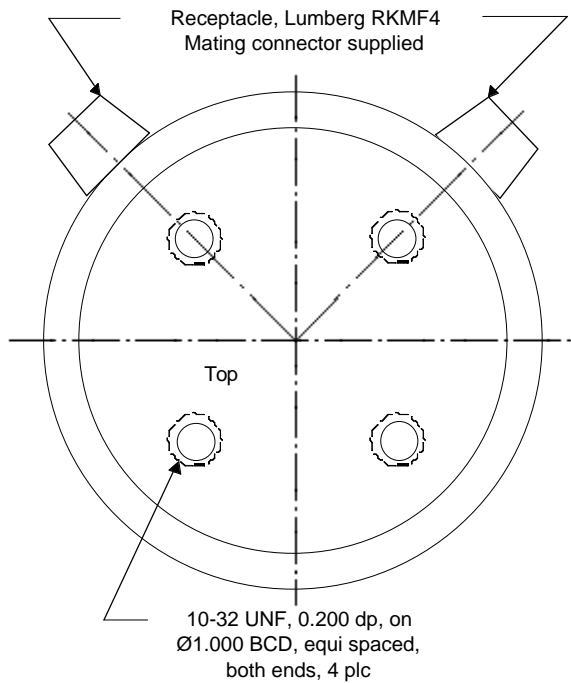
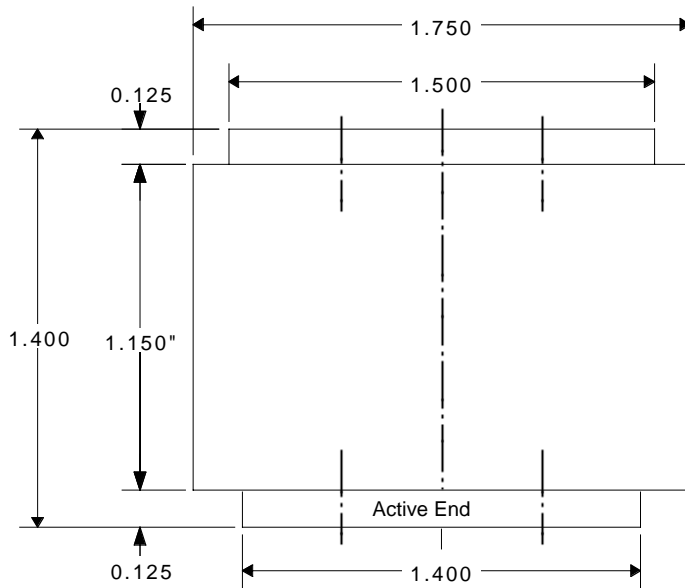
Rated Capacity	50 lb-in torque & 2K lbs thrust, 100 lb-in torque & 2.5K lbs thrust, other capacities quoted on request
Nonlinearity	0.25% of rated output, both axes
Hysteresis	0.15% of rated output, both axes
Nonrepeatability	0.05% of rated output, both axes
Rated Output, typical	2 mV/V torque, 1 mV/V thrust
Zero Balance	+/-1% of rated output, both axes
Temperature Rang, operating	-65 to +200 F, both axes
Temperature Range, compensated	+70 to +170 F, both axes
Temperature Effect on Output	0.002% of load/F, both axes
Temperature Effect on Zero	0.002% of rated output/F, both axes
Input Impedance, minimum	750 ohms, both axes
Output Impedance	700 +/-5 ohms, both axes
Excitation Voltage, typical	10 VDC or VAC rms, both axes
Excitation Voltage, maximum ⁽¹⁾	20 VDC or VAC rms, both axes
Insulation Resistance	>5000 megohms at 50 VDC, both axes
Maximum Load, safe ⁽²⁾	150% of rated capacity, both axes
Maximum Load, ultimate ⁽³⁾	300% of rated capacity, both axes
Deflection at Rated Capacity, typical	0.002 in, both axes
Crosstalk	<2%, both axes
Number of Bridges	2
Weight	0.75 lb
Construction	SAE 4340 alloy steel with satin nickel finish

⁽¹⁾ Temperature gradients caused by higher excitation voltages may effect performance.

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

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

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ORDERING INFORMATION

M211-114-Capacity Cable Assembly Capacity 50 lb-in/2,000 lb or 100 lb-in/2,500 lb and supplied with RKMF4 receptacle and mating connector.
 Cable Assembly Optional; 10 ft, color coded, shielded, mating connector sensor end, customer supplied 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.



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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.