Amber Instruments Ltd

Fatigue Rated Torque/Thrust Sensor
Model M211-116

- *Fully fatigue rated*
- *Deflection less than 0.002 inch*
- *Height 2.3 inch and diameter 3.75 inch*
- *Crosstalk less than 2%*
- *SAE 4340 alloy steel construction with satin nickel finish*
- *Supplied with mating connectors*

The M211-116 was designed for use in material testing machines. The torque/thrust sensor provides a small package size, a fully fatigue rated structure with low inertial mass and high stiffness, low crosstalk between the torque and thrust measurements and resistance to the negative effects of extraneous forces in both measurement axes. The M211-116 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. The M211-116 is available in non-standard rated capacities on a special order basis; please contact SensorData with your torque/thrust measurement requirements.

Specifications
(Subject to change without notice)

Rated Fatigue Capacity	1K lb-in torque & 5K lbs thrust, 1K lb-in torque & 2K lbs thrust, 100 lb-in torque & 200 lbs thrust
Nonlinearity	0.15% 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, both axes
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
Fatigue Rating, full fatigue capacity tension to full fatigue capacity compression load	10^8 cycles
Number of Bridges	2
Weight	4 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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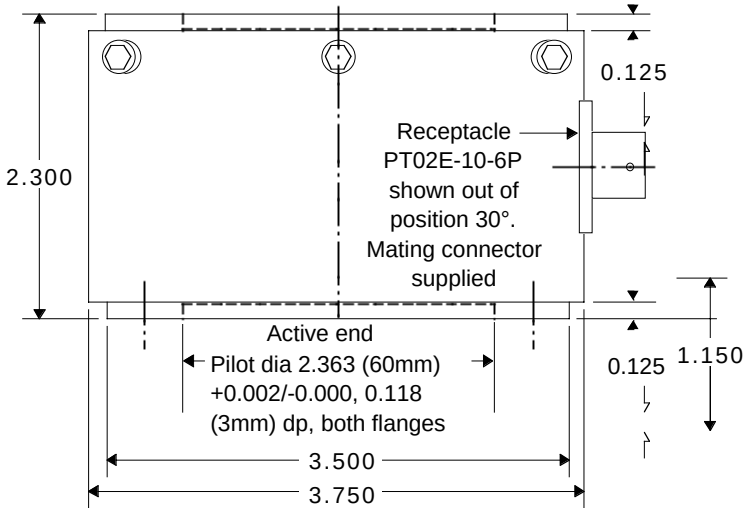

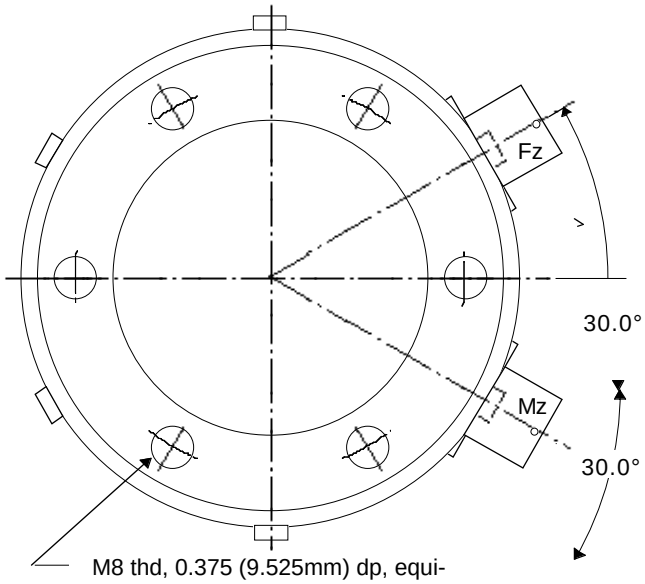

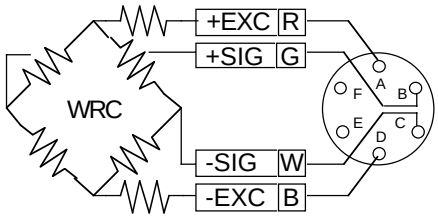

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ORDERING INFORMATION

M211-116-Capacity	Capacity 1K lb-in/5K lbs, 1K lb-in/2K lbs, 100 lb-in/200 lbs, supplied with 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, 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.