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FUTEK
ADVANCED SENSOR TECHNOLOGY, INC.

MODEL MBA500
Torque and Thrust Biaxial Sensor



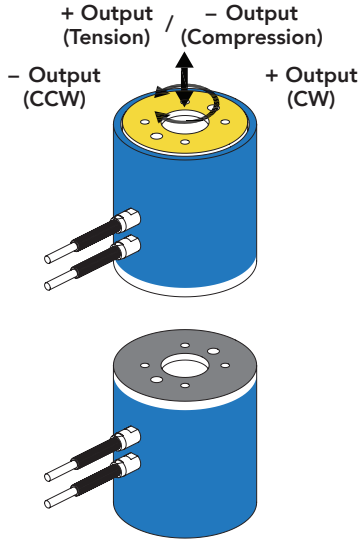
FEATURES

- Simultaneous multidirectional measurement
- Decreased package size
- Simpler installation requiring fewer modifications to existing fixturing
- Limited cross-talk
- Stronger joint and higher stiffness
- Increased stability boosts resistance to extraneous loads

Non-loading surface, do not contact

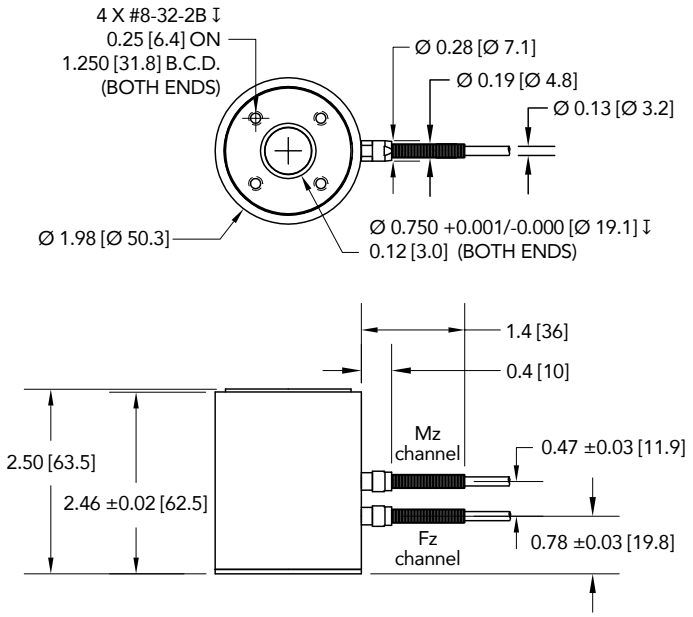
Active End

Fixed End



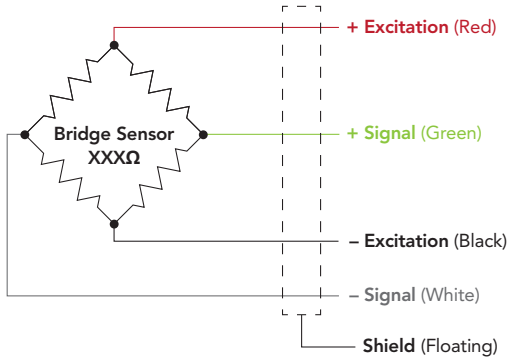
SPECIFICATIONS	
PERFORMANCE	
Nonlinearity	±0.25% of RO
Hysteresis	±0.25% of RO
Nonrepeatability	±0.05% of RO
ELECTRICAL	
Rated Output (RO)	2 mV/V nom (50–100 lb) 3 mV/V nom (200 lb)
Excitation (VDC or VAC)	18 max
Bridge Resistance	350 Ohm
Insulation Resistance	≥500 MOhm @ 50 VDC
Connection	#28 AWG, 4 conductor, braided shielded PVC cable, 10 ft [3 m] long
Wiring Code	WC1
MECHANICAL	
Weight (approximate)	6.5 oz (184 g)
Safe Overload	150% of RO (50–100 lb) 125% of RO (200 lb)
Material	Aluminum
IP Rating	IP40
TEMPERATURE	
Operating Temperature	-45 to 200°F (-42 to 93°C)
Compensated Temperature	60 to 160°F (15 to 72°C)
Temperature Shift Zero	±0.005% of RO/°F (0.01% of RO/°C)
Temperature Shift Span	±0.005% of Load/°F (0.01% of Load/°C)
CALIBRATION	
Calibration Test Excitation	10 VDC
Calibration (standard)	5-pt Compression, CW
Calibration (available)	5-pt Tension and Compression, CCW and CW
Shunt Calibration Value	60.4 kOhm (2 mV/V) 43.575 kOhm (3 mV/V)
CONFORMITY	
RoHS	EU 2015/863
CE	EN55011; EN61326-1

DIMENSIONS inches [mm]



WIRING CODE (WC1 WITH SHIELD)

RED	+ EXCITATION
BLACK	– EXCITATION
GREEN	+ SIGNAL
WHITE	– SIGNAL
SHIELD	FLOATING



CAPACITIES

ITEM #	Load Capacity lb [N]	Torque Capacity in-lb [N-m]	Fz Deflection in [mm]	Fz Natural Frequency (Hz)
FSH04259	50 [222]	50 [5.7]	0.001 [0.025]	1800
FSH04260	100 [444]	100 [11.3]	0.001 [0.025]	2400
FSH04261	200 [890]	200 [22.6]	0.002 [0.05]	2700

Drawing Number: FI1451-A

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CE RøHS ANSI Z540-1 ISO 17025 ISO 9001 ISO 13485 U.S. Manufacturer