Balance-SF3- Etanche

DESCRIPTION

AMTI's SF3 is a six components force sensor that features a stainless steel and oil filled, pressure compensated bladder to enable short term (less than 24 hours) continuous submersion in fresh water
Typical applications include research and development in tow tanks, underwater structure model, robotics and ocean engineering.

The sensor measures the three orthogonal force and moment components along the X, Y, and Z axes, producing a total of six outputs. The characteristics of this strain gage sensor make it ideal for underwater research and tow tank testing environments; it has high stiffness, high sensitivity, low cross-talk, excellent repeatability and long term stability. It is simple, easy to use, and is available in either 100, 250, 500, 1000 pound (445, 1112, 2224, 4448 Newton) vertical capacities.

AMPLIFICATION

The SF3 incorporates strain gauges mounted on four precision strain elements in a patented design to measure forces and moments. As with most conventional strain gauge transducers, bridge excitation and signal amplification is required.
AMTI's product line includes an analogue strain gauge amplifier, the MSA-6. There is also digital signal amplifier, the Gen 5. All these amplifiers are high gain devices which provide excitation and amplification for multiple channels in one convenient package.

Calibration

Each platform is inspected and tested is AMTI's calibration facility. The calibration procedure provides a detailed sensitivity matrix and a complete test of all systems components, including the amplifier and connecting cable.

SOFTWARE

AMTI offers several software packages for use with the multi-component force sensors. Please contact the sales department for more details.

CUSTOM

AMTI also offers other transducers to meet your specific needs. Standard units with a diameter as small as 1 inch (2.25 cm) are available, and sensors with capacities as high as 3,000,000 pounds (13,345,000 Newtons) have also been constructed. Units are avail- able in various sizes, load capacities, sensitivities, materials, and in pressure compensated waterproof versions.

SF3_V2_20157_06_13

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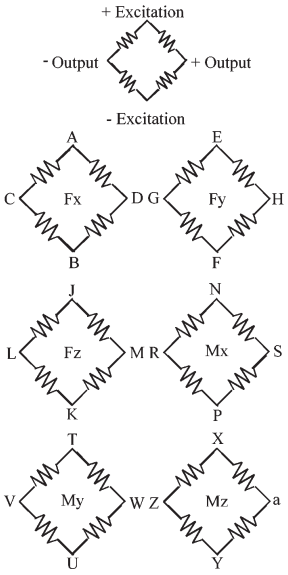
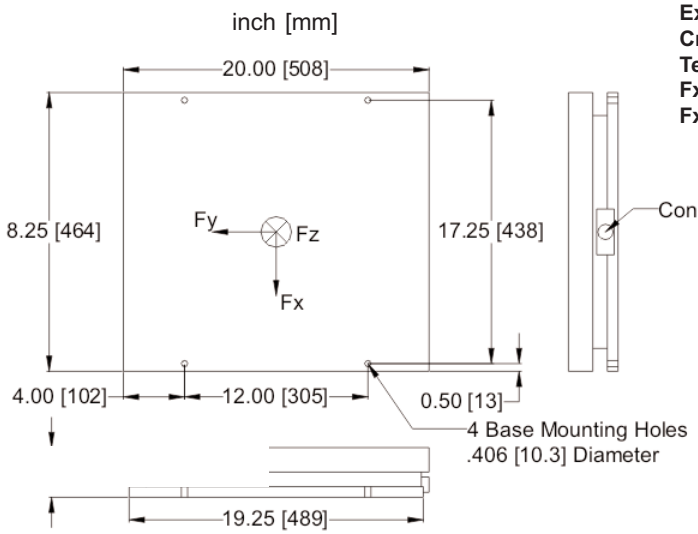
OR6-6 Series Specifications	1000	2000	4000
Fz Capacity, lb (N)	1000 (4450)	2000 (8900)	4000 (17800)
Fx, Fy Capacity, lb (N)	500 (2225)	1000 (4450)	2000 (8900)
Mz Capacity, in*lb (Nm)	5000 (600)	10,000 (1100)	20,000 (2300)
Mx, My Capacity, in*lb (Nm)	10,000 (1100)	20,000 (2300)	40,000 (4500)
Fz Natural Frequency, Hz	1000	1000	1000
Fx, Fy Natural Frequency, Hz	400	550	800
Fz Sensitivity, μV/[V*lb] (μV/[V*N])	0.75 (0.17)	0.38 (0.08)	0.19 (0.04)
Fx, Fy Sensitivity μV/[V*lb] (μV/[V*N])	3.0 (0.67)	1.5 (0.34)	0.75 (0.17)
Mz Sensitivity, μV/[V*in*lb] (μV/[V*N*m])	0.38 (3.38)	0.19 (1.69)	0.09 (0.85)
Mx, My Sensitivity, μV/[V*in*lb] (μV/[V*N*m])	0.18 (1.59)	0.09 (0.79)	0.05 (0.39)
Height, in (mm)	3.25 (82.5)		
Weight, lb (kg)	40 (18)		
Top Plate Material	composite		

WIRING FOR OR6-6



Bridge Fz = 350 ohms
Bridges Fx; Fy; Mx; My; Mz = 700 ohms



GENERAL SPECIFICATIONS
Excitation: 10V maximum
Crosstalk: Less than 2% on all channels
Temperature Range: 0 to 125°F (-17 to 52°C)
Fx, Fy, Fz hysteresis: ± 0.2% Full Scale Output
Fx, Fy, Fz non-linearity: ± 0.2% Full Scale Output

CONNECTOR TYPE:
Souriau 851-02E16-26P50-44

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