

BP600900

F Force Platform



APPLICATIONS

The BP600900* model Force Platform is ideal for applications which require a medium size high frequency response sensor with a low mass top. The BP600900 can be used for biomechanics, engineering, medical research, orthopedics, rehabilitation evaluation, prosthetics, and general industrial uses.

Specific uses include athletic performance, gait analysis, stability analysis, neurological analysis, prosthetics fitting, shoe design, and force, power, and work studies.

DESCRIPTION

The AMTI Force Platform model BP600900 features composite construction, resulting in a low-mass instrument with excellent frequency response. Specifically designed for the precise measurement of ground reaction forces, the BP600900 measures the three orthogonal force components along the X, Y, and Z axes, and the moments about the three axes, producing a total of six outputs. The high sensitivity, low crosstalk, excellent repeatability and long term stability of this platform makes it ideal for research and clinical studies. The BP600900 is easy to use and is available in either 1000, 2000, or 4000 pound (4450, 8900, or 17,800 Newton) vertical capacity.

AMPLIFICATION

The BP600900 Force Platform uses strain gages mounted on four precision strain elements in a patented design to measure forces and moments. As with most conventional strain gage transducers, bridge excitation and signal amplification are required. AMTI's amplifiers are all high gain devices which provide excitation and amplification for multiple channels in one convenient package.

CALIBRATION

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

SOFTWARE

Automated data collection and reduction requires a computer and software. AMTI's software package, BioAnalysis with NetForce, is specifically designed for biomechanics and clinical applications. NetForce provides a simple user interface and extensive database function for easy trial set-up and data acquisition. BioAnalysis performs a comprehensive analysis of the data and presents many summarizing parameters that can be averaged across numerous selectable trails. The BioAnalysis with NetForce software package is available separately or combined in one of AMTI's BIOVEC™ Systems.

BIOVEC™ SYSTEMS

AMTI's BIOVEC™ Systems are complete gait and balance analysis force platform systems. Each system consists of force platforms (from 1 to 4), amplifiers, cables, mounting hardware, A/D converter, and BioAnalysis software.

CUSTOM

AMTI also offers other transducers to meet your specific needs. Units with larger surface areas are available, and sensors with capacities as high as 3,000,000 pounds (13,345,000 Newtons) have also been constructed. Units are available in waterproof versions and various sizes, load capacities, sensitivities, and materials.



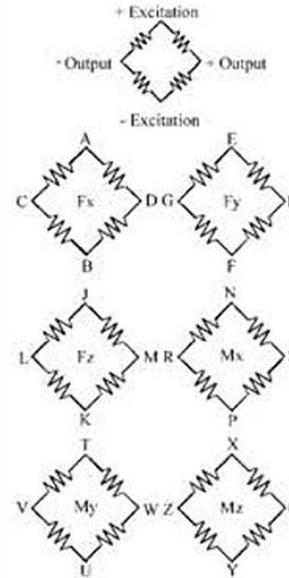
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ISO 9001:2000 certified

BP600900SERIES 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)	9000 (1000)	18000 (2000)	36000 (4000)
Mx Capacity, in*lb (Nm)	1800 (2000)	3600 (4100)	7200 (8100)
My Capacity, in*lb (Nm)	12000 (1350)	24000 (2700)	48000 (5400)
Fz Natural Frequency, Hz	500	520	550
Fx, Fy Natural Frequency, Hz	270	390	500
Fz Sensitivity, $\mu V/[V \cdot lb]$ ($\mu V/[V \cdot N]$)	0.75 (0.17)	0.38 (0.08)	0.19 (0.04)
Fx, Fy Sensitivity, $\mu V/[V \cdot lb]$ ($\mu V/[V \cdot N]$)	3.0 (0.67)	1.5 (0.34)	0.75 (0.17)
Mz Sensitivity, $\mu V/[V \cdot in \cdot lb]$ ($\mu V/[V \cdot Nm]$)	0.233 (2.065)	0.117 (1.032)	0.058 (0.516)
Mx Sensitivity, $\mu V/[V \cdot in \cdot lb]$ ($\mu V/[V \cdot Nm]$)	0.105 (0.930)	0.053 (0.465)	0.026 (0.232)
My Sensitivity, $\mu V/[V \cdot in \cdot lb]$ ($\mu V/[V \cdot Nm]$)	0.116 (1.025)	0.058 (0.513)	0.029 (0.256)
Height, inch (mm)	4.00 (102)		
Weight, lb (kg)	70 (32)		
Top Plate Material	composite		

WIRING FOR BP600900

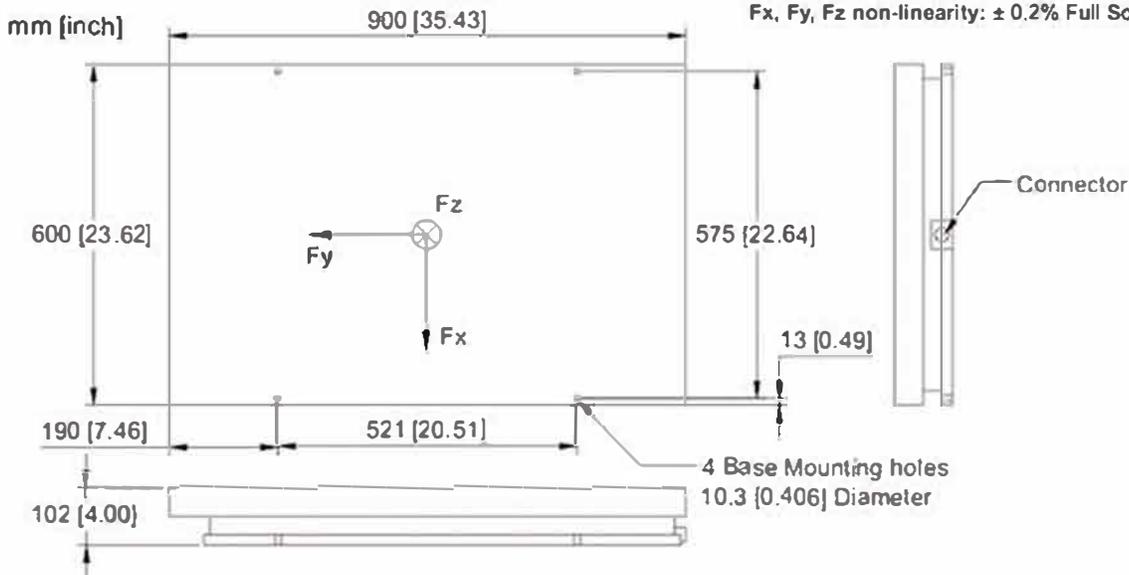


Bridge Fz = 350 ohms
Bridges Fx: Fy: Mx: My: Mz = 700 ohms

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

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: $\pm 0.2\%$ Full Scale Output
- Fx, Fy, Fz non-linearity: $\pm 0.2\%$ Full Scale Output



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FORCE AND MOTION

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