

OR6-7 FORCE PLATFORM

APPLICATIONS

The OR6-7 model Biomechanics Force Platform can be used for biomechanics, engineering, medical research, orthopedics, rehabilitation evaluation, prosthetics, and general industrial uses. Specific uses include gait analysis, "Romberg" testing or stability analysis, neurological analysis, prosthetics fitting, athletic performance, shoe design, and force, power, and work studies.

DESCRIPTION

The AMTI Biomechanics Force Platform model OR6-7 was specifically designed for the precise measurement of ground reaction forces. The platform 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 OR6-7 is easy to use and is available in either 1000, 2000, or 4000 pound (4450, 8900, or 17,800 Newton) vertical capacity.

AMPLIFICATION

The OR6-7 Biomechanics 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 SGA or MCA amplifiers are high gain devices which provide excitation and amplification for multiple channels in one convenient package. The rack mountable MCA-6, or the desktop SGA6-4 provide the six channels of amplification required by the force platform. These amplifiers process the platform signals and provide outputs suitable for an A/D converter so that the data can be stored and processed by a computer.

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 if ordered together.

SOFTWARE

Automated data collection and reduction requires a computer and software. BioSoft, AMTI's software package, is specifically designed for biomechanics applications. It provides quick and easy hardware setup and automated data acquisition and analysis. BioSoft allows the user to quickly begin testing rather than take on the tedious and lengthy process of writing data acquisition and reduction routines. The BioSoft 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 BioSoft analysis software, all sold at a special system price.

CUSTOM

AMTI also offers special multi-axis transducers to meet your specific needs. Units are available in water-proof versions and various sizes, load capacities, sensitivities, and materials. Units 1 inch (2.54 cm) in diameter, 3 inch (7.6 cm) square surfaces, glass-top surfaces, and platforms with capacities as high as 3,000,000 pounds (13,345,000 Newtons) have been made. Contact AMTI for any custom requirements.



* U.S. Patent # 4493220

ISO 9001 CERTIFIED

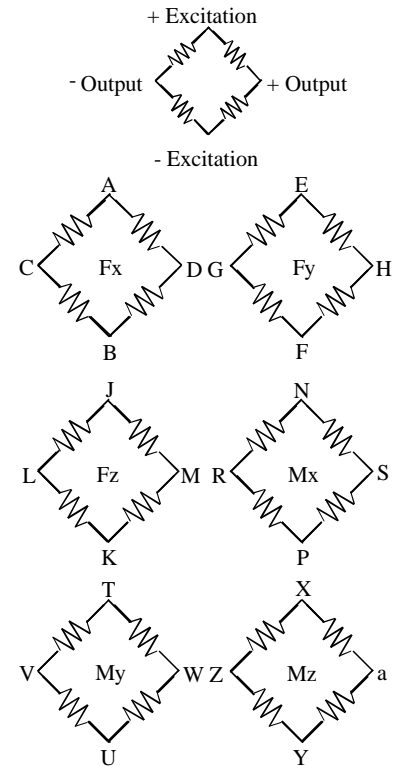
AMTI

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OR6-7 FORCE PLATFORM

OR6-7 SERIES SPECIFICATIONS	1000	2000	4000
Fx, Fy Capacity, lb, (N)	500 (2225)	1000 (4450)	2000 (8900)
Fz Capacity, lb, (N)	1000 (4450)	2000 (8900)	4000 (17800)
Mx, My Capacity, in*lb, (Nm)	10,000 (1100)	20,000 (2300)	40,000 (4500)
Mz Capacity, in*lb, (Nm)	5000 (600)	10,000 (1100)	20,000 (2300)
Fx, Fy Natural Frequency, Hz	300	370	470
Fz Natural Frequency, Hz	480	530	570
Fx, Fy Sensitivity, $\mu\text{V}/[\text{V}*\text{lb}]$, ($\mu\text{V}/[\text{V}*\text{N}]$)	3.0 (0.67)	1.5 (0.34)	0.75 (0.17)
Fz Sensitivity, $\mu\text{V}/[\text{V}*\text{lb}]$, ($\mu\text{V}/[\text{V}*\text{N}]$)	0.75 (0.17)	0.38 (0.08)	0.19 (0.04)
Mx, My Sensitivity, $\mu\text{V}/[\text{V}*\text{in}*\text{lb}]$, ($\mu\text{V}/[\text{V}*\text{Nm}]$)	0.18 (1.59)	0.09 (0.79)	0.05 (0.39)
Mz Sensitivity, $\mu\text{V}/[\text{V}*\text{in}*\text{lb}]$, ($\mu\text{V}/[\text{V}*\text{Nm}]$)	0.38 (3.38)	0.19 (1.69)	0.09 (0.84)

WIRING FOR OR6-7

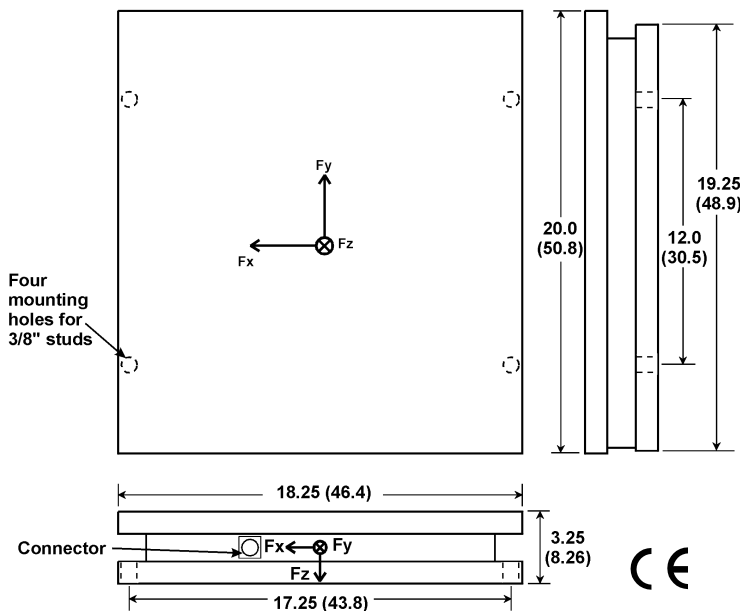


Bridge Fz = 350 ohms

Bridges Fx; Fy; Mx; My; Mz = 700 ohms

CONNECTOR TYPE:

Souriau 851-02E16-26P50-44



inches (cm)

GENERAL SPECIFICATIONS

Excitation: 10V

Weight: 70 lb (32 Kg)

Crosstalk: Less than 2% on all channels

Temperature Range: 0 to 125°F,
(-17 to 52°C)

Sensitivity Change with Temperature:
0.02%/°F (0.01%/°C)

Fx, Fy, Fz hysteresis: ± 0.2 % Full Scale
Output

Fx, Fy, Fz non-linearity: ± 0.2 % Full Scale
Output

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