

**Description**

MAT-200-FM is quad axis for force(3) and moment(3) and is designed for measuring the force in material testing, robotics, contact mechanics & Tribology, wind tunnel research. It is used to measure the three orthogonal components of a force and moment acting in an arbitrary direction. It exhibits high sensitivity with low cross talk & excellent repeatability. This is strain gage based sensor with full temperature compensation over 10 to 50°C. This has suitable top and bottom surfaces to mount required mounting hardware.

**Features**

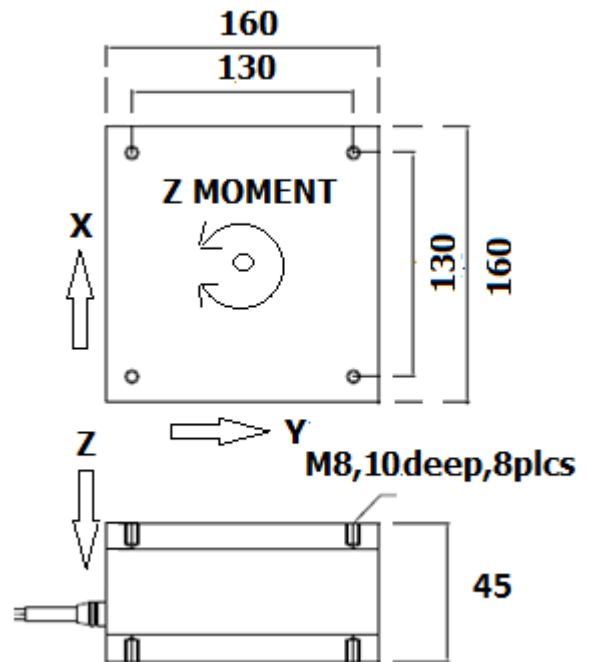
- ❖ Tri axis force from 0-50N in X, Y, Z axis.
- ❖ Tri axis moment from 0-5NM in X, Y, Z axis
- ❖ Other ranges offered on request

**Applications**

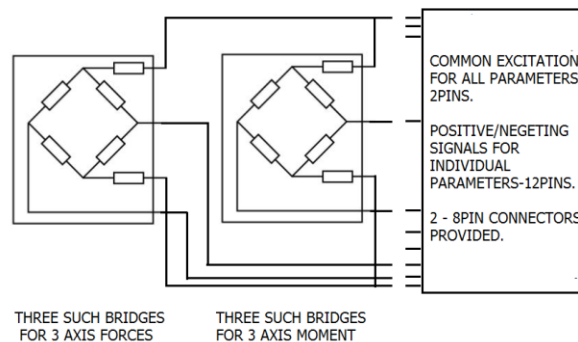
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| <ul style="list-style-type: none"> <li>❖ Lathe Operation</li> <li>❖ Grinding &amp; Abrasive Wheel Research</li> <li>❖ Tool Wear research</li> <li>❖ Tribology – Surface Mechanics</li> <li>❖ Medical, Rehabilitation, Sports</li> </ul> | <ul style="list-style-type: none"> <li>❖ Cutting Force Dynamometer</li> <li>❖ Product &amp; Material Testing</li> <li>❖ Automotive Research</li> <li>❖ Robotics</li> <li>❖ Product Testing</li> <li>❖ Wind Tunnel Balance Study</li> </ul> |
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**Performance Specification**

Standard Capacity	5KN-X,Y , 20KN-Z 100NM-X,Y , 200NM-Z
Excitation Voltage	10 VDC- Maximum 15 VDC
Nominal Output	0.80 to 2.0 mV/V
Non - Linearity	< ±0.5% FSO (Full Scale Output)
Hysteresis	< ±0.5% FSO
Non-Repeatability	< ±0.2% FSO
Creep (30 minutes)	< ±0.05% FSO
Cross Talk between X,Y,Z axis	< 5% FSO
Zero Balance	±5.0% FSO
Bridge Resistance	350 ± 20 Ohms
Insulation Resistance (50 VDC)	> 2000 Mega Ohms
Cable Length (6+2 Core)	5 Meters
Safe Overload of Rated Capacity	150%
Ultimate Overload of Rated Capacity	200%
Temp. Compensated Range	10-50°C
Operating Temperature	0 – 60°C
Temperature Effect on Output	< 0.05% FSO/ °C
Temperature Effect on Zero	< 0.05% FSO/ °C
Finish & Construction	Sensing body-Aluminum Alloy/Tool Steel – electro less nickel plated
Environmental Protection Class	IP65 gage area



Specification are subject to change.  
All dimensions are in mm.

**Electrical Termination**

THREE SUCH BRIDGES  
FOR 3 AXIS FORCES

THREE SUCH BRIDGES  
FOR 3 AXIS MOMENT

Manufactured by:



**ADI ARTECH**  
**TRANSDUCERS PVT. LTD.**

A Joint venture with  
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