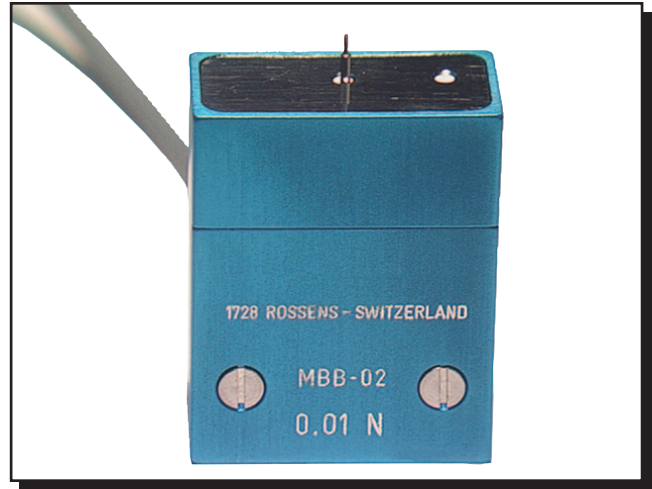

MBB-02 Miniature Force Transducers

FEATURES

- Nominal capacity: 0.01 N, 0.05 N, 0.1 N, 0.5 N, 1 N and 5 N
- Semiconductor strain gauges
- Built-in high-capacity overload protection
- Minute displacement
- High natural frequency
- High-strength aluminum alloy measuring spring
- Compact dimensions
- Force applicable in two positions (① and ②)



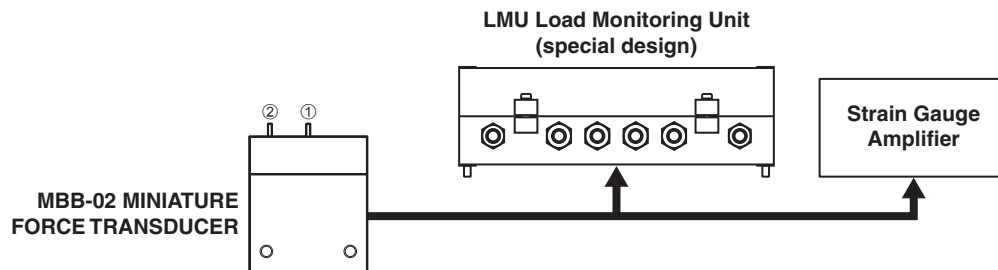
DESCRIPTION

The Magtrol MBB-02 Miniature Force Transducer is designed for measuring very small loads. Made entirely of aluminum for very high measurement stability, this transducer features built-in high-capacity overload protection. For more flexibility, force can be applied to the transducer in one of two positions.

APPLICATIONS

The small dimensions of the MBB-02 permit its adaptation to numerous small and precision applications (watchmaking, for example), as well as long-term dynamic measurements.

SYSTEM CONFIGURATION



ORDERING INFORMATION

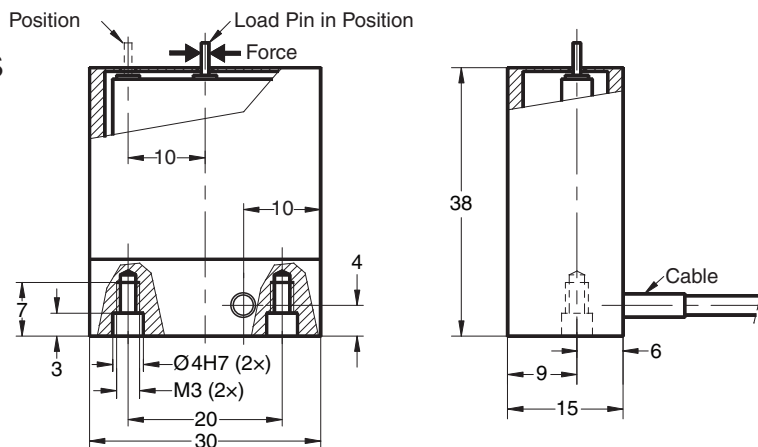
PART NUMBER	MBB - 02 -	
• Nominal Force (N) 0.01; 0.05; 0.1; 0.5; 1 or 5		
• Humidity compensation?		
No (standard)		blank
Yes		A

TECHNICAL RATINGS

	MBB-02-0.01	MBB-02-0.05	MBB-02-0.1	MBB-02-0.5	MBB-02-1	MBB-02-5
MECHANICAL CHARACTERISTICS						
Nominal Force	± 0.01 N	± 0.05 N	± 0.1 N	± 0.5 N	± 1 N	± 5 N
Overload Limit	0.25 N	0.25 N	0.3 N	2 N	2 N	15 N
Overload at Rupture	> 1.5 N	> 1.5 N	> 1.5 N	> 150 N	> 150 N	> 300 N
Displacement at Nominal Force	< 0.02 mm	< 0.04 mm	< 0.08 mm	< 0.02 mm	< 0.04 mm	< 0.02 mm
ELECTRICAL CHARACTERISTICS						
Nominal Sensitivity	4 mV/V	20 mV/V	40 mV/V	20 mV/V	40 mV/V	40 mV/V
Input Impedance	750 Ω nom.					
Output Impedance	750 Ω nom.					
Insulation Resistance	≥ 10 ⁹ Ω					
Supply Voltage	5 V DC					
Natural Frequency	≈ 170 Hz			≈ 700 Hz		≈ 3000 Hz
Combined Error (nonlinearity + hysteresis)	< ± 0.2%		< ± 0.1%			
ENVIRONMENTAL CHARACTERISTICS						
Long-term Stability and Error Caused by Changes in Air Humidity (MBB-02-A transducers only)	max. ± 2% proportionate to nominal sensitivity in relative humidity range of 30% to 60% for a maximum of 72 hours					
Operating Temperature	+15 °C to +30 °C					
Temperature Influence: On Zero	< ± 0.05% / K		< ± 0.02% / K			
Temperature Influence: On Sensitivity	≤ + 0.02% / K					
Protection Class	IP 42					
CONNECTION CABLE						
Shielded Cable Length	2 m					
Pin Connections:*	Color Code (according to DIN):					
supply (+)	black					
supply (-)	green					
signal (+)	red					
signal (-)	white					

* The shield is not connected on the transducer side.

DIMENSIONS



Due to the continual development of our products, we reserve the right to modify specifications without forewarning.



www.magtrol.com

MAGTROL INC
 70 Gardenville Parkway
 Buffalo, New York 14224 USA
 Phone: +1 716 668 5555
 Fax: +1 716 668 8705
 E-mail: magtrol@magtrol.com

MAGTROL SA
 Route de Montena 77
 1728 Rossens/Fribourg, Switzerland
 Phone: +41 (0)26 407 3000
 Fax: +41 (0)26 407 3001
 E-mail: magtrol@magtrol.ch

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