

# MBB-01 SERIES

## MINIATURE FORCE TRANSDUCERS

### FEATURES

- Nominal capacity: 0.5N, 1N, 2N, 3N, 5N, 10N and 20N
- Full bridge strain gauges
- Built-in high-capacity overload protection
- Minute displacement
- High-strength aluminum alloy measuring spring
- Compact dimensions

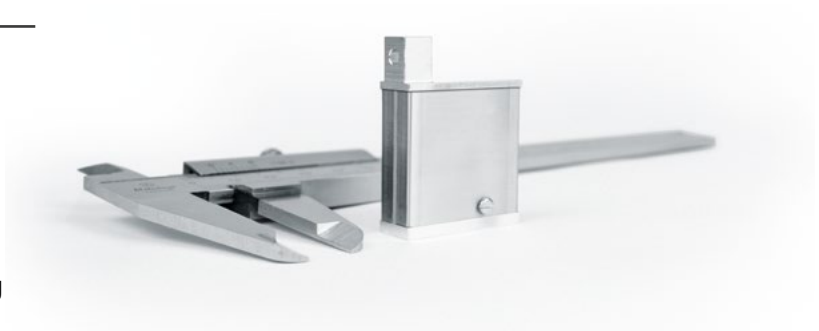


Fig. 1: MBB-01 Series | Miniature Force Transducer (caliper not included)

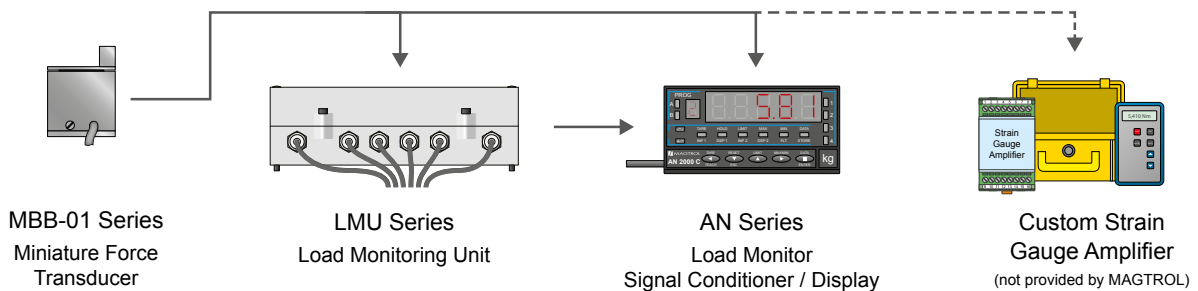
### DESCRIPTION

The Magtrol MBB-01 Miniature Force Transducers are designed for the measurement of very small positive and negative charges. Entirely made of aluminum, the MBB-01 combines lightness and stability and has excellent overload capacity.

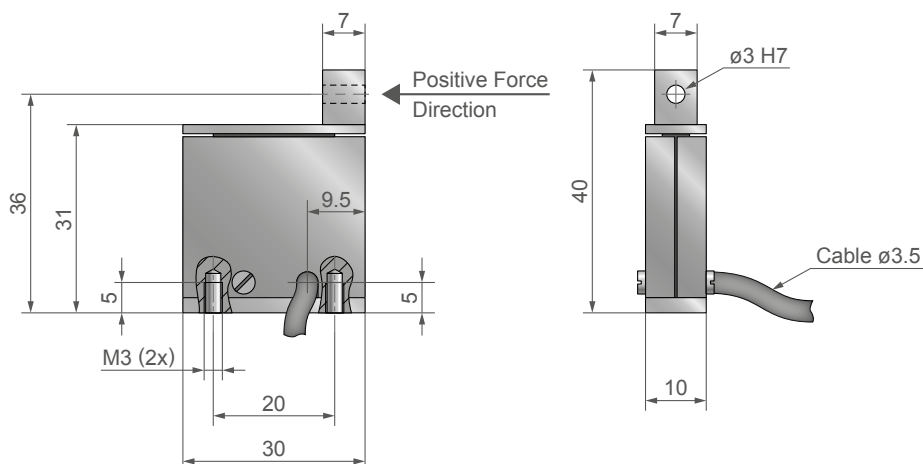
### APPLICATION

The compact dimensions of the MBB-01 Transducer allows adaptation to a wide range of small and precision applications as well as long term dynamic measurements.

### SYSTEM CONFIGURATION



### DIMENSIONS



## SPECIFICATIONS

MODEL	MBB-01-0.5	MBB-01-1	MBB-01-2	MBB-01-3	MBB-01-5	MBB-01-10	MBB-01-20
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### LOAD MEASURING

Nominal Load	±0.5N	±1N	±2N	±3N	±5N	±10N	±20N
Overload Limit	5N		50N			100N	
Displacement at Nominal Force	≤0.05mm		≤0.08mm				
Non-linearity + Hysteresis Error	≤±0.1%			≤±0.05%			
Angular Deviation of ø3 H7 Hole at Nominal Force	≤0.005°						

### ELECTRICAL CHARACTERISTICS

Nominal Sensitivity	1 mV/V ±1%						
Input Impedance	1000 Ω ... 1200 Ω			345 Ω ... 450 Ω			
Output Impedance	1000 Ω ±10 Ω			350 Ω ±3 Ω			
Insulation Resistance	≥10 <sup>9</sup> Ω						
Supply Voltage	≤10V DC/AC					≤12V DC/AC	

### MECHANICAL CHARACTERISTICS & ENVIRONMENT

Max. Relative Humidity (indoor conditions)	90%
Protection Class	IP42

### ELECTRICAL CONNECTIONS

Connection cable	Shielded cable, length 0.5m <sup>a,b)</sup>
Wiring diagram <sup>c)</sup>	

a) CAUTION: The length of the cable attached to the MBB-01 **must never be shortened**. This would damage the internal adjustments specific to each sensor.

b) Other lengths available on request

c) The shield is not connected on the transducer side

## SYSTEM OPTION & ACCESSORIES

### AN SERIES - LOAD MONITOR DISPLAY WITH INTEGRATED SIGNAL CONDITIONER



**AN Series**  
Load Monitor Display with integrated signal conditioner

The AN Series Load Monitor is designed to process and display signals coming from various types of transducers (weight, load, pressure, torque, etc.) that use standard strain-gauge bridges.

Standard features include the reading of the input variable as well as remote hold, reading and memorization of max and min values (peak / valley), tare and reset function.

### LMU 209 - LOAD MONITORING UNIT



**LMU 209** in polycarbonate housing for DIN-rail mount

The LMU209 is a versatile strain gauge amplifier, designed for signal conditioning and interfacing low level signals to programmable logic controllers (PLCs) or any control unit with analog inputs. The LMU209 features both voltage and current-type outputs. Due to its integrated DIP-switches, the amplifier can be easily configured to the desired input ranges.

This modularized amplifier is available either in polycarbonate housing for DIN-rails mount or in aluminum housing for hostile environments. All wires are connected to screw terminals.

## ORDERING INFORMATION

ORDERING NUMBER	MBB - 01 - _ N
<b>0.5, 1, 2, ..., 20</b> : Model number	

Example: MBB-01 Miniature Force Transducer, with nominal load 2N would be ordered as follows: **MBB-01-2N**.

### DATASHEET [www.magtrol.com](http://www.magtrol.com)