

# MD-01 SERIES

## FORCE TRANSDUCERS

### FEATURES

- Nominal Load: 200 N, 500 N, 1 kN, 2 kN, 5 kN, 10 kN and 20 kN
- Cost effective, high accuracy and long service reliability
- Damage-resistant (no mechanically sensitive parts)
- Resistant to chemical mediums (suitable for use in moist environments and chemical plants)
- Welded stainless steel housing
- Protection class: IP67
- Small size; ideal for space-saving applications
- Simple installation; single-screw mounting (M6)



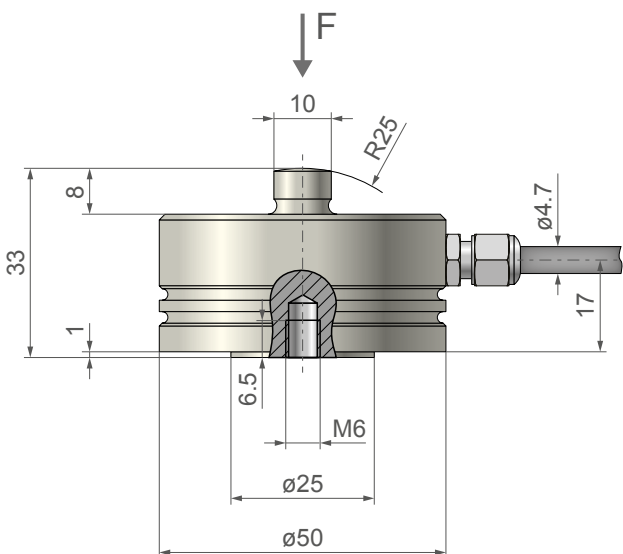
Fig. 1: MD-01 | 10kN Transducer

### DESCRIPTION

The Force Transducers MD-01 Series from Magtrol are designed for measuring static and dynamic compression loads. Using strain gauge technology, deformation of the sensing element provides an electrical signal proportional to the load or force being measured.

With quick single-screw mounting, this transducer can be easily integrated in a wide range of applications.

### DIMENSIONS



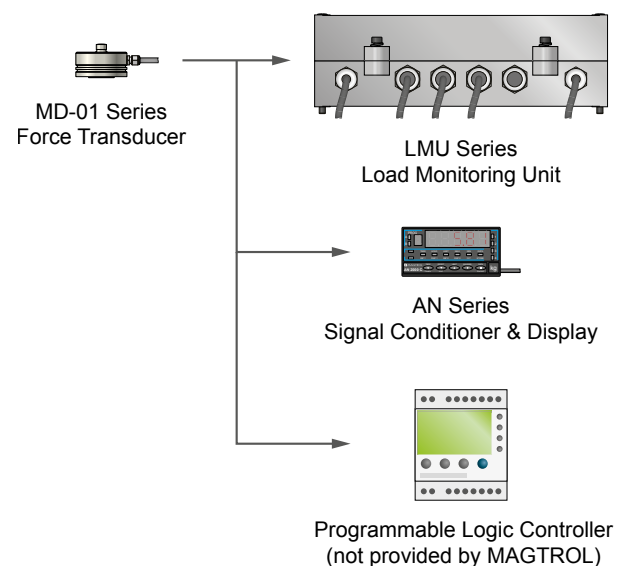
ATTENTION: Shielded connection cable is not connected on transducer body in standard version.

### APPLICATIONS

Made entirely of stainless steel, this hermetically-sealed transducer can be used anywhere without restriction.

When connected to a signal conditioner, this high-accuracy transducer is ideally suited to applications where weights have to be measured like hoppers/silos, platforms, etc.

### SYSTEM CONFIGURATION



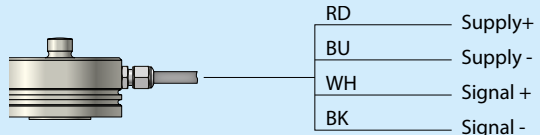
## SPECIFICATIONS

### MECHANICAL CHARACTERISTICS

Nominal Force	200 N, 500 N, 1 kN, 2 kN, 5 kN, 10 kN or 20 kN
Accuracy Class	0.2
Admissible Overload	120 %
Overload Limit	150 %
Overload at Rupture	>300 %
Maximum Dynamic Load (double amplitude)	70 %
Flexion at Nominal Force	≈0.1 mm ... 0.3 mm (depending on model)
Weight	≈0.3 kg

### ELECTRICAL CHARACTERISTICS

Nominal Sensitivity	2 mV/V ±0.5 %
Bridge Impedance: Input	350 Ω
Bridge Impedance: Output	700 Ω
Insulation Resistance	>5 x 10 <sup>9</sup> Ω
Nominal Supply Voltage	0.5 ... 10 V
Combined Error (nonlinearity + hysteresis)	<±0.2 %
Connection Cable <sup>a)</sup>	PVC Cable, length 1.5 m

Wiring diagram	
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### ENVIRONMENT

Reference Temperature	+23 °C
Operating Temperature (compensated)	-10 °C ... +60 °C
Usable Temperature Range	-40 °C ... +80 °C
Temperature Influence on Zero or Sensitivity	<±0.01 %/K
Protection Class	IP 67

a) ATTENTION, Shielded connection cable is not connected on transducer body in standard version. To ensure full EMC compatibility, additional shielding and earthing equipment is available on request.

## ORDERING INFORMATION

ORDERING NUMBER      MD-01 -    -    -    - B

**200, 500** : Model number [N]  
**1, 2, 10, 20** : Model number [kN]

Example: MD-01 Force Transducer, nominal force 500 N  
 would be ordered as: **MD-01-500-B**

MD-01 Force Transducer, nominal force 2 kN  
 would be ordered as: **MD-01-2-B**