

---

## **ZM-S Series Force Transducers**

---

### **FEATURES**

- Low assembly dimensions
- 100 N to 1 kN made of high-strength aluminium alloy
- 5 kN to 50 kN made of stainless steel
- Enclosure protection IP 65



### **DESCRIPTION**

The transducers in the ZM-S series are designed for the measurement of static and dynamic pressure forces. They are characterised by their small dimensions. The sensor element is a diaphragm body fitted with metal foil strain gauges.

The 100 N to 1 kN transducers are fitted with the help of three screw taps on a flat surface. Force, including tensile force in this range, is introduced keeping

transverse force off through the M4-type female thread using an appropriate coupling unit. The 50 kN transducers are fitted with the help of four screw taps on a flat surface. Force is introduced through the integrated calotte.

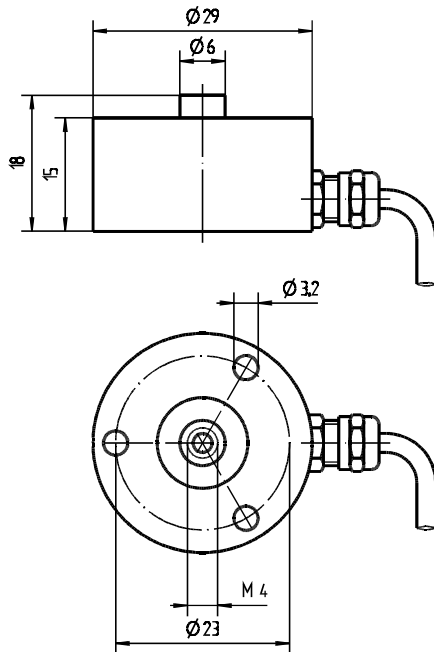
All ZM-S series transducers are supplied with a 1.5 m long connection cable with free ends as standard.

Accuracy class		1		
Nominal force ( $=F_N$ )	N kN	100/200/500 1	5/10/20	50
Max. permissible force	$\%F_N$		150	
Ultimate overload	$\%F_N$		>300	
Max. transverse force/load	$\%F_N$		20	
Reference temperature	°C		+23	
Nominal temperature range	°C		-20 to +60	
Storage temperature range	°C		-30 to +70	
Enclosure protection (DIN 40050)			IP 65	
Nominal sensitivity ( $=S$ )	mV/V	~1		~1
Zero tolerance band	$\%S$	$\leq 3$		$\leq 3$
Max. supply voltage	V	10		10
Input resistance	$\Omega$	380 $\pm$ 30		760 $\pm$ 50
Output resistance	$\Omega$	352 $\pm$ 1.5		710 $\pm$ 10
Insulation resistance	$\Omega$	$>5 \times 10^9$		$>5 \times 10^9$
Combined error				
(Linearity error and width of backlash)	$\%S$		1	
TC of zero per 10 K	$\%S$		$\leq 0.5$	
TC of sensitivity per 10 K	$\%S$		$\leq 0.5$	
Creepage error (30 min)	$\%S$		$\leq 0.5$	

## PIN CONNECTIONS

Pin	To DIN	
Supply voltage (+)	red	brown
Supply voltage (-)	blue	yellow
Measuring voltage (+)	green	green
Measuring voltage (-)	yellow	white
Shield	black	black
Cable length	1.5 m	

**ZM-S 100 N to 1 kN**

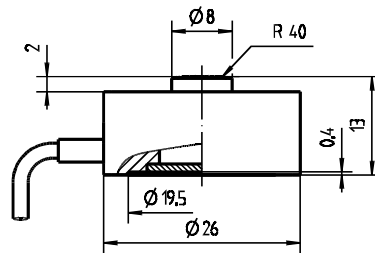


**MODELS**  
**Nominal force**

- 100 N
- 200 N
- 500 N
- 1 kN

Weight: ≈25 g

**ZM-S 5 kN to 20 kN**

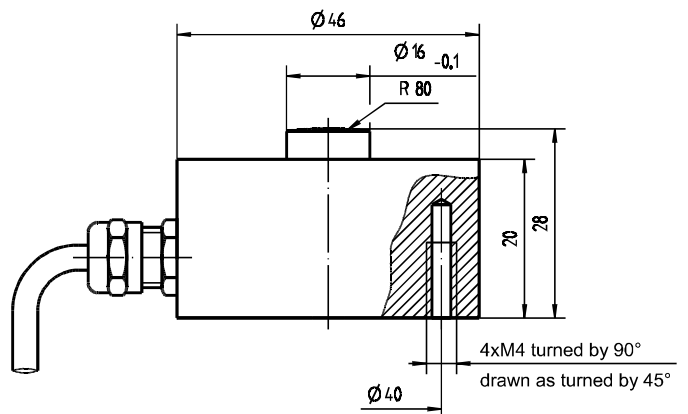


**MODELS**  
**Nominal force**

- 5 kN
- 10 kN
- 20 kN

Weight: ≈55 g

**ZM-S 50 kN**



**MODELS**  
**Nominal force**

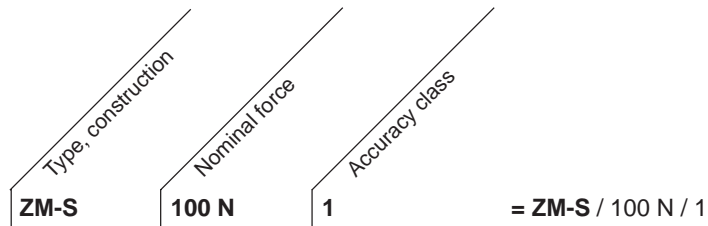
- 50 kN

Weight: ≈230 g

## ORDERING INFORMATION

Explanation of Type Code  
(Ordering Example)

for Force Transducers



## SYSTEM OPTIONS

Model No.	Product Description	Ordering Number
LMU 112	Load monitoring unit containing 2 level detectors, 1 current and 1 voltage O/Ps	224-112-000-XXX
LMU 116	Load monitoring unit containing 4 level detectors, taring and 4 summer functions	224-116-000-XXX
LMU 117	Dual channel load monitoring unit (2 x LMU 112)	224-117-000-XXX
AN 2000 C	Digital process monitor for strain gauge transducers	AN 2000 C /X/X/XX/XX/X

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



[www.magtrol.com](http://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](mailto:magtrol@magtrol.com)

### MAGTROL SA

Route de Moncor 4B  
1701 Fribourg, Switzerland  
Phone: +41 (0)26 407 3000  
Fax: +41 (0)26 407 3001  
E-mail: [magtrol@magtrol.ch](mailto:magtrol@magtrol.ch)

### Subsidiaries in:

- Germany
- France
- Great Britain

Worldwide Network  
of Sales Agents

