

Force Sensor KM29

Nominal force ranges $\pm 100\text{ N}$, $\pm 200\text{ N}$, $\pm 500\text{ N}$, $\pm 1000\text{ N}$

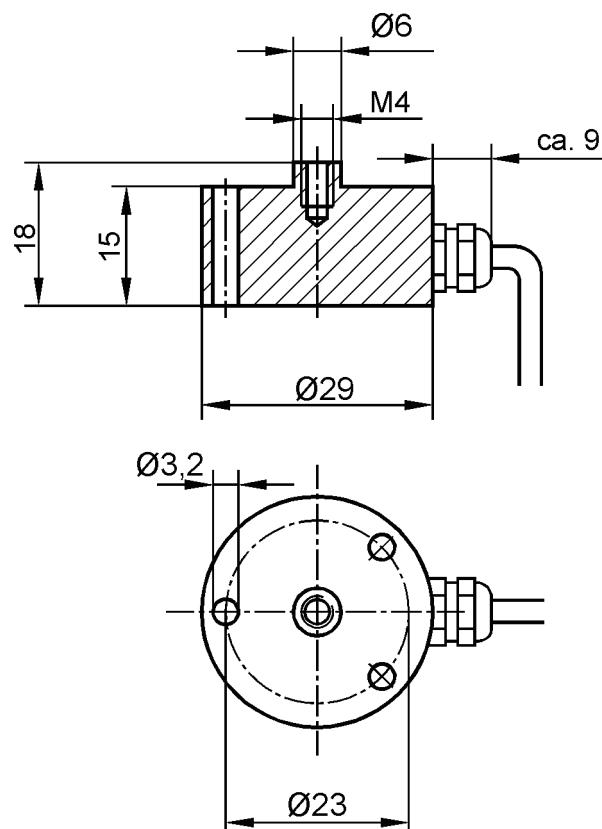
The force sensor KM 29 is a membrane force sensor with small dimensions. It is suitable for measuring tensile and compressive forces. It is fastened by means of three through-holes to an even surface. There is a thread M4 provided for the transmission of the force. The method of protection is IP 67.

In contrast to force sensors of the KD series (double beam), lateral forces result in a measurement error.

Therefore, the force transmission has to be centric and preferably via a screwed-in spherical cap.



Dimensions



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Technical Data

Force sensor Construction	Tensile / compressive Membrane	
Diameter \times Height	29 \times 18	mm \times mm
Force transmission	1 \times M4	mm
Fastening	3 \times \varnothing 3.2	mm
Material	Aluminium	
Accuracy class	1	
Nominal force F_N	100, 200, 500, 1000	N
Operating force	150	% F_N
Breaking force	300	% F_N
Limiting lateral force	20	% F_N
Nominal temperature range	-20...+60	$^{\circ}\text{C}$
Operating temperature range	-20...+70	$^{\circ}\text{C}$
Storage temperature range	-20...+70	$^{\circ}\text{C}$
Nominal output (S_N)	1.0 \pm 0.2	mV/V
Zero signal tolerance	\pm 5	% F_N
Max. supply voltage	10	V
Input resistance	380 \pm 30	Ohm
Output resistance	350 \pm 2.5	Ohm
Insulation resistance	$> 5 \cdot 10^9$	Ohm
Connection, 4 conductor open	1.5	m
Linearity error	≤ 0.2	% S_N
Backlash width	≤ 0.2	% S_N
Temperature coeff. of the zero signal	$\leq \pm 0.05$	% F_N/K
Temperature coeff. of the nominal output	$\leq \pm 0.05$	% S_N/K
Creep error (30 min)	≤ 0.5	% S_N

Pin configuration

+Us	positive bridge supply	red	brown		
-Us	negative bridge supply	blue	yellow		Shield: black
+UD	positive bridge output	green	green		
-UD	negative bridge output	yellow	white		