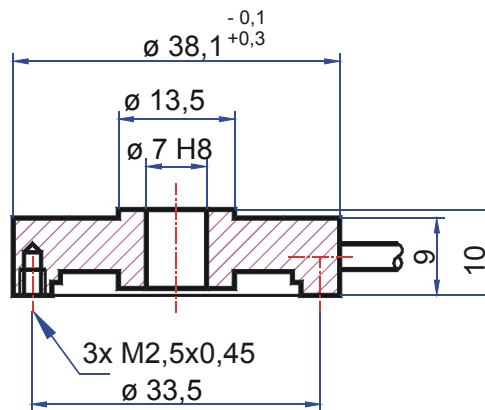


## Force sensor KM38

Nominal force ranges 1 kN, 2 kN, 5 kN, 10 kN, 20 kN



## Dimensions



## Description

The miniature force sensor KM38 is exceptionally suitable for measuring bolts' preload on account of its flat construction and its through hole.

The through hole 7mm is however also suitable for the introduction of a power transmission. With a spherical cap the power transfer can be centered and made free of lateral force .

Through the introduction of half liners or prisms these force sensors can be adapted to the measurement of rolling forces.

The three M2.5 thread holes on the bottom side permit the attachment of the sensor or the fitting of a prism.



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### Technical Data

Force sensor	compression	
Construction	membrane	
Diameter × Height	38.1 x 10	mm × mm
Force transmission	upon area $\varnothing$ 13,5 ... $\varnothing$ 7	mm
Fastening	planar support $\varnothing$ 38.1... $\varnothing$ 29	mm
Material	Special steel	
Accuracy classes	1	
<hr/>		
Nominal force $F_N$	from 1...20	kN
Nominal displacement	<0.1	mm
Operating force	150	% $F_N$
Breaking force	>300	% $F_N$
Limiting lateral force	10	% $F_N$
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Nominal temperature range	+10...+60	°C
Operating temperature range	-20...+80	°C
Storage temperature range	-40...+80	°C
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Nominal output ( $S_N$ )	$1.0 \pm 0.1\%$	mV/V
Zero signal tolerance	$\pm 10$	% $F_N$
Max. supply voltage	10	V
Input resistance	$700 \pm 50$	Ohm
Output resistance	$700 \pm 5$	Ohm
Insulation resistance	$> 5 \cdot 10^9$	Ohm
Connection, 4 conductor open	3	m
<hr/>		
Linearity error	$\ll 0.5$	% $S_N$
Backlash width	$\ll 0.1$	% $S_N$
Temperature coeff. of the zero signal	$\leq \pm 0.02$	% $F_N$ /K
Temperature coeff. of the nominal output	$\leq \pm 0.02$	% $S_N$ /K
Zero point return error (30 min)	$\ll 0.1$	% $S_N$
Creep error (30 min)	$\ll 0.1$	% $S_N$

### Pin configuration

+U <sub>s</sub>	positive bridge supply	red
-U <sub>s</sub>	negative bridge supply	black
+U <sub>D</sub>	positive bridge output	green
-U <sub>D</sub>	negative bridge output	white