

## Force Sensor KM40

Nominal force ranges 0.5, 1, 2, 5, 10 kN

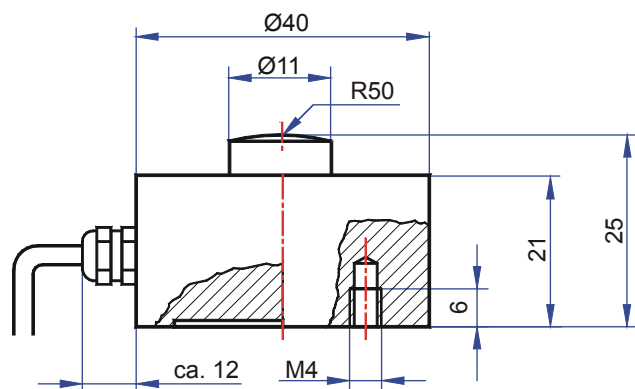
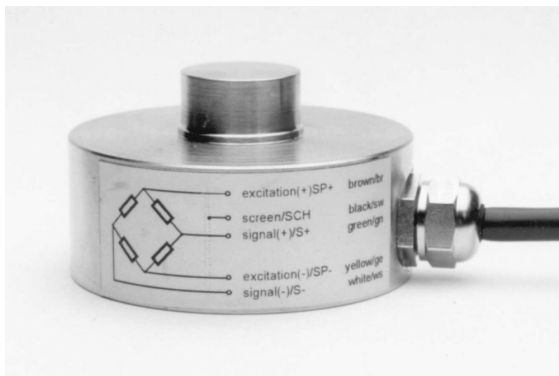
The force sensor KM 40 is a precision force sensor in membrane construction for the measurement of compressive forces. The force sensor is fastened to a flat surface with four screws M4. There is a spherical cap with a radius of 50 mm provided for the force transmission.

The method of protection is IP 67.

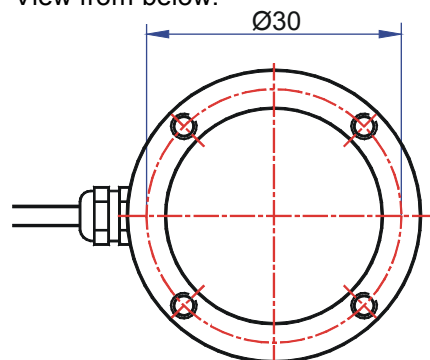
In contrast to the force sensors of the KD (double-beam) series, lateral forces result in a measurement error.

Therefore, the force transmission must be centric.

## Dimensions



View from below:



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### Technical Data

Force sensor Construction	Compressive Membrane	
Diameter × Height	40 × 25	mm × mm
Force transmission	Spherical cap Ø 11, radius 50	mm
Fastening	4 x M4	mm
Material	Special steel	
Accuracy classes	0.5 or 0.2	%
Nominal force $F_N$	0.5, 1, 2, 5 10	kN
Operating force	150	% $F_N$
Breaking force	300	% $F_N$
Limiting lateral force	20	% $F_N$
Nominal temperature range	-20...+60	°C
Operating temperature range	-20...+70	°C
Storage temperature range	-20...+70	°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	$\leq 0.2$	% $S_N$
Backlash width	$\leq 0.2$	% $S_N$
Temperature coeff. of the zero signal	$\leq \pm 0.05$	% $F_N$ /K
Temperature coeff. of the nominal output	$\leq \pm 0.02$	% $S_N$ /K
Creep error (30 min)	$\leq 0.1$	% $S_N$

### Pin configuration

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