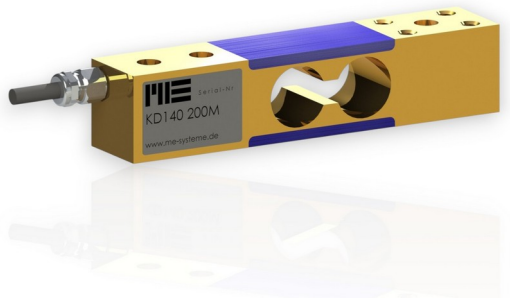
Force Sensor KD140 500N

Item number: 838



The KD140 force sensor is particularly suitable for integration in assembly and testing devices due to the low installation height and the tolerance against displacements of the force introduction and against transverse forces. The mounting can be made either via through-holes Ø8,2mm, or through 4 threaded holes M6. Due to the design of the sensor as a double beam (parallelogram guide), the force introduction point shifts parallel by approx. 0.2 mm at 100% of the nominal force.

Optional special version

- Protection class IP68: from rated force 200 N
- Temperature range: -40°C to 180°C
- Pressure range up to 8 bar
- Suitable for cleanrooms

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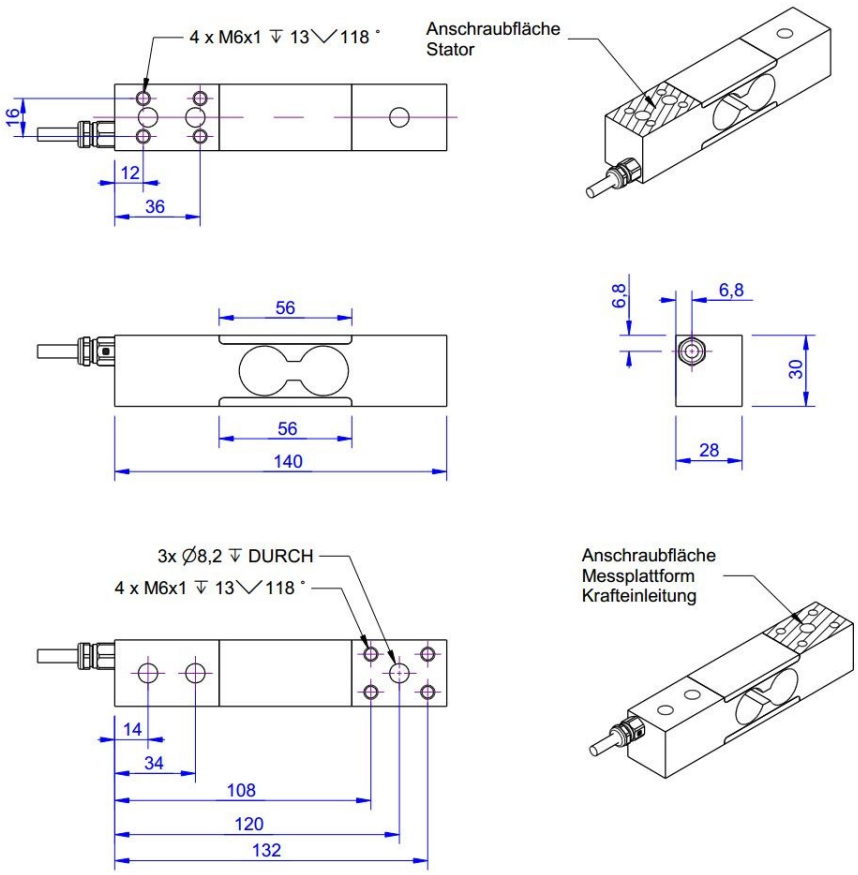
Stand: 10.04.2026

Technical Drawing



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Technical Data

Basic Data		Unit
Type	Kraftsensor	
Force direction	Tension/Compression	
Rated force Fx	500	N
Force introduction	Internal thread	
Dimension 1	4xM6	
Sensor Fastening	Internal thread	
Dimension 2	4xM6	
Operating force	150	%FS
Rated displacement	0.2	mm
Lateral force limit	500	%FS
Material	alluminum-alloy	
Surface	Eloxiert	
Natural frequency fx	1	kHz
Dimensions	140mm x 28mm x 30mm	
Height	30	mm
Length or Diameter	140	mm
Bending moment limit	50	Nm
Variants	50n... 1kN	

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Electrical Data		Unit
Input resistance	390	Ohm
Tolerance input resistance	40	Ohm
Output resistance	350	Ohm
Tolerance output resistance	3	Ohm
Insulation resistance	2x10^9	Ohm
Rated range of excitation voltage from	2.5	V
Rated range of excitation voltage to	5	V
Operating range of excitation voltage from	1	V
Operating range of excitation voltage to	10	V
Zero signal	0.05	mV/V
Rated output	2	mV/V / FS
relative error of characteristic value	0.1	%

Accuracy Data		Unit
Accuracy class	0,1	
Relative linearity error	0.02	%FS
Relative zero signal hysteresis	0.02	%FS
Temperature effect on zero signal	0.01	%FS/K
Temperature effect on characteristic value	0.01	%RD/K
Relative creep	0.05	%FS
Environmental Data		**Unit**
Rated temperature range from	-10	°C
Rated temperature range to	70	°C
Operating temperature range from	-10	°C
Operating temperature range to	85	°C
Storage temperature range from	-10	°C
Storage temperature range to	85	°C
Environmental protection	IP67	

Abbreviation: RD: „Reading“; FS: „Full Scale“;1) The exact characteristic value is indicated in the test report.

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Pin Assignment

Channel	Symbol	Description	Wire color	PIN
	+Us	positive bridge supply	brown	
	-Us	negative bridge supply	white	
	+Ud	positive bridge output	green	
	-Ud	negative bridge output	yellow	

Pressure load: positive output signal.
Shield- transparent.

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