

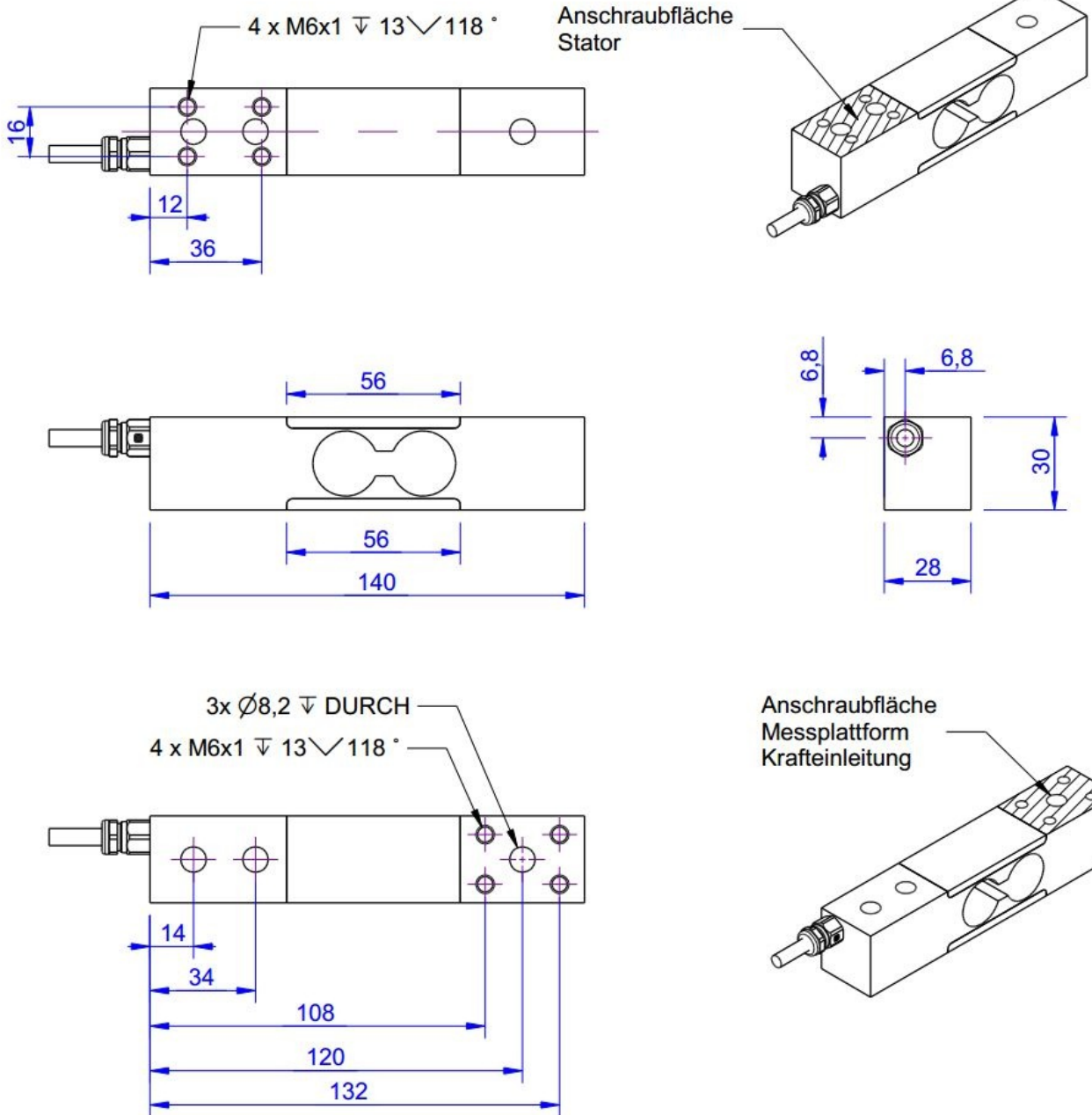
KD140 $\pm 50\text{N}$, $\pm 100\text{N}$, $\pm 200\text{N}$, $\pm 500\text{N}$, $\pm 1000\text{N}$



Description

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 $\varnothing 8,2\text{mm}$, 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.

Dimensions



Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Force introduction	Inner thread
Dimension 1	4xM6
Sensor Fastening	Inner thread
Dimension 2	4xM6
Operating force	150 %FS
Rated displacement	0.2 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Surface	anodised
Natural frequency	2 kHz
Height	30 mm
Length or Diameter	140 mm

Electrical Data

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 f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	2 mV/V / FS
relative error of characteristic value	0.1 %

Precision

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

Connection Data

Connection type	4 conductor open
Name of the connection	Unitronic FD CP Plus / 4x0,14
Cable length	3 m

Temperature

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C



Environmental protection

IP67

Abbreviation : RD: „Reading“; FS: „Full Scale“;

1) The exact nominal sensitivity is indicated in the test report.







Pin Configuration

Symbol	Description	Wire colour
+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.

accessories

	Description	Description
	Calibration Certificate kn/20/5	Factory calibration certificate for force to 20 kN in accordance with DIN EN ISO / IEC 17025 for test materials monitoring according to DIN ISO 9001: 2008 with 5 load levels and 3 series of measurements.
	GSV-1H	Measuring amplifier in top-hat rail housing for sensors with strain gauges. Analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0mV/V.
	GSV-1A	Measuring amplifier in aluminum housing (IP66) for sensors with strain gauges. two round plugs M12, analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0 mV/V.
	GSV-6K	analog amplifier pcb for sensors with strain gauges. Analog output configurable; sampling frequency is 10Hz ... 25kHz, input sensitivity adjustable 0.1 mV / V ... 8 mV / V