

Force sensor KD140

Nominal force ranges $\pm 50\text{N}$, $\pm 100\text{N}$, $\pm 200\text{N}$, $\pm 500\text{N}$, $\pm 1000\text{N}$

Technical Data

Force sensor	Tension / compression					
Construction	Double bending beam					
Length × Width × Height	140 × 30 × 30					mm × mm × mm
Force transmission	1 × \varnothing 8.2 / 4 × M6					mm
Fastening	2 × \varnothing 8.2 / 4 × M6					mm
Material	Aluminum					
Accuracy class	0.1					
Nominal force (F_N)	50	100	200	500	1000	N
Nominal displacement	0.5	0.25	0.125	0.05	0.025	mm
Operating force	150					% F_N
Breaking force	>300					% F_N
Maximum lateral force	10					% F_N
Nominal temperature range	+10...+60					°C
Operating temperature range	-20...+80					°C
Storage temperature range	-40...+80					°C
Nominal output (S_N)	2.0 ± 0.1%					mV/V
Zero signal tolerance	±5					% F_N
Max. supply voltage	10					V
Input resistance	415 ± 10					Ohm
Output resistance	350 ± 1.5					Ohm
Insulation resistance	> 5 · 10 ⁹					Ohm
Connection, 6 conductor	2					m
Linearity error	<< 0.1					% S_N
Reversal error	<< 0.1					% S_N
Temperature coeff. of the zero signal	≤ ± 0.005					% F_N / K
Temp. coeff. of the nominal output	≤ ± 0.01					% S_N / K
Zero point return error (30 min)	≤ 0.1					% S_N
Creep error (30 min)	≤ 0.1					% S_N

Pin configuration

+Us	positive bridge supply	brown
-Us	negative bridge supply	white
+UD	positive bridge output	green
-UD	negative bridge output	yellow
+UF	positive sensor wire	pink
-UF	negative sensor wire	gray