

Force Sensor KD45

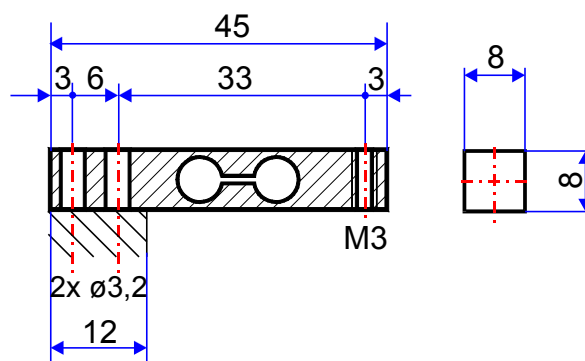
Nominal force ranges ± 2 N, ± 5 N, ± 10 N, ± 20 N

The force sensor KD45 has the geometry of a miniature load cell. It is fastened on one side using the through holes $\varnothing 3.2$. There is a thread M3 for force transmission. Force transmission is displaced parallel under loading. The force sensor tolerates displacements of force transmission and lateral forces due to its design as a double-beam.

The force sensor KD45 is designed as a multi-range sensor. The accuracy of 0.1% is already reached at a nominal output of 0.5mV/V. This means that the zero point stability is 4 times higher than in a sensor with nominal output of 2mV/V. The KD60 force sensor can be used up to an output signal of 2mV/V or up to four times the specified nominal force.



Dimensions



Pin configuration

+Us	positive bridge supply	red
-Us	negative bridge supply	black
+U _D	positive bridge output	green
-U _D	negative bridge output	white



Force sensor KD45

Nominal force ranges ± 2 N, ± 5 N, ± 10 N, ± 20 N

Technical Data

Force sensor	Tension / compression				
Construction	Double bending beam				
Length × Width × Height	45 × 8 × 8				mm × mm × mm
Force transmission	1 × M3				mm
Fastening	2 × Ø3.2				mm
Material	Aluminum				
Accuracy class	0.1				
Nominal force (F_N)	2	5	10	20	N
Nominal displacement	0.048	0.032	0.024	0.020	mm
Operating force	8	20	40	80	N
Breaking force	20	60	130	280	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)	0.5 ± 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, 4 conductor	1				m
Linearity error	≤ 0.1				% S_N
Reversal error	≤ 0.1				% S_N
Temperature coeff. of the zero signal	≤ ± 0.02				% F_N /K
Temperature 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