

S2

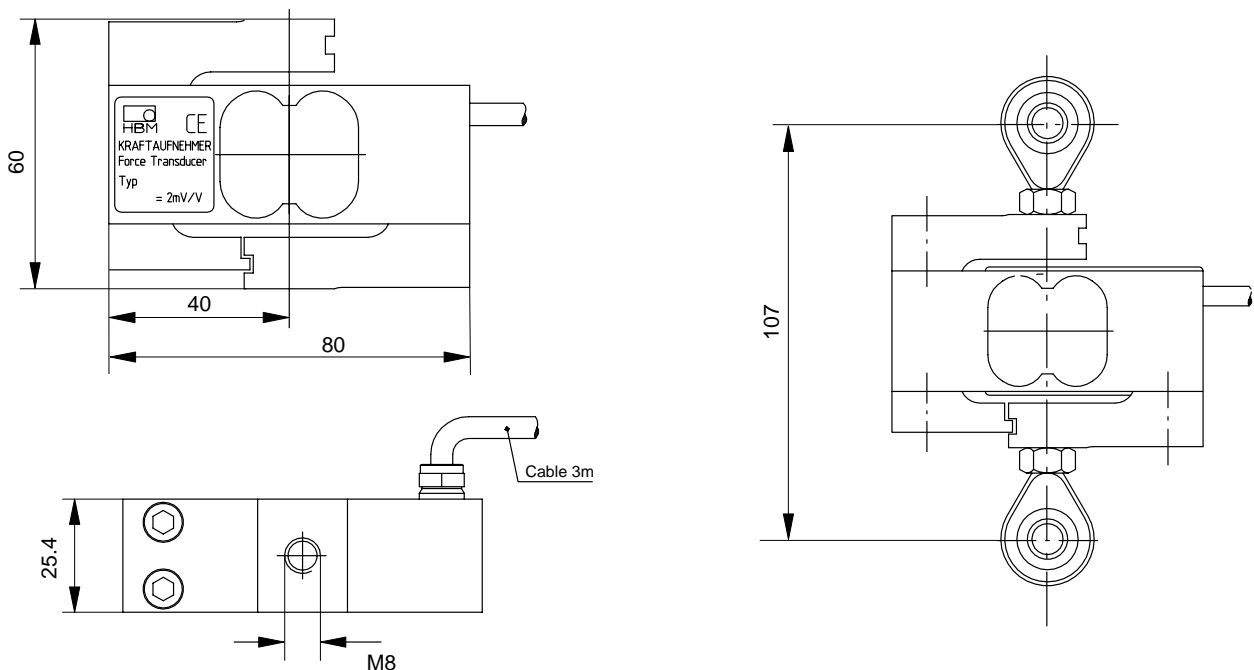
Force Transducers



Special features

- Tensile force / compressive
- Nominal forces 20 N ... 1 kN
- Accuracy class 0.05
- High transverse force stability
- Overload protection
- Low overall height

Dimensions (in mm; 1 mm= 0.03937 inches)



Specifications under VDI 2638

Force transducer type		S2							
Nominal force	F _{nom}	N	20	50	100	200	500	1000	
Accuracy class			0.05						
Nominal sensitivity		C _{nom}	mV/V		2				
relative sensitivity deviation tensile/compressive force		d _c	%		± 0.25				
relative tensile/compressive sensitivity difference		d _{zd}	%		< ± 0.1				
relative deviation from zero		d _{s,0}	%		< 8	< 6	< 5		
Relative range of inversion (0.2F _{nom} to F _{nom})		u	%		0.1				
Linearity deviation		d _{lin}	%		0.05				
Temperature effect per 10 K by reference to nominal sensitivity to sensitivity to zero signal		TK _C	%		0.05				
		TK _c	%		0.05				
Effect of transverse forces (transverse force 10 % F _{nom}) ^{*)}		d _Q	%		± 0.1				
Effect of eccentricity at 1 mm		d _E	%		± 0.1				
Creep over 30 min		d _{crF+E}	%		< ± 0.05				
Input resistance		R _e	Ω		> 345				
Output resistance		R _a	Ω		300 – 500				
Isolation resistance		R _{is}	GΩ		> 2x10 ⁹				
Reference excitation voltage		t _{ref}	V		5				
Operating range of the excitation voltage		B _{U,G,T}	V		0.5...12				
Nominal temperature range		B _{t,nom}	°C [°F]		+10...+70 [50...158]				
Operating temperature range		B _{t,G}	°C [°F]		-10...+70 [14...158]				
Storage temperature range		B _{t,S}	°C [°F]		-30...+85 [-22...185]				
Reference temperature		t _{ref}	°C [°F]		+23 [73.4]				
Maximum operating force		(F _G)	%		120	120	150		
Limit force		(F _L)	%		< 900			< 600	< 300
Breaking force		(F _B)	%		> 1000			> 700	> 400
Limit torque		(M _d)	Nm		0.6	1.5	3	6	15
Static lateral limit force [*]		(F _Q)	%		50	100			50
Nominal displacement		S _{nom}	mm		< 0.4				
Fundamental resonance frequency		f _G	kHz		0.29	0.49	0.76	1.09	1.81
Relative permissible vibrational stress		F _{rb}	%		± 70				
Weight			kg		approx. 0.4				
Degree of protection to DIN EN 60529					IP65				
Cable length, 6-wire connection			m		3				

^{*)} by reference to a force introduction point on the force-introduction surface

Accessories(option):

<p>Knuckle eye U1/200 kg/ZGW: Dimensions (in mm)</p>		<p>Weight: 50 g Material: tempering steel, galvanised; rolled steel and PTFE/bronze fabric foil</p>
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