

S9M

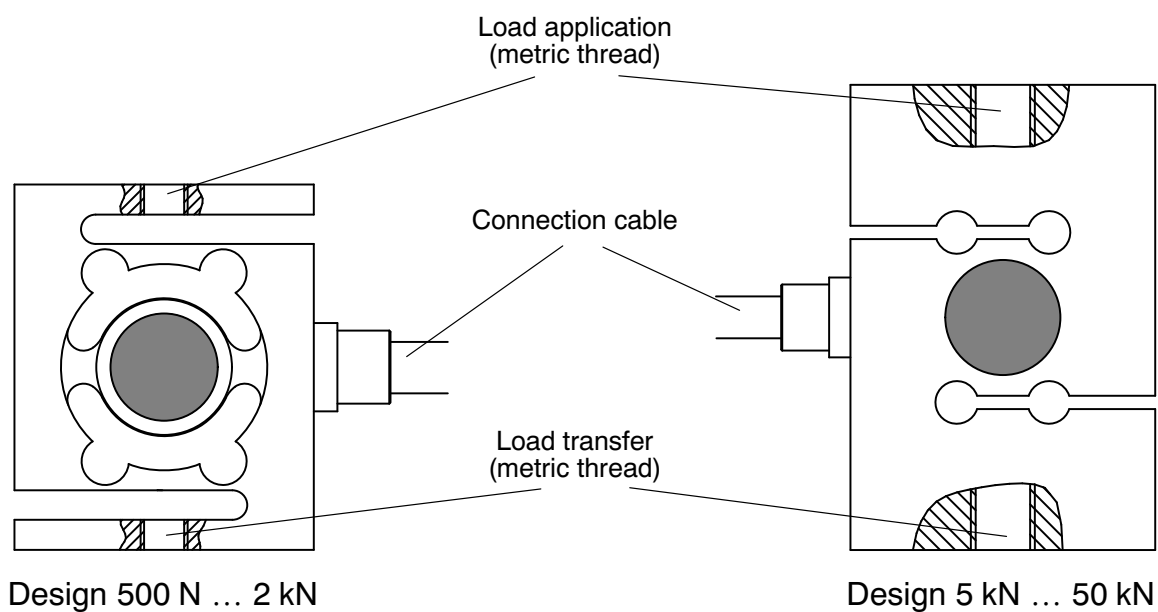
Force
transducer



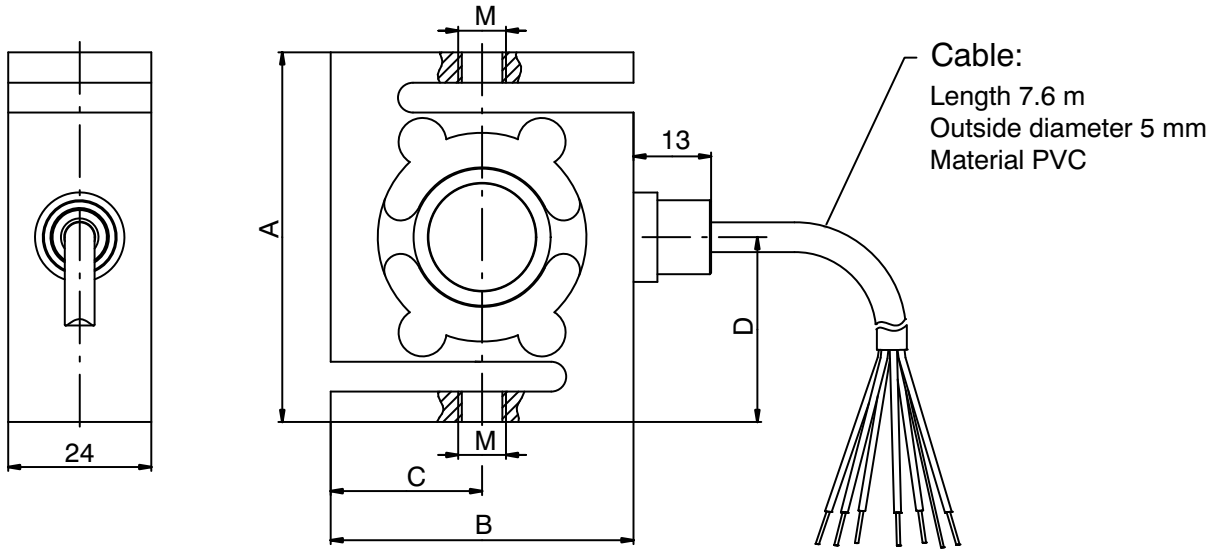
Special features

- Tensile/compressive force transducer
- Nominal (rated) forces: 500 N ... 50 kN
- Hermetically encapsulated (IP68)
- Rust-resistant materials
- Accuracy class 0.02
- Six-wire circuit
- High lateral force stability

S9M force transducer principle

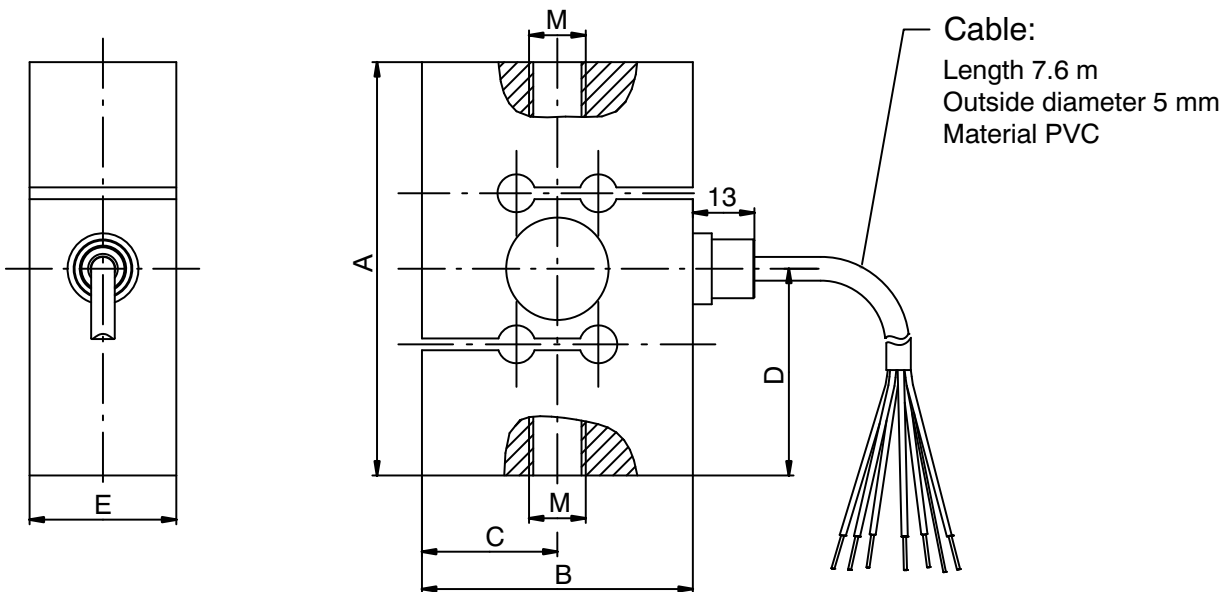


Dimensions (in mm; 1 mm = 0.03937 inches)



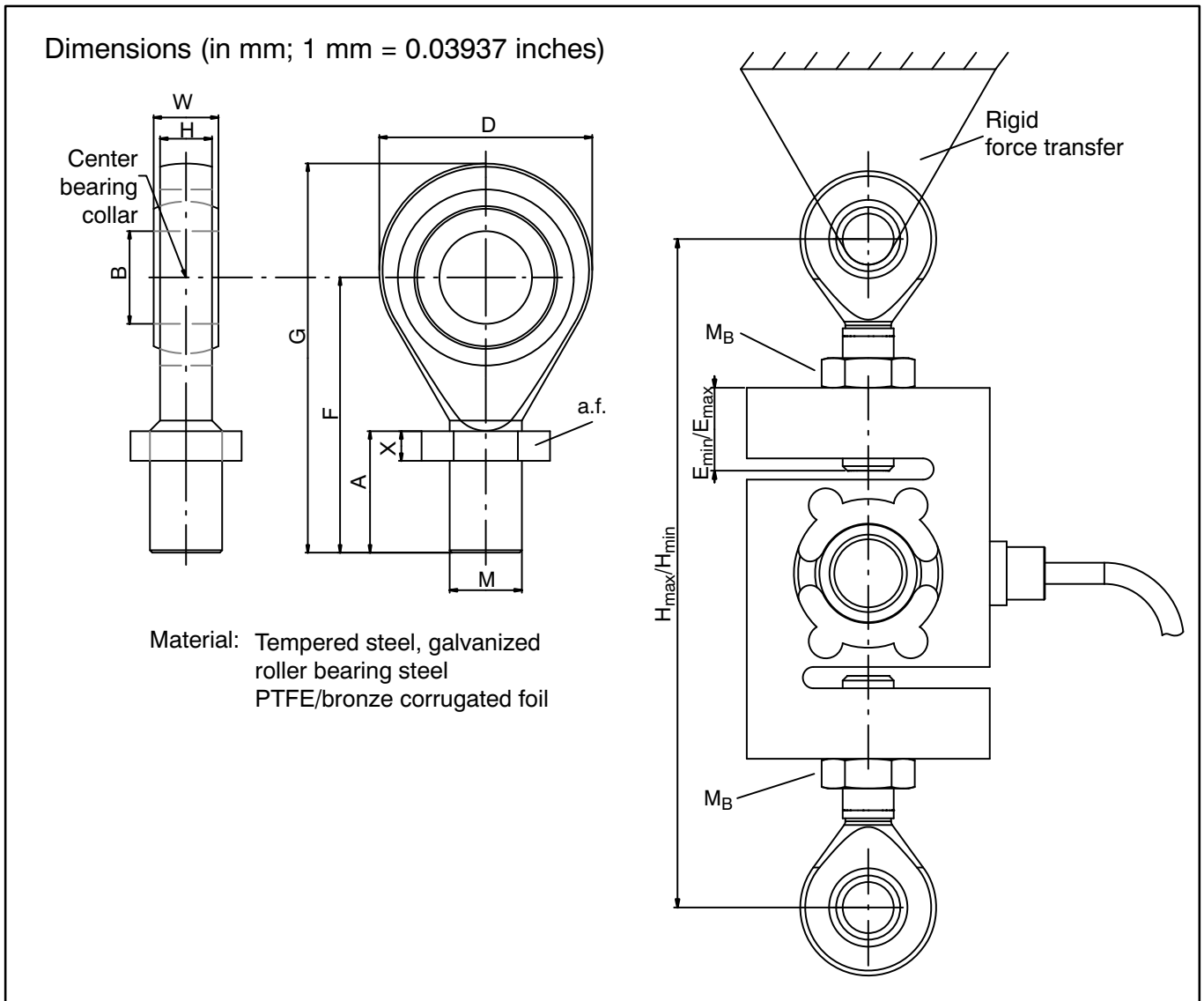
Type	A	B	C	D	M
S9M/500 N	62	50.8	25.4	31	M8
S9M/1 kN	62	50.8	25.4	31	M8
S9M/2 kN	87.3	57.2	28.6	43.7	M12

Dimensions (in mm; 1 mm = 0.03937 inches)



Type	A	B	C	D	E	M
S9M/5 kN	87.3	57.2	28.6	43.7	31	M12
S9M/10 kN	87.3	57.2	28.6	43.7	31	M12
S9M/20 kN	100	69.8	34.9	50	31	M24x2
S9M/50 kN	100	76.2	38.1	50	36.5	M24x2

Mounting accessories (to be ordered separately):



Nominal (rated) force	Knuckle eye	Weight (kg)	A	ØB H7	D	F	G	H	M	W	X	a.f.
0.5 kN ... 1 kN	1-U1R/200KG/ZGW	0.05	15	8	24	32	44	9	M8	12	6.5	13
2 kN ... 10 kN	1-U2A/1T/ZGUW	0.1	33.5	12	32	54.5	70.5	12	M12	16	7	19
20 kN ... 50 kN	1-U2A/5T/ZGUW	0.4	57.5	25	60	94.5	124.5	22	M24x2	31	10	36

Nominal (rated) force	Knuckle eye	H _{min}	H _{max}	E _{min}	E _{max}	M _B (N·m)
0.5 kN	1-U1R/200KG/ZGW	110	118	4	8	15
1 kN	1-U1R/200KG/ZGW	110	118	4	8	15
2 kN	1-U2A/1T/ZGUW	156	174	11	20	50
5 kN	1-U2A/1T/ZGUW	158	174	11	19	50
10 kN	1-U2A/1T/ZGUW	158	174	11	19	50
20 kN	1-U2A/5T/ZGUW	231	263	13	29	200
50 kN	1-U2A/5T/ZGUW	241	265	12	24	500

Specifications (data per VDI/VDE 2638 standards)

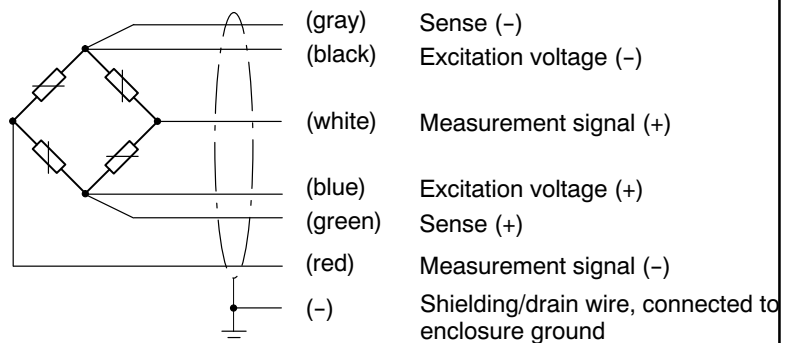
Type	S9M							
Accuracy class	0.02							
Nominal (rated) force (F_{nom})	kN	0.5	1	2	5	10	20	50
Nominal (rated) sensitivity (C_{nom})	mV/V	2						
Relative sensitivity error (tensile/compressive (d_c))	%	< ±0.25						
Relative sensitivity variation tensile/compressive (d_{zd})	%	< ±0.1						
Relative zero signal compensation ($d_{s,o}$)	%	< 5						
Relative reversibility error 0.2 F_{nom} ... F_{nom} (u)	%	0.02						
Linearity error (d_{lin})	%	0.02						
Temperature coefficient of sensitivity (TK_C)	% / 10 K	0.02						
Temperature coefficient of zero signal (TK_0)	% / 10 K	0.02						
Relative creep over 30 min. (d_{crf+E})	%	± 0.02						
Effect of lateral forces (lateral force 10% F_{nom}) ¹⁾ (d_Q)	%	± 1						
Input resistance (R_e) (nominal)	Ω	389 ± 15						
Output resistance (R_a)	Ω	350 ± 1.5						
Insulation resistance (R_{iso})	G Ω /100 V	> 2						
Reference excitation voltage (U_{ref})	V	5						
Nominal supply voltage range ($B_{U,GT}$)		0.5 ... 12						
Nominal ambient temperature range ($B_{T,nom}$)		-10 ... +70						
Operating temperature range ($B_{t,G}$)	°C	-30 ... +85						
Storage temperature range ($B_{t,S}$)	°C	-30 ... +85						
Reference temperature (t_{ref})		22						
Maximal operating force (F_G)		150						
Limit force (F_L)	%	150						
Breaking force (F_B)		200		300			200	
Limit torque (M_D)	Nm	25		50		90		150
Static lateral limit force ¹⁾ (F_Q)	%	10						
Nominal (rated) displacement at nominal (rated) force (s_{nom}), ± 0.05 mm	mm	0.35	0.4	0.35	0.1	0.2	0.2	0.4
Fundamental resonance frequency (f_G)	kHz	0.6	0.9	1	1.7	2.1	2.3	2.5
Relative perm. vibrational stress (F_{rb})	%	100						
Weight	kg	0.7		1	1.4		1.7	2.2
Degree of protection per EN 60 529 (IEC 529)		IP 68 (test conditions 1 m water column / 100 h)						
Cable length, six-wire circuitry		Standard 7.6 m						
Material:	Measuring body Screwed cable gland Cable sheath	Stainless Steel ²⁾ Stainless steel / Neoprene PVC						

1) Relative to a point of contact on the force application surface.

2) Per EN 10088-1.

Cable assignment (6-wire circuitry)

With this cable assignment, the output voltage at the measuring amplifier is positive in the pressure direction when the transducer is loaded.



Modifications reserved.

All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability and do not constitute any liability whatsoever.

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