

S9M

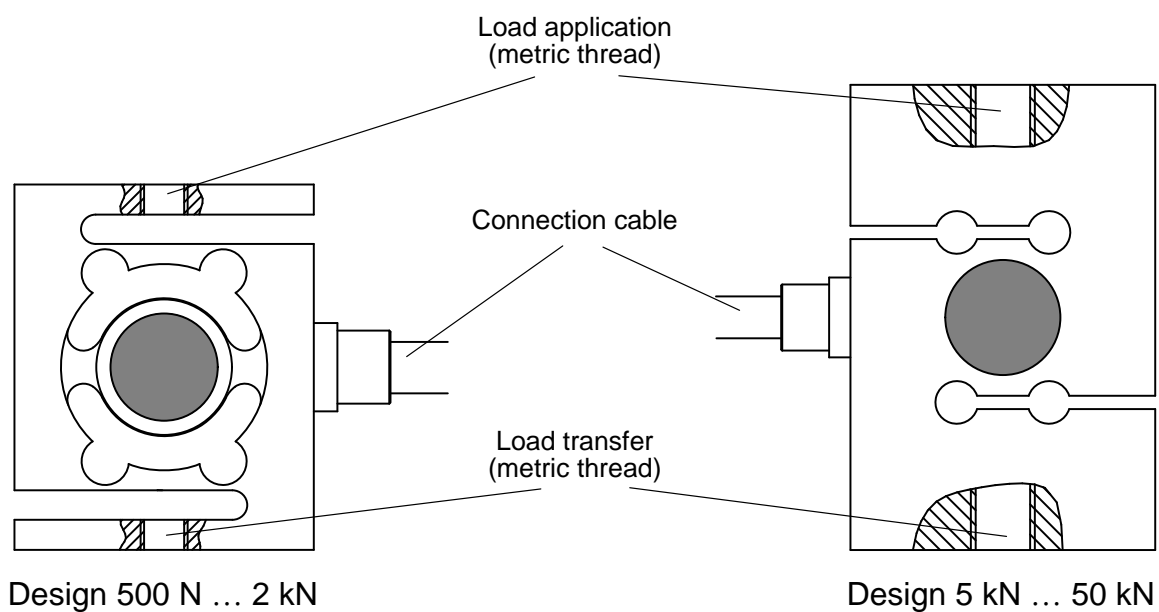
Force
transducer



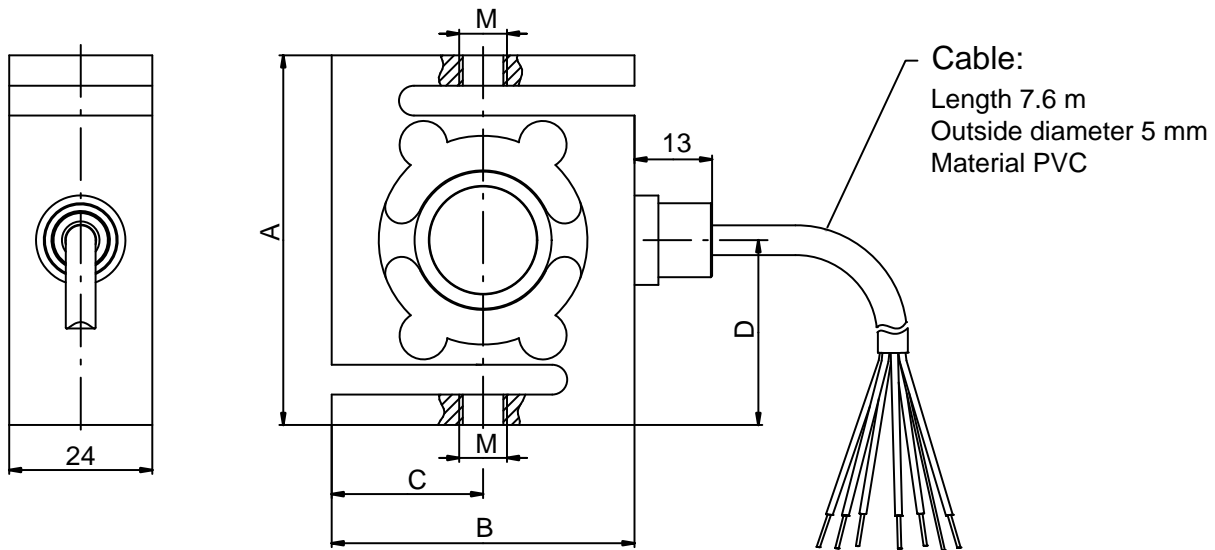
Special features

- 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

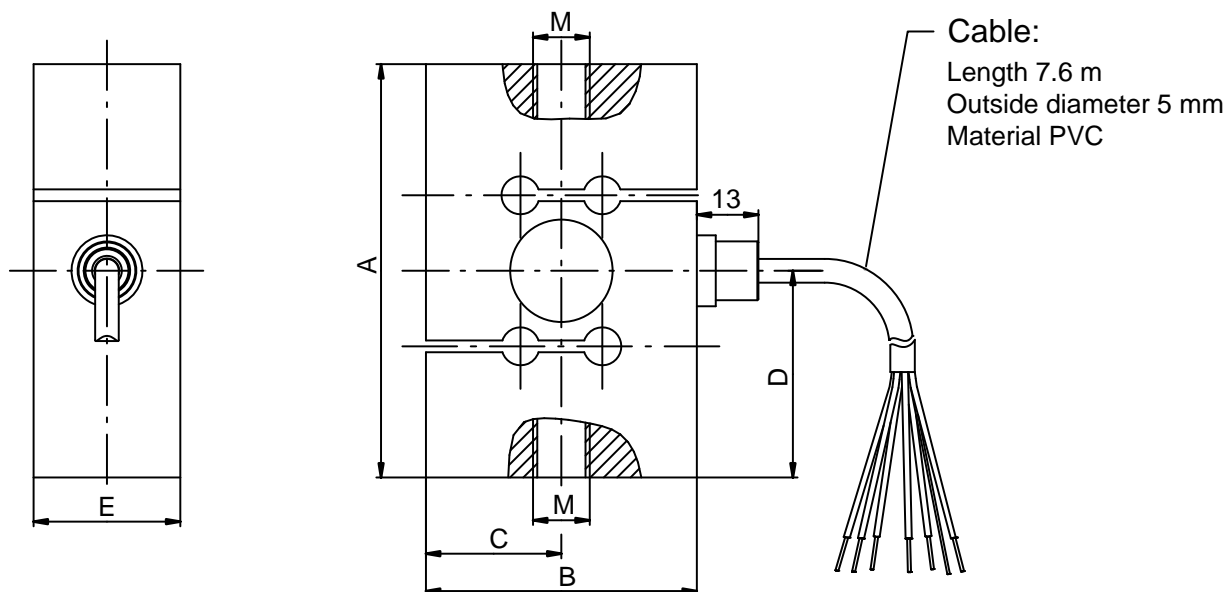


Dimensions (in mm; 1 mm = 0.03937 inches)



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

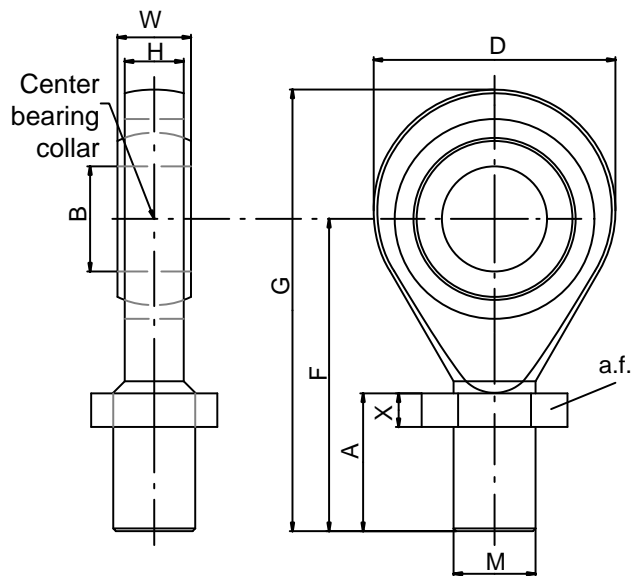
Dimensions (in mm; 1 mm = 0.03937 inches)



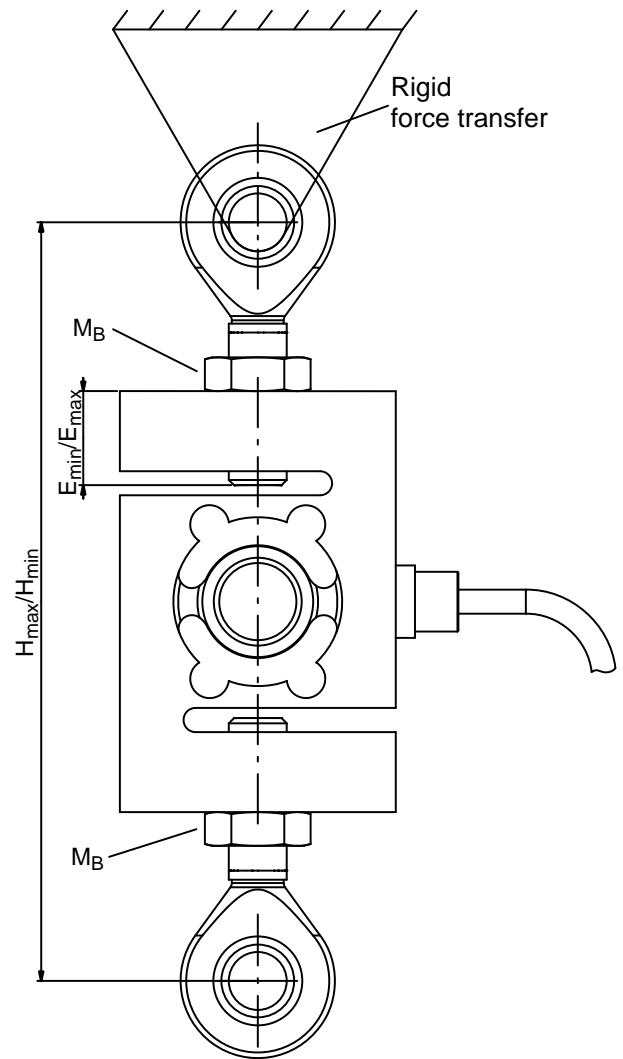
Type	A	B	C	D	E	M
S9M/5 kN	87.3	57.2	28.6	43.7	31	M12
S9M/10 kN	87.3	57.2	28.6	43.7	31	M12
S9M/20 kN	100	69.8	34.9	50	31	M24x2
S9M/50 kN	100	76.2	38.1	50	36.5	M24x2

Mounting accessories (to be ordered separately):

Dimensions (in mm; 1 mm = 0.03937 inches)



Material: Tempered steel, galvanized
roller bearing steel
PTFE/bronze corrugated foil



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	109	118	4	8	15
1 kN	1-U1R/200KG/ZGW	109	118	4	8	15
2 kN	1-U2A/1T/ZGUW	155	172	11	20	50
5 kN	1-U2A/1T/ZGUW	157	172	11	19	50
10 kN	1-U2A/1T/ZGUW	157	172	11	19	50
20 kN	1-U2A/5T/ZGUW	229	260	13	29	200
50 kN	1-U2A/5T/ZGUW	240	263	12	19	500

Specifications (data per VDI/VDE 2638 standards)

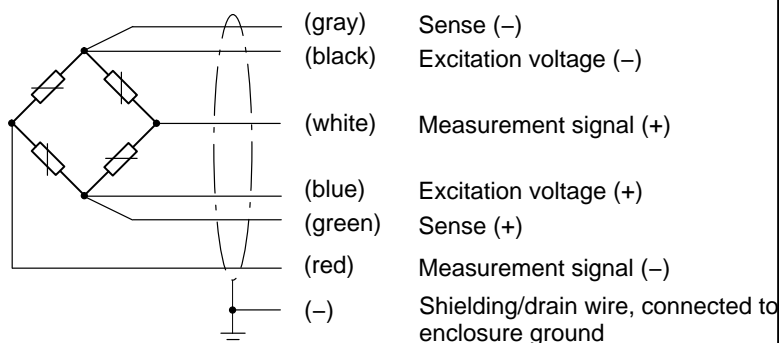
Type		S9M							
Accuracy class		0.02							
Nominal (rated) force (F _{nom})	kN	0.5	1	2	5	10	20	50	
Nominal (rated) sensitivity (C _{nom})	mV/V	2							
Relative sensitivity error (tensile/compressive (d _c))	%	< ±0.25							
Relative sensitivity variation tensile/compressive (d _{zd})	%	< ±0.1							
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)		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)		359 ± 1.5							
Insulation resistance (R _{iso})	GΩ/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})	°C	−10 ... +70							
Operating temperature range (B _{t,G})		−30 ... +85							
Storage temperature range (B _{t,S})		−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							70
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	Stainless Steel ²⁾							
	Screwed cable gland	Stainless steel / Neoprene							
	Cable sheath	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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