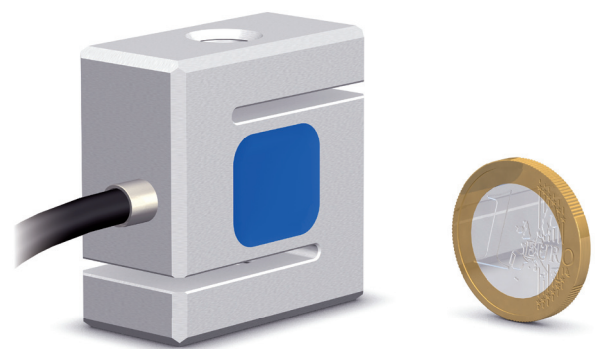


Miniature shear force load cell

SW 1.X



Designed,
developed and
made in Germany

For tension and compression loads
Measurement ranges from 100 N to 5 kN

Load and force measurement
Crane scales, dynamometers

These miniature shear force load cells are very small and have high reliability and accuracy. In many applications where space is limited, their small size is extremely valuable.

Insensitivity to transverse forces is a decisive advantage of the shear force measuring principle.

The S-shaped weighing cells are symmetrical, and are readily integrated into a load path using the two tapped holes in the centre of the mounting surfaces.

Where the measurement signal must be transmitted over a long distance, an optional external measuring amplifier can be connected to the sensor.

Technical data

Type	SW 1.01	SW 1.02	SW 1.0	SW 1.1	SW 1.2	SW 1.3	SW 1.4
Nominal load	100 N	200 N	500 N	1000 N	2000 N	3000 N	5000 N
Output signal	≈ 2 mV/V						
Power supply U_b	< 10 V						
Dimensions	L 40 mm x W 28 mm x H 40 mm		L 40 mm x W 20 mm x H 40 mm				
Thread	M6 – 8 deep		M8 – 8 deep		M10 – 8 deep		
Material	Aluminium					Steel	
Gewicht (without cable)	0.1 kg					0.2 kg	
Maximum working load*	1.2 x nominal load						
Limit load*	1.5 x nominal load						
Breaking load*	> 3 x nominal load						
Accuracy under tension or compression	±0.5% f.s.**		±0.25% f.s.**				
Reference temperature	20°C						
Nominal temperature range	–5°C to +50°C						
Working temperature range	–30°C to +70°C						
Temperature coefficient of gain	< 0.1% f.s.**/10K					< 0.2% f.s.**/10 K	
Temperature coefficient of zero	< 0.2% f.s.**/10K						
Input bridge resistor	400 Ω						
Output bridge resistor	350 Ω						
Insulation resistance	> 1 GΩ						
Max. power consumption	40 mA						
Electrical protection	Reverse voltage, overvoltage and short circuit protection						
Cable type	Spiral cable Unitronic LiYD11Y, 4 x 0.14 mm ² , length 0.5 m (extended 4 m)						
Connection	U_b : BN Signal+: GN GND: WH Signal–: YE						
Nominal deflection	< 0.2 mm						
Degree of protection	IP 67						

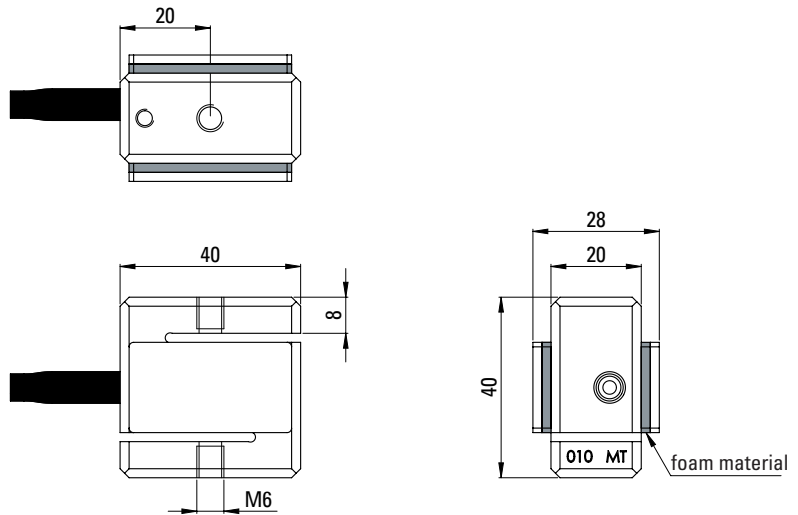
* The sum of the dynamic and static load is decisive

** f.s. = full scale value

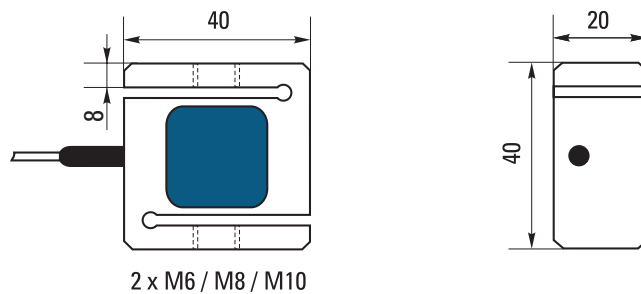
Dimensions

in mm

SW 1.01
 SW 1.02



SW 1.0 - SW 1.4



2 x M6 / M8 / M10

Optionen

- » External measuring amplifier
- » Mechanical overload protection for compressive forces
- » Accessories: spherical rod ends and eyebolts