Shear force transducer

Suitable for vehicle weighers, platform scales, theatre technics, hoppers and other electronic weighing devices

Characteristics

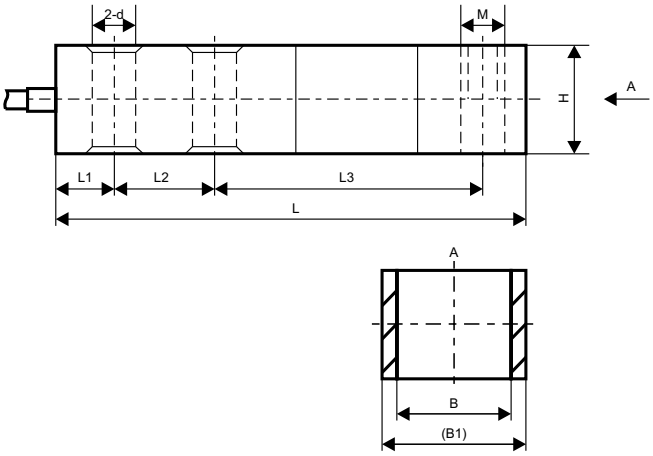
- **Rated load 500...5000 kg**
- **Output 3 mV/V**
- **Supply voltage 10 VDC**
- **Accuracy +/- 0,02 % of end-scale value**
- **Degree of protection IP67**
- **Highly accurate and reliable**
- **Superior cost - performance ratio**

Description

The force transducer is based on the principle of shear beam measuring. Fixed at one end,the DMS fullbridge which is installed in the load cell collects the shear forces developed by strain. Thereby forces of pressure and tractive power can be recorded with high accuracy. The advantages of this measuring principle are the - for this high strain - very compact design and the great mechanical insensivity to lateral acted forces.

The load cells are made of high-alloyed tool steel and give highest resistance against shock and overload. For installation at the case various components for discharge of force (fixed pin, adjustable pin or load button) are available.

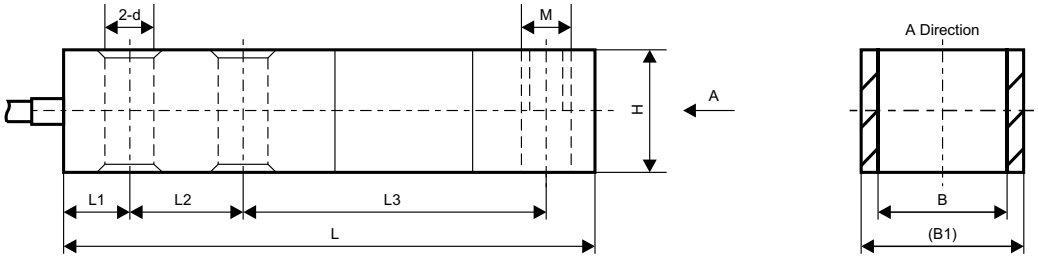
Due to the excellent moisture-proof, the force transducers are suitable for use in humid ambiences (degree of protection IP67).



Technical Data

Input	Measurement ranges:	0 - 500, 1000, 1500, 2000, 2500, 3000, 5000 kg
	Input resistance:	400 Ohm +/- 30 Ohm
	Insulation resistance:	$\geq 5 \times 10^9$ (50 V DC)
	Overload:	Safe overload max. 120 % of end-scale value Ultimate overload max. 150 % of end-scale value
	Discharge of force:	none - optional with fixed pin, adjustable pin or load button
Output	Output sensitivity:	3 mV/V +/- 0,01 %
	Output resistance:	350 Ohm +/- 3 Ohm
Accuracy	Linearity:	+/- 0,02 % of end-scale value
	Hysteresis:	+/- 0,02 % of end-scale value
	Repeatability:	+/- 0,02 % of end-scale value
	Creep:	+/- 0,02 % of end-scale value
	Temperature coefficient SPAN:	+/- 0,02 % of end-scale value / 10 °C
	Temperature coefficient ZERO:	+/- 0,02 % of end-scale value / 10 °C
	Zero balance:	+/- 1 % of end-scale value
Power supply	Recommended excitation:	10 VDC
	Permitted excitation:	6 ~ 18 V AC / DC
Ambient conditions	Compensated temperature:	- 10 to + 55 °C
	Operating temperature:	- 20 to + 65 °C
Dimensions	Material of case:	High alloy tool steel, nickel plated
	Degree of protection:	IP 67
	Weight:	500/1000/1500/2000 kg : approx. 1,0 kg 2500/3000/5000 kg : approx. 1,6 kg
	Terminals:	6 m terminal cable, shielded, with polyurethane drain wire +Input (red) / -Input (black) / +Output (green) / -Output (white)

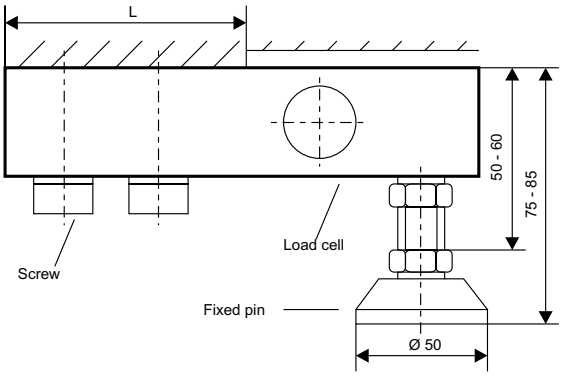
Dimensions



Measurement ranges	Size (mm)								
	L	L1	L2	L3	H	B	B1	d	M
500 - 2000 kg	130	15,8	25,4	76,2	31,8	31,8	37,8	Ø 13,5	M12 x 1,75
2500 - 5000 kg	171,5	19,1	38,1	95,3	38,1	38,1	44,1	Ø 19,8	M18 x 1,50

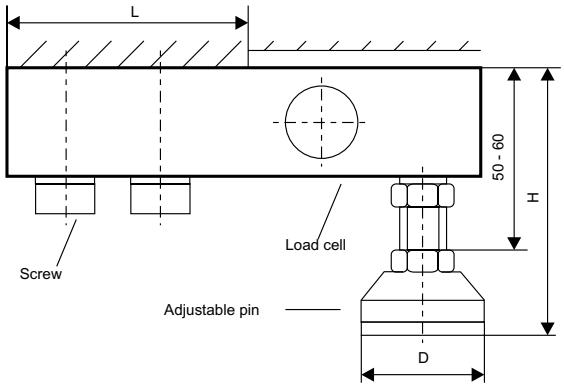
Mounting devices

Fixed pin



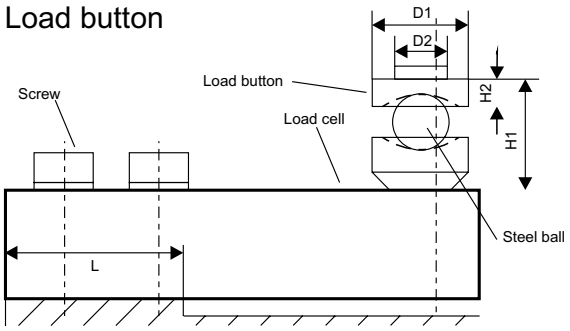
Measurement range	Size (mm)
	L
500 - 2000 kg	50 - 53
2500 - 5000 kg	70 - 75

Adjustable pin



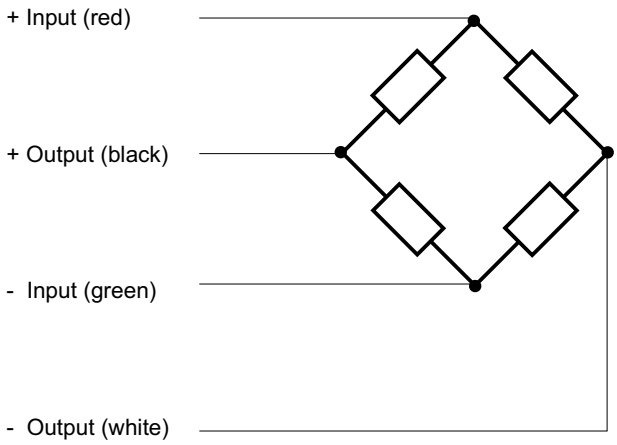
Measurement range	Size (mm)		
	D	H	L
500 - 2000 kg	Ø 50	85 - 95	50 - 53
2500 - 5000 kg	Ø 70	100 - 110	70 - 75

Load button

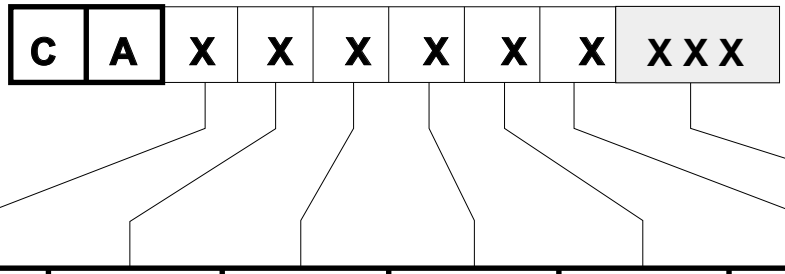


Measurement range	Size (mm)				
	D1	D2	H1	H2	L
500 - 2000 kg	Ø 24	Ø 12	39,8	6	50 - 53
2500 - 5000 kg	Ø 30	Ø 12	57,8	6	70 - 75

Terminals



Ordering code



No.	Output	**Measurement range**	**Discharge of force**				
0	3 mV/ V +/- 0,01 %	500 kg	none				
1		1000 kg	fixed pin				
2		1500 kg	adjustable pin				
3		2000 kg	load button				
4		2500 kg					
5		3000 kg					
6		5000 kg					