

Tension load cell

Resistance strain gauge sensor element S-shaped, for tension and compression measurement

Characteristics

- **Nominal load: 20 kg up to 30000 kg**
- **Output: 2 mV/V oder 3 mV/V**
- **Accuracy: 0,02 % of end-scale value**
- **Alloy tool steel, nickel plated or stainless steel or aluminium alloy**
- **S-shaped tension load cell for simple mounting**
- **Particularly suitable for parallel connection**
- **Degree of protection IP 66**

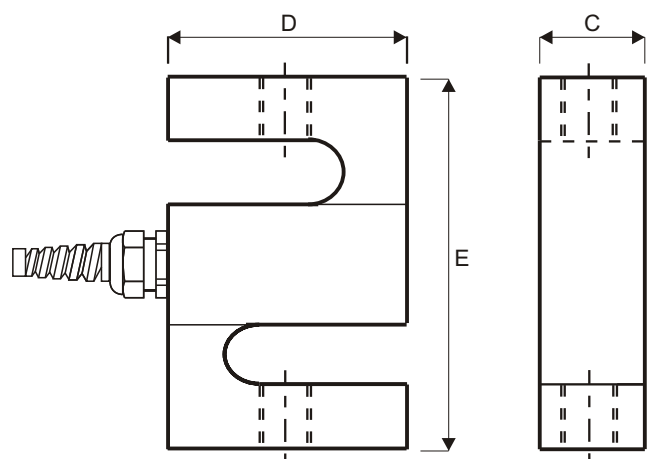


Description

The tension load cell is intended for measurement of force and pressure in both directions. The tension load cell is made either of high alloy tool steel or of stainless steel, for maximum resistance to shock and overload. The tension load cell has full environmental protection, including positive sealing gland at cable entrance, full potting in the gaging area and silicone rubber sealing between the side plate and the cell body. The electroless nickel plating provides a rust-resistant surface and a glossy appearance.

Different mechanical connecting aids, such as knuckle eyes and extension pieces are optionally available. The tension load cell is available at a very competitive price and is particularly suitable for use in the following areas: conversion from mechanical to electrical force measurement in wire cables, rods, container weighing machines, platform weighing machines and weigh-bridges and for load monitoring in theatre technics.

A TÜV-approved load monitoring system can be constructed in connection with the digital load measuring system amplifier. This system complies with the AK 4 requirements in the area concerning safety regulations, and it can be used for example as an overload safety device or as a load moment safety device.



Technical data

Input

Standard capacity:	0 - 20 / 30 / 50 / 100 / 200 / 250 / 300 / 500 kg 0 - 750 / 1000 / 1500 / 2000 / 2500 / 3000 / 5000 kg 0 - 7500 / 10000 / 15000 / 20000 / 30000 kg
Input resistance:	410 / 450 Ohm +/- 30 Ohm
Insulation resistance:	> 52000 MOhm @ 50 VDC
Overload:	Safe overload max. 150 % of end-scale value Limit overload max. 200 % of end-scale value Ultimate overload max. 300 % of end-scale value

Output

Output:	3 mV/V +/-10% or 2 mV/V +/-10%
Output resistance:	350 Ohm +/- 3 Ohm

Accuracy

Combined error:	+/- 0,02 % of end-scale value
Repeatability:	+/- 0,02 % of end-scale value
Creep:	+/- 0,02 % of end-scale value / 30 min
Temperature coeff. span:	+/- 0,02 % / 10 °C
Temperature coeff. zero:	+/- 0,02% / 10 °C
Zero point error:	+/- 1 % of end-scale value

Ambient conditions

Compensated temperature range:	- 10 to + 55 °C
Operating temperature range:	- 20 to + 65 °C

Dimensions

Material of case:	Alloy steel, nickel plated - optionally stainless steel - optionally aluminium alloy
System of protection:	IP 66
Weight (steel):	50 up to 500 kg: approx. 0,7 kg 750 up to 1500 kg: approx. 0,9 kg 2000 up to 5000 kg: approx. 1,8 kg
Connection:	6 m (20 ft) terminal cable, with polyurethane drain wire + Input (red) / - Input (black) / + Output (green) / - Output (white)

Operating, adjustment instructions

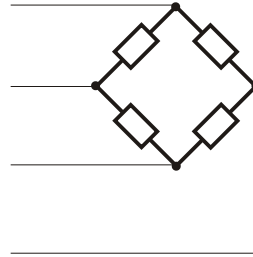
Terminals

+ Input (red)

+ Output (green)

- Input (black or blue)

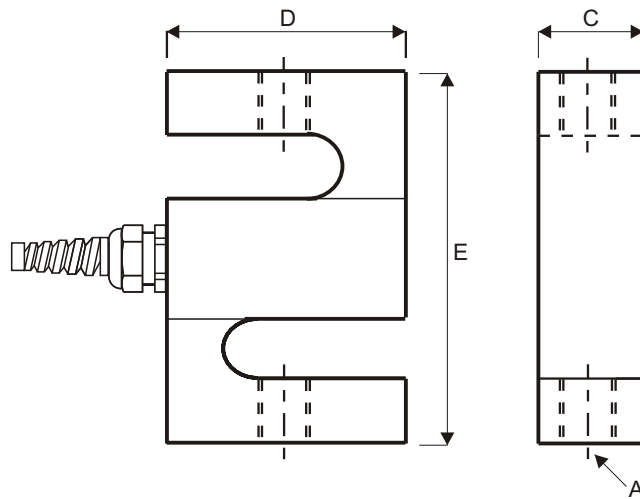
- Output (white or yellow)



Cable specification

4-wire, shielded (braided copper wire and polyurethane jacket, ends stripped and tinned).
Standard cable length: 3,5 m (0...20 up to 0...500 kg and 6 m (0...0,75 t up to 0...30 t).

Dimensions



Capacity (in kg)	Dimensions (in mm)			
	A	C	D	E
20 / 30	M8 x 1	12,7	51	64
50 / 100 / 200 / 250 / 300 / 500	M12 x 1,75	19,1	51	76
750	M12 x 1,75	19,1	50,8	76,2
1000	M12 x 1,75	25,4	50,8	76,2
1500	M16 x 1,5	25,4	50,8	76,2
2000 / 2500 / 3000	M20 x 1,5	31,8	76,2	108
5000	M24 x 2	31,8	76,2	108
7500	M24 x 2	31,8	100	139,7
10000	M30 x 2	49,3	125,5	177,8
15000 / 20000	M42 x 3	60	160	200
30000	M42 x 3	80	190	230

Bestell-Schlüssel



No.	Material	Output	Capacity (kg)	Capacity (lb)	Capacity (lb)	Accuracy	
0	Alloy steel (IP 66)	3 mV/V +/- 10%	0	on request	on request	0,02 % FS	
1	Stainless steel (IP 66)	-----	100 kg				
2	Aluminium alloy (IP 66)	2 mV/V +/- 10%	250 kg				
3	Alloy steel (IP 67)		500 kg				
4	Stainless steel (IP 67)		750 kg				
5			1000 kg				
6			1500 kg				
7			2000 kg				
8			2500 kg				
9			5000 kg				