

Bending beam for tension and Compression forces

with electrical output



Description

Bending beam load cells are suitable for measurement of compression and tension forces.

The range of applications for this load cell covers countless industrial applications where high accuracy, simple installation with a large contact surface and an inexpensive price play a decisive role.

The load cell with its simple force transmission system is easy to handle.

The force is applied perpendicularly to the load cell axis. The load cell is relatively insensitive to interfering momentums.

Note

In order to avoid overloading, it is advantageous to connect the load cell electrically during installation and to monitor the measured value.

The force to be measured must be applied concentrically and free of transverse force.

The load cells are to be mounted on a level surface.

Features

- for tension or compression force measurements
- simple force introduction
- inexpensive price
- compact small dimensions
- simple installation
- very low installation height
- Protection class IP 68
- Accuracy 3000 d of OIML

Measuring ranges

- 5 kg ... 5000 kg

Applications

- Plant engineering, force measurement
- Laboratory, post and analysis scales
- Measurement and inspection equipment
- Test benches and production lines

Specific information

- Load input elements available (option)

Model: F3210

Technical data

Model	F3210		Options
Nominal load F_{nom} in kg	5*, 10, 20, 50, 100, 200, 300, 500	1000, 2000, 5000	
Accuracy class	3000 d OIML ¹⁾	3000 d OIML ²⁾	1500, 4000, 6000 d OIML
Resolution in g	1.5*, 1, 2, 5, 10, 20, 30, 50	100, 200, 500	
Limit load	150% F_{nom}		
Breaking load	>300% F_{nom}		
Combined error	$\leq \pm 0.017\%$ of F.S.		
Creep (30 min. at F_{nom})	$\leq \pm 0.025\%$ of F.S.		
Zero reset after 30 min. with nominal load	0.017%		
Nominal deflection	< 1 mm		
Nominal temperature range	-10 bis +40°C		
Service temperature range	-20 bis +60°C		
Storage temperature range	-40 bis +70°C		
Reference temperature	23°C		
Temperature effect	-span	$< \pm 0.014\%$ of F.S. /10 K	
	-zero	$< \pm 0.028\%$ of F.S. /10 K	
Protection type (acc. to EN 60 529/IEC 529)	IP 68		
Insulation resistance	> 5 G Ω / 50 V		
Analogue output	2 mV/V		
- Output signal	Input: 385 \pm 20 Ω , Output: 350 \pm 5 Ω		
- Bridge resistance	Cable integrated amplifier 0 (4) ... 20 mA, 0 ... 10 V DC		
- Option	$\leq \pm 0.1\%$ of F.S.		
- Tolerance of span	$\leq \pm 1.5\%$ of F.S.		
- Zero	10 V (max. 15 V)		
- Excitation voltage	12 ... 28 V for cable integrated amplifier		
- Option	cable 3 m, 4-wire, shielded cable 5 m		
- Electrical connection			
Fastening torque	25 Nm	100 ... 200 Nm	
Weight	0.45 kg	0.9 ... 2.0 kg	
Mounting equipment	see sep. data sheet		
Material of measuring device	Stainless steel		
Weight (kg)			
- 5 - 500	0,45 kg		
- 1000 - 5000	0,9 kg		

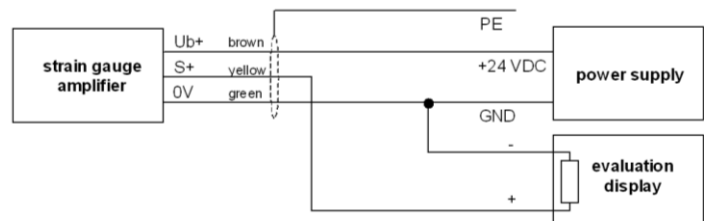
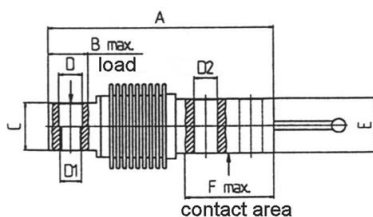
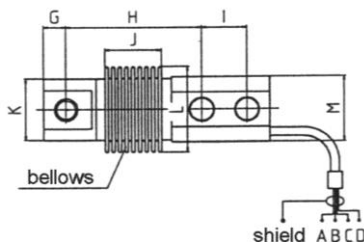
of F.S. = full scale value

1) also available in 1500d and 6000d

2) also available in 1500d und 4000d

*range 5 kg only in 1500d

Dimensions



Pin assignment for cable integrated amplifier

Nominal load [kg]	A	B max.	C	D	D1	D2	E	F max.	G	H	I	J	K	L	M
5*, 10...500	120	18	20	8.4	--	8.4	20	38	10	82	18	43	27.5	39	28.3
1000, 2000	127	22.5	28	13.2	M12	13	32	50	12.5	76.2	25.4	32	36	50	38
5000	167	34	40	20.5	M20	20.5	43	70	19	95.3	38.1	30.5	50.1	62	53

Electr. connection	
Excit. (-)	white
Excit. (+)	red
Sign. (+)	black
Sign. (-)	blue

Subject of technical changes