Tension/compression force transducer with external thread, robust construction

Description

This load cell is used wherever measurements are to be taken directly in the line of force. The actual tension forces in cables and rods can thus, for example, be measured.

With this load cell, the load is applied via the threaded pins which are located on each side of the cylindrical body. The robust structure of the load cell, which is manufactured from stainless steel, also allow it to be used in industrial atmospheres.

The load cells are splash water protected and function reliably even under difficult service conditions.

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 and compression force measurements
- simple force introduction
- robust design
- simple installation
- Protection class IP 67
- Accuracy 0.1% of full scale value

Measuring ranges

- 0.5 kN ... 1000 kN

Applications

- Plant engineering
- Production lines
- Measurement and monitoring facilities
- Special equipment and machinery construction
- Test benches and production lines

Specific information

- Calibration control: 100% signal (option)
- Load input elements available (option)

Model: F2215

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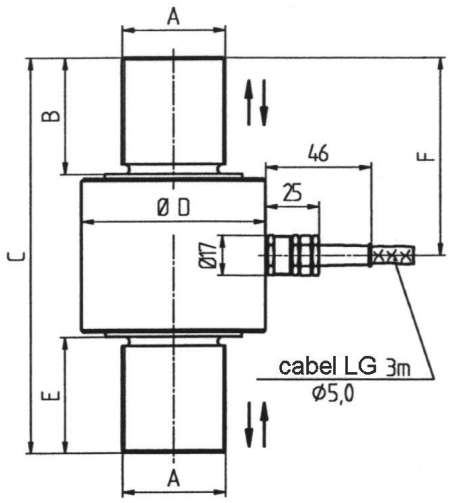
Technical data

Model	**F2215**		**Options**
Nominal load in **kN**	**0.5, 1, 2, 5, 10**	**20, 50, 100, 200, 500, 1000**	
Accuray class compression, tension tension and compression	0.1% of F.S. 0.251% of F.S.		
Limit load	150% F_{nom}		
Breaking load	>300% F_{nom}		
Combined error	≤± 0.2% of F.S.		≤± 0.1% of F.S., for either tension or compression force
Max. dynamic load	± 70% F_{nom} acc. to DIN 50 100		
Creep, 30 min. at F_{nom}	≤± 0.07% of F.S.		
Nominal deflection	<0.3 mm		
Nominal temperature range	-10 ... +70°C		
Service temperature range	-30 ... +85°C		
Storage temperature	-50 ... +90°C		
Reference temperature	23°C		
Temperature influence -span -zero	<± 0.07% / 10K <± 0.25% / 10K		
Protection type (acc. to EN 60529/IEC 529)	IP 67		
Insulation resistance	> 2 GΩ		
Insensibility against component forces	70% of nominal value		
Analogue output - Output signal - Bridge resistance - Option - Tolerance of span - Excitation voltage - Electrical connection	 2 mV/V 350 Ω Cable integrated amplifier 0 (4) … 20 mA, 0 … 10 V DC <± 0.1% of F.S. 2 … 12 V (max. 15 V), 16 … 32 V DC for cable integrated amplifier Cable 3 m / 4-wire	 1 mV/V	 6-pol conection
Calibration control			100% signal
Mounting equipment	see sep. data sheet		
Material of measuring device	Stainless steel		
Weight (kN) - 0,5 - 1 - 2 - 10 - 20 - 50 - 100 - 200 - 500 - 1000	 0,3 kg 0,5 kg 0,54 kg 0,6 kg 0,8 kg 1,7 kg 3,5 kg 6,1 kg 19,9 kg		

of F.S. = full scale value

Dimensions



Measuring range [kN]	Dimensions in [mm] A	B	C	øD	E	F
0.5 / 1 / 2	M 12	22	79	50	20	37
5 / 10	M 12	22	79	50	20	37
20 / 50	M 20 x 1.5	25	90	59	25	45
100	M 36 x 3	45	135	64	45	67.5
200	M 45 x 3	50	170	79	50	85
500	M 60 x 4	80	240	90	80	120
1000	M 100 x 3	110	300	130	110	150

Electr. Connection	
Supply. (-)	green
Supply. (+)	brown
Signal (+)	yellow
Signal (-)	white
Control(option)	grey
Screen	Screen