

## Ring force transducer, universal

with electrical output  
for tension and compression forces



### Description

These load cells are specially designed with small external dimensions. As a result of their compactness, these load cells can be used in a wide variety of industrial and laboratory applications.

Their compact dimensions make them particularly suitable for service in extremely constricted structures where tension and compression forces are to be measured.

### 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
- Compact small dimensions
- simple installation
- low installation height
- Protection class IP 66
- Accuracy 0.5% of full scale value

### Measuring ranges

- 5 kN ... 5000 kN

### Applications

- Manufacturing plants
- Cutting tools
- Measurement and inspection equipment
- Test benches and production lines

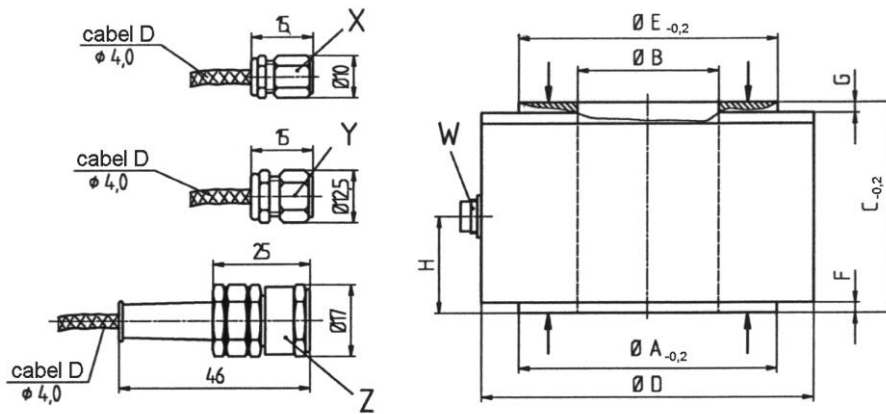
**Model: F6213**

## Technical data

Model	F6213	Options
Nominal load $F_{nom}$	5, 10, 20, 50, 100, 200, 500, 1000, 2000, 3000, 5000 kN	
Accuracy class tension or compression	0.5% of F.S.	
Limit load	150% $F_{nom}$	
Breaking load	>300% $F_{nom}$	
Combined error	$\leq \pm 0.5\%$ of F.S.	
Max. dynamic load	$\pm 70\%$ $F_{nom}$ acc. to DIN 50100	
Creep, 30 min. at $F_{nom}$	$\leq \pm 0.1\%$ of F.S.	
Nominal deflection	<0.1 mm	
Nominal temperature range	-10 ... +50°C	
Service temperature range	-30 ... +80°C	
Storage temperature range	-50 ... +95°C	
Reference temperature	23°C	
Temperature effect -span	$\leq \pm 0.1\%$ of F.S. / 10K	
-zero	$\leq \pm 0.1\%$ of F.S. / 10K	
Protection type (acc. to EN 60529/IEC 529)	IP 66	
Insulation resistance	> 2 G $\Omega$	
Analogue output		
- Output signal	1 mV/V	
- Bridge resistance	350 $\Omega$	
- Option	Cable integrated amplifier 0 (4) ... 20 mA, 0 ... 10 V DC	
- Excitation voltage	2 ... 12 V (max. 15 V)	
- Electrical connection	Cable 3 m / 4-wire (up to 200 kN), Plug 6-pin (from 500 kN)	
Calibration control		100% signal
Mounting equipment	see sep. data sheet	
Material of measuring device	Stainless steel	
Weight (kN)		
- 5	0,13 kg	
- 10	0,15 kg	
- 20	0,17 kg	
- 50	0,18 kg	
- 100	0,46 kg	
- 200	0,73 kg	
- 500	1,5 kg	
- 1000	5,0 kg	
- 2000	8,94 kg	
- 3000	10,2 kg	
- 5000	31,0 kg	

of F.S. = full scale value

## Dimensions



Measur. range [kN]	Dimensions in [mm]											
	$\phi A$	$\phi B$	C	$\phi D$	$\phi E$	F	G	H	W	X	Y	Z
5	10	5	30	30	10	2	2	15	---	•	---	---
10	14	8	30	30	14	2	2	15	---	---	•	---
20	22	15	30	40	22	2	2	15	---	---	•	---
50	28	15	30	40	28	2	2	15	---	---	•	---
100	35	20	40	55	35	2	2	20	---	---	---	•
200	47.5	25	40	64	47.5	2.5	2.5	20	---	---	---	•
500	60	30	50	80	60	4	3	26	•	---	---	---
1000	88	68	100	129	88	4	5	46.5	•	---	---	---
2000	105.6	68	100	160	106	5	5	46	•	---	---	---
3000	125	68	100	160	124.6	5	5	47	•	---	---	---
5000	220	100	120	270	220	5	5	60				

Electr. connection		
Vers. (-)	green	Pin 1
Vers. (+)	brown	Pin 2
Sign. (+)	yellow	Pin 4
Sign. (-)	white	Pin 5
Control	grey	Pin 6
Screen	Screen	Pin 3

Subject to technical changes