

Miniature Ring Force Transducer for small forces from 1 N

with electrical output



Description

Miniature force transducers are especially designed to have small dimensions. Because of their compactness, these force transducers can be used in a wide range of industrial and laboratory applications. Small dimensions enable force transducers to be installed where the forces to be measured can be directed straight through the force transducer.

They are designed for the measurement of compression forces in the range between 1 N and 10 N.

The field of application of this force transducer lies in innumerable applications where simple installation is a very important factor.

The force transducer is easy to use due to the simple way force is applied.

The force is applied vertically to the load cell axis to the complete ring surface (inner and outer ring)

Note

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

The load cells are to be mounted on a level, grinded and sufficiently hard surface.

Features

- Compression and prestressing forces
- Simple force introduction
- Force measuring spacer
- Compact small dimensions
- Ease of assembly
- Very low installation height
- Protection class 65
- Combined error 1% of F.S.

Measuring ranges

- 1 N ... 10 N

Applications

- Plant construction
- Screw forces
- Screw and pin assembly
- Cutting tools
- Measurement and control plant
- Test benches and production lines

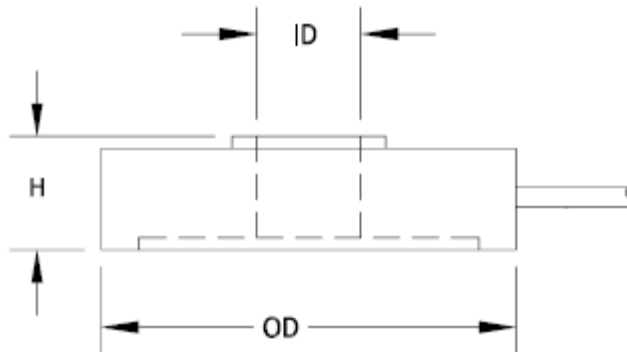
Model: F6221

Technical data

Model	F6221	
Nominal load F_{nom} in N	1; 2,5; 10	
Combined error	$\leq \pm 1\%$ of F.S.	
Limit load	150% F_{nom}	
Breaking load	$> 300\%$ F_{nom}	
Max. dynamic load	$\pm 70\%$ F_{nom} acc. to DIN 50 100	
Creep, 30 min. at F_{nom}	$\leq \pm 0.1\%$ of F.S.	
Nominal deflection	$< 0,1$ mm	
Nominal temperature range	$+15 \dots +70^\circ\text{C}$	
Service temperature range	$-29 \dots +93^\circ\text{C}$	
Reference temperature	23°C	
Temperature effect	-span	$\leq \pm 0.2\%$ of F.S./ 10K
	-zero	$\leq \pm 0.1\%$ of F.S./ 10K
Protection type (acc. to EN 60529/IEC 529)	IP 65	
Insulation resistance	> 2 G Ω	
Analogue output		
- Output signal	20 mV/V	
- Bridge resistance	500 Ω (semiconductor strain gauge)	
- Power requirement	5 V	
- Electrical connection	Cable 1.5 m	
Material of measuring device	Stainless steel	
Weight	5 g (10 g)	

of F.S.= full scale value

Dimensions



Nominal load [N]	Dimensions in [mm]		
	OD	H	ID
1 ... 10	12.7	3.8	2.5
(optional)	19.05	6.4	2.5 ... 6.3

Electrical connection	
Supply (-)	black
Supply (+)	red
Sign. (+)	white
Sign. (-)	green

Subject to technical changes