

# Miniature Compression Force Transducer for forces from 1 kN

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.

They are designed for the measurement of compression forces in the range between 1 kN and 500 kN.

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 at the ball-shaped scraper.

## 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

- For compression force measurements
- Simple force introduction
- Compact small dimensions
- Ease of assembly
- Protection class IP 65
- Combined error 1% of F.S.

## Measuring ranges

- 1 kN ... 500 kN

## Applications

- Construction of plant and apparatus
- Control of press-in and punching forces
- Measurement and inspection equipment
- Test benches

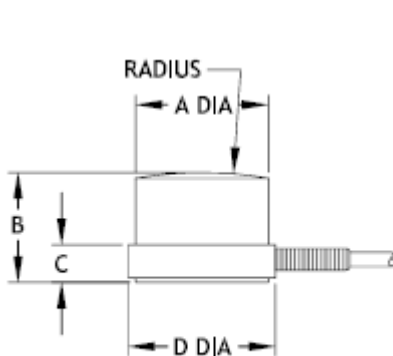
**Model: F1224**

## Technical data

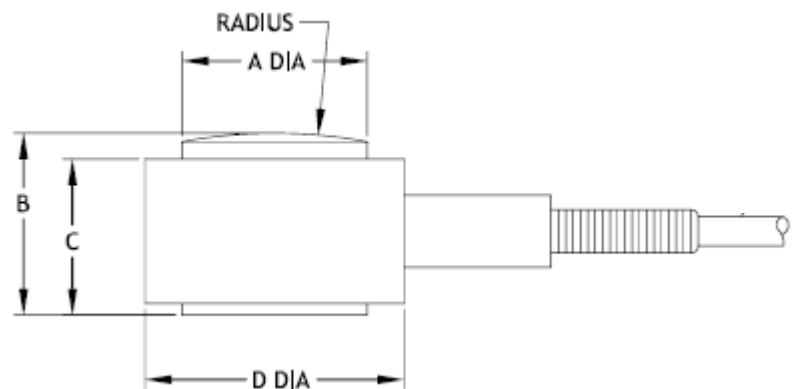
| Model   | F1224  | Options |
|---|--|---------|
| Nominal load $F_{nom}$ in kN  | 1; 2; 5; 10; 15; 20; 30; 50; 100; 200; 500   |         |
| Combined error  | $\pm 1.0\%$ of F.S.  |         |
| Limit load  | $150\% F_{nom}$  |         |
| Breaking load   | $>300\% F_{nom}$   |         |
| Max. dynamic load   | $\pm 70\% F_{nom}$ DIN 50 100  |         |
| Nominal deflection  | $< 0.05$ mm  |         |
| Nominal temperature range   | +15 ... +70°C  |         |
| Service temperature range   | -54 ... +120°C   |         |
| Reference temperature   | 23°C   |         |
| Temperature effect<br>-span<br>-zero  | $\leq \pm 0.1\%$ of F.S./10K<br>$\leq \pm 0.1\%$ of F.S./10K   |         |
| Protection type (acc. to EN 60 529/ IEC 529)  | IP 65  |         |
| Insulation resistance   | $>5$ G $\Omega$ bei 50V  |         |
| Analogue output<br>- Output signal<br>- Bridge resistance<br>- Option<br><br>- Power requirement<br><br>- Electrical connection | 1,5 mV/V<br>350 $\Omega$<br>Cable integrated amplifier 0 (4) ... 20 mA,<br>0 ... 10 V DC<br>5 (max. 5 V); 24 V DC<br>for cable integrated amplifier<br>Cable 1.5 m, open wire,<br>4-wire |         |
| Material of measuring device  | Stainless steel 17-4PH   |         |
| Weight (incl. cable)  | 4 ... 400g depending on nominal load   |         |

of F.S. = full scale value

## Dimensions



**1 kN up to 15 kN**



**20 kN up to 500 kN**

| Nominal Load [kN] | Dimensions in [mm] |       |       |       |
|-------------------|--------------------|-------|-------|-------|
|                   | D                  | A     | B     | C     |
| 1                 | 12.7               | 6.9   | 9.65  | 3.3   |
| 2                 | 12.7               | 7.1   | 9.65  | 3.3   |
| 5                 | 12.7               | 7.9   | 9.65  | 3.3   |
| 10                | 12.7               | 10.4  | 9.65  | 3.3   |
| 15                | 16.0               | 12.4  | 15.24 | 5.8   |
| 20                | 16.0               | 13.5  | 15.24 | 5.8   |
| 50                | 22.35              | 17.0  | 16.0  | 13.7  |
| 100               | 22.35              | 19.3  | 16.0  | 13.7  |
| 200               | 44.45              | 31.75 | 35.1  | 31.75 |
| 500               | 50.8               | 38.1  | 41.4  | 38.1  |

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

Subject to technical changes