

Compression force transducer up to 1000 kN

with electrical output



Description

This sensor is especially suited to the measurement of static and quasi-static compressive forces.

Its very robust and compact form make it suitable for use both in industrial environments and in the laboratory and testing bays.

The sensor is in all respects ideal for the ranges of rated values 0...1 kN to 0...1000 kN.

The sensor is protected against splash water and works with very great reliability under extreme 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 compression force measurements
- simple force introduction
- robust design
- simple installation
- Protection class IP 67
- Accuracy 0.1% or 0.3% of full scale value

Measuring ranges

- 1 ... 1000 kN

Applications

- Plant engineering
- Production lines
- Measuring and inspection equipment
- Special equipment and machinery construction
- Cable force measurements

Specific information

- Calibration control: 100% signal (option)
- Suitable load plates: See accessory
- Drag chain suitable (optional)

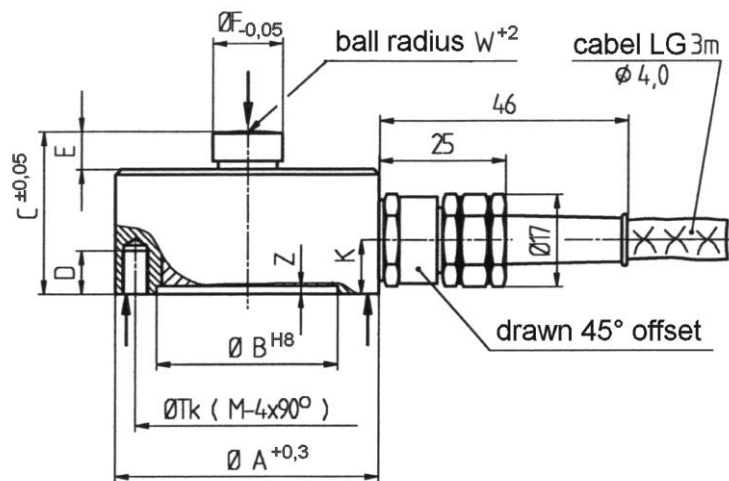
Model: F1211

Technical data

| Model | F1211 | Options |
|---|--|---|
| Nominal load F_{nom} in kN t | 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100; | |
| Limit load | 150% F_{nom} | |
| Breaking load | >300% F_{nom} | |
| Combined error | $\leq \pm 0.2\%$ of F.S. | $\leq \pm 0.1\%$ of F.S. |
| Max. dynamic load | +100% F_{nom} acc. to DIN 50 100 | |
| Creep, 30 min. at F_{nom} | $\leq \pm 0.08\%$ of F.S. | $\leq \pm 0.06\%$ of F.S. |
| Nominal deflection | < 0.3 mm | |
| Nominal temperature range | -10 ... +70°C | |
| Service temperature range | -30 ... +85°C | |
| Storage temperature range | -50 ... +90°C | |
| Reference temperature | 23°C | |
| Temperature effect -span -zero | < $\pm 0.06\%$ of F.S./ 10K < $\pm 0.07\%$ of F.S./ 10K | < $\pm 0.05\%$ of F.S./ 10K < $\pm 0.05\%$ of F.S./ 10K |
| Protection type (acc. to EN 60 529/IEC 529) | IP 67 | IP68 |
| Non repeatability | 0.05% | 0.03% |
| Insulation resistance | > 2 G Ω | |
| Analogue output - Output signal - Bridge resistance - Option - Tolerance of span - Excitation voltage - Option - Electrical connection | 2.00 mV/V 350 Ω (Cable) integrated amplifier 0(4) ... 20 mA, 0 ... 10 V DC, integrated amplifier for 20kN up to 1000kN possible $\leq \pm 0.3\%$ of F.S. 2...12 V (max. 15 V) 12...28 V DC for cable integrated amplifier Cable 3 m /4-wire | $\leq \pm 0.1\%$ of F.S. Drag chain suitable 6-wire |
| Calibration control | | 100% signal |
| Mounting equipment | see sep. data sheet | |
| Material of measuring device | Stainless steel | |
| Weight (kN) - 1-10 - 20-50 - 100 - 200 - 500 - 1000 | 0,4 kg 1,5 kg 3,0 kg 3,2 kg 7,0 kg 8,3 kg | |

of F.S. = full scale value

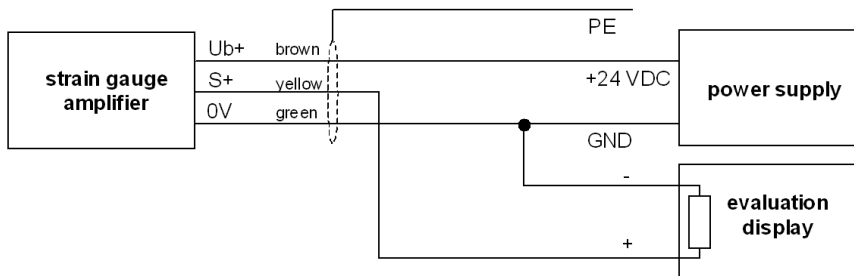
Dimensions



| Nominal load [kN] | Dimensions in [mm] | | | | | | | | | | |
|------------------------|--------------------|----|----|----|------|----|------|-----|-----|-----|------|
| | øA | øB | C | D | E | øF | G | øTK | W | Z | K |
| 1 / 2 / 5 / 10 | 49.5 | 34 | 30 | 8 | 7 | 13 | M 5 | 42 | 60 | 1.3 | 10 |
| 20 / 50 | 89.5 | 55 | 48 | 14 | 12.5 | 25 | M 10 | 70 | 100 | 2.5 | 17.5 |
| 100 / 200 | 115 | 68 | 60 | 16 | 12.5 | 32 | M 12 | 90 | 180 | 1.8 | 23 |
| 500 / 1000 | 150 | 97 | 80 | 20 | 15 | 44 | M 16 | 125 | 270 | 4.5 | 32 |

| Electr. connection | |
|--------------------------|--------|
| Supply (-) ¹⁾ | green |
| Supply (+) ¹⁾ | brown |
| Signal (+) ¹⁾ | yellow |
| Signal (-) | white |
| Control | grey |
| Screen | Screen |

¹⁾ also for load cells with integrated amplifiers (0 (4) ... 20 mA, 0..10 V, 3-wire system)



Pin assignment for cable integrated amplifier

Subject to technical changes