

# 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

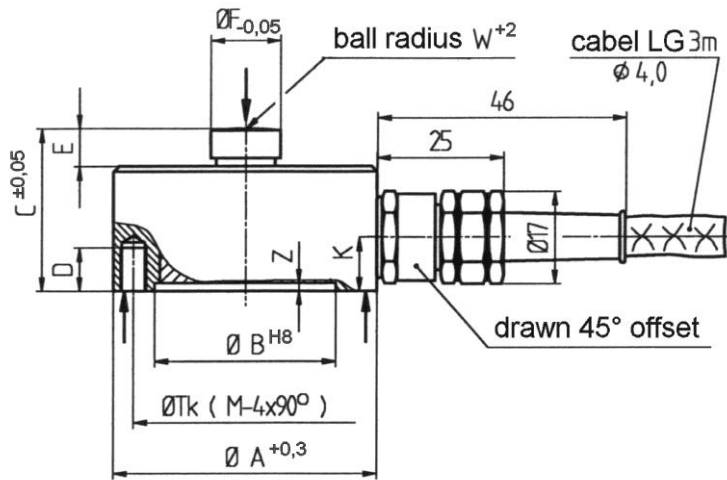
**Model: F1211**

## 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 $\Omega$	
Analogue output - Output signal - Bridge resistance - Option  - Tolerance of span - Excitation voltage - Option - Electrical connection	2.00 mV/V 350 $\Omega$ (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.      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]										
	$\varnothing A$	$\varnothing B$	C	D	E	$\varnothing F$	G	$\varnothing TK$	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 (-) <sup>1)</sup>	green
Supply (+) <sup>1)</sup>	brown
Signal (+) <sup>1)</sup>	yellow
Signal (-)	white
Control	grey
Screen	Screen

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