

Compression load cell up to 1,000 kN Model F1211



WIKA Data sheet FO 51.10

Applications

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

Special features

- For compression force measurements
- Simple force introduction, easy installation
- Robust design
- Protection class IP67
- Accuracy 0.1 or 0.3 % of full scale value



Compression load cell, model F1211

Description

This compression load cell is especially suited to the measurement of static and quasi-static compressive forces.

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

The compression load cell is in all respects ideal for the ranges of rated values 0...1 kN to 0...1,000 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.

Specific information

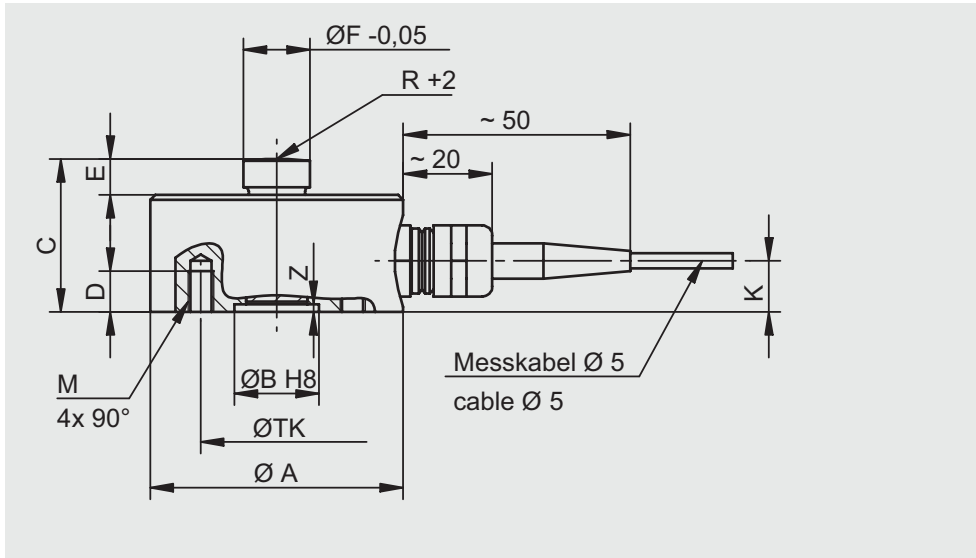
- Calibration control (optional 100 % signal)
- Suitable load plates: See accessory
- Optional: drag chain suitable

Technical data in accordance with VDI/VDE/DKD 2638

Model F1211										
Rated force F_{nom} in kN	1	2	5	10	20	50	100	200	500	1,000
t	0.1	0.2	0.5	1	2	5	10	20	50	100
Force limit F_L	150 % F_{nom}									
Breaking force F_B	> 300 % F_{nom}									
Relative linearity error d_{lin}	$\leq \pm 0.2$ % of F.S. (optional $\leq \pm 0.1$ % v. EW.)									
Permissible oscillation stress F_{rb}	+100 % F_{nom} in accordance with DIN 50100									
Relative creep, 30 min. at F_{nom}	$\leq \pm 0.08$ % of F.S. (optional $\leq \pm 0.06$ % of F.S.)									
Nominal deflection s_{nom}	< 0.3 mm									
Rated temperature $B_{T, nom}$	-10 ... +70 °C									
Operating temperature $B_{T, G}$	-30 ... +85 °C									
Storage temperature $B_{T, S}$	-50 ... +90 °C									
Reference temperature T_{ref}	23 °C									
Temperature effect on										
■ characteristic value TK_C	$\leq \pm 0.06$ % of F.S./10 K (optional $\leq \pm 0.05$ %/10 K)									
■ zero signal TK_0	$\leq \pm 0.07$ % of F.S./10 K (optional $\leq \pm 0.05$ %/10 K)									
Protection type	IP67 in accordance with EN/IEC 60529 (optional IP68)									
Relative repeatability error in unchanged mounting position b_{rg}	0.05 % (optional 0.03 %)									
Insulation resistance R_{is}	> 2 G Ω									
Analogue output										
■ Output signal (characteristic value) C	2.0 mV/V									
■ Input-/output resistance R_e/R_a	350 Ω									
■ Optional	Cable integrated amplifier 0(4) ... 20 mA, DC 0 ... 10 V Integrated amplifier for 20 kN up to 1,000 kN possible									
■ Relative error of characteristic value d_C	$\leq \pm 0.3$ % of F.S. (optional $\leq \pm 0.1$ % of F.S.)									
■ Supply voltage	2 ... 12 V (max. 15 V), DC 12 ... 28 V for cable integrated amplifier									
■ Electrical connection	Cable 3 m, 4-wire, (optional drag chain suitable 6-wire)									
Calibration control	(Optional 100 % signal)									
Mounting equipment	(Optional see sep. data sheet)									
Material des Messkörpers	Stainless steel 1.4542									
Weight in kg	0.4		1.5		3.0		3.2		7.0 8.3	

F. S. = full scale value

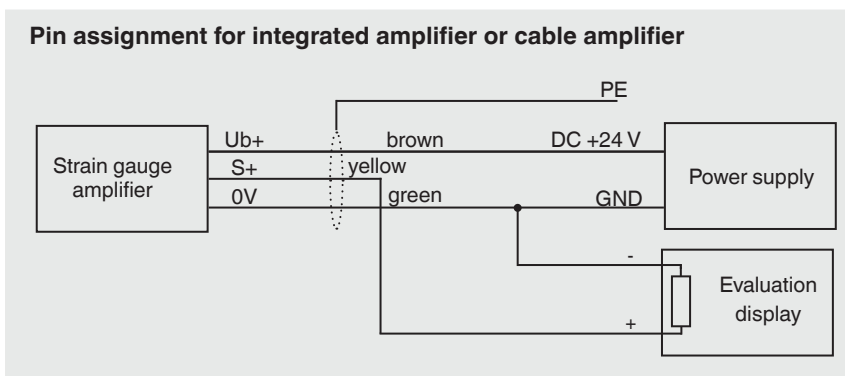
Dimensions in mm



Nominal load kN	Dimensions in mm										
	ØA	ØB	C	D	E	øF	M	øTK	R	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, 1.000	150	97	80	20	15	44	M 16	125	270	4.5	32

Electrical 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)



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