

Miniature compression load cell from 1 kN Model F1224

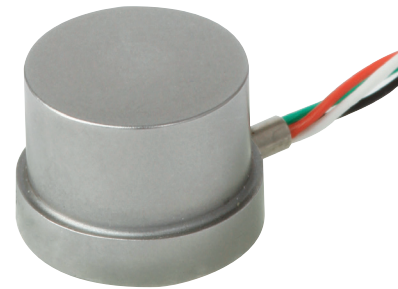
WIKA data sheet FO 51.12

Applications

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

Special features

- Measuring ranges 0 ... 1 kN up to 0 ... 500 kN
- Simple force introduction
- Compact small dimensions
- Protection class IP65
- Relative linearity error 1 % F_{nom}



Miniature compression force transducer, model F1224

Description

The miniature compression force transducers are specially designed for small installation spaces. They are used to determine the compression forces in a wide range of applications and are suitable for static and dynamic measurement tasks eg. in laboratories and test field.

The spherical calotte (spherical load application button) allows a very simple force introduction. The usual mounting position of the force transducer is horizontal or vertical. The force transducer is splash-proof and works reliably even under harsh operating conditions.

Note

In order to avoid overloading, it is advantageous to connect the force transducers electrically during installation and to monitor the measured value. The force transducers are to be mounted on a level, grinded and sufficiently hard surface. The force is applied vertically to the force transducer axis at the spherical calotte.

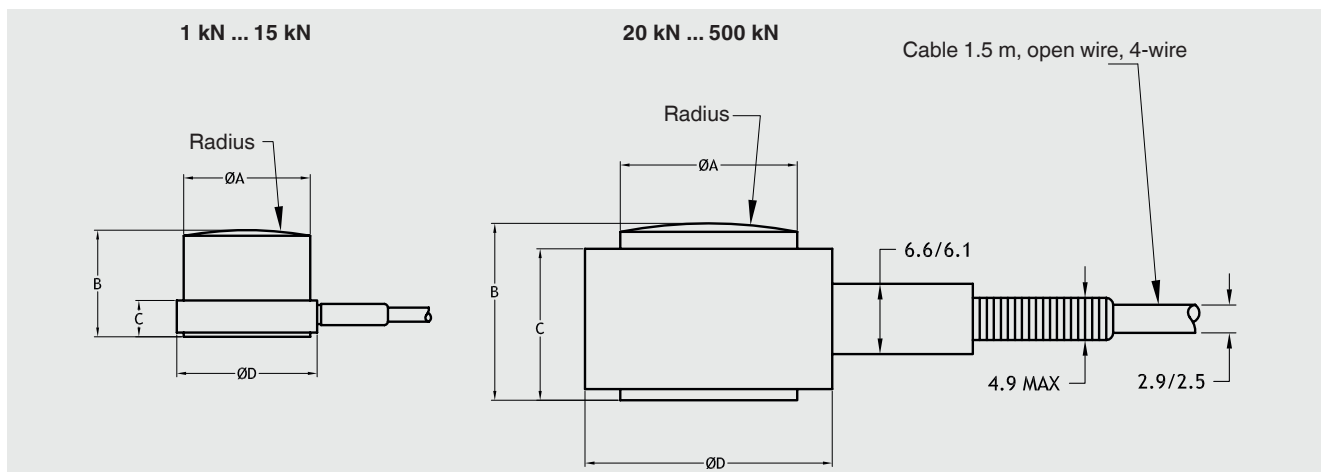
Options

- High temperature version with extended nominal temperature range
- Cable amplifier with output 4 ... 20 mA or 0 ... 10 V
- Other cable lengths

Technical data in accordance with VDI/VDE/DKD 2638

Model F1224	
Rated force F_{nom} kN	1, 2, 5, 10, 15, 20, 30, 50, 100, 200, 500
Relative linearity error d_{lin}	$\pm 1\% F_{nom}$
Temperature effect on zero signal TK_0	$< \pm 0.1\% / 10\text{ K}$
Temperature effect on characteristic value TK_C	$< \pm 0.1\% / 10\text{ K}$
Force limit F_L	$150\% F_{nom}$
Breaking force F_B	$> 300\% F_{nom}$
Permissible oscillation stress acc. to DIN 50100 F_{rb}	$70\% F_{nom}$
Rated displacement s_{nom}	$< 0.05\text{ mm}$
Material	Stainless steel
Rated temperature range $B_{T, nom}$	$15 \dots 70\text{ }^\circ\text{C}$
Operating temperature range $B_{T, G}$	$-54 \dots 120\text{ }^\circ\text{C}$
Reference temperature T_{ref}	$23\text{ }^\circ\text{C}$
Output signal (rated output) C_{nom}	1.5 mV/V
Input/output resistance R_e/R_a	$350\ \Omega$
Insulation resistance	$> 5\text{ G}\Omega$ with 50 V
Electrical connection	Cable 1.5 m, open wires, 4-wire, shielded
Rated range of excitation voltage $B_{U, nom}$	5 V (max. 5 V)
Supply voltage	
■ Standard	DC 12 ... 28 V
■ Option	0(4) ... 20 mA
	DC 0 ... 10 V
	Integrated or cable amplifier
Protection (acc. to IEC/EN 60529)	IP65
Weight in kg	4g up to 400 g depending on rated force incl. cable

Dimensions in mm



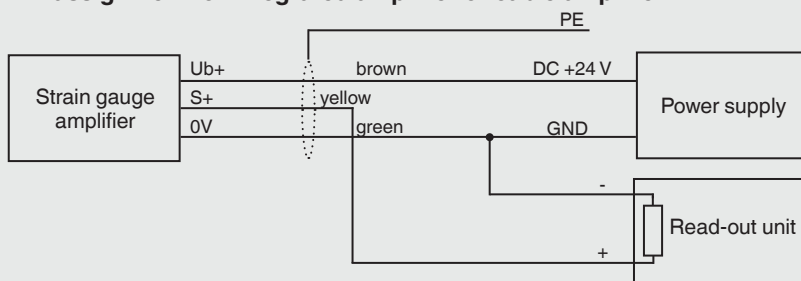
Rated force in kN	Dimensions in mm			
	ØD	ØA	B	C
1	12.7	6.9	9.65	3.3
2	12.7	7.1	9.65	3.3
5	12.7	7.9	9.65	3.3
10	12.7	10.4	9.65	3.3
15	16.0	12.4	15.24	5.8
20	16.0	13.5	15.24	5.8
50	22.35	19.3	16.0	13.7
100	44.45	31.75	35.1	31.75
200	44.45	31.75	35.1	31.75
500	50.8	38.1	41.4	38.1

Pin assignment

Electrical connection

Excitation voltage (+)	Red
Excitation voltage (-)	Black
Signal (+)	White
Signal (-)	Green

Pin assignment for integrated amplifier or cable amplifier



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