

Tension/compression force transducer

S-Type up to 50 kN

Typ F2211



WIKA data sheet FO 51.15

Applications

- Plant engineering
- Production lines
- Measurement and monitoring facilities
- Special equipment and machinery construction
- Test benches and production plants

Special features

- Measuring ranges 0 ... 0.02 kN up to 0 ... 50 kN
- Simple force introduction, easy installation
- Robust design
- Protection class IP60 (aluminum), IP67 (stainless steel)
- Relative linearity error 0.1 % F_{nom}



Tension/compression force transducer, model F2211

Description

Tension/compression force transducers are designed for static and dynamic measurement tasks in the direct flux of force. They determine the tension and compression forces in a wide scope of applications.

Force transducers of this series are used in weighing technology as well as in countless industrial applications, where high accuracy, simple installation with force introduction via the two internal threads and a favorable price plays a decisive role.

These tension/compression force transducers are splash water protected and function reliably even under difficult service 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 force transducers are to be mounted on a level surface.

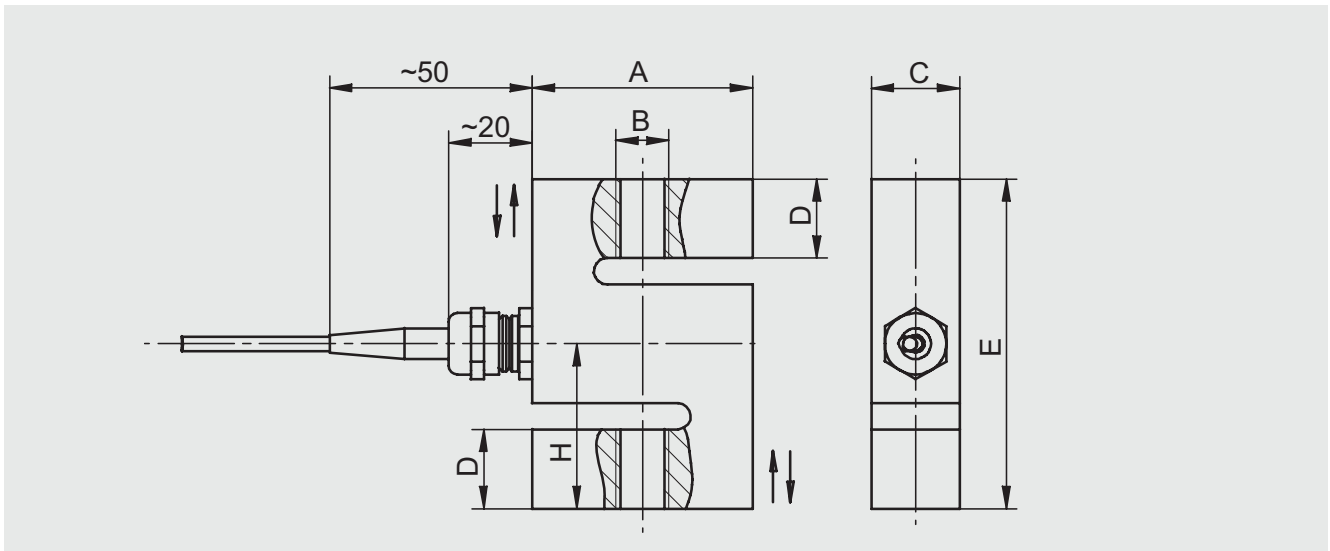
Option

- Calibration control 100 % signal
- Load input elements available
- Drag chain suitable
- Cable amplifier with output 4 ... 20mA or 0 ... 10 V

Technical data in accordance with VDI/VDE/DKD 2638

Model F2211											
Rated force F_{nom}											
kN	0.02	0.05	0.1	0.2	0.5	1	2	5	10	20	50
kg	2	5	10	20	50	100	200	500	1,000	2,000	5,000
Relative linearity error d_{lin}											
■ Tension or compression force	0.1 % F_{nom}										
■ Tension and compression force	0.2 % F_{nom}										
Relative creep, 30 min.	< ± 0.06 % F_{nom}										
Temperature effect on zero signal TK_0	$\leq \pm 0.12$ %/10 K										
Temperature effect on characteristic value TK_C	$\leq \pm 0.04$ %/10 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}	< 0.25 mm										
Material	Stainless steel, up to 1 kN aluminium										
Rated temperature range $B_{T, nom}$	0 ... 60 °C (up to 1 kN) -10 ... +70 °C (from 2 kN)										
Operating temperature range $B_{T, G}$	-10 ... +70 °C (up to 1 kN) -30 ... +80 °C (from 2 kN)										
Storage temperature range $B_{T, S}$	-30 ... +95 °C (up to 1 kN) -50 ... +95 °C (from 2 kN)										
Reference temperature T_{ref}	23 °C										
Output signal (rated output) C_{nom}	2 mV/V (1 mV/V with 0.02 kN)										
Relative error of characteristic value d_C	0.08 % F_{nom}										
Input-/output resistance R_e/R_a	350 Ω										
Insulation resistance	> 2 G Ω										
Electrical connection	Cable 3 m, 4-wire										
Rated range of excitation voltage $B_{U, nom}$	DC 2 ... 12 V (max. 15 V) for mV/V										
Supply voltage											
■ Standard	DC 12 ... 28 V (For optional integrated or cable amplifier mA/V)										
■ Option	Integrated or cable amplifier 0(4) ... 20 mA DC 0 ... 10 V										
Protection (acc. to IEC/EN 60529)	IP60 (up to 1 kN aluminium) IP67 (from 2 kN stainless steel)										
Mounting equipment	Optional for tension or compression forces										
Weight in kg											
■ 0.02 up to 0.05 kN	0.25										
■ 0.1 up to 1 kN	0.03										
■ 2 bis 5 kN	0.57										
■ 10 kN	0.65										
■ 20 kN	1.45										
■ 50 kN	1.5										

Dimensions in mm

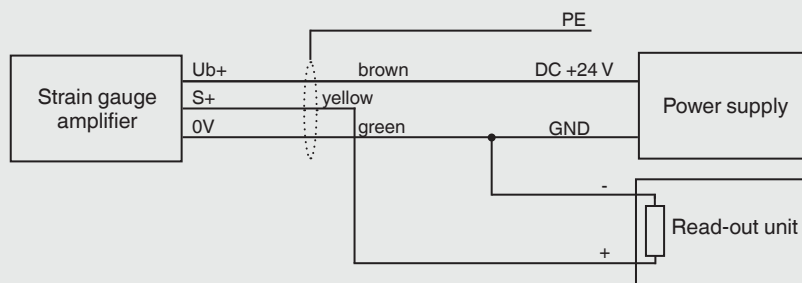


Rated force in kN	Dimensions in mm					
	A	B	C	D	E	H
0.02 / 0.05 / 0.1 / 0.2 / 0.5 / 1 / 2 / 5 / 10	50	M12	20	18	75	37.5
20 / 50	65	M24 x 2	39.5	22	85	42.5

Pin assignment

Electrical connection	
Excitation voltage (+)	Brown
Excitation voltage (-)	Green
Signal (+)	Yellow
Signal (-)	White
Control	Grey
Screen ⊕	Screen

Pin assignment for integrated amplifier or cable amplifier



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