Tension/compression force transducer For material testing up to 2.000 kN Model F2210

Applications

- Plant engineering and production lines
- Measuring and inspection equipment
- Special equipment and machinery construction
- Press in forces and axial joining forces monitoring

Tension/compression force transducer, model F2210

Special features

- Measuring ranges 0 … 0.5 kN up to 0 ... 2,000 kN
- Simple installation, low installation height
- High long-term stability, dynamic fatigue strength for load alternations
- Protection class IP60
- Relative linearity error 0.2 % F_{nom} (0.05 % F_{nom} optional)

Description

Tension/compression transducers are used to determine tension and compression forces in a wide range of applications and are suitable for static and dynamic measurement tasks.

Due to their robustness, high accuracy and low installation height, force transducers of the F2210 series are used in harsh industrial environments as well as in the laboratory or test field. They have a bore through the center, with an internal thread for the force introduction and are splash-proof.

Note
In order to avoid overloading, it is advantageous to connect the force transducer electrically during installation and to monitor the measured value.

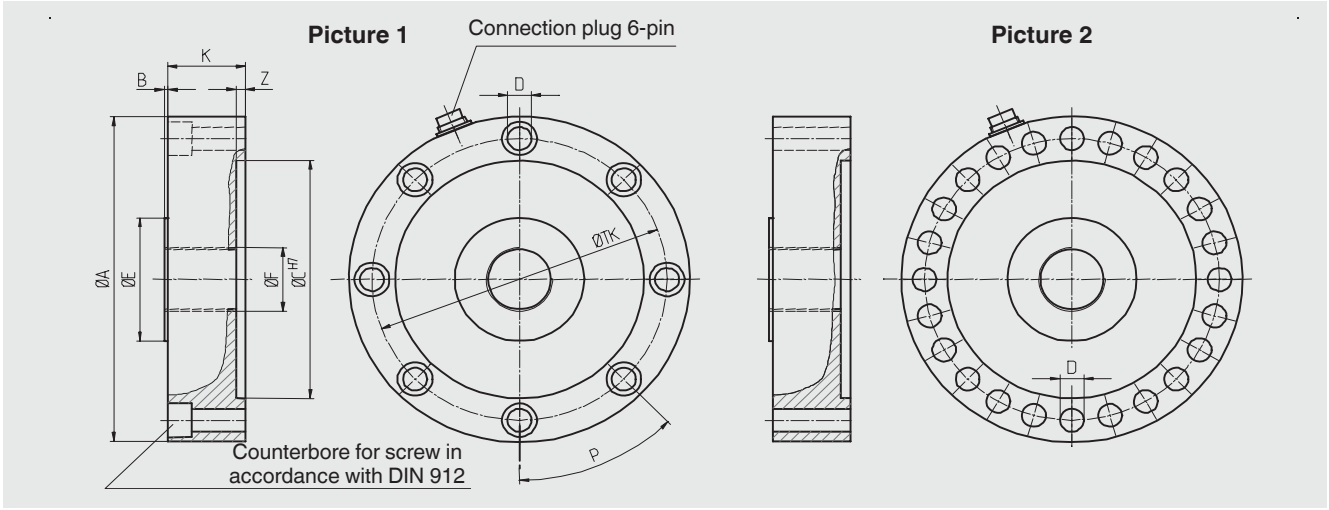
The force to be measured must be applied concentrically and free of transverse force. The force transducers are to be mounted on a level surface.

Option
- Calibration control 100 % signal
- Load input elements available

Technical data in accordance with VDI/VDE/DKD 2638

Model F2210	
Rated force F_{nom} kN	0.5 / 1 / 2 / 5 / 10 / 20 / 50 / 100 / 200 / 500 / 1,000 / 2,000
Relative linearity error d_{lin} ■ Tension force ■ Tension and compression force	 ± 0.2 % F_{nom} (optional ≤ ±0.05 % F_{nom}) ± 0.4 % F_{nom} (optional ≤ ±0.1 % F_{nom})
Relative repeatability error in unchanged mounting position b_{rg}	0.08 % F_{nom} (optional 0.03 % F_{nom})
Relative creep, 30 min.	≤ ±0.08 % F_{nom} (optional ≤ ±0.03 % F_{nom})
Temperature effect on zero signal TK_0	≤ ±0.05 %/10 K (optional ≤ ±0.03 %/10 K)
Temperature effect on characteristic value TK_C	≤ ±0.07 %/10 K (optional ≤ ±0.05 %/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}	80 % F_{nom}
Rated displacement s_{nom}	< 0.12 mm
Material	Stainless steel
Rated temperature range $B_{T, nom}$	0 … 60 °C
Operating temperature range $B_{T, G}$	-10 … +70 °C
Storage temperature range $B_{T, S}$	-30 … +95 °C
Reference temperature T_{ref}	23 °C
Output signal (rated output) C_{nom}	2.0 mV/V
Relative error of characteristic value d_C	< ±0.1
Input-/output resistance R_e/R_a	350 Ω
Insulation resistance	> 2 GΩ
Electrical connection	Plug 6-pin (DIN 45322)
Rated range of excitation voltage $B_{U, nom}$	DC 2 … 12 V (max. 15 V) for mV/V
Supply voltage Standard Option	 DC 12 … 28 V (for optional integrated or cable amplifier mA/V) Integrated or cable amplifier 0(4) … 20 mA DC 0 … 10 V
Protection (acc. to IEC/EN 60529)	IP60
Calibration control (Option)	100 % signal
Weight in kg 0.5 up to 2 kN 5 up to 10 kN 20 up to 50 kN 100 kN 200 kN 500 kN 1,000 kN 2,000 kN	 1 1.1 3.4 5.5 6 15 34.2 70

Dimensions in mm

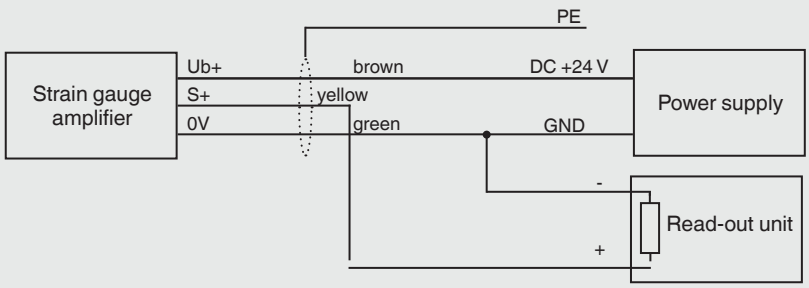


Rated force in kN	Dimensions in mm												Screw torque in Nm
	ØA	B	ØC	ØD	ØE	ØF	K	ØTK	P	S	Z	Picture	
0.5 / 1 / 2 / 5 / 10	90	2	60	6.6	25	M12	32	75	4 x 90°	for M6	2	1	14
20 / 50	150	2	105	11	55	M24 x 2	38	130	8 x 45°	for M10	2	1	71
100 / 200	185	2	135	13	70	M36 x 3	42	160	8 x 45°	for M12	3	1	123
500	240	2	160	17	90	M45 x 3	60	200	12 x 30°	for M16	3	1	302
1,000	295	5	200	21	130	M80 x 4	95	250	12 x 30°	for M20	4	2	592
2,000	390	3	270	26	190	M120 x 4	117	330	24 x 15°	for M24	4	2	1,017

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



WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
Fax +49 9372 132-406
info@wika.de
www.wika.de