

Compression force transducer

0...1 kN up to 0...1,000 kN

Model F1211

Applications

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

Special features

- Measurement ranges 0...1 kN up to 0...1,000 kN
- For compression force measurements
- Simple force introduction, easy installation
- Robust design
- Protection class IP67
- Relative linearity error 0.3 % F_{nom} (0.1 % F_{nom} optional)
- Suitable mounting kit available (optional)



Description

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

Due to their compact design, the force transducers F1211 are used in industrial applications and in the laboratory and test field. The spherical calotte (spherical load application button) allows for a very simple force introduction. Standard mounting of the force transducer is horizontal or vertical.

They are splash-proof and work with very great reliability under extreme conditions.

Note

In order to avoid overloading, it is advantageous to connect the compression 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 transducer has to be mounted on a level surface.

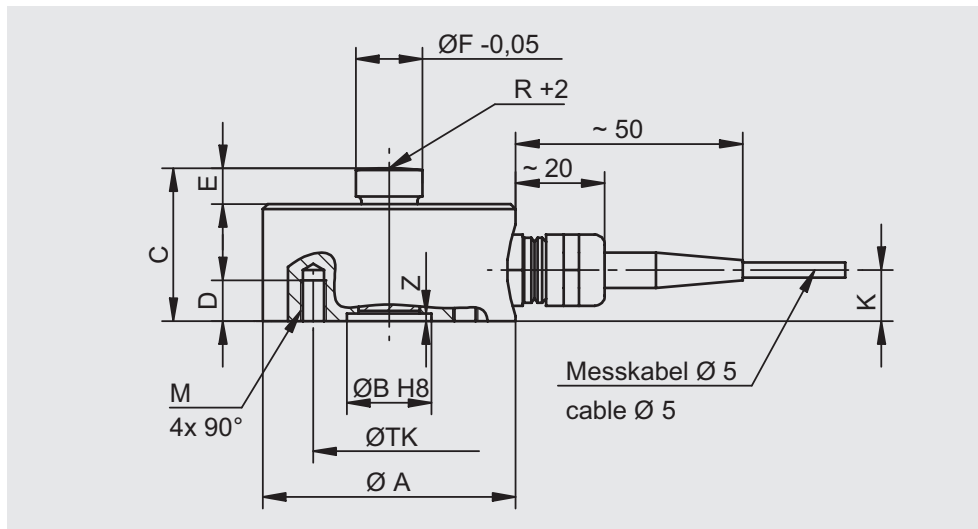
Optionen

- Calibration control 100 % signal
- Drag chain suitable
- Suitable load plates, see accessories
- 6-wire connection
- Relative linearity error 0.1% F_{nom}

Specifications in accordance with VDI/VDE/DKD 2638

Model series	Symbol	Unit	F1211											
Measurement range														
Rated force	F_{nom}	kN	1	2	5	10	20	50	100	200	500	1,000		
Accuracy and stability														
Relative linearity error	d_{lin}	$x\%F_{nom}$	± 0.3 (optional ≤ ±0.1)											
Relative creep, 30 min.		$x\%F_{nom}$	≤ ±0.08 (optional ≤ ±0.06)											
Temperature effect on zero signal	TK_0	%/10 K	≤ ±0.06 (optional ≤ ±0.05)											
Temperature effect on characteristic value	TK_C	%/10 K	≤ ±0.07 (optional ≤ ±0.05)											
Mechanical characteristics														
Force limit	F_L	$x\%F_{nom}$	150											
Breaking force	F_B	$x\%F_{nom}$	> 300											
Permissible oscillation stress acc. to DIN 50100	F_{rb}	$x\%F_{nom}$	70											
Rated displacement	s_{nom}	mm	< 0.15											
Material			Stainless steel											
Temperature ranges														
Rated temperature range	$B_{T, nom}$	°C	-10...70											
Operating temperature range	$B_{T, G}$	°C	-30...80											
Storage temperature range	$B_{T, S}$	°C	-50...95											
Reference temperature	T_{ref}	°C	23											
Electrical characteristics														
Output signal (rated output)	C_{nom}	mV/V	2.0											
Relative error of characteristic value	d_C	$x\%F_{nom}$	≤ ±0,3 (optional ≤ ±0,1)											
Input-/output resistance	R_e/R_a	Ω	350											
Insulation resistance		GΩ	> 2											
Option		mA V	Integrated or cable amplifier 0(4)...20 DC 0...10 Integrated amplifier for 20 kN up to 1,000 kN possible											
Rated range of excitation voltage	$B_{U, nom}$	V	DC 2...12 (max. 15) for mV/V											
Supply voltage		V	DC 12...28 (for optional integrated or cable amplifier mA/V)											
Electrical connection			Cable 3 m, 4-wire (optional: 6-wire, drag chain suitable)											
General data														
Protection (acc. to EN/IEC 60529)			IP67											
Calibration control			Optional 100 % signal (detuning of the measuring bridge possible via integrated, switchable shunt resistor)											
Mounting equipment			Optional see sep. data sheet											
Weight in kg			0.4		1.5		3.0		3.2		7.0		8.3	

Dimensions in mm



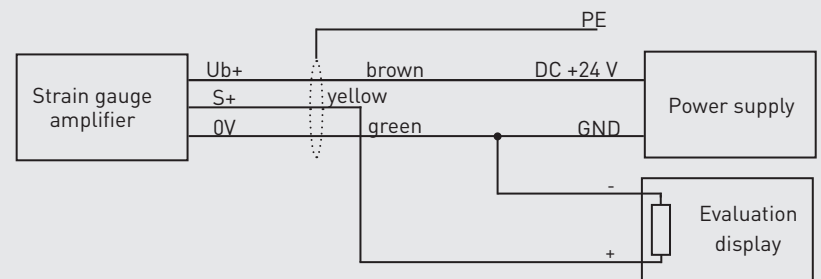
Rated force kN	Dimensions in mm										
	ØA	ØB	C	D	E	ØF	M	ØTK	R	Z	K
1, 2, 5, 10	49.5	34	30	8	7	13	M 5	42	60	1.3	10
20, 50	89.5	55	48	14	12.5	25	M 10	70	100	2.5	17.5
100, 200	115	68	60	16	12.5	32	M 12	90	180	1.8	23
500, 1.000	150	97	80	20	15	44	M 16	125	270	4.5	32

Pin assignment

Electrical connection	
Excitation voltage (+) ¹⁾	Brown
Excitation voltage (-) ¹⁾	Green
Signal (+) ¹⁾	Yellow
Signal (-)	White
Control	Grey
Screen \oplus	Screen

¹⁾ Also for load cells with integrated amplifiers 0[4]...20 mA, 0...10 V, 3-wire system

Pin assignment for integrated or cable amplifier



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We reserve the right to make modifications to the specifications and materials.