

Compression force transducer with spherical load input areas on both sides

with electrical output



Description

This force transducer is suitable for measurement of static compression forces.

With its compact and robust design, it is particularly suitable for industrial service.

This force transducer is designed for measuring ranges from 0 ... 1 t to 0 ... 60 t.

The force transducer is splash waterproof and works with very great reliability even under difficult operating 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.

Features

- for compression force measurements
- simple force introduction
- robust design
- compact small dimensions
- simple installation
- low installation height
- Protection class IP 67
- Accuracy 0.2% of full scale value

Measuring ranges

- 1 t ... 60 t

Application

- Production lines
- Measuring and monitoring facilities
- Special equipment and machinery construction
- Test benches and production lines

Specific information

- Installation kit optional available

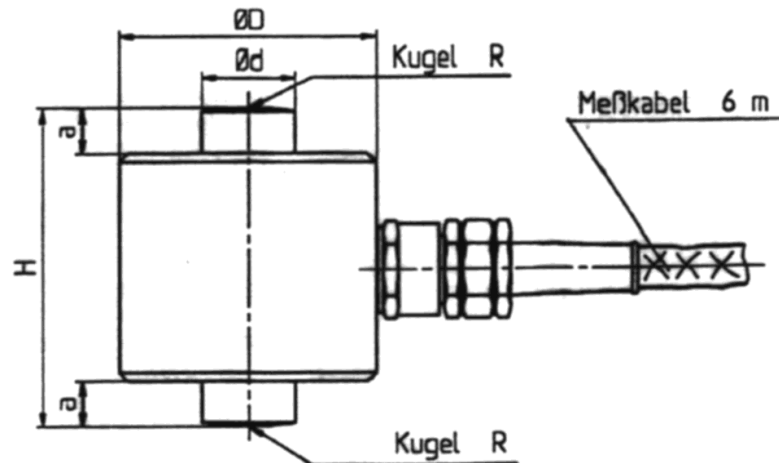
Model: F1214

Technical data

Model	F1214	
Nominal load F_{nom}	1, 2, 6, 13, 28, 60 t	
Accuracy class	0.2% of F.S.	
Limit load	150% F_{nom}	
Breaking load	> 300% F_{nom}	
Combined error	$\leq \pm 0.1\%$ of F.S.	
Max. dynamic load	$\pm 70\%$ F_{nom} acc. to DIN 50 100	
Creep, 30 min. at F_{nom}	$\leq \pm 0.06\%$ of F.S.	
Nominal deflection	< 0.11 mm	
Nominal temperature range	-10 up to +60°C	
Service temperature range	-20 up to +70°C	
Storage temperature range	-30 up to +80°C	
Reference temperature	23°C	
Temperature effect	-span -zero	$\leq \pm 0.05\%$ of F.S./ 10K $\leq \pm 0.05\%$ of F.S./ 10K
Protection type (acc. to EN 60529/IEC 529)	IP 67	
Insulation resistance	> 2 G Ω	
Analogue output		
- Output signal	1.5 mV/V	
- Bridge resistance	350 Ω	
- Option	Cable integrated amplifier 0 (4) ... 20 mA, 0 ... 10 V DC	
- Tolerance of span	$\leq \pm 0,2\%$ of F.S.	
- Excitation voltage	6 ... 10 V (max. 12 V)	
- Option	12 ... 28 V DC for cable integrated amplifier	
- Electrical connection	Cable 6 m / 6-wire	
Non repeatability	0.04%	
Mounting equipment	see sep. data sheet	
Material of measuring device	Stainless steel	

of F.S. = full scale value

Dimensions:



Nominal load [t]	Dimensions in [mm]				
	Ød	ØD	a	H	R
1, 2, 6	16.7	45	8	56	50
13	24.5	55	12	68	70
28	36	64	14	74	135
60	52.5	90	20	90	288

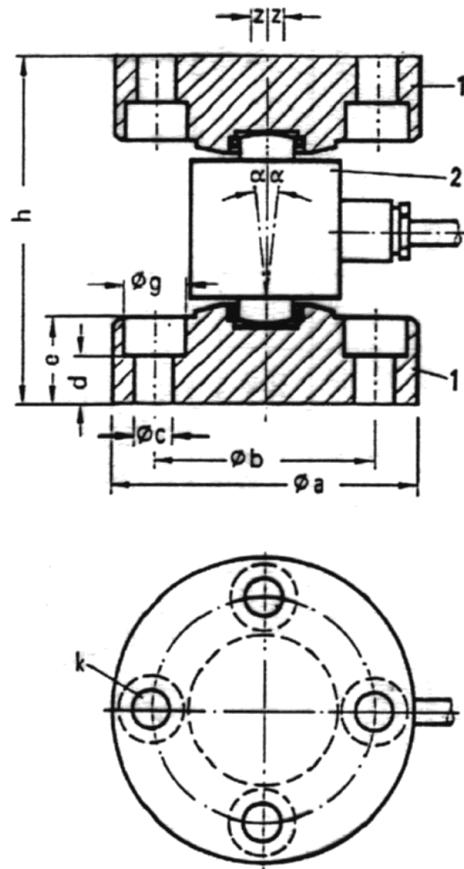
Electrical connections	
Supply (+)	brown
Supply (-)	green
Signal (+)	red
Signal (-)	white
Sensor (+)	grey
Sensor (-)	blue

Installation set

Item 1 Pressure plate for BR F1210

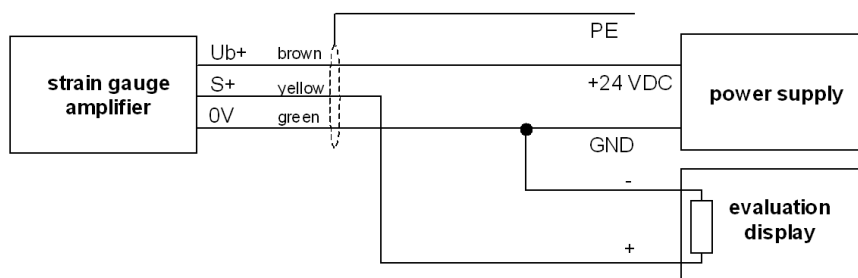
Item 2 load cell BR F1214

1 installation set consists of two pressure plates



Horizontal deflections (z) of the load bearer cause an inclination (α) of the force transducer. As a result the build-in height simultaneously increases. During installation, α can be utilised up to 6° . In operation, it is recommended not to exceed 2° .

Nominal load t	$\varnothing a$ [mm]	$\varnothing b$ [mm]	c [mm]	d [mm]	e [mm]	g [mm]	h [mm]	k	weight [kg]
1; 2; 6;	87	63	11	14	25	18	100 ^{+0.5} ₋₁	two bores 180°	1
13	97	73	11	21	32	18	120 ^{+0.5} ₋₁		2
28	108	84	11	-	28	-	136 ^{+0.5} ₋₁		2
60	137	112	11	-	42	-	174 ^{+0.5} ₋₁	four bores 90°	5



Pin assignment for cable integrated amplifier

Subject of technical changes