



## Force Transducer RF



Precision force transducer for tension and compression  
static and dynamic

- Nominal loads  
from 400 kN up to 10 MN
- Accuracy class 0,05
- Low profile, small mass
- Insensitive to  
eccentric load application  
and lateral forces
- Simple mounting
- Fatigue proof



# Force Transducer RF

## Technical Description

The Series RF is fatigue proof (at alternating load tension/compression) with good support against bending moments and eccentric load.

The transducer can easily be mounted at crossheads and crossbars. It may be screw in from only one side, through holes in the crossbar are not necessary.

The optimal adaptation of the strain gauges and the transducer geometry provide an excellent isolation from disturbing influences and a low creep error, even during sudden unloading. The brilliant sealing secures high long-term stability.

## Applications

The Series RF is especially developed for material testing in the upper load range (400 kN to 10 MN).

## Options

- Dual bridge  
The transducers are optionally available with two measuring bridges, which are identical in all their metrology specifications
- Bending moment instrumentation  
Option to check the quality of load introduction. Additionally to the axial force  $F_z$ , the horizontal bending moments  $M_x$  and  $M_y$  are measured separately and given out as individual channels



# Force Transducer RF

## Technical Data

### General Data (relative to full scale output)

Nominal capacity tension/compression	F <sub>nom</sub>	± kN	400	500	630	1,000	2,000	2,500	3,000	4,000	5,000	10,000
Accuracy class			0.05									
Reproducibility error	f <sub>rep</sub>	± %	0.005									
Linearity error	d <sub>lin</sub>	± %	0.025									
Hysteresis	u	± %	0.2									
Temperature influence on zero	TK <sub>o</sub>	± %/K	0.0025									
Temperature influence on span	TK <sub>c</sub>	± %/K	0.004									
Maximum force	F <sub>L</sub>	± %	150									
Maximum lateral force	F <sub>Q</sub>	± %	100									
Breaking force	F <sub>B</sub>	± %	> 300									
Weight		kg	9		19		46		81	122	on request	
Nominal displacement		mm	0.16		0.2		0.29		0.32	0.34	on request	
Natural frequency		kHz	3									

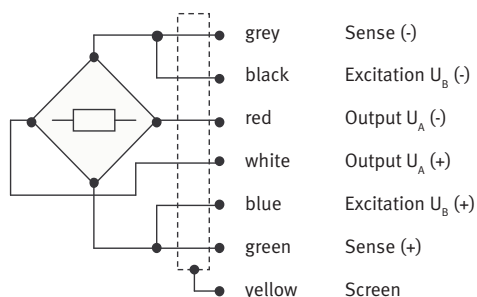
### Electrical Data

Nominal sensitivity	$C_{nom}$	mV/V	2									
Bridge impedance nominal	$R_e$	$\Omega$	ca. 750									
Maximum excitation	$U_{e, max}$	V	15									
Cable connection			5 m long, 6-wire, $\varnothing$ 6.5 mm									
Environmental protection			IP 54 with fixed Connection (EN60529)									

### Additional Data (relative to actual value)

Total error (incl. hysteresis, linearity and temperature error) in the range from 1% to 100% $F_{nom}$	$\Delta F/F$	$\pm$ %	0.5									
Rel. creep ( $t_b = 30$ min)	$d_{cr, F, E}$	$\pm$ %	0.025									
Nominal temperature range	$B_{t, nom}$	$^{\circ}C$	+10 to +60									
Lateral force influence	$d_Q$	$\pm$ %/0,1 $F_{nom}$	0.2									
Torque influence	$d_M$	$\pm$ %/mm $F_{nom}$	< 0.005									
Eccentricity influence	$d_E$	$\pm$ %/mm	0.02									

### Electrical connection



fixed connection at transducer  
(5 m, 6-wire, screened,  
open ended)

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