

# Ring force transducer

## Flat version up to 100 kN

### Model F6212

WIKA data sheet FO 51.27

#### Applications

- Cutting tools
- Measurement and inspection equipment
- Test benches and production lines
- Press-in forces and joining forces monitoring
- Force measurement on spindle drives and press spindles

#### Special features

- Measuring ranges 0 ... 2 kN up to 0 ... 100 kN
- For compression force measurements
- Flat dimensions
- Stainless steel measuring body
- Protection class IP65



Ring force transducer, model F6212

#### Description

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

These force transducers are used in applications and test facilities with the need of a ring geometry with a big inner diameter. Typical tasks are force measurement in spindle drives or presses.

#### 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 axially right-angled of the force transducer and free of transverse force. Optionally, this ring force transducer is available on the upper and lower side with fastening threads. When mounting the force transducer, a flat, ground and hard surface should be ensured.

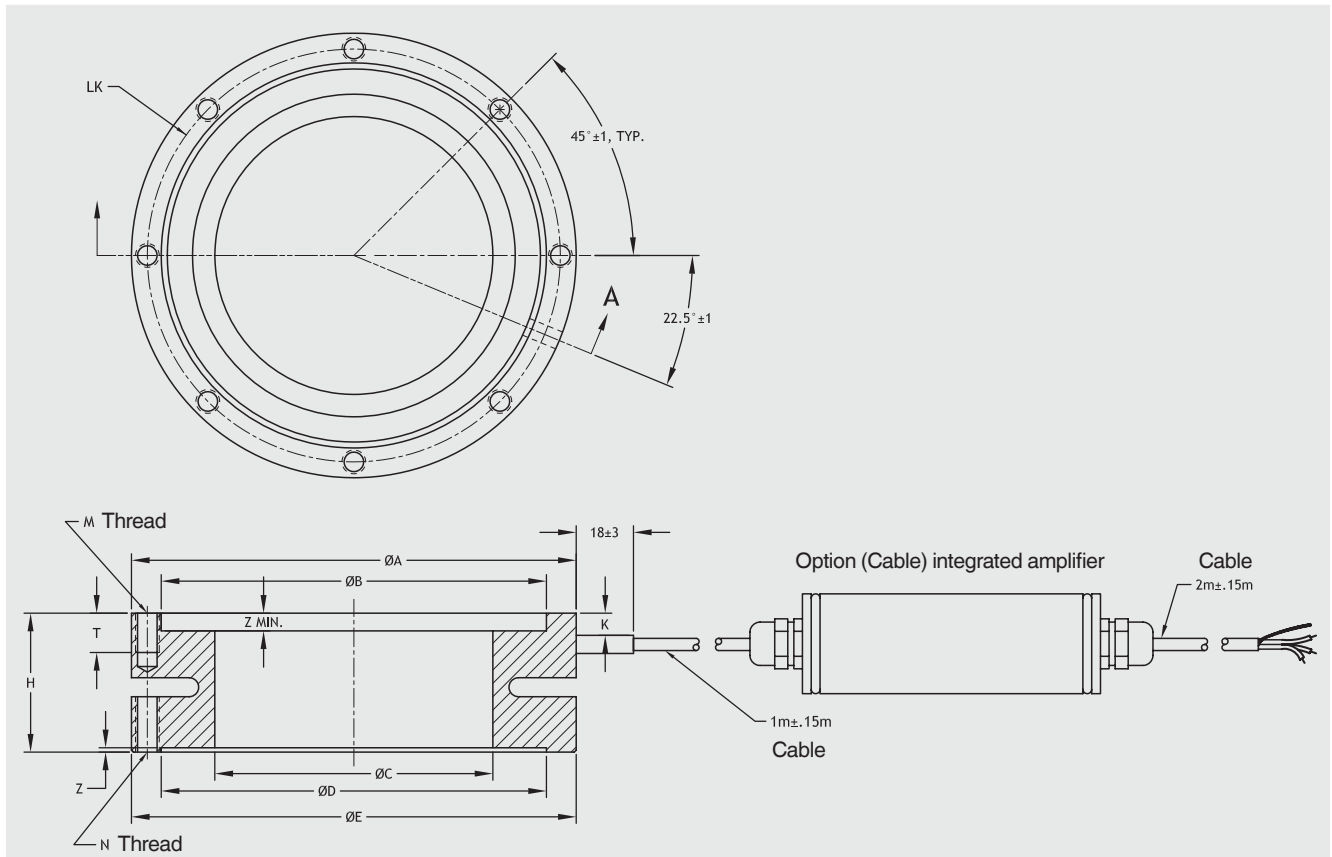
#### Options

- Control function 100 % Signal
- 6-wire
- Rated output adjustment on 1 mV/V
- Extended nominal temperature range

## Technical data in accordance with VDI/VDE/DKD 2638

Model F6212	
Rated force $F_{nom}$ kN	2, 5, 10, 20, 50, 100
Relative linearity error $d_{lin}$	$\leq 0.5 \% F_{nom}$
Relative creep, 30 min.	$< \pm 0.1 \% F_{nom}$
Temperature effect on zero signal $TK_0$	$< \pm 0.2 \% / 10 K$
Temperature effect on characteristic value $TK_C$	$< \pm 0.2 \% / 10 K$
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 $s_{nom}$	$< 0.15 \text{ mm}$
Material	Stainless steel
Rated temperature range $B_{T, nom}$	$-10 \dots +50 \text{ }^\circ\text{C}$
Operating temperature range $B_{T, G}$	$-30 \dots +80 \text{ }^\circ\text{C}$
Storage temperature range $B_{T, S}$	$-50 \dots +95 \text{ }^\circ\text{C}$
Reference temperature $T_{ref}$	$23 \text{ }^\circ\text{C}$
Output signal (rated output) $C_{nom}$	$0.8 \dots 1.2 \text{ mV/V}$
Insulation resistance $R_{is}$	$> 2 \text{ G}\Omega$
Electrical connection <ul style="list-style-type: none"> <li>■ Standard</li> <li>■ Option</li> </ul>	Cable 3 m, 4-wire 6-wire
Rated range of excitation voltage $B_{U, nom}$	DC 2 ... 12 V (max. 15 V) for mV/V
Supply voltage <ul style="list-style-type: none"> <li>■ Standard</li> <li>■ Option</li> </ul>	DC 12 ... 28 V Integrated or cable amplifier 0(4) ... 20 mA DC 0 ... 10 V
Protection (acc. to IEC/EN 60529)	IP65
Calibration control (Option)	100 % signal
Weight	1.1 ... 1.4 kg

## Dimensions in mm

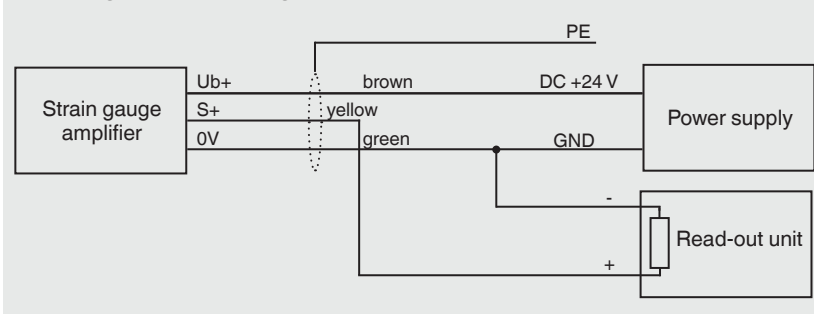


Rated force in kN	Dimensions in mm								Option		
	A	B	C	D	E	H	K	Z	M/N	T	LK
2, 5, 10, 20	69.7 ± 0.3	54 ± 0.3	33 ± 0.3	54 ± 0.3	70 ± 0.3	25 ± 0.2	3.4 ± 0.5	0.2	M5 x 0.8	6	62 ± 0.3
50, 100	111.5 ± 0.3	97 ± 0.3	70 ± 0.3	97 ± 0.3	112 ± 0.3	35 ± 0.3	8.9 ± 0.5	1 ± 0.2	M6 x 1	10	104 ± 0.3

## Pin assignment

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

### Pin assignment for integrated amplifier or cable amplifier



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