

Compression force transducer

With bilateral spherical force introduction up to 50 t

Model F1861



WIKA data sheet FO 51.61

Applications

- Measuring and control systems
- Truck scales
- Platform scales
- Tank weighing

Special features

- Measuring ranges 0 ... 10 t to 0 ... 50 t
- Relative linearity error 0.03 % F_{nom}
- Material: Stainless steel version, IP67
- Self-centring rocker pins with dual spherical force introduction
- Adapter plates available



Compression force transducer, model F1861

Description

The model F1861 compression force transducer is suitable for measuring of static compression forces up to 50 t. Due to its compactness and robust design, it is particularly suitable for industrial use. The field of application of this force transducer lies in various industrial applications in which static forces or weights must be measured. An example is in industrial weighing technology.

A special feature of this force transducer is the design using rocker pins with dual spherical force introduction.

The force transducer is splash-proof and works reliably, even under difficult operating conditions.

Note

To avoid overloading, it is advantageous to connect the force transducer electrically during assembly and to monitor the measured value.

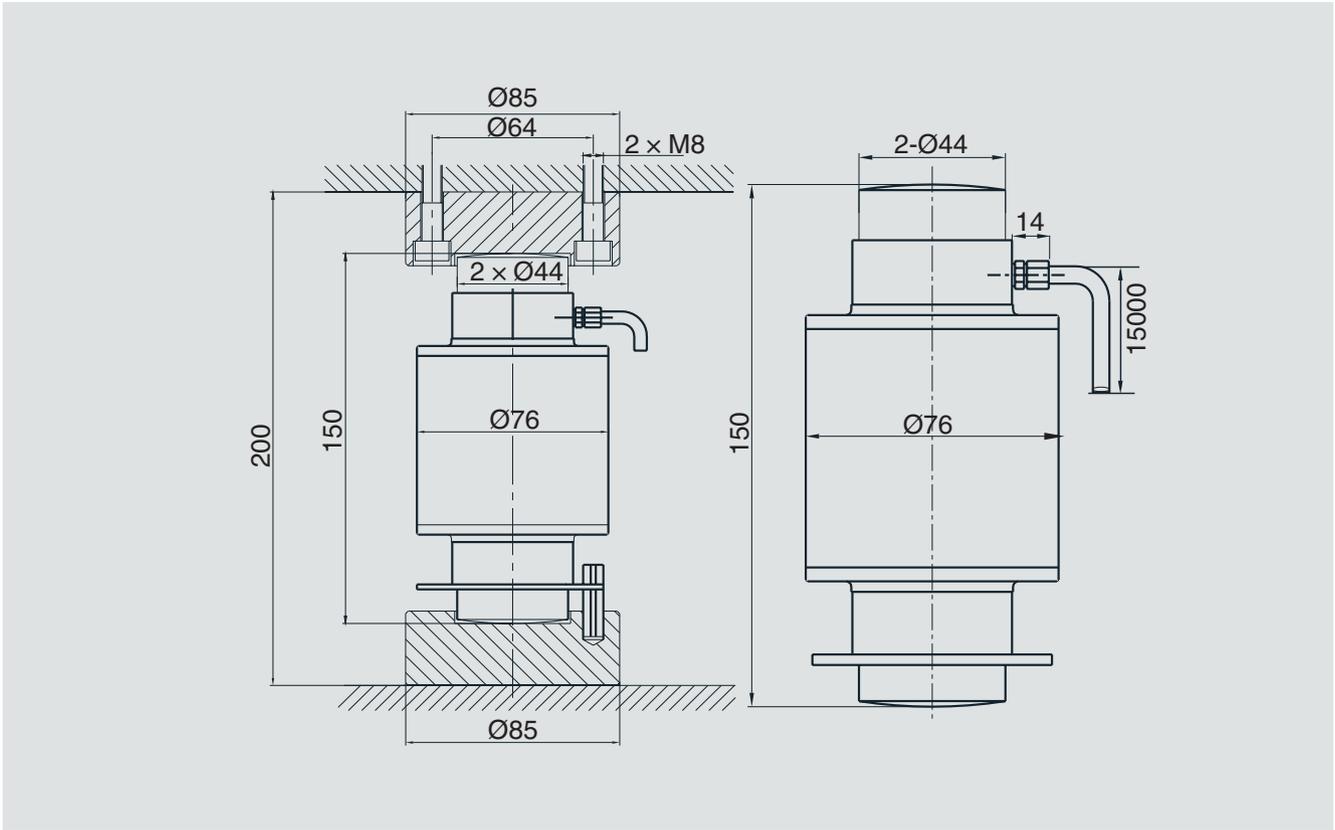
The measuring force must be introduced through the centre and free of transverse force.

When assembling the force transducer, care should be taken that the support surface is flat.

Specifications per VDI/VDE/DKD 2638

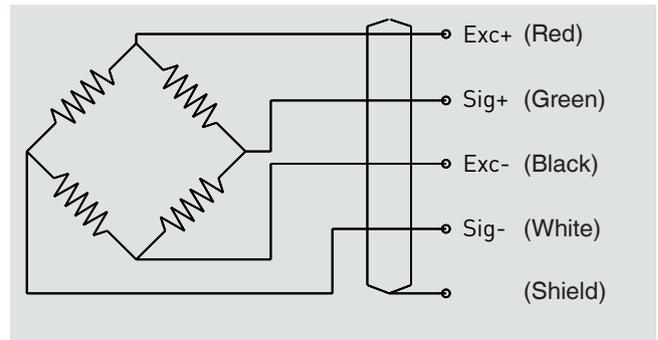
Model F1861	
Rated load F_{nom} t	10, 20, 30, 40, 50
Relative linearity error d_{lin}	0.03 % F_{nom}
Relative creep, 30 min. at F_{nom}	0.03 % F_{nom}
Relative reversibility error v	0.03 % F_{nom}
Relative span in unchanged mounting situation b_{rg}	0.03 % F_{nom}
Relative deviation of zero signal $d_{S,0}$	± 2 % F_{nom}
Temperature effect on the zero signal TK_0	0.02 % $F_{nom}/10$ °C
Temperature effect on the characteristic value TK_C	0.02 % $F_{nom}/10$ °C
Limit force F_L	150 % F_{nom}
Breaking force F_B	250 % F_{nom}
Material of the measuring body	Steel version
Rated temperature range $B_{T, nom}$	-10 ... +40 °C
Service temperature range $B_{T, G}$	-20 ... +60 °C
Input resistance R_e	400 \pm 20 Ω
Output resistance R_a	352 \pm 3 Ω
Output signal (rated characteristic value) C_{nom}	2.0 \pm 0.2 % mV/V
Electrical connection	Cable $\varnothing 5 \times 15,000$ mm
Voltage supply	DC 5 ... 10 V (max. 15 V)
Ingress protection (per IEC/EN 60529)	IP67
Weight	4.3 kg

Dimensions in mm



Pin assignment

Electrical connection	
Excitation voltage (+)	Red
Excitation voltage (-)	Black
Signal (+)	Green
Signal (-)	White
Shield ⊕	Shield



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