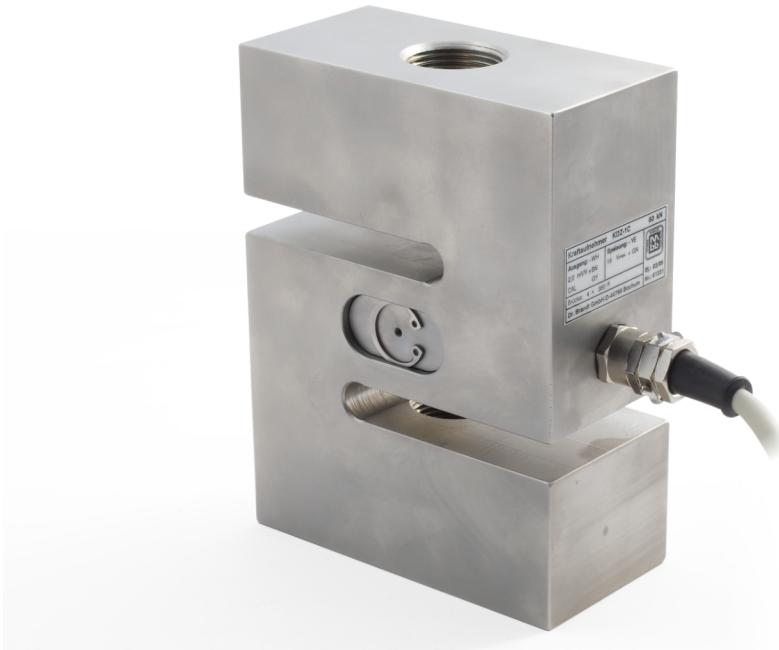


Pression/Tension-Force Transducer KDZ-1 [50 N...50 kN]



Purpose

Measuring of pressing + tension force.
Weighing.

Operating

Double bending beam transverse to the force direction applied with strain gauges.

Advantages

- High sensitivity, equal for pressing and tension force, suitable for alternating force direction
- Small combined error
- K-Option: small tolerances and drift
- Only three sizes required for the ranges 50...5000 N; 0.2...20 kN; 5...50 kN
- Several options for force inducing:
- 2 exterior or inside threads for toggle links
- Cross holes, e. g. for shackle bolts
- Forked ends with cross holes, e. g. for bolts and eye-hooks

Applications

Measuring machine forces, especially in both directions, e. g. at double-sided hydraulic pistons. Anchoring forces. Band tensile forces. Weighing.

Construction

The transducer produced out off a rectangular beam in aluminium, bronze or special steel is formed similar to an S. The middle measuring area is a double bending beam inner surfaces applied with strain gauges.

These surfaces form a circular hollow cylinder simply produced and sealed. Bending areas are defined by four drilled holes symmetrical to the centre.

Slits from outside to the second hole, e.g. above from the left, below from the right side turn the force-flux into the beam direction.

Measuring hole contains strain gauges, adjusting elements for resistance, ZERO, GAIN, at K-option for drift too. The hole is protected by covers with joint-O-rings. Connection is made by cable through an outlet or by a flange-connectacle.

Force is induced by inside or exterior threads, cross holes or forked ends with cross holes.

Electrical Data

Resistance, nominal.....4 x 350 Ω
 Resistance, actual value..see test protocol
 Connection,standard.....2m cable
 " Opt. plug-in-conn....BINDER ser.723 (7p)

Exciting voltage.....10...15 V

Output (full load).....2 mV/V nominal *)
 Tolerance (+20°C).....1%; K-Opt. 0.25%

**)for dynamic measurements and higher safety we recommend Option 1 mV/V*

Comb. error,1 direction..< 0.02%
 " 2 directions.....< 0.05%
 ZERO signal(+20°C).....< 2%; "K":< 0.5%
 = Output signal at.....ZERO load
 " drift/10K.....<0.3%;"K":< 0.1%
 Output drift/10K.....<0.3% "K":< 0.1%

Nominal temp.-range.....- 20°C...+ 60°C
 Tolerated range.....- 50°C...+120°C
with spec. cable or
plug-in-connector

Mechanical Data

Working load (2mV/V)....1.25 x nom. load
 Limiting load1.5 x nom. load
 Breaking load> 3 x nom. load
 Transverse load< 0.3x nom. load
 Option 1 mV/V.....double sizes

Calibration.....N, kN standard
 Calibration (Option).....kg, t

Dimensions (mm) and Weights (kg)

KDZ-1 model	A	B	C
Range	50 N...5 kN	2...20kN	5...50 kN
Material	Aluminium	Steel	Steel
b	60	70	120
h	70	100	160
t	30	30	60
Thread*	M 8	M16	M30x2
" Length*	12	24	45
Weight nearly	0.3	2.3	7.5

**) Longer or other threads on request.*

Dimensions for force-inducing options can be specified by the customer.

Data sheet E 04.8 page 2

