

Force Transducer BKA-25-0,4t-1.00

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description

The force transducer works according to the principle of the bending stress measurement. The force introduction follows crossways to the longitudinal axis.

The BKA-25 was developed especially for the measuring of small forces (quality control, weight and filling level determination,...) in robot, use technology and in the medicine technology.

It is carried out as a beam with a chamber. The beam shape and the drillings with a diameter of 10,5 mm permit a mounting appropriate for mechanical engineering. The force introduction is marked in the application sketch accordingly.

The strain gauges applied in the chamber are poured with a highly elastic mass and are protected therefore against mechanical and chemical damages.

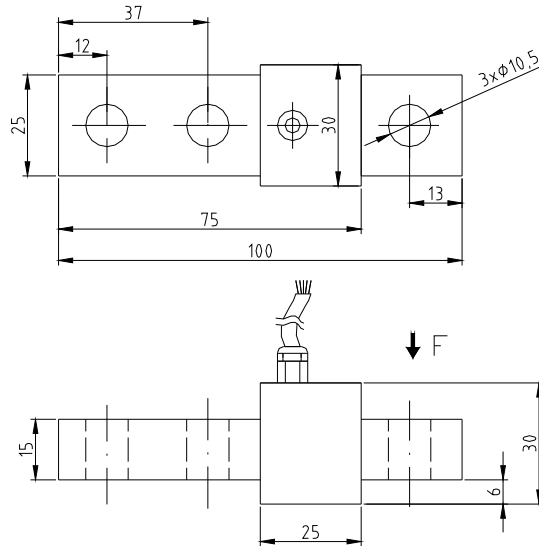
The strain gauge full bridge measured the bending force on the beam caused by the distorsion.

The strap balance is balanced in the unloaded state on approx. $\pm 0,01$ mV/V.

The BKA-25 is provided for the direct coupling to an automatic control or a controlling switch.

The shield of the cable is not connected basically with the surface of the force transducer.

specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight approx. 0,35 kg
 material stainless steel
 degree of protection IP 67

BKA **25-0,4t**
 nominal force / nominal load 400 kg
 max. overload range / force limit 150 % of nominal force
 breaking force 400 % of nominal force

electrical execution

measuring principle wheatstone full bridge of strain gauges
 input / output resistance 350 Ω / 350 Ω
 nominal sensitivity approx. 1,2 mV / V (accurate value: see type label / banderole)
 excitation voltage max. 12 V AC / DC
 current consumption max. 35 mA
 calibration tolerance < 0,50 % of final value*
 non-linearity < 0,25 % of final value*
 hysteresis < 0,15 % of final value*
 temperature coefficient:
 of zero signal \leq 0,04 % of final value / K
 of the sensitivity \leq 0,04 % of set point / K
 insulation resistance > 5.000 M Ω
 nominal temperature range -15 °C to +70 °C
 operating temperature range -25 °C to +80 °C

cable and connection

cable length / cable type 0,45 m SD 200 C 4 x 0,25mm²
 cable end tinned
 wiring connections
 brown excitation voltage Us+ / B+
 green excitation voltage Us- / B-
 yellow signal Ud+ / S+
 white signal Ud- / S-
 blue shielding (only in the case of a shielded cable)

* These details are depending on the fit, the resistance moment and the installation length. They are reached with favorable values.

** only for the case that the cable is laid with fastening (depending on cable type)

*** This cable should be connected at the operating voltage unless the calibration signal is used. (only applicable to executions with amplifier)