

Force Transducer PBB-28A-20kg-3.00

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description

The force transducer works according to the principle of force measurement normally to the longitudinal axis.

The PBB-28A is specially designed for measuring small forces (quality assurance, weight and fluid level measurement) in robotics, industrial handling systems and medical devices.

It is constructed as a beam with a chamber. The beam shape and two Ø 8,4 mm drillings enable installation according to mechanical engineering rules. The force introduction is carried out via a thread M8.

The strain gauges are protected against mechanical and chemical damages by sealing the application room with a highly elastic compound.

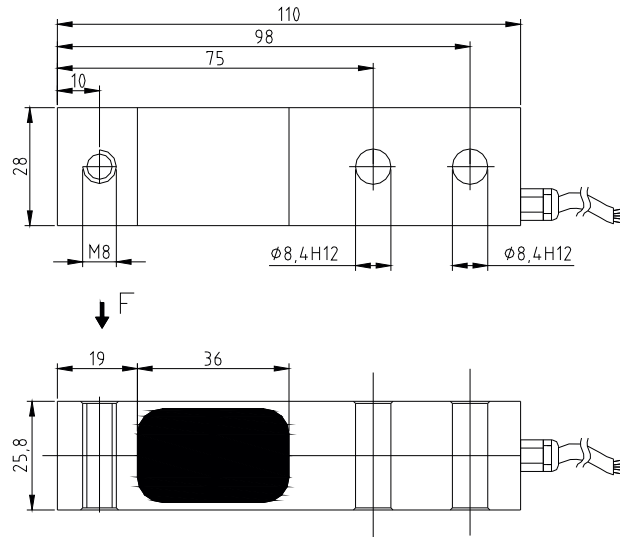
The strain gauge full bridge measures the deformation due to the bending forces acting on the beam.

The bridges are adjusted in the unloaded state to approx. $\pm 0,01$ mV/V.

The PBB-28A is provided for the direct coupling to an amplifier.

The shield of the cable is connected with the force transducer.

specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight approx. 0,18 kg
 materia aluminium
 degree of protection IP 67

PBB **28A-20kg**
 nominal force / nominal load 20 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. 1,5 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 1,5 m LiYCY 4 x 0,14 mm²
 cable end wire-end-sleeve
 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

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