Force Transducer
PBB-28A-10kg-4.S60

VELOMAT
MESSELEKTRONIK GmbH

article-no: VX34021271
serial-no: key 48D

description

The force transducer works according to the principle of shear 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 open chamber. The beam shape and two Ø 8.4 mm drillings enable installation according to mechanical engineering rules. The force application is accomplished via a M8 thread.

The strain gauges are protected against mechanical and chemical damagees 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. An external amplifier delivers the measuring signal of 4 – 20 mA.

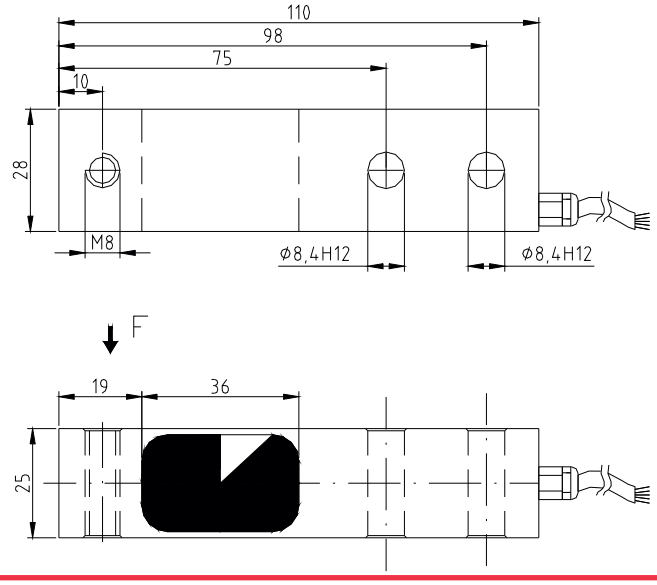
In the unloaded state the nominal output current can be produced by applying the calibration check signal (software calibration). This enables a check of the force transducer, amplifier and the following measuring device.

The PBB-28A is provided for the direct coupling to a control system or a comparator switch.

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

VELOMAT Messelektronik GmbH . Schwarzer Weg 23b . D-01917 Kamenz
Internet: www.velomat.de
Telefon (03578) 3749-0 . Telefax (03578) 3749-14
E-Mail: velomat@velomat.de

specification



mechanical execution

diameter, force transmission and mounting see assembly drawing

weight	approx. 0,42 kg
material	aluminium
degree of protection	IP 67
PBB	**28A-10kg**
nominal force / nominal load	10 kg
max. overload range / force limit	150 % of nominal force
breaking force	400 % of nominal force

electrical execution

measuring signal (output)	4 - 20 mA
operating voltage	12V DC ±10 %
current consumption	max. 45 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	≤ 0,04 % of final value / K
of the sensitivity	≤ 0,04 % of set point / K
insulation resistance	> 5.000 MΩ
nominal temperature range	-15 °C to +70 °C
operating temperature range	-25 °C to +80 °C**

cable and connection

cable length / cable type:		
sensor - amplifier	0,3 m SD 200 C 4 x 0.25 mm²	
amplifier - cable end	2 m SD 200 C 4 x 0,25 mm²	
cable end	wire-end-sleeve	
wiring connections	brown	operating voltage U_B
	green	ground / earth GND
	yellow	measuring signal output Im
	white	calibration signal (low activ) CC***
	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)