

# Force Transducer PBB-28A-20kg-3.50

article-no: VX34020769  
serial-no: key 30W



## 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  $\varnothing 5.5$  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.

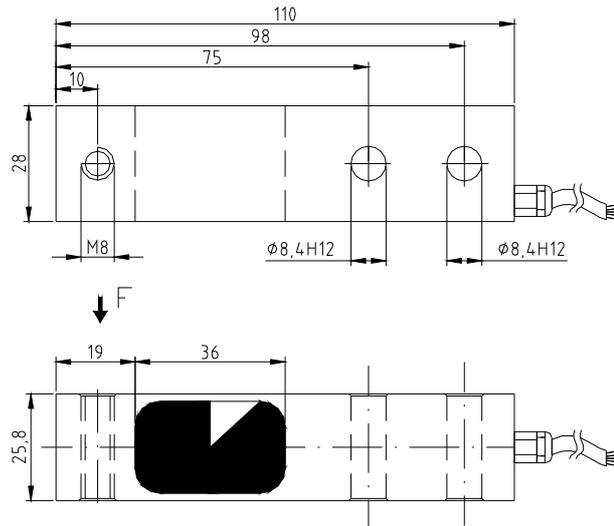
The strain gauge full bridges measures the deformation due to the bending forces acting on the beam. An integrated amplifier delivers the measuring signal of 4 – 20 mA.

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 connected with the force transducer.

## specification



## mechanical execution

diameter, force transmission and mounting see assembly drawing

<b>weight</b>	approx. 0,36 kg
<b>material</b>	aluminium
<b>degree of protection</b>	IP 67
<b>PBB</b>	<b>28A-20kg</b>
<b>nominal force / nominal load</b>	20 kg
<b>max. overload range / force limit</b>	150 % of nominal force
<b>breaking force</b>	400 % of nominal force

## electrical execution

<b>measuring signal (output)</b>	4 - 20 mA
<b>operating voltage</b>	12 - 24 V DC $\pm 20$ %
<b>current consumption</b>	max. 45 mA
<b>calibration tolerance</b>	< 0,50 % of final value*
<b>non-linearity</b>	< 0,25 % of final value*
<b>hysteresis</b>	< 0,15 % of final value*
<b>temperature coefficient:</b>	
of zero signal	$\leq 0,04$ % of final value / K
of the sensitivity	$\leq 0,04$ % of set point / K
<b>insulation resistance</b>	> 5.000 M $\Omega$
<b>nominal temperature range</b>	-15 °C to +70 °C
<b>operating temperature range</b>	-25 °C to +80 °C**

## cable and connection

<b>cable length / cable type</b>	6 m LiYCY 4 x 0,14 mm <sup>2</sup>										
<b>cable end</b>	wire-end-sleeve										
<b>wiring connections</b>	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">brown</td> <td>operating voltage UB</td> </tr> <tr> <td>green</td> <td>ground / earth GND</td> </tr> <tr> <td>yellow</td> <td>measuring signal output Im</td> </tr> <tr> <td>white</td> <td>calibration signal (low activ) CC***</td> </tr> <tr> <td>blue</td> <td>shielding (only in the case of a shielded cable)</td> </tr> </table>	brown	operating voltage UB	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)
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\* 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)