Force transducer
PBB-10A-0,01-3.60

Part no.: VX34120048
Serial no.: Schlüssel 66T

VELOMAT
MESSELEKTRONIK GmbH

- **Measurement range 0 … 0.01 kN**
- **Measured signal 4 … 20 mA**
- **external amplifier**

Description

The force transducer is a double-beam load cell; force measurement takes place perpendicular to the longitudinal axis.

The PBB-10A has been specially developed for measuring small forces (quality control, weight and level determination, etc.) in robotics, handling and medical technology.

It is designed as a beam with an open chamber. The beam shape and two 3.2 mm diameter bores allow for installation suitable for mechanical engineering applications. The force is applied via a further 4.3 mm diameter bore.

The strain gauge (SG) applied in the chamber is encapsulated in a highly elastic compound, thus protecting it from mechanical and chemical damage.

Full-bridge strain gauges measure the deformation caused by bending forces on the beam. An external amplifier supplies the measurement signal of 4–20 mA.

In the unloaded state, the nominal output current can be generated by activating the calibration check signal (software calibration). This allows the transducer, its amplifier and the subsequent measuring equipment to be checked.

The PBB-10A is designed for direct connection to a control system or comparator circuit.

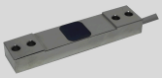
The shield of the supply cable is not connected to the surface of the force transducer.

Product Range
Force Transducer

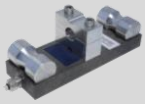

Shear force Transducer SKA-30D


Parallel Bending Beam PBB-28A


Tensile Force Transducer ZKA-12

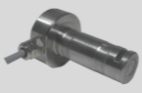

Strain Transducer DA-20


Compression Force Transducer DKA-30


Rope Force Transducer LBA-160


Tensile Force Transducer KWZ-70


Tensile / Compression Force Transducer DZA-24A


Load Pin SB-25


Load Pin SKL-90

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Technical Data

Mechanical Data:

Force Transducer:

Weight:	approx. 0.4 kg
Material:	Aluminium
Degree of protection:	IP 67
Nominal force:	0.01 kN = 20 mA
Max. force of use:	150 % of nominal force
Min. breaking force:	400 % of nominal force

Electrical Data:

General Data:

Total error:	≤ 1 % of final value
Temperature error zero point:	≤ 0.04 % of final value / K
Temperature error sensitivity:	≤ 0.04 % of final value / K
Insulation resistance:	> 5000 MΩ
Nominal temperature range:	-15 °C to +70 °C
Temperature range of use:	-25 °C to +80 °C

Measurement Amplifier:

Power supply:	12-24 V DC ± 20 %
Current consumption:	max. 45 mA
Output signal:	4 … 20 mA = 0 … 0.01 kN
Execution:	external amplifier
Calibration check stroke:	+16 mA

ATEX / IECEx:

ATEX-Zone:	Lieferbar Zone 2/22

Cable and Connector

Cable:

Type:	PVC, screened
Length:	Sensor – Amplifier: 1.0 m, 4 x 0.04 mm²
	Amplifier – Cable end: 5.0 m, 4 x 0.14 mm²
Cable end:	Wire end ferrules

Core Colour	Description
brown	Operating voltage (U_B)
white	Calibration check CC
green	Ground (GND)
yellow	Load signal (IM)
blue	Screen connection cable

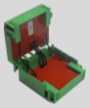
Product Range Electronics


Measurement Amplifier VMV-0025


Limiting Switch VMV-0131


Large Size Display VPA-0185


Handheld Terminal VHT-0041 VHT-0020


ATEX Barrier VZB-0010


Data Logger VPA-0400


Radio System VUR-0350


Small Control System VKS-0100


Measurement Controller VKS-0120


Load Monitor VKS-0151


ATEX Device VMV-0034

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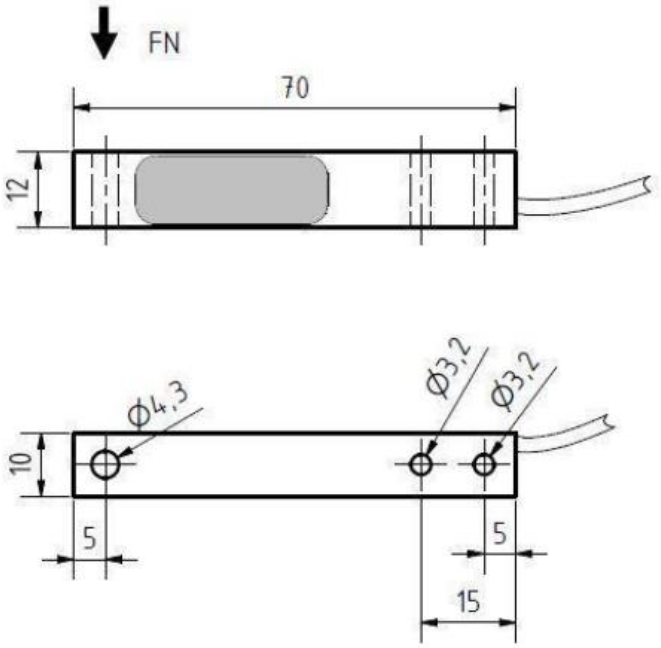
Installation Dimensions



Customised Special Solutions

Contract Applications

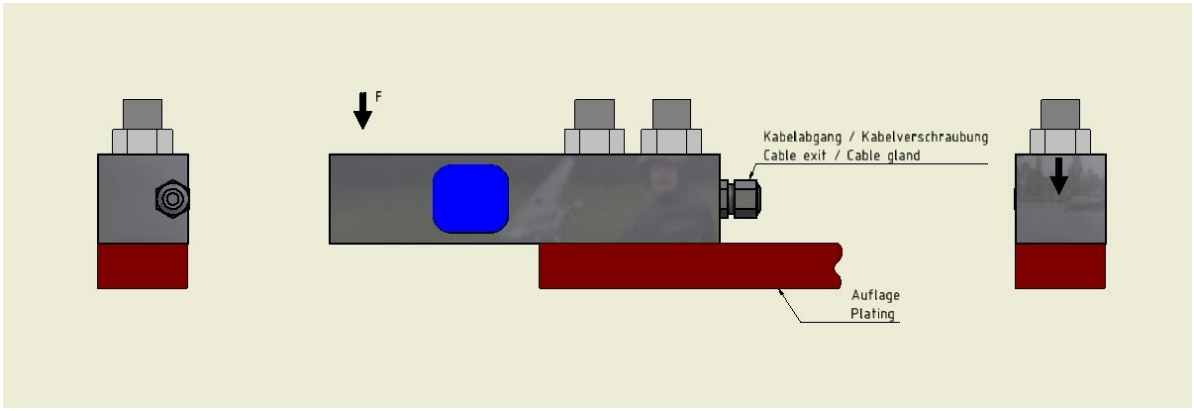
Factory Calibration

DAkkS- / DKD-Calibration

Cable Assembly

Engineering Services

Installation



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