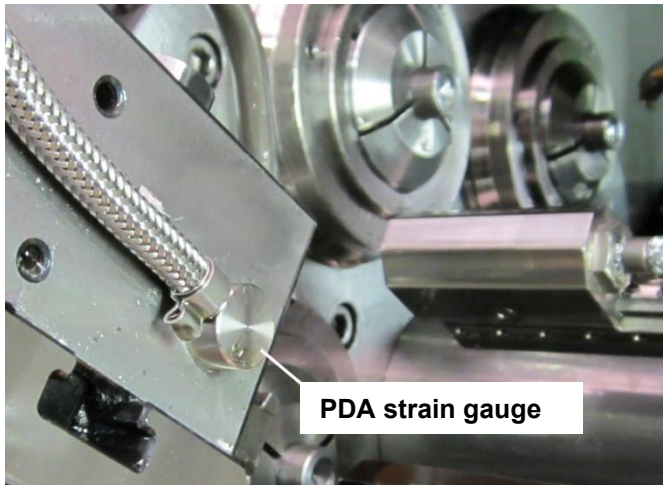




## Strain Gauge and Force Sensor

### PDA



#### Technical Data:

##### Sensor housing:

Ø = 16 mm x h = 8 mm (stainless steel)

Temperature range: +5 °C ... +80 °C:

##### Connection cable:

Metal braided protection hose (Ø = 10 mm)  
with interior LiYCY 2 x 0.14 mm<sup>2</sup>

Cable length: 5 m (Min. bending radius: 10 mm)

##### Adhesive:

Suitable for metals, rubber and plastics

Strength after approx. 3 min.

Operating temperature range: -40 °C ... +120 °C:

Further processing of measured value  
using control unit (available separately):



PDA-CU (order no. 8.3.9)

The PDA strain gauge was constructed for measuring in confined spaces. Compared with the previous BDA-Kralle and DMS-Kralle strain gauges, it offers the following characteristics:

- Straightforward adhesive mounting (instead of screws)
- Equal sensitivity in all directions. This means it is not necessary to know the exact direction of the strain to be measured
- Compact dimensions allow mounting close to the tool (Diameter 16 mm, height 8 mm)
- Greater measured value sensitivity due to lower drift during long-term measurements

### Application:

Its compact dimensions and the straightforward attachment using adhesive (no screws required) makes the PDA suitable for carrying out force measurements even in confined spaces or on hardened surfaces.

Thanks to multi-directional measurement, the transducer can be used, for example, on turret housings or on rolling heads.

### Installation:

The transducer is glued in place using the supplied fast-acting adhesive: The surface of the machine part must be free of dust,

grease, lubricants or other dirt. It may be necessary to remove thick layers of paintwork or powder coating so that a bare metal surface can serve as an adhesive surface. To ensure uniform and flush adhesion, the surface should be roughened slightly with a fine non-woven abrasive.

The adhesive is fast-acting and the transducer should be pressed into place immediately after the adhesive is applied to the surface prepared beforehand. It is sufficient to press the transducer by hand for approximately 60 seconds.

### Installation instructions:

To achieve the greatest adhesive force, apply the adhesive thinly to maximise its contact with the air.

After installation, you must provide strain relief approx. 30 to 100 mm away from the transducer housing. For this purpose, every PDA is supplied with a line fixing clip, an aluminium cable binding clip and a cable tie. Alternatively, strain relief can be also be provided by glueing on the metal braided hose.

### Order number:

#### 8.3.1 PDA

Piezo-electric

strain gauge

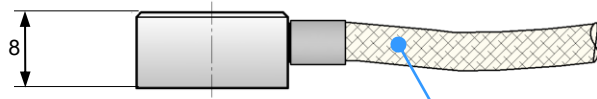
#### Spare parts:

#### 8.3K Adhesive kit

For additional applications

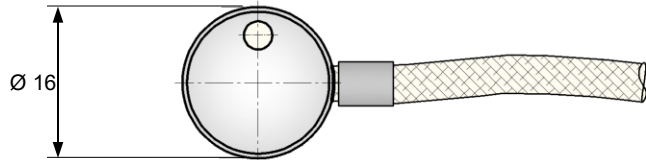
### Detailed drawing:

Side view



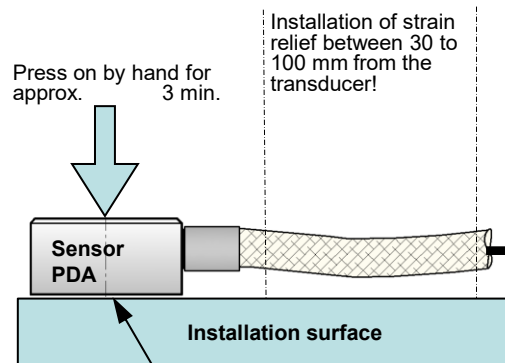
Metal braided hose  
Length = 5.0 m / Ø = 10 mm

Upper side  
(not the adhesive surface!)



All dimensions in [mm]

### Installation sketch:



The sensor must be glued flush to the ceramic surface! (Smooth surface without screw)

All dimensions in [mm]

### Connection:



Brown measured value (+)  
at terminal PDA IN  
Black measured value (-)  
at terminal PDA GND (bk)

Further processing of the measured value is performed by the **PDA-CU amplifier not included in the scope of delivery.** (Available under order number 8.3.9)

### Adhesive kit (order number 8.3K):



### Mixing the adhesive:

The installation adhesive for the PDA consists of the powdered component A and the liquid component B.

Add exactly 7 drops of component B to component A in container A and stir briskly with the stirring rod provided until a creamy paste is created. You must apply it within 2 minutes. After that, you should press and hold the PDA in place by hand for at least another 3 minutes.



Caution:

The components of this adhesive can irritate the eyes and skin.