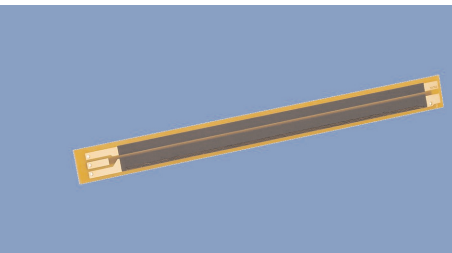


Resistance Elements up to 300 mm

Series PTX



Special features

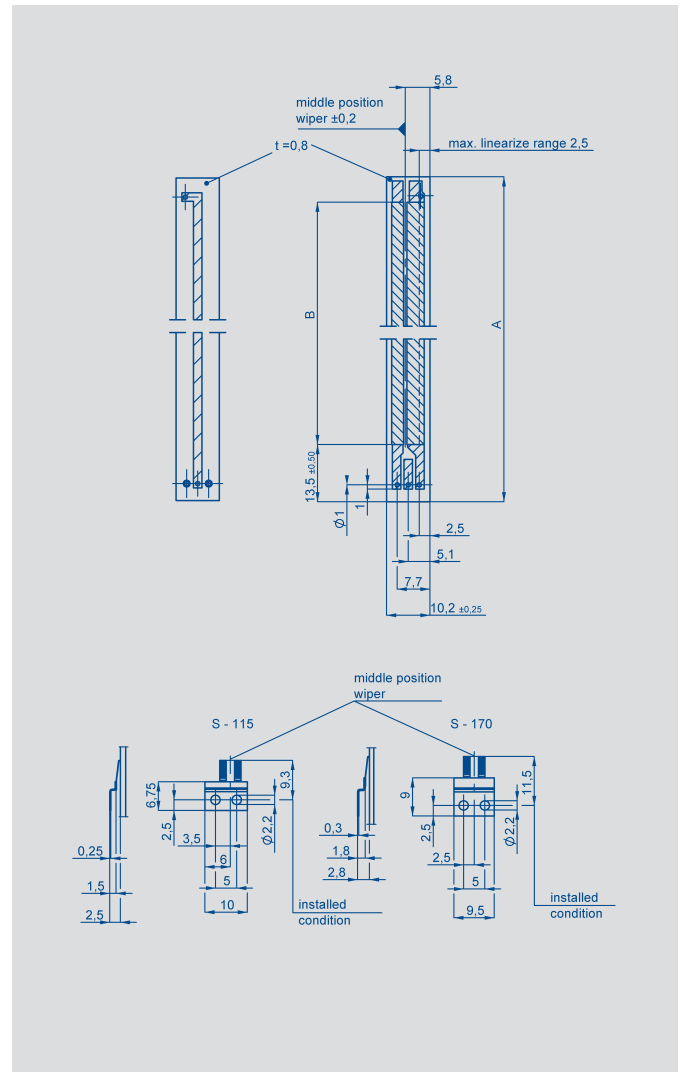
- suitable for mounting in closed applications
- easy mounting by bonding or clamping
- outstanding linearity
- very long life

Translational resistance elements suitable for installation in closed devices, which are so compact built, that for a position transducer with housing and actuating rod no sufficient place is available. Positioning drives represent a typical field of application.

The mounting of the resistance element should be on an even, clean surface in correct position to the wiper as indicated in the dimensional drawing.

In addition, the stated distance between the wiper carrier and the resistance element must be adhered to. Thus ensure the necessary wiper tracking force as well as the operability and durability. Two different wiper designs are available.

Only the standard lengths are specified in this data sheet. Other lengths and outlines of the resistance elements on request.



Description

| | |
|----------------------------------|---|
| Substrate | glass filled epoxy |
| Resistance element and collector | conductive plastic |
| Wiper | precious metal multi-finger wiper |
| Electrical connections | lead wires to be soldered onto soldering eyelet of resistance element |

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| Type designations | PTX 0010 | PTX 0025 | PTX 0050 | PTX 0075 | PTX 0100 | PTX 0125* | PTX 0150 | PTX 0175* | PTX 0200 | PTX 0250 | PTX 0300 | |
|--|-----------------------------|----------|----------|----------|----------|-----------|----------|-----------|----------|----------|----------|---------|
| Electrical Data | | | | | | | | | | | | |
| Defined electrical range | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | mm |
| Electrical range | 12 | 27 | 52 | 77 | 102 | 130 | 155 | 180 | 205 | 255 | 305 | ±0.1 mm |
| Total resistance | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | kΩ |
| Resistance tolerance | 20 | | | | | | | | | | | ±% |
| Independent linearity | 0.25 | 0.2 | 0.1 | 0.1 | 0.1 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | ±% |
| Repeatability | 0,01 | | | | | | | | | | | mm |
| Recommended operating wiper current | ≤ 1 | | | | | | | | | | | μA |
| Max. wiper current in case of malfunction | 10 | | | | | | | | | | | mA |
| Max. permissible applied voltage | 42 | | | | | | | | | | | V |
| Temperature coefficient of the output-to-applied voltage ratio | typ. 5 | | | | | | | | | | | ppm/K |
| Insulation resistance (500 VDC) | ≥ 10 | | | | | | | | | | | MΩ |
| Dielectric strength (500 VAC, 50 Hz) | ≤ 100 | | | | | | | | | | | μA |
| Mechanical Data | | | | | | | | | | | | |
| Mechanical range (Dimension B) | 15.5 | 30.5 | 55.5 | 80.5 | 105.5 | 133.5 | 158.5 | 183.5 | 208.5 | 258.5 | 308.5 | mm |
| Total length (Dimension A) | 35 | 50 | 75 | 100 | 125 | 153 | 178 | 203 | 228 | 278 | 328 | ±0.4 mm |
| Environmental Data | | | | | | | | | | | | |
| Temperature range | -40 ... +100 | | | | | | | | | | | °C |
| Operating humidity range | 0...95 (no condensation) | | | | | | | | | | | % R.H. |
| Life | > 50 x 10 ⁶ typ. | | | | | | | | | | | cycles |

| Order designations | |
|----------------------------------|------------------|
| Type | Art.-No. |
| PTX 0010 | 022301 |
| PTX 0025 | 022302 |
| PTX 0050 | 022303 |
| PTX 0075 | 022304 |
| PTX 0100 | 022305 |
| PTX 0125* | 022306 |
| PTX 0150 | 022307 |
| PTX 0175* | 022308 |
| PTX 0200 | 022309 |
| PTX 0250 | 022311 |
| PTX 0300 | 022313 |
| Wiper S-115 or Wiper S-170 | 002161 021110 |

When ordering please indicate art.no. for resistance element and corresponding wiper.

*) on request

Important

All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($I_e \leq 1 \mu A$).

Mounting instruction

Pay attention to isolate the conductive track on the back side of resistance element.

