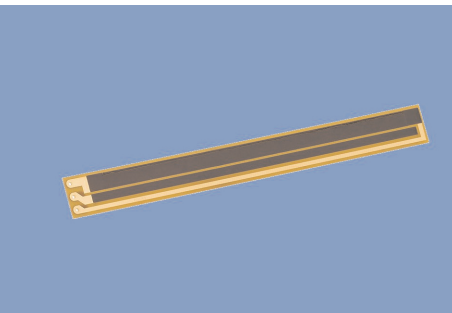


Resistance Elements up to 250 mm

Series PTN



Special features

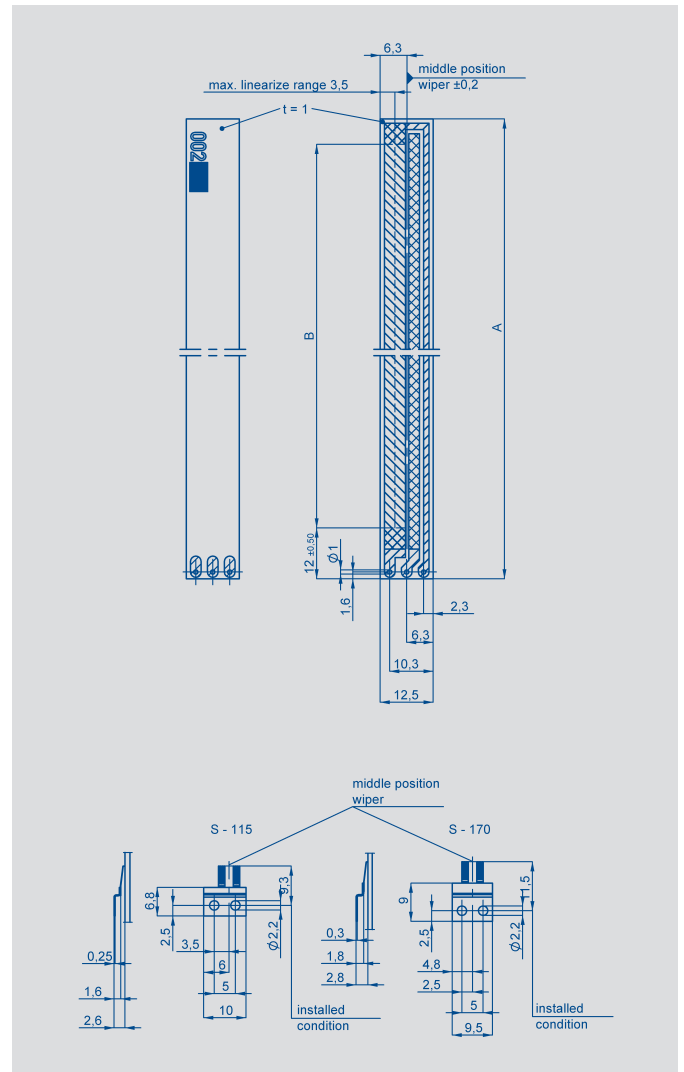
- suitable for mounting in closed applications
- easy mounting by bonding or clamping
- outstanding linearity
- very long life up to 50 million movements, depending on application

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

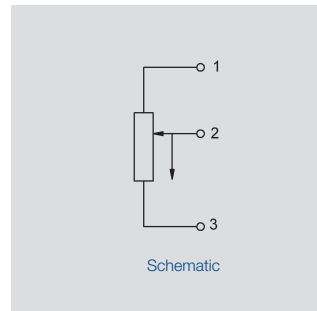
Substrate	glass filled epoxy
Resistance element and collector	conductive plastic
Wiper	precious metal multi-finger wiper
Electrical connections	lead wires to be soldered onto soldering eyelet of resistance element

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Type designations	PTN 025	PTN 050	PTN 075	PTN 100	PTN 150	PTN 200	PTN 250	
Electrical Data								
Defined electrical range	25	50	75	100	150	200	250	mm
Electrical range	27	52	77	102	152	205	255	±0,1 mm
Total resistance	2.5	5	5	5	10	10	10	kΩ
Resistance tolerance	20							±%
Independent linearity	0.25	0.25	0.1	0.1	0.1	0.1	0.1	±%
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)	34,5	59,5	84,5	109,5	159,5	212,5	262,5	mm
Total length (Dimension A)	45	70	85	120	170	223	273	±0.3 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.							
PTN 025	002187							
PTN 050	002188							
PTN 075	002189							
PTN 100	002190							
PTN 150	002191							
PTN 200	002192							
PTN 250	002193							
Wiper S-115	002161							
or								
Wiper S-170	021110							

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



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 ($I_e \leq 1 \mu A$).