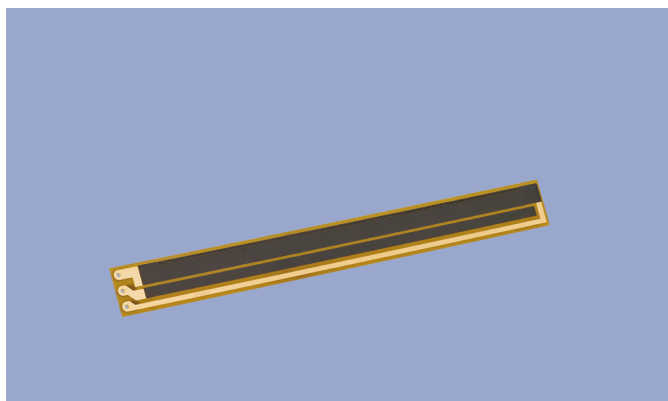
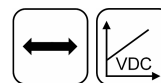


**Resistance Element
up to 250 mm
Potentiometric**

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

Applications

- Actuators
- Measuring/control technology
- Valves/throttle control
- Assembly/test devices
- Medical appliances

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

Material	Carrier: glass fiber reinforced epoxy resin
Resistance element	Conductive plastic
Wiper	Precious metal multi-finger wiper
Electrical connection	Lead wires to be soldered onto soldering pads of resistance element

Mechanical Data

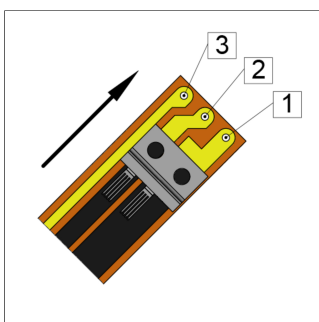
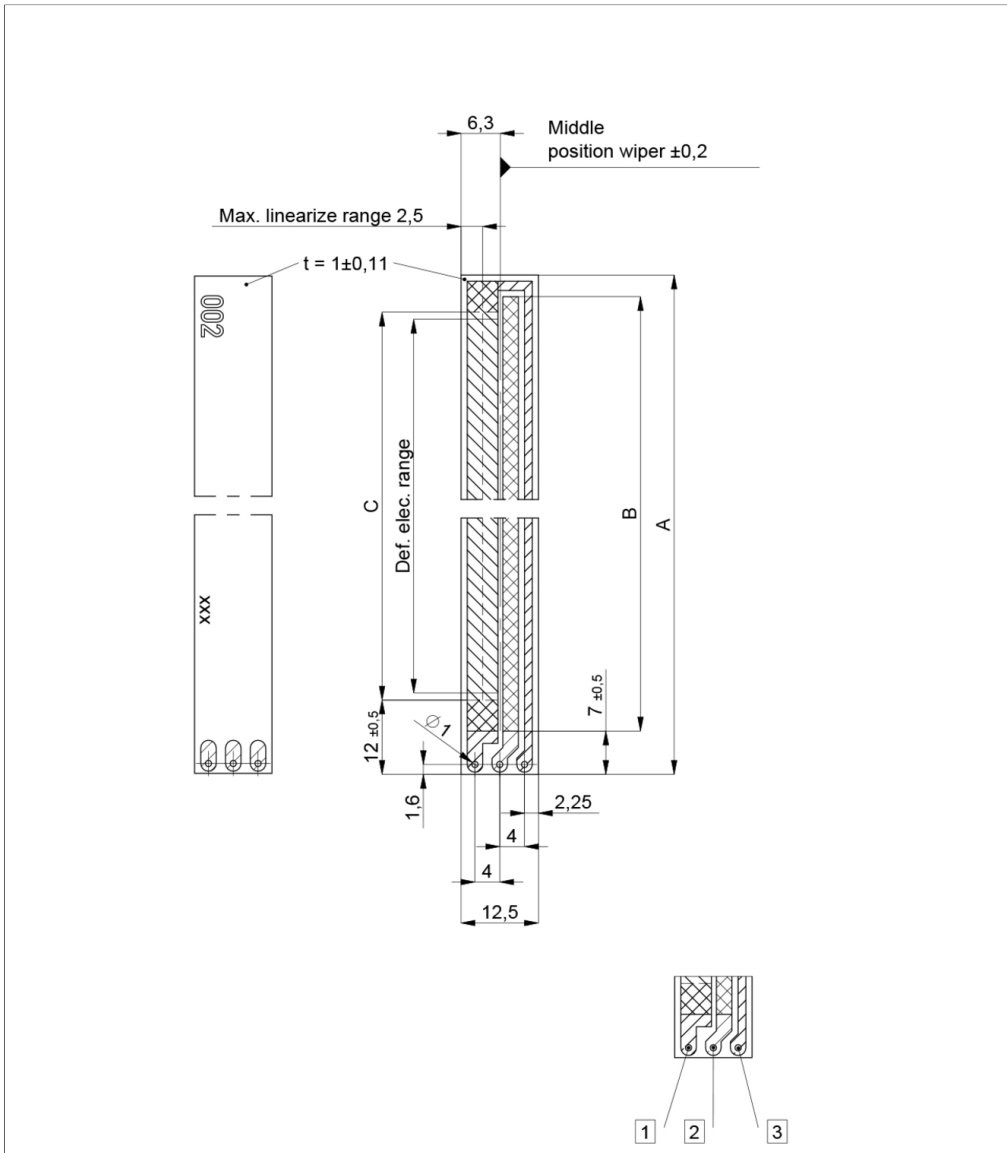
Type	PTN-0025	PTN-0050	PTN-0075	PTN-0100	PTN-0150	PTN-0200	PTN-0250
Dimensions	See dimension drawing						
Total length (dim. A ± 0.3 mm)	45 mm	70 mm	95 mm	120 mm	170 mm	223 mm	273 mm
Mechanical travel (dim. B)	34.5 mm	59.5 mm	84.5 mm	109.5 mm	159.5 mm	212.5 mm	262.5 mm

Ordering Specifications

P/N	Type	
400002187	PTN-0025	When ordering please indicate art.no. for resistance element and corresponding wiper
400002188	PTN-0050	When ordering please indicate art.no. for resistance element and corresponding wiper
400002189	PTN-0075	When ordering please indicate art.no. for resistance element and corresponding wiper
400002190	PTN-0100	When ordering please indicate art.no. for resistance element and corresponding wiper
400002191	PTN-0150	When ordering please indicate art.no. for resistance element and corresponding wiper
400002192	PTN-0200	When ordering please indicate art.no. for resistance element and corresponding wiper
400002193	PTN-0250	When ordering please indicate art.no. for resistance element and corresponding wiper

Drawing

CAD data see
www.novotechnik.de/en/download/cad-data/



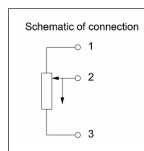
Direction of output characteristic when moving in direction of the electrical connection:
 increasing: supply voltage U_b at connection 1
 falling: supply voltage U_b at connection 3

Technical Data

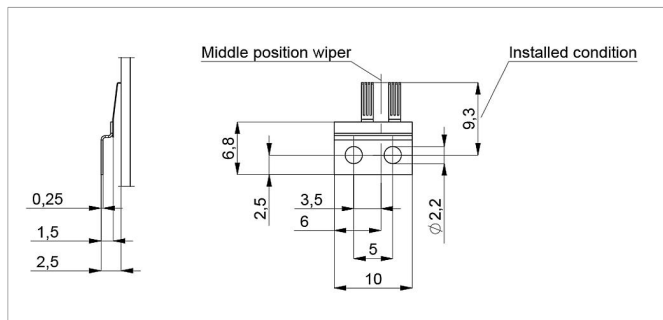
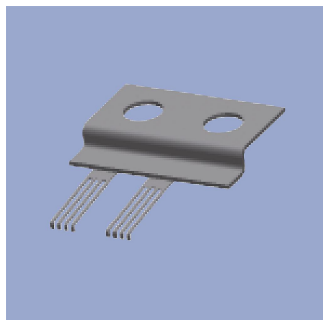
Type	PTN-0025	PTN-0050	PTN-0075	PTN-0100	PTN-0150	PTN-0200	PTN-0250
Electrical measuring range (dim. C ± 0.1 mm)	0 ... 27 mm	0 ... 52 mm	0 ... 77 mm	0 ... 102 mm	0 ... 152 mm	0 ... 205 mm	0 ... 255 mm
Defined electr. measuring range	0 ... 25 mm	0 ... 50 mm	0 ... 75 mm	0 ... 100 mm	0 ... 150 mm	0 ... 200 mm	0 ... 250 mm
Output signal	Voltage divider						
Resistance value	2.5 k Ω	5 k Ω	5 k Ω	5 k Ω	10 k Ω	10 k Ω	10 k Ω
Resistance tolerance	± 20 %						
Independent linearity	$\leq \pm 0.25$ %FS	$\leq \pm 0.25$ %FS	$\leq \pm 0.1$ %FS	$\leq \pm 0.1$ %FS	$\leq \pm 0.1$ %FS	$\leq \pm 0.1$ %FS	$\leq \pm 0.1$ %FS
Repeatability	$\leq \pm 0.01$ mm						
Recommended operating wiper current	≤ 1 μ A						
Max. wiper current in case of malfunction	10 mA						
Max. permissible supply voltage U_b	42 VDC						
Effective temp. coefficient of the output-to-applied voltage ratio	typ. 5 ppm/K						
Insulation resistance (500 VDC)	≥ 10 M Ω						
Dielectric strength (500 VAC, 50 Hz)	≤ 100 μ A						
Environmental Data							
Operating temperature	-40 ... +100°C						
Operating humidity	0 ... 95 % R.H. (no condensation)						
Life	typ. > 50 Mio. movements (Depending on installation tolerances and environmental conditions)						
Functional safety	If you need assistance in using our products in safety-related systems, please contact us						

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 ($I_e \leq 1$ μ A).



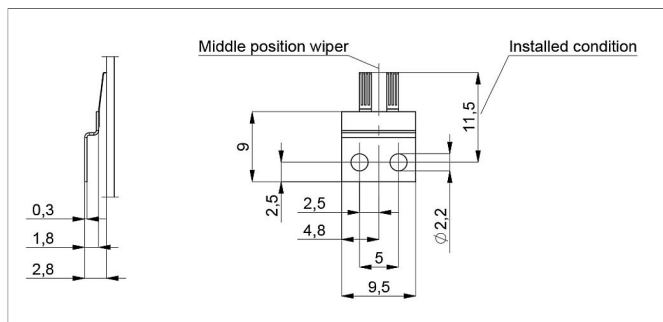
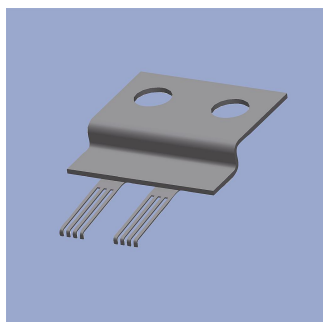
Position Markers



S-115

Wiper assembly for resistance element, installation with working distance and alignment of middle position of wiper according drawing. Installation dimensions are not production dimensions.

P/N	Pack. unit [pcs]
400002161	1



S-170

Wiper assembly for resistance element, installation with working distance and alignment of middle position of wiper according drawing. Installation dimensions are not production dimensions.

P/N	Pack. unit [pcs]
400021110	1

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The specifications contained in our datasheets are intended solely for informational purposes. The documented specification values are based on ideal operational and environmental conditions and can vary significantly depending on the actual customer application. Using our products at or close to one or more of the specified performance ranges can lead to limitations regarding other performance parameters. It is therefore necessary that the end user verifies relevant performance parameters in the intended application. We reserve the right to change product specifications without notice.