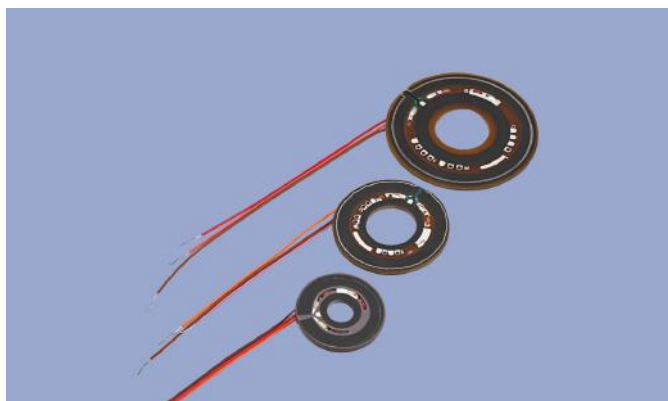


**Resistance Element
Potentiometric**

PRS



Special Features

- Very flat, suitable for mounting in small fitting conditions
- Easy mounting by bonding (silicone free)
- Outstanding linearity
- Very long live

Applications

- Measuring/control technology
- Manufacturing Engineering (woodwork machines, riveting machines, packaging machines, welding machines)
- Assembly/test devices
- Medical appliances
- Building technology

Rotary resistance elements paired with an appropriate wiper, but not completed with a housing (open systems) are suitable for installation in closed devices, which allows only small fitting conditions.

The installation is easy: The resistance element is centred via the internal diameter and an axially supporting surface in right situation to the wiper and is fastened by bonding.

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.

As standard sizes are available PRS-25 paired with wiper S-94, PRS-45 paired with wiper S-98 and PRS-65 paired with wiper S-152.

Resistance elements in other designs, measuring range and wire lengths on request.

Description

Material	Carrier: glass fiber reinforced epoxy resin
Mounting	Glueing
Resistance element	Conductive plastic
Wiper	Precious metal multi-finger wiper, elastomer damped
Electrical connection	Lead wires 0.034 mm ² (AWG 32), PTFE

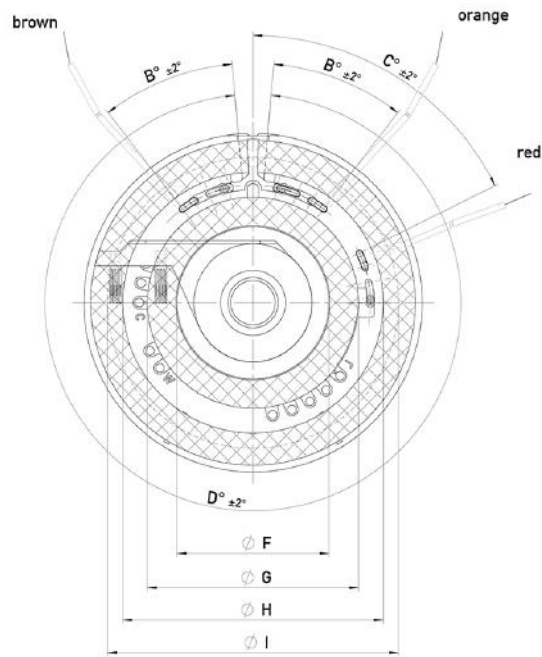
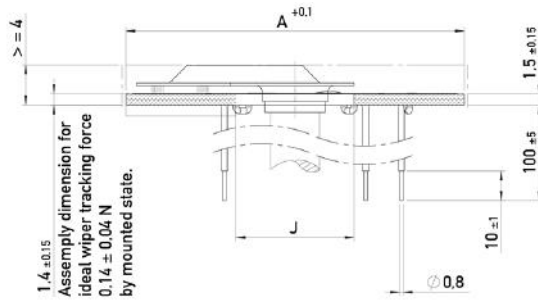
Mechanical Data

Type	PRS-25-A502	PRS-45-A502	PRS-65-A502
Outer diameter dim. A	25.2 ±0.1 mm	34 ±0.1 mm	45.86 ±0.1 mm
Electrical outlet dim. B	76° ± 2°	50° ± 2°	37° ± 2°
Electrical outlet dim. C	165° ± 2°	123° ± 2°	65° ± 2°
Diameter dim. F	8 ±0.2 mm	14.7 ±0.2 mm	20.6 ±0.2 mm
Diameter dim. G	11.8 ±0.2 mm	18.6 ±0.2 mm	28.6 ±0.2 mm
Diameter dim. H	16.4 ±0.2 mm	25 ±0.2 mm	35.3 ±0.2 mm
Diameter dim. I	20.2 ±0.2 mm	28.9 ±0.2 mm	39.4 ±0.2 mm
Inner diameter dim. J	7.6 +0.04 mm	14.4 +0.04 mm	16 +0.05 mm

**Ordering
Specifications**

P/N	Type
400065111	PRS-25-A502
400065114	PRS-45-A502
400065115	PRS-65-A502

Drawing



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

Technical Data

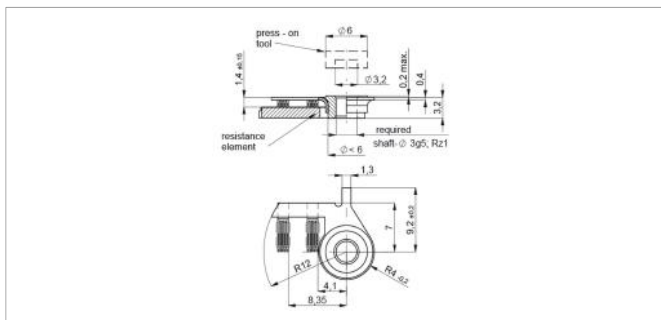
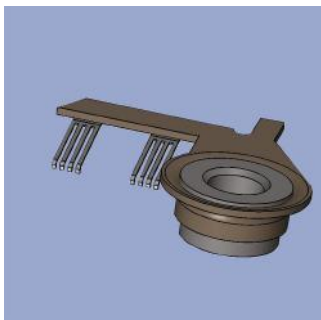
Type	PRS-25-A502	PRS-45-A502	PRS-65-A502
Electrical measuring range (dim. D)	345° ±2°	350° ±2°	355° ±2°
Defined electr. measuring range	339°	344°	349°
Output signal	Voltage divider		
Resistance value	5 kΩ	5 kΩ	5 kΩ
Resistance tolerance	± 20 %		
Independent linearity	≤ ±0.2 %FS	≤ ±0.15 %FS	≤ ±0.1 %FS
Repeatability	≤ ±0.01°		
Recommended operating wiper current	≤ 1 μA		
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 MΩ		
Environmental Data			
Operating temperature	-40 ... +100°C		
Life	typ. > 100 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 ($I_e \leq 1 \mu\text{A}$).

Connection Assignment

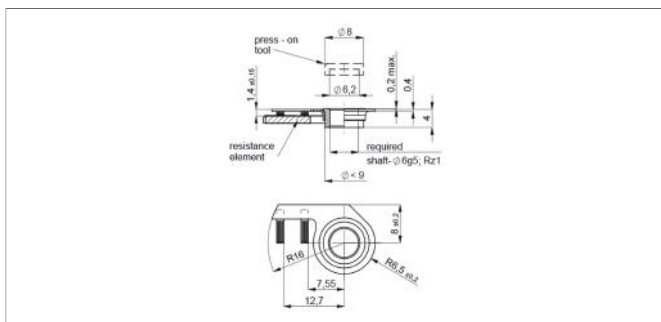
Signal	Lead wires
Connection 1	BN
Connection 2 Signal output	RD
Connection 3	OG



S-094

Wiper assembly for resistance element PRS-25-A502 to press on shaft diameter 3 mm, pressing force 80 ... 250 N.
Contact force of 1 wiper with 4 fingers 0.14 ± 0.04 N when mounted (distance dimension according drawing).
Installation dimensions are not production dimensions.

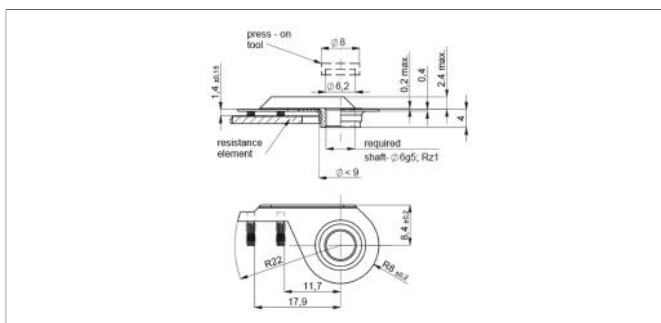
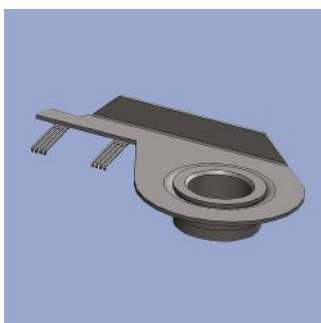
P/N	Pack. unit [pcs]
400070137	1



S-098

Wiper assembly for resistance element PRS-45-A502 to press on shaft diameter 6 mm, pressing force 200 ... 360 N.
Contact force of 1 wiper with 4 fingers 0.14 ± 0.04 N when mounted (distance dimension according drawing).
Installation dimensions are not production dimensions.

P/N	Pack. unit [pcs]
400070138	1



S-152

Wiper assembly for resistance element PRS-65-A502 to press on shaft diameter 6 mm, pressing force 200 ... 360 N.
Contact force of 1 wiper with 4 fingers 0.14 ± 0.04 N when mounted (distance dimension according drawing).
Installation dimensions are not production dimensions.

P/N	Pack. unit [pcs]
400070139	1

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