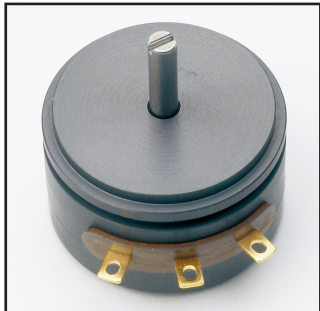


# Sensor Potentiometer

## Series SP 2500

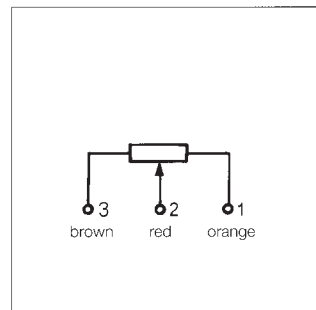
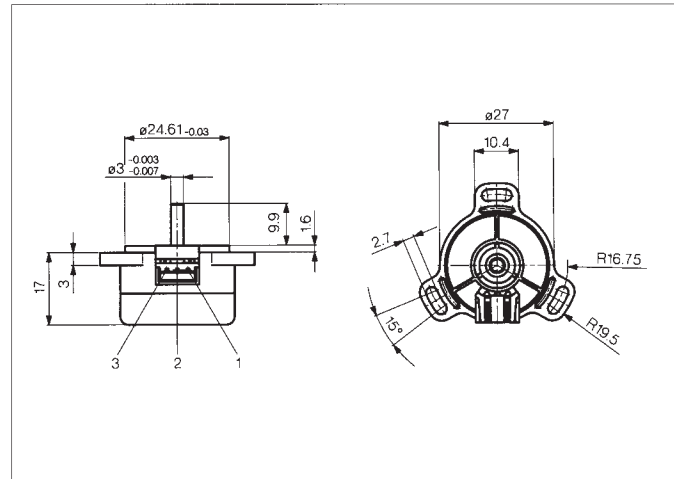


### Special features

- Precision despite small dimensions for an inexpensive price
- very long life  $50 \times 10^6$  cycles
- very good linearity - standard  $\pm 0.2\%$
- very high resolution - better than  $0.01^\circ$
- unrestricted continuous rotation
- easy assembly by a synchroflange with 3 mounting plates
- optimal connection by an integrated snap-connector

Precision potentiometer with a conductive plastic resistance track, manufactured with screen-printing technology. For applications in measuring, control and instrumentation.

The distinguishing features of the SP25 include a plastic housing, ball-bearings, conductive plastic collector track and precious metal multi-finger wiper. Reliability, long life, linearity, resolution and corrosion resistance further differentiate the SP25.



### Description

Size	Synchro 11
Housing	two part; plastic housing and cover
Shaft	stainless steel
Bearings	stainless steel
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	3-pin snap connection

Mechanical Data		
Dimensions	see drawing	
Mounting	with 3 clamps Z 1 - 11	
Mechanical travel	360, continuous	°
Permitted shaft loading (axial and radial) static or dynamic force	15	N
Torque	≤0.07	Ncm
Maximum operational speed	10 000	min <sup>-1</sup>
Weight	20	g
Electrical Data		
Actual electrical travel	345 ±2	°
Available resistance values	1; 2; 5	kΩ
Resistance tolerance	±10	%
Repeatability	0.003 (Δ 0.01°)	%
Effective temperature coefficient of the output-to-applied voltage ratio	typical 5	ppm/°C
Independent linearity	±0.2 (< 0.2 on request)	%
Max. permissible applied voltage	42	V
Recommended operating wiper current	< 1	μA
Max. wiper current in case of malfunction	10	mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥10	MΩ
Dielectric strength (50 Hz, 2 s, 1 bar, 500 VAC)	≤100	μA

Environmental Data		
Temperature range	-40...+100	°C
Vibration	5...2000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 20	Hz mm g
Shock	50 11	g ms
Life	100 x 10 <sup>6</sup>	rev.
Protection class	IP 40 (DIN 400 50 / IEC 529)	

Order designations		
Type	Art.no.	R in kΩ
P2501a102	003001	1
P2501a202	003002	2
P2501a502	003003	5

Type designations for non-standard models will be specified upon receipt of order.

#### Included in delivery

3 mounting clamps Z 1 - 11

#### Recommended accessories

Fork coupling Z 103 g 3  
(backlash free),  
Process-controlled indicators  
MAP... with display,  
Signal conditioner MUP.../  
MUK ... for standardized  
output signals

#### Important

All the values given in this data sheet for linearity, life-time, micro-linearity, resistance to external disturbances and temperature coefficient in the voltage dividing mode are quoted for the device operating with the wiper voltage driving on operational amplifier working as a voltage follower, where virtually no load is applied to the wiper ( $I_e \leq 1 \mu A$ ).

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Subject to changes