

Multiple Section Potentiometer

Series P2500



Special features

- Precision in small dimensions
- long life 50×10^6 movements
- available in redundant versions with 2 or 3 cups
- very good linearity $\pm 0,3 \%$ and interlinearity
- very high resolution better than $0,01^\circ$
- unrestricted continuous rotation

Applications

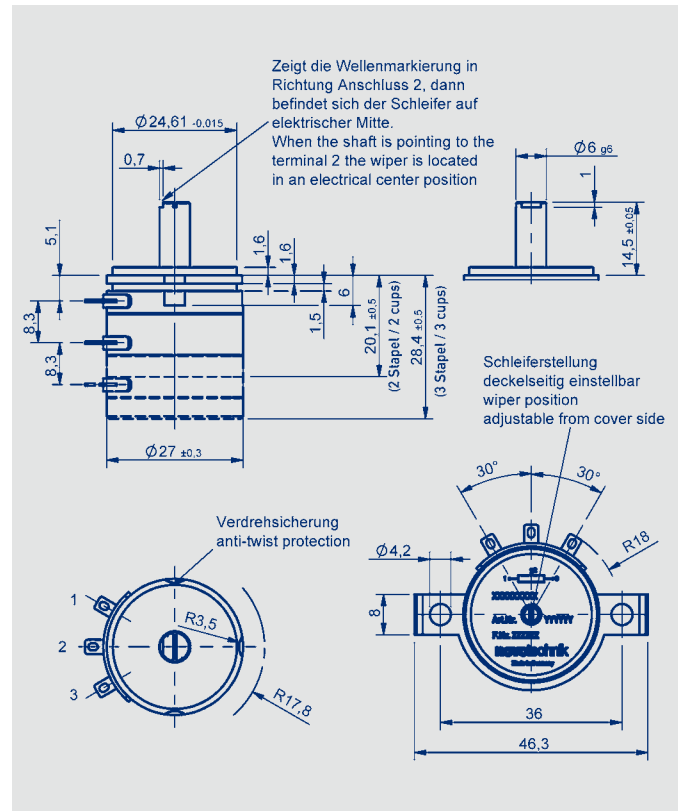
- Ship control units
- Weighing equipment
- User interface for special vehicles

The proven P-2500 precision potentiometer in multiple section version convinces by a market-wide accepted good element- to-wiper contact combination. Combined with the all-metal design this guarantees long life.

Best ganged operation due to synchronized calibration of channels as well as high shaft loads by use of multiple ball bearings characterize the sensor.

The multiple section version allows the use in safety related applications. Supporting information is available on request.

The simplicity of the electrical circuit enables good reliability as well as good diagnostic coverage.



Description

Size	servo size 11
Housing	aluminium, anodized
Shaft	stainless steel
Bearing	stainless steel ball bearings
Resistance element	conductive plastic
Wiper	precious metal multi-finger wiper
Electrical connections	gold-plated brass terminals



Technical Data

	P-2501-120-285-001 (2 cups) P-2501-120-385-001 (3 cups)	P-2501-240-286-001 (2 cups) P-2501-240-386-001 (3 cups)	P-2501-345-253-001 (2 cups) P-2501-345-353-001 (3 cups)	
Mechanical Data				
Dimensions	see dimension drawing			
Mounting	clamp with 2 cylinder screws M4x10			
Mechanical travel	360 continuous			°
Permitted shaft loading (axial and radial) static or dynamic force	15			N
Torque	< 1.5			Ncm
Maximum operational speed	2,000			min-1
Weight	24 (2 cups) / 31 (3 cups)			g
Electrical Data				
Measuring range (dimension L)	120 ±2	240 ±2	345 ±2	°
Defined electrical range	114	234	339	°
Nominal resistance	1	2	5	kΩ
Resistance tolerance	20			±%
Independent linearity	0.3			±%FS
Repeatability	0.01			°
Interlinearity	1			±%FS
Maximum permissible applied voltage	42			VDC
Recommended wiper operating current	≤ 1			μA
Maximum wiper current in case of malfunction	max. 10			mA
Effective 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
Environmental Data				
Temperature range	-40 ... +100			°C
Vibration (IEC 60068-2-6)	5...2000 Amax = 0.75 amax = 20			Hz mm g
Shock (IEC 60068-2-27)	50 (11 ms)			g
Life	50x10 ⁶			movements
Functional safety	When using our products in safety-related systems, please contact us.			
Protection class (DIN 40050 / IEC 529)	IP40			

Order designations

Type	P/N
P-2501-120-285-001 (angle 120°, 2-fach)	003266*
P-2501-240-286-001 (angle 240°, 2-fach)	003267*
P-2501-345-253-001 (angle 345°, 2-fach)	003268
P-2501-120-385-001 (angle 120°, 3-fach)	003263*
P-2501-240-386-001 (angle 240°, 3-fach)	003264*
P-2501-345-353-001 (angle 345°, 3-fach)	003265

Up to 6 cups available on request.

*) Minimum order quantity 5 pcs.

Included in delivery

1 mounting clamp and
2 cylinder screws M4x10

Recommended accessories

Fork coupling Z-104-G-6,
with low backlash, P/N 005690;
Fork coupling Z-105-G-6,
backlash-free, P/N 005691;
Process-controlled indicators
MAP... with display,
Signal Conditioner MUP-... /
MUK-... for standardized
output signals