

Singleturn Potentiometers Conductive Plastic

Series PL240



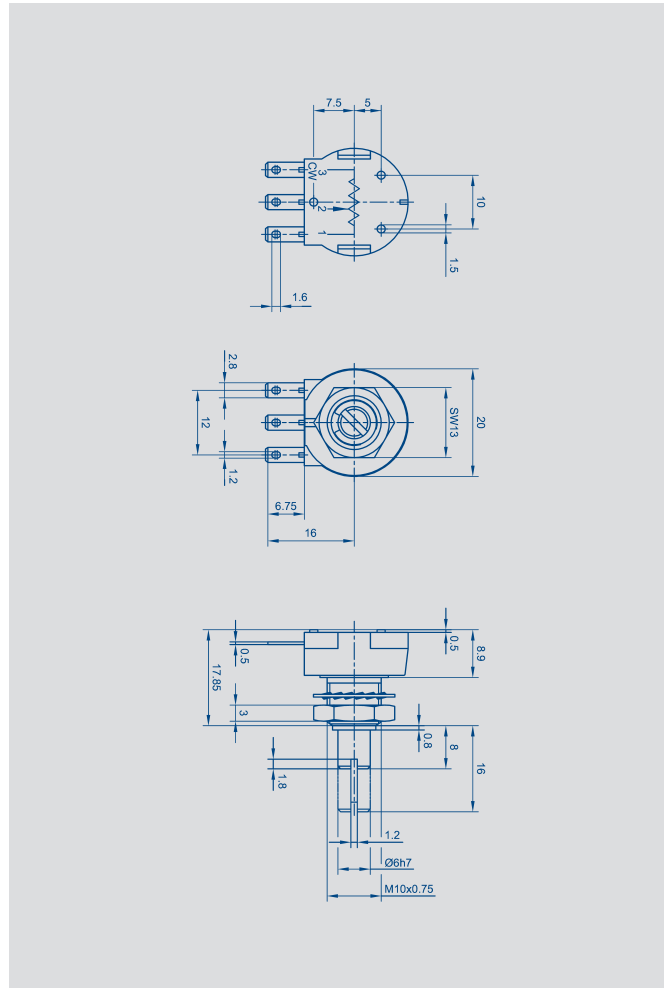
Special features

- very small dimensions
- 1×10^6 movements
- linearity $\pm 2\%$
- excellent resolution - better 0.1°

Low-cost potentiometer with a conductive plastic resistance element for control electronics and measuring applications.

The careful selection of the materials and high quality of the components used ensure a constant and high level of quality throughout the entire service life of the angle sensor.

Special designs with other angular ranges, and shaft dimensions on request.



Description

Size	housing diameter 20 mm
Housing	high quality, temperature consistent plastic
Shaft	brass, nickel plated
Bearings	sleeve bearings
Resistance element	conductive plastic
Wiper assembly	precious metal
Electrical connections	tin plated

Mechanical Data		
Dimensions	see drawing	
Mounting	nut M10 x 0.75 and serrated washer 3/8"	
Mechanical travel	300	°
Permitted shaft loading (axial and radial) static or dynamic force	1	N
Torque	≤ 1	Ncm
Permitted max. torque for mech. stops	100	Ncm
Maximum operational speed	120	min ⁻¹
Weight	14	g
Electrical Data		
Actual electrical travel	270 ±3	°
Available resistance values	1; 5; 10	Ω
Resistance tolerance	± 20	%
Repeatability	0.04 (=0.1°)	%
Effective temperature coefficient of the output-to-applied voltage ratio	typical 5	ppm/K
Independent linearity	± 2	%
Max. permissible applied voltage	18	V
Recommended operating wiper current	≤ 1	μA
Max. wiper current in case of malfunction	10	mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10 000	MΩ
Dielectric strength AC, 50 Hz, 1 min, 1 bar)	1 500	V
Environmental Data		
Temperature range	-25...+125	°C
Vibration	30...2000 A _{max} = 0.75 a _{max} = 10	Hz mm g
Life	1 x 10 ⁸	movements
Shock (DIN IEC68T2-27)	50 7	g ms
Protection class (DIN 40050)	IP50	

Order designations / Abbreviations

4B: connectig pin radial
MB: bushing M10 x 0.75
axis Ø 6 mm with slot

Included in delivery

1 nut M10 x 0.75
1 serrated washer 3/8"

Recommended accessories

Fork coupling Z104 G6,
Art.no. 005690;
Fork coupling Z105 G6 (back-lash free), Art.no. 005691;
Process-controlled indicators MAP... with display,
Signal conditioner MUP... for standardized output signals

Important

All the values given in this data sheet for linearity, lifetime 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 ($I_e \leq 1 \mu A$)

Order designations

Type	Art.no.	R in kΩ	Length of shaft in mm
PL240 1K0 4A160 MB	045002	1	16
PL240 5K0 4A160 MB	045003	5	16
PL240 10K0 4A160 MB	045004	10	16

Subject to changes