

# Single-Turn Cermet Potentiometers

## PC262 Series



### Special features

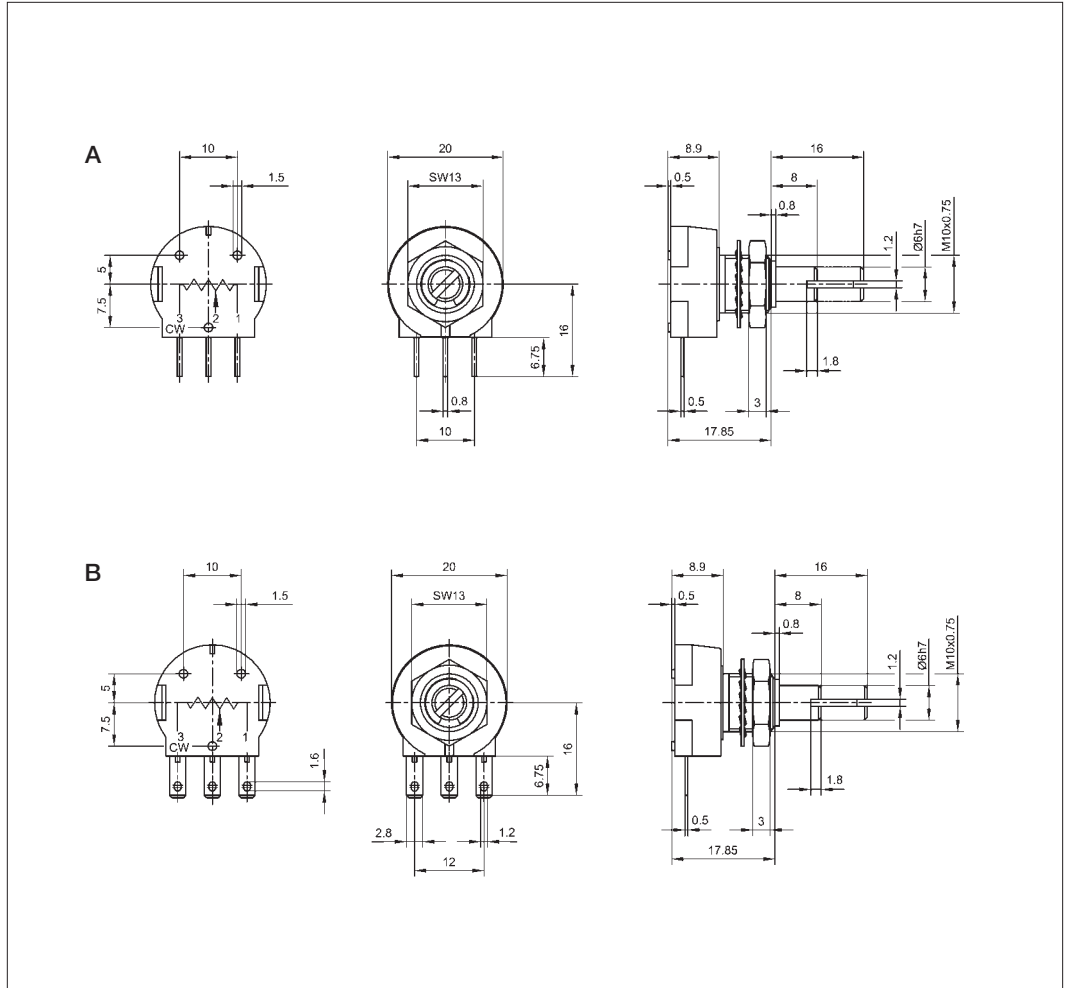
- very small dimensions
- $100 \times 10^3$  movements
- linearity  $\pm 2\%$
- high resolution – better than  $0.1^\circ$
- very robust

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

The Cermet potentiometer combines the high resolution of a screen-printed resistor element with the robustness of a wirewound potentiometer.

The careful selection of the materials and high quality of components 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 are available on request.



### Description

Size	housing diameter 20 mm
Housing	high-quality, temperature-consistent plastic
Shaft	brass, nickel plated
Bearings	sleeve bearings
Resistor element	Metalloxyd ceramics (Cermet)
Wiper assembly	precious metal multi-finger wiper
Electrical connections	tin plated

Type designations	PC262...1A-MB	PC262...4A-MB
<b>Mechanical Data</b>		
Dimensions	see drawing A	see drawing B
Mounting	nut M10 x 0.75, serrated washer 3/8"	
Mechanical travel	272	°
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	RPM
Weight	14	g
<b>Electrical Data</b>		
Actual electrical travel	270 ±3	°
Available resistance values	1; 5; 10; 100; 1000	kΩ
Resistance tolerance	±10	%
Repeatability	0.04 (= 0.1°)	%
Effective temperature coefficient of the output-to-applied voltage ratio	5 (typical)	ppm/K
Independent linearity	±2	%
Max. permissible applied voltage	42	V
Recommended operating wiper current	≤ 1	μA
Max. wiper current in case of malfunction	100	mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000	MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	1500	V
<b>Environmental Data</b>		
Temperature range	-25...+125	°
Vibration	30...2000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 10	Hz mm g
Life	100 x 10 <sup>3</sup>	movements
Shock (DIN IEC 68 T2-27)	50 7	g ms
Protection class (DIN 40050)	IP 50	

#### Order designations / Abbreviations

1A: connecting solder pin radial  
4A: connecting pin, radial  
MB: bushing M10 x 0.75, axis Ø 6 mm with slot

#### Included in delivery

1 nut M 10 x 0.75  
1 serrated washer 3/8"

#### Recommended accessories

Fork coupling Z104 G6, Art. no. 005690;  
Fork coupling Z105 G6 (backlash-free), Art. no. 005691, MAP process-control indicators and display. MUP signal conditioner for standardized output signals.

#### Important

All values given for this series – including linearity, lifetime, micro-linearity, resistance to external disturbances and temperature coefficient in voltage dividing mode – are quoted for the device operating with the wiper voltage driving an 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 shaft in mm
PC262 1K0 1A160 MB	047013	1	16
PC262 5K0 1A160 MB	047017	5	16
PC262 10K0 1A160 MB	047019	10	16
PC262 100K0 1A160 MB	047021	100	16
PC262 1M0 1A160 MB	047015	1000	16
PC262 1K0 4A160 MB	047014	1	16
PC262 5K0 4A160 MB	047018	5	16
PC262 10K0 4A160 MB	047020	10	16
PC262 100K0 4A160 MB	047022	100	16
PC262 1M0 4A160 MB	047016	1000	16