

Single-Turn Conductive Plastic Potentiometers

PL130 Series



Special features

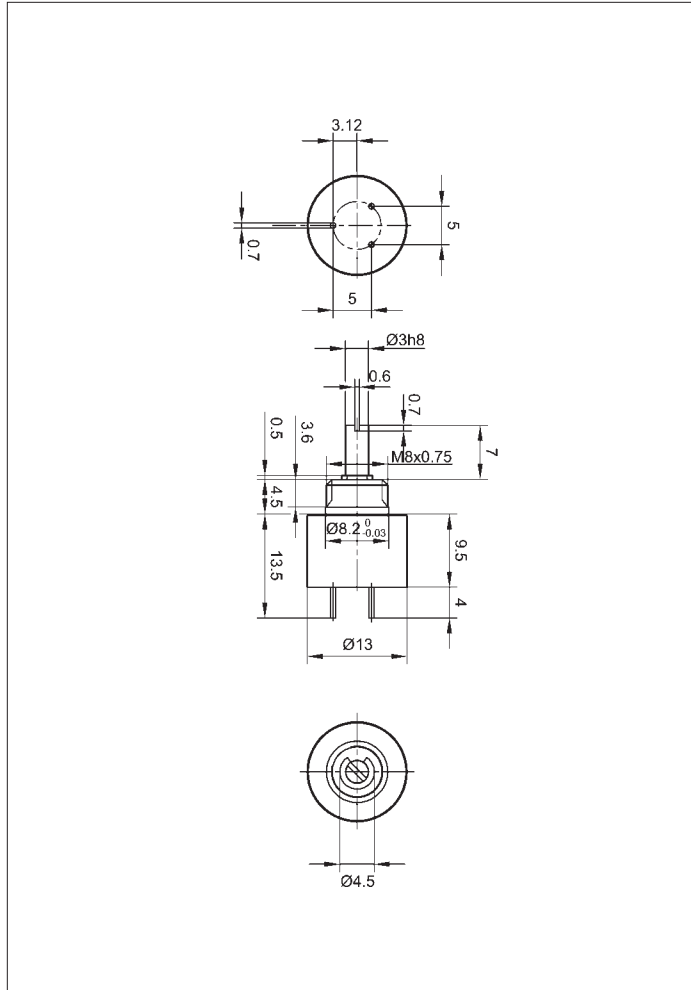
- very small dimensions
- individual variability
- 10×10^6 movements
- excellent linearity
- very high resolution – better than 0.1°

Small dimensions characterize this potentiometer.

With a housing diameter of only 13 mm, the PL130 series provides high precision in an extremely small package for use in servo systems and measuring applications.

Careful selection of materials and high-quality components ensure a consistent measurement throughout the entire service life of the sensor.

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



Description

Size	housing diameter 13 mm
Housing	brass, nickel plated
Shaft	stainless steel
Bearings	sleeve bearings
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	solder pins, tin plated

Type designations	PL130 MB	
Mechanical Data		
Dimensions	see drawing	
Mounting	nut M8 x 0.75 and serrated washer	
Mechanical travel	316	°
Permitted shaft loading (axial and radial) static or dynamic force	1	N
Torque	≤ 0.5	Ncm
Maximum operational speed	120	RPM
Weight	8	g
Electrical Data		
Actual electrical travel	300 ±3	°
Available resistance values	1; 5	kΩ
Resistance tolerance	±15	%
Repeatability	0.07 (=0.2°)	%
Effective temperature coefficient of the output-to-applied voltage	5 (typical)	ppm/K
Independent linearity	±2.5	%
Max. permissible applied voltage	12	V
Recommended operating wiper current	≤ 1	μA
Max. wiper current in case of malfunction	5	mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000	MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	750	V
Environmental Data		
Temperature range	-25...+85	°C
Vibration	30...2000	Hz
	A _{max} = 0.75 a _{max} = 10	mm g
Life	10 x 10 ⁶	movements
Shock (DIN IEC 68 T2-27)	50	g
	7	ms
Protection class (DIN 40050)	IP 65	

Order designations /

Abbreviations

3G: connecting solder pin axial
MB: bushing M8 x 0.75
axis Ø 3 mm with slot

Included in delivery

1 nut M8 x 0.75
1 serrated washer Ø 8.15 mm

Recommended accessories

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
PL130	1K0	3G070 MB	045000	1
PL130	5K0	3G070 MB	045001	5