

Single-Turn Conductive Plastic Potentiometers

PL130 Series



Special features

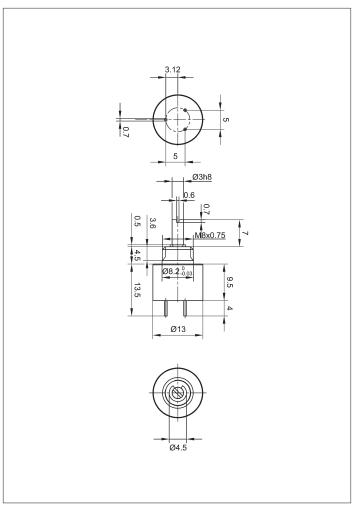
- very small dimensions
- individual variability
- 10 x 10⁶ movements
- excellent linearity
- \bullet very high resolution better than 0.1°

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			

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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	0	
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	s 1	μА	
Max. wiper current in case of malfunction	5	mA	
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000	ΜΩ	
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	750	V	
Environmental Data			
Temperature range	-25+85	°C	
Vibration	302000	Hz	
	$A_{\text{max}} = 0.75$ $a_{\text{max}} = 10$	mm g	
Life	10 x 10 ⁶	movements	
Shock (DIN IEC 68 T2-27)	50 7	g 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, microlinearity, 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 (le \leq 1 μA).

Order designations						
Туре			Art. no.	R in kΩ		
PL130	1K0	3G070 MB	045000	1		
PL130	5K0	3G070 MB	045001	5		