

Standard Potentiometers

PL300 Series



Special features

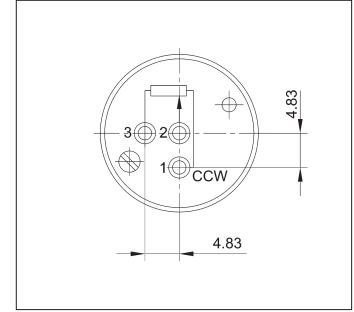
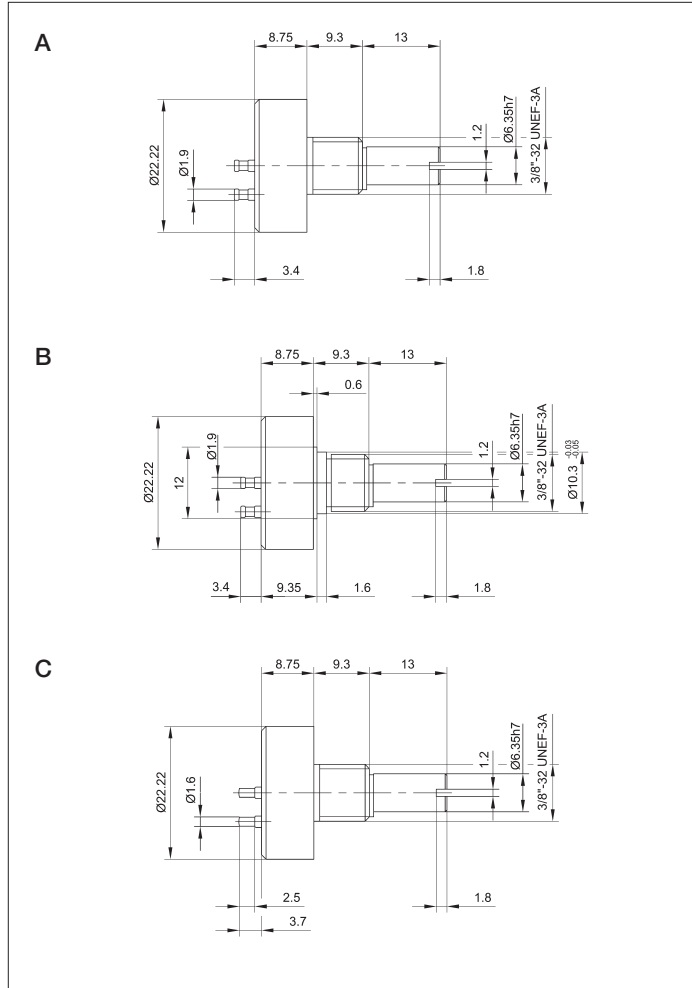
- very small dimensions
- individual variability
- 10 x 10⁶ movements
- excellent linearity, ±0.25% on request
- very high resolution – better than 0.1°

Very small dimensions characterize this potentiometer.

With a housing diameter of 22.22 mm, the PL300 Series provides high precision in a bushing mount package for use in servo systems and measuring applications.

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

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



Description

Size	Synchro 9
Housing	anodized aluminum
Shaft	brass, nickel plated
Bearings	sleeve bearings
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	solder pins, gold plated

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Type designations	PL300...AA-UK	PL300...AA-FK	PL300...BA-UK
Mechanical Data			
Dimensions	see drawing A	see drawing B	see drawing C
Mounting	nut 3/8"UNEF and serrated washer 3/8"		
Mechanical travel	360 continuous		°
Permitted shaft loading (axial and radial) static or dynamic force	1		N
Torque	≤ 0.7		Ncm
Maximum operational speed	300		RPM
Weight	12		g
Electrical Data			
Actual electrical travel	340 ±3		°
Available resistance values	1; 5; 10		kΩ
Resistance tolerance	±20		%
Repeatability	0.03 (=0.1°)		%
Effective temperature coefficient of the output-to-applied voltage	50 (typical)		ppm/K
Independent linearity	±1		%
Max. permissible applied voltage	20		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)	1,000		V
Environmental Data			
Temperature range	-25...+85		°C
Vibration	30...2000 A _{max} = 0.75 a _{max} = 10		Hz mm g
Life	10 ⁶		movements
Shock (DIN IEC 68 T2-27)	50 11		g ms
Protection class (DIN 40050)	IP 50		

Order designations /**Abbreviations**

AA: head soldering pin axial

BA: axial print soldering pin

UK: imperial thread, axis

Ø 6.35 mm with slot

FK: imperial thread with pilot

diam. Ø 10.3 mm, axis Ø 6.35

mm with slot

Included in delivery

1 nut 3/8" UNEF

1 serrated washer 3/8"

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
PL300	1K0	AA130 UK	82047	1
PL300	5K0	AA130 UK	82048	5
PL300	10K0	AA130 UK	82049	10
PL300	1K0	AA130 FK	82090	1
PL300	5K0	AA130 FK	82092	5
PL300	10K0	AA130 FK	82094	10
PL300	1K0	BA130 UK	82073	1
PL300	5K0	BA130 UK	82074	5
PL300	10K0	BA130 UK	82075	10

Subject to changes

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