

**Singleturn
Potentiometers
Conductive Plastic**

Series PL300



Special features

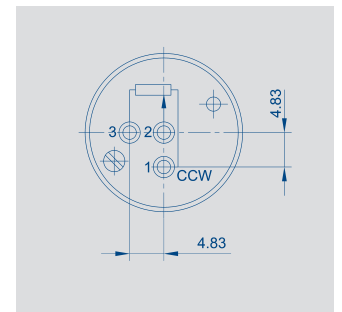
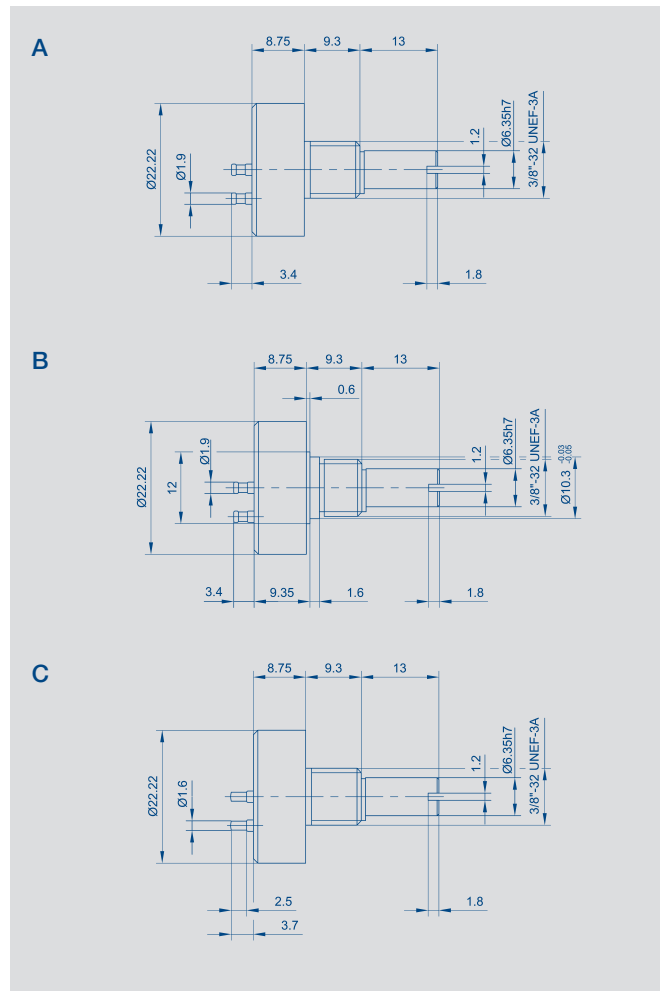
- very small dimensions
- individual variability
- 10×10^5 movements
- excellent linearity, $\pm 0.25\%$ on request
- very high resolution - better 0.1°

Very small dimensions characterize this potentiometer.

The robust version combines precision and low-cost design for use in servo systems or for 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 sensor.

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



Description	
Size	Synchro 9
Housing	anodized aluminium
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		min ⁻¹
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	typical 5		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 x 10 ⁶		movements
Shock (DIN IEC68T2-27)	50 11		g ms
Protection class (DIN 40050)	IP50		

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

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
PL300	1K0	AA130 UK	001301	1
PL300	5K0	AA130 UK	001304	5
PL300	10K0	AA130 UK	001307	10
PL300	1K0	AA130 FK	001300	1
PL300	5K0	AA130 FK	001303	5
PL300	10K0	AA130 FK	001306	10
PL300	1K0	BA130 UK	001302	1
PL300	5K0	BA130 UK	001305	5
PL300	10K0	BA130 UK	001308	10