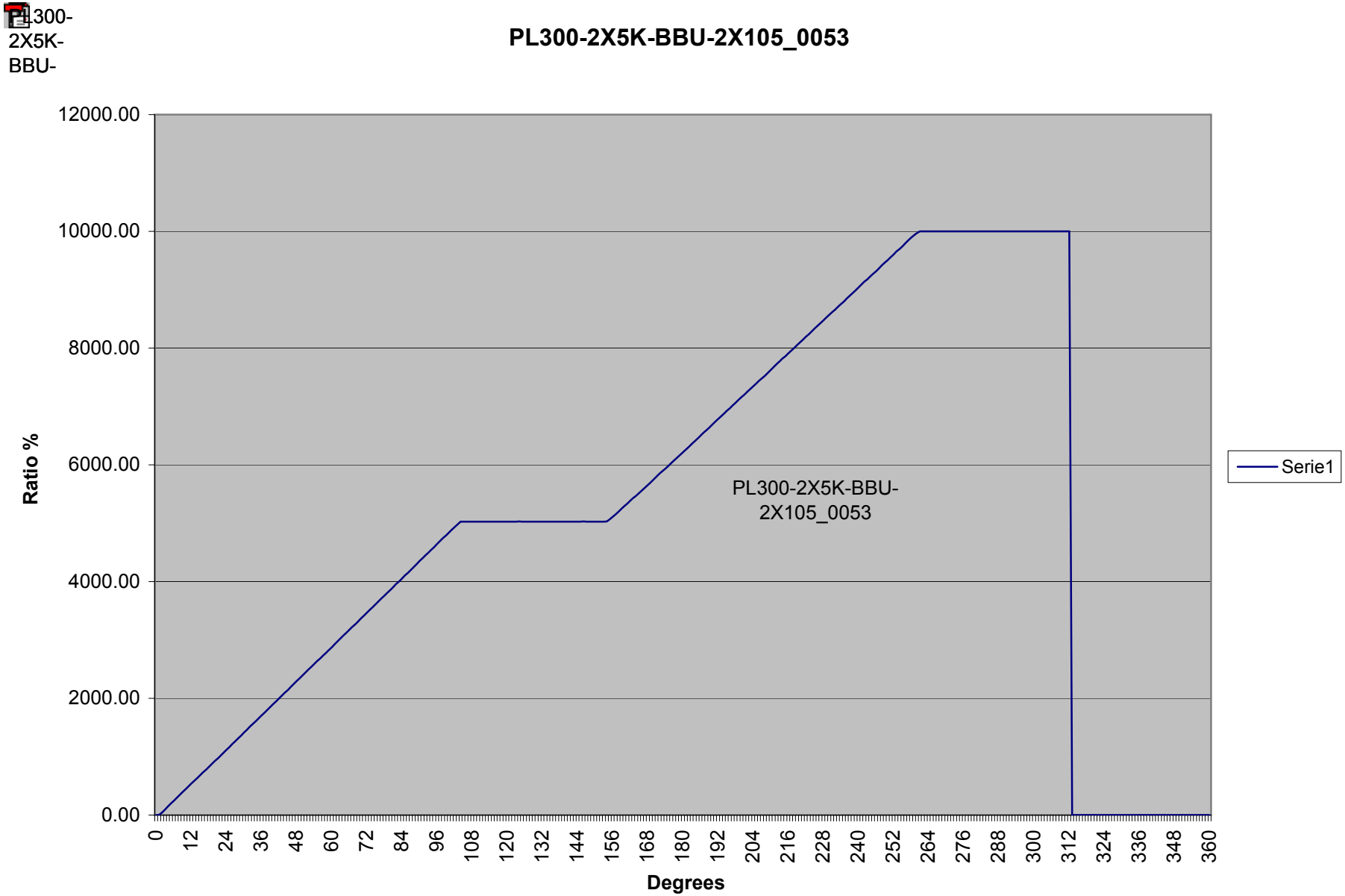
PL300-2X5K-BBU-



Eingang-Potentiometer
PL 300
ø 20.22 mm
5.000.000 Zyklen
Leitplastik

Singleturn Potentiometers
PL 300
ø 20.22 mm
5.000.000 cycles
Conductive plastic

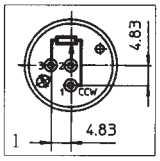
Mechanische Daten	Mechanical Data	
Durchmesser	Diameter	22.22 mm
Maximales Einstelldrehmoment	Maximum torque	0.7 Ncm
Lebensdauer	Life expectancy	5.000.000 Zyklen/cycles
Elektrische Daten	**Electrical Data**	
Anschlusswiderstand R	Nominal resistance R	1/5/10K Ω
Widerstandstoleranz	Resistance tolerance	± 20 %
Linearität	Linearity	± 1 %
Empf. Betriebsstrom im Schleiferkreis	Recommended wiper current	<0.1 µA
Maximaler Schleiferstrom im Störfall	Max. wiper curr. in case of malfunct.	10 mA
Belastung P	Power rating P	0.5 W/ 40°C
Maximale Anschlußspannung	Maximum supply voltage	$U_{max} = \sqrt{PxR}$
Maximaler Übergangswiderstand	Maximum contact resistance	ENR 20 kΩ
Temperaturkoeffizient Spannungsteiler	Temperature coefficient voltage divider	50 ppm/°C
Spannungsfestigkeit	Dielectric strength	1000 VAC/1 min
Isolationswiderstand	Insulating resistance	10 G Ω bei/at 500 VDC
Umgebungsbedingungen	**Environmental Conditions**	
Lagertemperatur	Storage temperature	-40°C... +105°C
Betriebstemperatur	Operating temperature	-25°C... +85°C
Klimatische Prüfklasse	Climatic rating	25/085/56
Schutzart	Protection rating	IP 50
Vibrationen	Vibration	10 G (30 – 2000 Hz, 0.75 mm)
Schock	Shock	50 G (Halbsinus, 7 ms) 50 G (half sine pulse, 7 ms)
Material	**Material**	
Gehäuse	Housing	Aluminium eloxiert anodized aluminium
Achse	Shaft	Rostfreier Stahl/Stainless steel
Anschlüsse	Connections	Messing vergoldet/brass gold plated

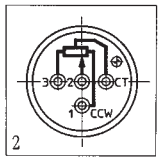
Optionen
- Linearität ± 0.25%
- Spezialachse, max. Länge 50 mm
- kugelgelagert
- elektrische Drehwinkel zwischen 15° und 348°
- mechanische Drehwinkel zwischen 45° und 360°
- Wid.-Tol. ±10%
- metrisches Gewinde M10 x 0.75
- Schutzart IP 65

Options
- Linearity ± 0.25%
- Customer specific shaft (max. length 50 mm)
- Ball bearing
- Electrical angle from 15° to 348°
- Other mechanical angle from 45° to 360°
- Resistance tolerance ± 10%
- Metric thread M 10 x 0.75
- Protection rating IP 65

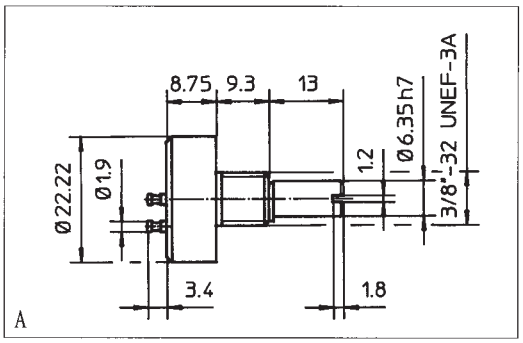
Typ	Model	PL 300-AA-UK	PL 300-AA-FK	PL 300-BA-UK	PL 300-BA-FK	PL 300-BB-UK
Anschlussbilder	Connecting diagrams	1	1	1	1	2
Massbilder	Dimension drawings	A	B	C	D	C
Buchsenart	Bushing	Zoll/Imperial	Flansch/Pilot dia.	Zoll/Imperial	Flansch/Pilot dia.	Zoll/Imperial
Elektr. Drehwinkel	Electr. angle	340°	340	340°	340°	2 x 105°
Mechanischer	Mechanical	360° durchdrehbar	360° durchdrehbar	360° durchdrehbar	360° durchdrehbar	360° durchdrehbar
Drehwinkel	angle	360° Cont. rotation	360° Cont. rotation	360° Cont. rotation	360° Cont. rotation	360° Cont. rotation

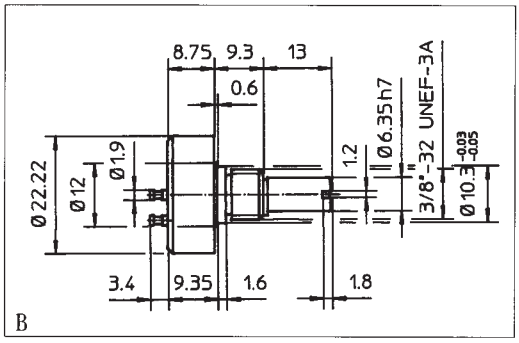
Anschlussbilder
Connecting diagrams

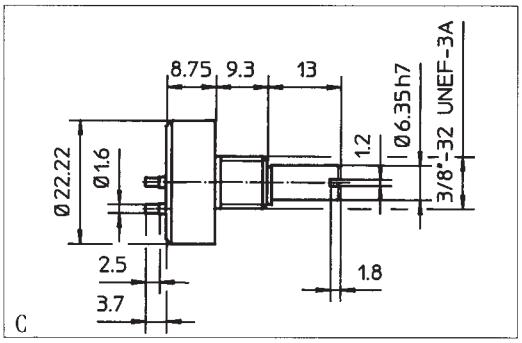


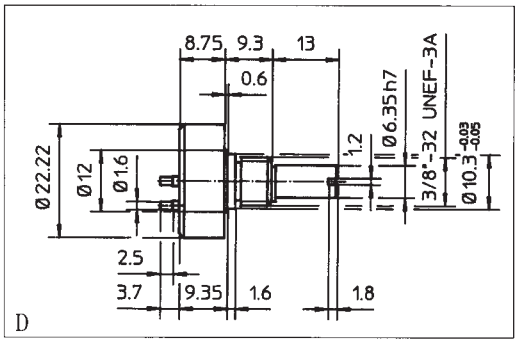


Massbilder
Dimension drawings









Zubehör
Accessories

Art. Nr. Art. No.	Typ Model	Bezeichnung Marking	Bemerkung Remarks
20054	Mutter	3/8" UNEF	serienmässig
20054	Nut	3/8" UNEF	standard item
20020	Scheibe	Fächerscheibe 3/8	serienmässig
20020	Washer	Fan washer 3/8	standard item

Typenbezeichnung/ Abkürzungen
Marking/Remarks

Anschlussarten: Connections:	AA = Kopflötstift achsial AA = head soldering pin axial
	BA = Print achsial BA = axial print
	BB = Print achsial/Mittelabgr. BB = axial print/center tap
Gewindebuchse Bushing:	U = Zoll-Gewinde U = imperial thread
	F = Zoll-Gewinde m. Flansch F = Pilot diam.
Achse: Shaft:	K = ø 6.35 mm, mit Schlitz K = ø 6.35 mm, slotted
	Z = nach Zeichnung Z = accord. to drawing

Singleturn Potentiometers Conductive Plastic

Series PL300

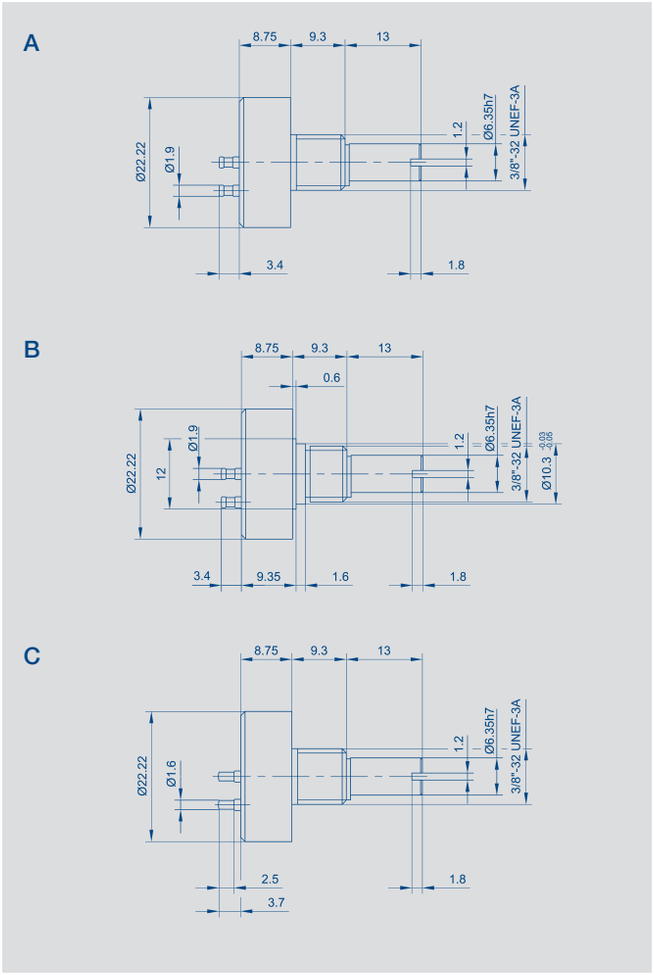
Special features
- very small dimensions
- individual variability
- 10 x 10^6 movements
- excellent linearity, ±0.25 % on request
- very high resolution - better 0.1°

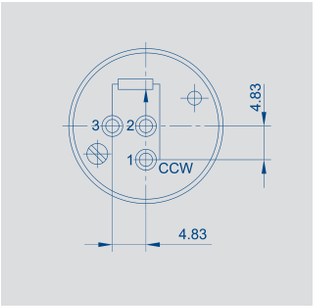
Very small dimensions characterize this potentiometer.

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

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	10×10^6			movements
Shock (DIN IEC68T2-27)	50 11			g ms
Protection class (DIN 40050)	IP50			

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

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 ($I_e \leq 1$ µ A).

Subject to changes