

Vishay MCB

Single-Turn Continuous Rotation Analog Displacement Sensors



QUICK REFERENCE DATA					
Sensor type	ROTATIONAL, conductive plastic				
Output type	Output by turrets				
Market appliance	Industrial, avionics				
Dimensions	7/8" (22.2 mm)				

FEATURES



- Conductive plastic potentiometer technology, infinite resolution
- · Metal housing
- · Stainless steel shaft
- · Precious metal contacts
- Soldering terminal outputs
- Dust proof
- Applicable standards: NFC 93255, MIL R39023
- Variant to be specify:
 - PP22 B: bush mounting, plain bearing self lubricating
 - PP22 S: servo mounting, plain bearing self lubricating
 - PP22 SR: servo mounting, precision ball bearing
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

ELECTRICAL SPECIFICATIONS					
PARAMETER					
Total and useful electrical travel	340° ± 3°				
Total and useful electrical travel (on request)	90° ± 2° (SR), 120° + 0° - 2° (SR)				
Independent linearity standard	± 1.0 %				
Independent linearity optional	B or S: ± 0.5 %, SR: ± 0.25 % and ± 0.2 %				
Rated resistance range (R _n)	$4.7~\mathrm{k}\Omega$, $10~\mathrm{k}\Omega$				
Tolerance on R _n	± 20 %, ± 10 %, ± 5 % (on request)				
Output smoothness	≤ 0.1 %				
Power rating at 70 °C	1 W				
Temperature coefficient	-200 ± 200 ppm/°C				
Wiper current	≤ 1 mA				
Insulation resistance	≥ 1 GΩ at 500 V _{CC}				
Test voltage	750 V, 50 Hz, 1 min				

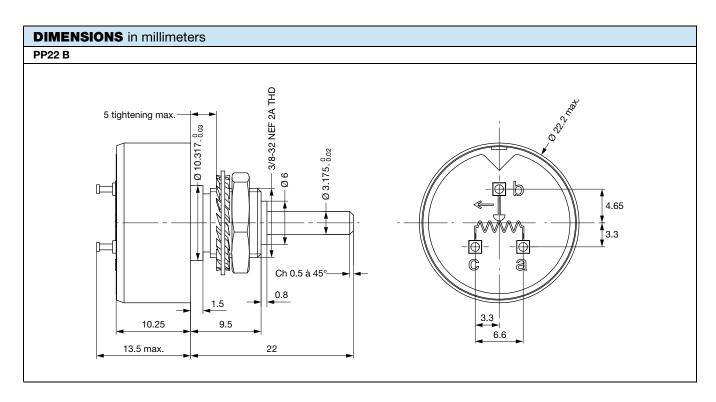
MECHANICAL SPECIFICATIONS					
PARAMETER					
Mechanical rotation	360° continuous				
Starting and running torque	B or S: ≤ 0.5 N cm SR: ≤ 0.1 N cm				
Starting torque (on request)	≥ 5 cN cm and ≤ 10 cN cm				
Running torque (on request)	≥ 3.5 cN cm and ≤ 10 cN cm				
Bush tightening torque (for bushing mount)	≤ 250 N cm				
Moment of inertia	≤ 1 g cm ²				
Weight	S or SR: < 13 g B: < 15 g				

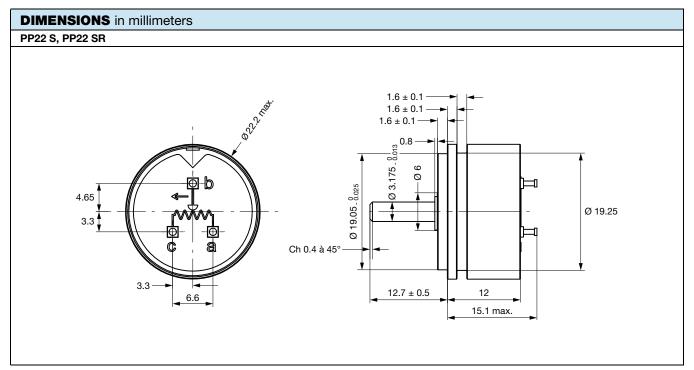
PERFORMANCE					
PARAMETER					
Operating temperature range	-55 °C to +125 °C				
Life	10M cycles; on request (to test in function of specific cycles) 20M cycles				
Rotation speed (max.)	SR: 600 rpm S and B: 120 rpm				



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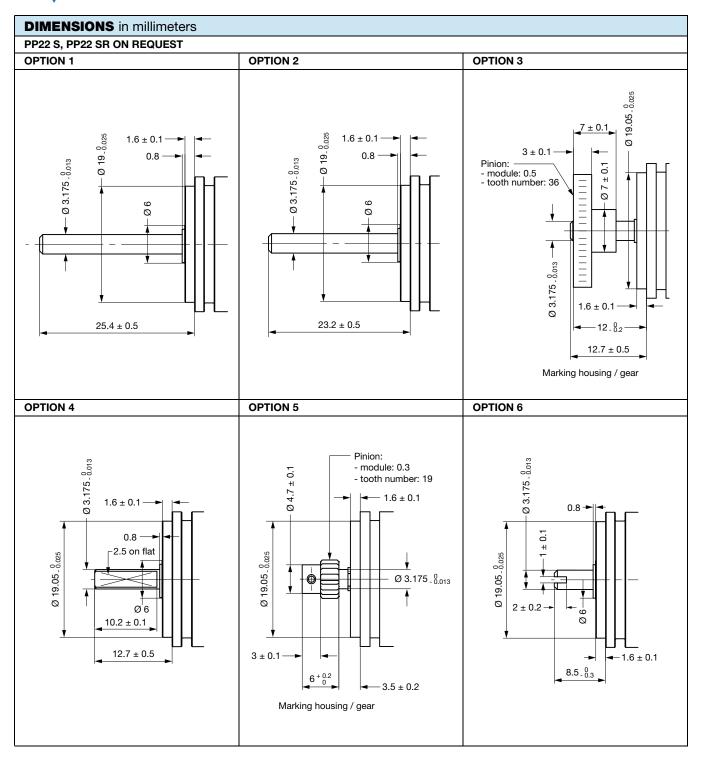
SAP PART NUMBERING GUIDELINES								
MODEL	MOUNTING	TYPE	VALUE	LINEARITY	ANGLE	PACKAGING		
PP22	B = bushing	S = sleeve bearing	472 = 4.7K 103 = 10K		A = 1 %	340	B = box	
	S = servo	R = ball bearing S = sleeve bearing		B = 0.5 %				



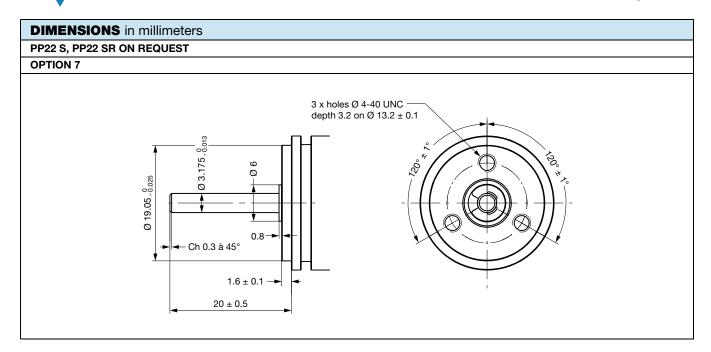




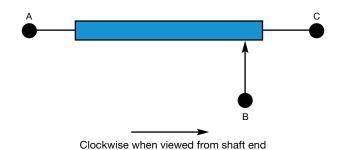
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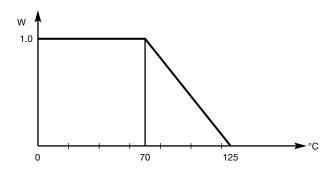
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ELECTRICAL DIAGRAM



POWER RATING CHART



OPTIONS (on request)

- Other electrical travels: 345° (0°; + 2°); 345° ± 3° (SR), 72° ± 2°
- Other ohmic value: 1 k Ω , 2 k Ω , 5 k Ω , and 47 k Ω
- Other tolerances on R_n
- Other linearities (example: 0.9 %)
- Middle tap: 8° ± 1°

- Reinforced mechanical fixation on turrets and track to support big efforts (by gluing)
- Insulation resistance 10 G Ω 500 V $_{CC}$



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