



**THE DATASHEET OF
157S102MX**



7/8" (22.2 mm) Precision Industrial Potentiometer, Bushing And Servo Mount Versions, Conductive Plastic



FEATURES

- High quality
- Rugged one piece metal housing
- Long rotational life
- Wide operating temperature range
- Linearities down to ± 0.25 % special
- Optional sealed construction (bushing mount only)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

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

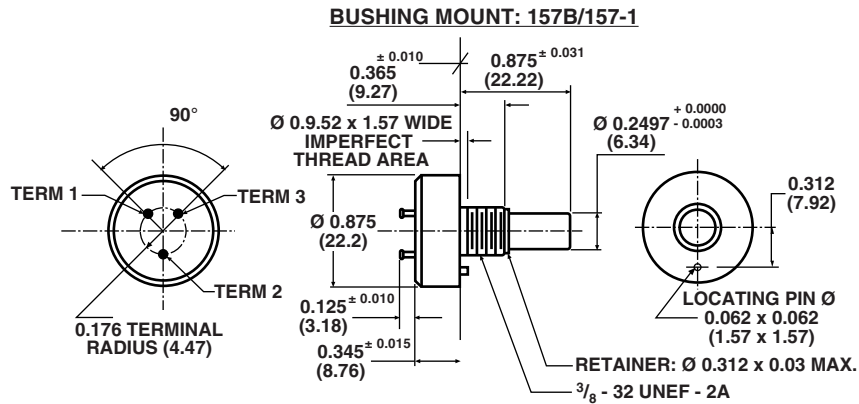
ELECTRICAL SPECIFICATIONS	
PARAMETER	MIL-PRF-39023 TEST PROCEDURES APPLY
Resistance	1 k Ω to 100 k Ω
Resistance Tolerance	± 20 %
Special to	± 10 %
Linearity	± 2.0 %
Special to	± 0.25 %
Temperature Coefficient of Resistance	± 600 ppm/ $^{\circ}$ C
Power Rating	1.0 W at 40 $^{\circ}$ C ambient
Derated to	0 W at 125 $^{\circ}$ C
Electrical Angle	340 $^{\circ}$ \pm 4 $^{\circ}$
End Voltage	0.5 % maximum
Dielectric Withstanding	1000 V _{RMS} , 60 Hz
Insulation Resistance	100 M Ω minimum, 500 V _{DC}
Output Smoothness	0.1 %

MECHANICAL SPECIFICATIONS		
PARAMETER		
Weight	0.5 oz. maximum (14 g)	
Rotation	360 $^{\circ}$ (continuous)	
Mount	BUSHING	SERVO
Bearing Type	Sleeve bearing	Ball bearing
Operating Torque		
Starting	0.30 oz. - in (21.6 g - cm)	0.25 oz. - in (18 g - cm)
Running	0.25 oz. - in (18 g - cm)	0.15 oz. - in (10.8 g - cm)
Mechanical Tolerance (in/mm) (maximum)		
Shaft Runout (TIR)	0.002" (0.05 mm)	0.002" (0.05 mm)
Pilot Dia Runout (TIR)	-	0.002" (0.05 mm)
Lateral Runout (TIR)	0.005" (0.13 mm)	0.002" (0.05 mm)
Shaft End Play	0.006" (0.15 mm)	0.005" (0.13 mm)
Shaft Radial Play	0.003" (0.08 mm)	0.002" (0.05 mm)

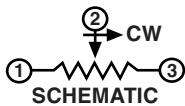
ORDERING INFORMATION										
1	5	7	B	5	0	3	M	C		
MODEL	STYLE		OHMIC VALUE			TOLERANCE ON OHMIC VALUE		LINEARITY		SPECIAL REQUEST
157	B: Bushing S: servo		470 = 47 Ω 222 = 2.200 Ω 103 = 10 kΩ For ohmic value range see electrical specification			M = ± 20 % K = ± 10 %		X = ± 2 % B = ± 0.50 % C = ± 0.25 %		xxxx

PART NUMBER DESCRIPTION (for information only)			
157-	2	503	xxxx
MODEL	STYLE	OHMIC VALUE	SPECIAL
	B: 1 S: 2		

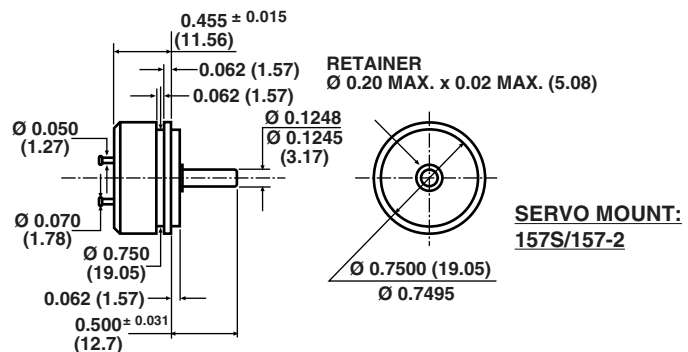
DIMENSIONS in inches (millimeters)



Example of a marking for a standard part:
157-11103



TOLERANCES: UNLESS OTHERWISE NOTED.
DECIMALS ± 0.005 ANGLES ± 2°





MATERIAL SPECIFICATIONS	
Housing/Bushing	Aluminum, anodized
Rear Lid	Ceramic
Shaft	Stainless steel
Terminals	Solderable
Bushing Mount Hardware	Lockwasher, internal tooth steel, nickel plated
Panel Nut	Brass, nickel plated

ENVIRONMENTAL SPECIFICATIONS					
Temperature	-55 °C to +125 °C				
Rotational Life	<table border="1"> <thead> <tr> <th>BUSHING</th> <th>SERVO</th> </tr> </thead> <tbody> <tr> <td>5 million shaft revolutions</td> <td>10 million shaft revolutions</td> </tr> </tbody> </table>	BUSHING	SERVO	5 million shaft revolutions	10 million shaft revolutions
BUSHING	SERVO				
5 million shaft revolutions	10 million shaft revolutions				
Moisture Resistant	Yes				
Vibration	15 g 10 to 2000 Hz				
Shock	50 g				
Salt Spray	96 h				
Load Life	900 h				

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.



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