

Single-Turn Precision Potentiometer

Model 5100 Series



Features:

- 7/8" diameter
- Wirewound



Models Available

5101	1/8" Shaft, 3/8" Bushing
5103	1/8" Shaft, Servo

Electrical

Resistance Range, Ohms	200 to 15K
Standard Resistance Tolerance	±5%
Minimum Practical Resistance Tolerance	±2%
Independent Linearity	±0.5%
Minimum Practical Independent Linearity	±0.25%
Power Rating, Watts	0.75 at 40°C derating to 0 at 85°C
Dielectric Strength	1,000V rms
Insulation Resistance, Minimum	1,000 Megohms
Noise, Maximum	100 Ohms
Actual Electrical Travel	354° + 2°
Tap Tolerance	±2° <500 Ohms, ±1° ≥500 Ohms
End Voltage, Maximum	Within Std. Linearity Tolerance

Environmental

Operating Temperature Range	-25°C to +85°C
Temperature Cycling	5 cycles, -25°C to +85°C
Shock, 6ms Sawtooth	100G's
Vibration	10G's, 10 to 500 Hz
Humidity	Five 24 hour cycles
Rotational Load Life	500K shaft rev. plus 900 hrs. at rated wattage at 40°C

Specifications subject to change without notice.

General Note

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Mechanical

Total Mechanical Travel	360° Continuous	
Number of Cups, Maximum	4	
Weight, Nominal	0.5 oz. Single Cup	0.3 oz. Each Added Cup
Backlash	Negligible	
Shaft End Play, Maximum	.005*	
Shaft Runout, T.I.R., Maximum	.0015*	
Pilot Diameter Runout, T.I.R., Maximum	.002*	
Lateral Runout, T.I.R., Maximum	.003*	
	5101	5103
Shaft Radial Play, Maximum	.003*	.0025*
Start/Run Torque, Maximum	0.2 oz.-in.	0.2 oz.-in.

Standard Resistance Values, Ohms

Total Resistance	Theoretical Resolution (% Nominal)	Tempco of Wire
1K	0.210	±20 ppm/°C
2K	0.170	±20 ppm/°C
5K	0.140	±20 ppm/°C
10K	0.110	±20 ppm/°C
15K	0.100	±20 ppm/°C

METRIC CONVERSIONS

1 in.	25.4mm	1 oz.-in.	0,007 N-m
1 oz.	28.4 gm	1 lb.-in.	0,113 N-m

SPECIAL FEATURES

Center Tap	CT
Linearity Tape	LT
Rear Shaft Extension	RS
Flatted Shaft	FS
Slotted Shaft	SS

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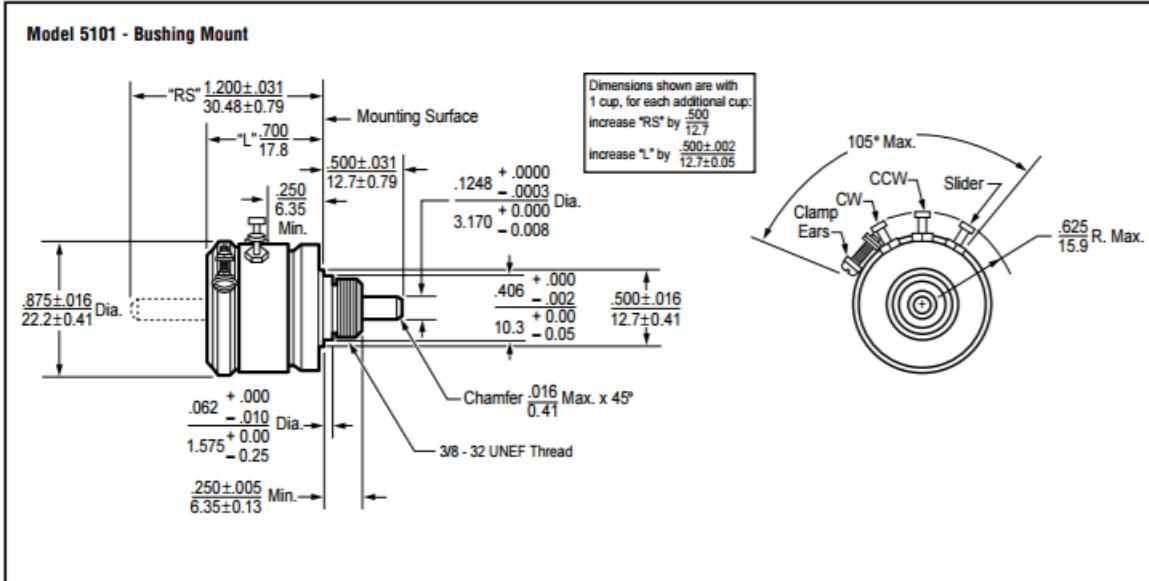
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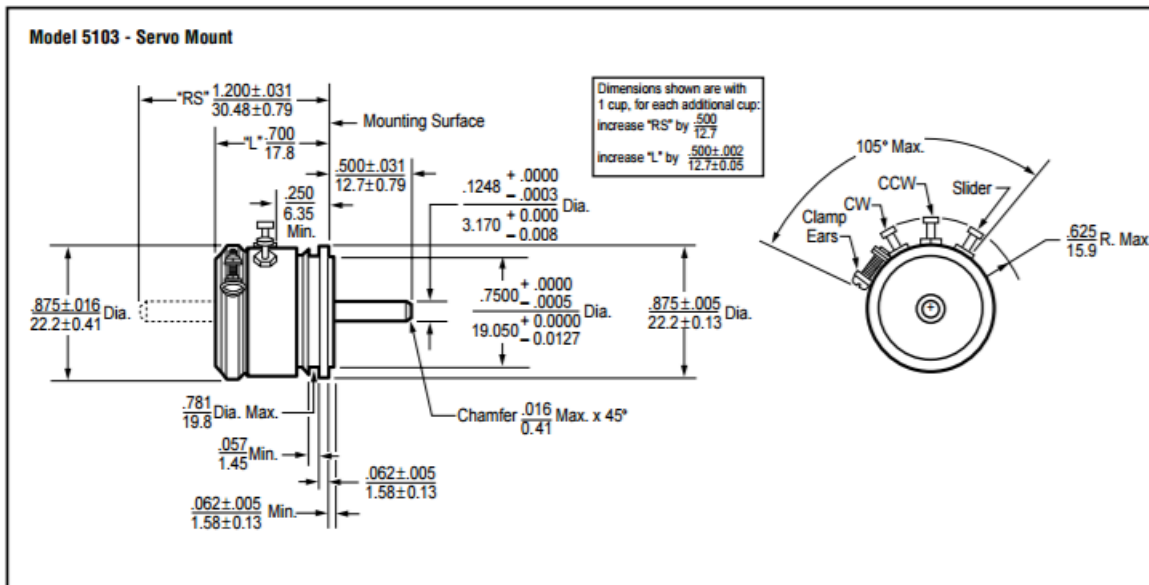
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OUTLINE DIMENSIONS (Inch/mm)



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General Note

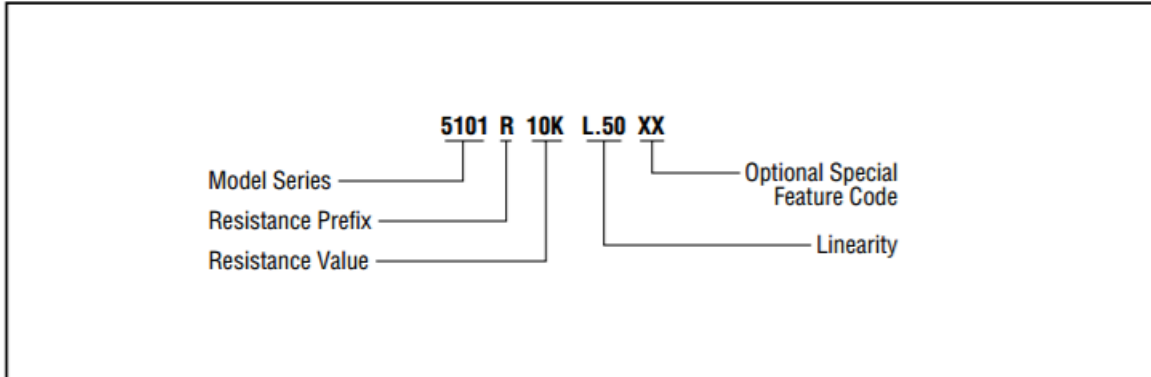
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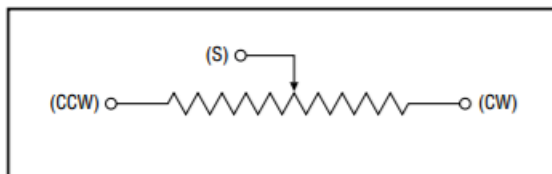
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ORDERING INFORMATION



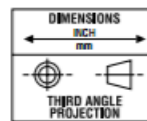
CIRCUIT DIAGRAM



NOTES

Metric equivalents, based on 1 inch = 25.4mm are rounded to the same number of significant figures as in the original English units and are provided for general information only.

Tolerances unless otherwise specified:
Linear = ± .01 inches
(.25mm)
Angular = ± 2 degrees



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