

# 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

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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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*	
	<b>5101</b>	<b>5103</b>
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

#### General Note

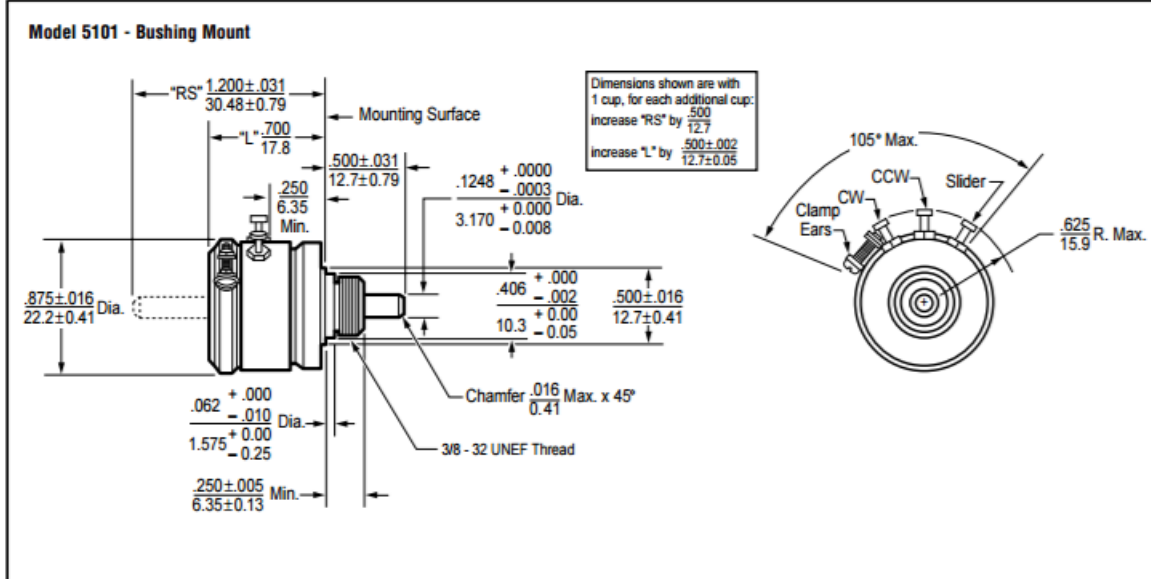
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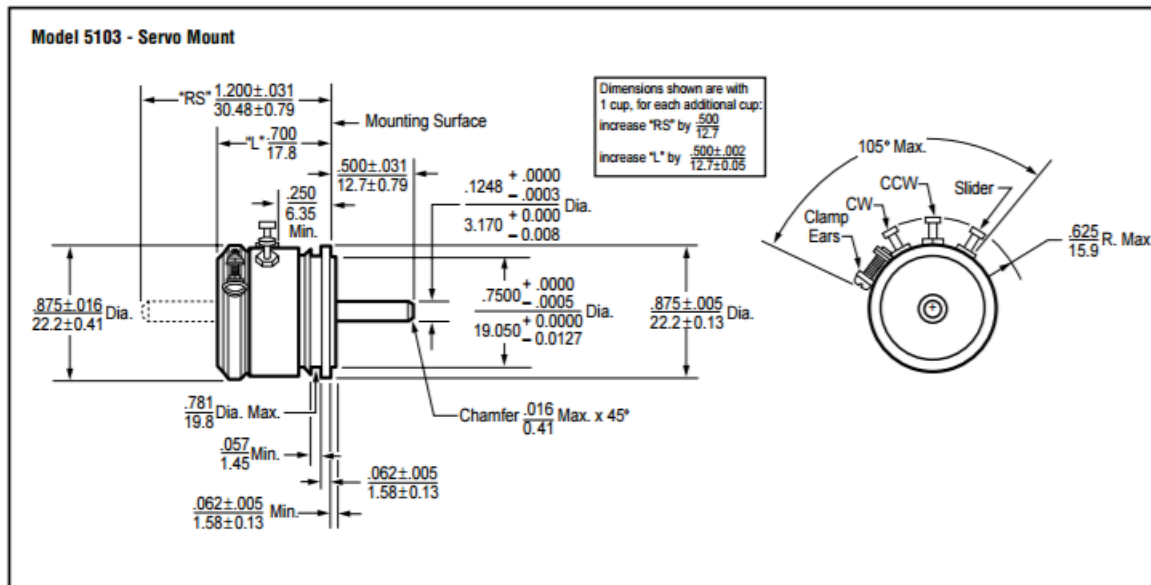
# Single-Turn Precision Potentiometer



## OUTLINE DIMENSIONS (Inch/mm)



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### General Note

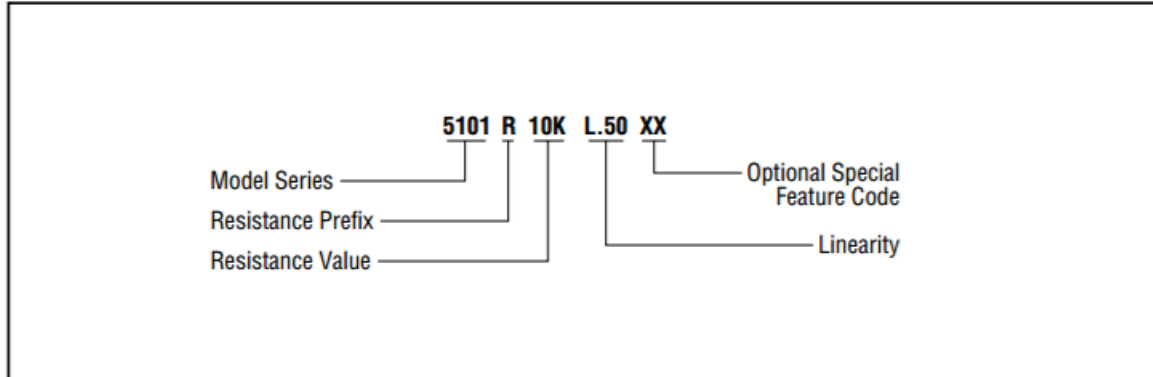
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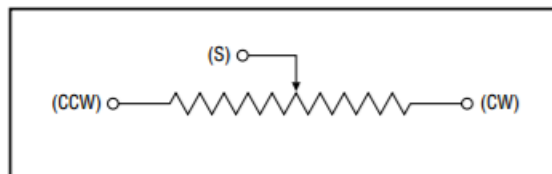
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## ORDERING INFORMATION



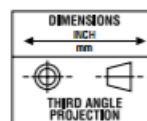
## CIRCUIT DIAGRAM



## 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 =  $\pm .01$  inches  
(.25mm)  
Angular =  $\pm 2$  degrees



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