

Model 9300 Series
1-13/16" Diameter
3 Turn Wirewound
Precision Potentiometer



For more information about this product, visit our website at:
www.potentiometers.com

Model Styles

9301	1/4" Shaft, 3/8" Bushing
9303	1/4" Shaft, Servo

Electrical Specifications¹

Resistance Range, Ohms	30 to 190K
Standard Resistance Tolerance	±5%
Minimum Practical Resistance Tolerance	±1%
Independent Linearity	±0.25%
Minimum Practical Independent Linearity	±0.2%, < 150 Ohms ±0.1%, 150-1,500 Ohms ±0.05%, 1,501-9,999 Ohms ±0.04%, ≥10K Ohms
Power Rating, Watts	3.0 at 70°C derating to 0 at 125°C
Dielectric Strength	1,000V rms
Insulation Resistance, Minimum	1,000 Megohms
Noise, Maximum	100 Ohms
Actual Electrical Travel	1,080° + 3° - 0°, ≤100 Ohms 1,080° + 2° - 0°, 101-700 Ohms 1,080° + 1° - 0°, >700 Ohms
Electrical Continuity Over Travel	+90° ±5° at each end
Tap Tolerance	±2°, ≤100 Ohms ±1°, 101-700 Ohms ±0.5°, >700 Ohms
End Voltage, Maximum	Within Std. Linearity Tolerance

¹ Specifications subject to change without notice.

Model 9300 Series

Environmental (MIL-R-12934)

Operating Temperature Range	Static: -65°C to +125°C Dynamic: -40°C to +125°C
Temperature Cycling	5 cycles, -65°C to +125°C (5% ΔR)
Shock, 6ms Sawtooth	50G's (0.1ms discontinuity max.)
Vibration	5G's, 10 to 2,000 Hz (5% ΔR, 0.1ms discontinuity max.)
Moisture Resistance	Ten 24 hour cycles (3% ΔR)
High Temperature Exposure	1,000 hours at 125°C (5% ΔR)
Rotational Load Life	2 mil. shaft rev. plus 900 hrs. at rated wattage at 70°C (5% ΔR)

Mechanical Specifications

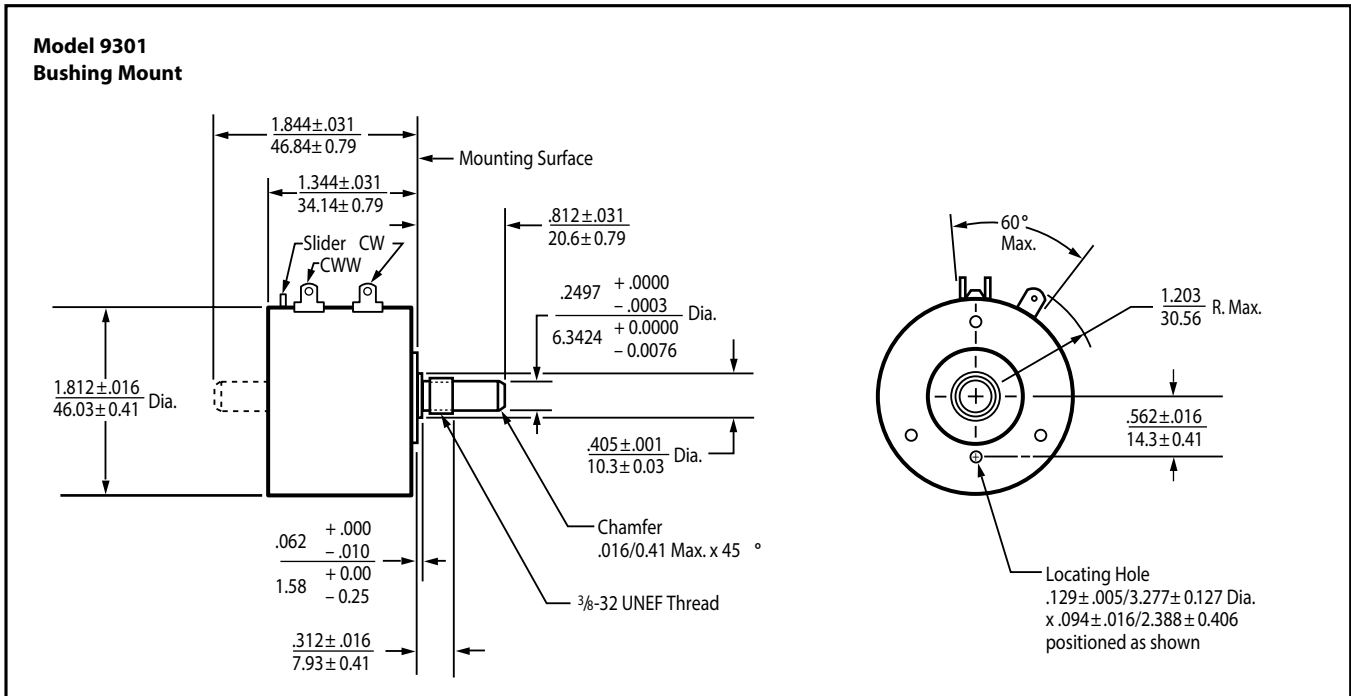
Total Mechanical Travel	1260° ± 5°	
Number of Cups, Maximum	3	
Weight, Nominal (per gang)	3.4 oz.	
Static Stop Strength	600 oz.-in.	
Backlash, Maximum	Essentially zero	
Shaft End Play, Maximum	.005"	
Shaft Runout, T.I.R., Maximum	.0005"	
Pilot Diameter Runout, T.I.R., Maximum	.001"	
Lateral Runout, T.I.R., Maximum	.0015"	
Starting Torque, Maximum	1.3 oz.-in.	
Running Torque, Maximum	0.9 oz.-in.	
Panel Nut Tightening Torque, Maximum	9301	9303
	25 lb.-in.	N/A
Shaft Radial Play, Maximum	0.002"	0.001"

Standard Resistance Values, Ohms

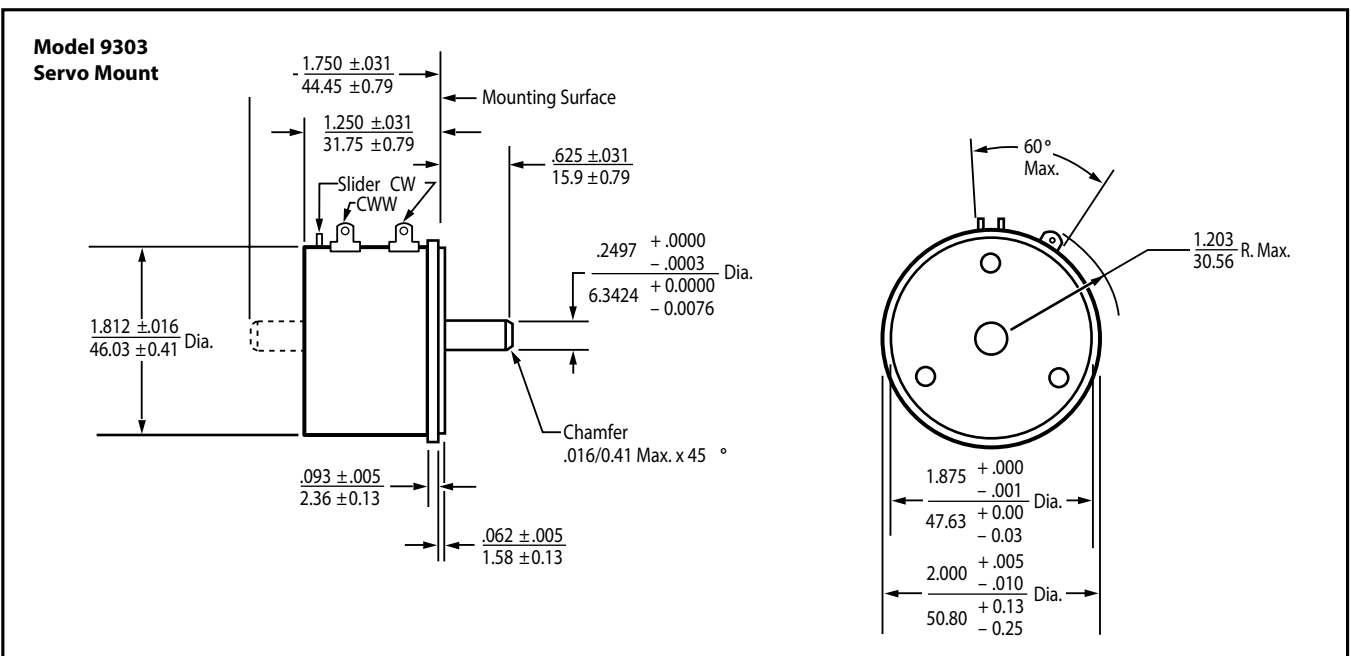
Total Resistance	Theoretical Resolution (% Nominal)	Tempco of Wire
1K	0.039	±20 ppm/°C
5K	0.032	±20 ppm/°C
10K	0.027	±20 ppm/°C
20K	0.021	±20 ppm/°C
50K	0.017	±20 ppm/°C

Model 9300 Series

Outline Drawings (inch/mm)



Outline Drawings (inch/mm)



Metric Conversions

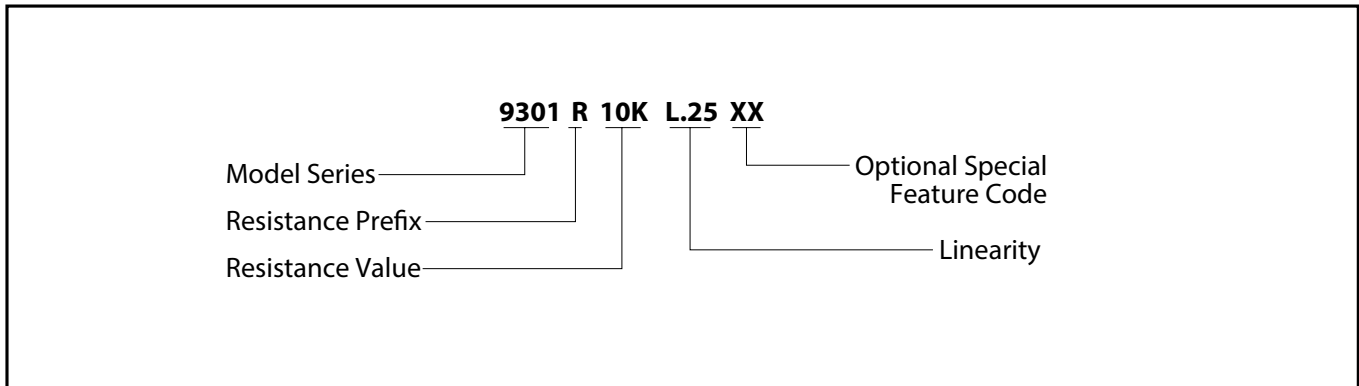
1 in.	25.4 mm	1 oz.-in.	0,007 N-m
1 oz.	28.4 gm	1 lb.-in.	0,113 N-m

Model 9300 Series

Special Features

Center Tap	CT
Linearity Tape	LT
Rear Shaft Extension	RS
Flatted Shaft	FS
Slotted Shaft	SS
Shaft Lock (9301 only)	SL

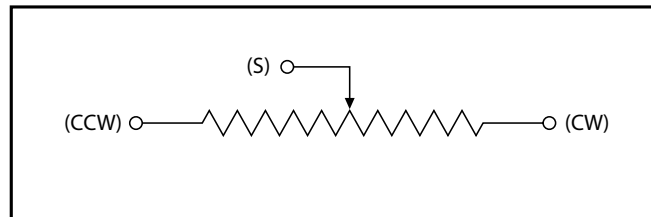
Ordering Information



Matching Turns Counting Dials

9301: 2606, 2607, 2626, 2627, 2646, 2647, RB

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 = ± 2 degrees

DIMENSIONS

INCH
mm

THIRD ANGLE
PROJECTION

For more information about this product,
 visit our website at:
www.potentiometers.com

