

Series 7600
Model 7601, 7603
1-13/16" Diameter
10-Turn, Wirewound
Precision Potentiometer



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



Model Styles

7601	1/4" Shaft, 3/8" Bushing
7603	1/4" Shaft, Servo

Electrical Specifications¹

Resistance Range, Ohms	1K to 650K
Standard Resistance Tolerance	±5%
Minimum Practical Resistance Tolerance	±1%
Independent Linearity	±0.15%
Minimum Practical Independent Linearity	±0.1%, < 500 Ohms ±0.05%, 500-4,999 Ohms ² ±0.025%, ≥ 5K Ohms
Power Rating, Watts	5.0 at 70°C derating to 0 at 125°C
Input Voltage, Maximum	1,000Vdc Not to Exceed Power Rating
Dielectric Strength	1,000V RMS
Insulation Resistance, Minimum	1,000 Megohms
Noise, Maximum	100 Ohms
Actual Electrical Travel	3,600° + 3° -0°, ≤ 300 Ohms 3,600° + 2° -0°, 301-2,500 Ohms 3,600° + 1° -0°, > 2,500 Ohms
Electrical Continuity Over Travel	+90° ±5° at each end
Tap Tolerance	±2°, ≤ 300 Ohms ±1°, 301-2,500 Ohms ±0.5°, ≥ 2,500 Ohms
End Voltage, Maximum	Within Std. Linearity Tolerance

¹ Specifications subject to change without notice.

² May require external pads.

Series 7600 - Model 7601, 7603

Mechanical Specifications

Total Mechanical Travel	3,780°	±	5°
Number of Cups, Maximum			2
Weight, Nominal (per gang)	5.5		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.
	7601		7603
Panel Nut Tightening Torque, Maximum	25 lb.-in.		N/A
Shaft Radial Play, Maximum	0.002"		0.001"

Environmental (MIL-R-12934)

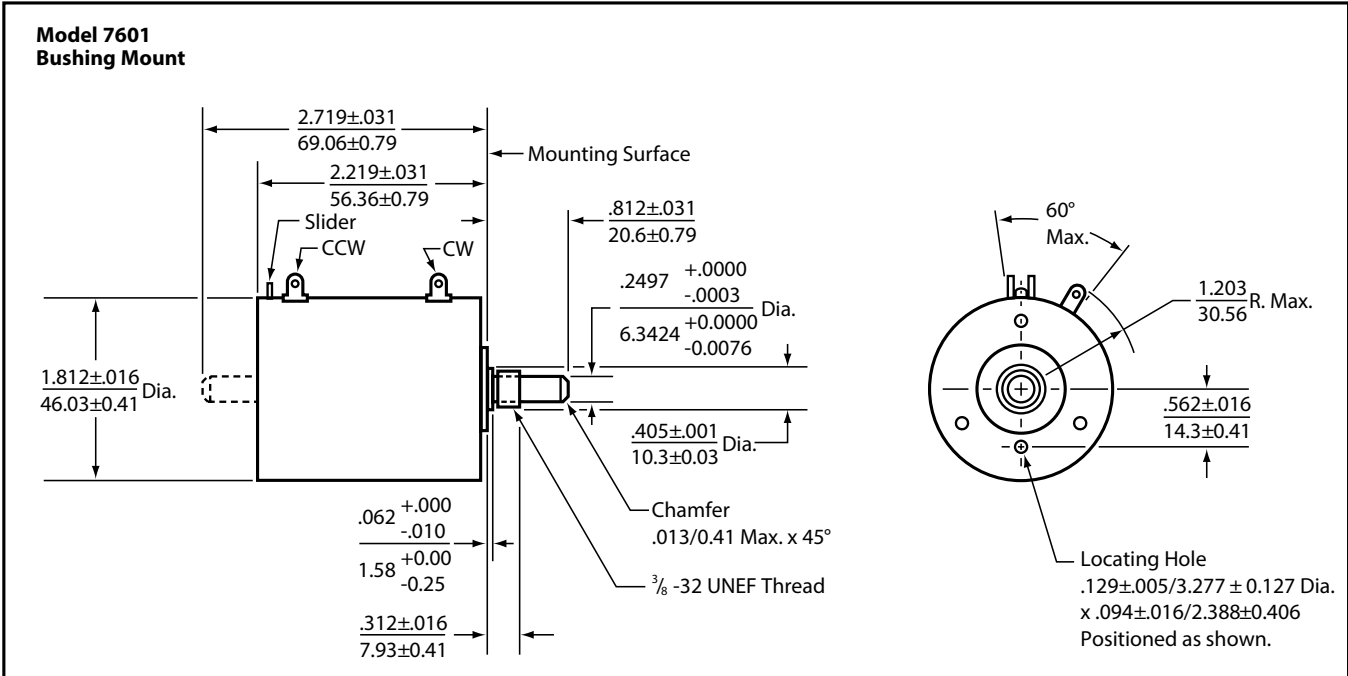
Operating Temperature Range	Static: -65°C to +125°C Dynamic: -40°C to +125°C
Temperature Cycling	5 cycles, -65°C to +125°C (5% ΔR)
Shock, 6ms Sawtooth	100G's (0.1ms discontinuity max.)
Vibration	5G's, 10 to 2,000 Hz (5% ΔR, 0.1ms discontinuity max.)
Moisture	Ten 24 hour cycles (3% ΔR)
High Temperature 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)

Standard Resistance Values, Ohms

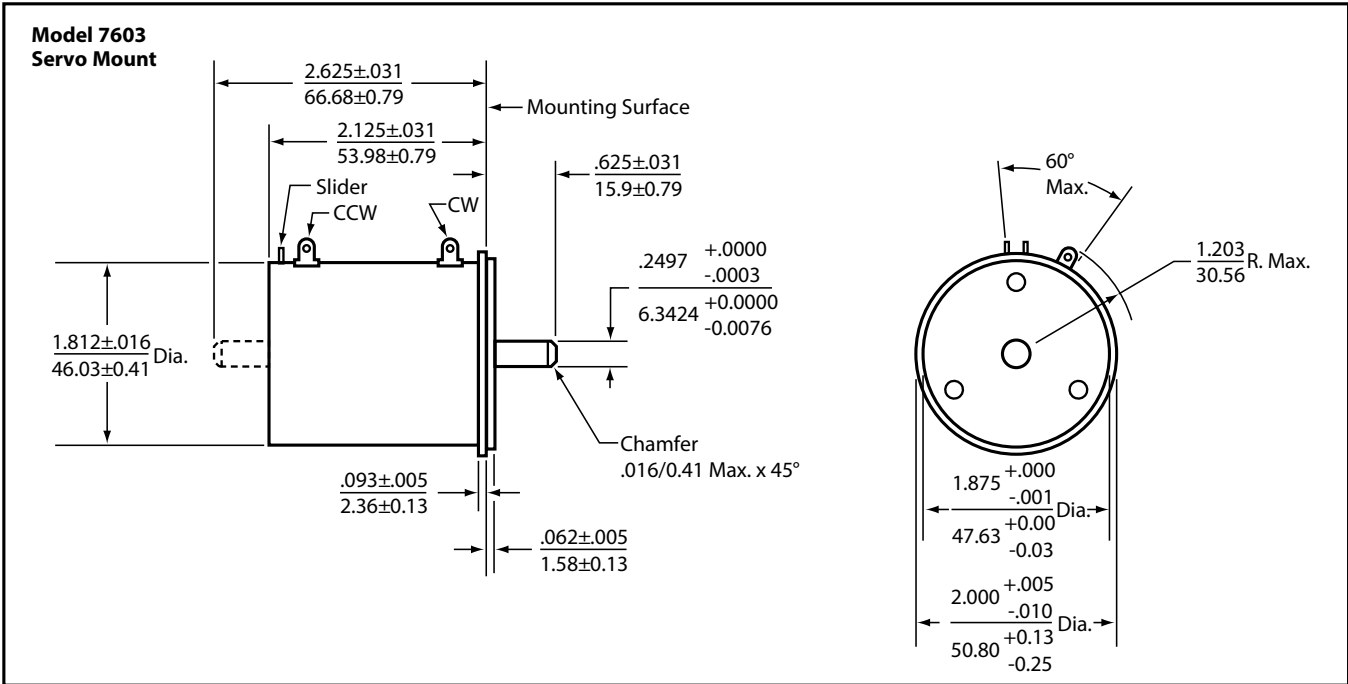
Total Resistance	Theoretical Resolution (% Nominal)	Tempco of Wire
1K	0.019	±20 ppm/°C
5K	0.011	±20 ppm/°C
10K	0.012	±20 ppm/°C
20K	0.009	±20 ppm/°C
50K	0.007	±20 ppm/°C
100K	0.006	±20 ppm/°C

Series 7600 - Model 7601, 7603

Outline Dimensions (Inch/mm)



Outline Dimensions (Inch/mm)



Metric Conversions

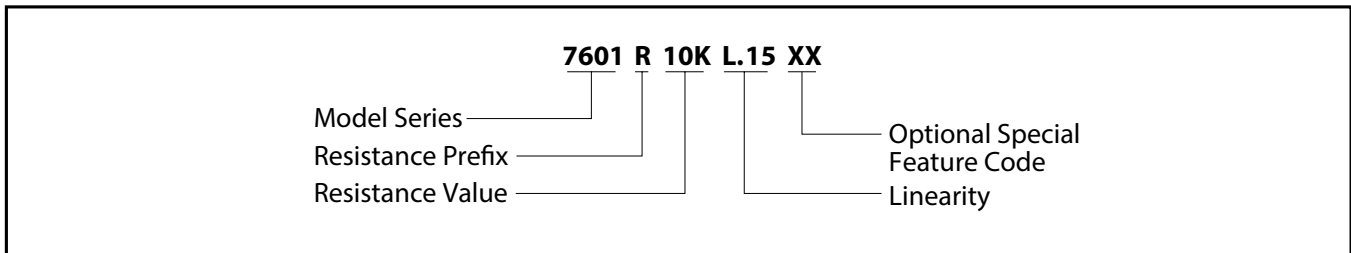
1 in.	25.4 mm	1 oz.-in.	0,007 N-m
1 oz.	28.4 gm	1 lb.-in.	0,113 N-m

Series 7600 - Model 7601, 7603

Special Features

Center Tap	CT
Linearity Tape	LT
Rear Shaft Extension	RS
Flatted Shaft	FS
Slotted Shaft	SS
Shaft Lock (7601 only)	SL

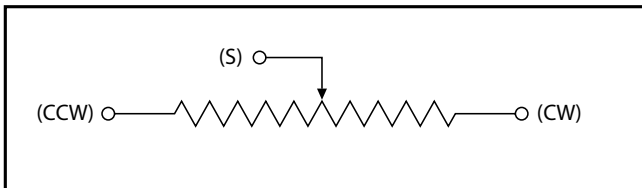
Ordering Information



Matching Turns Counting Dials

7601: 2606, 2607, 2626, 2627, 2646, 2647, 2126, 2606S, 2607S, 2646S, 2647S, RB

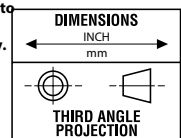
Circuit Diagram



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 = ± .01 inches
 (.25mm)
 Angular = ± 2 degrees



© State Electronics

36 State Route 10, STE 6 • East Hanover, NJ 07936-0436
 973-887-2550 • Toll Free 1-800-631-8083 • Fax 973-887-1940

<http://www.potentiometers.com>