

# Multi-Turn Precision Potentiometer

## Model 7600 Series



### Features:

- 1-13/16" diameter
- 10-turn
- Wirewound



### Model Styles

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

### Electrical

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 *±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

Specifications subject to change without notice.

\*May require external pads.

#### 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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### Environmental

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)

### Mechanical

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"

### 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

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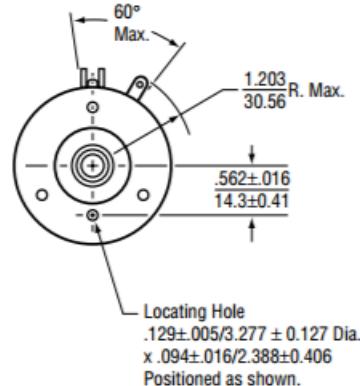
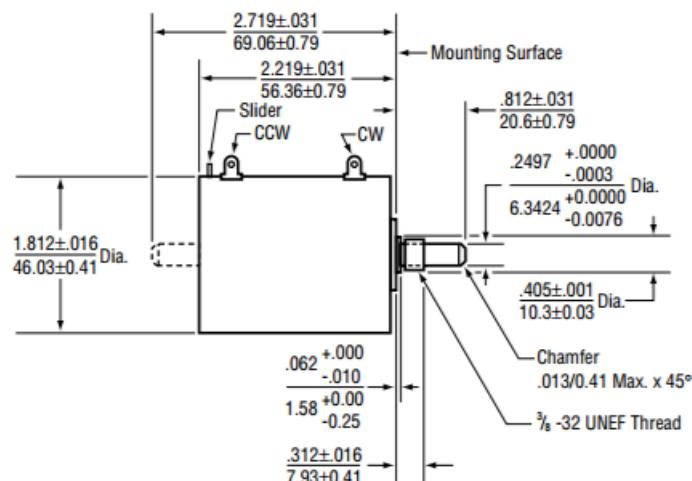
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## Model 7600 Series



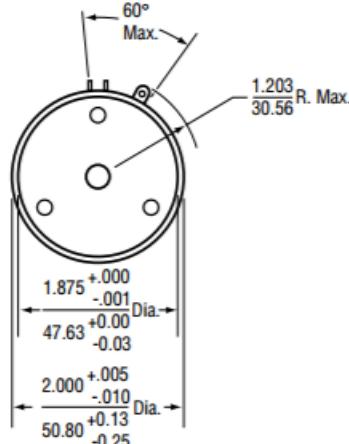
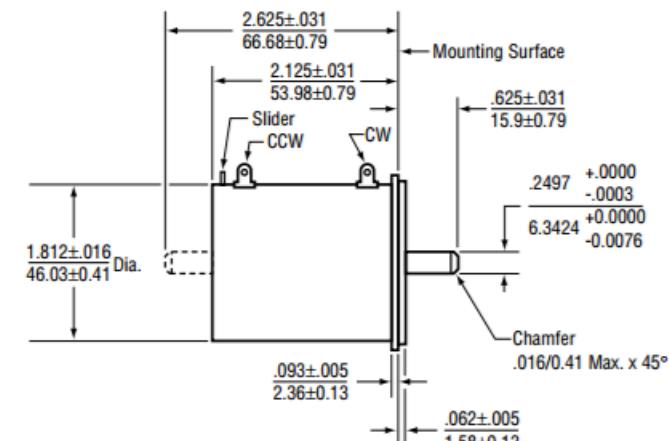
### Model 7601

#### Bushing Mount



### Model 7603

#### Servo Mount



#### 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

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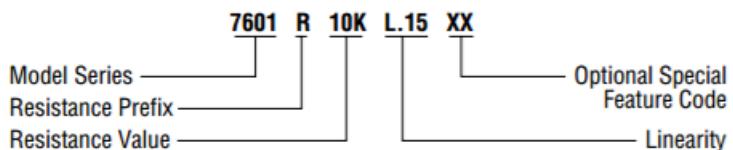
## Model 7600 Series



### SPECIAL FEATURES

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

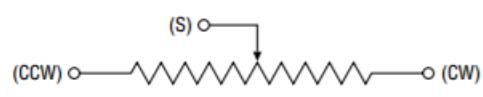
### ORDERING INFORMATION



### MATCHING TURNS COUNTING DIALS

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

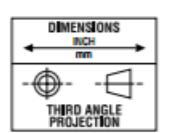
### CIRCUIT DIAGRAM



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



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