

# Linear Precision Potentiometer

## Model 405 Series



### Features:

- Linear actuation
- Low cost
- Conductive plastic



### Model Styles Available

Model #	Shaft	Termination Style	Weight (grams)
405	1/8" plain	Wire Leads	28 + (16 x mechanical travel)

### Electrical

Resistance Range	see Table 1
Standard Resistance Tolerance	±20%
Minimum Practical Resistance Tolerance	±10%
Independent Linearity <sup>2</sup>	see Table 1
Minimum Practical Independent Linearity	see Table 1
Input Voltage	400 VDC maximum, not to exceed power rating
Power Rating	see Table 1 for Watts at 85°C, derating to 0 at 125°C
Dielectric Withstanding Voltage	1,000 V rms
Insulation Resistance	1,000 Megohms minimum at 500 VDC
Output smoothness	0.1% maximum at 10" to 18" per minute
Actual Electrical Travel	see Table 1
Electrical Continuity Travel	within mechanical travel
End Voltage	maximum 0.5% of input voltage
Resolution	essentially infinite
Temperature Coefficient of Resistance <sup>3</sup>	-400 +/-400 ppm/°C typical
Temperature Coefficient of Output Voltage <sup>4</sup>	±10 ppm/°C typical

### Mechanical

Total Mechanical Travel	see Table 1
Actuating Force	10 oz. maximum
Shaft Rotation	continuous
Backlash	0.003" maximum
Static Stop Strength	10 lb. minimum

<sup>1</sup> Specifications subject to change without notice.

<sup>2</sup> Linearity is measured between 1% and 99% of input voltage.

<sup>3</sup> Special hybrid TCR available to ±100 ppm/°C for narrower range of resistance.

<sup>4</sup> Measured with 10 VDC CW to CCW and slider at 50% of electrical travel.



#### 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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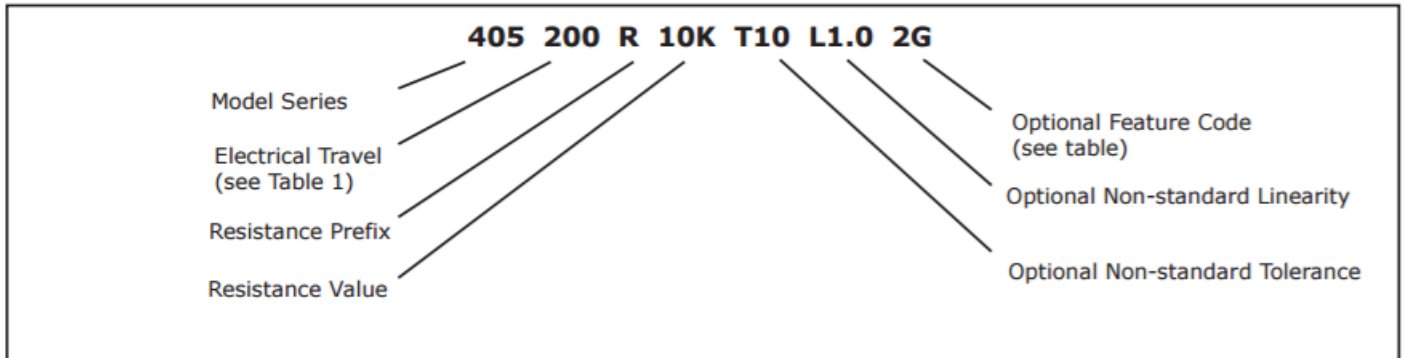
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### Environmental

Operating Temperature Range	-40°C to +125°C dynamic, -55°C to +125°C static
Load Life	5 million shaft actuations at rated power & 70°C, maximum 10% ΔR

### Ordering



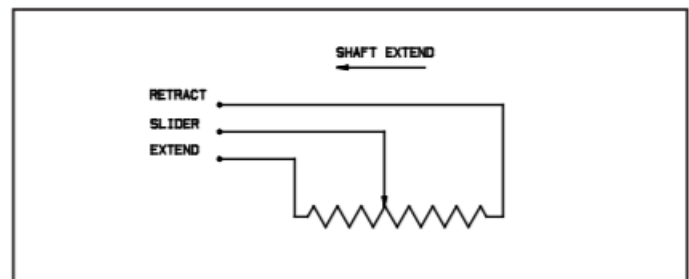
**Table 1**

Electrical Travel (Inches)	1"	2"	3"
Ordering #	100	200	300
Standard Resistance Range (Ohms)	1K to 300K	2K to 600K	3K to 900K
Hybrid (low TCR) resistance range (Ohms)	400 to 30K	700 to 60K	1K to 90K
Standard Independent Linearity	±1.5%	±1.5%	±1.0
Minimum Practical Independent Linearity	1.0	1.0	0.75
Power Rating (Watts)	0.75	1.0	1.5
Mechanical Travel (Inches)	1.060"	2.060"	3.060"

### Feature Codes

Linearity Tape	LT
Two Gangs (dual section)	2G
Threaded shaft (5-40 UNC-3A)	TS

### Circuit Diagram



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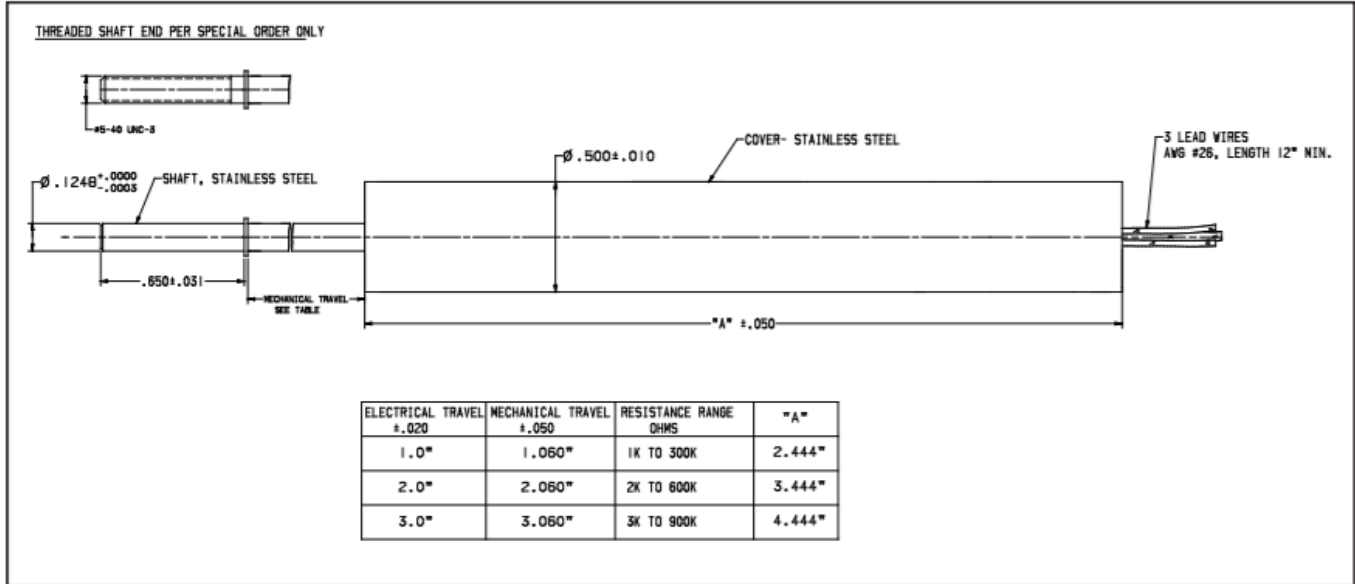
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### Outline Drawings



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