

Helipot Series 5120 precision potentiometers provide:

- Low temperature coefficient—20 ppm/ $^{\circ}\text{C}$ ($\text{p}/10^6/\text{C}$) for most resistance values.
- High performance at low cost.
- 1-watt power rating at 70°C .
- 125°C maximum operating temperature.
- Stops optional.

Model:

5121 $\frac{1}{4}$ " (6,350 mm) bushing mount with $\frac{1}{8}$ " (3,175 mm) shaft
 5126 $\frac{3}{8}$ " (9,525 mm) bushing mount with $\frac{1}{8}$ " (3,175 mm) shaft
 5127 $\frac{3}{8}$ " (9,525 mm) bushing mount with $\frac{1}{4}$ " (6,350 mm) shaft

SPECIFICATIONS

Electrical

Standard resistance range, ohms	100 to 15.0 K continuous model
	100 to 14.0 K stop model
Standard resistance tolerance.....	$\pm 5\%$
Min. practical resistance tolerance	$\pm 2\%$
Standard linearity* (independent)	$\pm 0.5\%$
Min. practical independent linearity	$\pm 0.3\%$
Power rating, watts	1W at 70°C , 0 at $+125^{\circ}\text{C}$
Input voltage, max.	400V DC
Dielectric strength.....	750 rms
Insulation resistance	1,000 M Ω min.
Actual electrical travel nominal	340° $\pm 2^{\circ}$ continuous model
	310° $\pm 2^{\circ}$ stop model
Electrical continuity travel	340° nominal continuous model
	320° $\pm 3^{\circ}$ stop model
Noise, max.	100 Ω
End voltage, max.	within standard linearity tolerance

*Linearity is measured between 1.0% and 99% of the input voltage.

Mechanical

Number of turns	1
Total mechanical travel.....	360° cont. on continuous model
	320° $\pm 3^{\circ}$ stop model
Starting torque, max.	1.0 oz-in. (0.0071 N \cdot m)
Running torque, max.	1.0 oz-in. (0.0071 N \cdot m)
Number of cups, max.	1
Weight, single cup, approx.	0.53 oz (15 g)
Static stop strength, max.	40 oz-in. (0.28 N \cdot m)
Housing	Plastic
Rear Lid	Plastic
Bushing	Brass
Shaft	Brass, nickel-plated
Terminals	Solderable

Environmental

Ambient temperature range	-65°C to +125°C
Temperature cycling	5 cy; -65°C to +125°C
Shock	100 G's sawtooth
Vibration	10 to 500Hz 10G
Humidity	Five 24-hour cycles
Temperature storage	1000 hours at 125°C
High and low temperature operations	Mechanical operation -65°C and +125°C
Rotational life	1,000,000 shaft rev.

Series 5120

7/8" (22,225mm) Diameter Single-Turn Wirewound

Standard Resistance Values Available without Setup Charge

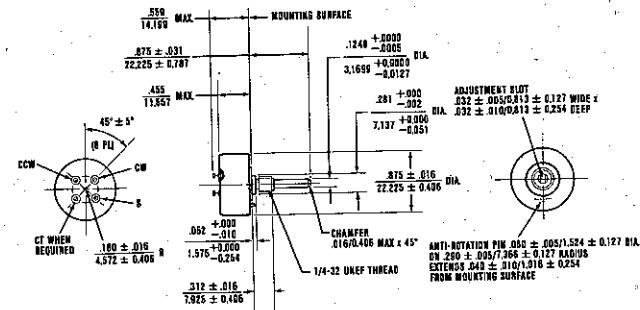
Total Resistance (ohms)	Theoretical Resolution Cont. Model	(% nominal) Stop Model	Wire Tempco (p/ $10^6/\text{C}$)
100	.3622	.3622	± 130
200	.3083	.3416	± 20
500	.2236	.2540	± 20
1,000	.1876	.2087	± 20
2,000	.1708	.1708	± 20
5,000	.1227	.1366	± 20
10,000	.1030	.1148	± 20
14,000	—	.1066	± 20
15,000	.0995	—	± 20

Special Features

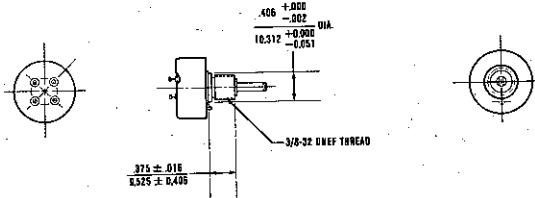
CT - center tap
 LT - linearity tape

SL - shaft lock
 ST - stop

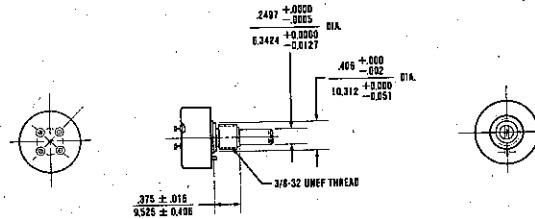
Model 5121



Model 5126

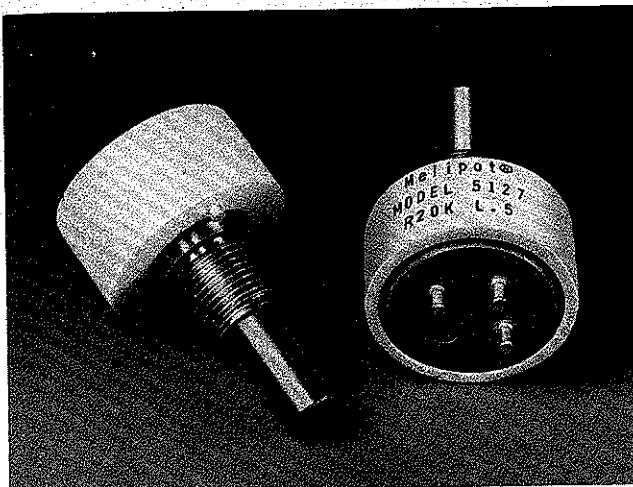


Model 5127



Series 5120

7/8" (22,225mm) Diameter Single-Turn Wirewound



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- Low temperature coefficient—20.ppm/°C ($p/10^6/^\circ C$) for most resistance values.
- High performance at low cost.
- 1-watt power rating at 70°C.
- 125°C maximum operating temperature.
- Stops optional.

Model:

5121 1/4" (6,350 mm) bushing mount with 1/4" (3,175 mm) shaft
 5126 3/8" (9,525 mm) bushing mount with 1/4" (3,175 mm) shaft
 5127 3/8" (9,525 mm) bushing mount with 1/4" (6,350 mm) shaft

SPECIFICATIONS

Electrical

Standard resistance range, ohms	100 to 15.0 K continuous model
	100 to 14.0 K stop model
Standard resistance tolerance.....	±5%
Min. practical resistance tolerance	±2%
Standard linearity* (independent)	±0.5%
Min. practical independent linearity	±0.3%
Power rating, watts	1W at 70°C, 0 at +125°C
Input voltage, max.	400V DC
Dielectric strength.....	750 rms
Insulation resistance	1,000 MΩ min.
Actual electrical travel nominal	340° ±2° continuous model 310° ±2° stop model
Electrical continuity travel	340° nominal continuous model 320° ±3° stop model
Noise, max.	100Ω
End voltage, max.	within standard linearity tolerance

*Linearity is measured between 1.0% and 99% of the input voltage.

Mechanical

Number of turns	1
Total mechanical travel.....	360° cont. on continuous model 320° ±3° stop model
Starting torque, max.	1.0 oz-in. (0.0071 N·m)
Running torque, max.	1.0 oz-in. (0.0071 N·m)
Number of cups, max.	1
Weight, single cup, approx.	0.53 oz (15 g)
Static stop strength, max.	40 oz-in. (0.28 N·m)
Housing	Plastic
Rear Lid	Plastic
Bushing.....	Brass
Shaft	Brass, nickel-plated
Terminals	Solderable

Environmental

Ambient temperature range	-65°C to +125°C
Temperature cycling	5 cy; -65°C to +125°C
Shock	100 G's sawtooth
Vibration	10 to 500Hz 10G
Humidity	Five 24-hour cycles
Temperature storage	1000 hours at 125°C
High and low temperature operations	Mechanical operation -65°C and +125°C
Rotational life	1,000,000 shaft rev.

Standard Resistance Values Available without Setup Charge

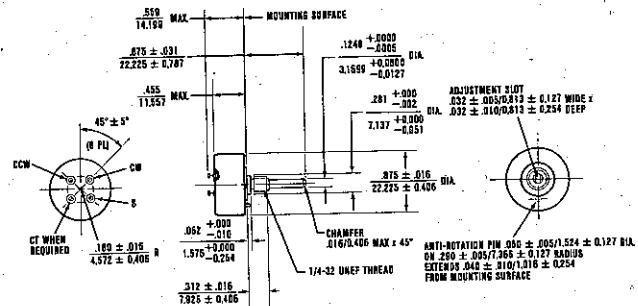
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100	.3622	.3622	+130
200	.3083	.3416	±20
500	.2236	.2540	±20
1,000	.1876	.2087	±20
2,000	.1708	.1708	±20
5,000	.1227	.1366	±20
10,000	.1030	.1148	±20
14,000	—	.1066	±20
15,000	.0995	—	±20

Special Features

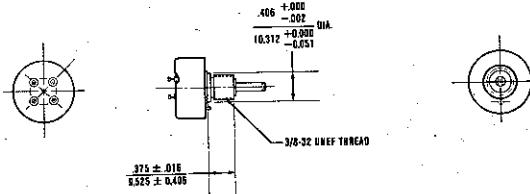
CT - center tap
 LT - linearity tape

SL - shaft lock
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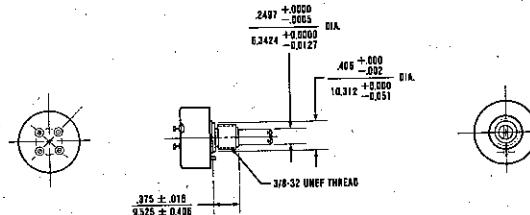
Model 5121

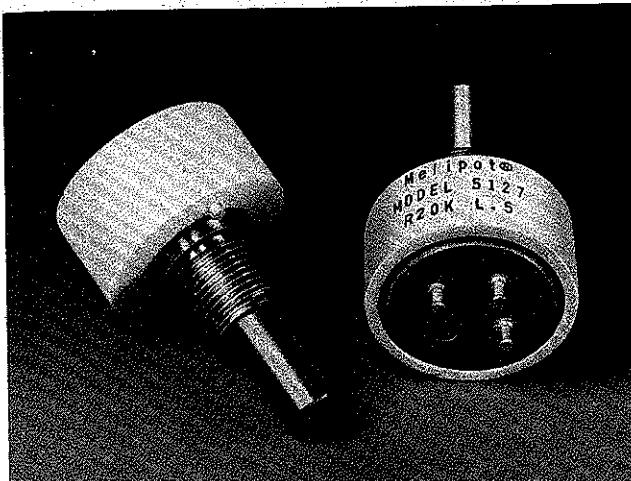


Model 5126



Model 5127





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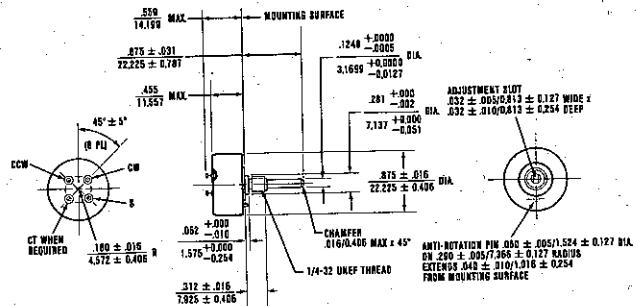
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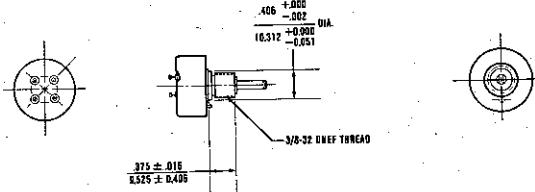
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Model 5121



Model 5126



Model 5127

