

MODEL 6173

7/8" Diameter

Single Turn

Conductive Plastic

Precision Potentiometer /

Position Sensor



ELECTRICAL

Resistance Range, Ohms	1K to 100K
Standard Resistance Tolerance	±10%
Minimum Practical Resistance Tolerance	±5%
Independent Linearity*	±0.5%
Minimum Practical Independent Linearity	±0.25%
Input Voltage, Maximum	400Vdc not to exceed power rating
Power Rating, Watts	1.0 at 70°C derating to 0 at 125°C
Dielectric Strength	1,000V rms
Insulation Resistance, Minimum	1,000 Megohms
Output Smoothness, Maximum	0.1%
Actual Electrical Travel, Nominal	335°
Electrical Continuity Travel, Minimum	346°
Tap Tolerance	0.5% of input voltage
End Voltage, Maximum	0.5% of Input Voltage
Resolution	Essentially infinite
Temperature Coefficient**	-800 ppm/°C

ENVIRONMENTAL (MIL-R-39023)

Operating Temperature Range	Static: -65°C to +125°C Dynamic: -40°C to +125°C
Temperature Cycling	5 cycles, -65°C to +125°C (10% ΔR)
Shock, 6ms Sawtooth	100G's (0.1ms discontinuity max.)
Vibration	15G's, 10 to 500 Hz (2% ΔR, 0.1ms discontinuity max.)
Moisture Resistance	Ten 24 hour cycles (10% ΔR)
High Temperature Exposure	1,000 hours at 125°C (0.5% ΔR)
Rotational Life	25 mil. shaft rev.
Rotational Load Life	5 mil. shaft rev. + 900 hrs. at rated wattage at 70°C (10% ΔR)

Specifications subject to change without notice.

* Linearity is measured between 1% and 99% of input voltage.

** Special tempco available to ±100ppm/°C.

MECHANICAL

Total Mechanical Travel	360° continuous
Number of Gangs, Maximum	4
Weight, Nominal	0.92 oz. Single gang 0.6 oz. Each added gang
Shaft Runout, T.I.R., Maximum	.001"
Pilot Diameter Runout, T.I.R., Maximum	.001"
Lateral Runout, T.I.R., Maximum	.002"
Shaft Radial Play, Maximum	.001"
Start/Run Torque, Maximum (per gang)	0.5 oz.-in.

STANDARD RESISTANCE VALUES, OHMS

1K	2K	5K	10K	20K	50K
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SPECIAL FEATURES

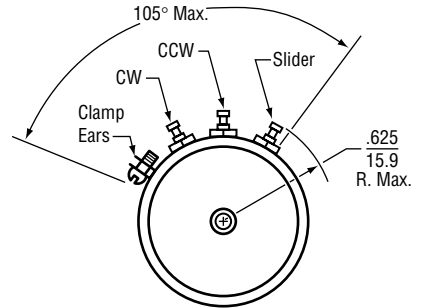
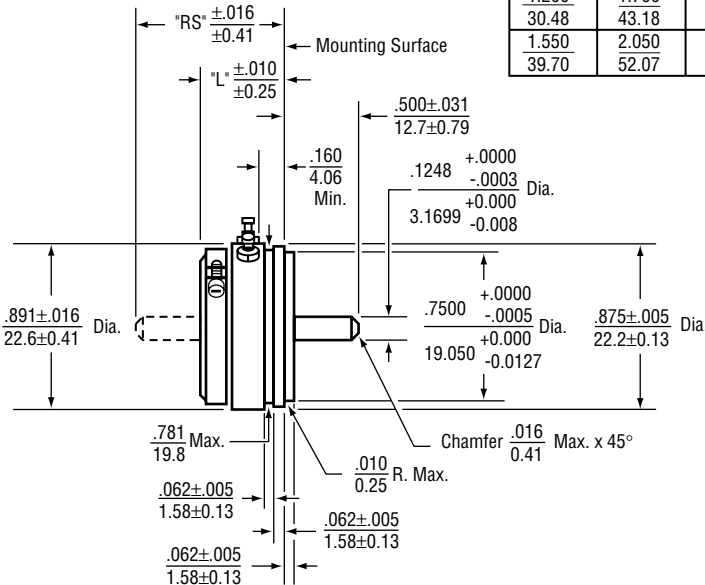
Center Tap	CT
Linearity Tape	LT
Rear Shaft Extension	RS
Flatted Shaft	FS
Slotted Shaft	SS
Additional Gangs	2G or 3G or 4G

METRIC CONVERSIONS

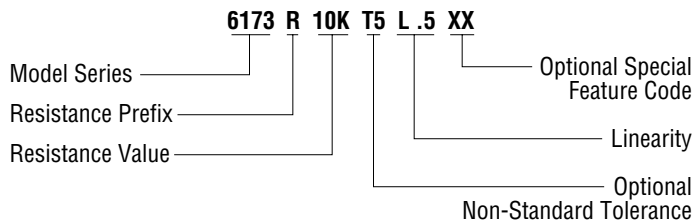
1 in.	25.4 mm	1 oz.-in.	0,007 N-m
1 oz.	28.4 gm	1 lb.-in.	0,113 N-m

OUTLINE DIMENSIONS (Inch/mm)

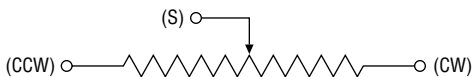
Dim. "L"	Dim. "RS"	No. of Gangs
.500 12.7	1.000 25.40	1
.850 21.59	1.350 34.29	2
1.200 30.48	1.700 43.18	3
1.550 39.70	2.050 52.07	4



ORDERING INFORMATION



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

