

# Model 6173

## 7/8" Diameter Single Turn Conductive Plastic Precision Potentiometer / Position Sensor



### ELECTRICAL<sup>1</sup>

Resistance Range	1K to 100K Ohms
Standard Resistance Tolerance	±10%
Minimum Practical Resistance Tolerance	±5%
Independent Linearity <sup>2</sup>	±1%
Minimum Practical Independent Linearity	±0.25%
Input Voltage	400 VDC maximum, not to exceed power rating
Power Rating	1.0 Watt at 70°C, derating to 0 at 125°C
Dielectric Strength	1,000 V rms
Insulation Resistance	1,000 Megohms minimum
Output smoothness	0.1% maximum
Actual Electrical Travel	335° nominal
Electrical Continuity Travel	346° minimum
End Voltage	maximum 0.5% of input voltage
Resolution	essentially infinite
Temperature Coefficient of Resistance <sup>3</sup>	-400 ppm/°C typical
Temperature Coefficient of Output Voltage <sup>4</sup>	±10 ppm/°C typical

### MECHANICAL

Total Mechanical Travel	360° continuous
Number of Gangs	4 maximum
Weight	0.92 oz. single gang nominal, 0.6 oz. each added gang
Shaft Runout	maximum T.I.R. 0.001"
Pilot Diameter Runout	maximum T.I.R. 0.001"
Lateral Runout	maximum T.I.R. 0.002"
Shaft Radial Play	maximum 0.001"
Start/Run Torque	maximum 0.5 oz.-in. per gang

<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 TCR available to ±100 ppm/°C.

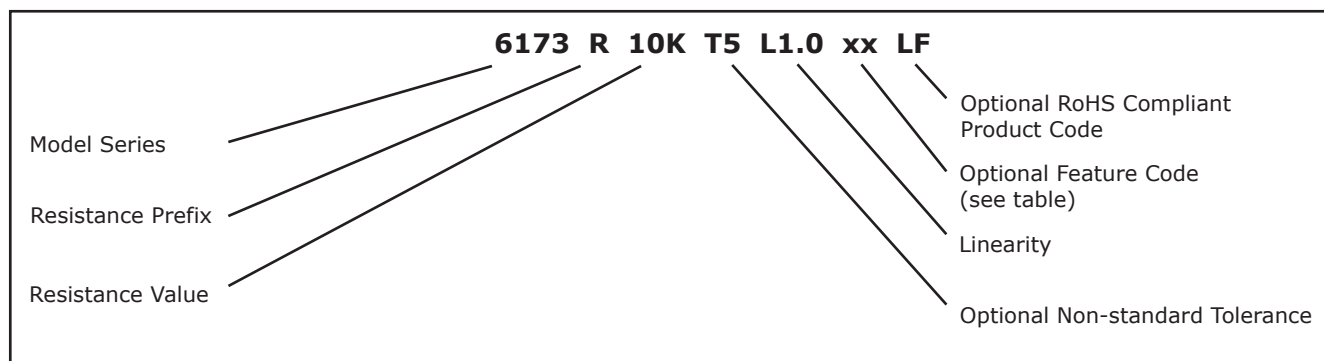
<sup>4</sup> Measured with 10 VDC CW to CCW and slider at 50% of electrical travel.

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## ENVIRONMENTAL (MIL-PRF-39023)

Operating Temperature Range	-40°C to +125°C dynamic, -65°C to +125°C static
Temperature Cycling	5 cycles, -65°C to +125°C, maximum 10% ΔR
Shock	6 ms Saw-tooth, 100 G's, 0.1 ms maximum discontinuity
Vibration	15 G's, 10 to 500 Hz, maximum 2% ΔR, 0.1 ms maximum discontinuity
Moisture Resistance	ten 24 hour cycles, maximum 10% ΔR
High Temperature Exposure	1,000 hours at 125°C, maximum 0.5% ΔR
Rotational Life	25 million shaft revolutions
Rotational Load Life	5 million shaft revolutions at 1.0 Watt & 70°C plus 900 hours at 1.0 Watt, maximum 10% ΔR

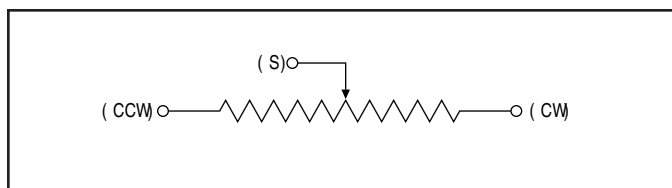
## ORDERING INFORMATION



## FEATURE CODES

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

## CIRCUIT DIAGRAM



## STANDARD RESISTANCE VALUES

1K	2K	5K	10K	20K	50K
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## OUTLINE DRAWING

