

# Single-Turn Precision Potentiometer

## Model 6173



### Features:

- Low profile 7/8" diameter
- Conductive plastic technology



## Electrical

|                                                        |                                             |
|--------------------------------------------------------|---------------------------------------------|
| 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.

### General Note

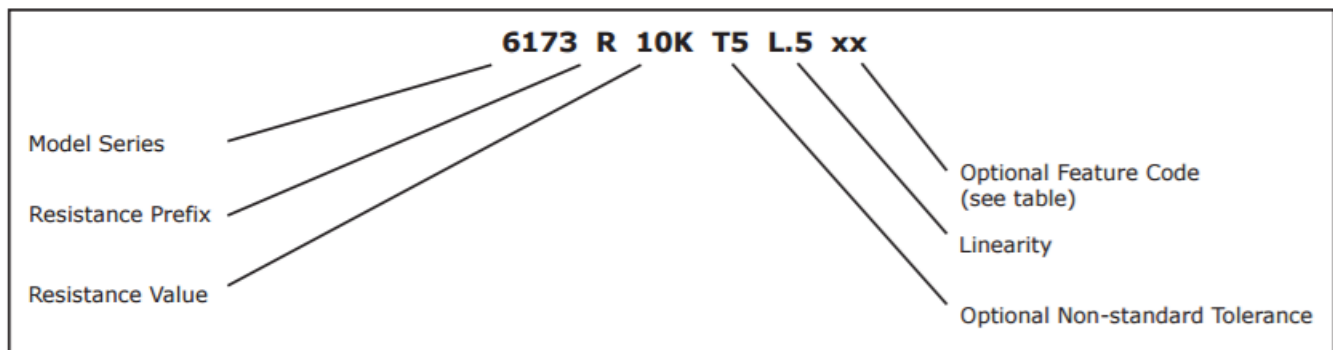
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## Environmental

|                                     |                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------|
| 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 |
| Ingress Protection Rating (IP Code) | IP50                                                                                      |

## Ordering Information

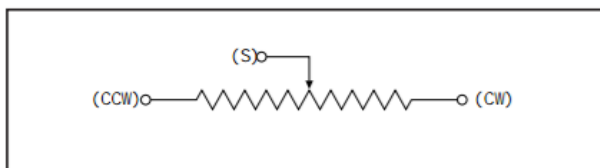


### FEATURE CODES

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

When multiple Optional Feature codes are used the P/N shall be in the same sequence as listed in this table (top to bottom).

### CIRCUIT DIAGRAM



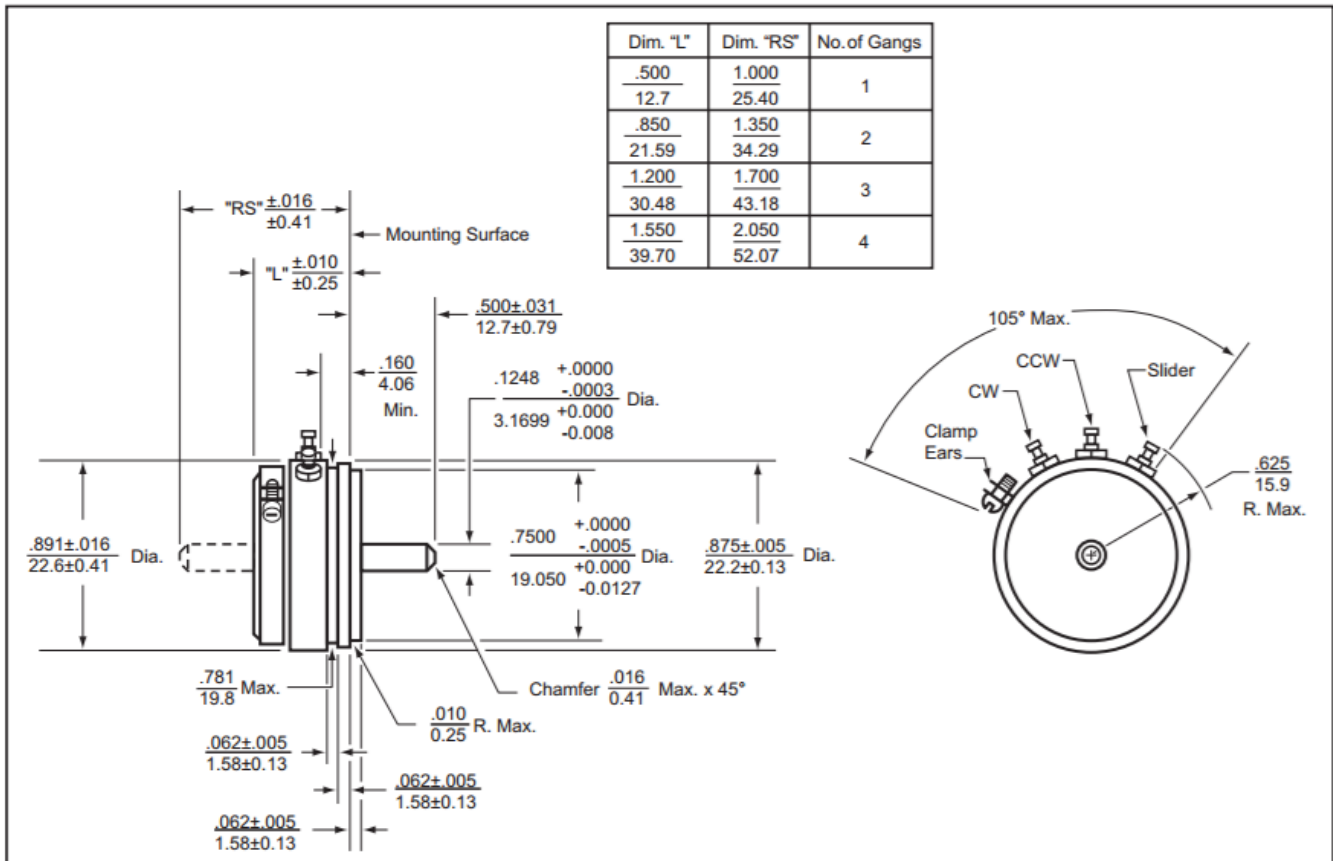
### STANDARD RESISTANCE VALUES

|    |    |    |     |     |     |
|----|----|----|-----|-----|-----|
| 1K | 2K | 5K | 10K | 20K | 50K |
|----|----|----|-----|-----|-----|

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[6173R10KL.52G](#) [6173R1KL.52G](#) [6173R20KL.52G](#) [6173R2KL.5CT](#) [6173R1KL.5CT](#)