Single-Turn Precision Potentiometer

Model 6670 Series

Features:
- 2" diameter
- Conductive plastic technology

RoHS 2 compliant

Models Available

6671	1/4" Shaft, 3/8" Bushing
6673	1/4" Shaft, Servo

Electrical

Resistance Range	1K to 300K Ohms
Standard Resistance Tolerance	±10%
Minimum Practical Resistance Tolerance	±3%
Independent Linearity[2]	±0.25%
Minimum Practical Independent Linearity	±0.1%
Input Voltage	400 VDC maximum, not to exceed power rating
Power Rating	3.5 Watts 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	350° nominal
Electrical Continuity Travel	354° minimum
End Voltage	maximum 0.5% of input voltage
Tap Tolerance	maximum 0.5% of input voltage
Resolution	essentially infinite
Temperature Coefficient of Resistance[3]	-400 ppm/°C typical
Temperature Coefficient of Output Voltage[4]	±10 ppm/°C typical

Mechanical

Total Mechanical Travel	360° continuous
Number of Gangs	4 maximum
Weight	4.0 oz. single gang nominal, 1.5 oz. each added gang
Shaft Runout	maximum T.I.R. 0.001"
Pilot Diameter Runout	maximum T.I.R. 0.0015"
Lateral Runout	maximum T.I.R. 0.005"
Shaft Radial Play	maximum 0.002"
Start/Run Torque	maximum 1.5 / 1.0 oz.-in. per gang, ES option adds 0.5 oz.-in.

[1] *Specifications subject to change without notice.*
[2] *Linearity is measured between 1% and 99% of input voltage.*
[3] *Special TCR available to ±100 ppm/°C.*
[4] *Measured with 10 VDC CW to CCW and slider at 50% of electrical travel.*

General Note

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 2,000 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 plus 900 hours at 3.5 Watts & 70°C, maximum 10% ΔR
Ingress Protection Rating (IP Code)	IP50, IP66 available as option for 6671 (feature code ES)

Ordering Information

6671 R 10K T5 L.25 xx

- Model Series
- Resistance Prefix
- Resistance Value
- Optional Feature Code (see table)
- Linearity
- Optional Non-standard Tolerance
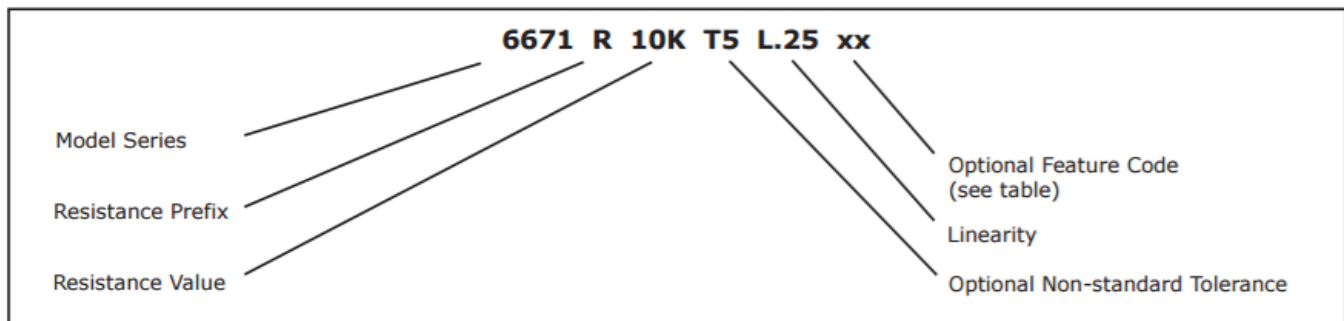
FEATURE CODES

Center Tap	CT
Linearity Tape	LT
Flatted Shaft	FS
Slotted Shaft	SS
Rear Shaft Extension	RS
Shaft Lock, 6671 only	SL
Additional Gangs	2G, 3G, or 4G
Seal (IP66), 6671 only	ES

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

CIRCUIT DIAGRAM
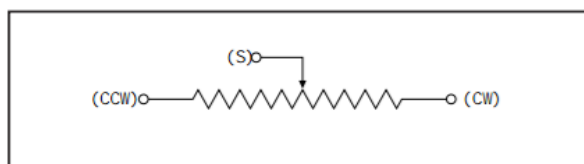
STANDARD RESISTANCE VALUES

1K	2K	5K	10K	20K	50K

Single-Turn Precision Potentiometer

Model 6670 Series

TT Electronics

Model 6671 Bushing Mount

"RS" ±.031 / ±0.79

Mounting Surface

.875±.031 / 22.2±0.79

"L"

.375 / 9.53 Min.

.2497 +.0000 / -.0003 Dia.
6.342 +0.000 / -0.008

2.000±.016 / 50.80±0.41 Dia.

1.375±.016 / 34.93±0.41 Dia.

.406 +.000 / -.002 Dia.
10.3 +0.00 / -0.05

.062 +.000 / -.010
1.58 +0.00 / -0.25

.375±.016 / 9.53±0.41

Chamfer .016 / 0.41 Max. x 45°

3/8 - 32 UNEF Thread

90° Max.

Slider

CCW

CW

Clamp Ears

1.250 / 31.75 R. Max.

.531±.016 / 13.5±0.41 R.

Locating Hole
.129±.005 / 3.28±0.13 Dia. x .062±.016 / 1.58±0.41 Deep

Positioned as shown ± 5°
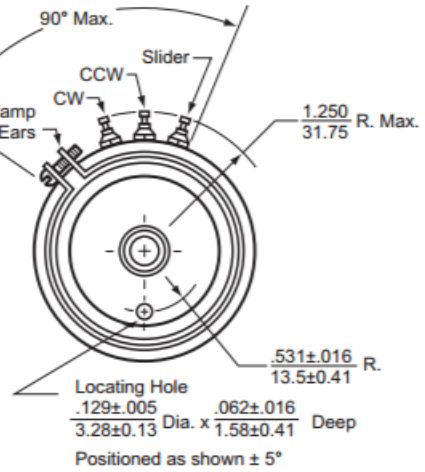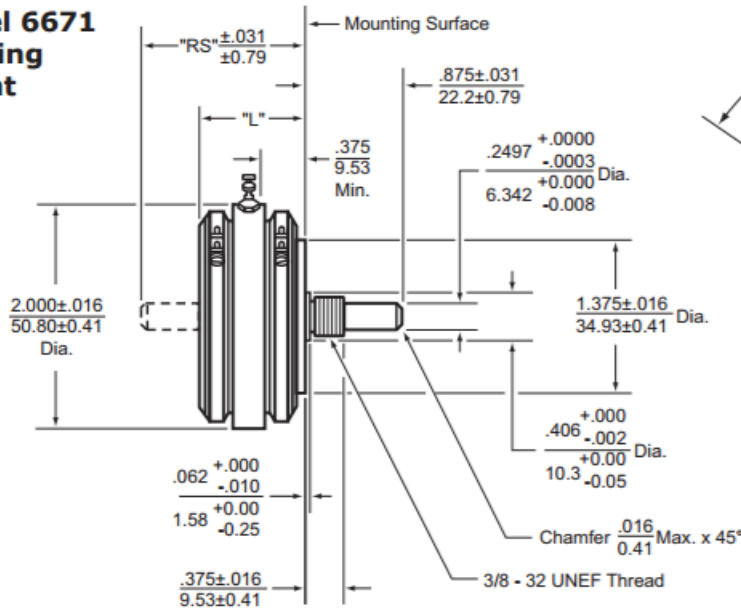
Dim. "L"	Dim. "RS"	No. of Gangs
.905±.020 / 22.9±0.51	1.405 / 35.69	1
1.467±0.22 / 37.26±0.56	1.967 / 49.96	2
2.029±.024 / 51.54±0.61	2.529 / 64.24	3
2.591±.026 / 65.81±0.66	3.091 / 78.51	4

Model 6673 Servo Mount

"RS" ±.031 / ±0.79

Mounting Surface

.625±.031 / 15.9±0.79

"L"

.388 / 9.86 Min.

.010 / 0.25 R. Max.

.2497 +.0000 / -.0003 Dia.
6.342 +0.000 / -0.008

2.000±.016 / 50.80±0.41

2.000±.005 / 50.80±0.13

1.875 +.000 / -.001 Dia.
47.63 +0.00 / -0.03

1.875 / 47.63 Dia. Max.

.073 / 1.85 Min.

.093±.005 / 2.36±0.13

.062±.005 / 1.58±0.13

Chamfer .016 / 0.41 Max. x 45°

90° Max.

Slider

CCW

CW

Clamp Ears

1.250 / 31.75 R. Max.
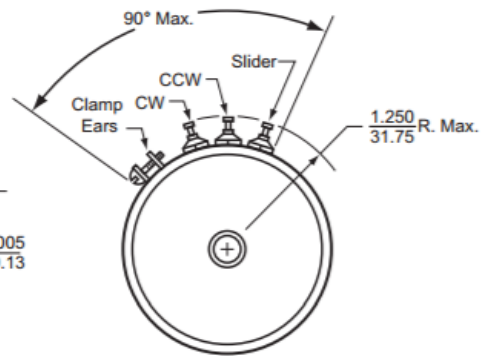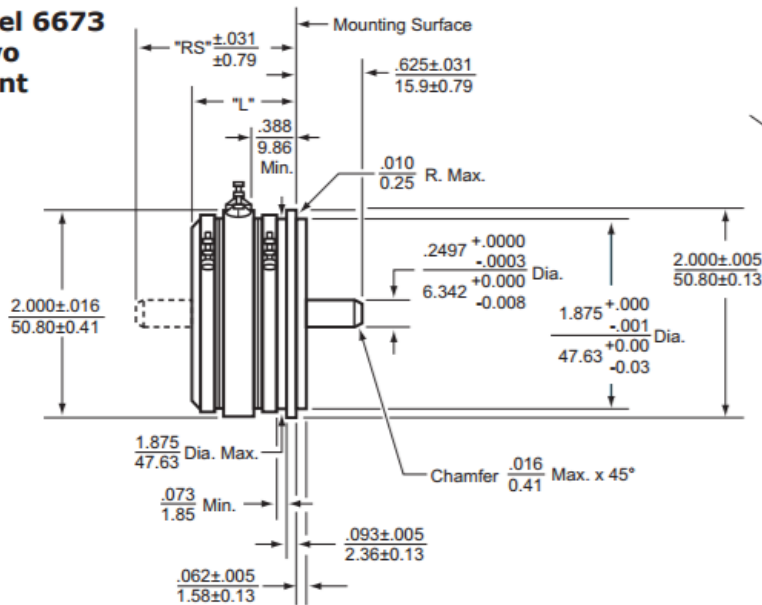
Dim. "L"	Dim. "RS"	No. of Gangs
1.020±.015 / 22.9±0.51	1.405 / 35.69	1
1.467±0.22 / 37.26±0.56	1.967 / 49.96	2
2.029±.024 / 51.54±0.61	2.529 / 64.24	3
2.591±.026 / 65.81±0.66	3.091 / 78.51	4