

# MODEL 3381

## 1-5/16" Diameter

### Single Turn

### Conductive Plastic

### Precision Potentiometer/ Position Sensor



#### ELECTRICAL

Resistance Range, Ohms	1K to 300K
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	2.0 at 70°C derating to 0 at 105°C
Dielectric Strength	1,000V rms
Insulation Resistance, Minimum	1,000 Megohms
Output Smoothness, Maximum	0.1%
Actual Electrical Travel, Nominal	348°
Electrical Continuity Travel, Minimum	350°
End Voltage, Maximum	0.5% of Input Voltage
Tap Tolerance	0.5% of Input Voltage
Resolution	Essentially infinite
Temperature Coefficient**	-800 ppm/°C

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

\*\* Special tempco available to ± 100ppm/°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	10G's, 10 to 500 Hz (2% ΔR, 0.1ms discontinuity max.)
Moisture Resistance	Five 24 hour cycles (25% ΔR)
High Temperature Exposure	Mechanical operation at 125°C (0.5% ΔR)
Rotational Life	10 mil. shaft rev.
Rotational Load Life	10 mil. shaft rev. (10% ΔR)

Specifications subject to change without notice.

**MECHANICAL**

Total Mechanical Travel	360° continuous (350° ±2° with stop feature)
Number of Gangs, Maximum	1
Weight, Nominal	1.5 oz.
Shaft Runout, T.I.R., Maximum	.0025"
Pilot Diameter Runout, T.I.R., Maximum	.0025"
Lateral Runout, T.I.R., Maximum	.003"
Shaft Radial Play, Maximum	.004"
Start/Run Torque, Maximum	1.0 oz.-in.

**SPECIAL FEATURES**

Center Tap	CT
Linearity Tape	LT
Flatted Shaft	FS
Slotted Shaft	SS
Stop	ST
Shaft Lock	SL

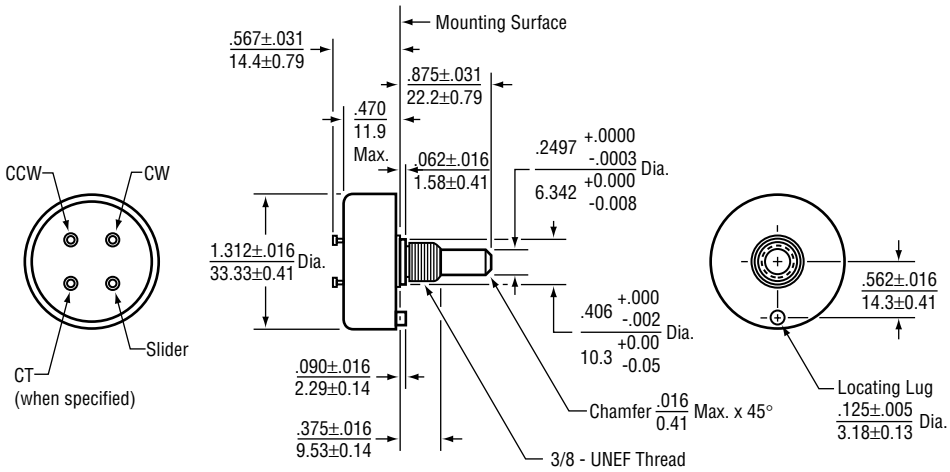
**STANDARD RESISTANCE VALUES, OHMS**

1K	2K	5K	10K	20K	50K	100K
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**METRIC CONVERSIONS**

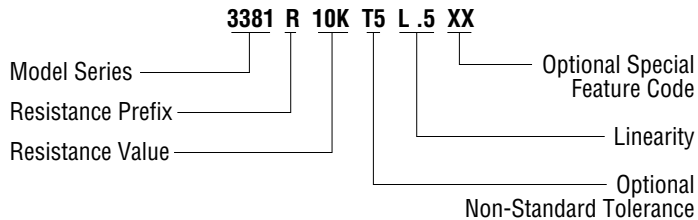
1 in.	25.4mm	1 oz.-in.	0,007 N-m
1 oz.	28.4 gm	1 lb.-in.	0,113 N-m

## OUTLINE DIMENSIONS (Inch/mm)

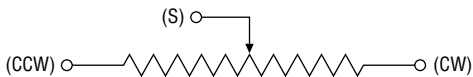


2

## 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 = ± .01 inches  
 (.25mm)  
 Angular = ± 2 degrees

