Multi-Turn Precision Potentiometer

Model 7380 Series

Features:

- 7/8” diameter
- 3-turn
- Wirewound

Model Styles

7381	1/8” Shaft, 1/4” Bushing
7383	1/8” Shaft, Servo
7386	1/4” Shaft, 3/8” Bushing
7388 (for heavy side load applications)	1/4” Shaft, 3/8” Bushing

Electrical

Resistance Range	100 to 30K ohms
Standard Resistance Tolerance	±5%
Minimum Practical Resistance Tolerance	±1%
Independent Linearity[2]	±0.30% (<500 ohms), ±0.25% (≥500 ohms)
Minimum Practical Independent Linearity	±0.30% (<500 ohms), ±0.20% (≥500 ohms)
Power Rating	1.5 Watts at 70°C, derating to 0 at 125°C
Dielectric Strength	1,000 V rms
Insulation Resistance	1,000 Megohms minimum
Noise	100 ohms maximum
Actual Electrical Travel	1080° +10° -0° (>100 ohms), 1080° +10° -5° (≤100 ohms)
End Voltage	maximum 0.25% of input voltage
Tap Tolerance	±3°

Environmental

Operating Temperature Range	-40°C to +125°C dynamic, -55°C to +125°C static
Temperature Cycling	5 cycles, -55°C to +125°C, maximum 5% ΔR
Shock	6 ms Saw-tooth, 100 G’s, 0.1 ms maximum discontinuity
Vibration	15 G’s, 10 to 2,000 Hz, maximum 5% ΔR, 0.1 ms maximum discontinuity
Moisture Resistance	Five 24 hour cycles, maximum 3% ΔR
High Temperature Exposure	1,000 hours at 125°C, maximum 5% ΔR
Rotational Load Life (1 lb side load for 7388)	300K shaft revolutions + 900 hours at 1.5 Watts & 70°C, maximum 5% ΔR
Ingress Protection Rating (IP Code)	IP50, IP66 available as option (feature code ES)

General Note
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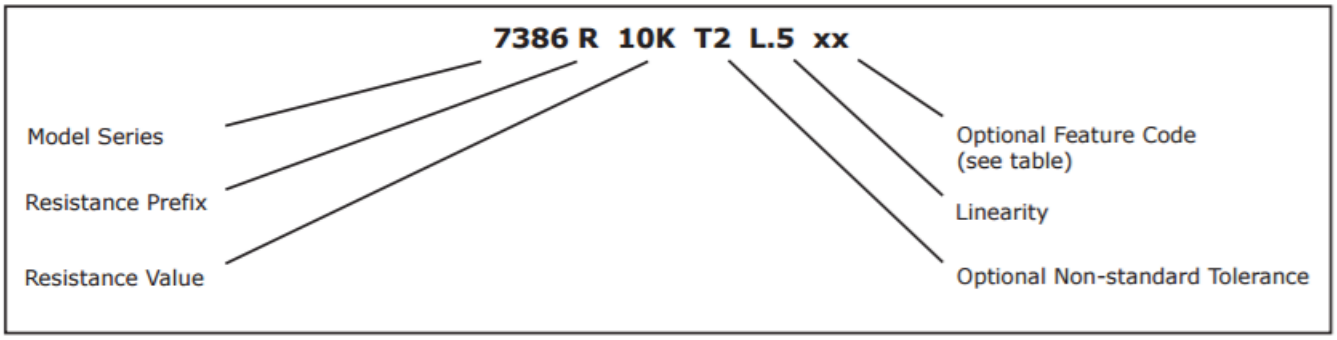
Mechanical

Total Mechanical Travel			1080° +15° -0°
Number of Gangs			2 maximum
Weight (single gang)			0.75 oz. nominal
Backlash			1° maximum
		7381, 7386	**7383**
Static Stop Strength	maximum	48 oz.-in.	36 oz.-in.
Panel Nut Tightening Torque	maximum	25 lb.-in.	n/a
Shaft End Play	maximum	0.010"	0.005"
Shaft Runout	maximum T.I.R.	0.003"	0.002"
Pilot Diameter Runout	maximum T.I.R.	0.004"	0.002"
Lateral Runout	maximum T.I.R.	0.005"	0.004"
Shaft Radial Play	maximum	0.003"	0.002"
Start/Run Torque (per gang, ES option adds 0.5 oz.-in.)	maximum	1.2 oz.-in.	0.9 oz.-in.

Ordering Information



FEATURE CODES

Center Tap	CT
Linearity Tape	LT
Flatted Shaft	FS
Slotted Shaft (standard on single cup 7386 without RS feature)	SS
Rear Shaft Extension (7381, 7386 single cup only)	RS
Shaft Lock (7386 only)	SL
High Torque 2-6 oz.-in. (7386 only)	HT
Additional Gang	2G
Gold Plated Solder Lug Terminals (see optional terminal configuration)	FT
Seal (IP66) 7386 or 7388 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).

STANDARD RESISTANCE VALUES

Total Resistance (Ohms)	Theoretical Resolution (% nominal)	Tempco of wire (ppm/°C)
100	0.059	±20
200	0.037	±20
500	0.030	±20
1K	0.024	±20
2K	0.020	±20
5K	0.018	±20
10K	0.017	±20
20K	0.016	±20

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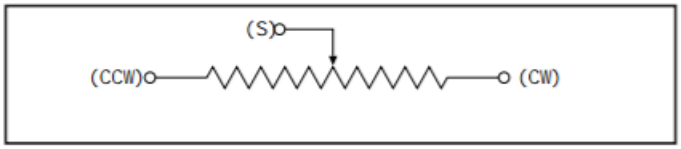
CIRCUIT DIAGRAM



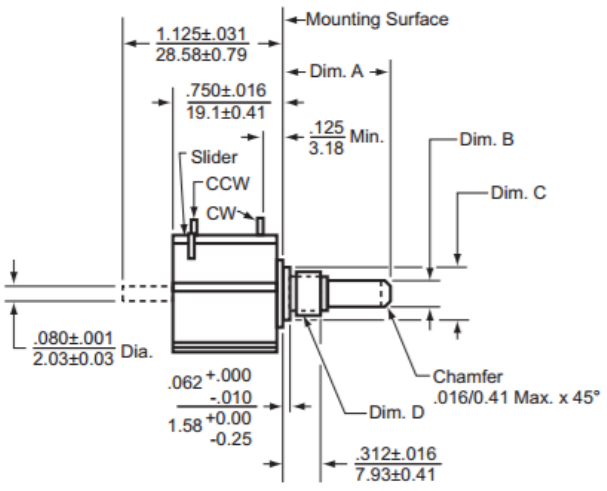
MATCHING TURNS COUNTING DIALS

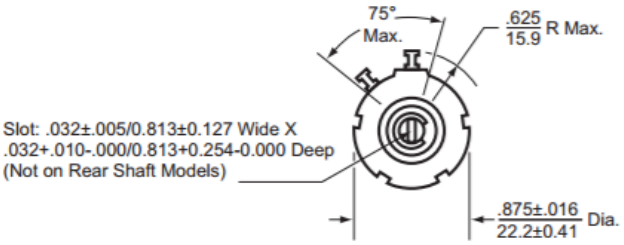
7381: RBJ, 2601, 2641
7386: RB, 2126, 2606, 2606S, 2607, 2607S, 2626, 2627, 2646, 2646S, 2647, 2647S

OUTLINE DRAWINGS

Models 7381 & 7386
Bushing Mount with Sleeve Bearing

Dim.	7381	7386
A	.688±.013 / 17.475±0.787	.812±.031 / 20.625±0.787
B	.1248 +.0000 -.0003 / 3.1699 +0.0000 -0.0076 Dia.	.2500 +.0000 -.0005 / 6.3500 +0.0000 -0.0127 Dia.
C	.281 +.000 -.002 / 7.137 +0.000 -0.051 Dia.	.406 +.000 -.002 / 10.312 +0.000 -0.051 Dia.
D	1/4-32 UNEF Thread	3/8-32 UNEF Thread





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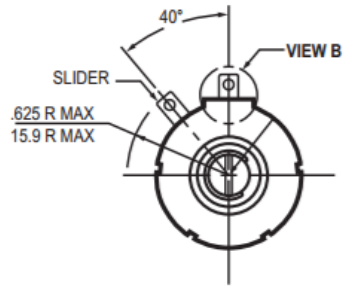
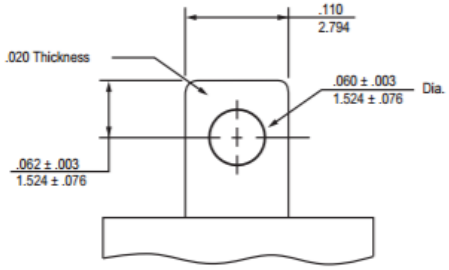
Optional Terminal Configuration

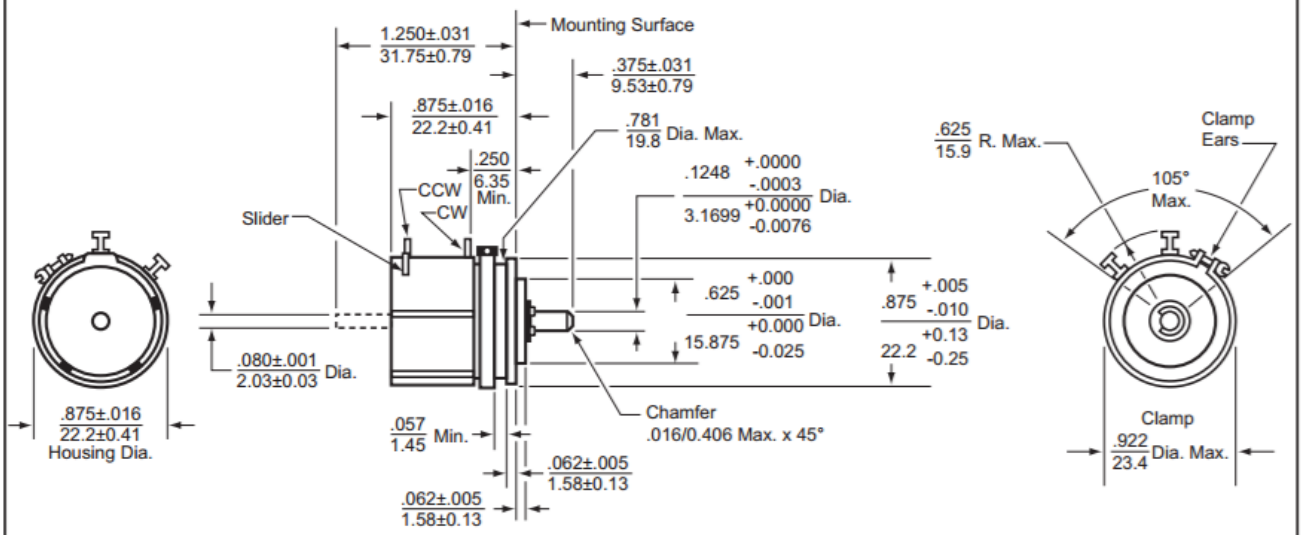


Use Special Feature Code "FT" to order.

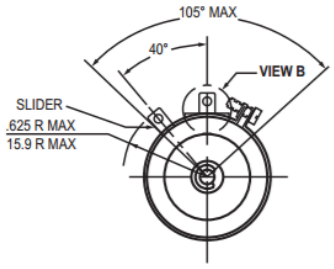


Enlarged View B

Model 7383
Servo Mount with Ball Bearing



Optional Terminal Configuration



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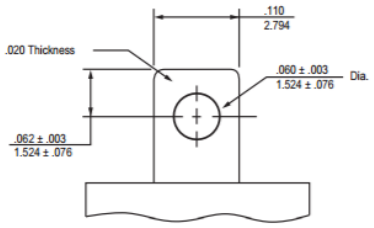

Enlarged View B

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