

MODEL 7380 SERIES

7/8" Diameter

3-Turn

Wirewound

Precision Potentiometer



2

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) NEW PRODUCT	1/4" Shaft, 3/8" Bushing

ELECTRICAL

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

Specifications subject to change without notice.

ENVIRONMENTAL (MIL-R-12934)

Operating Temperature Range	Static: -55°C to +125°C Dynamic: -40°C to +125°C
Temperature Cycling	5 cycles, -55°C to +125°C (5% ΔR)
Shock, 6ms Sawtooth	100G's (0.1ms discontinuity max.)
Vibration	15G's, 10 to 2,000 Hz (5% ΔR, 0.1ms discontinuity max.)
Moisture Resistance	Five 24 hour cycles (3% ΔR)
High Temperature Exposure	1,000 hours at 125°C (5% ΔR)
Rotational Load Life	300K shaft rev. + 900 hrs. at rated wattage at 70°C (5% ΔR)
Rotational Life Model 7388 (1 pound Side Load)	300K shaft rev. + 900 hrs. at rated wattage at 70°C (5% ΔR)

MECHANICAL

Total Mechanical Travel	1080° + 15° - 0°	
Number of Gangs, Maximum	2	
Weight, Nominal (single gang)	0.75 oz.	
Backlash, Maximum	1°	
	7381, 7386	7383
Static Stop Strength	60 oz.-in.	36 oz.-in.
Panel Nut Tightening Torque, Maximum	25 lb.-in.	N/A
Shaft End Play, Maximum	.010"	.005"
Shaft Runout, T.I.R., Maximum	.003"	.002"
Pilot Diameter Runout, T.I.R., Maximum	.004"	.002"
Lateral Runout, T.I.R., Maximum	.005"	.004"
Shaft Radial Play, Maximum	.003"	.002"
Start/Run Torque, Maximum (per gang)	1.2 oz.-in.	0.9 oz.-in.

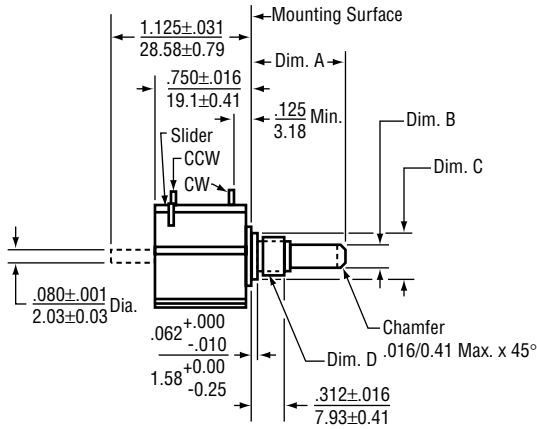
STANDARD RESISTANCE VALUES, OHMS

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

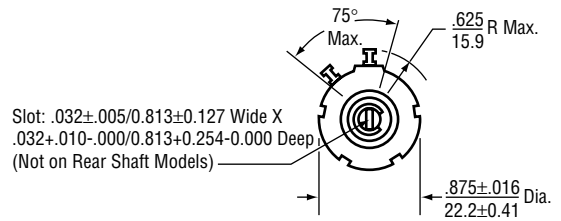
OUTLINE DIMENSIONS (Inch/mm)

Models 7381 & 7386

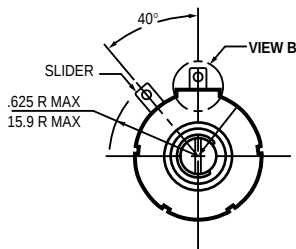
Bushing Mount with Sleeve Bearing



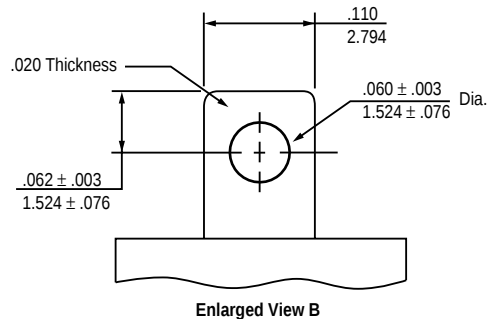
Dim.	7381	7386
A	$\frac{.688 \pm .013}{17.475 \pm 0.787}$	$\frac{.812 \pm .031}{20.625 \pm 0.787}$
B	$\frac{.1248 \pm .0000}{3.1699} \text{ Dia.}$ $\frac{-.0003}{-.0076}$	$\frac{.2500 \pm .0000}{6.3500} \text{ Dia.}$ $\frac{-.0005}{-.0127}$
C	$\frac{.281 \pm .000}{7.137} \text{ Dia.}$ $\frac{-.002}{-.051}$	$\frac{.406 \pm .000}{10.312} \text{ Dia.}$ $\frac{-.002}{-.051}$
D	1/4-32 UNEF Thread	3/8-32 UNEF Thread



OPTIONAL TERMINAL CONFIGURATION



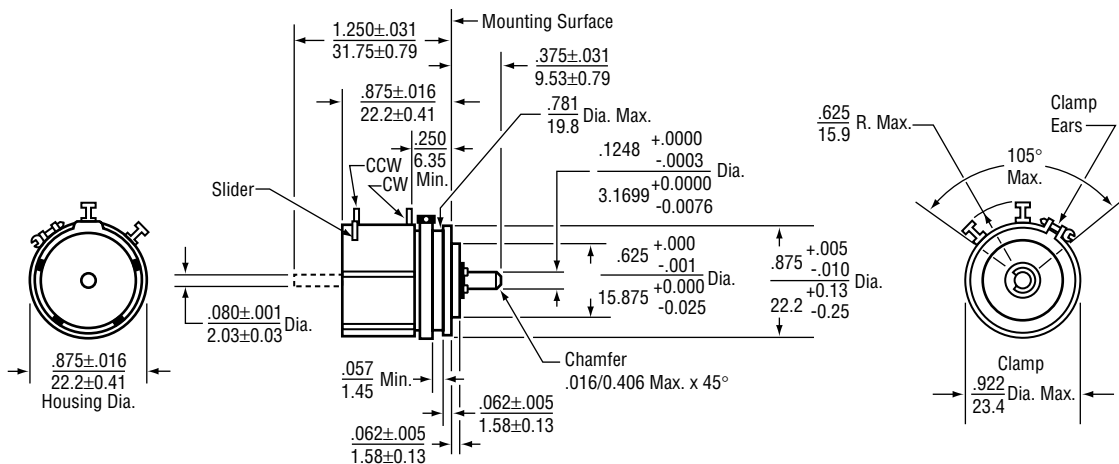
Use Special Feature Code "FT" to order.



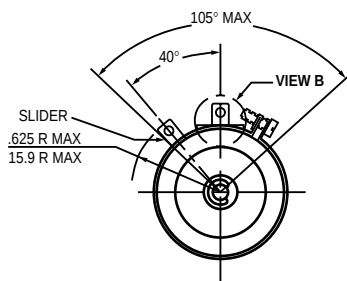
OUTLINE DIMENSIONS (Inch/mm)

Model 7383

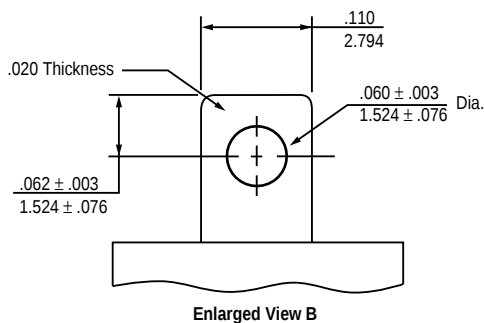
Servo Mount with Ball Bearing



OPTIONAL TERMINAL CONFIGURATION



Use Special Feature Code "FT" to order.



METRIC CONVERSIONS

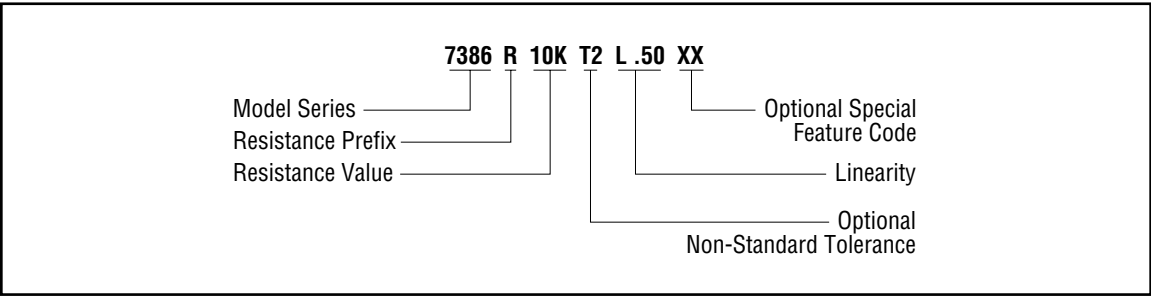
1 in.	25.4 mm
1 oz.	28.4 gm

1 oz.-in.	0,007 N-m
1 lb.-in.	0,113 N-m

SPECIAL FEATURES

Center Tap	CT
Linearity Tape	LT
Rear Shaft Extension	RS
Flatted Shaft	FS
Slotted Shaft (Standard on single cup 7386 without RS)	SS
Shaft Lock (7381, 7386 only)	SL
High Torque, 2–6 oz.-in. (7386 only)	HT
Additional Gangs	2G
Gold Plated Solder Lug Terminals (See optional terminal configuration)	FT

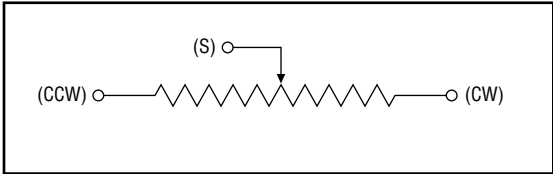
ORDERING INFORMATION



MATCHING TURNS COUNTING DIALS

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

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

DIMENSIONS
INCH
mm

THIRD ANGLE PROJECTION