Model 162, 164

Spectrol

1/2” (12.7mm) Ten Turn Wirewound Precision Potentiometer

FEATURES

- Bushing or Servo
- 100Ω to 100KΩ

ELECTRICAL SPECIFICATIONS

PARAMETER		
Total Resistance Standard Range Tolerance	**STANDARD** 100Ω to 100KΩ ± 5%	**SPECIAL** 115KΩ ± 1%
Linearity (Independant)	**STANDARD** ± 0.30%	**BEST PRACTICAL** ± 0.15%
Noise	100Ω ENR	
Rotation	3600° + 15° -0°	
Power Rating: Section 1:	2.0 watt at 40°C ambient, derated to zero at 125°C	
Insulation Resistance	100MΩ minimum, 500VDC	
Dielectric Strength	$500V_{RMS}$, 60HZ	
Absolute Minimum Resistance	Linearity x total resistance or 0.5Ω, whichever is greater	
End Voltage	Linearity x total applied voltage for total resistance above 20Ω, 2.0% of total applied voltage for 20Ω and below	

MATERIAL SPECIFICATIONS

Housing and Lids	Molded, glass filled, thermoset plastic
Bushing	Brass, nickel plated (162 only)
Front Lid	Aluminum, anodized (164 only)
Shaft	Stainless steel, non-passivated
Terminals	Brass, plated for solderability
Bushing Mount Hardware Lockwasher Internal tooth: Panel Nut: (162 only)	 Steel, nickel plated Brass, nickel plated

MARKING

Unit Identification	Units shall be marked with Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification and date code

ENVIRONMENTAL SPECIFICATIONS

Vibration	15g thru 2000 Hz
Shock	50g
Salt Spray	48 Hours
Rotational Life	500,000 Shaft Revolutions
Temperature Range Moisture Resistant	- 55°C to + 125°C –

ORDERING INFORMATION

The Model 162 and 164 can be ordered from this data sheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:

162, 164	**1**
MODEL	TOTAL RESISTANCE

NOTE: Model 164 is not distributor item
Example: Model 162, 10K
Example: **162, 164 - 1**

Other characteristics will be standard as described on this data sheet. If special characteristics are required, such as: special linearity tolerance, special resistance tolerance, extra taps, non-linear functions, etc., please state these on your order and allow additional lead time for delivery.

1/2” (12.7mm) Ten Turn Wirewound Precision Potentiometer

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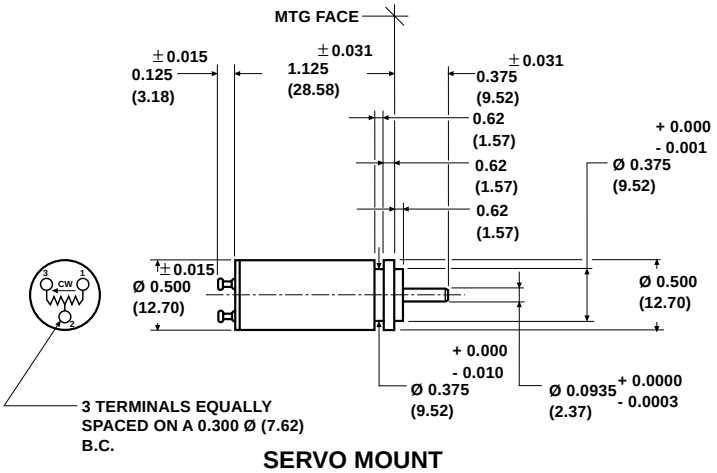
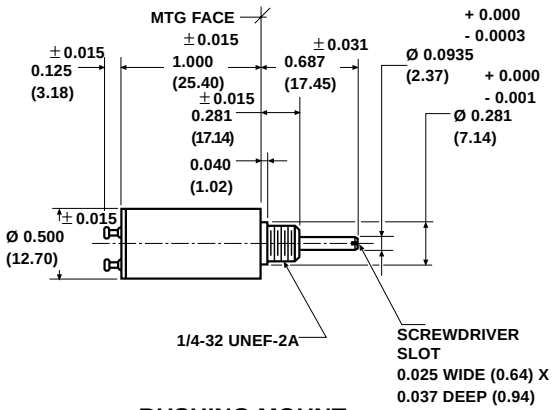
DIMENSIONS in inches (millimeters)

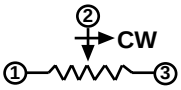


SERVO MOUNT
MODEL 164



BUSHING MOUNT
MODEL 162

TOLERANCES: UNLESS OTHERWISE NOTED.
DECIMALS ± 0.005 ANGLES ± 2°

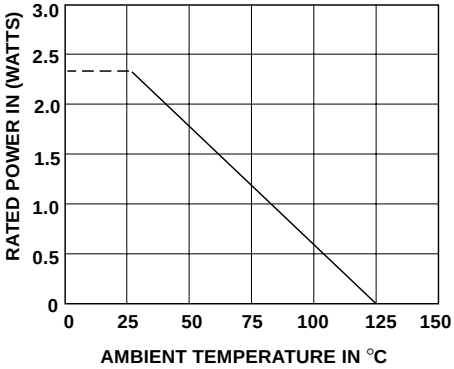


SCHEMATIC

MECHANICAL SPECIFICATIONS

PARAMETER			
Mechanical Rotation		3600°, + 15° -0°	
		162	**164**
Bearing Type		**Sleeve**	**Ball**
Torque (Maximum)			
	STARTING	0.8 oz - in (57.60gm - cm)	0.4 oz - in (28.80gm - cm)
	RUNNING	0.6 oz - in (43.20gm - cm)	0.3 oz - in (21.60gm - in)
Mechanical Runouts (Maximums):			
Shaft (TIR)		0.003 in (0.08cm)	0.002 in (0.05cm)
Pilot Dia. (TIR)		0.003 in (0.08cm)	0.003 in (0.08cm)
Lateral (TIR)		0.005 in (0.13cm)	0.003 in (0.08cm)
Shaft End Play		0.010 in (0.25cm)	0.005 in (0.13cm)
Shaft Radial Play		0.003 in (0.08cm)	0.002 in (0.05cm)
Weight		0.3 oz (8.50gm) maximum	
Stop Strength		20 oz - in (static) (1.44 Kgm - cm)	

POWER RATING CHART



RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES (Ω)	RESO-LUTION (%)	OHMS PER TURN	MAXIMUM CURRENT AT 40°C AMBIENT (mA)	MAXIMUM VOLTAGE ACROSS COIL (V)	WIRE TEMP. COEF. (ppm/°C)
100	0.092	0.092	141	14	20
200	0.069	0.138	100	20	20
500	0.049	0.245	63	32	20
1K	0.047	0.470	45	45	20
2K	0.038	0.763	32	64	20
5K	0.031	1.56	20	100	20
10K	0.025	2.55	14	140	20
20K	0.020	3.94	10	200	20
30K	0.018	5.34	8.2	246	20
50K	0.015	7.64	6.3	315	20
100K	0.013	13.2	4.5	450	20