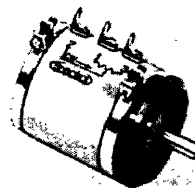
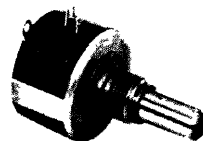
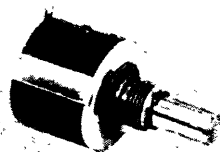


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## MULTI-TURN POTENTIOMETERS

### THREE TURN WIREWOUND



#### MODEL

Description

Mounting

Element Technology

Specifications, Ordering Information

#### 533 \*

Three Turn  
7/8" Dia., 1/4" Shaft

Bushing

Wirewound

Page 38

#### 537

Three Turn  
7/8" Dia., 1/4" Shaft

Bushing

Wirewound

Page 38

#### 552

Three Turn  
7/8" Dia., 1/8" Shaft

Bushing or Servo

Wirewound

Page 32

#### ELECTRICAL

Resistance:

Standard Range, Ohms

Capability Range, Ohms

Tolerance:

Standard, %

Special to, %

Linearity:

Standard, %

Special to, %

TC, PPM / °C

Power Rating: \*

Watts at °C

Derate to 0 W at °C

Electrical Travel

End Voltage

Taps (Special Order)

Phasing, To Section 1

50Ω to 20KΩ

5Ω to 60KΩ

±5%

±2%

±0.25%

±20, Standard Values

1.55 W at 40°C  
125°C

1,080° + 10° - 0°

0.25% E

Center

±2°, CCW Taps

50Ω to 20KΩ

5Ω to 60KΩ

±5%

±2%

±0.25%

±20

1.55 W at 40°C  
125°C

1,080° + 10° - 0°

0.25% E

Center

±2°, CCW Taps

5Ω to 20KΩ

5Ω to 45KΩ

±3%, 50Ω ≤ Rt ≤ 45KΩ

±5%, 5Ω ≤ Rt &lt; 50Ω

±1%, 50Ω ≤ Rt ≤ 45KΩ

±3%, 5Ω ≤ Rt &lt; 50Ω

±0.25%

±0.125%, 2KΩ ≤ Rt ≤ 45KΩ

±0.20%, 500Ω ≤ Rt &lt; 2KΩ

±0.25%, 5Ω ≤ Rt &lt; 500Ω

±20, 100Ω ≤ Rt ≤ 45KΩ

±180, 50Ω ≤ Rt &lt; 100Ω

±800, 5Ω ≤ Rt &lt; 50Ω

1.55 W at 40°C  
125°C

1,080° + 10° - 0°

Lin x E, 20Ω &lt; Rt ≤ 45KΩ

2% E, 5Ω ≤ Rt ≤ 20Ω

16 Max, Location ±2°

±2°, CCW Taps

#### PHYSICAL

Temperature

Rotational Life: Shaft Revolutions

Stop Strength

Mechanical Angle

Moment Of Inertia,  
Each Section

Ganging:

Sections Maximum

Terminal Alignment

Weight: First Sec / Each Add Sec

-55°C to +125°C

300,000

75 oz-in

1,080° + 10° - 0°

1,080° + 10° - 0°

0.30 gm-cm<sup>2</sup>

2

±10°

0.75 oz / 0.50 oz

-55°C to +125°C

300,000

75 oz-in

1,080° + 10° - 0°

1,080° + 10° - 0°

2

±10°

0.75 oz / 0.50 oz

-55°C to +125°C

600,000 Revs

100 oz-in

1,080° + 10° - 0°

1,080° + 10° - 0°

3

±10°

0.75 oz / 0.60 oz

#### OPTIONS

6mm Shaft & 9mm Bushing  
1/8" Shaft & 1/4" Bushing  
Non-linear Functions  
Plastic Shaft, Non-turn Pin  
Rear Shaft Ext, High Torque  
Dual Concentric Shafts1/8" Shaft & 1/4" Bushing  
Non-linear Functions  
Plastic Shaft, Non-turn Pin  
Rear Shaft Ext, High Torque  
Dual Concentric Shafts

150° Rating



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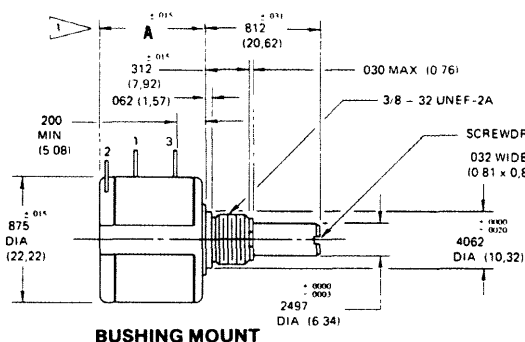
#### NOTES

\* Additional sections derated to 75% of section 1

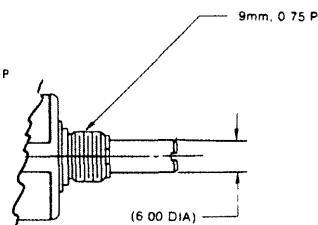
\* Standard Distributor Product

# 533, 534, 535, 537

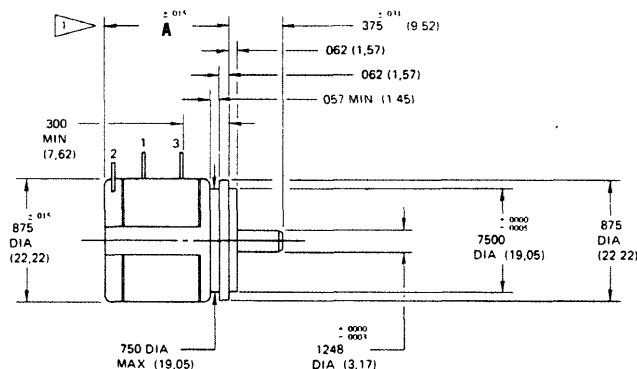
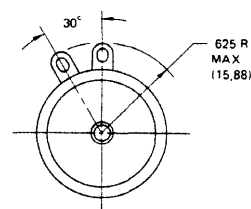
# MULTI-TURN POTENTIOMETERS



BUSHING MOUNT



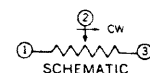
METRIC SHAFT/BUSHING THREAD



SERVO MOUNT

| Model         | Dimension A                  |                            |                                 | Maximum Sections |
|---------------|------------------------------|----------------------------|---------------------------------|------------------|
|               | Bushing Mount Single Section | Servo Mount Single Section | Add for each Additional Section |                  |
| 533, 534, 535 | 0.750                        | 0.850                      | 0.695                           | 2                |
| 537           | 0.590                        | --                         | 0.545                           | 2                |

TOLERANCES UNLESS OTHERWISE NOTED  
DECIMALS  $\pm 0.05$  ANGLES  $\pm 2^\circ$   
BASIC DIMENSIONS ARE IN INCHES  
MILLIMETER DIMENSIONS IN PARENTHESES



## HOW TO ORDER THE MODEL 533, 534, 535 OR 537

Models can be ordered from this specification sheet by stating:

Model **534 - 1 1 XXX/XXX**  
Mounting  
1 - Bushing  
2 - Servo (special order)  
Number of sections  
Resistance EIA Code Section #1  
Resistance EIA Code Section #N (special order)

| EIA Code | Standard Resistance | 533, 537<br>3 Turn | 534<br>10 Turn | 535<br>5 Turn |
|----------|---------------------|--------------------|----------------|---------------|
|          |                     | Resolution %       | Resolution %   | Resolution %  |
| 500      | 50Ω                 | 0.149              |                | 0.120         |
| 101      | 100Ω                | 0.111              | 0.060          | 0.075         |
| 201      | 200Ω                | 0.097              | 0.037          | 0.061         |
| 501      | 500Ω                | 0.069              | 0.031          | 0.049         |
| 102      | 1KΩ                 | 0.063              | 0.025          | 0.041         |
| 202      | 2KΩ                 | 0.041              | 0.021          | 0.031         |
| 502      | 5KΩ                 | 0.044              | 0.018          | 0.034         |
| 103      | 10KΩ                | 0.034              | 0.017          | 0.030         |
| 203      | 20KΩ                | 0.031              | 0.015          | 0.020         |
| 503      | 50KΩ                |                    | 0.009          | 0.015         |
| 104      | 100KΩ               |                    | 0.007          |               |

|                                     | 533, 535, 537                     | 534                               |
|-------------------------------------|-----------------------------------|-----------------------------------|
| <b>Materials</b>                    |                                   |                                   |
| Housing                             | Glass filled<br>Thermoset Plastic | Glass filled<br>Thermoset Plastic |
| Bushing/Servo                       | Brass, Nickel Plated              | Brass, Nickel Plated              |
| Lids: Rear                          | Thermoset Plastic                 | Thermoset Plastic                 |
| Front                               | Stainless Steel                   | Stainless Steel                   |
| Shaft                               | Stainless Steel                   | Stainless Steel                   |
| Terminals                           | Brass, Plated, Solderable         | Brass, Plated, Solderable         |
| Bushing Mount Hardware              |                                   |                                   |
| Lockwasher, Internal Tooth          | Steel, Nickel Plated              | Steel, Nickel Plated              |
| Panel Nut                           | Brass, Nickel Plated              | Brass, Nickel Plated              |
| <b>Electrical Specifications</b>    |                                   |                                   |
| Dielectric Withstanding             | 1,000v RMS, 60Hz                  | 1,000v RMS, 60Hz                  |
| Insulation Resistance               | 1,000MΩ, 500v dc                  | 1,000MΩ, 500v dc                  |
| Peak Noise/Output Smoothness        | 100Ω ENR                          | 100Ω ENR                          |
| <b>Environmental Specifications</b> |                                   |                                   |
| Moisture Resistant                  | Yes                               | Yes                               |
| Vibration                           | 15g, 10 to 2,000Hz                | 15g, 10 to 2,000Hz                |
| Shock                               | 50g                               | 50g                               |
| Salt Spray                          | 96 Hours                          | 96 Hours                          |
| Load Life                           | 900 Hours                         | 900 Hours                         |
| Temperature Range                   | -55°C to +125°C                   | -55°C to +125°C                   |
| Sealing                             | Available                         | Available                         |
| <b>Mechanical Specifications</b>    |                                   |                                   |
| Bearing Type:                       |                                   |                                   |
| Servo Mount                         | Ball/Sleeve                       | Ball/Sleeve                       |
| Bushing Mount                       | Sleeve                            | Sleeve                            |
| Operating Torque: oz-in             | Starting                          | Starting                          |
| Servo: 1 Section                    | 0.70                              | 0.50                              |
| Bushing 1 Section                   | 0.70                              | 0.50                              |
| Each Add Section                    | 0.40                              | 0.40                              |
| Mechanical Tolerance: in. Max       |                                   |                                   |
| Shaft Runout (TIR/in)               | Bushing 0.003<br>Servo 0.002      | Bushing 0.003<br>Servo 0.002      |
| Pilot dia. Runout (TIR)             | 0.003                             | 0.003                             |
| Lateral Runout (TIR)                | 0.005                             | 0.005                             |
| Shaft End Play                      | 0.010                             | 0.010                             |
| Shaft Radial Play                   | 0.003                             | 0.003                             |



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