

# 1 13/16" (46 mm) Ten Turn Wirewound, Bushing Mount



## FEATURES

- Gangable up to 2 sections
- Large range of ohmic values: 20  $\Omega$  to 200 k $\Omega$
- Extra taps available upon request
- Ideally suits for all industry applications

## ELECTRICAL SPECIFICATIONS

| PARAMETER                                                                                                           |                                                                                 |                                                                          |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Total Resistance<br>Standard Range<br>Tolerance:<br>200 $\Omega$ and Above<br>Below 200 $\Omega$                    | 20 $\Omega$ to 200 k $\Omega$<br><b>STANDARD</b><br>$\pm 3\%$<br>$\pm 5\%$      | Special up to 500 k $\Omega$<br><b>SPECIAL</b><br>$\pm 1\%$<br>$\pm 3\%$ |
| Linearity (Independent)                                                                                             | $\pm 0.25\%$ standard                                                           |                                                                          |
| 20 $\Omega$ to 50 $\Omega$<br>50 $\Omega$ to 200 $\Omega$<br>200 $\Omega$ to 5 k $\Omega$<br>5 k $\Omega$ and Above | $\pm 0.15\%$<br>$\pm 0.10\%$<br>$\pm 0.05\%$<br>$\pm 0.025\%$                   |                                                                          |
| Noise                                                                                                               | 100 $\Omega$ ENR                                                                |                                                                          |
| Electrical Angle                                                                                                    | 3600° + 4° - 0°                                                                 |                                                                          |
| Power Rating                                                                                                        | 8.0 W at 40 °C derated to zero at 125 °C                                        |                                                                          |
| Insulation Resistance                                                                                               | 1000 M $\Omega$ minimum 500 V <sub>DC</sub>                                     |                                                                          |
| Dielectric Strength                                                                                                 | 1000 V <sub>RMS</sub> , 60 Hz                                                   |                                                                          |
| Absolute Minimum Resistance                                                                                         | Not to exceed linearity x total resistance or 1 $\Omega$ , whichever is greater |                                                                          |
| End Voltage                                                                                                         | 0.5 % of total applied voltage maximum                                          |                                                                          |
| Phasing                                                                                                             | CCW end points sect. 2 phased to sect 1 within 1°                               |                                                                          |
| Taps (Extra)                                                                                                        | Available as special standard tolerance $\pm 1^\circ$                           |                                                                          |

## ORDERING INFORMATION/DESIGNATION

Model 860 can be ordered from this data sheet with a variety of alternate characteristics, as shown. For most rapid service on your order, please state:

| 860   | B             | 1                                    | 20K                                                    | BO10             |
|-------|---------------|--------------------------------------|--------------------------------------------------------|------------------|
| MODEL | BUSHING MOUNT | NUMBER OF SECTIONS                   | RESISTANCE OF EACH SECTION                             | PACKAGING        |
|       |               | From 1 up to 2 sections<br>(maximum) | Beginning with the section nearest<br>the mounting end | Box of 10 pieces |

## SAP PART NUMBERING GUIDELINES

| 860   | B     | 1                  | 203                         | B10       |
|-------|-------|--------------------|-----------------------------|-----------|
| MODEL | STYLE | NUMBER OF SECTIONS | OHMIC VALUE OF SECTION N° 1 | PACKAGING |

# Model 860

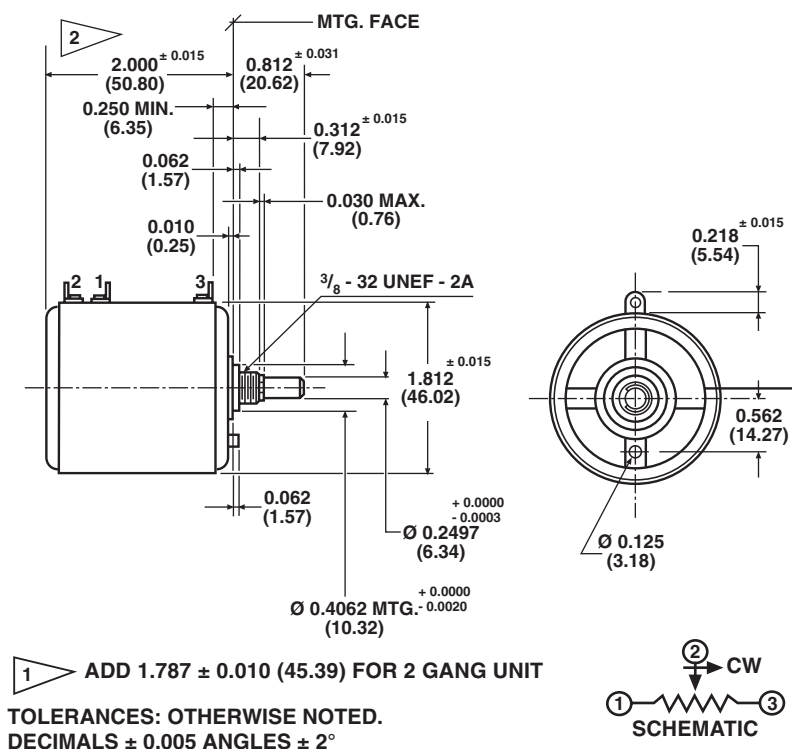


Vishay Spectrol 供应商

1 13/16" (46 mm) Ten Turn Wirewound,  
Bushing Mount

**DIMENSIONS** in inches (millimeters)

## MODEL 860



## MECHANICAL SPECIFICATIONS

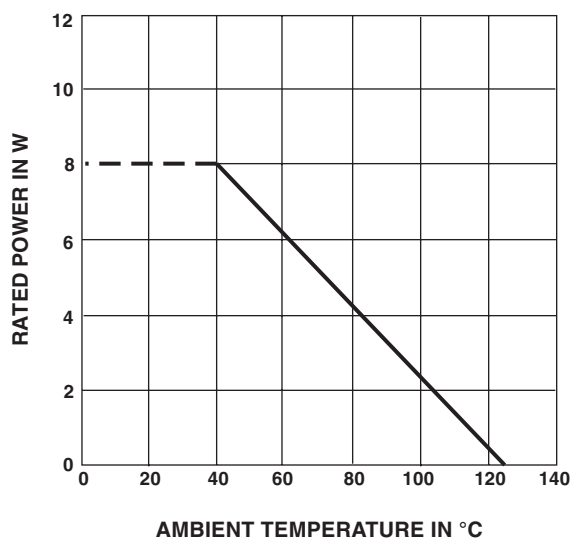
| PARAMETER                                                                                                    |                                                                                                                               |                                                                                 |
|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Rotation                                                                                                     | 3600° + 4° - 0°                                                                                                               |                                                                                 |
| Bearing Type                                                                                                 | Sleeve bearing                                                                                                                |                                                                                 |
| Torque (maximums):<br>Section 1<br>Section 2                                                                 | <b>STARTING</b><br>1.75 oz. - in (126.02 g - cm)<br>2.55 oz. - in (183.62 g - cm)                                             | <b>RUNNING</b><br>1.26 oz. - in (90.01 g - cm)<br>1.85 oz. - in (133.21 g - cm) |
| Runouts (Maximums)<br>Shaft (TIR)<br>Pilot Dia (TIR)<br>Lateral (TIR)<br>Shaft End Play<br>Shaft Radial Play | 0.002" (0.05 cm)<br>0.002" (0.05 cm)<br>0.005" (0.13 cm)<br>0.002" min. 0.010" max. (0.05 - 0.25 cm)<br>0.003" max. (0.08 cm) |                                                                                 |
| Weight (maximums)<br>Single Section<br>Additional Section                                                    | 4.5 oz. (127.58 g)<br>4.0 oz. (113.40 g)                                                                                      |                                                                                 |
| Stop Strength                                                                                                | 750 oz. - in (static) (54.01 kg - cm)                                                                                         |                                                                                 |
| Ganging                                                                                                      | 2 sections maximum ears of clamp band between sections positioned 45°, ± 10° CCW from terminal center line                    |                                                                                 |
| Moment Inertia                                                                                               | 15.0 g - cm <sup>2</sup> maximum                                                                                              |                                                                                 |

| MATERIAL SPECIFICATIONS                        |                                                             |
|------------------------------------------------|-------------------------------------------------------------|
| Bushing                                        | Aluminum, nickel plated                                     |
| Housing and Front Lid                          | Molded glass filled thermoset plastic                       |
| Rear Lid                                       | Molded glass filled nylon                                   |
| Shaft                                          | Stainless steel, non magnetic, non-passivated               |
| Terminals                                      | Brass, plated for solderability                             |
| Mounting Hardware<br>Lockwasher:<br>Panel Nut: | Internal tooth steel, nickel plated<br>Brass, nickel plated |

| ENVIRONMENTAL SPECIFICATIONS |                           |
|------------------------------|---------------------------|
| Vibration                    | 10 g thru 500 CPS         |
| Shock                        | 50 g                      |
| Rotational Life              | 500 000 shaft revolutions |
| Load Life                    | 900 h                     |
| Temperature Range            | - 55 °C to + 125 °C       |
| Salt Spray                   | 48 h                      |

| MARKING             |                                                                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Unit Identification | Units will be marked with Vishay Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification, and date code |

### POWER RATING CHART



| RESISTANCE ELEMENT DATA        |                |               |                                       |                                 |                                       |
|--------------------------------|----------------|---------------|---------------------------------------|---------------------------------|---------------------------------------|
| STANDARD RESISTANCE VALUES (Ω) | RESOLUTION (%) | OHMS PER TURN | MAXIMUM CURRENT AT 70 °C AMBIENT (mA) | MAXIMUM VOLTAGE ACROSS COIL (V) | WIRE TEMPERATURE COEFFICIENT (ppm/°C) |
| 20                             | 0.044          | 0.009         | 632                                   | 13                              | 800                                   |
| 50                             | 0.027          | 0.014         | 400                                   | 20                              | 800                                   |
| 100                            | 0.024          | 0.024         | 283                                   | 28                              | 800                                   |
| 200                            | 0.028          | 0.056         | 200                                   | 40                              | 180                                   |
| 500                            | 0.023          | 0.115         | 126                                   | 63                              | 20                                    |
| 1K                             | 0.018          | 0.182         | 89                                    | 89                              | 20                                    |
| 2K                             | 0.020          | 0.402         | 63                                    | 126                             | 20                                    |
| 5K                             | 0.015          | 0.754         | 40                                    | 200                             | 20                                    |
| 10K                            | 0.013          | 1.23          | 28                                    | 283                             | 20                                    |
| 20K                            | 0.010          | 1.97          | 20                                    | 400                             | 20                                    |
| 50K                            | 0.007          | 3.69          | 13                                    | 632                             | 20                                    |
| 100K                           | 0.007          | 6.51          | 8.9                                   | 894                             | 20                                    |
| 200K                           | 0.005          | 9.63          | 5.0                                   | 1000                            | 20                                    |
| 500K                           | 0.004          | 20.0          | 2.0                                   | 1000                            | 20                                    |

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