

## 1/2" (12.7 mm) Single - Turn Wirewound Bushing Mount Type Precision Potentiometer



### FEATURES

- Ohmic value range: 50  $\Omega$  up to 20 k $\Omega$
- Smallest size available: 12.7 mm
- Mechanical stops on request
- High torque and sealed versions available



### ELECTRICAL SPECIFICATIONS

| PARAMETER                   |                                                                                                                                        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Total Resistance            | 50 $\Omega$ to 20 k $\Omega$                                                                                                           |
| Tolerance                   | $\pm 5\%$                                                                                                                              |
| Absolute Minimum Resistance | Linearity x total resistance or<br>0.5 $\Omega$ , whichever is greater                                                                 |
| Linearity (Independent)     | $\pm 1.0\%$                                                                                                                            |
| Noise                       | 100 $\Omega$ ENR                                                                                                                       |
| Power Rating                | 2 W at 40 °C ambient derating linearly to zero at 125 °C                                                                               |
| Insulation Resistance       | 1000 M $\Omega$ min. 500 V <sub>DC</sub>                                                                                               |
| Dielectric Strength         | 1000 V <sub>RMS</sub> , 60 Hz                                                                                                          |
| Electrical Angle            | 320° $\pm 5^\circ$                                                                                                                     |
| End Voltage                 | Linearity x total applied voltage for total resistance above 20 $\Omega$ ;<br>2.0 % of total applied voltage for 20 $\Omega$ and below |

### MATERIAL SPECIFICATIONS

|                                                               |                                                 |
|---------------------------------------------------------------|-------------------------------------------------|
| Shaft                                                         | Stainless steel, non magnetic<br>non-passivated |
| Housing                                                       | Aluminum, anodized                              |
| Rear Lid                                                      | Molded glass filled<br>thermoset plastic        |
| Terminals                                                     | Brass, gold plated                              |
| Mounting Hardware<br>Lockwasher Internal Tooth:<br>Panel Nut: | Steel, nickel plated.<br>Brass, nickel plated   |

### ENVIRONMENTAL SPECIFICATIONS

|                   |                                 |
|-------------------|---------------------------------|
| Vibration         | 20 G thru 2000 Hz               |
| Shock             | 50 g                            |
| Salt Spray        | 96 h                            |
| Rotational Life   | 500 000<br>shaft revolutions    |
| Load Life         | 900 h                           |
| Temperature Range | - 55 °C to + 125 °C (operating) |

### ORDERING INFORMATION/DESCRIPTION

| 140B<br>MODEL | 0<br>MECHANICAL OPTIONS                                                                                                                                                                               | 0<br>SPECIAL FEATURE                                                                                                                                                                                     | 20K<br>OHMIC VALUE | BO10<br>PACKAGING |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------|
|               | 0. Stops, slotted shaft (std)<br>1. Plain shaft<br>2. Shaft lock<br>3. Continuous rotation<br>4. Combination 1 and 2<br>5. Combination 1 and 3<br>6. Combination 2 and 3<br>7. Combination 1, 2 and 3 | 0. Standard torque<br>1. Center tap (10K max. Rt)<br>2. High torque<br>3. Sealed construction<br>4. Combination 1 and 2<br>5. Combination 1 and 3<br>6. Combination 2 and 3<br>7. Combination 1, 2 and 3 |                    | Box of 10 pieces  |

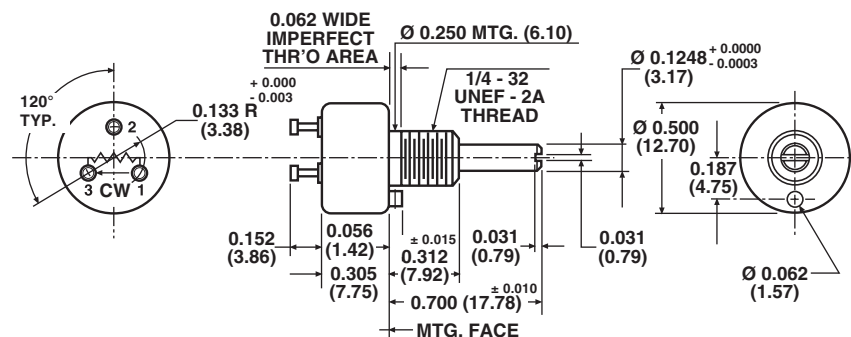
### SAP PART NUMBERING GUIDELINES

| 140B<br>MODEL | 7<br>MECHANICAL OPTION | 0<br>FEATURE | 103<br>OHMIC VALUE | B10<br>PACKAGING    |
|---------------|------------------------|--------------|--------------------|---------------------|
|               | From 0 to 7            | From 0 to 7  | 103 = 10K          | Box of<br>10 pieces |

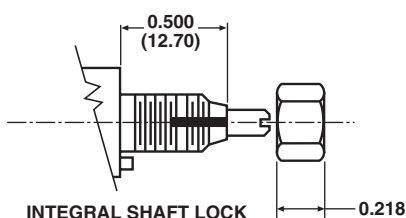
**1/2" (12.7 mm) Single - Turn Wirewound  
Bushing Mount Type Precision Potentiometer**

## Vishay Spectrol

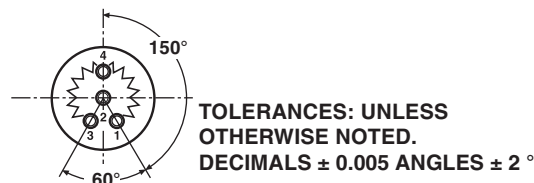
**DIMENSIONS** in inches (millimeters)



## SHAFT LOCK OPTION



### CENTER TAP OPTION

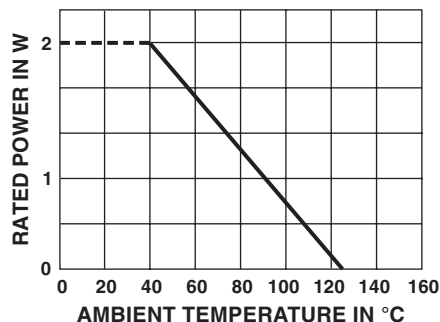


**CENTER TAP AVAILABLE AS  
SPEC STANDARD FEATURE**

## MECHANICAL SPECIFICATIONS

| PARAMETER         |                                  |
|-------------------|----------------------------------|
| Rotation          | 330° ± 5°                        |
| Bearing Type      | <b>SLEEVE BEARING</b>            |
| Torque (Maximums) |                                  |
| Starting          | 0.2 oz. - in (14.40 g - cm)      |
| Running           | 0.2 oz. - in (14.40 g - cm)      |
| Dead Zone         | Not applicable                   |
| Weight            | 0.1 oz. maximum (2.84 g)         |
| Stop Strength     | 5 in - lbs (5.76 kg - cm) static |
| Runouts (Maximum) |                                  |
| Shaft (TIR)       | 0.002" (0.05 cm)                 |
| Pilot Dia. (TIR)  | 0.002" (0.05 cm)                 |
| Lateral (TIR)     | 0.003" (0.08 cm)                 |
| Shaft End Play    | 0.006" (0.15 cm)                 |
| Shaft Radial Play | 0.003" (0.08 cm)                 |

## POWER RATING CHART



## MARKING

|                            |                                                                                                                                                                  |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit Identification</b> | Units shall be marked with manufacturer's name, model number, resistance value and tolerance, circuit diagram, terminal identification, linearity and data code. |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## RESISTANCE ELEMENT DATA

| STD<br>RESISTANCE<br>VALUES<br>( $\Omega$ ) | RESO-<br>LUTION<br>(%) | OHMS<br>PER<br>TURN | MAXIMUM<br>CURRENT<br>AT 40 °C<br>AMBIENT<br>(mA) | MAXIMUM<br>VOLTAGE<br>ACROSS<br>COIL<br>(V) | WIRE<br>TEMP.<br>COEF.<br>(ppm/°C) |
|---------------------------------------------|------------------------|---------------------|---------------------------------------------------|---------------------------------------------|------------------------------------|
| 50                                          | 0.542                  | 0.271               | 200.0                                             | 10.0                                        | 20                                 |
| 100                                         | 0.431                  | 0.431               | 141.0                                             | 14.1                                        | 20                                 |
| 200                                         | 0.361                  | 0.722               | 100.0                                             | 20.0                                        | 20                                 |
| 500                                         | 0.312                  | 1.56                | 63.2                                              | 31.6                                        | 20                                 |
| 1K                                          | 0.255                  | 2.55                | 44.7                                              | 44.7                                        | 20                                 |
| 2K                                          | 0.197                  | 3.94                | 31.6                                              | 63.2                                        | 20                                 |
| 5K                                          | 0.170                  | 8.50                | 20.0                                              | 100.0                                       | 20                                 |
| 10K                                         | 0.147                  | 14.7                | 14.1                                              | 141.0                                       | 20                                 |
| 20K                                         | 0.105                  | 21.0                | 10.0                                              | 200.0                                       | 20                                 |



### Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.



**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331