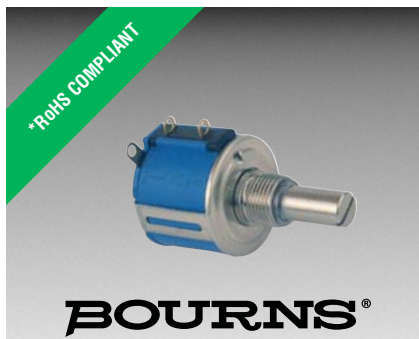




## Features

- Bushing mount
- Optional center tap and rear shaft extension
- Optional AR lug feature
- Gangable with common or concentric shafts
- High torque available
- Non-standard features and specifications available

- RoHS compliant\*

**BOURNS®**

## 3540/3541 - Precision Potentiometer

| Electrical Characteristics <sup>1</sup>                                           | 3540 Wirewound Element         | 3541 Hybritron® Element |
|-----------------------------------------------------------------------------------|--------------------------------|-------------------------|
| Standard Resistance Range.....                                                    | 100 to 100 K ohms.....         | 1 K to 100 K ohms       |
| Total Resistance Tolerance.....                                                   | ±5 %.....                      | ±10 %                   |
| Independent Linearity.....                                                        | ±0.25 %.....                   | ±0.25 %                 |
| Effective Electrical Angle.....                                                   | 3600 ° +10 °, -0 °.....        | 3600 ° +10 °, -0 °      |
| Absolute Minimum Resistance/.....                                                 | 1 ohm or 0.1 % maximum.....    | 0.2 % maximum           |
| Minimum Voltage.....                                                              | (whichever is greater)         |                         |
| Noise/Output Smoothness.....                                                      | 100 ohms ENR maximum.....      | 0.1 % maximum           |
| Dielectric Withstanding Voltage (MIL-STD-202, Method 301)                         |                                |                         |
| Sea Level.....                                                                    | 1,000 VAC minimum.....         | 1,000 VAC minimum       |
| Power Rating (Voltage Limited By Power Dissipation or 447 VAC, Whichever Is Less) |                                |                         |
| +70 °C.....                                                                       | 2 watts.....                   | 2 watts                 |
| +125 °C.....                                                                      | 0 watt.....                    | 0 watt                  |
| Insulation Resistance (500 VDC).....                                              | 1,000 megohms minimum.....     | 1,000 megohms minimum   |
| Resolution.....                                                                   | See recommended part nos. .... | Essentially infinite    |

| Environmental Characteristics <sup>1</sup>                 |                                                |                                          |
|------------------------------------------------------------|------------------------------------------------|------------------------------------------|
| Operating Temperature Range.....                           | -40 °C to +125 °C.....                         | -40 °C to +125 °C                        |
| Storage Temperature Range.....                             | -55 °C to +125 °C.....                         | -55 °C to +125 °C                        |
| Temperature Coefficient Over                               |                                                |                                          |
| Storage Temperature Range <sup>2</sup> .....               | ±50 ppm/°C maximum/unit.....                   | ±100 ppm/°C maximum/unit                 |
| Vibration.....                                             | 15 G.....                                      | 15 G                                     |
| Wiper Bounce.....                                          | 0.1 millisecond maximum.....                   | 0.1 millisecond maximum                  |
| Shock.....                                                 | 50 G.....                                      | 50 G                                     |
| Wiper Bounce.....                                          | 0.1 millisecond maximum.....                   | 0.1 millisecond maximum                  |
| Load Life.....                                             | 1,000 hours, 2 watts.....                      | 1,000 hours, 2 watts                     |
| Total Resistance Shift.....                                | ±2 %.....                                      | ±5 %                                     |
| Rotational Life (No Load).....                             | 1,000,000 shaft revolutions <sup>2</sup> ..... | 5,000,000 shaft revolutions <sup>2</sup> |
| Total Resistance Shift.....                                | ±5 % maximum.....                              | ±5 % maximum                             |
| Moisture Resistance (MIL-STD-202, Method 103, Condition B) |                                                |                                          |
| Total Resistance Shift.....                                | ±2 % maximum.....                              | ±5 % maximum                             |
| IP Rating.....                                             | IP 40.....                                     | IP 40                                    |

| Mechanical Characteristics <sup>1</sup> |                                                                                                                         |  |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--|
| Stop Strength.....                      | 53 N-cm (75 oz.-in.) minimum                                                                                            |  |
| Mechanical Angle.....                   | 3600 ° +10 °, -0 °                                                                                                      |  |
| Torque                                  |                                                                                                                         |  |
| Starting & Running @ +25 °C.....        | 0.49 N-cm (0.7 oz.-in.) max.                                                                                            |  |
| Starting & Running @ -40 °C.....        | 1.76 N-cm (2.5 oz.-in.) max.                                                                                            |  |
| Mounting.....                           | 170-200 N-cm (15-18 lb.-in.) max.                                                                                       |  |
| Shaft Runout.....                       | 0.08 mm (0.003 in.) T.I.R.                                                                                              |  |
| Lateral Runout.....                     | 0.13 mm (0.005 in.) T.I.R.                                                                                              |  |
| Shaft End Play.....                     | 0.30 mm (0.012 in.) T.I.R.                                                                                              |  |
| Shaft Radial Play.....                  | 0.08 mm (0.003 in.) T.I.R.                                                                                              |  |
| Pilot Diameter Runout.....              | 0.08 mm (0.003 in.) T.I.R.                                                                                              |  |
| Backlash.....                           | 1.0 ° maximum                                                                                                           |  |
| Weight.....                             | Approximately 21 gm                                                                                                     |  |
| Terminals.....                          | Gold-plated solder lugs                                                                                                 |  |
| Soldering Condition                     |                                                                                                                         |  |
| Manual Soldering.....                   | 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire; 370 °C (700 °F) max. for 3 seconds                          |  |
| Wave Soldering.....                     | 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds                                        |  |
| Wash processes.....                     | Not recommended                                                                                                         |  |
| Marking.....                            | Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code |  |
| Ganging (Multiple Section Pots.).....   | 2 cups maximum                                                                                                          |  |
| Hardware.....                           | One lockwasher (H-37-2) and one mounting nut (H-38-2) is shipped with each potentiometer.                               |  |

<sup>1</sup>At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.

<sup>2</sup>Consult manufacturer for complete specification details.

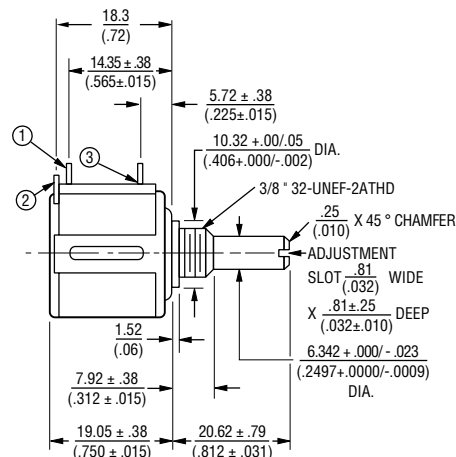
### Recommended Part Numbers

| Part Number  | Resistance (Ω) | Resolution |
|--------------|----------------|------------|
| 3540S-1-201L | 200            | .042       |
| 3540S-1-501L | 500            | .031       |
| 3540S-1-102L | 1,000          | .027       |
| 3540S-1-202L | 2,000          | .021       |
| 3540S-1-502L | 5,000          | .021       |
| 3540S-1-103L | 10,000         | .019       |
| 3540S-1-203L | 20,000         | .014       |
| 3540S-1-503L | 50,000         | .011       |
| 3540S-1-104L | 100,000        | .008       |

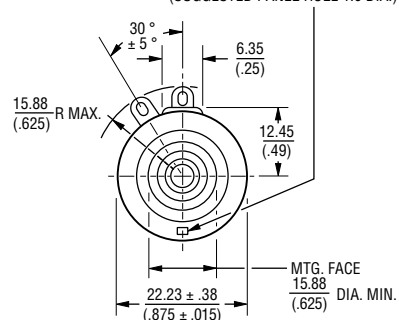
| Part Number  | Resistance (Ω) |
|--------------|----------------|
| 3541H-1-102L | 1,000          |
| 3541H-1-202L | 2,000          |
| 3541H-1-502L | 5,000          |
| 3541H-1-103L | 10,000         |
| 3541H-1-203L | 20,000         |
| 3541H-1-503L | 50,000         |
| 3541H-1-104L | 100,000        |

### Product Dimensions

#### 3540S-1/3541H-1



OPTIONAL ANTIROTATION LUG  
(-91) 1.42 X .50 ON 7.4 RADIUS.  
LENGTH 1.27 FROM MOUNTING SURFACE.  
(SUGGESTED PANEL HOLE 1.6 DIA.)

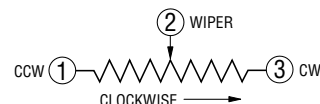


TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: XX ± .25 (.010), .XXX ± .13 (.005)

FRACTIONS: ±1/64

DIMENSIONS: MM (IN.)



**BOLDFACE** LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

FOR OTHER OPTIONS CONSULT FACTORY.

ROHS IDENTIFIER:  
L = COMPLIANT

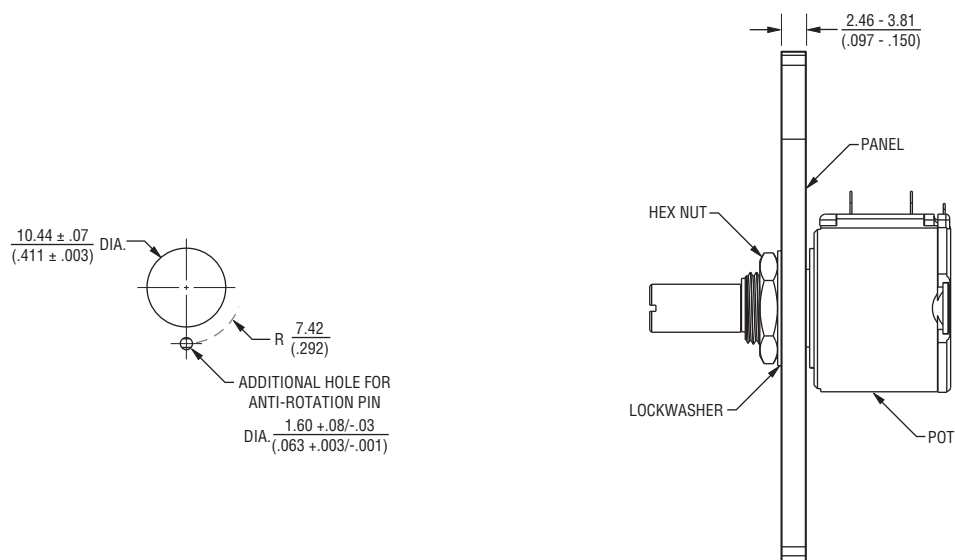
Specifications are subject to change without notice.  
Customers should verify actual device performance in their specific applications.

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

# 3540/3541 - Precision Potentiometer

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## Panel Thickness Dimensions



Anti-rotation pin hole is shown at six o'clock position for reference only. The actual location is determined by the customer's application. Refer to the front view of the potentiometer to see the location of the optional A/R pin.

Panel thickness and hole diameters are recommended for best fit. However, customers may adjust the dimensions to suit their specific application.

DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$  TOLERANCES:  $\pm \frac{0.127}{(.005)}$

REV. 11/12

"Hybritron" is a registered trademark of Bourns, Inc.  
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.