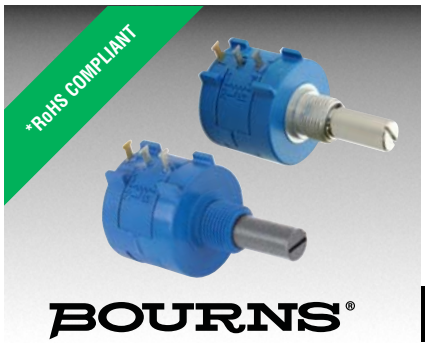


Features

- Bushing mount
- Optional AR pin feature
- Plastic or metal shaft and bushings
- Wirewound
- Solder lugs or PC pins
- Sealable (Full body seal)
- Designed for use in HMI applications
- RoHS compliant*

3590 - Precision Potentiometer

Electrical Characteristics[1]

Standard Resistance Range ..... 200 to 100 K ohms
Total Resistance Tolerance ..... ±5 %
Independent Linearity ..... ±0.25 %
Effective Electrical Angle ..... 3600 ° +10 °, -0 °
Absolute Minimum Resistance ..... 1 ohm or 0.1 % maximum (whichever is greater)
Noise ..... 100 ohms ENR maximum
Dielectric Withstanding Voltage (MIL-STD-202, Method 301)
  Sea Level ..... 1,500 VAC minimum
Power Rating (Voltage Limited By Power Dissipation or 450 VAC, Whichever is Less)
  +40 °C ..... 2 watts
  +125 °C ..... 0 watt
Insulation Resistance (500 VDC) ..... 1,000 megohms minimum
Resolution ..... See recommended part numbers

Environmental Characteristics[1]

Operating Temperature Range ..... -40 °C to +125 °C
Storage Temperature Range ..... -55 °C to +125 °C
Temperature Coefficient Over Storage Temperature Range[2] ..... ±50 ppm/°C maximum/unit
Vibration ..... 15 G
  Wiper Bounce ..... 0.1 millisecond maximum
Shock ..... 50 G
  Wiper Bounce ..... 0.1 millisecond maximum
Load Life ..... 1,000 hours, 2 watts
  Total Resistance Shift ..... ±2 % maximum
Rotational Life (No Load) ..... 1,000,000 shaft revolutions
  Total Resistance Shift ..... ±5 % maximum
Moisture Resistance (MIL-STD-202, Method 103, Condition B)
  Total Resistance Shift ..... ±2 % maximum
IP Rating
  Sealed Versions (-3, -4, -7, and -8) ..... IP 65
  Unsealed Versions (-1 -2, -5, and -6) ..... IP 40

Mechanical Characteristics[1]

Stop Strength ..... 45 N-cm (64 oz.-in.) minimum
Mechanical Angle ..... 3600 ° +10 °, -0 °
Torque (Starting & Running) ..... 0.35 N-cm (0.5 oz.-in.) maximum (unsealed)
1.1 N-cm (1.5 oz.-in.) maximum (sealed)
  Mounting ..... 55-80 N-cm (5-7 lb.-in.) (plastic)
90-113 N-cm (8-10 in.-lb.) (metal)
Shaft Runout ..... 0.13 mm (0.005 in.) T.I.R.
Lateral Runout ..... 0.20 mm (0.008 in.) T.I.R.
Shaft End Play ..... 0.25 mm (0.010 in.) T.I.R.
Shaft Radial Play ..... 0.13 mm (0.005 in.) T.I.R.
Pilot Diameter Runout ..... 0.08 mm (0.003 in.) T.I.R.
Backlash ..... 1.0 ° maximum
Weight ..... Approximately 19 G
Terminals ..... Solder lugs or PC pins
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 Potentiometers) ..... 1 cup maximum
Hardware ..... One lockwasher and one mounting nut is shipped with each potentiometer.

NOTE: For Anti-rotation pin add 91 after configuration dash number. Example: -2 becomes -291 to add AR pin.
[1]At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.
[2]Consult manufacturer for complete specification details for resistances below 1k ohms.

Recommended Part Numbers

(Printed Circuit)	(Solder Lug)	(Solder Lug)	Resistance (Ω)	Resolution (%)
3590P-2-102L	***3590S-2-102L***	3590S-1-102L	**1,000**	**.029**
3590P-2-202L	***3590S-2-202L***	3590S-1-202L	**2,000**	**.023**
3590P-2-502L	***3590S-2-502L***	3590S-1-502L	**5,000**	**.025**
3590P-2-103L	***3590S-2-103L***	3590S-1-103L	**10,000**	**.020**
3590P-2-203L	***3590S-2-203L***	3590S-1-203L	**20,000**	**.019**
3590P-2-503L	***3590S-2-503L***	3590S-1-503L	**50,000**	**.013**
3590P-2-104L	***3590S-2-104L***	3590S-1-104L	**100,000**	**.009**

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.

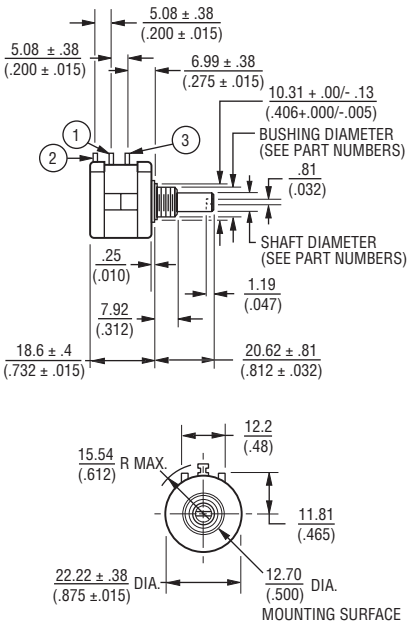
*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

3590 - Precision Potentiometer

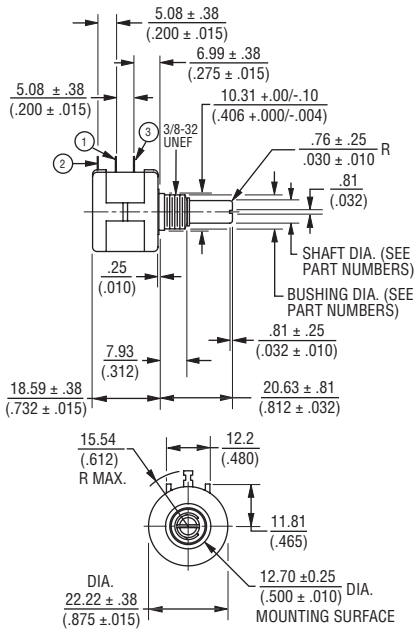
BOURNS®

Product Dimensions

-1, -3, -5, -7 Configurations

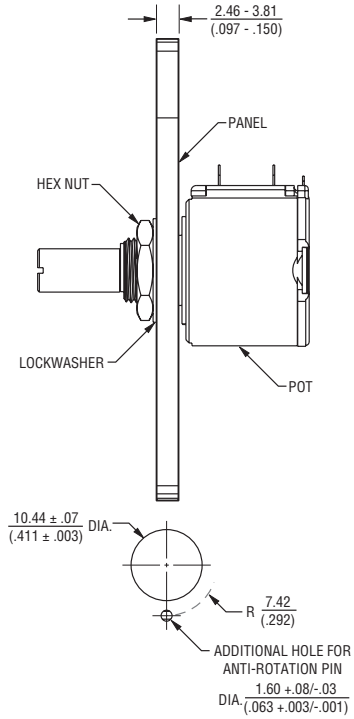


-2, -4, -6, -8 Configurations



Panel Thickness Dimensions

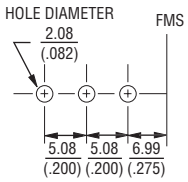
(For Bushing Mount Only)



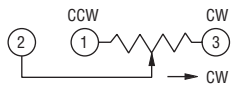
Anti-rotation pin hole is shown at six o'clock position for reference only. The actual location is determined by the customer's application. Refer to the front view of the potentiometer to see the location of the optional A/R pin.

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

Recommended PCB Layout



Schematic



TOLERANCES: EXCEPT WHERE NOTED

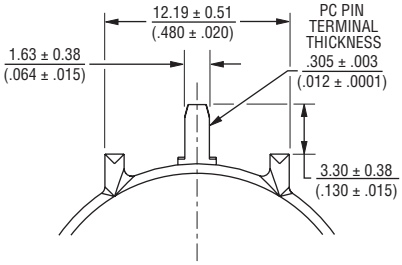
DECIMALS: .XX ± .508 (.02), .XXX ± .127 (.005)

FRACTIONS: ±1/64

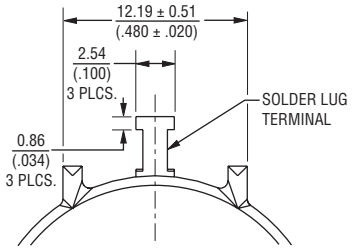
DIMENSIONS: MM (IN.)

Terminal Styles

"P" Terminal Style



"S" Terminal Style



Shaft & Bushing Configurations

(Bushing - DxL, Shaft - D):

(-1) Plastic Bushing (3/8 " x 5/16 ") and Shaft (.2480 + .001, - .002)

(-2) Metal Bushing (3/8 " x 5/16 ") and Shaft (.2497 + .0000, - .0009)

(-3) Sealed, Plastic Bushing (3/8 " x 5/16 ") and Shaft (.2480 + .001, - .002)

(-4) Sealed, Metal Bushing (3/8 " x 5/16 ") and Shaft (.2497 + .0000, - .0009)

(-5) Metric, Plastic Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .076 mm)

(-6) Metric, Metal Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .023 mm)

(-7) Metric, Sealed, Plastic Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .076 mm)

(-8) Metric, Sealed, Metal Bushing (9 mm x 7.94 mm) and Shaft (6 mm + 0, - .023 mm)

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

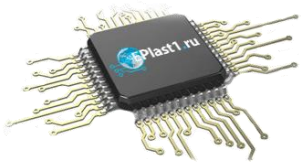
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- 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;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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