

## Features

- Bushing mount
- Optional AR pin feature
- Plastic or metal shaft and bushings
- Wirewound
- Solder lugs or PC pins
- Sealable (Full body seal)

- Non-standard features and specifications available

## 3590 - Precision Potentiometer

### Electrical Characteristics<sup>1</sup>

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

### Environmental Characteristics<sup>1</sup>

Operating Temperature	
Static Operation Temperature Range .....	-55°C to +125°C
Dynamic Operation Temperature Range .....	+1°C to +125°C
Temperature Coefficient <sup>2</sup> .....	±50ppm/°C maximum/unit
Vibration .....	15G
Wiper Bounce .....	0.1 millisecond maximum
Shock .....	50G
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

### Mechanical Characteristics<sup>1</sup>

Mechanical Angle .....	3600° +10°, -0°
Shaft Runout .....	0.005 in. (0.13mm) T.I.R.
Lateral Runout .....	0.008 in. (0.20mm) T.I.R.
Pilot Diameter Runout .....	0.003 in. (0.08mm) T.I.R.
Shaft End Play .....	0.010 in. (0.25mm) T.I.R.
Shaft Radial Play .....	0.005 in. (0.13mm) T.I.R.
Stop Strength .....	64 oz.-in. (45 Ncm) minimum
Torque (Starting & Running) .....	0.5 oz.-in. (0.40 Ncm) maximum (unsealed) 1.5 oz.-in. (1.1 Ncm) maximum (sealed)
Mounting Torque .....	5-7 in.-lbs. (0.55 - 0.80 Nm) (plastic) 15-18 in.-lbs. (1.7 - 2 Nm) (metal)
Backlash .....	1.0° maximum
Terminals .....	Solder lugs or PC pins
Weight .....	Approximately 19G

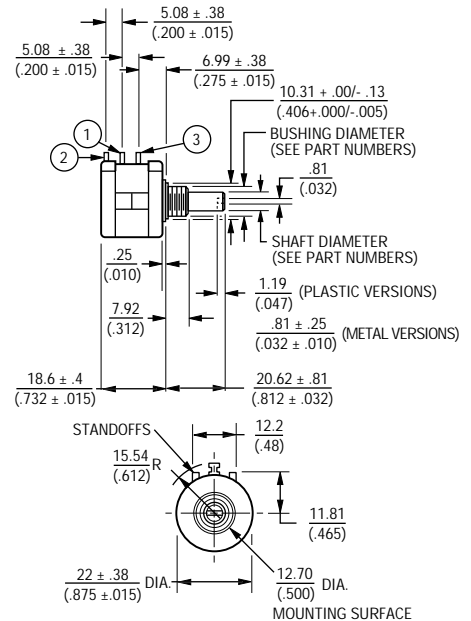
NOTE: For Anti-Rotation pin add 91 after configuration dash number. Example: -2 becomes -291 to add AR pin.

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

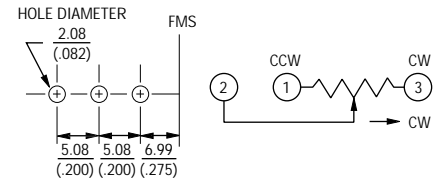
<sup>2</sup>Consult manufacturer for complete specification details for resistance below 1K ohms.

### Recommended Part Numbers

(Printed Circuit)	(Solder Lug)	Resistance (Ω)	Resolution (%)
3590P-1-102	3590S-2-102	1,000	.029
3590P-1-202	3590S-2-202	2,000	.023
3590P-1-502	3590S-2-502	5,000	.025
3590P-1-103	3590S-2-103	10,000	.020
3590P-1-203	3590S-2-203	20,000	.016
3590P-1-503	3590S-2-503	50,000	.013
3590P-1-104	3590S-2-104	100,000	.009



### RECOMMENDED PC BOARD MOUNTING HOLE LOCATIONS



TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: .XX ± .01, .XXX ± .005

FRACTIONS: ±1/64

DIMENSIONS:  $\frac{MM}{(IN.)}$

### 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 (9mm x 7.94mm) and Shaft (6mm + 0, - .076mm)
  - (-6) Metric, Metal Bushing (9mm x 7.94mm) and Shaft (6mm + 0, - .023mm)
  - (-7) Metric, Sealed, Plastic Bushing (9mm x 7.94mm) and Shaft (6mm + 0, - .076mm)
  - (-8) Metric, Sealed, Metal Bushing (9mm x 7.94mm) and Shaft (6mm + 0, - .023mm)

BOLD-FACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

FOR OTHER OPTIONS CONSULT FACTORY.

Specifications are subject to change without notice.