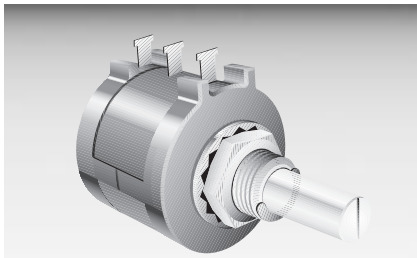


For technical assistance use the Sensors/
Controls Products number on the back cover.



BOURNS[®]

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 Characteristics¹

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
Insulation Resistance (500 VDC)	1,000 megohms minimum

Environmental Characteristics¹

Operating Temperature	
Static Operation Temperature Range	-55°C to +125°C
Dynamic Operation Temperature Range	+1°C to +125°C
Temperature Coefficient ²	±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

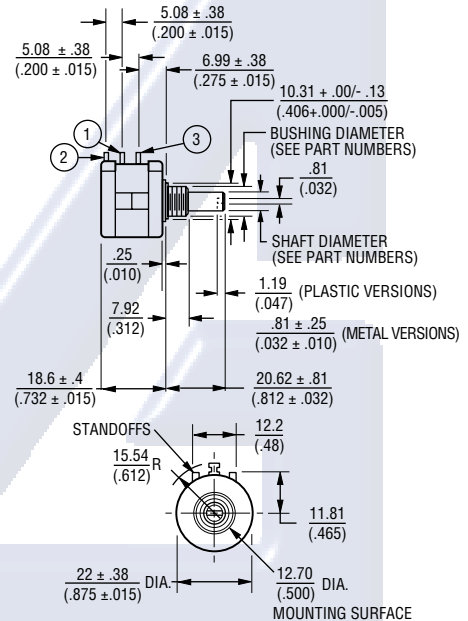
Mechanical Characteristics¹

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

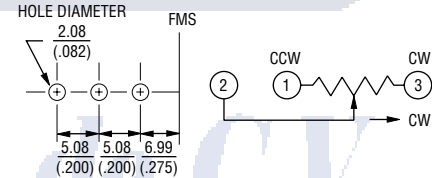
NOTE: For Anti-Rotation pin add 91 after configuration dash number. Example: -2 becomes -291 to add AR pin.
¹At room ambient: +25°C nominal and 50% relative humidity nominal, except as noted.
²Consult manufacturer for complete specification details for resistance below 1K ohms.

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: 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.