



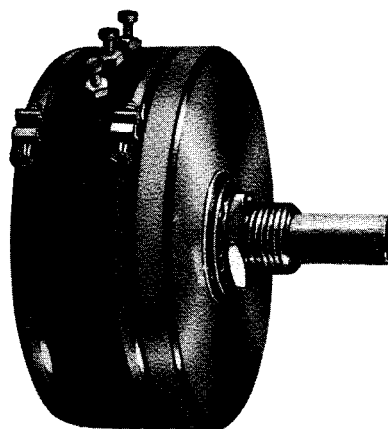
Model 3415  
**BOURNS® Potentiometer**  
 2" Diameter, Single-Turn Bushing Mount  
 Wirewound Element

**OBSOLETE** 1995

## FEATURES

- Extended Temperature Range:  $-65^{\circ}$  to  $+125^{\circ}\text{C}$ .
- Outstanding resistance to humidity  
Exceeds humidity cycling requirements of MIL-R-12934.
- Dual collector pick-off assures outstanding vibration and shock performance.
- Shaft supported front and rear by precision sleeve bearings.
- Housing: high temperature, moisture resistant, thermo-setting plastic.
- Custom design capability is available to satisfy your most demanding and difficult special requirements.
- Performance of the Model 3415 is guaranteed by the Bourns Reliability Program, which includes individual inspection to published electrical and physical characteristics.

Actual Size



## STANDARD RESISTANCES

Resistance (Ohms)	Part Number*	Resolution (Percent)
50	3415S-1-500	0.233
100	3415S-1-101	0.186
200	3415S-1-201	0.159
500	3415S-1-501	0.128
1,000	3415S-1-102	0.095
2,000	3415S-1-202	0.076

Resistance (Ohms)	Part Number*	Resolution (Percent)
5,000	3415S-1-502	0.076
10,000	3415S-1-103	0.062
20,000	3415S-1-203	0.047
50,000	3415S-1-503	0.039
100,000	3415S-1-104	0.030

\* The last three digits of the part number represent the resistance in standard code.

# BOURNS® Potentiometer Model 3415

## STANDARD SPECIFICATIONS

THE SPECIFICATIONS LISTED BELOW ARE FOR THE STANDARD MODEL. MODIFICATIONS OF ALL TYPES (MECHANICAL, ELECTRICAL AND ENVIRONMENTAL) CAN BE CUSTOM ENGINEERED TO YOUR SPECIFIC REQUIREMENTS.

### ELECTRICAL CHARACTERISTICS

Resistance Range .....	50 to 100,000 ohms
Resistance Tolerance* .....	±3%
Linearity (Independent)* .....	±0.3%
Resolution .....	See standard resistance table
Effective Electrical Angle* .....	350° ±2°
Absolute Minimum Resistance* .....	1Ω or 0.1%, whichever is greater
Noise* .....	100Ω maximum
Power Rating	
70°C .....	4 watts
125°C .....	0 watt
Dielectric Strength .....	MIL-R-12934
Sea Level .....	1,000 volts AC minimum
70,000 feet .....	250 volts AC minimum
Insulation Resistance, 500 volts DC* .....	1,000 megohms minimum

### ENVIRONMENTAL CHARACTERISTICS

Operating Temperature Range .....	-65° to +125°C
Temperature Coefficient of Wire .....	20 ppm/°C maximum
Humidity .....	MIL-R-12934, humidity cycling
Vibration .....	MIL-R-12934, 15Gs
Wiper Bounce .....	0.1 millisecond maximum
Wiper Shift .....	1.0% maximum
Shock .....	MIL-R-12934, 50Gs
Wiper Bounce and Wiper Shift .....	Same as vibration

Load Life .....	MIL-R-12934, 1,000 hours
Resistance Shift .....	2.0% maximum
Sand and Dust .....	MIL-E-5272
Fungus .....	MIL-E-5272
Salt Spray .....	MIL-R-12934

### MECHANICAL AND PHYSICAL CHARACTERISTICS

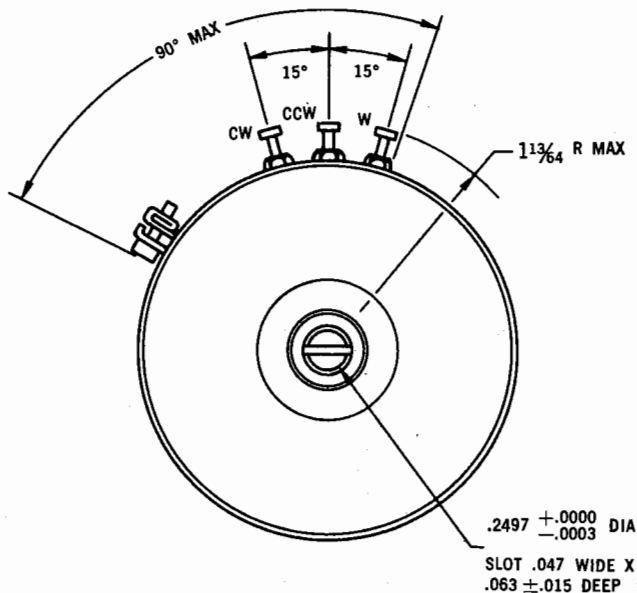
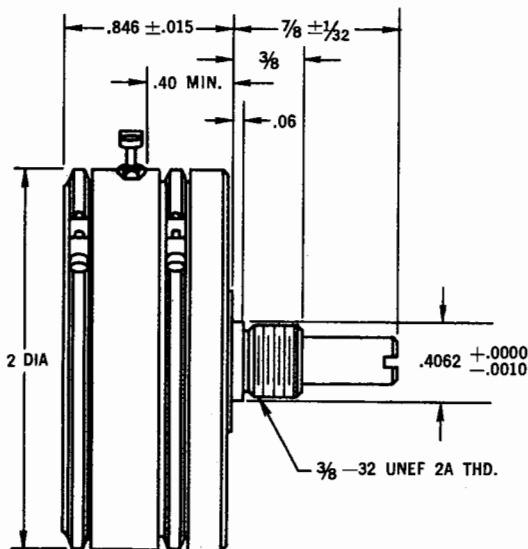
Mechanical Angle* .....	Continuous
Shaft Runout* .....	.001 in. T.I.R.
Shaft End Play* .....	.003 in. T.I.R.
Shaft Radial Play* .....	.004 in. T.I.R.
Rotational Life .....	1,000,000 shaft revolutions
Torque*	
Starting .....	1.5 oz.-in. maximum
Running .....	1.0 oz.-in. maximum
	(Add 75% for each additional cup)

Ganging .....	8 cups maximum
Weight .....	Approximately 3 oz.
Terminals .....	Gold-plated turrets
Markings* .....	Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram and date code.

### NOTES

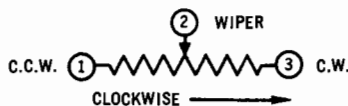
\* 100% or statistical sample inspection performed to insure highest quality. Specifications are subject to change without notice.

3415



### NOTES:

1. ADD .500 to .846 DIM FOR EACH ADDITIONAL CUP.
2. LOCKWASHER AND HEX NUT TO BE SUPPLIED WITH EACH UNIT.



TOLERANCES: EXCEPT WHERE NOTED  
 DECIMALS: .XX ± .010, XXX ± .005  
 FRACTIONS: ± 1/64

