


**BOURNS**  
INC

## Model 224

### TRIMPOT® Potentiometer

#### High Temperature, Humidity-Proof, Wirewound

### FEATURES

- Meets or exceeds all requirements of MIL-R-27208
- High power dissipation  
1.0 watt at 70°C
- High operating temperature (175°C)
- Sealed against humidity, liquids, and potting & soldering compounds.
- 22-turn screwdriver adjustment.
- SILVERWELD® termination alloys with multiple resistance wires and eliminates vulnerable single wire termination.
- Excellent shock, vibration, and acceleration stability due to self-locking adjustment screw.
- Each instrument individually inspected for guaranteed electrical and physical characteristics.

**OBSOLETE**

Actual Size



Panel Mount Model 224 available with leads or solder lugs.\*\*

### STANDARD RESISTANCES

Resistance (ohms)	Part Numbers*			Nominal Resolution (percent)
	224L stranded insulated leads	224S solder lugs	224P printed circuit pins	
10	224L-1-100	224S-1-100	224P-1-100	1.90
20	224L-1-200	224S-1-200	224P-1-200	1.50
50	224L-1-500	224S-1-500	224P-1-500	1.10
100	224L-1-101	224S-1-101	224P-1-101	0.87
200	224L-1-201	224S-1-201	224P-1-201	0.69
500	224L-1-501	224S-1-501	224P-1-501	0.71
1,000	224L-1-102	224S-1-102	224P-1-102	0.58

SPECIAL RESISTANCES AVAILABLE FROM 10 OHMS TO 100K

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

Resistance (ohms)	Part Numbers*			Nominal Resolution (percent)
	224L stranded insulated leads	224S solder lugs	224P printed circuit pins	
2,000	224L-1-202	224S-1-202	224P-1-202	0.46
5,000	224L-1-502	224S-1-502	224P-1-502	0.34
10,000	224L-1-103	224S-1-103	224P-1-103	0.27
20,000	224L-1-203	224S-1-203	224P-1-203	0.25
25,000	224L-1-253	224S-1-253	224P-1-253	0.23
50,000	224L-1-503	224S-1-503	224P-1-503	0.19
100,000	224L-2-104		224P-2-104	0.13

\*\* When ordering Panel Mount Model, add "M" to part number. Example: 224L-1-103M. See Panel Mount Bulletin for additional details.

# Model 224 TRIMPOT® Potentiometer

## SPECIFICATIONS

### ELECTRICAL CHARACTERISTICS

Standard Resistance Range (See chart on front)	10 to 100,000 ohms
Resistance Tolerance*	±5% standard, closer tolerances available
<b>Absolute Minimum Resistance*</b>	
10 ohms to 200 ohms	0.25% or 1 ohm, whichever is greater
500 ohms to 2K	0 to 0.2%
5K to 50K ohms	0 to 0.1%
100K	0 to 5%
Continuity*	Maintained for full mechanical range
Noise during Adjustment*	100 ohms ENR maximum
Insulation Resistance, 500 volts D.C.*	1000 megohms minimum
Resolution (See chart on front)	0.13 to 1.90%

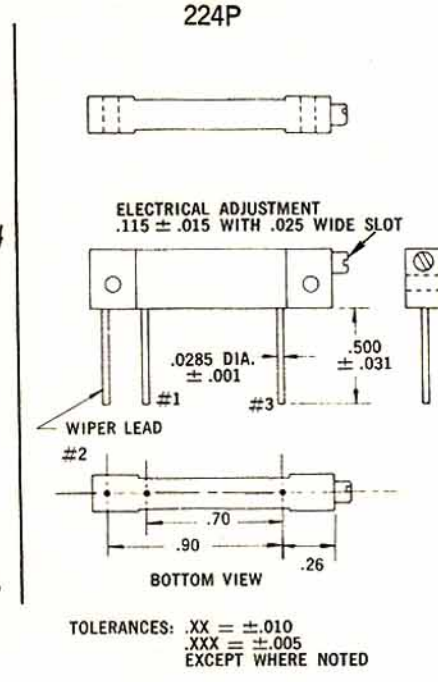
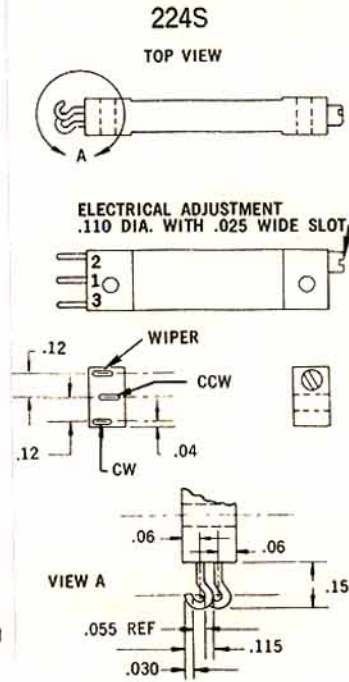
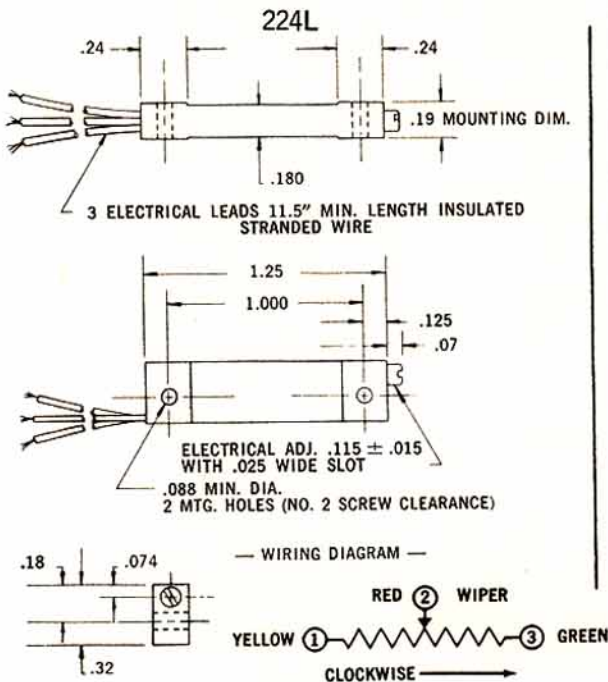
### ENVIRONMENTAL CHARACTERISTICS

<b>Power Ratings:</b>	
70°C	1.0 watt
125°C	0.5 watt
175°C	.0 watt
Operating Temperature Range	-65 to +175°C
<b>Temperature Coefficient</b>	
Per MIL-R-27208	50 ppm/°C maximum
Moisture Resistance, MIL-R-27208	100 megohms minimum insulation resistance after removal from chamber
<b>Vibration</b>	
	MIL-R-27208, 30G
Contact Bounce	0.1 millisecond maximum
Wiper Shift, Maximum	0.5% or Resolution, whichever is greater
<b>Shock</b>	
	MIL-R-27208, 100G
Contact Bounce and Wiper Shift	Same as Vibration

Sand and Dust	Meets MIL-E-5272, Procedure 1
Salt Spray	Materials meet MIL-R-27208
Fungus	Materials meet MIL-E-5272
Load Life	1000 hours per MIL-R-27208
Resistance Shift, Maximum	2%
Mechanical Life	500 cycles without discontinuity
<b>Dielectric Strength</b>	
Room Conditions	1500 volts A.C.
80,000 feet (0.8" Hg)	500 volts A.C.

### PHYSICAL CHARACTERISTICS

Immersion Leak Test*	No leaks
Shaft Torque*	5.0 oz.-in. maximum
Markings*	Manufacturer's name, wiring diagram, date code, resistance and manufacturer's part number (customer's part number optional)
Appearance*	Legible markings, no physical defects
Mechanical Adjustment	22 turns nominal
Mechanical Stops	Wiper assembly idles
Weight	Approximately 0.1 oz.
<b>Terminals:</b>	
L	Teflon insulated stranded leads, 30 AWG (0.024 O.D.) 7 strands/38 AWG
S	Gold plated solder lugs
P	Gold plated grade A nickel printed circuit pins
* Inspection Note: Applicable 100% or statistical sampling inspection performed to insure foremost quality.	
Specification Note: Closer performance tolerances can be supplied upon request. Specifications subject to change without notice.	



NOTE: SEALING CEMENT MENISCUS ON FLEXIBLE LEADS: 0 to .063" MAXIMUM  
SEALING CEMENT MENISCUS ON SOLID TERMINALS: 0 to .032" MAXIMUM

**OBSOLETE**

