


BOURNS

Model 3280 BOURNS® Potentiometer

Micro-Miniature, Humidity-Proof, Wirewound

MAY, 1963

FEATURES

- Unique Micro-Miniature design . . .
Only $\frac{3}{8}$ " square, uses same element as $\frac{1}{2}$ " designs for high resistance values — up to 50K
High power rating — 1.0 watt at 70°C
- Special Mounting Features . . .
single central hole for screw mounting;
stacking tabs for alignment & anti-rotation locking
- All Plastic Case that provides . . .
Positive end stops at both ends of travel
Sealing against liquids and potting compounds
Reliable moisture resistance
175°C max. operating temperature
- Clutch action wiper to prevent damage from forced adjustment
- Bourns famous . . .
SILVERWELD® multi-wire termination
Reliability Assurance Program

actual size



3280L



3280P



3280W

OBSOLETE

Standard Resistances

Resistance (ohms)	Part Numbers [°]			Nominal Resolution (Percent)
	3280L Stranded Insulated Leads	3280P Printed Circuit Pins	3280W Printed Circuit Pins	
10	3280L-1-100	3280P-1-100	3280W-1-100	1.25
20	3280L-1-200	3280P-1-200	3280W-1-200	1.01
50	3280L-1-500	3280P-1-500	3280W-1-500	0.708
100	3280L-1-101	3280P-1-101	3280W-1-101	0.83
200	3280L-1-201	3280P-1-201	3280W-1-201	0.63
500	3280L-1-501	3280P-1-501	3280W-1-501	0.46
1,000	3280L-1-102	3280P-1-102	3280W-1-102	0.38

SPECIAL RESISTANCES AVAILABLE FROM 100Ω TO 50K

Resistance (ohms)	Part Numbers [°]			Nominal Resolution (Percent)
	3280L Stranded Insulated Leads	3280P Printed Circuit Pins	3280W Printed Circuit Pins	
2,000	3280L-1-202	3280P-1-202	3280W-1-202	0.29
5,000	3280L-1-502	3280P-1-502	3280W-1-502	0.23
10,000	3280L-1-103	3280P-1-103	3280W-1-103	0.20
20,000	3280L-1-203	3280P-1-203	3280W-1-203	0.16
25,000	3280L-1-253	3280P-1-253	3280W-1-253	0.16
50,000	3280L-1-503	3280P-1-503	3280W-1-503	0.11

[°]The last three digits of the part number represent the resistance in standard code.

BOURNS, Inc.

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Specifications

ELECTRICAL CHARACTERISTICS

Resistance Values (See chart on front)	100 to 50K ohms
Resistance Tolerance*	±5% Standard, Closer tolerances available
Absolute Minimum Resistance*	
100Ω — 50K	0 to 0.1% or 0 to 1.0Ω, whichever is greater
Continuity*	Maintained for full mechanical range
Noise During Adjustment*	100Ω ENR Maximum
Insulation Resistance, 500 VDC*	1000 Megohms minimum
Resolution (See chart on front)	1.25 to .11%

ENVIRONMENTAL CHARACTERISTICS

Power Ratings:	
70°C (158°F) Ambient	1.0 watt
125°C (257°F) Ambient	0.5 watt
175°C (347°F) Ambient	0 watt
Operating Temperature Range	—65 to +175°C (—85 to +347°F)
Temperature Coefficient:	
Of Resistance element only (per MIL-R-27208A)	0.005%/°C Maximum
With contact arm on active portion of element 200Ω thru 50KΩ	0.007%/°C Maximum
Moisture Resistance, MIL-R-27208A	100 Megohms minimum Insulation Resistance after removal from chamber
Vibration	Exceeds MIL-R-27208A, 30G①
Contact Bounce	0.1 Milliseconds Maximum
Wiper Shift, Maximum	0.5% or Resolution
Shock	Exceeds MIL-R-27208A 100G
Contact Bounce and Wiper Shift	Same as Vibration
Sand and Dust	Meets MIL-E-5272C, Procedure 1
Salt Spray	Meets MIL-R-27208A
Fungus	Materials meet MIL-E-5272C
Load Life	1000 hours per MIL-R-27208A
Resistance Shift, Maximum	2.0%
Mechanical Life	200 cycles without discontinuity

Dielectric Strength	MIL-R-27208A
Room Conditions	1000 VAC
80,000 feet (0.8" Hg)	400 VAC

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	25 Turns Nominal
Mechanical Stops	Wiper assembly idles
Weight	Approximately .03 oz.
Terminals:	
(L)	Teflon Insulated Stranded Leads, 7 strands/38 AWG
(P)③ (W)③	Gold Plated Grade A Nickel Printed Circuit Pins
Mounting	Mount by printed circuit pin or insertion of a #1 screw through central mounting hole, locating anti-rotation tab in adjacent hole. Stacking afforded by mating of one potentiometer's anti-rotation tab to another's anti-rotation hole.

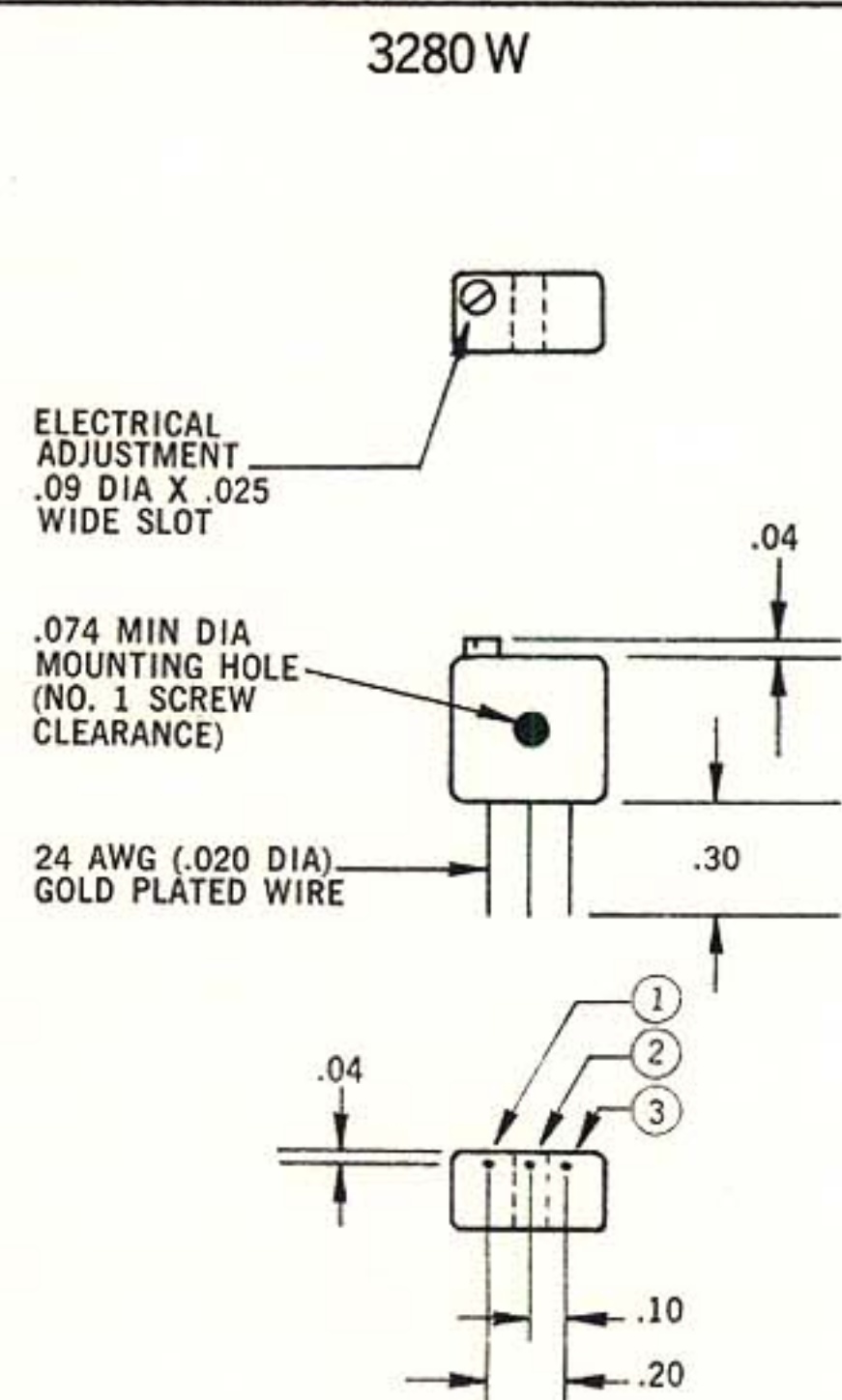
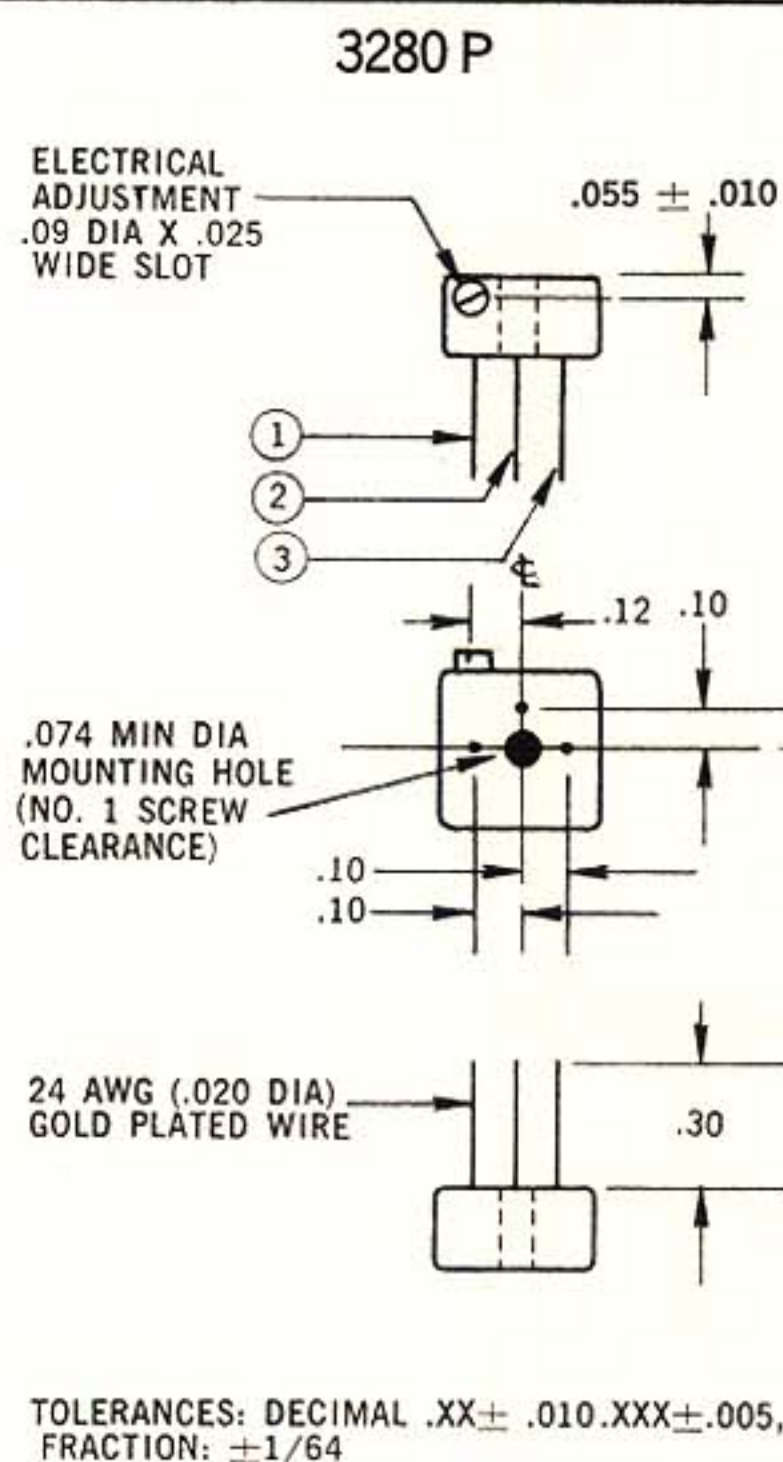
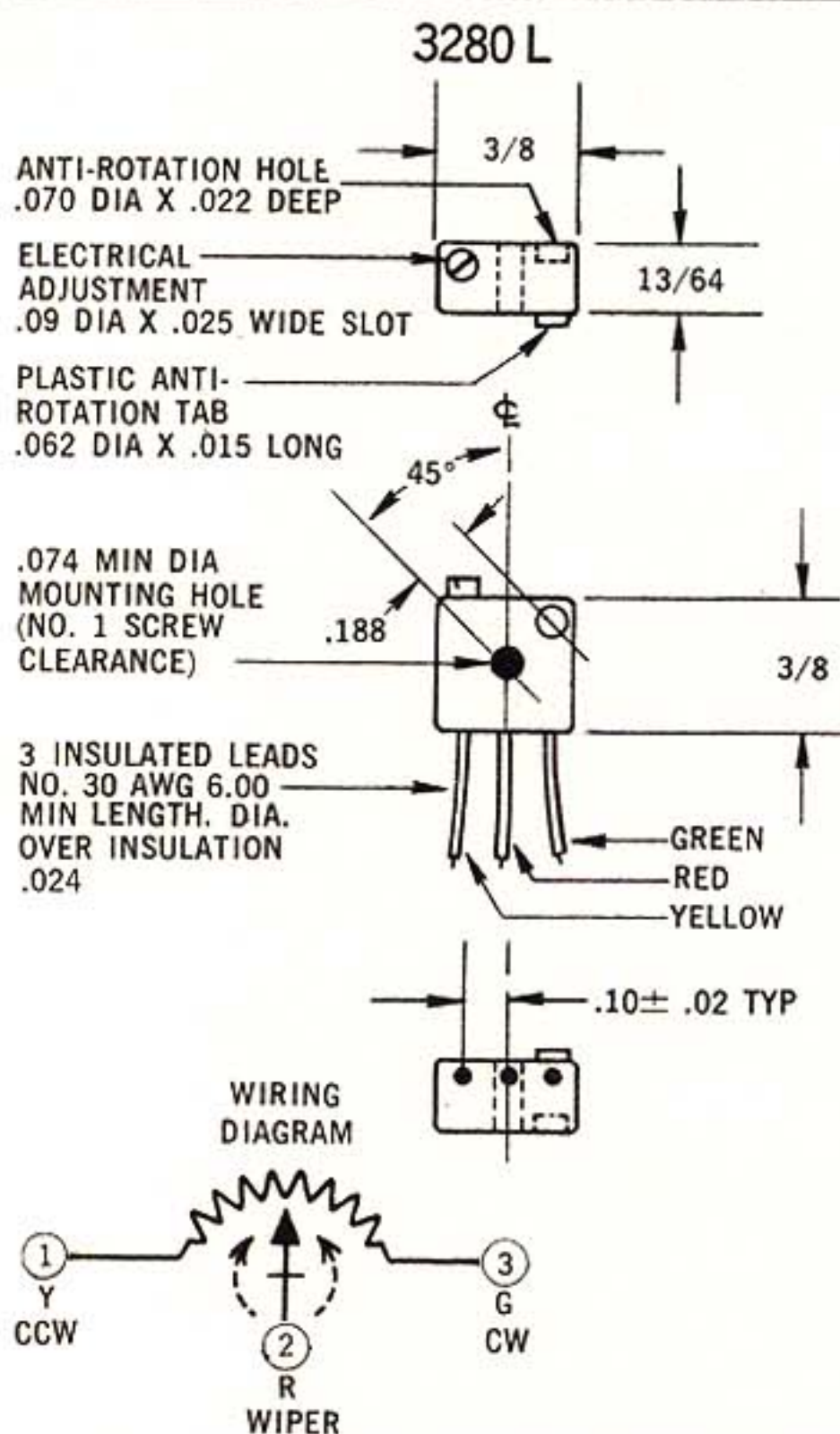
*Inspection Note.....Applicable 100% and statistical sampling performed to insure foremost quality.

Specification Note.....Closer performance tolerances can be supplied upon request
Specifications are subject to change without notice.

① When mounting the "W" version by the printed circuit pins, the vibration specification is 20G.

② Note: The "W" Terminal type is also available with the leadscrew at right angles to the pins. This feature is specified by the special center number "-66" as follows: 3280W-66-(RC). Inquire for additional information.

③ Note: The "P" terminal type is available with molded standoffs. This feature is specified by model number 3280P-45-(RC). Inquire for additional information.



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