

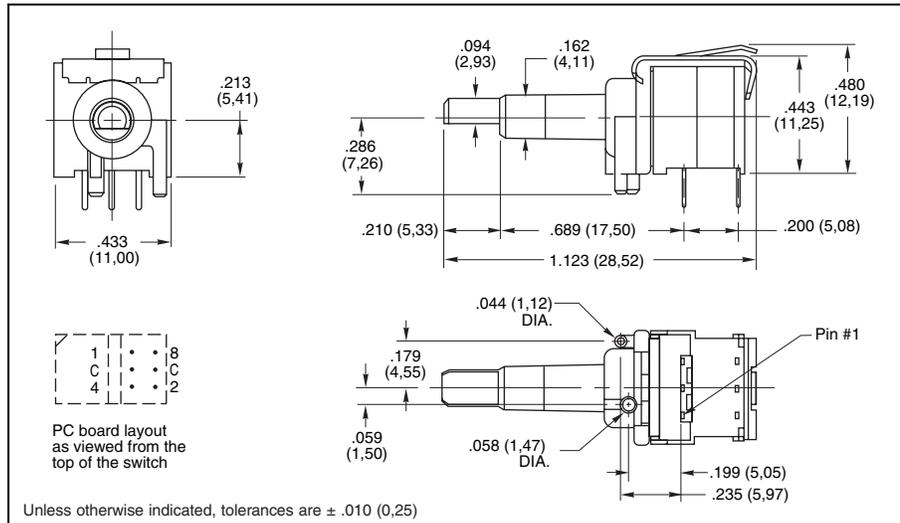
**SERIES 94R**  
Economical, Binary Coded

**FEATURES**

- 10,000 Cycles of Operation
- Gold-Plated Contacts
- Sealed Contact System
- Right Angle Mount
- Octal, BCD & Hexadecimal Codes
- Standard or Complement
- RoHS Compliant



**DIMENSIONS** In inches (and millimeters)



**SPECIFICATIONS: Series 94H and 94R**  
**Electrical Ratings**

- Make-and-break Current Rating:** 30 mA at 30 Vdc for 10,000 cycles of operation.
- Carrying Current Rating:** 100 mA at 50 Vdc
- Contact Resistance:** 50 mohms maximum initially (measured at 10 mA, 50 mVdc). 150 mohms maximum after life.
- Insulation Resistance:** (measured at 100 Vdc across open switch contacts) Initial: 5000 Mohms minimum. After Life: 1000 Mohms minimum.
- Dielectric Strength:** (measured across open switch contacts) Initial: 500 Vac RMS minimum. After Life: 250 Vac RMS

**Mechanical Ratings**

- Mechanical Life:** 10,000 cycles of operation. One cycle is a rotation through all positions and a complete return through all positions.
- Mechanical Shock:** 1000g's, 0.5 mS, half sine per MIL-STD-202F, Method 213, Test Condition E.
- Vibration Resistance:** 10-2000 Hz at 15G or 0.060" double amplitude per MIL-STD-202F, Method 204, Test Condition B.
- Operational Torque:** 2 to 6 inch-ounces initially and 1.2 inch-ounces minimum after life.

**Environmental Ratings**

- Operating Temperature Range:** -40° to +85°C.
- Storage Temperature Range:** -40° to +85°C.

**Moisture Resistance:** 240 hours with temperature cycling and polarization. Passes insulation resistance and dielectric strength per MIL-STD-202F, Method 106 following exposure.

**Materials and Finishes**

- Rotor and Switch Body:** Plastic (UL94V-O)
- Contact Material:** Copper alloy plated. 30 microinches minimum gold over 50 microinches minimum nickel.
- Shorting Member:** Copper alloy plated. 30 microinches minimum gold over 50 microinches minimum nickel.
- Terminals:** Copper alloy, matte tin plated over nickel barrier.

**ORDERING INFORMATION: Series 94R**

Continuous Rotation Versions			
Code	No. of Positions	Standard Code Part Number	Complement Part Number
Octal	8	94RB08CT	94RC08CT
BCD	10	94RB10CT	94RC10CT
Hexadecimal	16	94RB16CT	94RC16CT
Rotational Stop Versions*			
Code	No. of Positions	Standard Code Part Number	Complement Part Number
Hexadecimal	16	94RB16FT	94RC16FT

\* Consult Grayhill for 8 or 10 position

**CODE & TRUTH TABLES:**  
Series 94H and 94R

Standard Output	CODE OUTPUT				CODE OUTPUT				Complement Output
	1	2	4	8	1	2	4	8	
0					•	•	•	•	
1	•								•
2		•							•
3			•						•
4				•					•
5					•				•
6						•			•
7							•		•
8	•	•	•	•					
9		•	•	•					
A	•		•	•					
B		•		•					
C			•						
D				•					
E					•				
F						•			

Dot indicates terminal to common connection. All switches are continuous rotation.

Octal and Octal Complement outputs are 0 thru 7 positions.

BCD and BCD Complement outputs are 0 thru 9 positions.

Hexadecimal and Hexadecimal Complement outputs are 0 thru F positions.

Standard codes have natural color rotors; complements have rotors in a contrasting color.

**Internal O-ring:** Rubber BUNA-N

**Soldering Information**

- Soldering Temperature:** 260° C maximum.
- Cleaning:** Acceptable solutions include 1-1-1 Trichlorethane, Freon (TF, TE, or TMS), Isopropyl Alcohol and detergent (140°F maximum). Solutions which are not recommended include Acetone, Methylene Chloride, and Freon TMC.

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