

SERIES 94H
Binary Coded



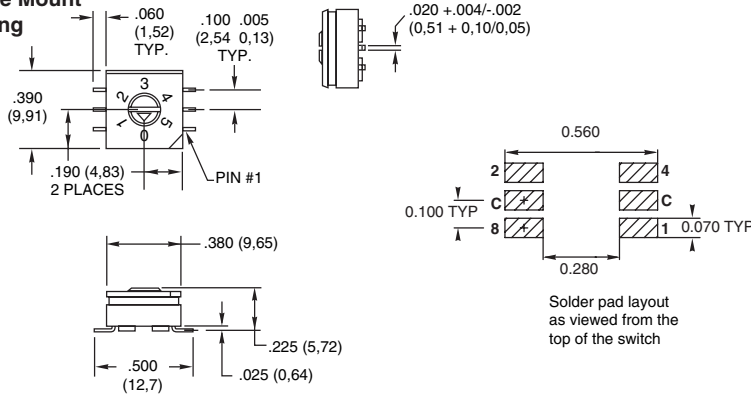
FEATURES

- Sealed Construction; No Tape Seal Required
- Surface Mount or Thru-Hole Style
- Tube or Tape and Reel Packaging
- Octal, BCD, and Hexadecimal Code
- In Standard or Complement
- Standard and Right Angle Mount
- Flush or Extended Actuators
- Gold-Plated Contacts

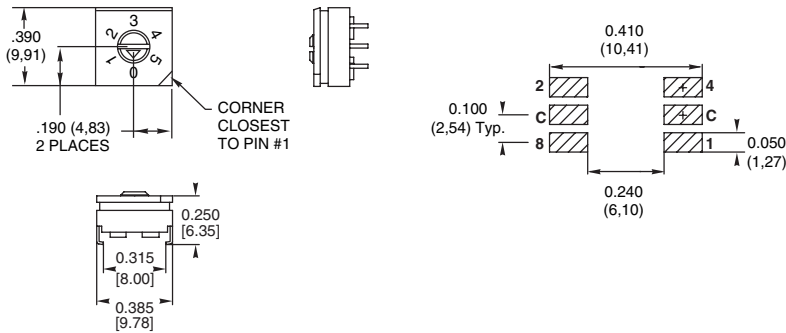
DIMENSIONS In inches (and millimeters)

Tolerances are ± .010 inches unless specified otherwise.

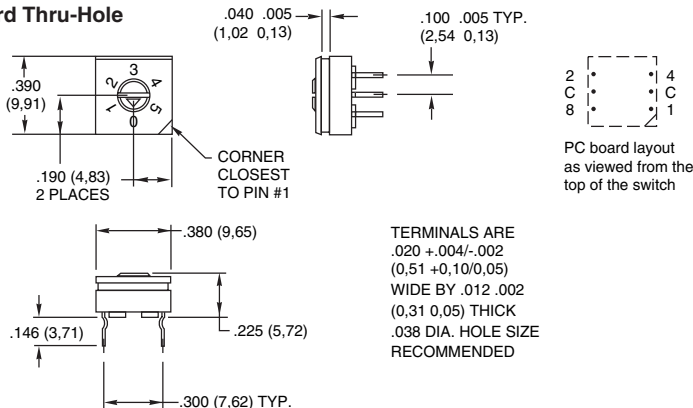
Surface Mount Gullwing



Surface Mount J-Lead



Standard Thru-Hole



ACTUATOR STYLES



Octal-8 position



BCD-10 position



Hex-16 position

Figure 1
"A" style rotor



Figure 2
"F" style rotor

All actuation types are available in octal (8), binary coded decimal (10), or hexadecimal (16) codes; with either standard or complement output. Standard code outputs have natural color rotors; complements in a contrasting color.

EXTENDED ACTUATOR TYPES

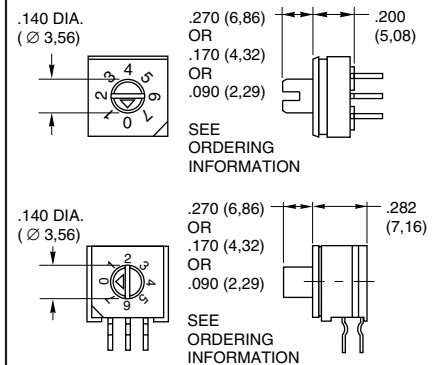
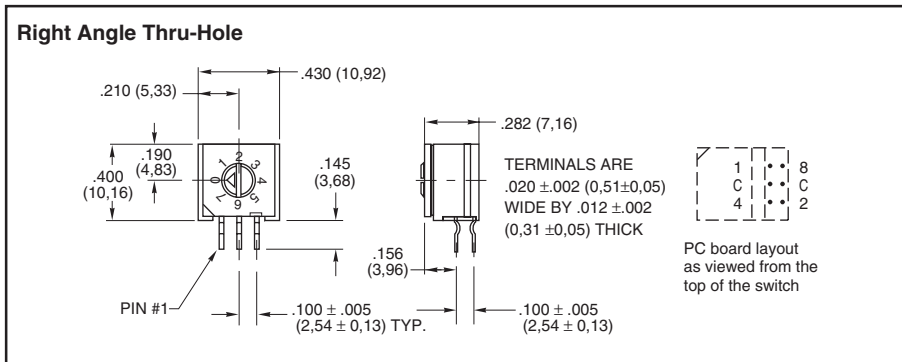


Figure 3

DIMENSIONS In inches (and millimeters)



ORDERING INFORMATION: Series 94H

94HAB10WRT

Series
Actuator Style: A = Flush, Figure 1
 B = .270, Figure 3 (see page B-21)
 C = .170, Figure 3 (see page B-21)
 E = .090, Figure 3 (see page B-21)
 F = Flush, Figure 2

Code: B = Standard (Natural),
 C = Complementary (Contrasting Color)

RoHS Compliant

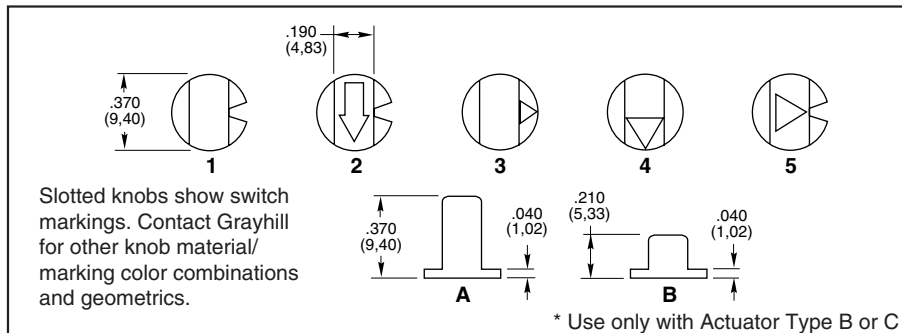
Packaging: R = Tape and Reel, (Surface Mount Only)
 Blank = Tube*

Terminal Style: RA = Right Angle, Thru-Hole
 J = J-Lead
 W = Surface Mount
 Blank = Thru-Hole

Number of Positions: 08 = Octal, 8 Position
 10 = BCD, 10 Position
 16 = Hex, 16 Position

* 27 Pieces per tube for surface mount and thru-hole, 24 pieces per tube for right angle switches.

SERIES 94 High Temperature Knobs: For Shaft Extensions



ORDERING INFORMATION: Series 94 High Temperature Knobs*

Knob Style and Height	Knob Color	Arrow Color	Part Number
1A	Gray	N/A	947706-001
5A	Gray	Black	947706-005
1B	Black	N/A	947705-001
1B	Gray	N/A	947705-012
2B	Gray	White	947705-004
3B	Gray	Black	947705-017
4B	Gray	Black	947705-018
1B	Natural	N/A	947705-009
4B	Black	White	947705-010
5B	Gray	Black	947705-019

*Ordered as a separate item. B = Standard (Natural), C = Complementary (Contrasting Color).

TAPE AND REEL PACKAGING: Series 94H

Meets requirements of EIA 481-2.

13 INCH DIAMETER REEL
 CONDUCTIVE PLASTIC EMBOSSED TAPE

16mm [Pitch]
 24mm [Reel width]

PIN #1 CHAMFER
 DIRECTION OF FEED

Each reel contains the following number of switches with a 15.35 inch (390 mm) minimum leader and a 6.30 inch (160 mm) minimum trailer.

94HA style	750 sw/reel
94HB style	150 sw/reel
94HC style	200 sw/reel
94HE style	300 sw/reel
94HF style	750 sw/reel



Available from your local Grayhill Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

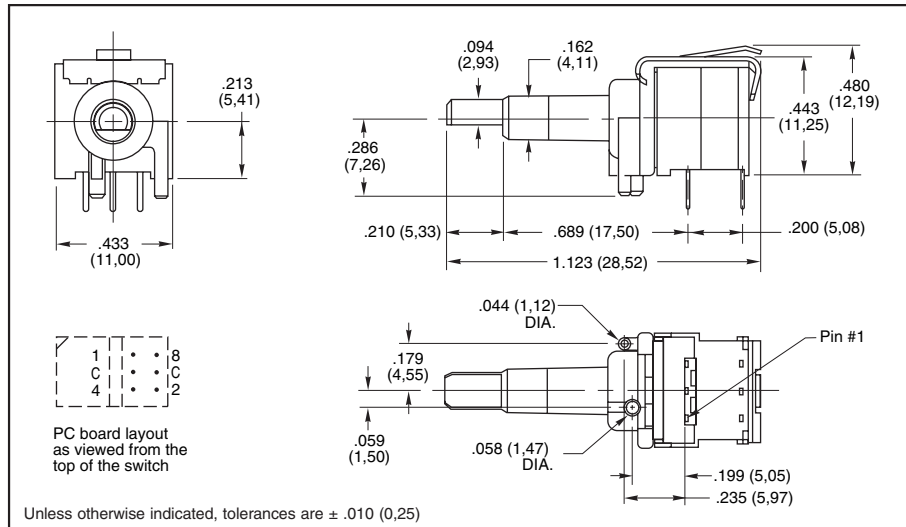
SERIES 94R
Economical, Binary Coded

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.

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			•						•
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.

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