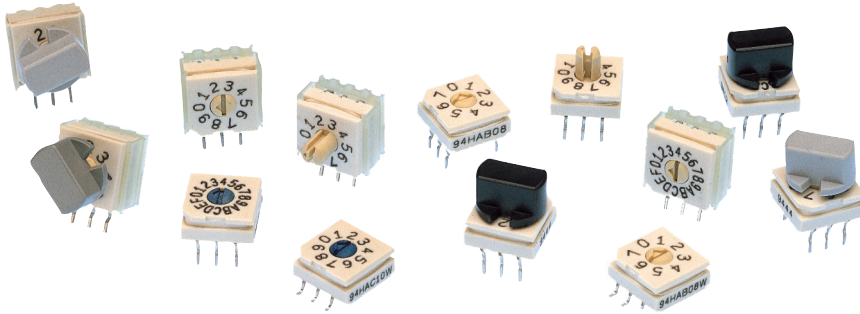


**SERIES 94H**  
Binary Coded



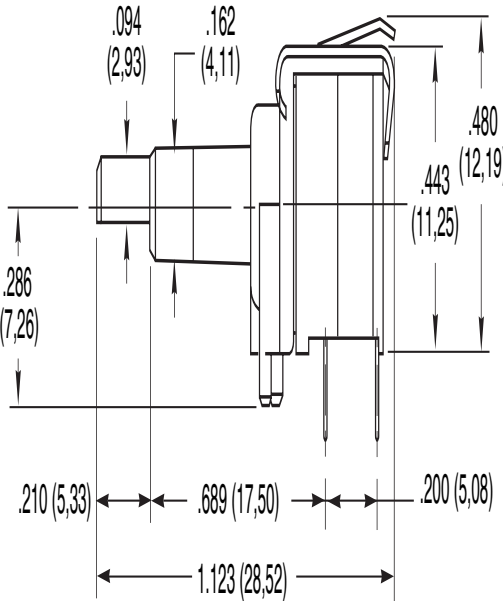
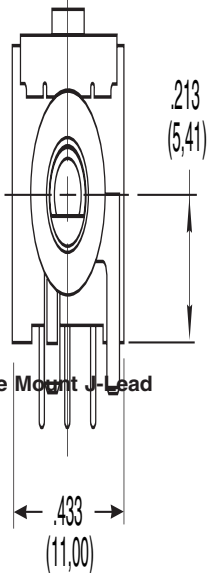
**FEATURES**

- 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

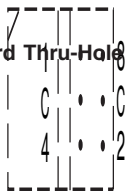
**DIMENSIONS** In inches (and millimeters)

Tolerances are ± .010 inches unless specified otherwise.

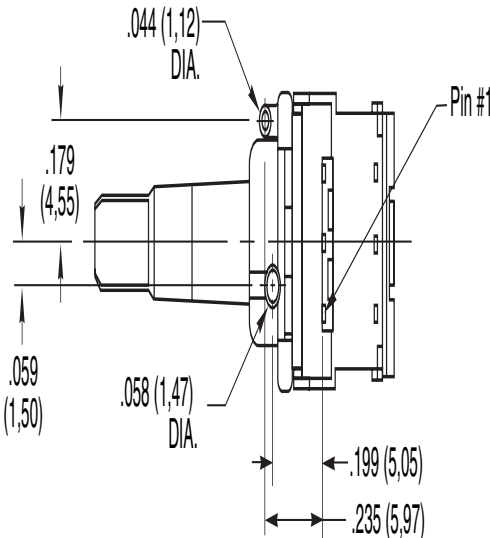
**Surface Mount Gullwing**



**Standard Thru-Hole**



PC board layout as viewed from the top of the switch



**ACTUATOR STYLES**



Octal-8 position



BCD-10 position



Hex-16 position



Figure 2  
"F" style rotor

Figure 1  
"A" 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**

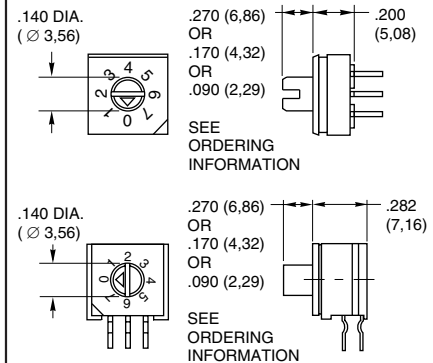
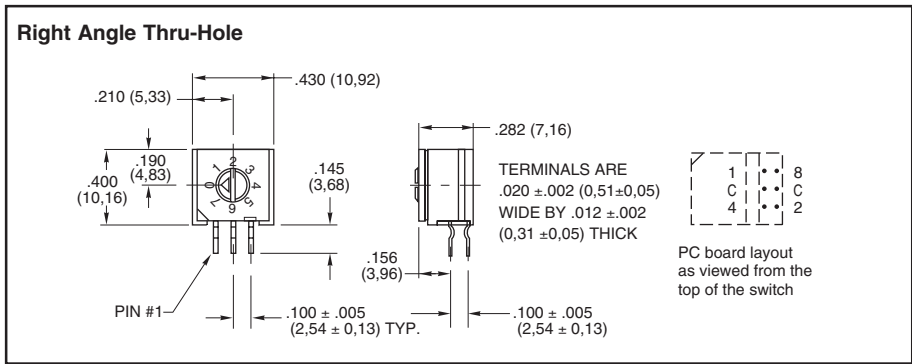


Figure 3

**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**

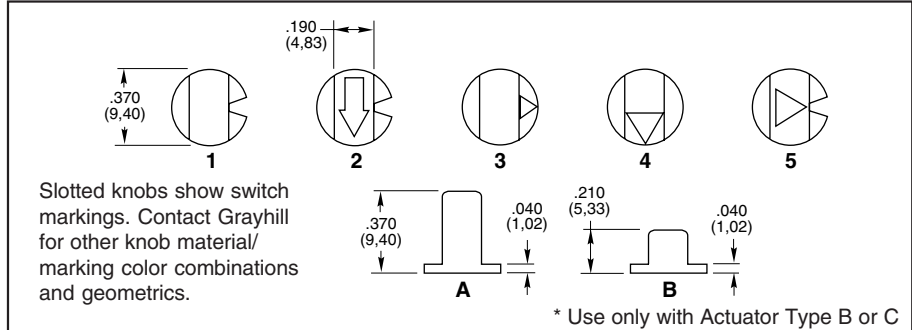
**Packaging:** R = Tape and Reel, (Surface Mount Only)  
 Blank = Tube\*

**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**

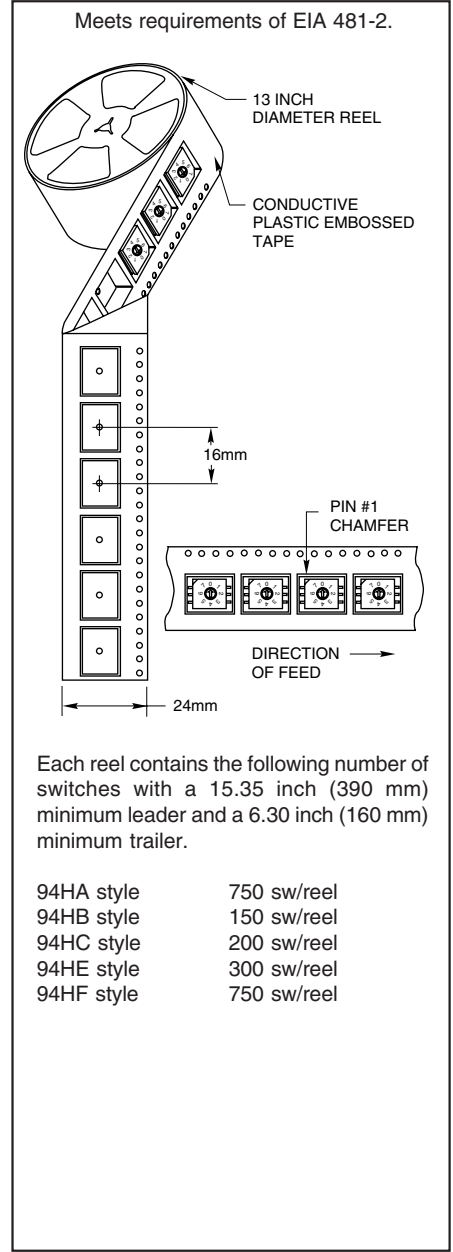


**ORDERING INFORMATION: Series 94 High Temperature Knobs\***

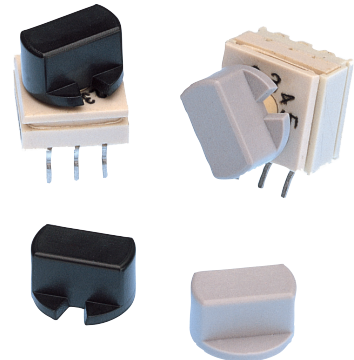
Knob Style and Height	Knob Color	Arrow Color	Part Number
1A	Gray	N/A	947706-001
5A	Gray	Black	947706-005
1B	Black	N/A	947705-001
1B	Gray	N/A	947705-012
2B	Gray	White	947705-004
3B	Gray	Black	947705-017
4B	Gray	Black	947705-018
1B	Natural	N/A	947705-009
4B	Black	White	947705-010
5B	Gray	Black	947705-019

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

**TAPE AND REEL PACKAGING: Series 94H**



- 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.

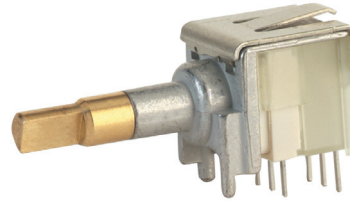
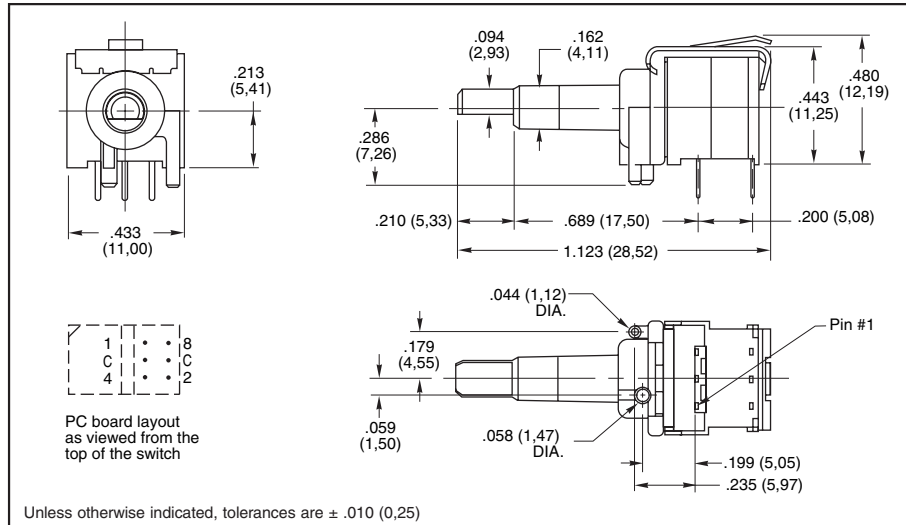
## SERIES 94R

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)



### 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.

### 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

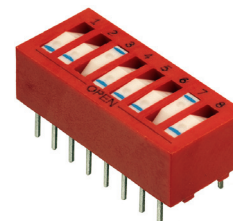
**OPTIONS**

**Position Identification Line Option**

**For Series 76RSB, 76RSC, 76RSD, & 90B**  
 A line can be added to the recessed rocker or Series 90 slide actuator to provide positive identification of the actuator position. To order, add L as a final suffix to the part number. For example, 76RSB08 becomes 76RSB08L; and, 90B08S becomes 90B08SL.  
**Available from a local Grayhill Distributor.**

**Other Switch Markings**

**For Series 76, 78, & 90**  
 We can mark your part number or other wording on the switch, often at no charge. For some markings there will be a nominal charge for tooling plus a set-up charge. In addition, there is a marking charge per side per switch. Add it to the unit price and discount it accordingly.  
**To order, contact Grayhill.**



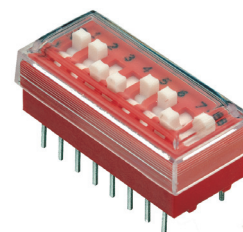
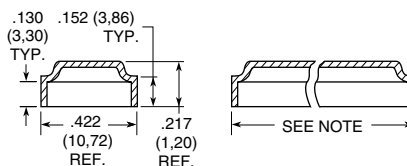
**ACCESSORIES**

**Protective Cover Accessory**

**For Series 76, & 78**

Rigid, clear plastic cover fits all but toggle actuated switches. It provides a top cover for less strenuous cleaning, serves as a dust cover in dirty environments, and provides protection against accidental actuation.

**Material:** 76,78, only-Polycarbonate.  
 Purchase as a separate item. Check length of the desired DIP Switch, and then select from the ordering information on this page.  
**Available from a local Grayhill Distributor.**



**DIPSTICK Accessory**

**For all series**

Pen-sized plastic DIPSTICK has a tapered end for actuating DIP Switches.

Part Number ..... **90-DIPSTICK**

**Available from a local Grayhill Distributor**



**ORDERING INFORMATION**

Length Inches	Protective Cover Part Number
0.280	<b>76P02</b>
0.380	<b>76P03</b>
0.480	<b>76P04</b>
0.580	<b>76P05</b>
0.680	<b>76P06</b>
0.780	<b>76P07</b>
0.880	<b>76P08</b>
0.980	<b>76P09</b>
1.080	<b>76P10</b>
1.180	<b>79P10</b>
1.780	<b>79P16</b>

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

DIP Switches