

BINARY CODED ROTARY DIP SWITCHES

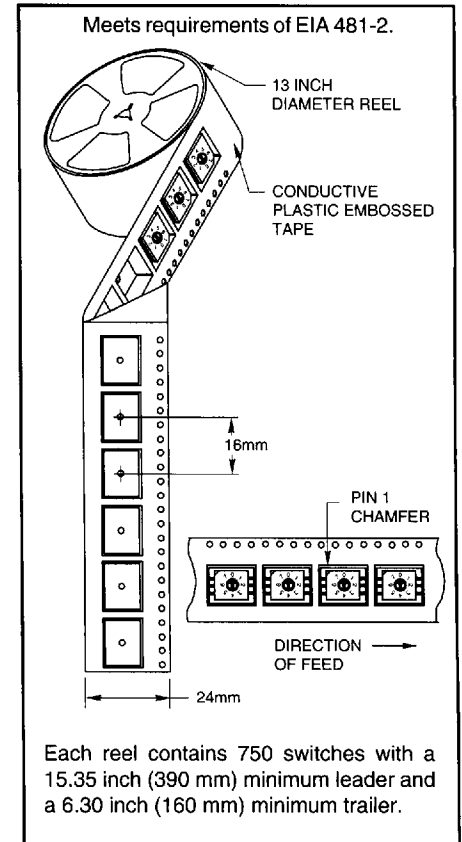
SERIES 94 SWITCHES ORDERING INFORMATION—Tube Packaging

27 Pieces per Tube*

Type of Mounting	Actuator	Positions	Standard Code Part Number	Complement Code Part Number
Surface Mount	Flush	8, 10, 16	94HAB(08,10,16)W	94HAC(08,10,16)W
	0.09	8, 10, 16	94HEB(08,10,16)W	94HEC(08,10,16)W
	0.17	8, 10, 16	94HCB(08,10,16)W	94HCC(08,10,16)W
	0.27	8, 10, 16	94HBB(08,10,16)W	94HBC(08,10,16)W
Standard Thru-Hole	Flush	8, 10, 16	94HAB(08,10,16)	94HAC(08,10,16)
	0.09	8, 10, 16	94HEB(08,10,16)	94HEC(08,10,16)
	0.17	8, 10, 16	94HCB(08,10,16)	94HCC(08,10,16)
	0.27	8, 10, 16	94HBB(08,10,16)	94HBC(08,10,16)
Right Angle Thru-Hole	Flush	8, 10, 16	94HAB(08,10,16)RA	94HAC(08,10,16)RA
	0.09	8, 10, 16	94HEB(08,10,16)RA	94HEC(08,10,16)RA
	0.17	8, 10, 16	94HCB(08,10,16)RA	94HCC(08,10,16)RA
	0.27	8, 10, 16	94HBB(08,10,16)RA	94HBC(08,10,16)RA

*Surface mount and perpendicular, 24 pieces per tube for right angle switches.

TAPE AND REEL PACKAGING—Series 94



Each reel contains 750 switches with a 15.35 inch (390 mm) minimum leader and a 6.30 inch (160 mm) minimum trailer.

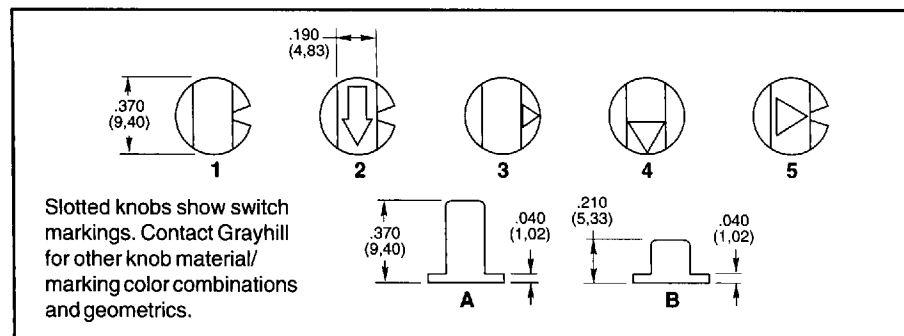
ORDERING INFORMATION—Tape and Reel Packaging

Type	Code and Positions	Binary (B) Complement (C)	Part Number Tape and Reel	Part Number 25 Pc. Test Reel
Surface Mount	OCT 8	B	94HAB08WR	94YY2130
	BCD 10	B	94HAB10WR	94YY2131
	HEX 16	B	94HAB16WR	94YY2132
	OCT 8	C	94HAC08WR	94YY2133
	BCD 10	C	94HAC10WR	94YY2134
	HEX 16	C	94HAC16WR	94YY2135

SERIES 94R SWITCHES ORDERING INFORMATION

Code	No. of Positions	Standard Code Part Number	Complement Part Number
Octal	8	94RB08C	94RC08C
BCD	10	94RB10C	94RC10C
Hexadecimal	16	94RB16C	94RC16C

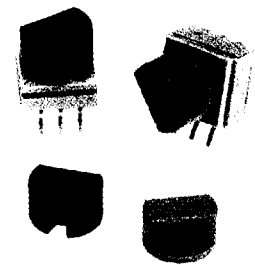
SERIES 94 HIGH TEMPERATURE KNOBS—For Shaft Extensions



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	947706-003
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

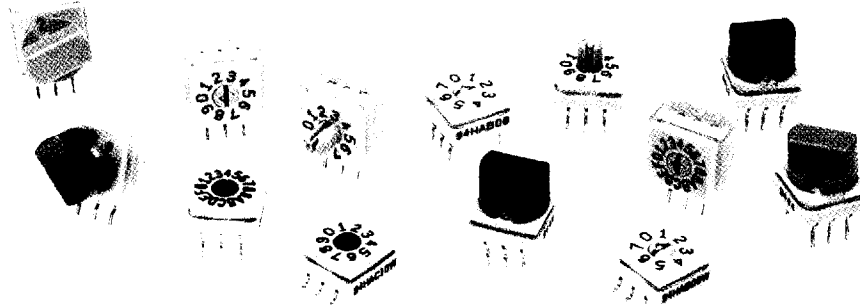
*Ordered as a separate item.



Available from your local Grayhill Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill. Prices anticipate take-up reel return to Grayhill.

BINARY CODED ROTARY DIP SWITCHES

SERIES 94



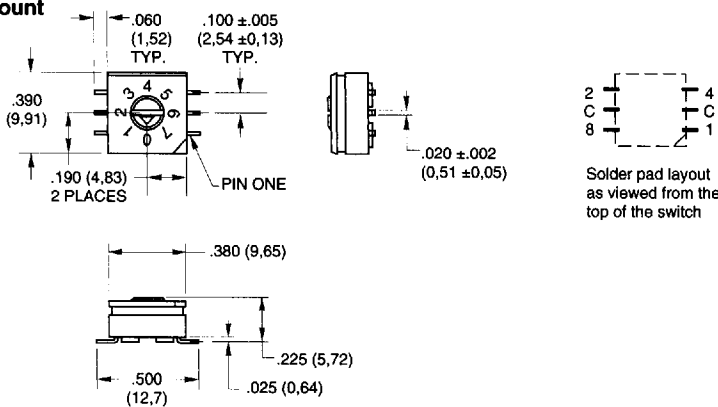
FEATURES

- 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

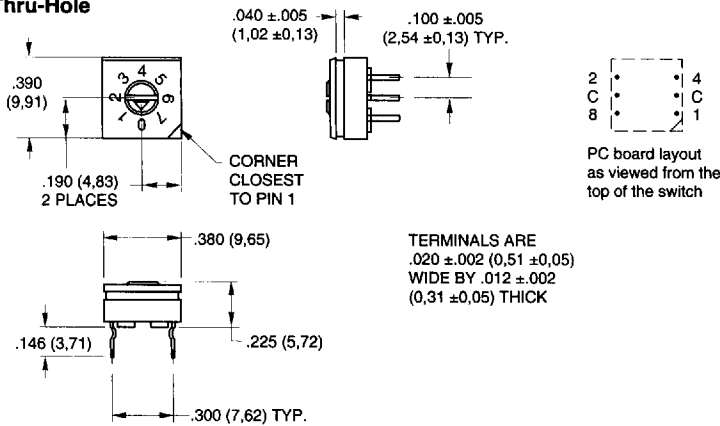
DIMENSIONS In inches (and millimeters)

Tolerances are $\pm .010$ inches unless specified otherwise.

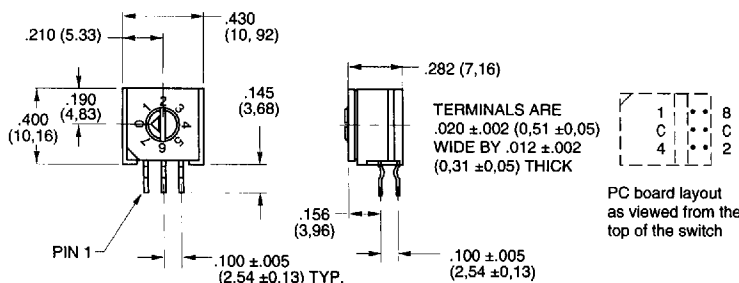
Surface Mount



Standard Thru-Hole



Right Angle Thru-Hole



SWITCH MARKINGS



Octal-8 position



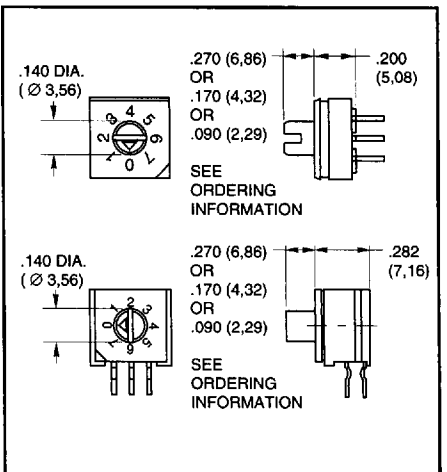
BCD-10 position



Hex-16 position

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



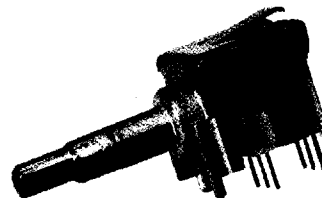
BINARY CODED ROTARY DIP SWITCHES

SERIES 94R

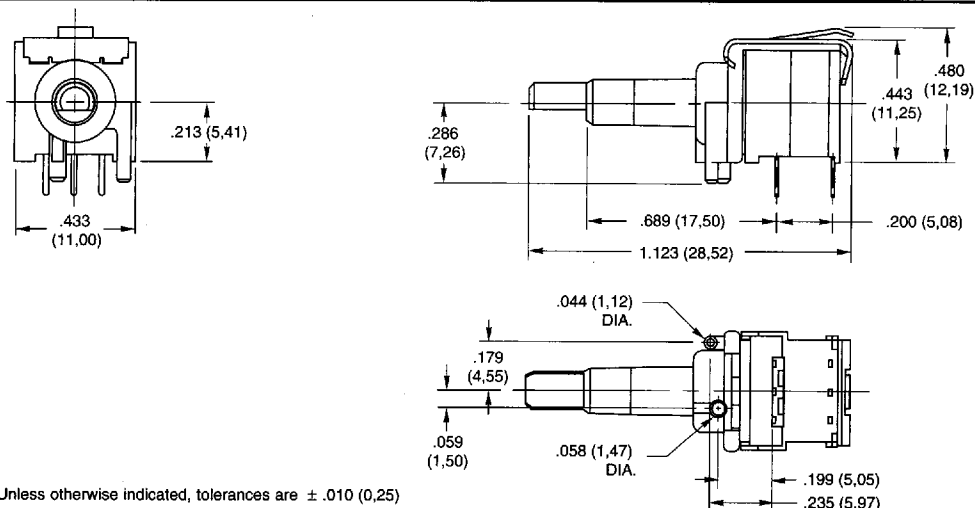
ECONOMICAL CODED OUTPUT ROTARY SWITCH

FEATURES

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



DIMENSIONS In inches (and millimeters)



Unless otherwise indicated, tolerances are $\pm .010$ (0,25)

SPECIFICATIONS—Series 94 and 94R

Ratings

Mechanical Life: 10,000 cycles of operation. One cycle is a rotation through all positions and a complete return through all positions.

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 milliohms maximum initially (measured at 10 mA, 50 mVdc). 150 milliohms maximum after life.

Insulation Resistance: 5000 megohms minimum initially (measured at 100 Vdc across open switch contacts). 1000 megohms minimum after life.

Dielectric Strength: 500 Vac rms minimum initially (measured across open switch contacts). 250 Vac rms after life.

Operational Torque: 3 to 5 inch-ounces initially for a 16 position switch, 1.5 to 2.5 inch-ounces initially for an 8 or 10 position switch; and 1.2 inch-ounces minimum after life for all switches.

Environmental

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

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

Soldering Temperature: 250° C for 10 seconds maximum.

Vibration: 10-2000 Hz at 15g or 0.060" double amplitude per MIL-STD-202F, Method 204, Test Condition B.

Mechanical Shock: 100g, 0.5 milliseconds half sine per MIL-STD-202F, Method 213, Test Condition E.

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, rated at UL 94V-0.

Contact Material: Copper alloy plated 30 microinches minimum hard gold over 50 microinches minimum nickel.

Shorting Member: Copper alloy plated 30 microinches minimum hard gold over 50 microinches minimum nickel.

Terminals: Copper alloy plated 100 microinches minimum 90/10 tin lead solder over 50 microinches minimum nickel.

Internal O-ring: Silicon rubber.

Flux cleaning

Cleaning Solutions: 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.

CODE & TRUTH TABLES—Series 94 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.