

SERIES 25L

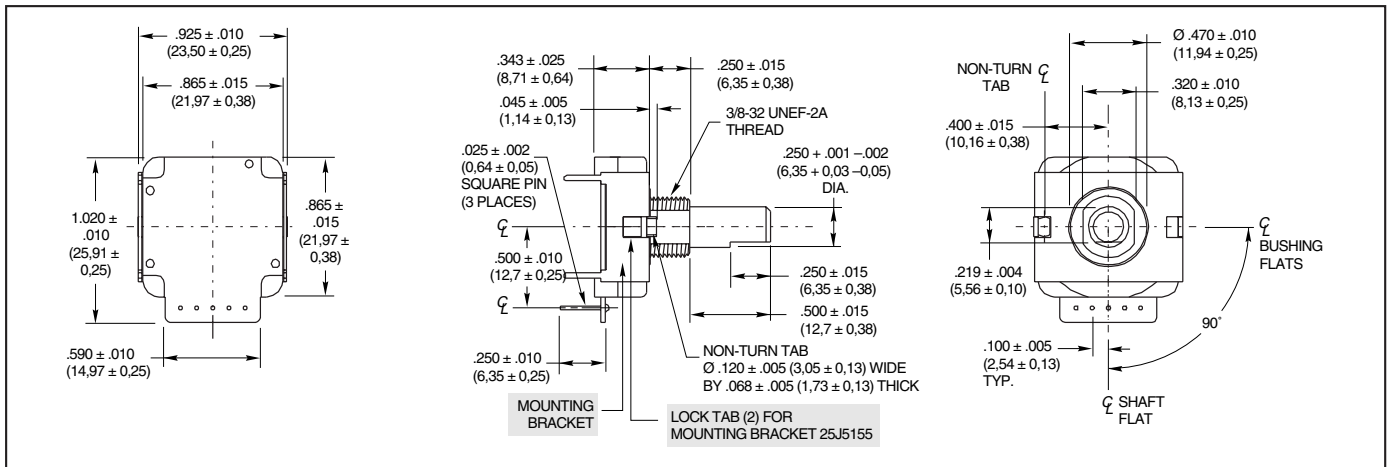
Hex, Gray and Quadrature Code

FEATURES

- Price Competitive to Similar Designs
- Quality Construction and Contact Materials
- Multiple Code and Indexing Choices
- 100,000 Life Cycles
- Less than 1.0" Square
- Manufactured to ISO 9001 Standards



DIMENSIONS in inches (and millimeters)



TRUTH TABLES

Clockwise Rotation					
4-Bit Gray Code-16 Position					
Switch Position	Code Position	Output			
		1	2	4	8
1	0				
2	1	•			
3	2		•		
4	3	•	•		
5	4			•	
6	5	•	•	•	
7	6	•		•	
8	7			•	•
9	8		•	•	•
10	9	•	•		•
11	10	•		•	•
12	11		•	•	•
13	12		•		•
14	13	•	•		•
15	14	•			•
16	15				•

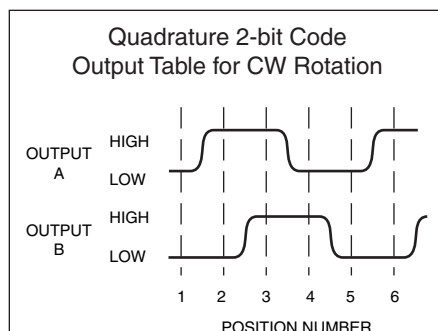
- Indicates closed circuit; blank indicates open circuit.

Clockwise Rotation					
4-Bit Binary Code Hexadecimal-16 Position					
Switch Position	Code Position	Output			
		1	2	4	8
1	0				
2	1	•			
3	2		•		
4	3	•	•		
5	4			•	
6	5	•		•	
7	6		•	•	
8	7	•	•	•	
9	8				•
10	9	•			•
11	10		•		•
12	11	•	•		•
13	12			•	•
14	13	•		•	•
15	14		•	•	•
16	15	•	•	•	•

- Indicates closed circuit; blank indicates open circuit.

Clockwise Rotation		
Quadrature 2-Bit Code 1/4 Cycle per Detent		
Switch Position	Output	
	"A"	"B"
1		
2	•	
3	•	•
4		•
5		
6	•	
7	•	•
8		•
9		
10	•	
11	•	•
12		•
13		
14	•	
15	•	•
16		•
17		
18	•	
19	•	•
20		•
21		
22	•	
23	•	•
24		•
25		
26	•	
27	•	•
28		•
29		
30	•	
31	•	•
32		•
33		
34	•	
35	•	•
36		•

- Indicates closed circuit; blank indicates open circuit. Code repeats every 4 positions.



SPECIFICATIONS

Electrical Ratings

Switching Loads: 1.5 mA at 115 Vac, resistive; 150 mA at 14 Vdc, resistive

Current Carrying Capacity: 250 mA maximum at 28 Vdc, resistive load

Contact Resistance: 75 mΩ, typical

Insulation Resistance: 1000 mΩ minimum between terminals

Voltage Breakdown: 1000 Vac minimum between terminals

Life Expectancy: 100,000 cycles of operation at rated loads. One cycle of operation is a rotation through all of the active positions and a return to the starting position.

Mechanical Ratings

Rotational Torque: 2 to 6 in-oz

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

Storage Temperature Range: -65 C° to +85 C°

Continuous Rotation: All standard switches are continuous rotation. Desired stop locations supplied upon request.

Anti-Rotation Device: Integral non-turn tab, flatted bushing, .375" diameter, .320 double "D" across flats.

Termination: Standard is PC style, parallel to shaft, facing rear. Options include PC, parallel to shaft, facing front.

Panel Mounting Torque: 10 in-lbs maximum

Materials and Finishes

Bushing/Housing and Shaft/Rotor: Reinforced thermoplastic

Detent Ball: Stainless steel, nickel-plated

Detent Spring: Tinned music wire

Contacts: Beryllium copper, gold plate over nickel

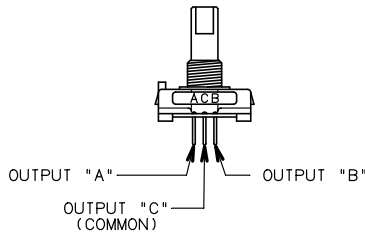
Terminals: Copper alloy, #725, 100% tin plate over nickel plate

Output Board: FR-4, copper/nickel-plated

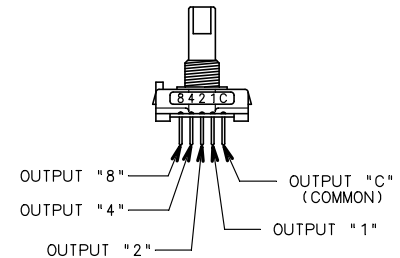
Mounting Nut: Brass, tin/zinc-plated hex nut

Mounting Bracket: Stainless Steel, tin-plated

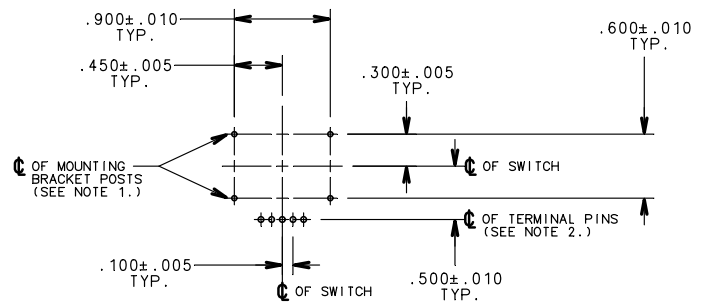
QUADRATURE CODE
TERMINAL I.D.



HEXADECIMAL & GRAY CODE
TERMINAL I.D.



PCB MOUNTING PATTERN



NOTES:

1. MOUNTING BRACKET POSTS: .035±.002 WIDE X .020±.004 THICK (4 PLACES).
2. TERMINAL PINS: .025±.002 SQUARE (3 OR 5 PLACES).

ORDERING INFORMATION



Series: 25L = Economical, single deck encoder

Housing Color: B = Black housing; R = Red housing

Angle of Throw: 10 = 10°, 36 positions; 11 = 11.25°, 32 positions;
15 = 15°, 24 positions; 18 = 18°, 20 positions;
22 = 22.5°, 16 positions; 30 = 30°, 12 positions;
45 = 45°, 8 positions

Mounting Bracket: Z = with bracket, Blank = no bracket

Code Output: H = Hexadecimal available only in 22.5°

G = Gray available only in 22.5°

Q = Quadrature (2-bit)

Custom materials, styles, color and markings are available. Custom knobs available.

Available from your local Grayhill Distributor. For prices and discounts, contact a local Sales Office, an authorized Distributor or Grayhill.
For Custom codes. Termination, Torque, Angles of Throw, call Grayhill for more information.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Grayhill:

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[25LB11-Q-Z](#) [25LB22-Q-Z](#) [25LB22-H-Z](#) [25LB10-Q-Z](#) [25LR11-Q-Z](#) [25LR22-G](#) [25LR30-Q](#) [25LB18-Q-Z](#) [25LR15-Q-Z](#)
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