

Hex, Gray and Quadrature Code

- 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



Technical drawings of the 25J5155 mounting bracket showing three views: front, side, and top.

Front View Dimensions:

- Width: $.925 \pm .010$ (23.50 $\pm$ 0.25)
- Height: $1.020 \pm .010$ (25.91 $\pm$ 0.25)
- Mounting Hole Spacing: $.865 \pm .015$ (21.97 $\pm$ 0.38)
- Bottom Mounting Hole Spacing: $.590 \pm .010$ (14.97 $\pm$ 0.25)

Side View Dimensions:

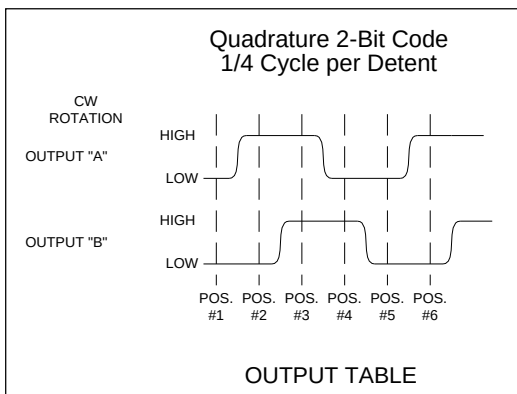
- Lock Tab (2) for Mounting Bracket 25J5155: $.120 \pm .005$ (3.05 $\pm$ 0.13) WIDE BY $.068 \pm .005$ (1.73 $\pm$ 0.13) THICK
- Non-Turn Tab: $.250 \pm .015$ (6.35 $\pm$ 0.38)
- Thread: 3/8-32 UNEF-2A
- Pin: $.025 \pm .002$ (0.64 $\pm$ 0.05) SQUARE PIN (3 PLACES)
- Mounting Bracket: $.250 \pm .010$ (6.35 $\pm$ 0.25)

Top View Dimensions:

- Non-Turn Tab: $\varnothing .470 \pm .010$ (11.94 $\pm$ 0.25)
- Bushing Flats: 90°
- Shaft Flat: $.100 \pm .005$ (2.54 $\pm$ 0.13) TYP.
- Non-Turn Tab: $.219 \pm .004$ (5.56 $\pm$ 0.10)
- Non-Turn Tab: $.400 \pm .015$ (10.16 $\pm$ 0.38)
- Non-Turn Tab: $.320 \pm .010$ (8.13 $\pm$ 0.25)

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	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	"A"	Output "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: -65°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; PC, perpendicular to shaft.

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

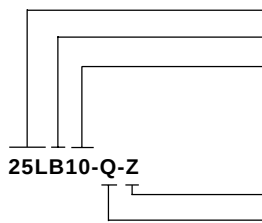
Terminals: Copper alloy, CDA #725, solder plate over nickel

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

Mounting Hardware: Brass, cadmium-plated hex nut

Mounting Bracket: Stainless Steel, tin-plated

ORDERING INFORMATION



* Cadmium free

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, see page E-39.

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