

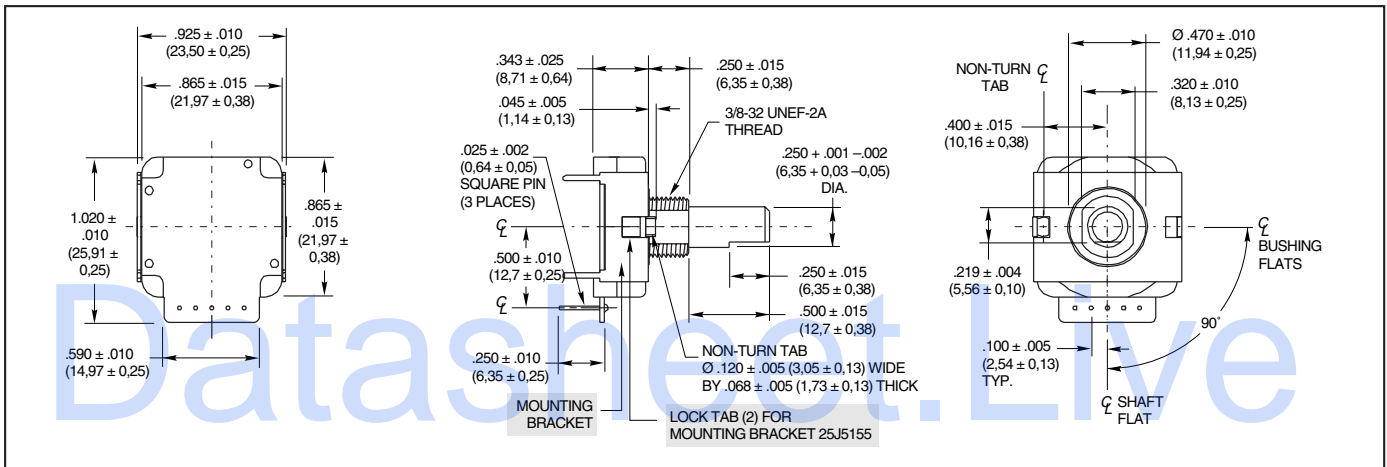
SERIES 25L Hex, Gray and Quadrature Code

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)



Optical and Mechanical Encoders

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 | • | | | • |

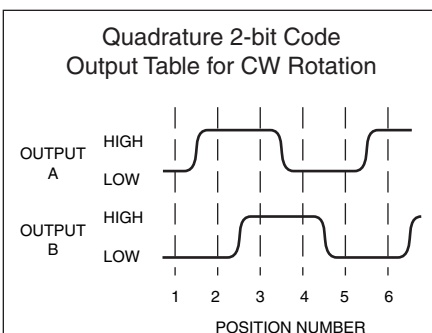
• Indicates closed circuit; blank indicates open circuit.

| 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 | "A" Output | "B" Output |
| 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

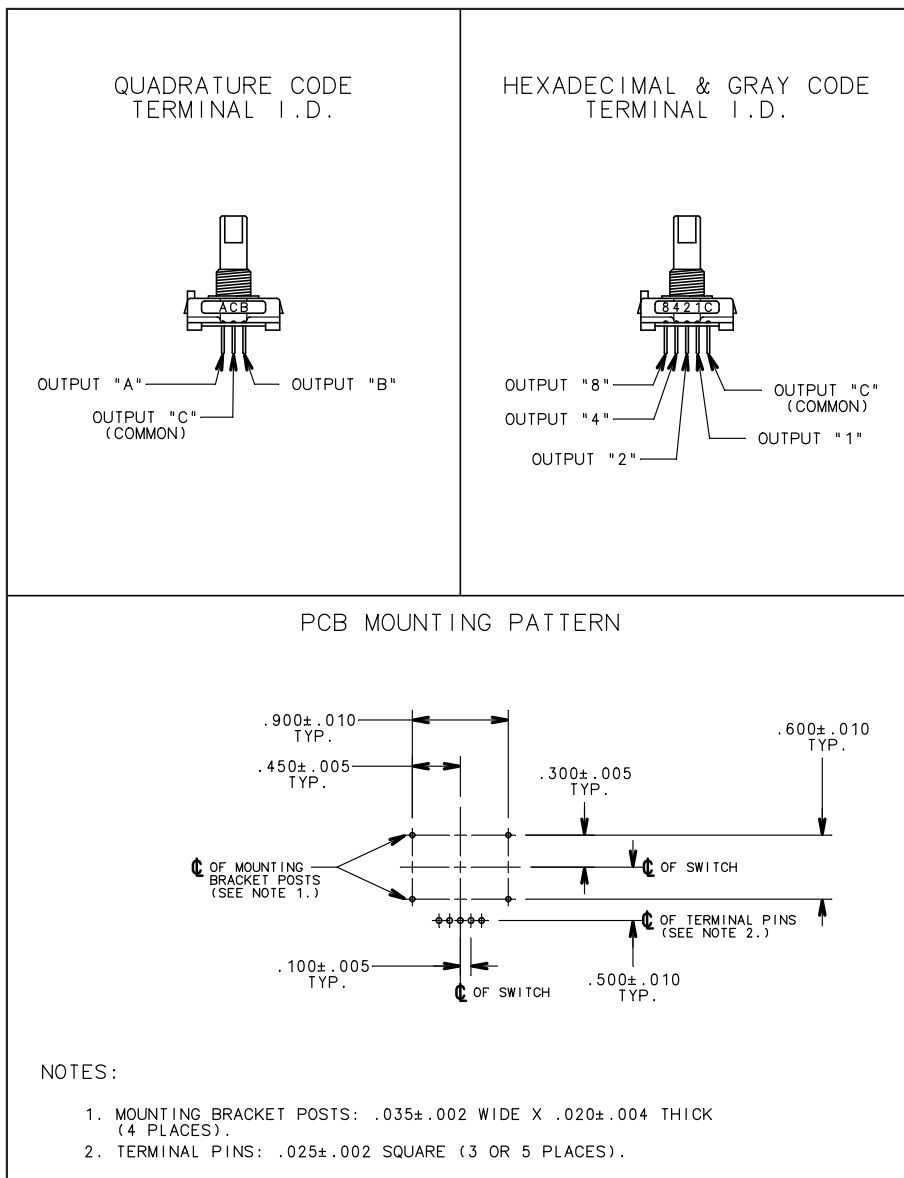
Switching Loads: 1.5 mA at 115 Vac, resistive; 150 mA at 14 Vdc, resistive
Current Carrying Capacity: 250 mA maximum at 28 Vdc, resistive load
Contact Resistance: 75 mΩ, typical
Insulation Resistance: 1000 mΩ minimum between terminals
Voltage Breakdown: 1000 Vac minimum between terminals
Life Expectancy: 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



Optical and Mechanical Encoders

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:

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[25LB30-Q-Z](#) [25LB15-Q-Z](#) [25LR10-Q](#) [25LR22-Q](#) [25LR22-H](#) [25LR22-Q-Z](#) [25LR15-Q](#) [25LR10-Q-Z](#) [25LR11-Q](#)
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