

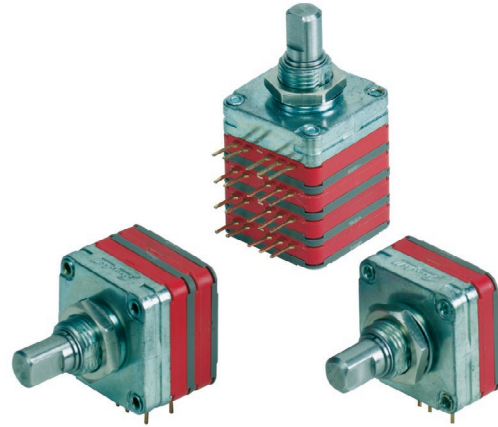


# Mechanical Encoders

## SERIES 25 Multi-Deck

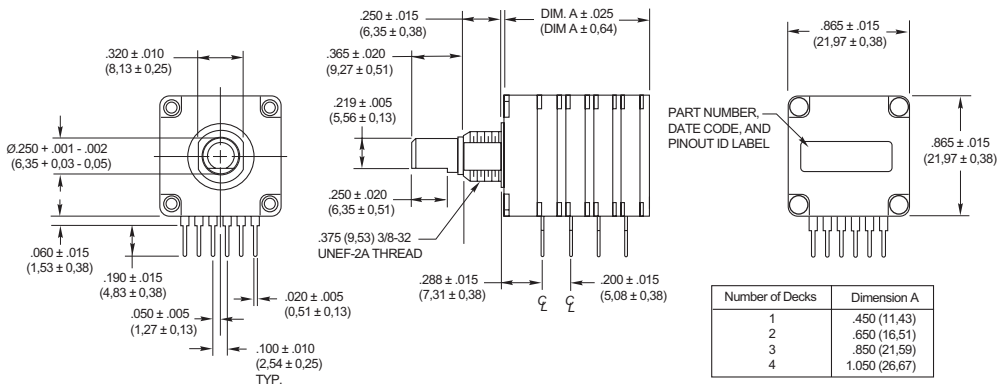
### FEATURES

- Multiple Code and Indexing Choices
- Reliability Tested to Listed Specifications
- Less than 1.0" Square
- Termination Choices
- Panel and Shaft Seal Option
- Manufactured to ISO 9001 and Military Standards
- Custom Configurations Available

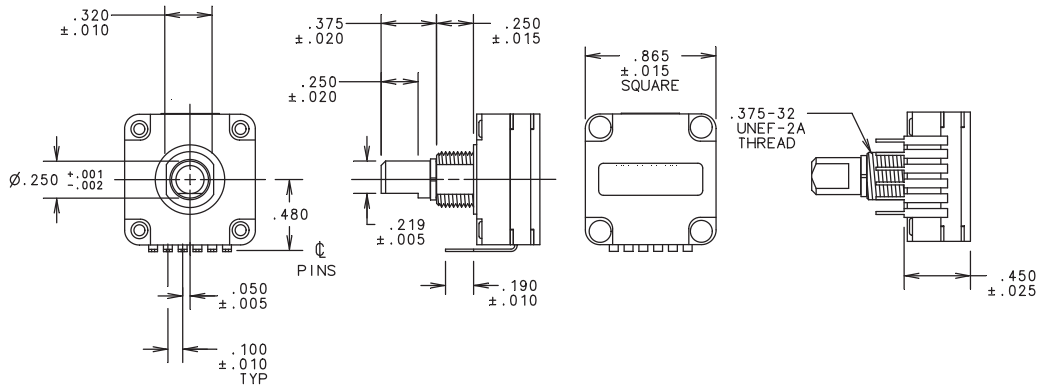


### DIMENSIONS in inches (and millimeters)

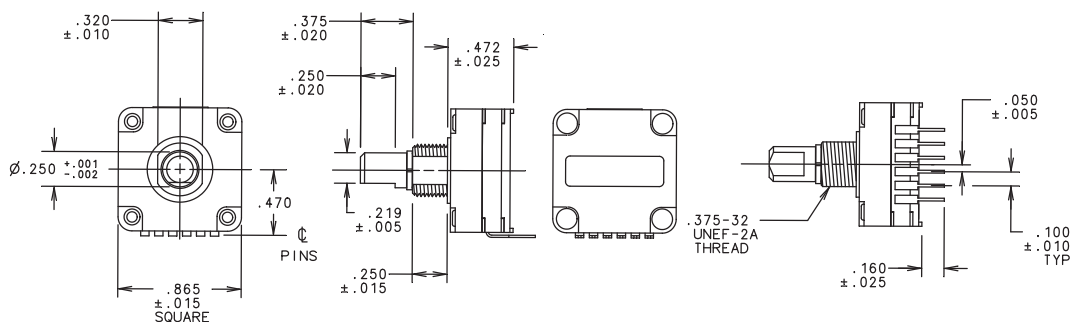
#### BP Style: Terminals Perpendicular to Shaft



#### BF Style: Front-Facing Terminals (Single Deck Only)



#### BR Style: Rear-Facing Terminals (Single Deck Only)



Optical and Mechanical Encoders

**SPECIFICATIONS**

**Electrical Ratings**

**Switching Loads:** 150 mA at 120 Vac, resistive;  
150 mA at 28 Vdc, resistive

**Current Carrying Capacity:** 250 mA at 28 Vdc, resistive

**Contact Resistance:** 75 mΩ max. after life  
**Insulation Resistance:** 1000 mΩ minimum between terminals and shaft

**Voltage Breakdown:** 1000 Vac minimum between terminals and shaft

**Life Expectancy:** 50,000 cycles at rated loads

**Contacts:** Shorting

**Mechanical Ratings**

**Stop Strength:** 10 in-lbs minimum

**Rotational Torque:** 4-20 in-oz, dependent on the number of decks

**Operating Temperature Range:** -65°C to +85°C

**Non-Turn Device:** Flatted mounting bushing, .375" dia. x .320"

**Package Size:** .865" square

**Termination:** PC terminals, .100" on center. Decks are .200" apart

**Hardware:** Hex nut and lockwasher supplied

**Materials and Finishes**

**Bushing:** Die cast zinc alloy, tin-zinc plated

**Mounting Hardware:** plated brass

**Decks, Deck Separators, End Plate:** Thermoplastic

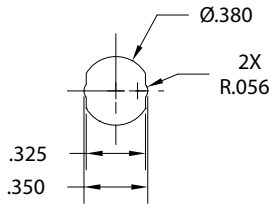
**Contacts and Terminals:** Gold, silver, nickel-plated beryllium copper

**Shaft, Stop Blades:** Stainless Steel

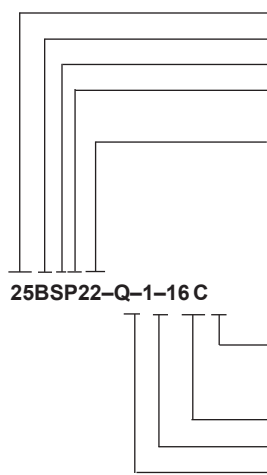
**Detent Balls:** Steel, nickel-plated

**Rivets:** Brass, zinc-plated

**RECOMMENDED PANEL CUTOUT**



**ORDERING INFORMATION**



**25BSP22-Q-1-16C**

**Series 25:** Multi-deck

**Shaft size:** B = 1/4" diameter shaft

**Sealed or non-sealed:** S = Shaft and panel seal; No letter = no seal

**Terminal structure:** P = PC, perpendicular to shaft; R = PC, rear facing (one deck only); F = PC, front facing (one deck only).

**Angle of throw (determines the maximum number of positions):**

10 = 10°, 36 positions; 11 = 11.25°, 32 positions; 12 = 12°, 30 positions;  
15 = 15°, 24 positions; 18 = 18°, 20 positions; 22 = 22.5°, 16 positions;  
30 = 30°, 12 positions; 36 = 36°, 10 positions; 45 = 45°, 8 positions; 60 = 60°, 6 positions;  
90 = 90°, 4 positions.

**Stop arrangement:** For switches with maximum positions, add C for continuous rotation; add F for stop between first and last. No notation required for less than maximum positions.

**Number of positions:** Maximum is dependent on the angle of throw. Minimum is two.

**Number of decks:** One through four possible.

**Code output:**

B = Binary (contact Grayhill for availability)

Q = Quadrature

G = Gray (contact Grayhill for availability)

Specials include 1/8" diameter shaft, custom angles of throw for binary, binary complement and gray code outputs. Contact Grayhill Sales for availability.

Control knobs available.

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