

## SERIES 62C Concentric Shaft

## FEATURES

RóHS

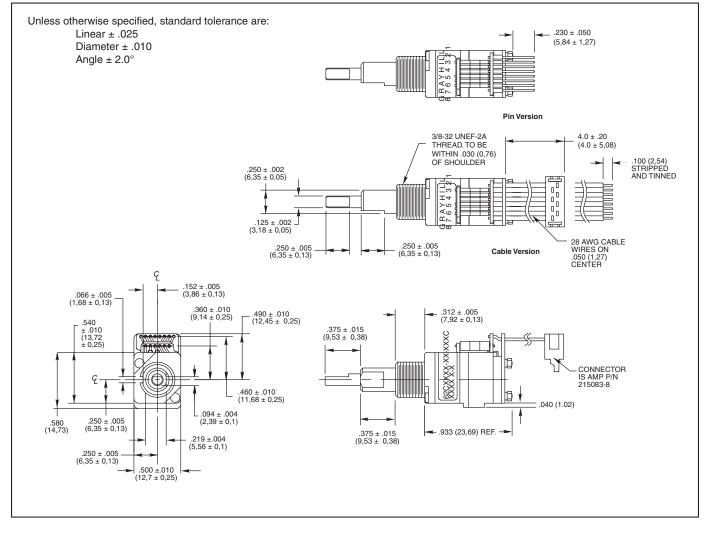
- Economical SizeCombined Functionality
- Optically Coupled for More than a Million Cycles of Operations
  Optional Integral Pushbutton
- Compatible with CMOS, TTL, and HCMOS Logic
- Available with 12, 16, 24, and 32 Detent Positions for Each Code Section
- Choices of Cable Length and Terminations
- Available in 3.3 Volt Input. (Contact Grayhill for details)

APPLICATIONS

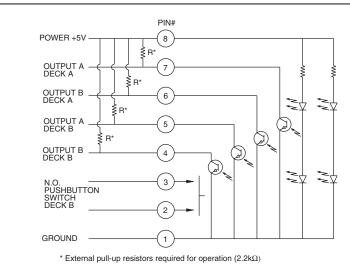
• Used to Set Radio Frequency, Drill Depth, RPM, Menu Selection, Parameter Selection for Patient Monitoring Devices, etc.



## **DIMENSIONS** In inches (and millimeters)



### CIRCUITRY, TRUTH TABLE AND WAVEFORM: Standard Quadrature 2-Bit Code



# SPECIFICATIONS

#### **Pushbutton Switch Ratings**

Rating: 5 Vdc, 10 mA, resistive Contact Resistance: less than 10 ohms (TTL or CMOS compatible)

Voltage Breakdown: 250 Vac between mutually insulated parts

**Contact Bounce:** less than 4 mS at make, less than 10 mS at break

Actuation Life: 3,000,000 operations Actuation Force: 1000 ± 300 grams Pushbutton Travel: .010 / .025 inch

#### **Encoder Ratings**

Coding: 2-bit quadrature coded output Operating Voltage:  $5 \pm .25$  Vdc Supply Current: 50 mA maximum at 5 Vdc Logic High: 3.8V minimum Logic Low: 0.8V maximum Logic Rise and Fall Times: less than 30 mS Operating Torque: 2.0 in-oz  $\pm$  1.4 in-oz initially

#### **ORDERING INFORMATION**

**Rotational Life:** more than 1,000,000 cycles of operation (1 cycle =  $360^{\circ}$  rotation and return)

Shaft Push Out Force: 45 lbs minimum Mounting Torque: 15 in-lbs maximum Operating Speed: 100 RPM maximum Axial Shaft Play: .010 maximum for each shaft

#### **Environmental Ratings**

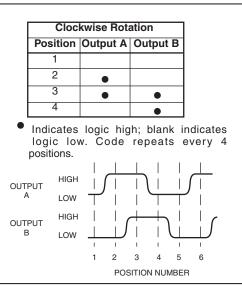
**Operating Temperature Range:** -40°C to 85°C

Storage Temperature Range: -55°C to 100°C

Relative Humidity: 90–95% at 40°C for 96 hours

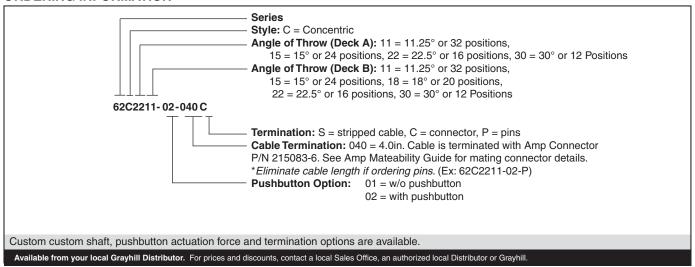
**Vibration Resistance:** Harmonic motion with amplitude of 15g, within a varied 10 to 2000 Hz frequency for 12 hours per MIL-STD-202, Method 204

**Shock Resistance:** Test 1: Tested at 100g for 6 mS, half sine, 12.3 ft/s Test 2: 100g for 6 mS, sawtooth, 9.7 ft/s



Grayhill

Materials and Finishes Bushing: Zinc casting Shaft: Aluminum Shaft Retaining Ring: Stainless steel Detent Spring: Stainless steel Printed Circuit Board: NEMA grade FR-4 Terminals: Brass, tin-plated Mounting Hardware: One brass, nickel-plated nut and stainless steel lockwasher supplied with each switch. (Nut is 0.094 inches thick by 0.433 inches across flats) Rotor: Thermoplastic Code Housing: Reinforced thermoplastic Pushbutton Dome: Stainless steel Pushbutton Housing: Thermoplastic Pushbutton Contact: Brass, nickel-plated Dome Retaining Disk: Thermoplastic Strain Relief: Stainless steel Cable: 28 AWG, stranded/top coated wire, PVC coated on .050 centers (cable version only) Header Pins: Phosphor bronze, tin-plated Insulator: Glass-filled polyester Spacer: Zinc casting



Encoder 17

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