



Optical Encoders

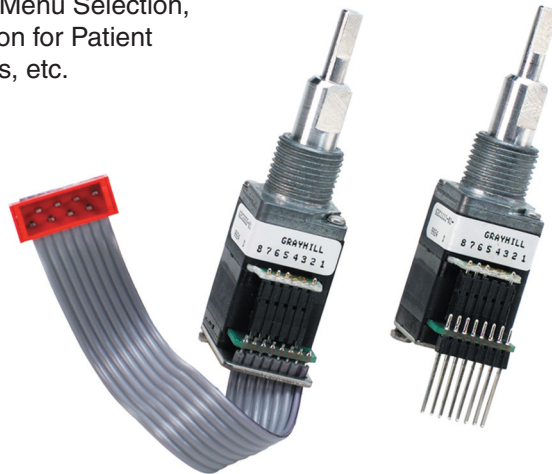
SERIES 62C Concentric Shaft

FEATURES

- Economical Size
- Combined 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 Deck
- 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.

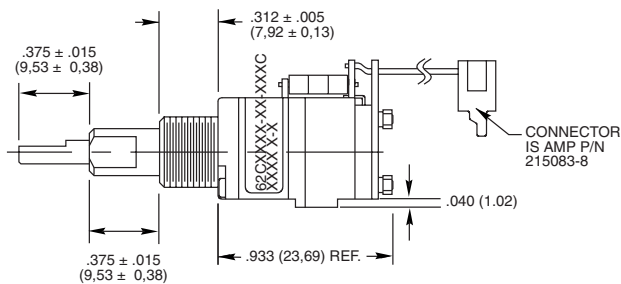
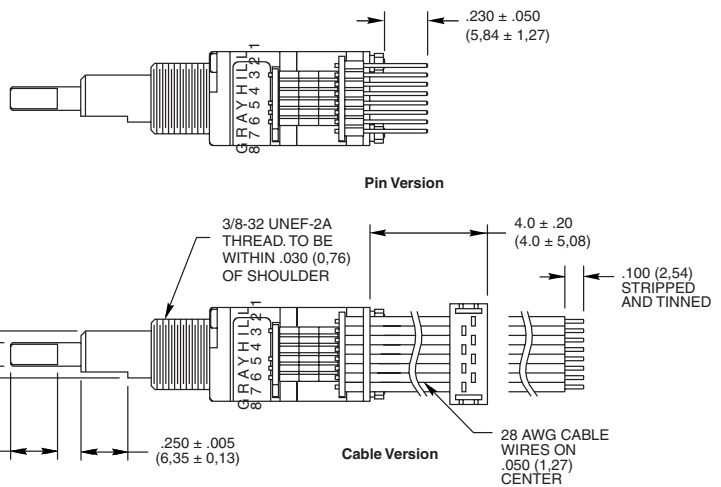
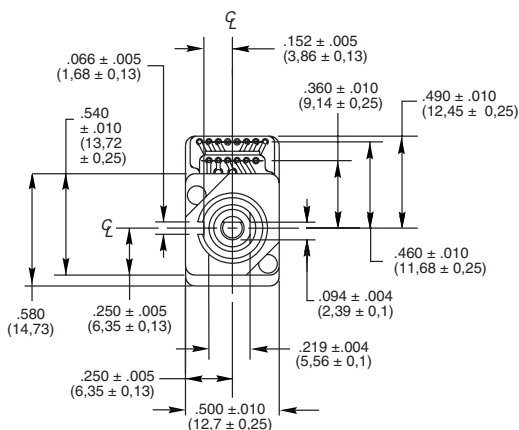
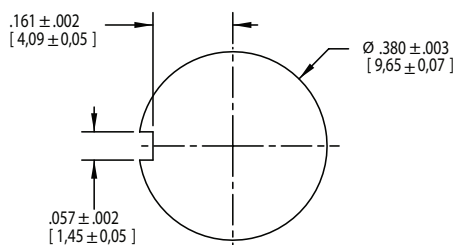


DIMENSIONS in inches (and millimeters)

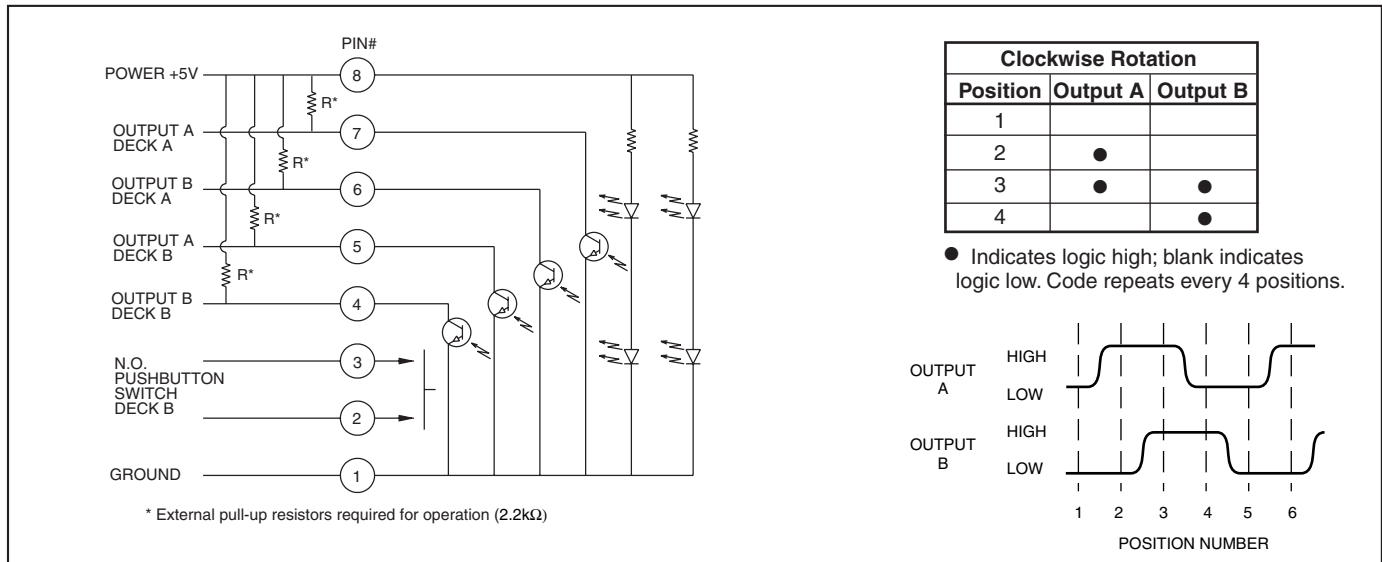
Unless otherwise specified, standard tolerance are:

- Linear $\pm .025$
- Diameter $\pm .010$
- Angle $\pm 2.0^\circ$
- Deck A: 0.250 (6,35) shaft
- Deck B: 0.125 (3,18) shaft

Suggested Mounting Panel Cutout



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 ± .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 ± 1.4 in-oz initially

Rotational Life: more than 1,000,000 cycles of operation (1 cycle = 360° rotation)
Shaft Push Out Force: 45 lbs minimum
Mounting Torque: 15 in-lbs maximum
Operating Speed: 100 RPM maximum
Axial Shaft Play: 0.010 max. for each shaft

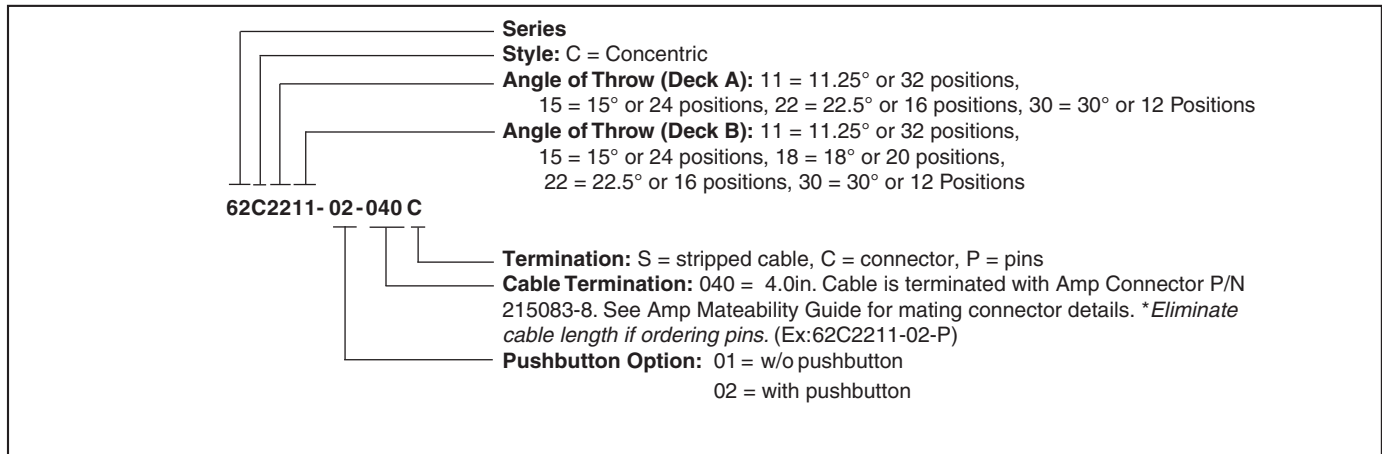
Environmental Ratings

Operating Temp. Range: -40°C to 85°C
Storage Temp. Range: -55°C to 100°C
Relative Humidity: 90–95% at 40°C, 96 hrs.
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

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 zinc-plated spring steel with clear trivalent chromate finish 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)
Header Pins: Phosphor bronze, tin-plated
Insulator: Glass-filled polyester
Spacer: Zinc casting

ORDERING INFORMATION



Custom shaft, pushbutton actuation force and termination options are available.

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