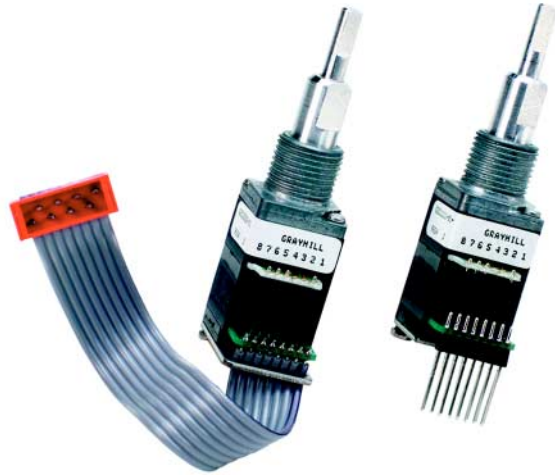


SERIES 62C
Concentric Shaft

FEATURES

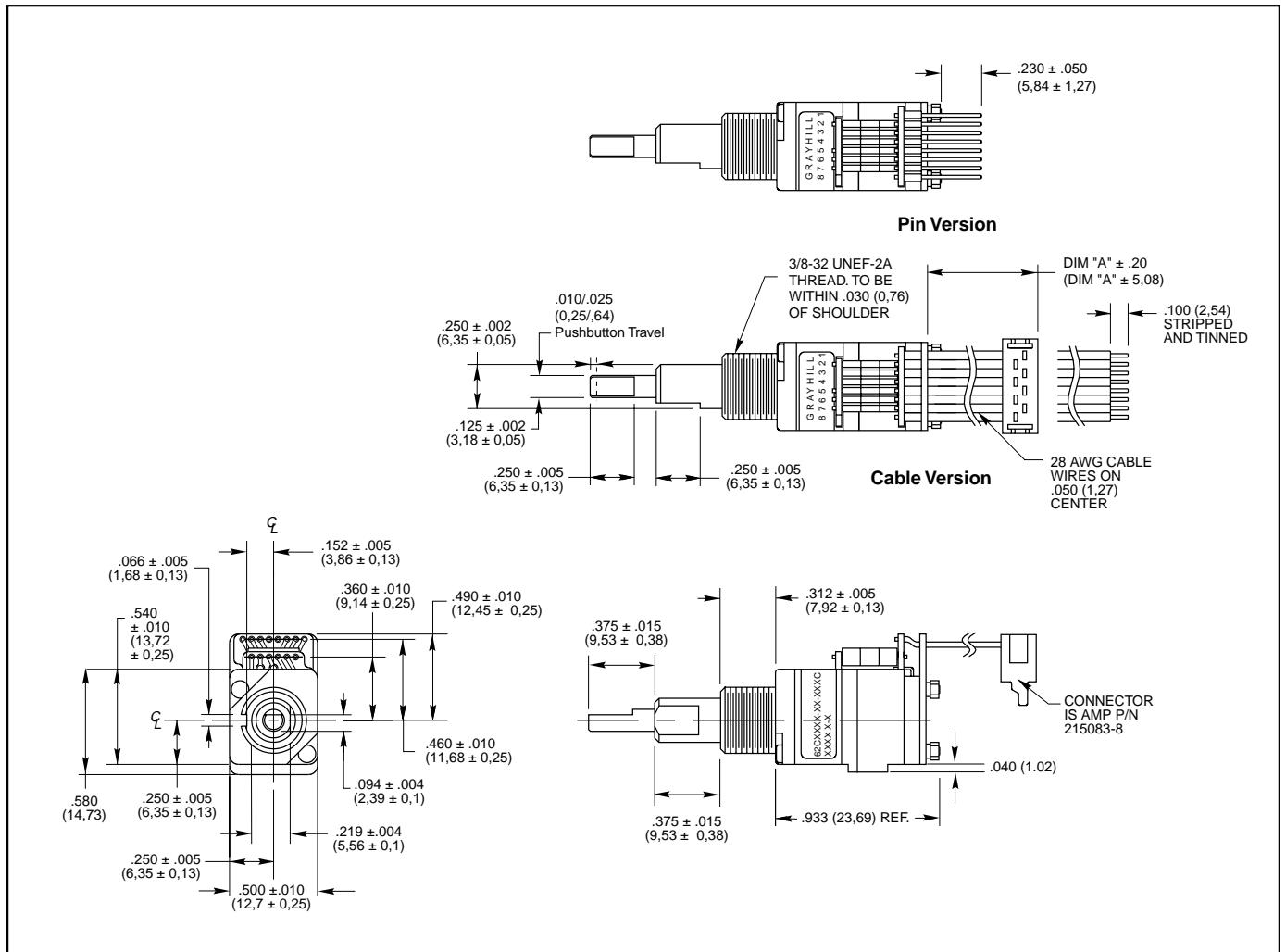
- Economical Size
- Combined Functionality
- Optically Coupled for More than a Million Cycles of Operations
- With or Without Integral Pushbutton
- Compatible with CMOS, TTL, and HCMOS Logic
- Available with 16, 24, and 32 Detent Positions for Each Code Section
- Choices of Cable Length and Terminations
- 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)



Optical and Mechanical Encoders

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

Clockwise Rotation		
Position	Output A	Output B
1		
2	●	
3	●	●
4		●

● Indicates logic high; blank indicates logic low. Code repeats every 4 positions.

POSITION NUMBER

* External pull-up resistors required for operation (2.2kΩ)

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

- Rotational Life:** more than 1,000,000 cycles of operation (1 cycle = 360° 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

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 lockwasher supplied with each switch. (Nut is 0.094 inches thick by 0.562 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, halogen-free insulation on .050 centers (cable version only)
- Header Pins:** Phosphor bronze, tin-plated
- Insulator:** Glass-filled polyester
- Spacer:** Thermoplastic

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

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

ORDERING INFORMATION

62C2211-02-020C

- Series**
- Style:** C = Concentric
- Angle of Throw (Deck A):** 11 = 11.25° or 32 positions, 15 = 15° or 24 positions, 22 = 22.5° or 16 positions
- Angle of Throw (Deck B):** 11 = 11.25° or 32 positions, 15 = 15° or 24 positions, 18 = 18° or 20 positions, 22 = 22.5° or 16 positions
- Termination:** S = stripped cable, C = connector, P = pins
- Cable Length*:** 020 = 2.0 inches minimum to 250 = 25.0 inches maximum. Provided in increments of 1/2 inch. Example: 035 = 3.5", 060 = 6"
- *Eliminate cable length if ordering pins. (Ex: 62C2211-02-P)
- Pushbutton Option:** 01 = w/o pushbutton, 02 = with pushbutton

Custom custom shaft, pushbutton actuation force and termination options are available. Control knobs available, see page E-39.

Available from your local Grayhill Distributor. Call in CHINA (Beijing): Phone: (010)6851-9097, Fax: (010)6851-5578.

Optical and Mechanical Encoders