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 ± 0.025
- Diameter ± 0.010
- Angle ± 2.0°

Deck A: 0.250 (6.35) shaft
Deck B: 0.125 (3.18) shaft

Grayhill, Inc. • 561 Hillgrove Avenue • LaGrange, Illinois 60525-5997 • USA • Phone: 708-354-1040 • Fax: 708-354-2820 • www.grayhill.com
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
**Axial Shaft Torque:** 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**
- **Bushings:** 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**

- **Series:** C = Concentric
- **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, 30 = 30° or 12 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, 30 = 30° or 12 Positions

- **Termination:** S = stripped cable, C = connector, P = pins
- **Cable Termination:** 040 = 4.0in. Cable is terminated with Amp Connector
  *Eliminate cable length if ordering pins. (Ex: 62C2211-02-P)
- **Pushbutton Option:** 01 = w/o pushbutton
  02 = with pushbutton

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.