

SERIES 62HN High Torque, Non-Turn Concentric Shaft

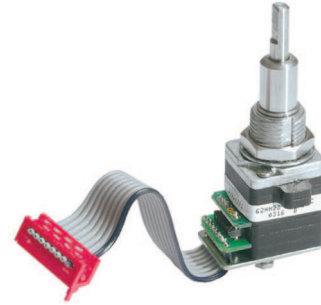
FEATURES

- High Rotational Torque Provides Positive Tactile Feedback
- Non-turn Pushbutton to Ensure Pushbutton Text and Orientation
- Optically Coupled for More than a Million Cycles
- Separate Pushbutton Function

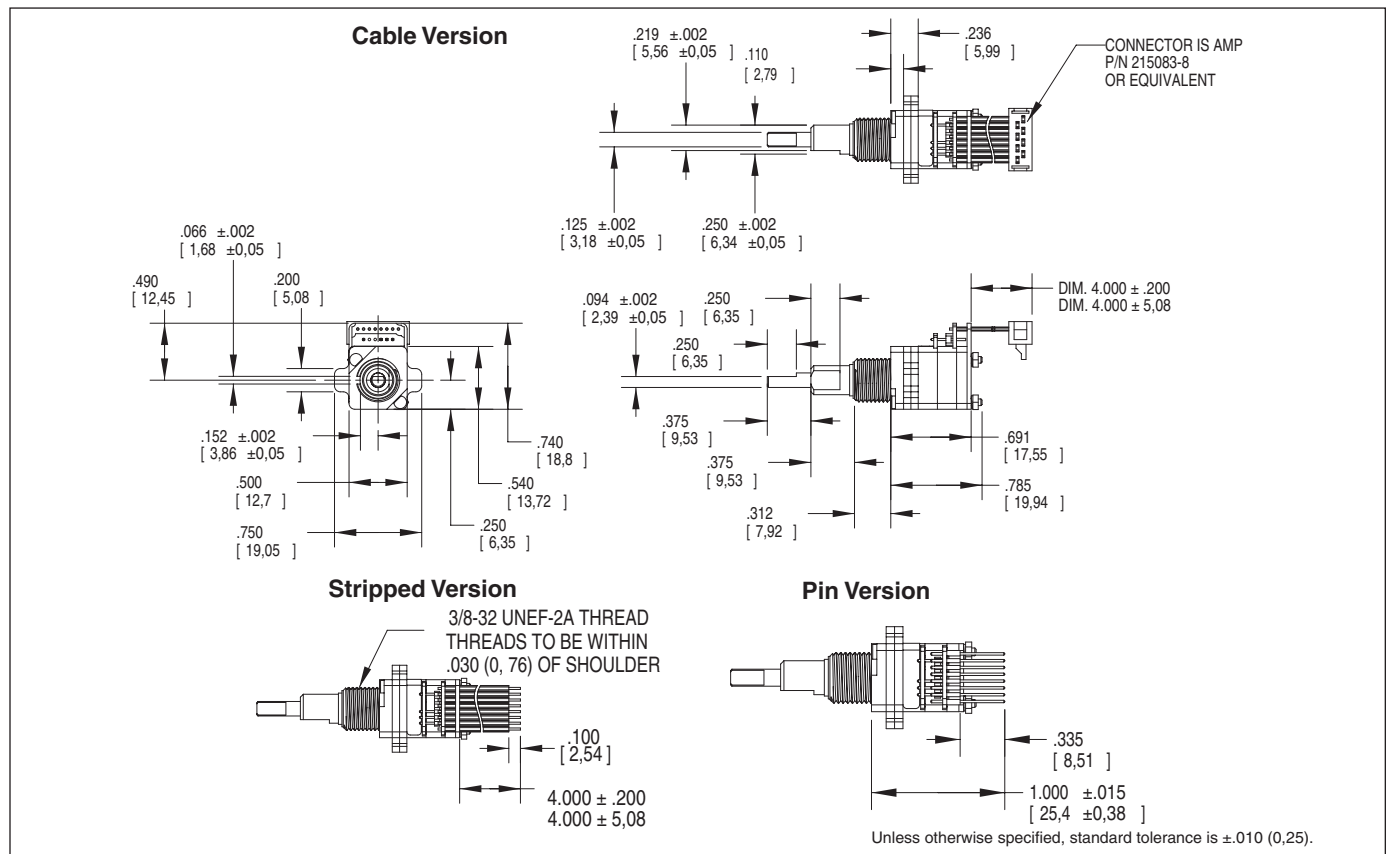
- Compatible with CMOS, TTL and HCMOS Logic
- Available in 8, 12 and 16 Detent Positions
- Choice of Cable Length and Terminations

APPLICATIONS

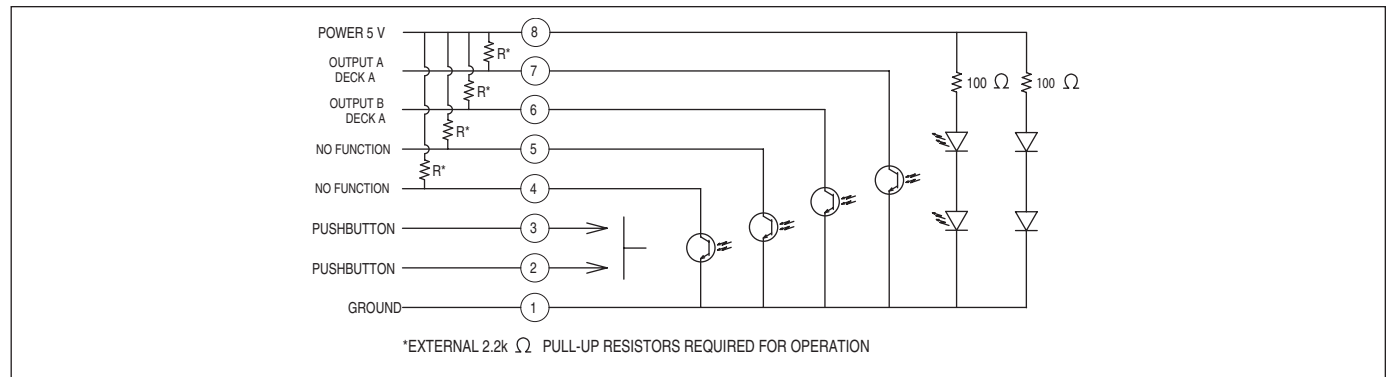
- Avionics



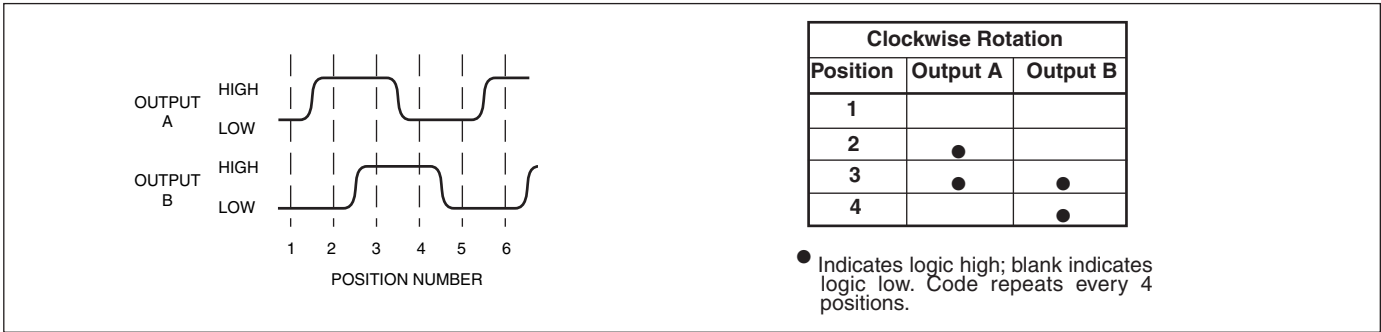
DIMENSIONS in inches (and millimeters)



CIRCUITRY



WAVEFORM AND TRUTH TABLE



SPECIFICATIONS

Pushbutton Switch Ratings

Rating: at 5 Vdc, 10 mA, resistive
Contact Resistance: less than 10 ohms (TTL or CMOS compatible)
Pushbutton Life: 3 million actuations minimum
Voltage Breakdown: 250 Vac between mutually insulated parts
Contact Bounce: less than 4 mS at make and less than 10 mS at break
Actuation Force: 1100 ±300g

Encoder Ratings

Coding: 2-bit quadrature coded output
Operating Voltage: 5.0 ±.25 Vdc
Supply Current: 30 mA maximum@5.0 Vdc
Logic Output Characteristics:
Logic High: 3.0 Vdc minimum
Logic Low: 1.0 Vdc maximum
Mechanical Life: 1,000,000 cycles minimum (One cycle is a rotation through all positions and a full return)
Minimum Sink Current: 2.0 mA for 5 Vdc
Power Consumption: 150mW maximum
Output: open collector phototransistor
Logic Rise and Fall Times: less than 30 mS maximum
Operating Torque: 5.0 in-oz +/- 1.5 in-oz initial

Shaft Push Out Force: 45 lbs minimum
Mounting Torque: 15 in-lbs maximum
Terminal Strength: 15 lbs cable pull-out force minimum
Operating Speed: 100 RPM maximum

Environmental Ratings

Operating Temperature Range: -40°C to 85°C
Storage Temperature Range: -55°C to 100°C
Vibration Resistance: Harmonic motion with amplitude of 15G, within a varied 10 to 2000 Hz frequency for 12 hours
Mechanical Shock: Test 1: 100G, 6 mS, half sine, 12.3 ft/s; Test 2: 100G, 6 mS, sawtooth, 9.7 ft/s
Relative Humidity: 90–95% at 40°C for 96 hours

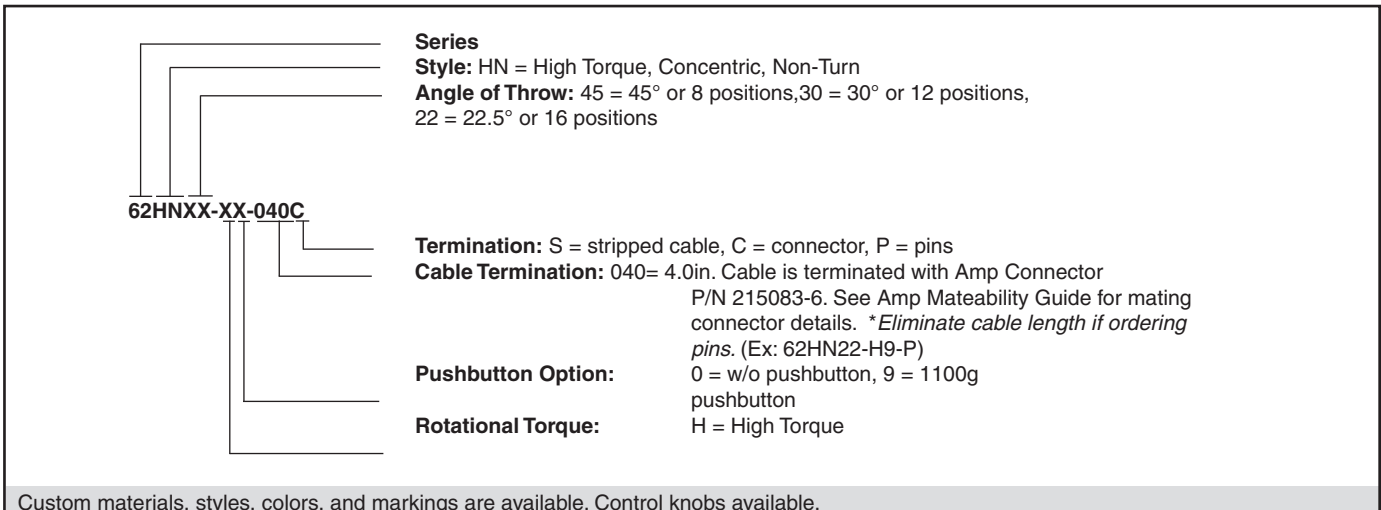
Materials and Finishes

Code Housing: Reinforced thermoplastic
Shafts: Stainless Steel
Bushing: Zinc casting
Shaft Retaining Rings: Stainless steel

Detent Spring: Stainless steel
Detent Ball: Stainless steel
Detent Section: Hiloy 610
Printed Circuit Boards: NEMA grade FR-4 gold over nickel or palladium
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
Pushbutton Dome: Stainless steel
Phototransistor: Planar Silicon NPN
Infrared Emitter: Gallium aluminum arsenide
Flex Cable: 28 AWG, stranded/top coated wire, PVC coated on .050 centers (cabled version)
Header Pins: Brass, tin-plated
Spacer: Hiloy 610
Shim: Stainless Steel
Endcap: Thermoplastic
Non-turn Pin: Stainless steel
Backplate/Strain Relief: Stainless steel
Studs: Stainless steel

Optical and Mechanical Encoders

ORDERING INFORMATION



Custom materials, styles, colors, and markings are available. Control knobs available.

Available from your local Grayhill Component Distributor.

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