

SERIES 61C

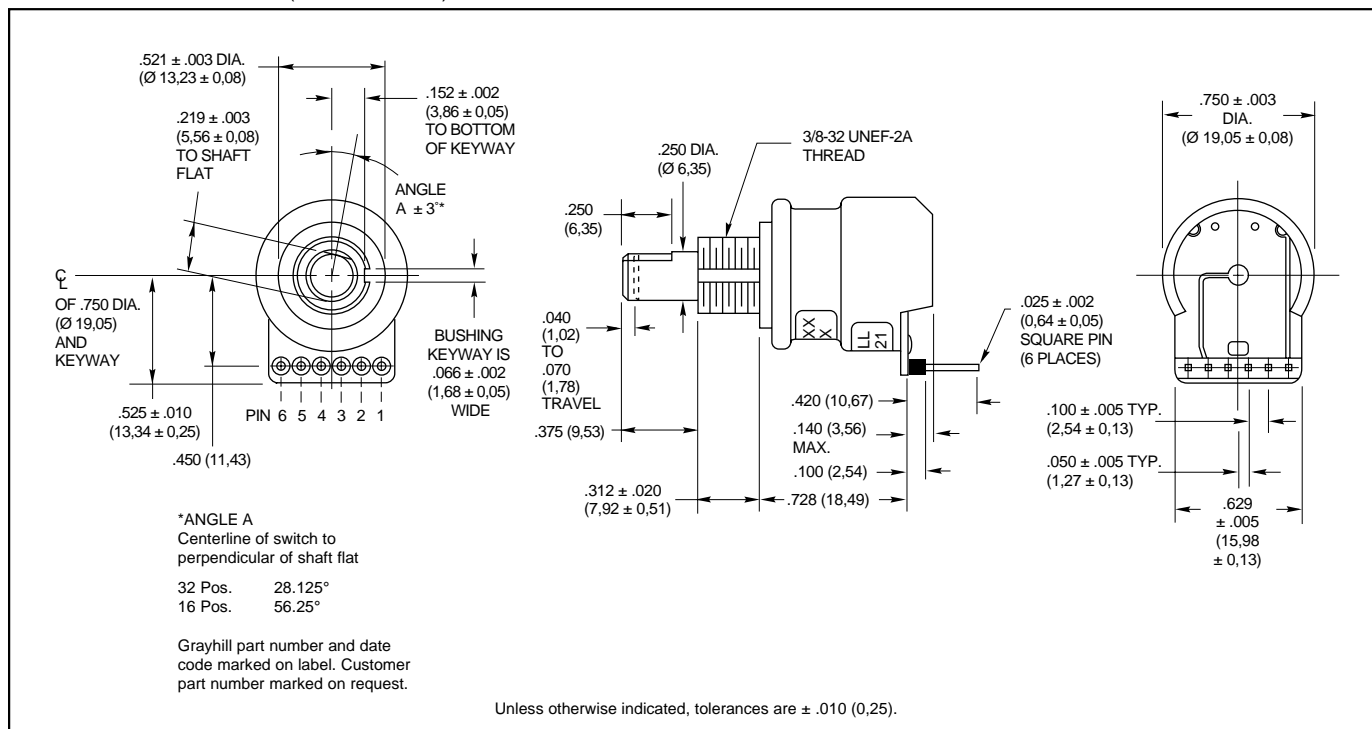
16 or 32 Position with Pushbutton

FEATURES

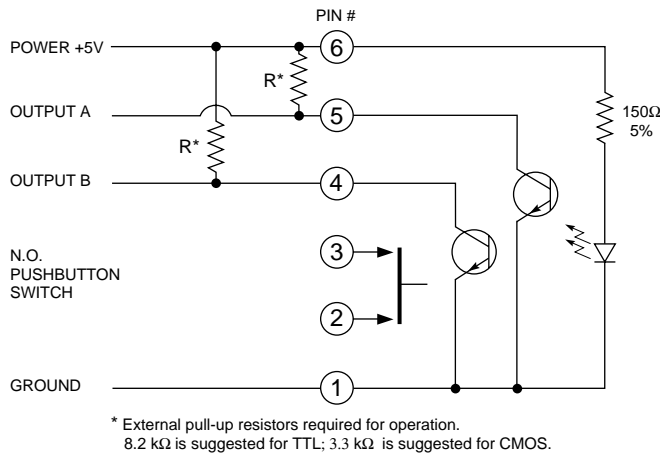
- Competitively Priced to Similar Electromechanical Switches
- Optically Coupled For More Than A Million Trouble-Free Rotations
- Has Data Entry Pushbutton Switch Activated By Switch Shaft
- Compatible With CMOS, TTL and HCMOS Logic
- Operationally Used to Move Display Icon and Input Data
- Used to Set Radio Frequency, Drill Depth, RPM, etc.



DIMENSIONS In inches (and millimeters)

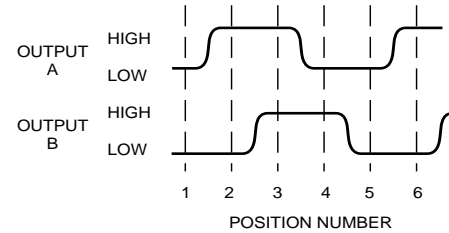


CIRCUITRY, TRUTH TABLE, AND WAVEFORM: Standard Quadrature 2-Bit Code



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

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



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 milliseconds at make and less than 10 milliseconds at break.

Actuation Life: 3,000,000 operations.

Actuation Force: maximum actuation force of 330 grams and a minimum actuation force of 250 grams.

Encoder Ratings

Coding: 2-bit quadrature coded output.

Operating Voltage: 5.0 ±.25 Vdc

Supply Current: 30 mA maximum at 5 Vdc
Logic High: 3.8V for CMOS and 2.7V for TTL minimum.

Logic Low: 0.8V maximum

Logic Rise and Fall Times: Rise Time less

than 30 mS at 16.6 RPM. Fall Time less than 30 mS at 16.6 RPM.

Operating Torque: 1.5 in-oz ± 30% initial (1.0 in-oz ± 50% after life for 32 position only)

Rotational Life: more than 1,000,000 cycles of operation (1 cycle = 360° rotation and return)

Shaft Push Out Force: 20 lbs minimum

Mounting Torque: 10 in-lbs maximum

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

Materials and Finishes

Bushing: Reinforced thermoplastic

Shaft: Reinforced thermoplastic

Detent Balls: Steel, nickel-plated

Detent and Pushbutton Springs: Tinned music wire

Printed Circuit Boards: NEMA grade FR-4

Pushbutton Contact: Stainless steel, gold-plated

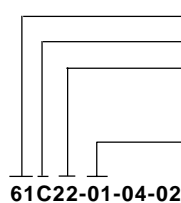
Board Terminals: Phosphor bronze, tin-plated

Mounting Hardware: One brass, cadmium-plated nut and lockwasher supplied with each switch. Nut is 0.094 inches thick by 0.562 inches across flats.

Rotor: Reinforced thermoplastic

Aperture/Dome Retainer: Lexan 141, Polycarbonate

ORDERING INFORMATION



Series

Style: C = Standard

Angle of Throw: 00 = No detent
11 = 11.25° or 32 Positions
22 = 22.25° or 16 Positions

Coding: 01 = Quadrature

Pushbutton Option: 01 = Without pushbutton, 02 = With pushbutton

Number of Changes per Revolution: 04 for no detent and 22.25° angle of throw
08 for no detent and 11.25° angle of throw

Custom knobs available, see page I-57.

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

ACCESSORIES

See page I-41.