# **SERIES 61C**

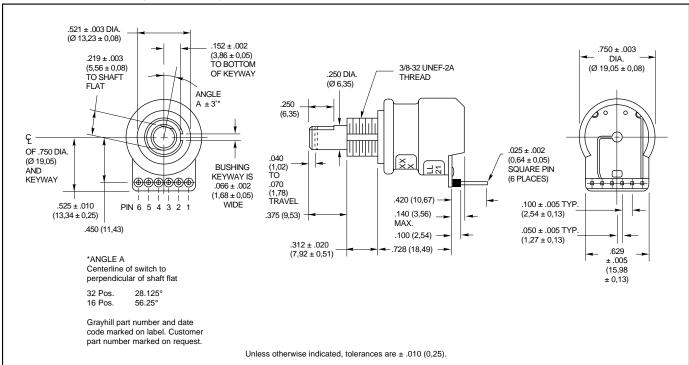
# 16 or 32 Position with Pushbutton

#### **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.

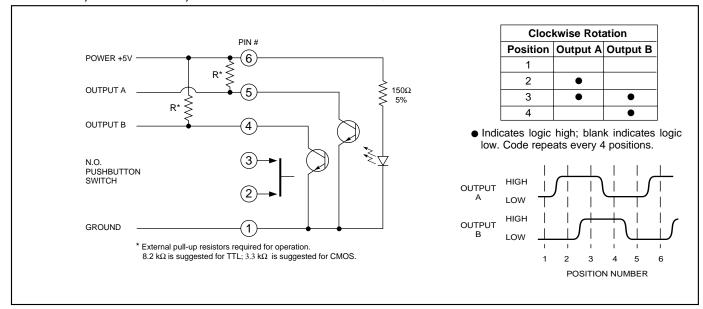


# **DIMENSIONS** In inches (and millimeters)





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



#### **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

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

Printed Circuit Boards: NEMA grade FR-4 Pushbutton Contact: Stainless steel, gold-

plated

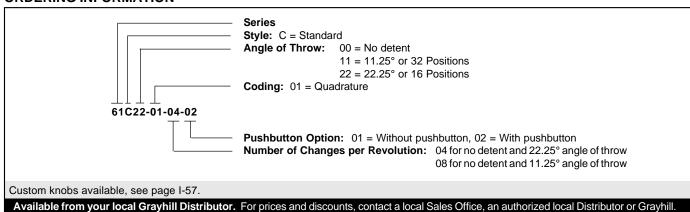
Board Terminals: Phosphor bronze, tin-plated Mounting Hardware: One brass, cadmiumplated nut and lockwasher supplied with each switch. Nut is 0.094 inches thick by 0.562 inches across flats.

Rotor: Reinforced thermoplastic

Aperture/Dome Retainer: Lexan 141,

Polycarbonate

### ORDERING INFORMATION



### **ACCESSORIES**

See page I-41.