

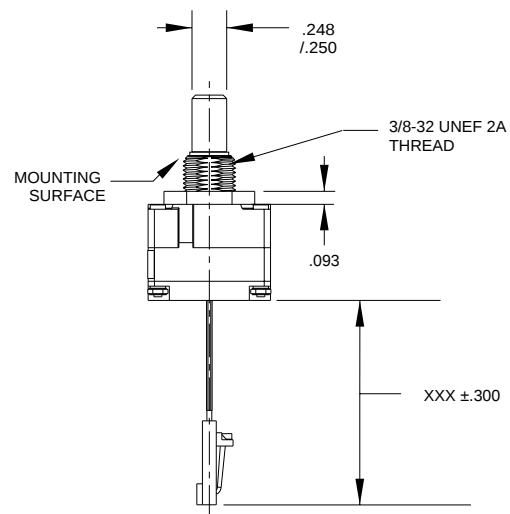
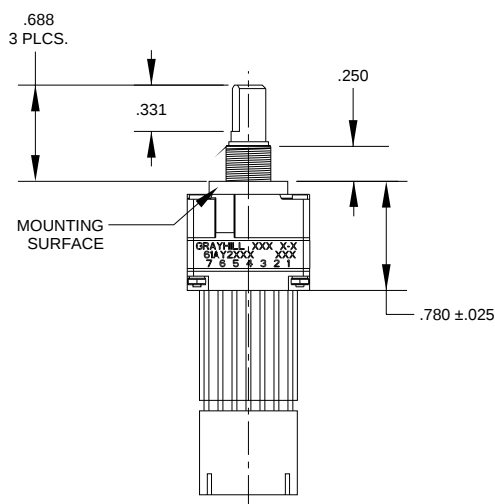
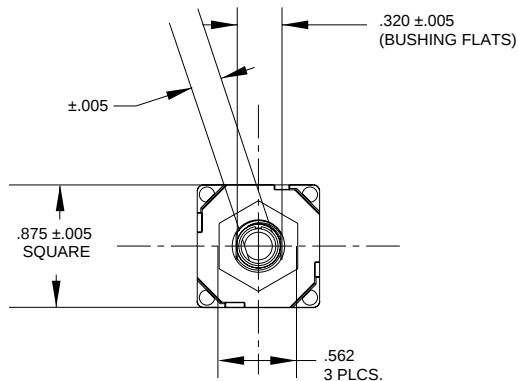
SERIES 61A Custom, Absolute

FEATURES

- Absolute Position Sensing
- 3, 4, or 5-Bit Custom Output Coding
- 8 to 32 Positions
- Continuous Rotation and Fixed Stops Available
- Angles of Throw to 45° (Design Specifications Will Dictate the Angle of Throw)



DIMENSIONS In inches (and millimeters)



Unless otherwise specified, dimension tolerances are as follows: linear ± 0.010

(0,25), diameters ± 0.010 (0,25), angular $\pm 5^\circ$

SPECIFICATIONS

Ratings

Operating Voltage: 5 ±.25V DC

Supply Current: 85 mA maximum at 5V DC

Life: 1 million cycles of operation; 1 cycle is rotation through all positions and a full return

Rotational Torque: 1.5 in-oz (Initial)

Output High: 3.8V minimum for CMOS &

HCMOS; 2.7V minimum for TTL

Output Low: 0.8V maximum

Shaft Push Out Force: 25 lbs.

Mounting Torque: 10 in-lb maximum

Load Current: 5 mA maximum per channel

Logic Rise and Fall Times: 30 mSec typical

Environmental

Operating Temperature Range: -40°C to +85°C

Storage Temperature Range: -55°C to +100°C

Vibration: MIL-STD 202, method 204, condition B

Mechanical Shock: 100 g's, 6 ms, half Sine

12.3 ft/s and 100 g's, 6 ms, sawtooth, 9.7 ft/s

Humidity: 90-95% Relative humidity at 40°C for 96 hrs.

Materials and Finishes

Detent Housing/Bushing: Nylon 6/10

Shaft: Glass-filled nylon

Detent Balls: Steel, nickel-plated

Code Housings: Nylon 6/10

Backplate: Nylon 6/10

Aperture: Chemically etched stainless steel with black oxide finish

Rotor: Electroformed nickel and chemically etched stainless steel with black nickel finish

Detent Springs: Tinned music wire

PC Boards: NEMA grade FR-4

Through Bolts: Stainless steel, unplated

Through Bolt Nuts: Stainless steel

Switch Assembly Cover: Thermosetting plastic

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.

ACCESSORIES

See page I-41. For control knobs see page I-57.

ORDERING INFORMATION

Options include stainless steel detent housing for higher rotational torque applications. Metal shaft and bushing available. Custom shaft and bushing configurations available. Contact Grayhill for information on angles of throw and stop strength.

61A32-025

NUMBER OF POSITIONS

32 = 32 POSITIONS WITH 10° OF THROW
24 = 24 POSITIONS WITH 12° OF THROW
16 = 16 POSITIONS WITH 18° OF THROW
8 = 8 POSITIONS WITH 36° OF THROW

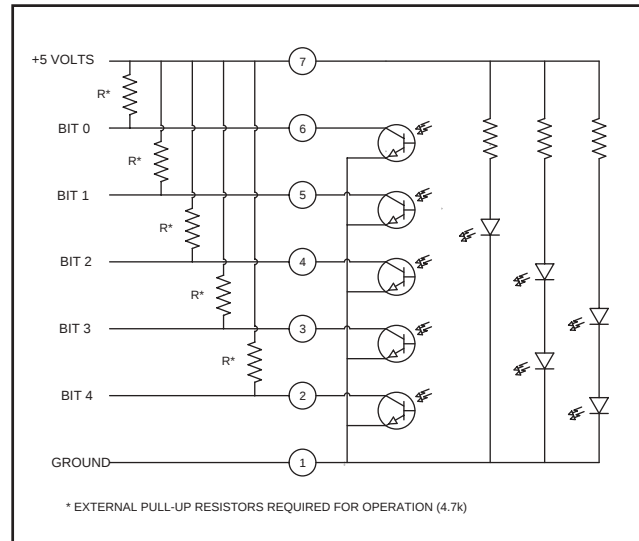
TERMINATION

BLANK = PINS

-XXX = CABLE LENGTH

CABLE LENGTH IS DENOTED IN .5" INCREMENTS FROM 025=2.5 INCHES TO 250=25.0 INCHES.

CIRCUITRY



TRUTH TABLE

3 BIT, 8 POSITION

Position	B2	B3	B4
1			
2			●
3		●	●
4		●	
5	●	●	
6	●	●	●
7	●		●
8	●		

● INDICATES LOGIC HIGH
BLANK INDICATES LOGIC LOW

4 BIT, 16 POSITION

Position	B1	B2	B3	B4
1				
2				●
3			●	●
4			●	
5		●	●	
6		●	●	●
7		●		●
8		●		
9	●	●		
10	●	●		●
11	●	●	●	●
12	●	●	●	
13	●		●	
14	●		●	●
15	●			●
16	●			

● INDICATES LOGIC HIGH
BLANK INDICATES LOGIC LOW

5 BIT, 32 AND 24 POSITION

Position	B0	B1	B2	B3	B4
1					
2					●
3				●	●
4				●	
5			●	●	
6			●	●	●
7			●		●
8			●		
9		●	●		
10		●	●		●
11		●	●	●	●
12		●	●	●	
13		●		●	
14		●		●	●
15		●			●
16		●			
17	●	●			
18	●	●			●
19	●	●		●	●
20	●	●		●	
21	●	●	●	●	
22	●	●	●	●	●
23	●	●	●		●
24	●	●	●		
25	●		●		
26	●		●		●
27	●		●	●	●
28	●		●	●	
29	●			●	
30	●			●	●
31	●				●
32	●				

● INDICATES LOGIC HIGH
BLANK INDICATES LOGIC LOW