

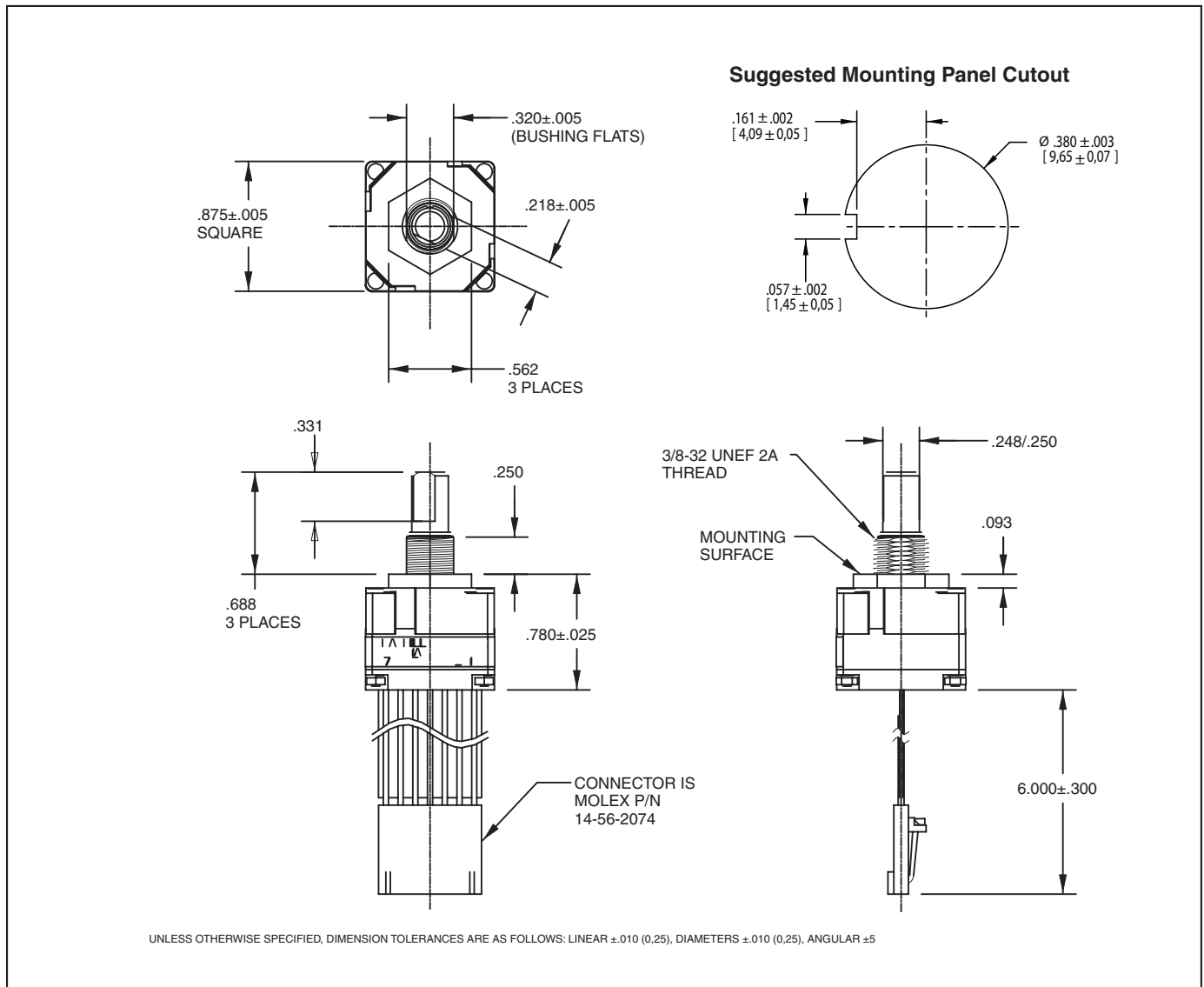
SERIES 61A Custom, Absolute

FEATURES

- Absolute Position Sensing
- 3, 4, or 5-Bit Custom Output Coding
- Available in 8, 16 and 32 detent positions
- Fixed Stops Only
- Angles of Throw to 45° (Design Specifications Will Dictate the Angle of Throw)



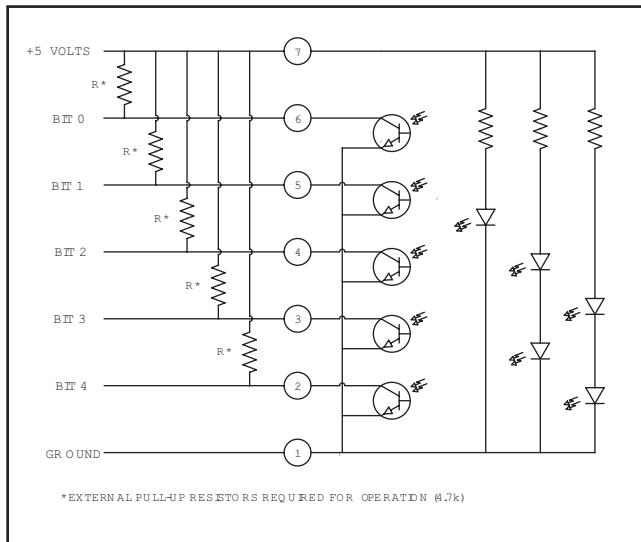
DIMENSIONS in inches (and millimeters)





Optical Encoders

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

5 BIT, 32 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

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

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:** 12 ±4 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

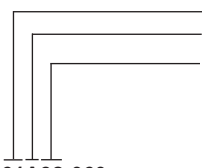
Environmental

- Operating Temp. Range:** -40°C to +85°C
- Storage Temp. Range:** -55°C to +100°C
- Vibration:** MIL-STD 202, method 204, cond. 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

- Bushing:** Brass, tin/zinc plated
- Shaft:** Stainless steel
- Mounting Hardware:** One brass, tin/zinc-plated nut and one stainless steel, zinc-plated lockwasher supplied with each switch. Nut is 0.094 inch thick by 0.562 inch across flats.

ORDERING INFORMATION



Series
Style: A = Absolute position sensing
Number of positions: 32 = 32 positions with 10° of throw
 16 = 16 positions with 18° of throw
 8 = 8 positions with 36° of throw

61A32-060
Termination: 060 = 6.0 inches cable terminated with Molex connector P/N 14-56-2074.

Available from your local Grayhill Component Distributor.

For prices and discounts, contact a local sales office, an authorized local distributor, or Grayhill direct.