



Optical Encoders

SERIES 62H

High Torque, Concentric Shaft

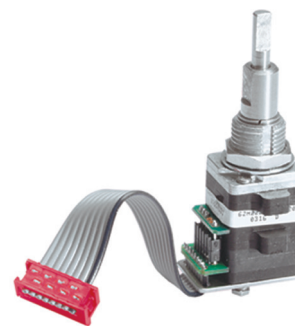
FEATURES

- High Rotational Torque Provides Positive Tactile Feedback
- Optically Coupled for More than a Million Cycles
- Optional Integral Pushbutton
- Compatible with CMOS, TTL and HCMOS Logic

- Available in 8, 12 and 16 Detent Positions
- Choice of Cable Length and Terminations

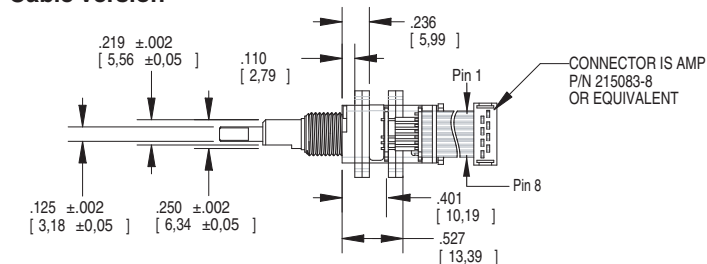
APPLICATIONS

- Avionics

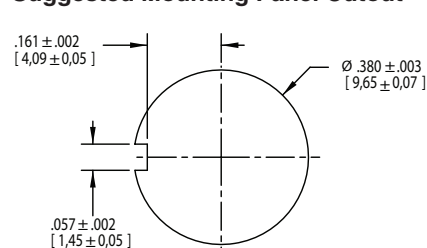


DIMENSIONS in inches (and millimeters)

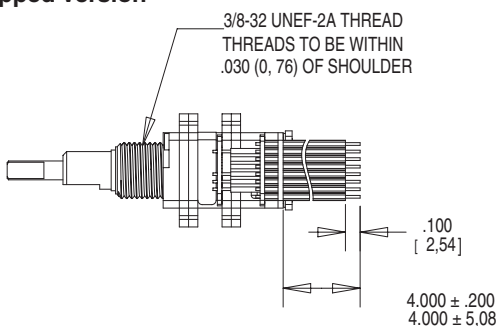
Cable Version



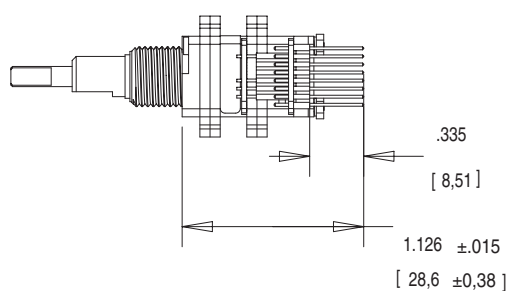
Suggested Mounting Panel Cutout



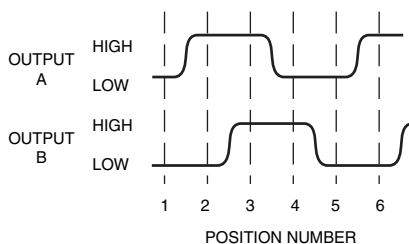
Stripped Version



Pin Version



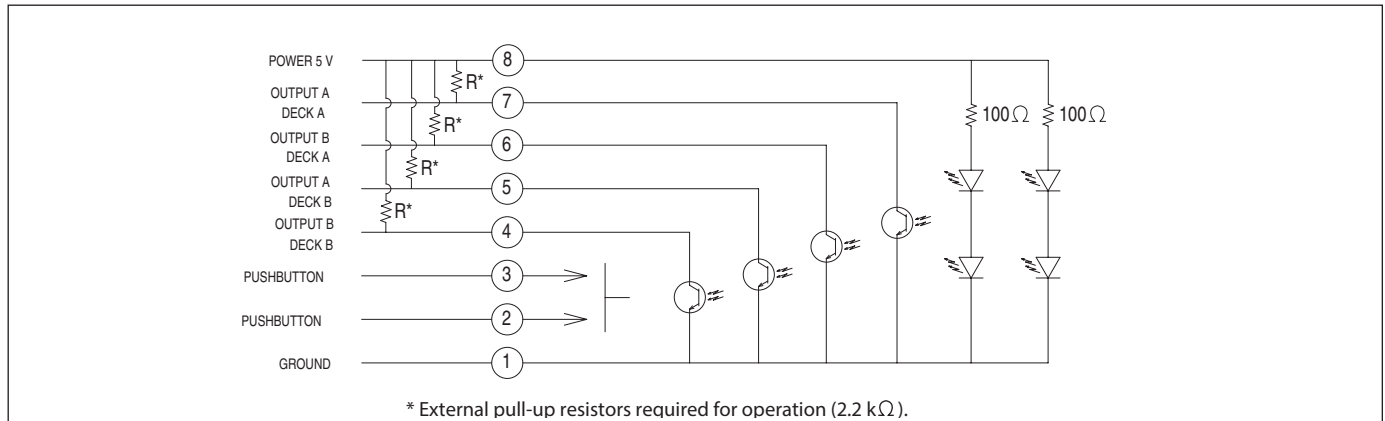
WAVEFORM AND TRUTH TABLE



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

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

CIRCUITRY



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**Actuation Force:** 1100 ±300g**Shaft Travel:** .025±.010 inch

Encoder Ratings

Coding: 2-bit quadrature coded output**Operating Voltage:** 5.0 ±.25 Vdc**Supply Current:** 50 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

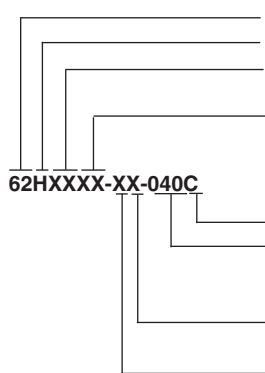
Operating Temperature Range: -40°C to 85°C**Storage Temperature Range:** -55°C to 100°C**Vibration Resistance:** Harmonic motion with amplitude of 15G, within a varied 10 to 2000 Hz frequency for 12 hours**Mechanical Shock:** Test 1: 100G, 6 mS, half sine, 12.3 ft/s; Test 2: 100G, 6 mS, sawtooth, 9.7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

Materials and Finishes

Shafts: Stainless steel**Bushing:** Zinc casting**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)**Flex Cable:** 28 AWG, stranded/top coated wire, PVC coated on .050 or .100" centers (cabled version)**Header Pins:** Brass, tin-plated

This product series is ROHS Compliant.

ORDERING INFORMATION



Series

Style: H = High Torque, Concentric**Angle of Throw (Deck A):** 45 = 45° or 8 positions, 30 = 30° or 12 positions, 22 = 22.5° or 16 positions**Angle of Throw (Deck B):** 45 = 45° or 8 positions, 30 = 30° or 12 positions, 22 = 22.5° or 16 positions**Termination:** S = stripped cable, C = connector, P = pins**Cable Termination:** 040 = 4.0in. Cable is terminated with Amp Connector P/N 215083-8. See Amp Mateability Guide for mating connector details.

*Eliminate cable length if ordering pins. (Ex: 62H2222-H9-P)

Pushbutton Option: 0 = w/o pushbutton, 9 = 1100g pushbutton**Rotational Torque:** H = High Torque