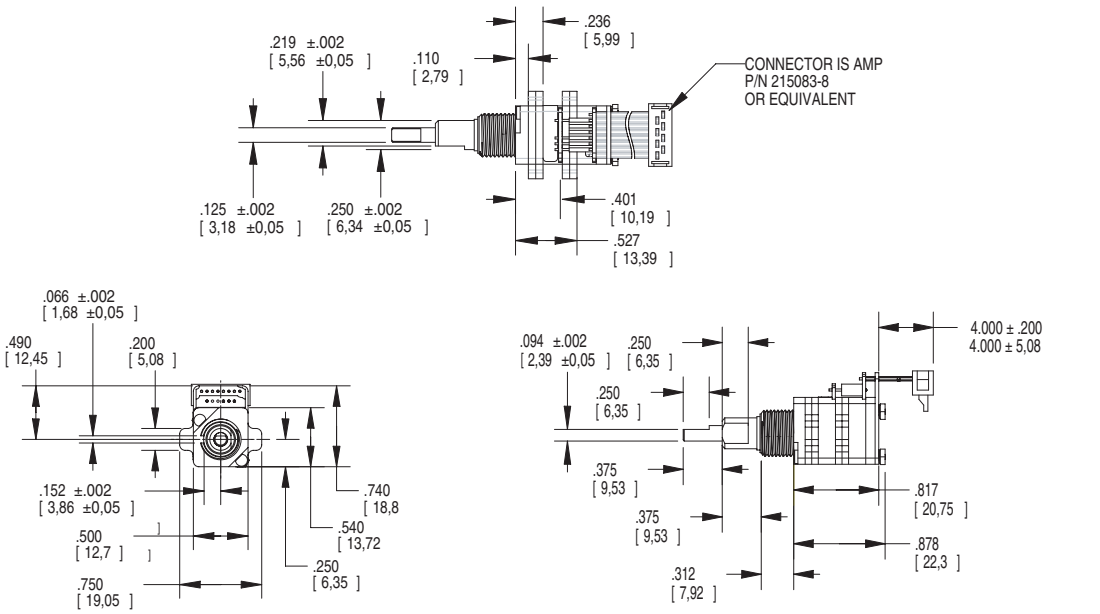
SERIES 62H
High Torque, Concentric Shaft

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

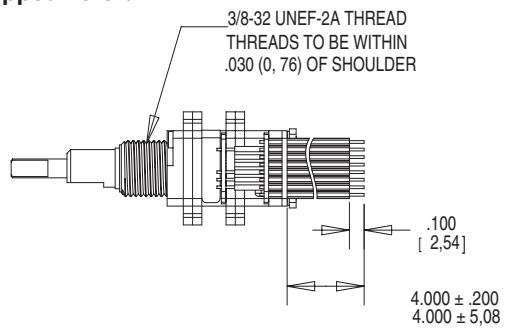
APPLICATIONS
- Avionics

DIMENSIONS in inches (and millimeters)

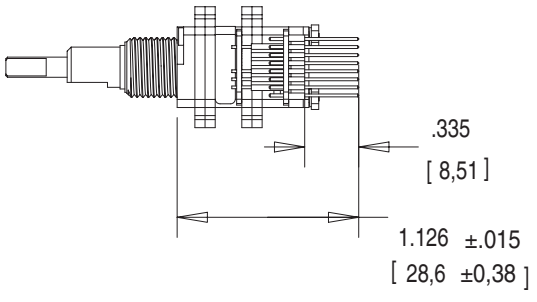
Cable Version



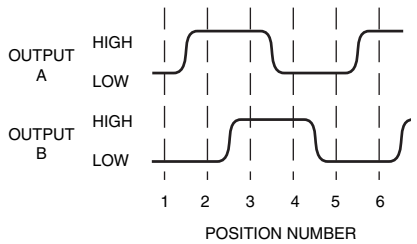
Stripped Version



Pin Version



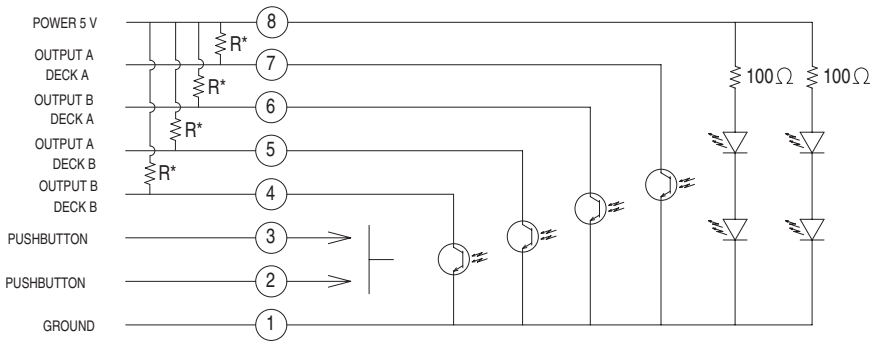
WAVEFORM AND TRUTH TABLE



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

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

CIRCUITRY



*EXTERNAL 2.2k Ω PULL-UP RESISTORS REQUIRED FOR OPERATION

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 and less than 10 mS at break
Actuation Force: 1100 ±300g
Shaft Travel: .020±.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 Characterisitics:
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

Code Housing: Reinforced thermoplastic
Shafts: Stainless Steel
Bushing: Zinc casting
Pushbutton Actuator: Zytel 70G33L
Shaft Retaining Rings: Stainless steel
Detent Spring: Stainless steel
Detent Ball: Stainless steel
Detent Section: Hiloy 610
Printed Circuit Boards: NEMA grade FR-4 gold over nickel or palladium
Terminals: Brass, tin-plated
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)
Rotor: Thermoplastic
Pushbutton Dome: Stainless steel
Phototransistor: Planar Silicon NPN
Infrared Emitter: Gallium aluminum arsenide
Flex Cable: 28 AWG, stranded/top coated wire, PVC coated on .050 or .100" centers (cabled version)
Header Pins: Brass, tin-plated
Spacer: Hiloy 610
Shim: Stainless Steel
Backplate/Strain Relief: Stainless steel
Lockwashers: Stainless steel
Hex Nuts: Stainless steel
Studs: Stainless steel

ORDERING INFORMATION

62HXXXX-XX-040C

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