

SERIES 62HG

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

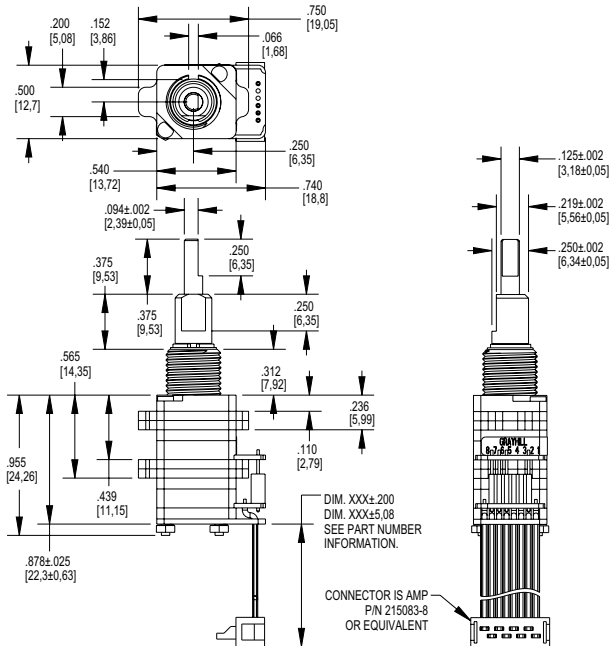
APPLICATIONS

- Avionics
- Agriculture and Construction
- Military

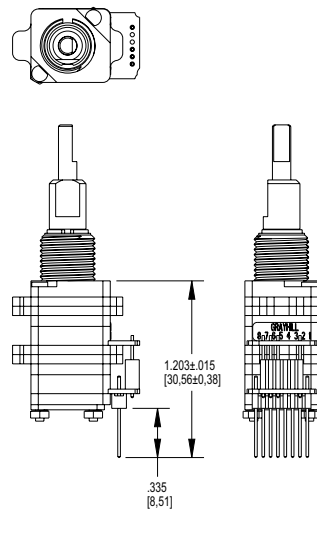


DIMENSIONS in inches (and millimeters)

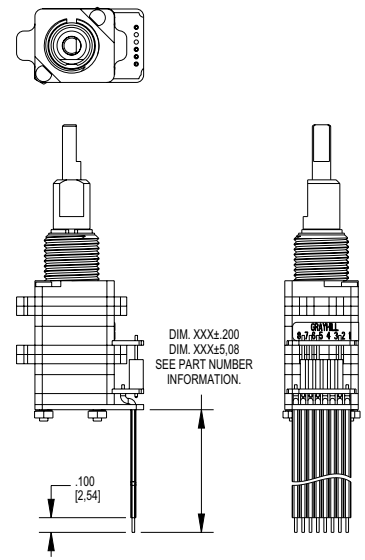
Cable Version



Pin Version

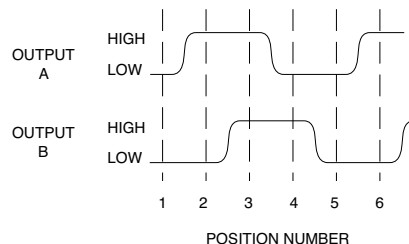
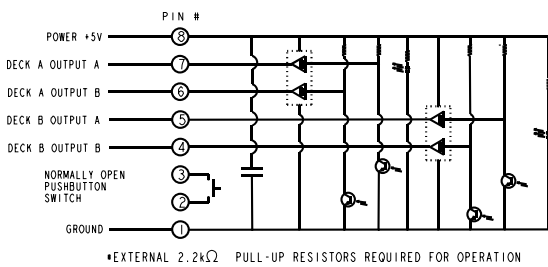


Stripped Version



Unless otherwise specified, standard tolerance is ±.010 (0,25)

CIRCUITRY, WAVEFORM, AND TRUTH TABLE



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

○ Indicates logic low
 ● Indicates logic high
 Code repeats every four positions.

Specifications are subject to change.

SPECIFICATIONS

Pushbutton Switch Ratings

Rating	At 5 Vdc, 10 mA, resistive
Contact Resistance	Less than 10 ohms (TTL or CMOS compatible)
Pushbutton Life	1 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±300 g
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 <i>1 cycle is a rotation through all positions and a full return</i>
Minimum Sink Current	2.0 mA for 5 Vdc
Power Consumption	150 mW maximum
Output	Push-pull 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 85 °C
Vibration Resistance	Harmonic motion with amplitude of 15 G, within a varied 10 to 2000 Hz frequency for 12 hrs
Mechanical Shock	Test 1: 100 G, 6 mS, half sine, 12.3 ft/s Test 2: 100 G, 6 mS, sawtooth, 9.7 ft/s
Relative Humidity	90-95% at 40 °C for 96 hrs

Materials and Finishes

Code Housing	Reinforced thermoplastic
Shafts	Stainless steel
Bushing	Zinc casting
Pushbutton Actuator	Thermoplastic
Shaft Retaining Rings	Stainless steel
Detent Spring	High carbon steel
Detent Ball	Stainless steel
Detent Section	Reinforced thermoplastic
Printed Circuit Boards	NEMA grade FR-4 gold over nickel or palladium
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" thick by 0.433" 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	Reinforced thermoplastic
Shim	Stainless steel
Backplate/Strain Relief	Stainless steel
Lockwashers	Stainless steel
Hex Nuts	Stainless steel
Studs	Stainless steel

ORDERING INFORMATION

6 2 H G X X X X - X X - X X X X

Series

Angle of Throw: Deck A

45 = 45° for code change and 8 detent positions
30 = 30° for code change and 12 detent positions
22 = 22.5° for code change and 16 detent positions

Angle of Throw: Deck B

45 = 45° for code change and 8 detent positions
30 = 30° for code change and 12 detent positions
22 = 22.5° for code change and 16 detent positions

Rotational Torque
H = High Torque

Pushbutton Option
0 = No pushbutton
9 = 1100 grams

Termination

C = .050 center ribbon cable with connector
S = .050 center ribbon cable with .100 stripped end
P = .050 center pins

Cable Length

020 = 2.0 in. cable
030 = 3.0 in. cable
040 = 4.0 in. cable
050 = 5.0 in. cable
060 = 6.0 in. cable
Leave blank if pinned

Specifications are subject to change.