



GRAYHILL

SERIES 62NG

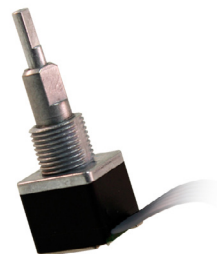
Encoder with a Separate Non-rotating Pushbutton Shaft

FEATURES

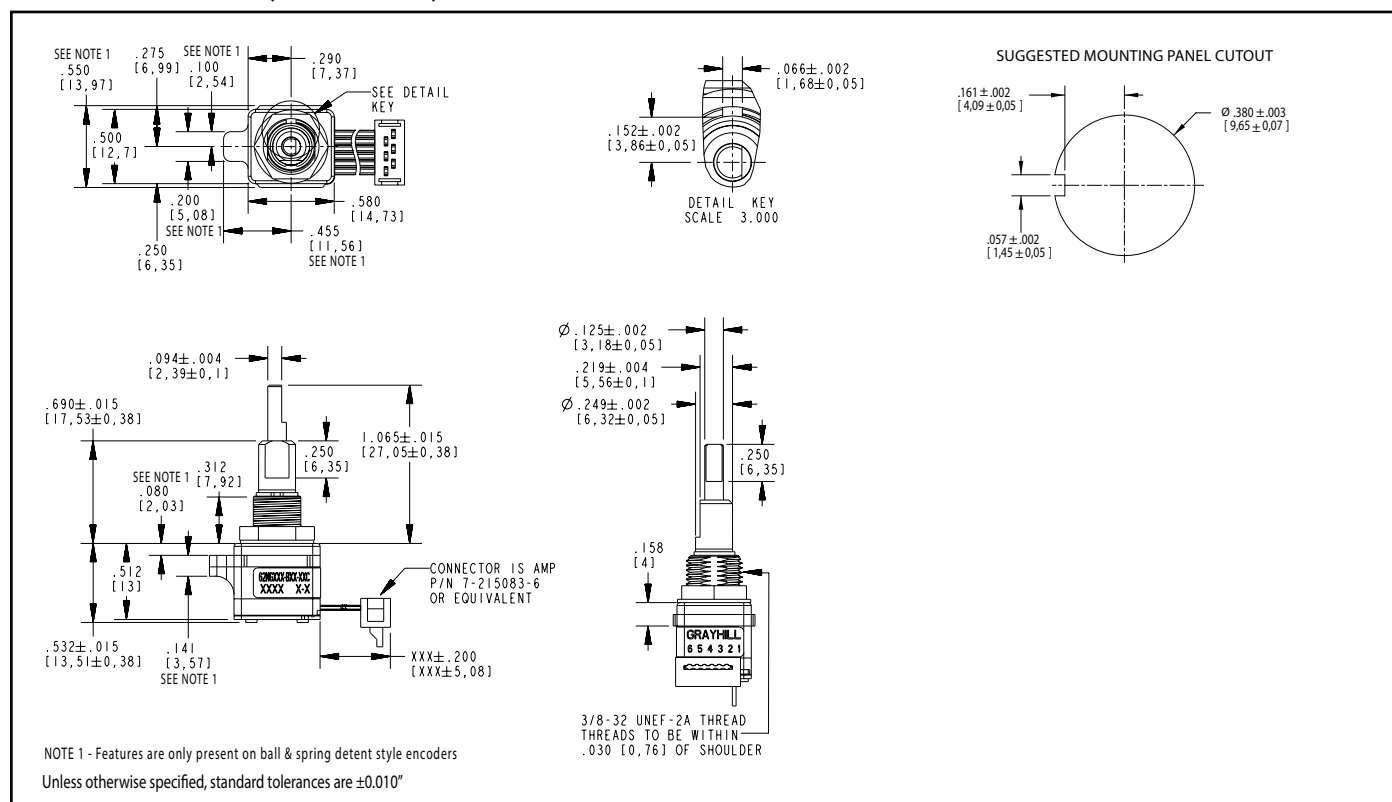
- Non-turn pushbutton to ensure pushbutton text and orientation
- Low cost version of our popular 62N series
- Patented light pipe technology
- Optically coupled for more than a million cycles
- Available for 5 Vdc & 3.3 Vdc
- Available in 16, 20, 24, and 32 detent positions
- Choices of cable length and terminations

APPLICATIONS

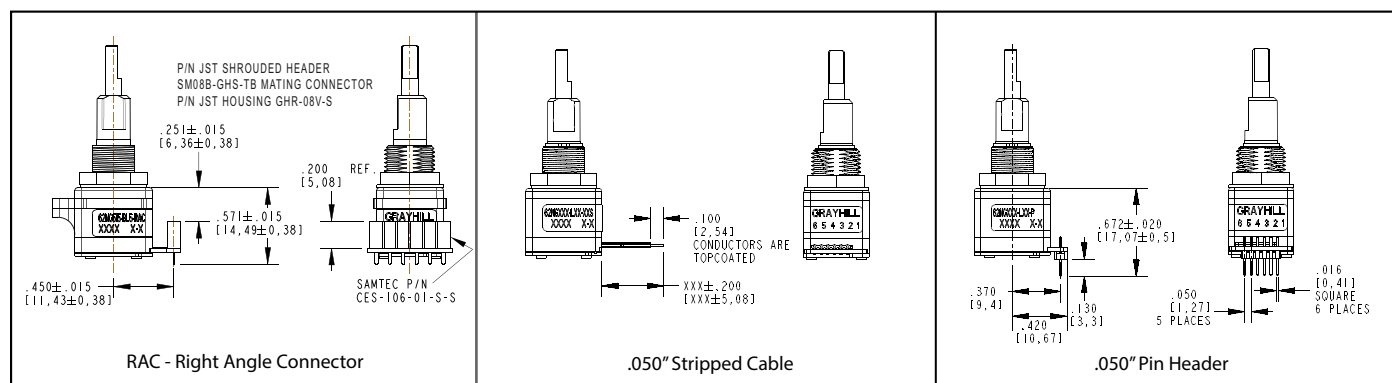
- Global positioning
- Driver information systems
- Ultrasound, patient monitor and other medical equipment
- Commercial and military cockpit controls



DIMENSIONS in inches (and millimeters)



OTHER TERMINATION OPTIONS





GRAYHILL

SPECIFICATIONS

Pushbutton Switch Ratings

Electrical Rating: at 24 Vdc max, 10 mA, resistive

Contact Resistance: less than 10 ohms

Pushbutton Life Expectancy: 1 million actuations minimum

Contact Bounce: less than 4 mS at make and less than 10 mS at break

Actuation Force: 5 = 455 ±140 g

Pushbutton Travel: .019±.008 in

Encoder Ratings

Coding: 2-bit quadrature coded output

Operating Voltage: NG5: 5.0 ±.25 Vdc, NG3: 3.3 ±.125 Vdc

Supply Current: NG5: 30 mA maximum

@5.0 Vdc, NG3: 30 mA maximum @3.3 Vdc

Logic Output Characteristics:

Logic High: NG5: 3.0 Vdc minimum, NG3: 2.0 Vdc minimum

Logic Low: NG5: 1.0 Vdc maximum, NG3: 1.0 Vdc maximum

Mechanical Life: 1,000,000 cycles (one cycle is a rotation through all positions and a full return)

Max Rotational Speed: 100 RPM

Shaft Pushout / Pullout Force: 45 lbs/45 lbs minimum

Mounting Torque: 15 in-lbs maximum

Terminal Strength: 15 lbs minimum cable or header pullout force, MIL-STD-202, Method 211A, Test Condition A

Solderability: 95% free of pin holes and voids, MIL-STD-202, Method 208

Environmental Ratings

Operating Temperature Range: -40°C to 85°C, IEC 68-2-1, Test Aa and IEC 68-2-2, Test Aa

Storage Temperature Range: -40°C to 85°C, IEC 68-2-1, Method Aa and IEC 68-2-2, Method Ba

Mechanical Shock: Test 1: 100G, 6 mS, half sine, 12.3 ft/s; Test 2: 100G, 6 mS, sawtooth, 9.7 ft/s, MIL-STD-202, Method 213, Test Condition C and I

Relative Humidity: 90–95% at 40°C for 96 hours, MIL-STD-202, Method 103B

Mechanical Vibration: Harmonic motion with amplitude 15G within a varied 10 - 2000Hz frequency for 12 hours, MIL-STD-202, Method 204, Test Condition B

Materials and Finishes

Shafts: Zinc

Bushing: Zinc

Header Pins: Tin-plated phosphor bronze

Hex Nut: Nickel plated brass

Lockwasher: Spring steel, zinc plate with clear trivalent chromate finish

Cable: Copper stranded with topcoat in PVC insulation (cable version only)

EMC Ratings

Radiated Immunity: Meets IEC 61000-4-3, level 3

Conducted Immunity: Meets IEC 61000-4-6, level 3

Radiated Emissions: Meets ANSI C63.4

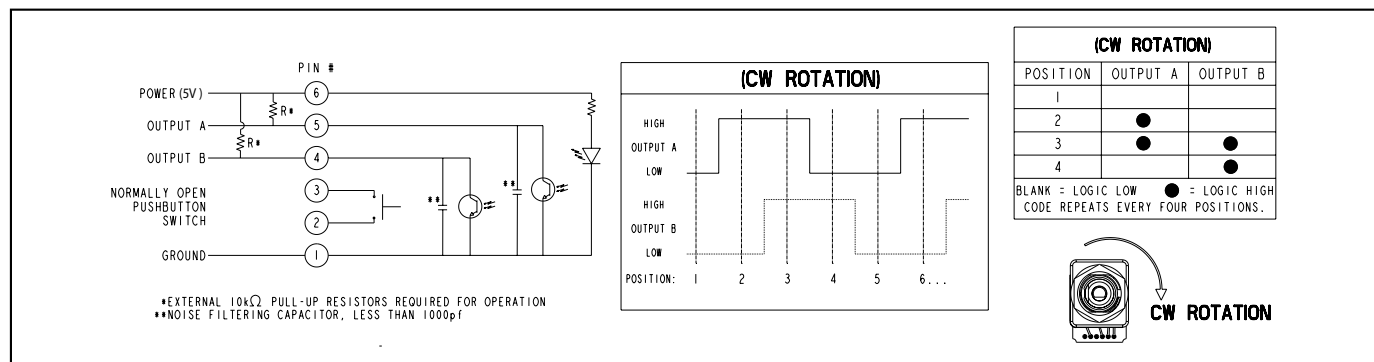
Conducted Emissions: Meets EN 55022

Electrostatic Discharge: Meets IEC 61000-4-2

Power Frequency Magnetic Field: Meets IEC 61000-4-8

INITIAL AVERAGE ROTATIONAL TORQUE (IN-OZ)				
50% OF INITIAL TORQUE THROUGHOUT LIFE				
	LOW LEAF SPRING (LL)	HIGH LEAF SPRING (LH)	LOW BALL & SPRING (BL)	HIGH BALL & SPRING (BH)
16 POSITION	2.00±1.40	3.50±1.40	0.90±0.45	1.60±0.90
20 POSITION	2.00±1.40	3.50±1.40	0.80±0.40	1.60±0.90
24 POSITION	2.00±1.40	3.50±1.40	0.70±0.40	1.60±0.90
32 POSITION	2.00±1.40	3.50±1.40	0.60±0.40	1.15±0.65

CIRCUITRY, TRUTH TABLE, AND WAVEFORM



ORDERING INFORMATION

*62NG515-BL5-RAC available as standard P/N, for additional options, please contact Grayhill

