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

SUGGESTED MOUNTING PANEL CUTOUT

UNLESS OTHERWISE SPECIFIED, STANDARD TOLERANCES ARE ±0.010"

NOTE 1 - Features are only present on ball & spring detent style encoders.

Grayhill, Inc. • 561 Hillgrove Avenue • LaGrange, Illinois  60525-5997 • USA • Phone: 708-354-1040 • Fax: 708-354-2820 • www.grayhill.com

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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
Solderbility: 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

Material and Finishes

Shafts: Zinc
Bushings: Zinc
Header Pins: Tin- plated phosphor bronze
Lockwasher: Spring steel, zinc plate with clear trivalent chrome 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
Power Frequency Magnetic Field: Meets IEC 61000-4-8

ORDERING INFORMATION

Grayhill Series Number
Voltage: 5 = 5.0V, 3 = 3.3V
Angle of Throw: 11 = 11.25° - 32 positions
15 = 15.00° - 24 positions
18 = 18.00° - 20 positions
22 = 22.50° - 16 positions

Detent Style:
  L = Leaf Spring
  B = Ball & Spring

Rotational Torque:
  L = Low Torque
  H = High Torque

Cable Length:
  02 = 2.00” Cable
  04 = 4.00” Cable
  06 = 6.00” Cable

Termination:
  S = 5000 Stripped Cable
  C = 5000 Connector
  P = 5000 Header
  RAC = Right Angle Connector

Pushbutton:
  S = 455±140 g

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