SERIES 62N

1/2" Package, non-turn, Dedicated Shaft

FEATURES

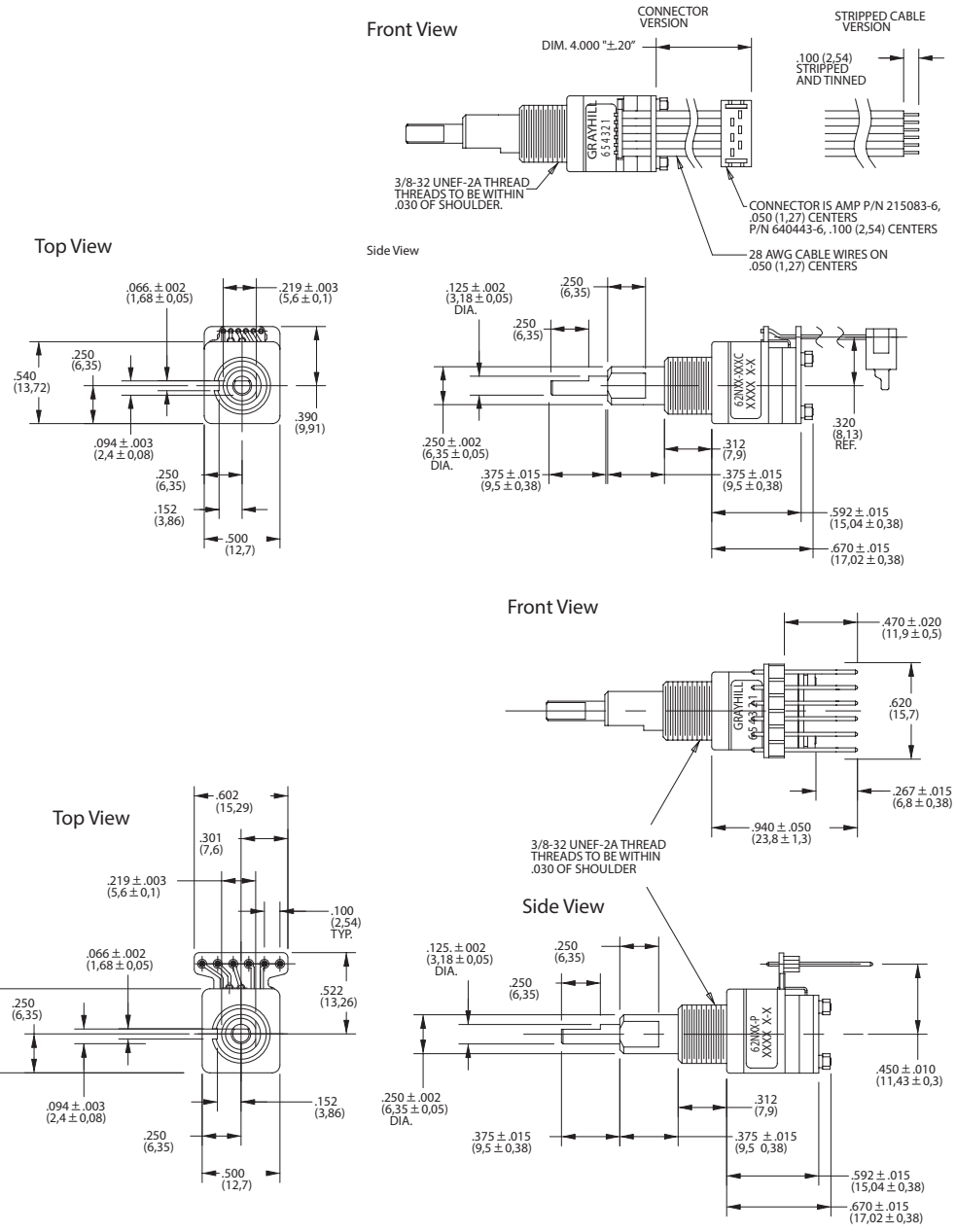
- Non-turn Pushbutton to Ensure Pushbutton Text and Orientation
- Seperate Pushbutton Function
- Low Cost
- Economical Size
- Optically Coupled for More than a Million Cycles
- Compatible with CMOS, TTL and HCMOS Logic
- Available in 12, 16, 24, and 32 Detent Positions (Non-detent also available)
- Choices of Cable Length and Terminations

APPLICATIONS

- Global Positioning/Driver Information Systems
- Medical Equipment
- Cockpit Controls

DIMENSIONS in inches (and millimeters)

Cable Version



Unless otherwise specified, standard tolerances are ±0.10 (0,25)

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: 1000 ±300g
Pushbutton Travel: .010/.025 inch

Encoder Ratings

Coding: 2-bit quadrature coded output
Operating Voltage: 5.0 ±.25 Vdc
Supply Current: 30 mA maximum@5.0 Vdc
Logic Output Characterisitics:
Logic High: 3.8 Vdc minimum
Logic Low: 0.8 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:
Detent: 2.0 in-oz ±70% initially
Non-Detent: less than 1.5 in-oz initially
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

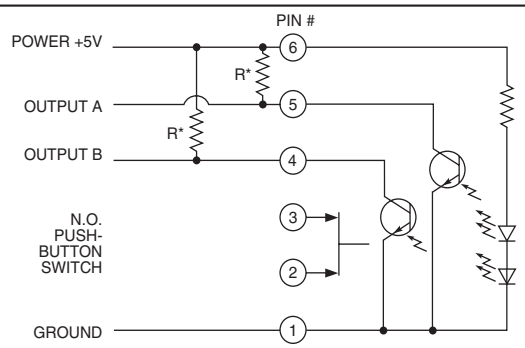
Environmental Ratings

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: Aluminum
Bushing: Zinc casting
Shaft Retaining Ring: Stainless steel
Detent Spring: Stainless steel
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
Code Housing: Thermoplastic
Pushbutton Dome: Stainless steel
Dome Retaining Disk: Thermoplastic
Pushbutton Housing: Thermoplastic
Phototransistor: Planar Silicon NPN
Infrared Emitter: Gallium aluminum arsenide
Pushbutton Contact: Brass, nickel-plated
Flex Cable: 28 AWG, stranded/top coated wire, PVC coated on .050 or .100" centers (cabled version)
Header Pins: Phosphor bronze, tin-plated
Spacer: Thermoplastic
Endcap: Thermoplastic
Non-turn Pin: Stainless steel
Backplate/Strain Relief: Stainless steel
Studs: Stainless steel

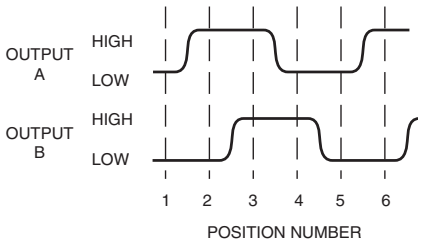
CIRCUITRY, TRUTH TABLE, AND WAVEFORM Standard Quadrature 2-Bit Code



* External pull-up resistors required for operation (2.2 kΩ).

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

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



ORDERING INFORMATION

62N22-040S

Series and Style = 1/2" package, non-turn, dedicated shaft

Angle of Throw:

Detent	Non-detent
11 = 11.25° or 32 pos.	01 = 11.25° or 32 positions
15 = 15° or 24 positions	05 = 15° or 24 positions
22 = 22.25° or 16 positions	02 = 22.5° or 16 positions
30 = 30° or 12 positions	00 = 30° or 12 positions

Termination: S = Stripped cable; .050" centers
SH = Stripped cable; .100" centers
C = Connector; .050" centers
CH = Connector; .100" centers
P = Pin; .100" centers

Cable Termination: 040 = 4.0in. Cable is terminated with Amp Connector P/N 215088-6. See Amp Mateability Guide for mating connector details.
*Eliminate cable length if ordering pins (Ex: 62N22-P)

These switches have Quadrature 2-bit code output and an optional shaft actuated pushbutton switch.

Custom materials, styles, colors, and markings are available. Control knobs available.

Available from your local Grayhill Component Distributor.
For prices and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill.