

SERIES 62F

1/2" Package, Lighted Shaft

FEATURES

- Integrated Self-Lighting System for Knob Illumination
- 1 Million Rotational Cycles
- 1/2" Package
- Compatible with CMOS, TTL and HCMOS Logic
- Optional Integral Pushbutton
- Choices of Cable Length and Terminations
- Other Customized Solutions Available

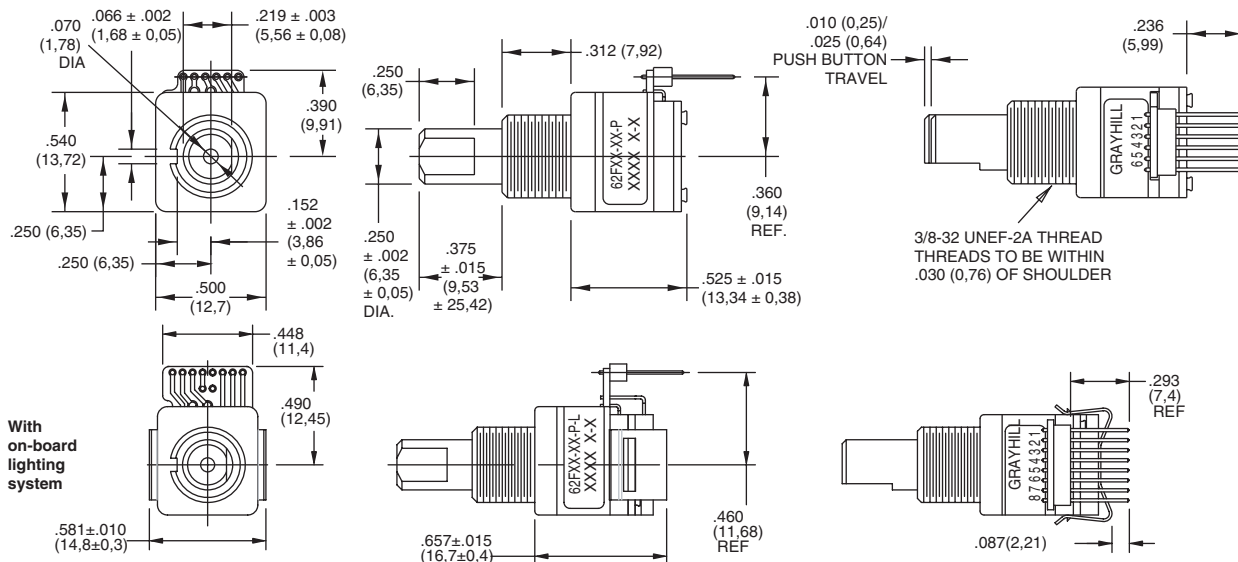
APPLICATIONS

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

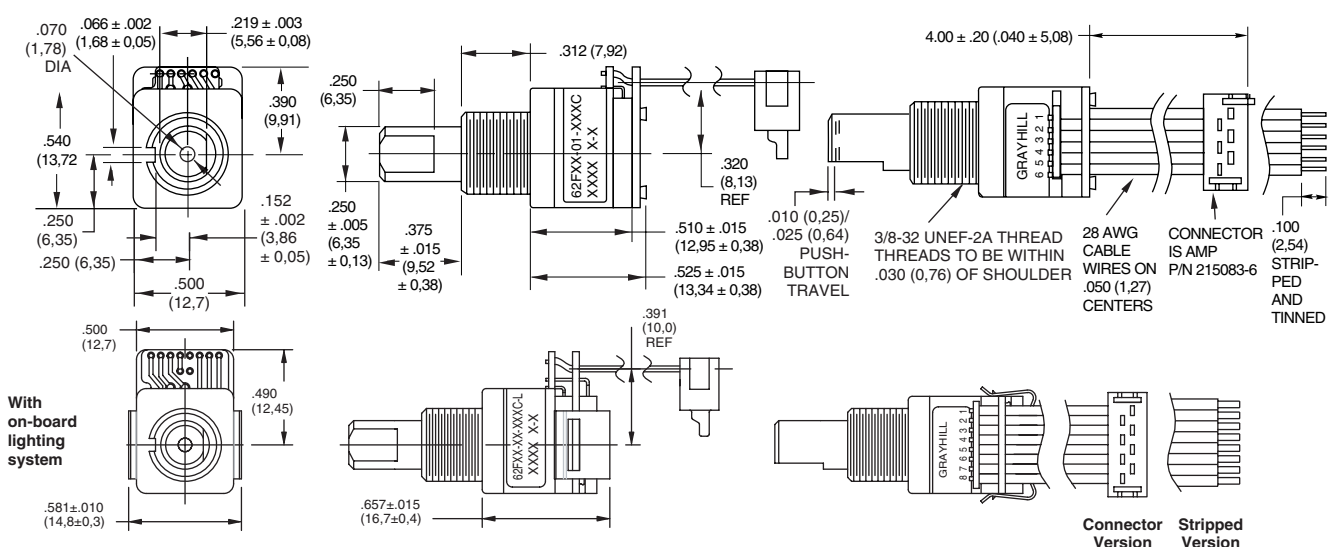


DIMENSIONS In inches (and millimeters)

Pin Version

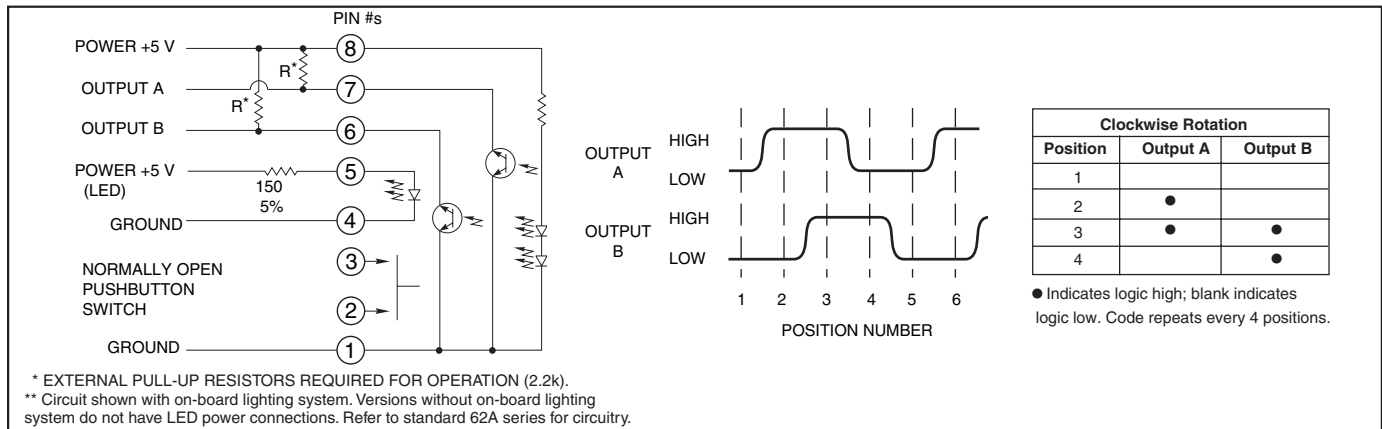


Cable Version



Unless otherwise specified, standard tolerance is $\pm .010$ (0.25).

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



SPECIFICATIONS

Pushbutton Switch Ratings

Rating: 5 Vdc, 10 mA, resistive
Contact Resistance: less than 10 ohms (TTL or CMOS compatible)
Pushbutton Life: 3 million actuations minimum
Contact Bounce: less than 4 mS at make and less than 10 mS at break
Actuation Force: 500 ±300 grams
Pushbutton Travel: .010/.025 inch

Switch Ratings

Coding: 2-bit quadrature coded output
Operating Voltage: 5.0 ±.25 Vdc
Voltage Breakdown: 250 Vac between mutually insulated parts
Supply Current: 30 mA maximum
Logic Output Characteristics:
Logic High: 3.8 Vdc minimum
Logic Low: 0.8 Vdc maximum
Rotational Life: 1,000,000 cycles minimum (One cycle is a rotation through all positions and a full return)
Minimum Sink Current: 2.0 mA
Power Consumption: 150mW maximum
Optical Rise and Fall Times: less than 30 mS maximum

Operating Torque:

Detent: 2.0 ±1.4 in-oz 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
Axial Shaft Play: .010 maximum

Environmental Ratings

Operating Temperature Range: -40°C to 85°C
Storage Temperature Range: -55°C to 100°C
Relative Humidity: 90–95% at 40°C for 96 hours
Vibration Resistance: Harmonic motion with amplitude of 15G's, within a varied 10 to 2000 Hz frequency for 12 hours per MIL-STD-202, Method 204
Mechanical Shock: Test 1: 100G for 6 mS, half sine, 12.3 ft/s; Test 2: 100G for 6 mS, sawtooth, 9.7 ft/s

Materials and Finishes

Code Housing: Reinforced thermoplastic
Shaft: 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 stainless steel lockwasher supplied with each switch. Nut is 0.094 inches thick by 0.562 inches across flats

Rotor: Thermoplastic

Code Housing: Thermoplastic

Pushbutton Dome: Stainless steel

Dome Retaining Disk: Thermoplastic

Pushbutton Housing: Thermoplastic

Phototransistor: Planar Silicon NPN

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: ABS

Backplate/Strain Relief: Stainless steel

Lockwasher: Stainless steel

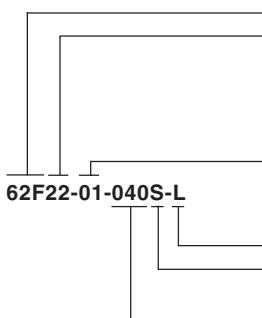
Light Pipe: Thermoplastic

LED Housing: Thermoplastic

OPTIONS

Contact Grayhill for custom terminations, shaft and bushing configurations, and resolutions. Control knobs are also available.

ORDERING INFORMATION



Series
Angle of Throw: Detent
11 = 11.25° or 32 pos.
15 = 15° or 24 positions
18 = 18° or 20 pos.
22 = 22.5° or 16 positions
Pushbutton Option: 01 = w/o pushbutton, 02 = with pushbutton

LED: blank = no LED, L = supplied with LED
Termination: S = Stripped cable; S-L = Stripped cable, LED; C = Connector; C-L = Connector, LED; P = Pin; P-L = Pin, LED
Cable Termination: 040 = 4.0in. Cable is terminated with Amp P/N 215083-6. See Amp Mateability guide for mating connector details.
*Eliminate cable length if ordering pins. (Ex: 62A22-02-P)

Non-detent
01 = 11.25° or 32 positions
05 = 15° or 24 positions
08 = 18° or 20 positions
02 = 22.5° or 16 positions

62F22-01-040S-L

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.