

## SERIES 62F

### 1/2" Package, Lighted Shaft

#### FEATURES

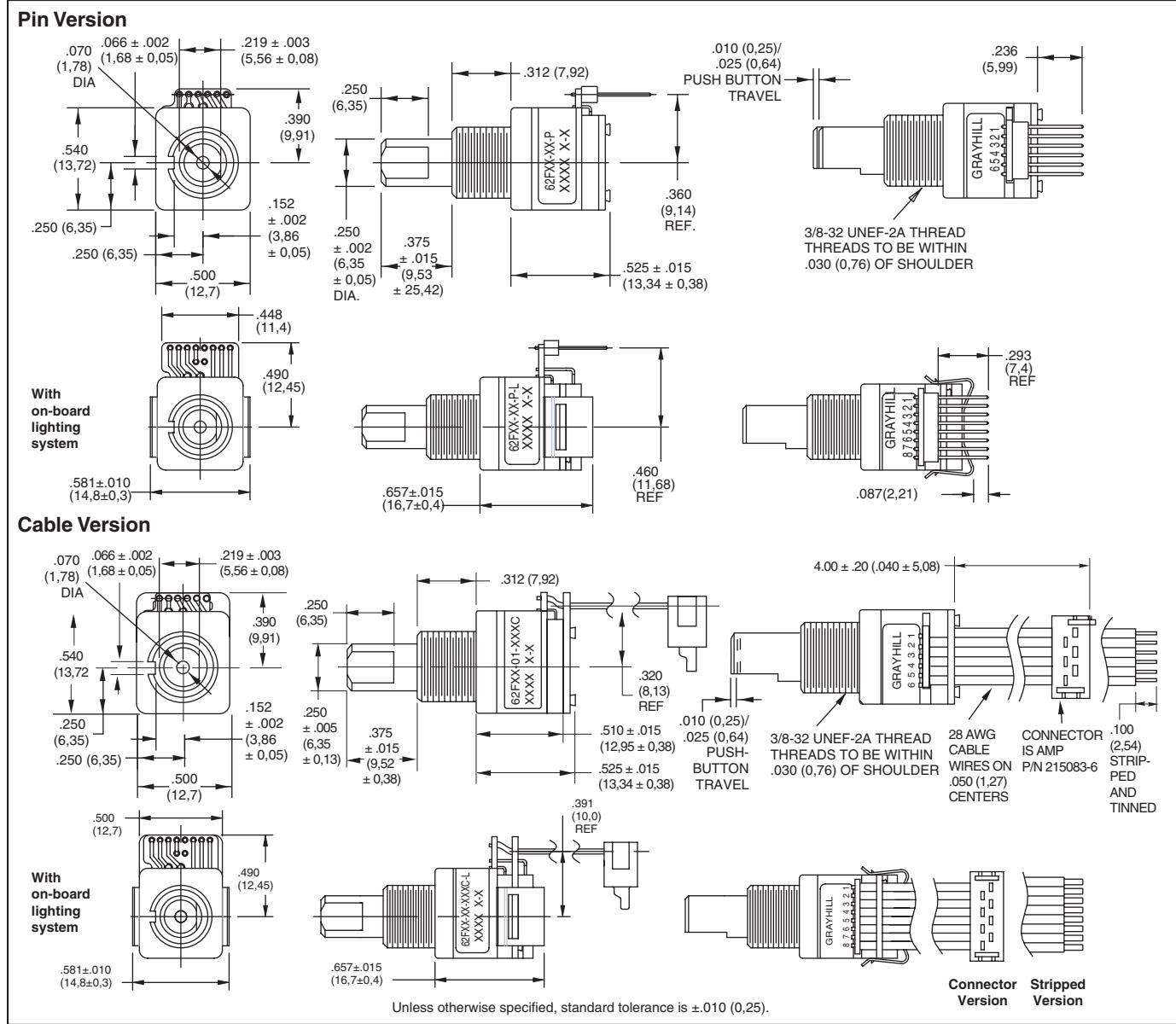
- Integrated Self-Lighting System for Knob Illumination
- 1 Million Rotational Cycles
- 1/2" Package
- Compatible with CMOS, TTL and HCMOS Logic
- Optional Integral Pushbutton
- Choices of Cable Length and Terminations
- Other Customized Solutions Available

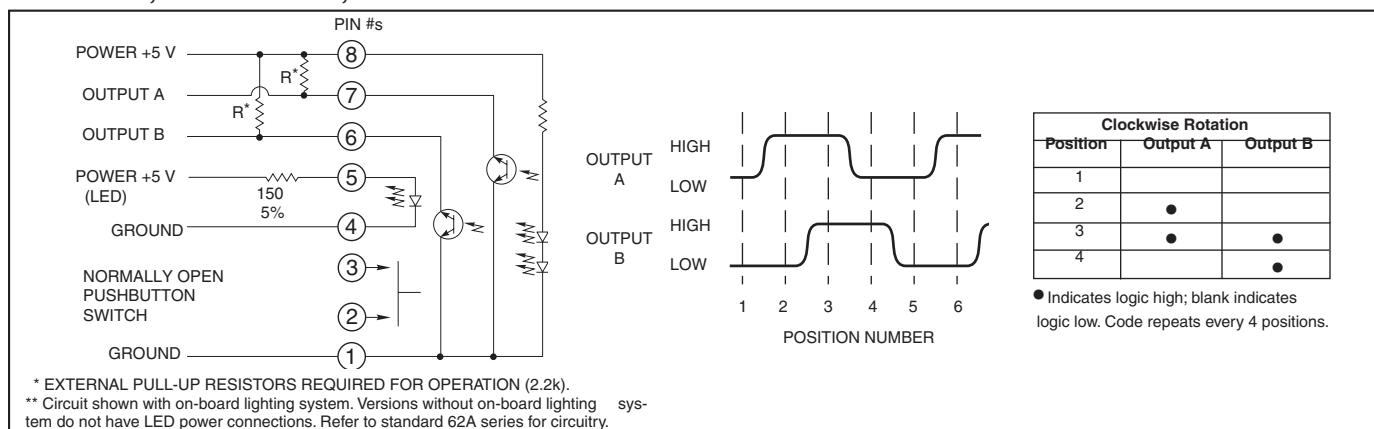
#### APPLICATIONS

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



#### DIMENSIONS In inches (and millimeters)



**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

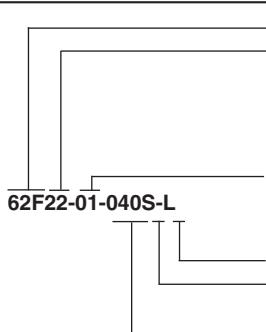
Optical Rise and Fall Times: less than 30 mS maximum

**Operating Torque:**Detent:  $2.0 \pm 1.4$  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 0.433 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:** Phospher 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

**Non-detent**

01 = 11.25° or 32 positions

05 = 15° or 24 positions

08 = 18° or 20 positions

02 = 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)

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.