



Optical Encoders

SERIES 62S Compact 1/2" Package

FEATURES

- Compact Size
- Requires Minimal Behind Panel Space
- 1 Million Rotational Cycles for Low and Medium Torque, 1/2 Million for High
- 3 Million Rotations for Non-Detent Styles
- Optional Integral Pushbutton
- Choices of Cable Length and Terminations

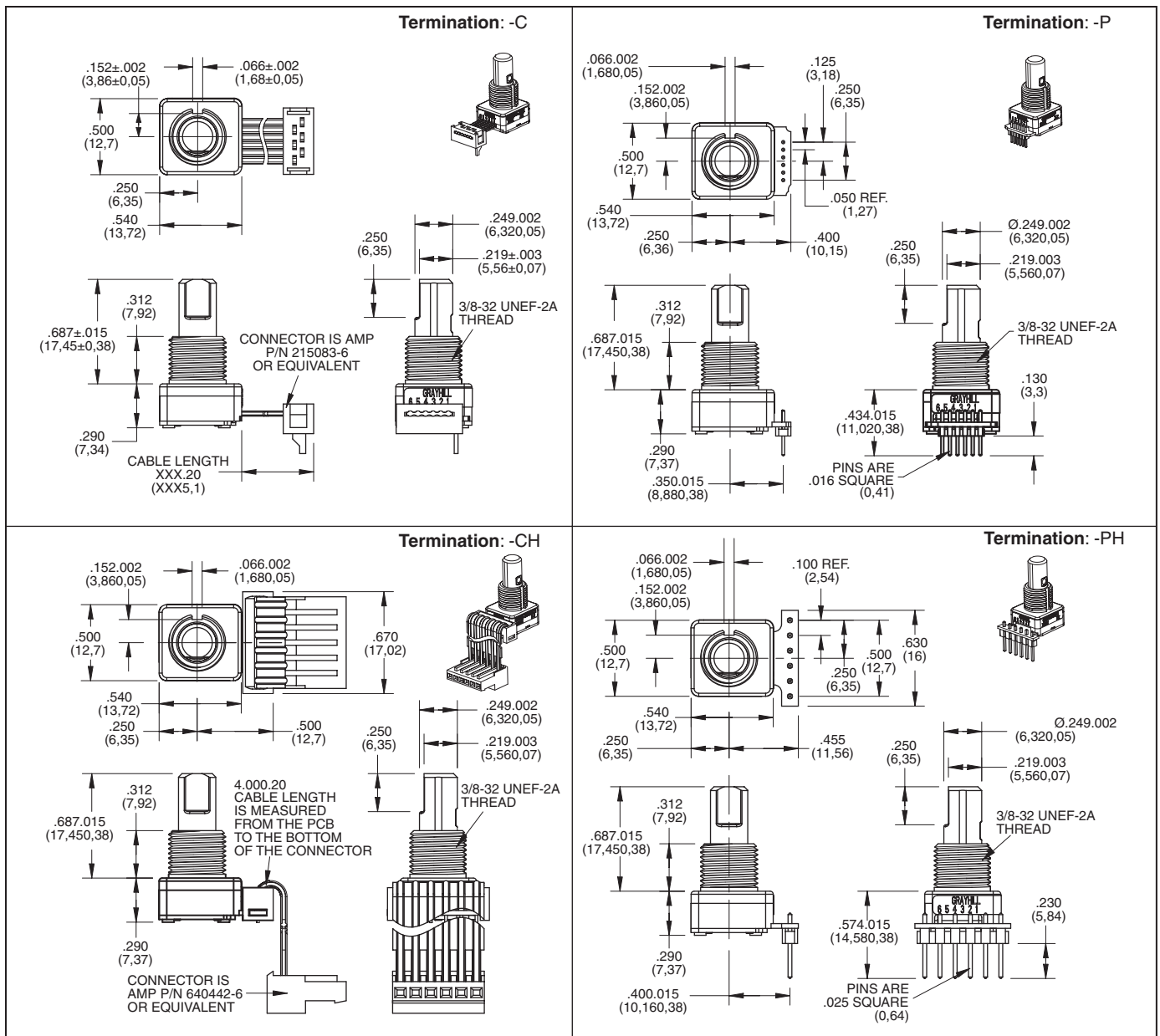
APPLICATIONS

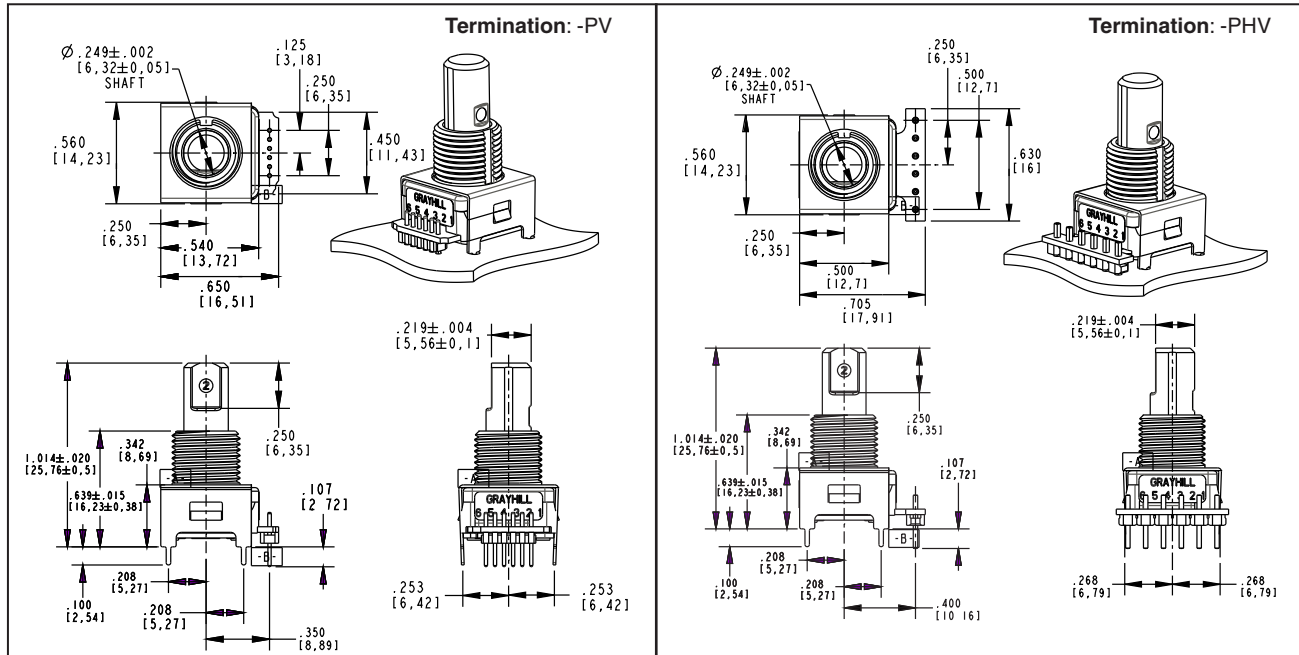
- Global Positioning/Driver Information Systems
- Medical Equipment



DIMENSIONS in inches (and millimeters)

Unless otherwise specified, standard tolerance is ± 0.010 (0,25)





SPECIFICATIONS

Environmental Specifications

Operating Temp. Range: -40°C to 85°C

Storage Temp. Range: -55°C to 100°C

Humidity: 96 Hours at 90–95% humidity at 40°C

Mechanical Vibration: Harmonic motion with amplitude of 15G's, within a varied frequency of 10 to 2000 Hz

Mechanical Shock: Test 1: 100G for 6 mS, half sine wave with a velocity change of 12.3 ft/s; Test 2: 100G for 6 mS, sawtooth wave with a velocity change of 9.7 ft/s

Rotary Electrical and Mechanical Specifications

Operating Voltage: 5.00 ±0.25 Vdc

Supply Current: 25mA max at 5.25Vdc

Output: Open collector phototransistor, external pull up resistors are required

Output Code: 2-Bit quadrature, channel A leads channel B by 90° electrically during clockwise rotation of the shaft

Logic Output Characteristics:

Logic High shall be no less than 3.8 Vdc

Logic Low shall be no greater than 0.8Vdc

Minimum Sink Current: 2.0 mA

Power Consumption: 132mW maximum (includes power in 2 pull-up resistors)

Mechanical Life:

Non-Detent 3 Million Cycles

Low & Medium 1 Million Cycles

High 1/2 Million Cycles

1 cycle is a rotation through all positions and a full return

Torque shall be within 50% of initial value throughout life

Mounting Torque: 15 in-lbs maximum

Shaft Push-Out Force: 45 lbs minimum

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Terminal Strength: 15 lbs minimum terminal

pull-out force for cable or header termination

Solderability: 95% free of pin holes and voids

Pushbutton Electrical & Mechanical Specifications

Rating: 10 mA at 5 Vdc

Contact Resistance: <10Ω

Life: 3 million actuations minimum

Contact Bounce: <4 ms Make, <10 ms Break

Actuation Force: 9-950±150 grams, 5-510±150 grams, 4-400±100 grams, 3-300±90 grams, 2-200±75 grams

Shaft Travel: .025±.010 inch

Materials and Finishes

Bushing: Zamak 2

Shaft: Aluminum or Zamak 2

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

Connector (.050 Center): PA4.6 with tin over nickel plated phosphor bronze

Connector (.100 Center): Nylon UL94V-2, tin plated copper alloy

Solder: Sn/Ag/Cu, Lead-Free, No Clean

Hex Nut: Nickel, plated with brass

Lockwasher: Zinc Plated Spring Steel with Clear Trivalent Chromate Finish

Header: Hi-Temp glass filled thermoplastic UL94V-0, phosphor bronze (pin versions only)

Strain Relief: Glass filled thermoplastic (.100 center cable versions only)

This product series is ROHS Compliant.

OPTIONS

Contact Grayhill for custom terminations, shaft and bushing configurations, rotational torque pushbutton force, and code output.