

SERIES 62AG

Price Competitive Solution

FEATURES

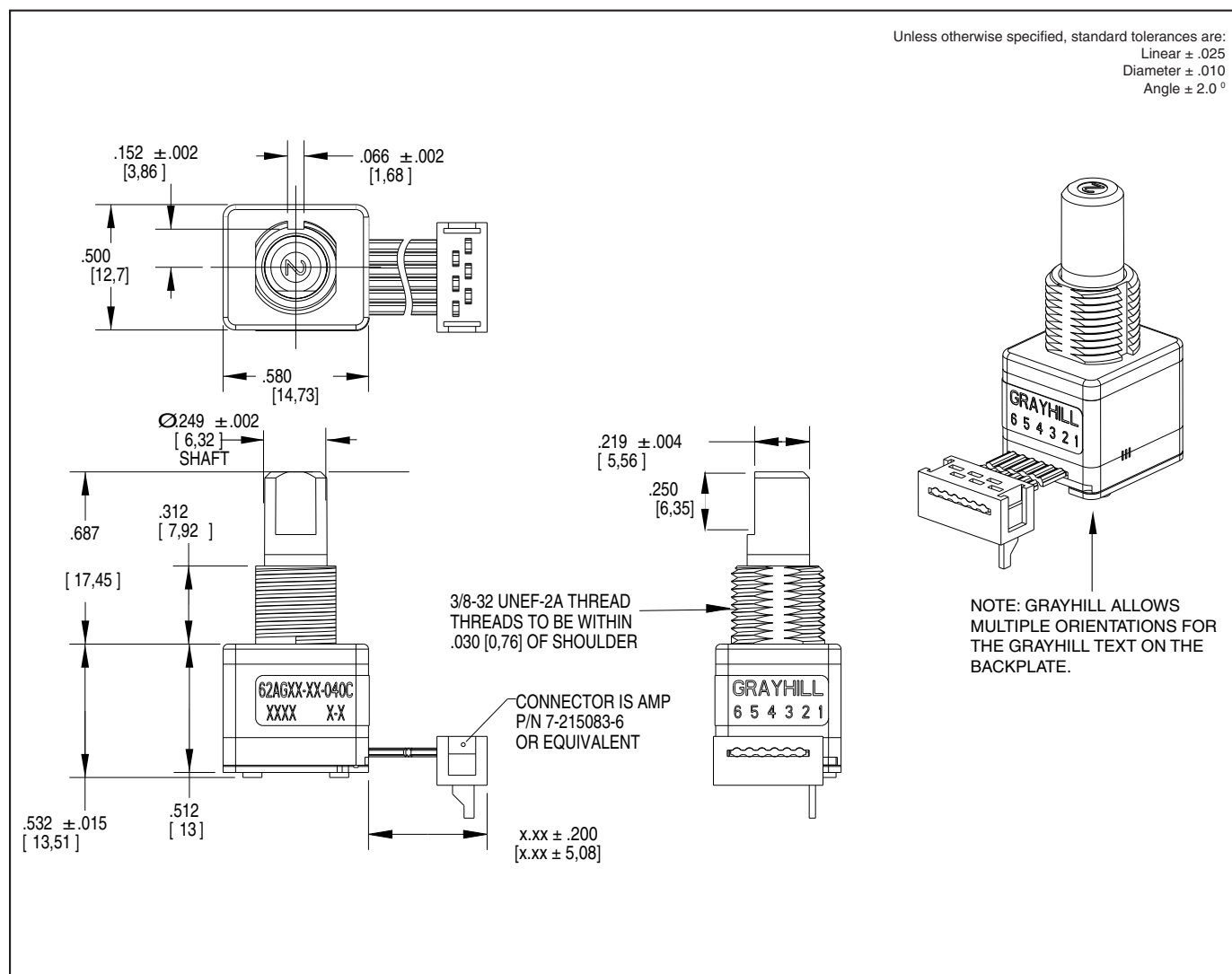
- Over 1 million rotational cycles
- 2-bit gray code output
- Quadrature coding
- Available in 16, 20, 24 and 32 detent positions
- Choices of cable length and terminations
- Available for 5Vdc and 3.3Vdc
- Optional integrated pushbutton
- Patented light pipe technology
- Cost competitive with mechanical encoders at higher volumes

APPLICATIONS

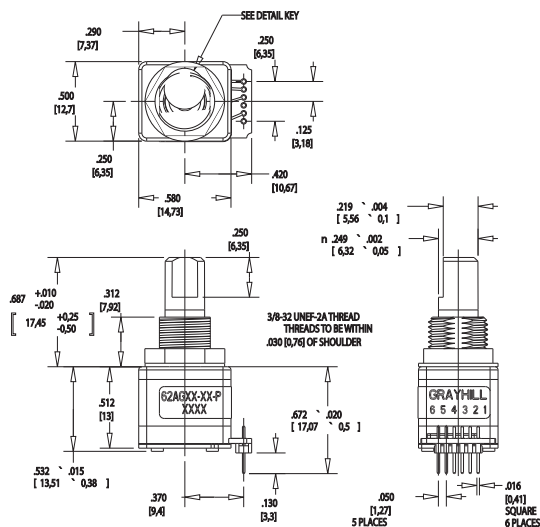
- Automotive
 - audio systems
 - navigation systems
- Medical
 - patient monitoring systems
- Test & Measurement
 - analyzers
 - oscilloscopes
- Audio & Video
 - consumer electronics
 - professional editing equipment



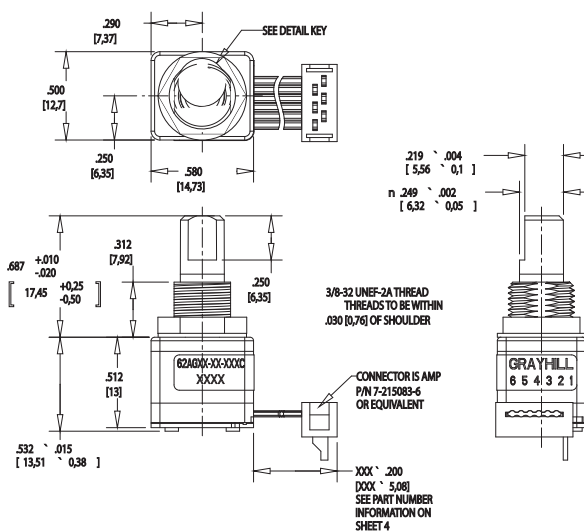
DIMENSIONS in inches (and millimeters)



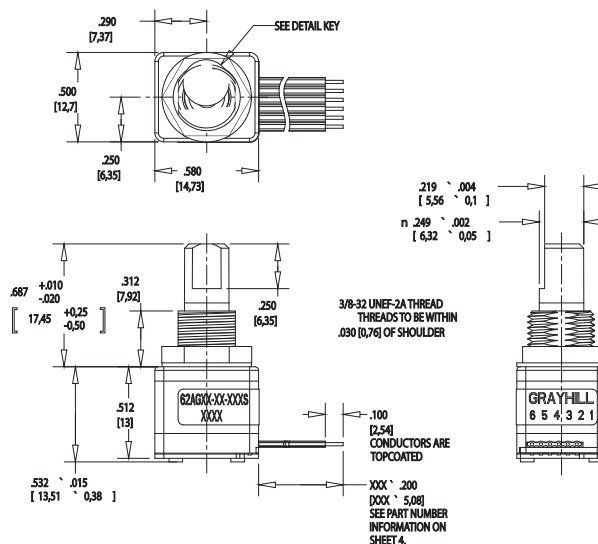
Termination Options



P - .050 Center Pins with 0.185 inch length

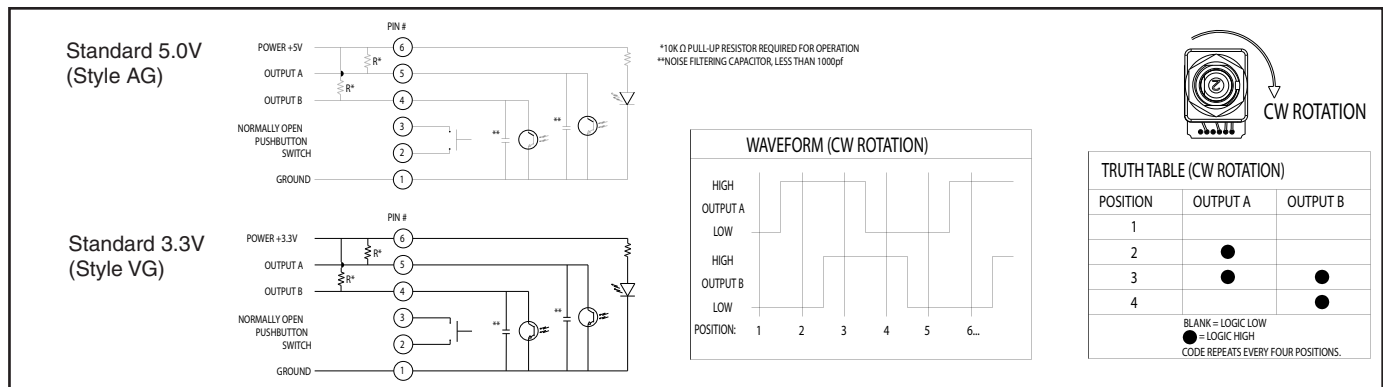


C - .050 Center Ribbon Cable with connector



S - .050 Center Ribbon Cable with .100 stripped end

WAVEFORM AND TRUTH TABLE



SPECIFICATIONS

Environmental Specifications

Operating Temperature: -40°C to 85°C

Storage Temperature: -40°C to 85°C

Humidity: 96 hours @ 90-95% humidity @ 40°C

Mechanical Vibration: Harmonic motion with amplitude of 15g within a varied frequency of 10 to 2000 Hz for 12 hours

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:

AG Style 5.00±0.25 Vdc

VG Style 3.30±0.125 Vdc

Supply Current:

AG Style 30 mA maximum

VG Style 30 mA maximum

Logic Output Characteristics:

AG Style - Logic high no less than 3.0 Vdc.

Logic low shall be no greater than 1.0 Vdc.

VG Style - Logic high no less than 2.0 Vdc.

Logic low shall be no greater than 1.0 Vdc.

Output: Open Collector Phototransistor

Optical Rise Time: 30ms maximum.

Optical Fall Time: 30ms maximum.

Average Rotational Torque:

Low = 2.0±1.4 in-oz initially.

High = 3.5±1.4 in-oz initially.

50% of initial value after 1 million cycles.

Mechanical Life: 1,000,000 cycles of operation. 1 cycle is a rotation through all positions and a full return.

Mounting Torque: 15in-lbs. maximum

Shaft Pushout Force: 45 lbs. minimum

Terminal Strength: 15 lbs. Cable pull out force minimum

Solderability: 95% free of pin holes & voids

Maximum rotational speed: 100 rpm.

Pushbutton Electrical and Mechanical Specifications

Rating: 10 mA @ 5 Vdc

Contact Resistance: <10 Ω (Compatible with CMOS or TTL)

Life: 1 million actuations minimum

Contact Bounce: <4 ms make, <10ms break

Actuation Force: 5 = 510±150 grams, 9 = 950±200 grams

Shaft Travel: .017 ± .008 INCH

Materials and Finishes

Bushing: Zamak 2

Shaft: Zamak 2

Detent Rotor: Reinforced Nylon Zytel

70G33L UL 94

Detent Spring: 303 Stainless Steel

Housing, Upper: Nylon 6/6 25% glass reinforced. Zytel FR-50

Light Pipe: Lexan, GE

Code Rotor: Delrin 100

Housing, Lower: Nylon 6/6 25% glass reinforced. Zytel FR-50

Pushbutton Actuator: Reinforced nylon. Zytel 70G33L UL 94

Pushbutton Dome: Stainless Steel

Printed Circuit Board: NEMA Grade FR4, Double clad with copper, Plated with gold over nickel

Infrared Emitting Diode: Gallium Arsenide

Phototransistor Diode: NPN Silicon

Resistor: Metal oxide on ceramic substrate

Spacer: Pet plastic

Backplate: Stainless Steel

Label: TT406 thermal transfer cast film.

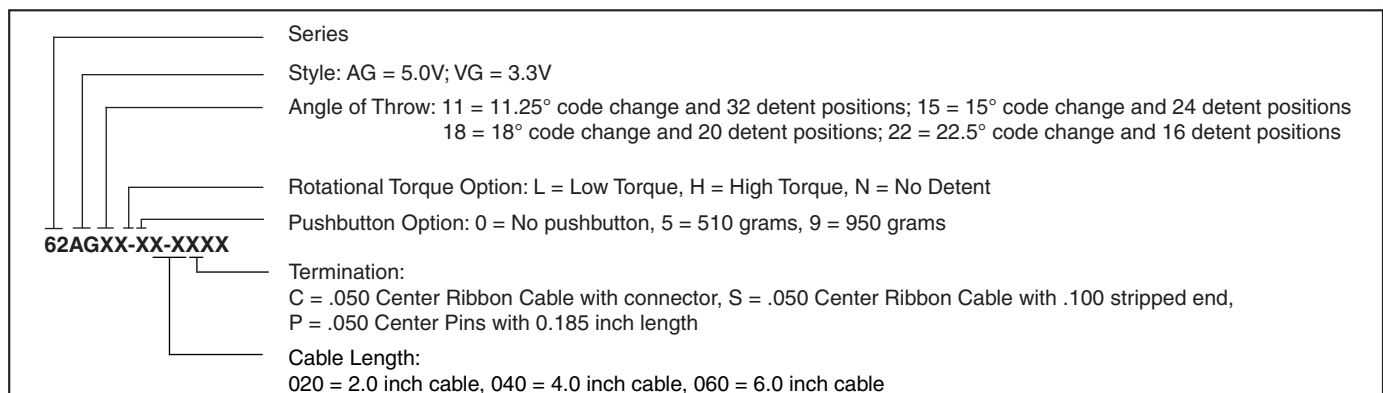
Solder: 96.5% tin / 3% silver / 0.5% copper. No clean.

Hex Nut: Brass, Plated with nickel

Lockwasher: Zinc Plated Spring Steel with Clear Trivalent Chromate Finish

Cable: Copper Stranded with topcoat in PVC insulation

Connector (.050 center): PA4.6 with tin/nickel plated phosphor bronze.



Available from your local Grayhill Distributor. For prices and discounts, contact a local sales office, an authorized distributor, or Grayhill.