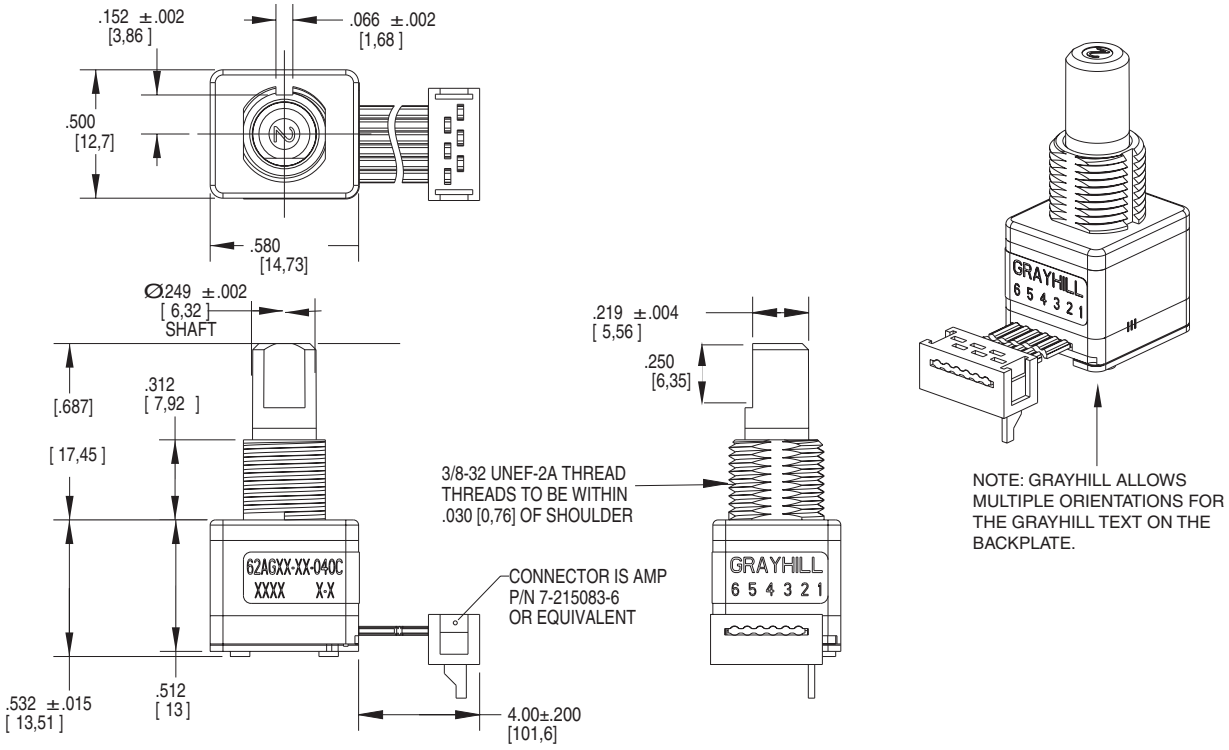
SERIES 62AG
Price Competitive Solution

FEATURES
- Over 1 million rotational cycles
- 2-bit gray code output
- Quadrature coding
- Available in 16 detent positions
- 4 inch cable/connector assembly
- RoHS compliant
- 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

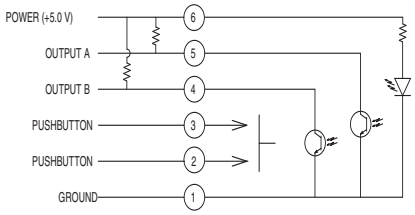
DIMENSIONS in inches (and millimeters)

Unless otherwise specified, standard tolerances are:
Linear ± .025
Diameter ± .010
Angle ± 2.0 °

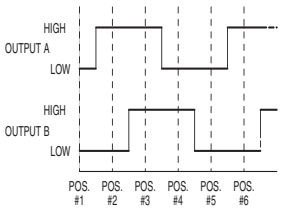


NOTE: GRAYHILL ALLOWS MULTIPLE ORIENTATIONS FOR THE GRAYHILL TEXT ON THE BACKPLATE.

WAVEFORM AND TRUTH TABLE



*EXTERNAL 10k Ω PULL-UP RESISTORS REQUIRED FOR OPERATION



*CLOCKWISE SHAFT ROTATION

POSITION	OUTPUT A	OUTPUT B
#1		
#2	●	
#3	●	●
#4		●

● INDICATES LOGIC HIGH; BLANK INDICATES LOGIC LOW.
CODE REPEATS EVERY FOUR POSITIONS.

SPECIFICATIONS

Environmental Specifications

Operating Temperature Range: -40°C to 85°C
Storage Temperature: -40°C to 85°C
Humidity: 96 Hours at 90-95% humidity at 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: 5.00±0.25 Vdc
Supply Current: 30 mA maximum at 5 Vdc.
Logic Output Characteristics:
Logic high shall be no less than 3.0 VdcLogic low shall be no greater than 1.0 Vdc
Minimum sink current: 0.5 mA for 5 Vdc. (Preliminary)
Power Consumtpion: 150 mW maximum for 5 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 and 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: 510±150 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. Zytec FR-50
Light Pipe: Lexan, GE
Code Rotor: Delrin 100
Housing, Lower: Nylon 6/6 25% glass reinforced. Zytec 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: Stainless steel
Cable: Copper Stranded with topcoat in PVC insulation
Connector (.050 center): PA4.6 with tin/nickel plated phosphor bronze.

62AGXX-XX-XXXX

Series
Angle of Throw: 22 = 22.5° for code change and 16 detent positions
18 = 18° for code change and 20 detent positions
Rotational Torque Option: L = Low Torque, H = High Torque
Pushbutton Option: 0 = No pushbutton, 5 = 510 grams, 9 = 950 grams
Termination:
C = .050 Center Ribbon Cable with connector, S = .050 Center Ribbon Cable with .100 stripped end,
P = .050 Center Pins with 0.185 inch length
Cable Length:
020 = 2.0 inch cable, 030 = 3.0 inch cable, 040 = 4.0 inch cable, 050 = 5.0 inch cable, 060 = 6.0 inch cable

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

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
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Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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