

SERIES 62SG Compact / Cost Effective

FEATURES

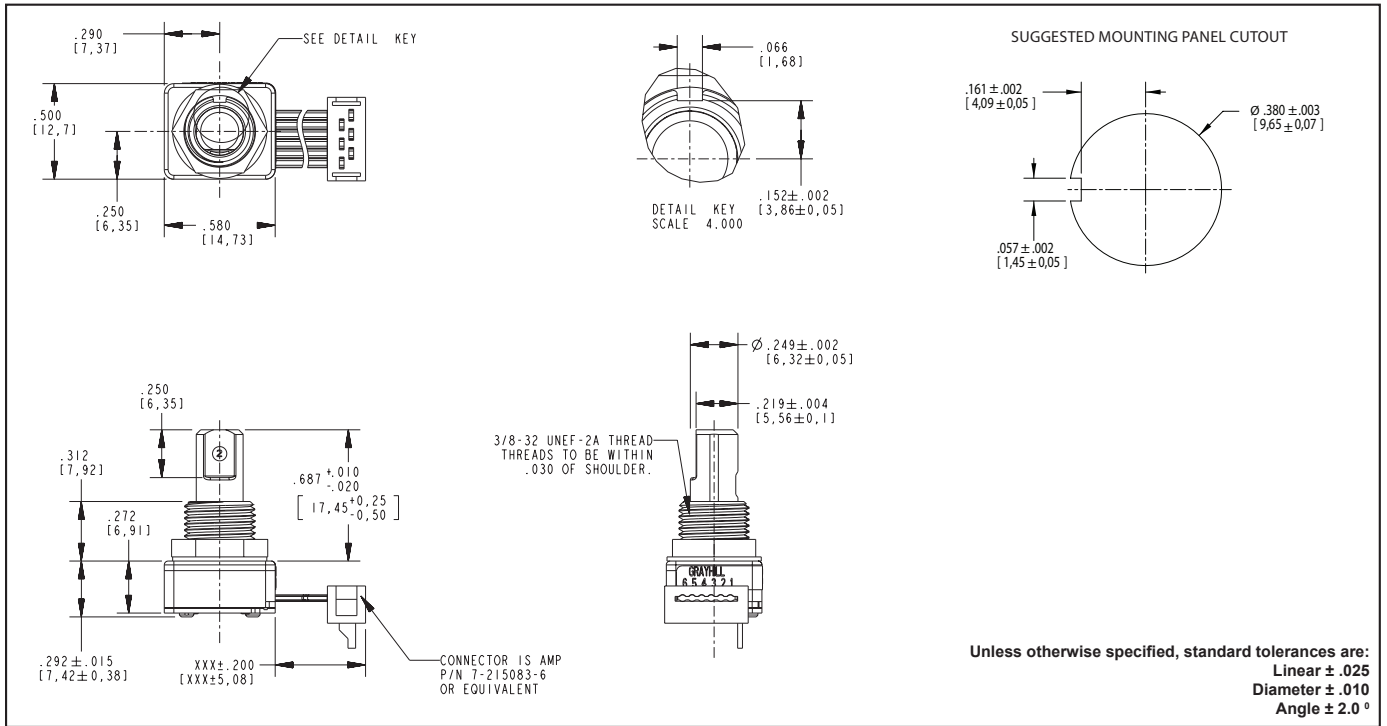
- Just 0.3-inch behind panel depth
- Over 1 million rotational cycles
- 2-bit gray code output
- Quadrature coding
- Available in 16, 24 and 32 detent positions
- Optional integrated pushbutton
- Light pipe technology
- Cost competitive with mechanical encoders at higher volumes

APPLICATIONS

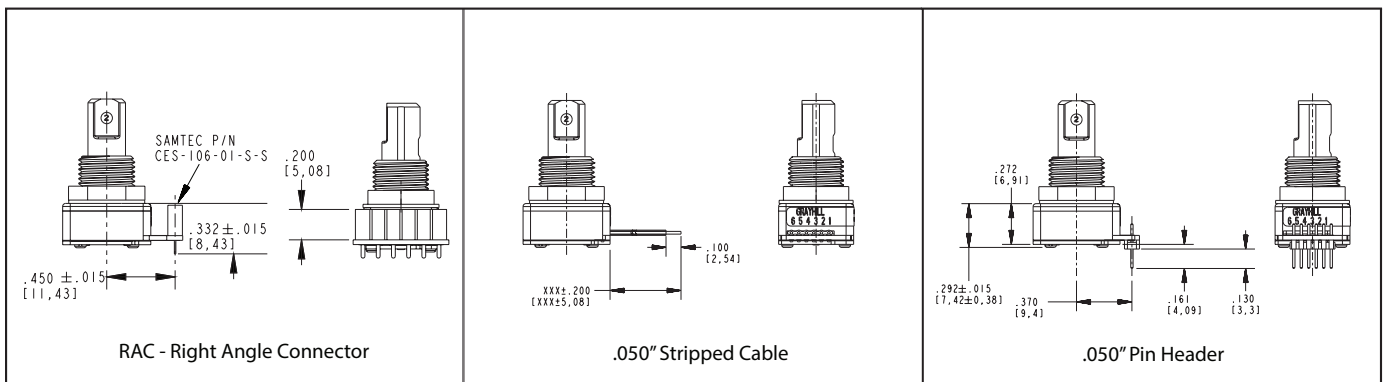
- Automotive
 - audio systems
 - navigation systems
- Medical
 - patient monitoring systems
- Test & Measurement
 - analyzers
 - oscilloscopes
- Audio & Video
 - consumer electronics
 - professional editing equipment



DIMENSIONS in inches (and millimeters)

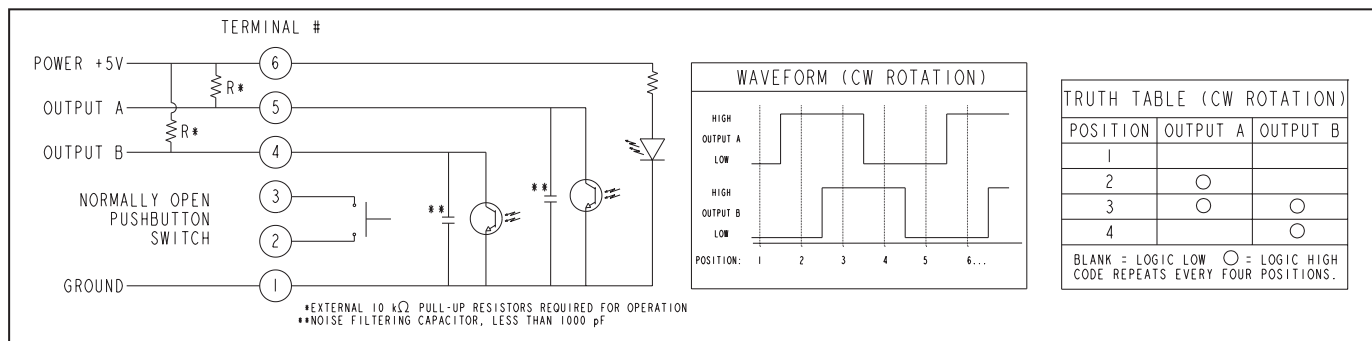


OTHER TERMINATION OPTIONS



Optical and Mechanical Encoders

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: 5.00 ± 0.25 Vdc
Supply Current: 30 mA maximum
Logic Output Characteristics:
Logic High: V_{OH} = 3.0 Vdc MIN at V_{CC} = 4.75 Vdc with 10 kΩ PULL-UP RESISTOR
Logic Low: V_{OL} = 1.0 Vdc MAX at V_{CC} = 5.25 Vdc with 10 kΩ PULL-UP RESISTOR
Output: Open Collector Phototransistor
Optical Rise Time: 30ms maximum
Optical Fall Time: 30ms maximum

	L	M	H
16-POSITION (±1.0 IN-OZ)	1.80	2.10	2.55
24-POSITION (±0.5 IN-OZ)	1.25	1.65	2.45
32-POSITION (±0.5 IN-OZ)	1.00	1.20	1.50

40% 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

Pushbutton Electrical and Mechanical Specifications

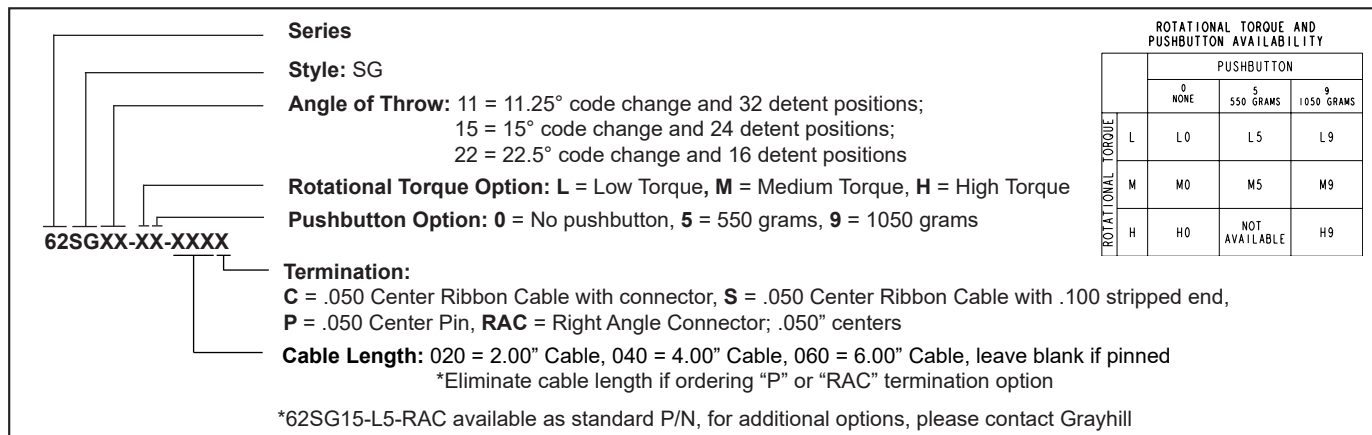
Rating: 30 mA @ 5 Vdc
Contact Resistance: <10 Ω (Compatible with CMOS or TTL)
Life: 1 million actuations minimum
Contact Bounce: <4 ms make, <10ms break
Actuation Force: 5 = 550 ± 200 grams
 9 = 1050 ± 200 grams
Shaft Travel: .020 ± .008 inch

Materials and Finishes

Bushing: Zamak 2
Shaft: Zamak 2
Detent Ball: 302 Stainless Steel
Detent Spring: Music Wire
Retaining Ring: 301 Stainless Steel

Code Housing: Nylon 6/6 25% glass reinforced. Zytel FR-50
Light Pipe: Lexan, GE
Code Rotor: Delrin 100
Pushbutton Actuator: Glass Reinforced nylon 6/6. Zytel 70G33L. UL 94
Pushbutton Dome: 301 Stainless Steel
Printed Circuit Board: NEMA Grade FR4, Double clad with copper, Plated with gold over nickel
Infrared Emitting Diode: Gallium Aluminum Arsenide
Phototransistor Diode: NPN Silicon
Resistor: Metal oxide on ceramic substrate
Spacer: Pet plastic
Backplate: 302 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.

Optical and Mechanical Encoders



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Grayhill:

[62SG11-M0-060C](#) [62SG22-M0-060C](#) [62SG15-L5-RAC](#) [62SG22-M5-060C](#) [62SG11-M5-060C](#) [62SG15-M5-020C](#)
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[020C](#) [62SG22-M9-P](#) [62SG22-L0-020C](#) [62SG15-L9-020C](#) [62SG11-M0-040C](#) [62SG22-H9-020S](#) [62SG22-M9-020S](#)
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[62SG15-L5-040C](#) [62SG15-L0-020C](#) [62SG11-L9-040C](#) [62SG22-M9-020C](#) [62SG15-M9-P](#) [62SG15-M9-020C](#)
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[040C](#) [62SG15-L9-040C](#) [62SG15-M5-060C](#) [62SG22-H0-P](#) [62SG22-L0-P](#) [62SG22-M9-040C](#) [62SG22-M9-040S](#)
[62SG15-H5-020C](#) [62SG22-H5-020C](#)