



Optical Encoders

SERIES 62SG

Compact / Cost Effective

FEATURES

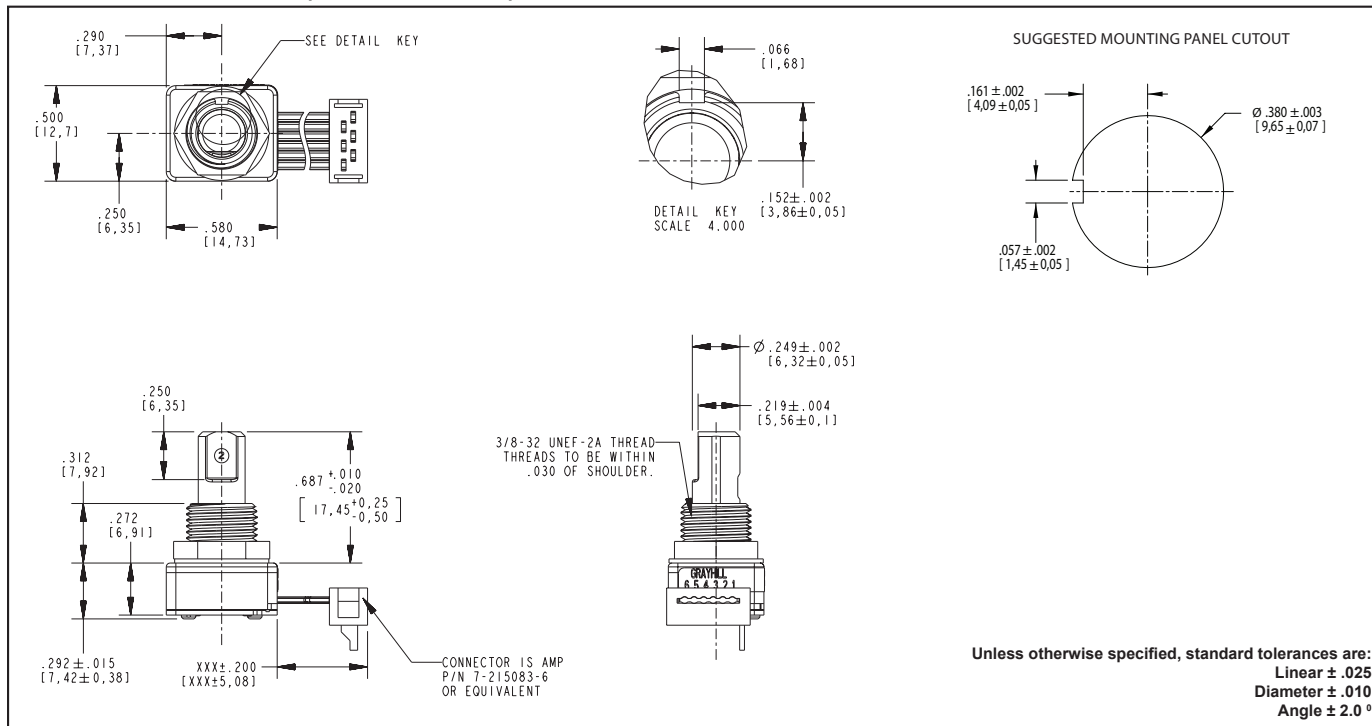
- Just 0.3-inch behind panel depth
- Over 1 million rotational cycles
- 2-bit gray code output
- Quadrature coding
- Available in 16, 24 and 32 detent positions
- Optional integrated pushbutton
- Light pipe technology
- Cost competitive with mechanical encoders at higher volumes

APPLICATIONS

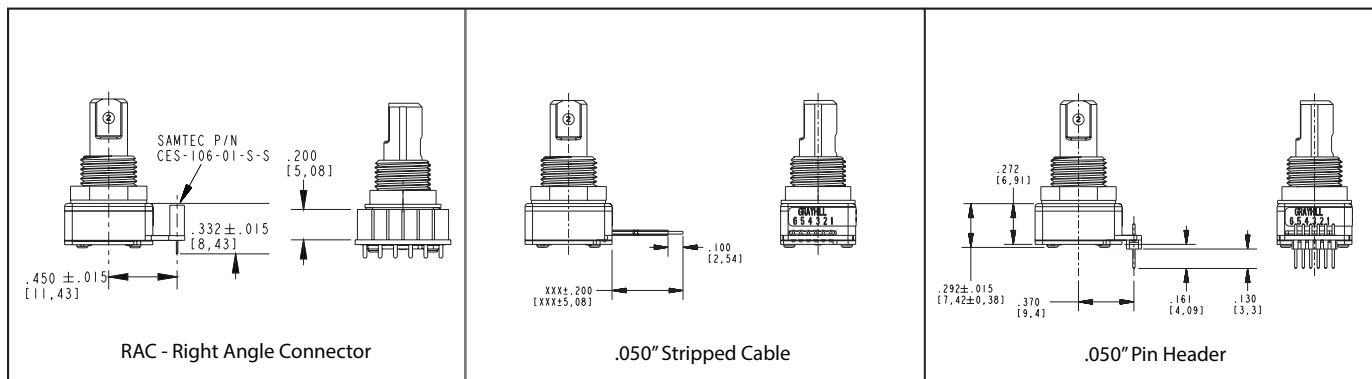
- Automotive
 - audio systems
 - navigation systems
- Medical
 - patient monitoring systems
- Test & Measurement
 - analyzers
 - oscilloscopes
- Audio & Video
 - consumer electronics
 - professional editing equipment



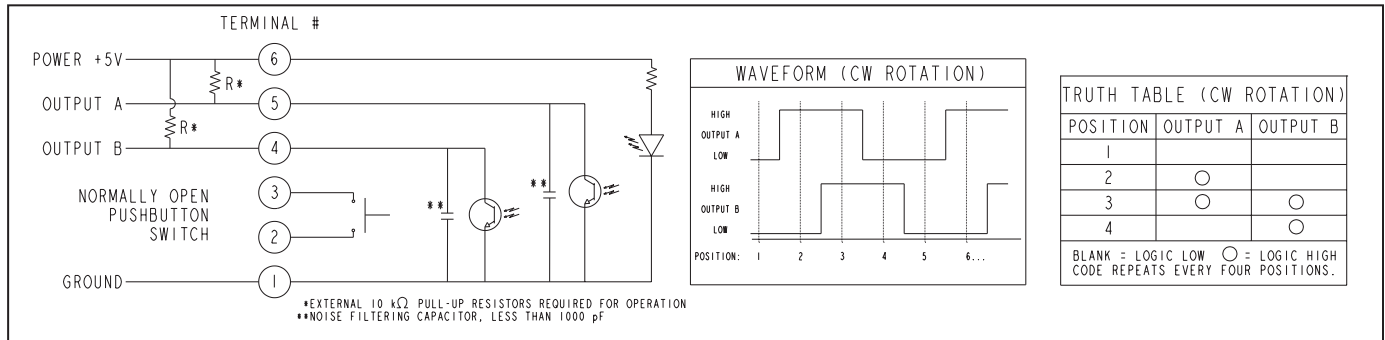
DIMENSIONS in inches (and millimeters)



OTHER TERMINATION OPTIONS



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.

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

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.

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

Pushbutton Electrical and Mechanical Specifications

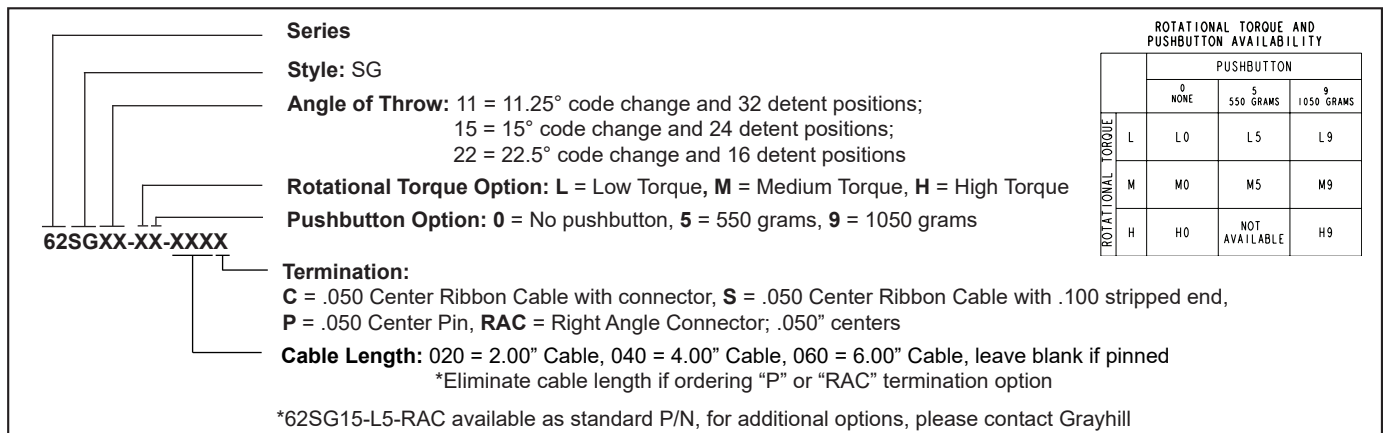
Rating: 30 mA @ 5 Vdc
Contact Resistance: <10 Ω (Compatible with CMOS or TTL)
Life: 1 million actuations minimum
Contact Bounce: <4 ms make, <10ms break
Actuation Force: 5 = 550 ± 200 grams
 9 = 1050 ± 200 grams
Shaft Travel: .020 ± .008 inch

Materials and Finishes

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

	L	M	H
16-POSITION	1.70±1.05	2.10±1.20	3.05±1.50
24-POSITION	1.15±0.75	1.50±0.75	2.80±1.40
32-POSITION	1.00±0.65	1.20±0.8	1.50±0.9

40% of initial value after 1 million cycles.



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Encoders](#) category:

Click to view products by [Grayhill](#) manufacturer:

Other Similar products are found below :

[6-1393048-0](#) [6-1393048-5](#) [62AG22-H5-P](#) [62B22-LP-030C](#) [63K25](#) [63K32](#) [63KS100](#) [63KS64](#) [63R100](#) [63R50-020](#) [63RS256-060](#) [700-09-36](#)
[RE12D300-201-1](#) [1393047-3](#) [2-1393047-2](#) [T101-5C2-111-M1](#) [T101-5C3-111-M1](#) [T101-5C4-111-M1](#) [385001M0439](#) [385001M0216](#)
[V23401H1409B101](#) [V23401T8002B802](#) [V23401U6019B609](#) [E69-1](#) [E69DF10](#) [E69-FCA](#) [62B11-LP-100S](#) [62B11-LPP-040C](#) [62N11-P](#)
[62S22-H9-120S](#) [62S30-L0-200C](#) [62V15-02-080S](#) [63K64](#) [63KS100-040](#) [63R64-050](#) [63RS64](#) [700-16-16](#) [V23401D3002B301](#)
[V23401D1001B102](#) [3-1393048-1](#) [63KS128](#) [63KS256](#) [1-1879391-5](#) [GH65C11-N-SO](#) [62S15-M0-P](#) [1393047-1](#) [E69-FCA02](#) [E69-FCA04](#)
[E69-DF20](#) [E69-DF2](#)