

SERIES 62SG

Compact and Cost Effective

FEATURES

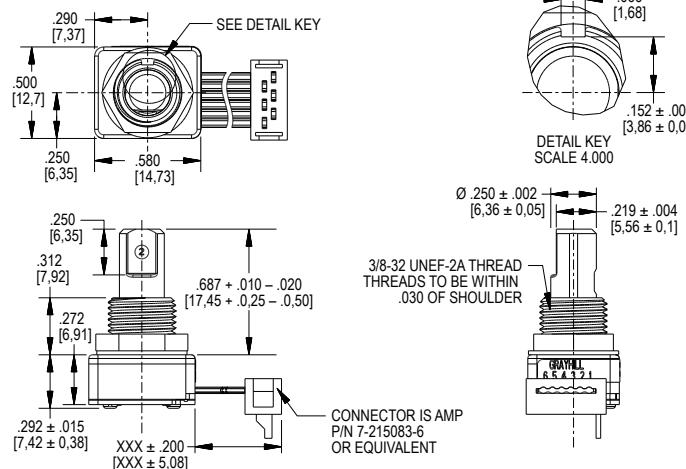
- Just 0.3-inch behind panel depth
- Over 1 million rotational cycles
- 2-bit gray code output
- Quadrature coding
- Available in 16, 24 and 32 detent positions
- Optional integrated pushbutton
- Light pipe technology
- Cost competitive with mechanical encoders at higher volumes
- Optional shaft and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

APPLICATIONS

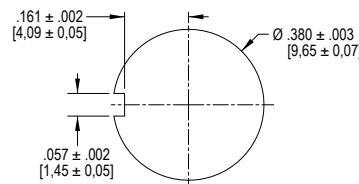
- AUTOMOTIVE**
 - Audio systems, navigation systems
- MEDICAL**
 - Patient monitoring systems
- TEST & MEASUREMENT**
 - Analyzers, oscilloscopes
- AUDIO & VIDEO**
 - Consumer electronics, professional editing equipment



DIMENSIONS in inches [and millimeters]



Suggested Mounting Panel Cutout



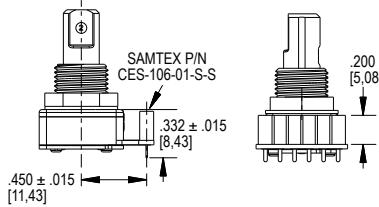
MOUNTING PANEL RECOMMENDATIONS FOR PANEL SEAL VERSIONS:

1. PANEL THICKNESS SHOULD NOT EXCEED .157.
2. MOUNTING HOLE TO BE Ø .375 - Ø .385.
3. Ø .470 x .020 DEEP COUNTERBORE ON REVERSE OF PANEL REQUIRED FOR PROPER SEALING.
4. ANTI-ROTATION FEATURE IS RECOMMENDED. FEATURE SHOULD BE DESIGNED TO LOCK INTO BUSHING KEYWAY.

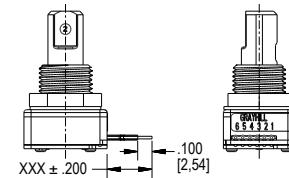
Unless otherwise specified, standard tolerances are:
 Linear ± .025
 Diameter ± .010
 Angle ± 2.0°

OTHER TERMINATION OPTIONS

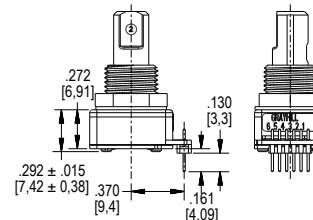
RAC: Right Angle Connector



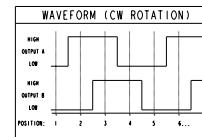
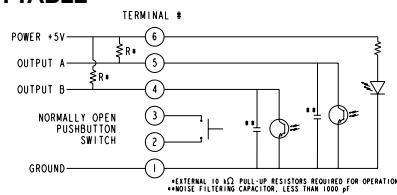
.050" Stripped Cable



.050" Pin Header



WAVEFORM AND TRUTH TABLE



TRUTH TABLE (CW ROTATION)		
POSITION	OUTPUT A	OUTPUT B
1	BLANK = LOGIC LOW	
2	○	
3	○	○
4	○	○
5	BLANK = LOGIC HIGH	
6		

BLANK = LOGIC LOW
CODE REPEATS EVERY FOUR POSITIONS.

Specifications are subject to change.

SPECIFICATIONS

Environmental Specifications

Operating Temperature	-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
Seal	Meets IP67 (above panel for sealed options only)

Rotary Electrical and Mechanical Specifications

Operating Voltage	5.00 ± 0.25 Vdc
Supply Current	30 mA maximum
Logic Output Characteristics	Logic High: VOH = 3.0 Vdc minimum at VCC = 4.75 Vdc with 10 kΩ pull-up resistor Logic Low: VOL = 1.0 Vdc maximum at VCC = 5.25 Vdc with 10 kΩ pull-up resistor
Output	Open collector phototransistor
Optical Rise Time	30ms maximum
Optical Fall Time	30ms maximum
Mechanical Life	1,000,000 cycles of operation. 1 cycle is a rotation through all positions and a full return
Mounting Torque	15 in-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 at 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

Without Shaft and Panel Seal

TORQUE TABLE (IN-OZ)		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.

ORDERING INFORMATION

		Pushbutton		
		0 None	5 550 grams	9 1050 grams
Rotational Torque	L	L0	L5	L9
	M	M0	M5	M9
	H	H0	NOT AVAILABLE	H9

6 2 S G X X - X X X - X X X X

Series _____

Style _____
SG

Angle of Throw _____

11 = 11.25° code change and 32 detent positions
15 = 15° code change and 24 detent positions
22 = 22.5° code change and 16 detent positions

Rotational Torque Option _____

L = Low Torque
M = Medium Torque
H = High Torque

Pushbutton Option _____

0 = No pushbutton
5 = 550 grams
9 = 1050 grams

Termination

S = Stripped Cable
C = Connector
P = Header

Cable Length

020 = 2.00" Cable
030 = 3.00" Cable
040 = 4.00" Cable
050 = 5.00" Cable
060 = 6.00" Cable
(Leave blank if pinned)

Seal Option

Blank = No shaft and panel seal
S = Shaft and panel seal
('S' option cannot be used with '5' pushbutton option)