

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

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(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

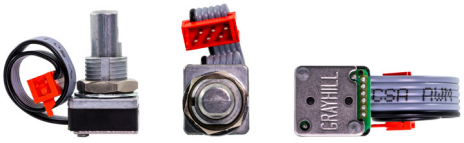
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SERIES 62S

Compact 1/2" Package





FEATURES

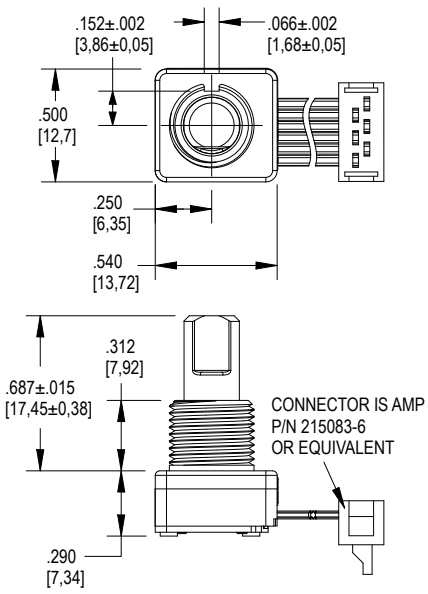
- Compact size
- Requires minimal behind panel space
- 1 million rotational cycles for low and medium torque, 1/2 million for high
- 3 million rotations for non-detent styles
- Optional integral pushbutton
- Choices of cable length and terminations
- Low-power option uses nearly 100 times less power than most optical encoders

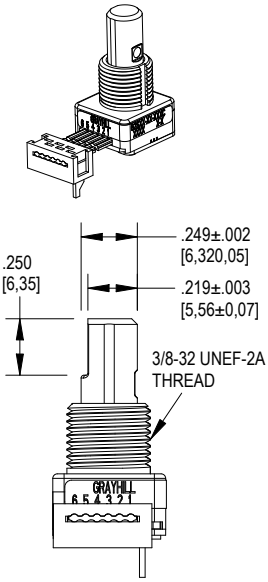
APPLICATIONS

- Global positioning/driver information systems
- Medical equipment

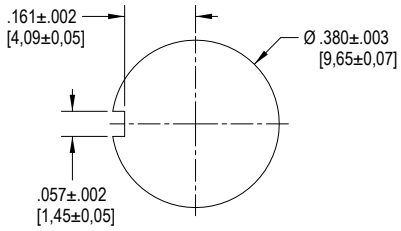
DIMENSIONS in inches [and millimeters]

Unless otherwise specified, standard tolerance is ±.010 (0,25)





Suggested Mounting Panel Cutout

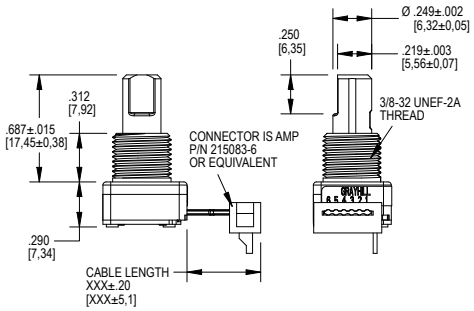


Mounting Panel Recommendations for Panel Seal Version

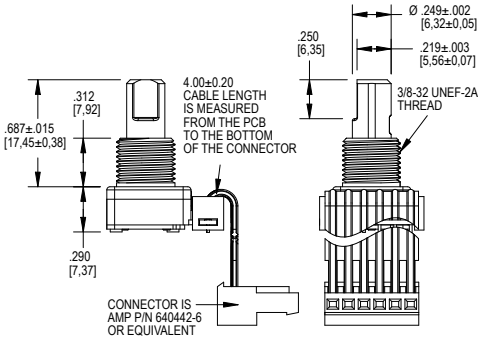
1. Panel thickness should not exceed 0.157".
2. Mounting hole diameter to be per recommended dimensions.
3. 0.470" x 0.020" counter bore required for proper sealing.
4. Anti-rotation feature is recommended. Feature should be designed to lock into bushing keyway.

TERMINATION OPTIONS

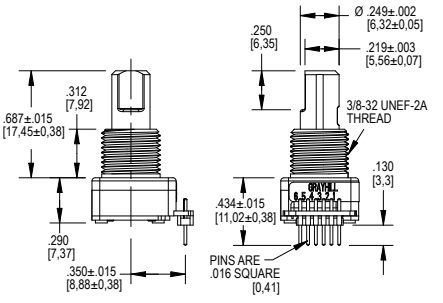
Termination: -C



Termination: -CH



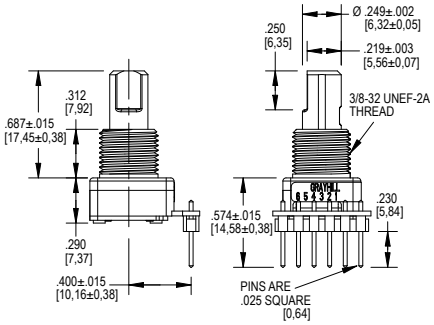
Termination: -P



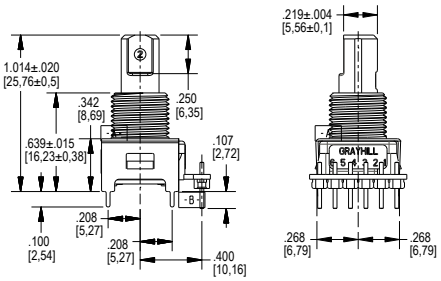
Specifications are subject to change.

TERMINATION OPTIONS

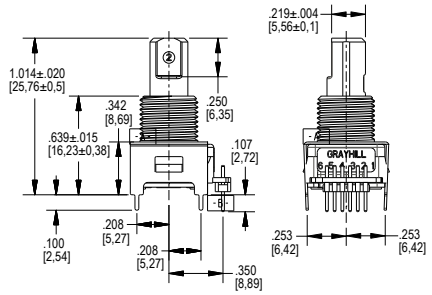
Termination: -PH



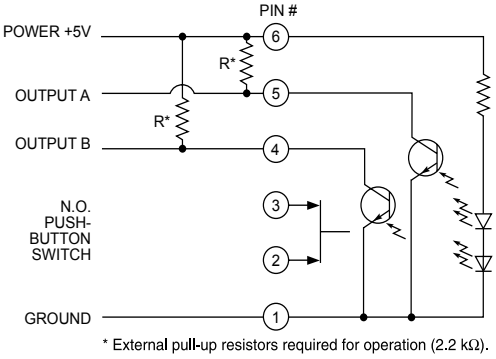
Termination: -PHV



Termination: -PV



CIRCUITRY, TRUTH TABLE, AND WAVEFORM: Standard Quadrature 2-Bit Code



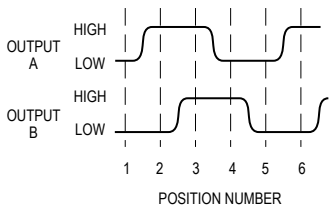
* External pull-up resistors required for operation (2.2 kΩ).

Clockwise Rotation

Position	Output A	Output B
1		
2	●	
3	●	●
4		●

● Indicates logic high;
blank indicates logic low.
Code repeats every 4 positions.

Clockwise Rotation



ROTATIONAL TORQUE AND PUSHBUTTON AVAILABILITY

		0 None	0 None	9 950 Grams	5 510 Grams	4 400 Grams	3 300 Grams	2 200 Grams
Rotational Torque	N	N0	N9	N5	N4	N3	N2
	L	L0	L9	L5	L4		
	M	M0	M9	M5			
	H	H0	H9				

AVERAGE ROTATIONAL TORQUE SPECIFICATIONS			
	LOW ±0.50 IN-OZ	MEDIUM ±1.40 IN-OZ	HIGH ±1.60 IN-OZ
8 POSITION	1.10	1.85	2.75
12 POSITION	1.00	1.70	2.95
16 POSITION	1.40	2.35	3.40
20 POSITION	1.35	2.05	2.80
24 POSITION	1.25	1.95	2.95
32 POSITION	0.95	1.40	2.15

Specifications are subject to change.

SPECIFICATIONS

Environmental Specifications

Operating Temp. Range	-40 °C to 85 °C
Storage Temp. Range	-40 °C to 85 °C
Humidity	96 hrs at 90–95% humidity at 40 °C
Mechanical Vibration	Harmonic motion with amplitude of 15 Gs, within a varied frequency of 10 to 2000 Hz
Mechanical Shock	Test 1: 100 G for 6 mS, half sine wave with a velocity change of 12.3 ft/s; Test 2: 100 G 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	25 mA max at 5.25 Vdc
Output	Open collector phototransistor, external pull up resistors are required
Output Code	2-bit quadrature, channel A leads channel B by 90° electrically during clockwise rotation of the shaft
Logic Output Characteristics	Logic High shall be no less than 3.8 Vdc Logic Low shall be no greater than 0.8 Vdc
Minimum Sink Current	2.0 mA
Power Consumption	132 mW maximum (includes power in 2 pull-up resistors)
Mechanical Life	Non-Detent 3 million cycles Low & Medium 1 million cycles High 1/2 million cycles *1 cycle is a rotation through all positions and a full return* *Torque shall be within 50% of initial value throughout life*
Mounting Torque	15 in-lbs maximum
Shaft Push-Out Force	45 lbs minimum
Shaft Pull-Out Force	45 lbs minimum
Terminal Strength	15 lbs minimum terminal pull-out force for cable or header termination
Solderability	95% free of pin holes and voids

Pushbutton Electrical and Mechanical Specifications

Rating	10 mA at 5 Vdc
Contact Resistance	<10 Ω
Life	3 million actuations minimum
Contact Bounce	<4 ms Make, <10 ms Break
Actuation Force	9-950±150 grams, 5-510±150 grams, 4-400±100 grams, 3-300±90 grams, 2-200±75 grams
Shaft Travel	.025±.010 inch

Materials and Finishes

Bushing	Zamak 2
Shaft	Aluminum or Zamak 2
Retaining Ring	Stainless steel
Pushbutton Actuator	Zytel 70G33L
Detent Spring	Music wire
Detent Ball	Stainless steel
Code Housing	Polyamide polymer, nylon 6/10 alloy UL94HB
Code Rotor	Delrin 100
Printed Circuit Boards	NEMA grade FR-4, double clad with copper, plated with gold over nickel
Infrared Emitting Diode Chips	Gallium aluminum arsenide
Silicon Phototransistor Chips	Gold and aluminum alloys
Resistor	Metal oxide on ceramic substrate
Solder Pins	Brass, plated with tin
Pushbutton Dome	Stainless steel
Backplate	Stainless steel
Cable	Copper stranded with topcoat in PVC insulation (Cable version only); Connector (.050 Center): PA4.6 with tin over nickel-plated phosphor bronze; Connector (.100 Center): Nylon UL94V-2, tin-plated copper alloy
Label	TT406 thermal transfer cast film
Solder	Sn/Ag/Cu, lead-free, no clean
Lubricating Grease	NYE nyogel 774L
Hex Nut	Nickel-plated brass
Lockwasher	Zinc-plated spring steel with clear trivalent chromate finish
Header	Hi-temp glass filled thermoplastic UL94V-0, phosphor bronze (pin versions only)
Strain Relief	Glass filled thermoplastic (.100 center cable versions only)

Options

Contact Grayhill for custom terminations, shaft and bushing configurations, rotational torque pushbutton force, and code output.

ORDERING INFORMATION

Available from your local Component Grayhill Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill.

62SXX-XX-040X

Angle of Throw
45 = 45° for code change and 8 detent positions
30 = 30° for code change and 12 detent positions
22 = 22.5° for code change and 16 detent positions
18 = 18° for code change and 20 detent positions
15 = 15° for code change and 24 detent positions
11 = 11.25° for code change and 32 detent positions

Series

Rotational Torque Option
N = Non-detent
L = Low Torque (available with 0, 4, 5, 9 pushbutton only)
M = Medium Torque (available with 0, 5, 9 pushbutton only)
H = High Torque (available with 0, 9 pushbutton only)

Termination
C = .050 center ribbon cable with connector
S = .050 center ribbon cable with .100 stripped end
P = .050 center pins with .185 length
PV = .050 center pins with PCB mounting bracket
CH = .100 center ribbon cable with connector
SH = .100 center ribbon cable with .100 stripped end
PH = .100 center pins with .230 length
PHV = .100 center pins with PCB mounting bracket

Cable Length
Cable Termination: 020 thru 250 in 0.5 inch increments
**3 digits are eliminated if pinned termination is required (Ex. 62S22-M9-P)*
Examples: 040 = 4.0 inches ; 135 = 13.5 inches

Pushbutton Option
0 = NO PUSHBUTTON
9 = 950 Grams
5 = 510 Grams
4 = 400 Grams
3 = 300 Grams
2 = 200 Grams

Specifications are subject to change.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

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