

ARTISAN®
TECHNOLOGY GROUP

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

Artisan Technology Group
(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 62A,D,V

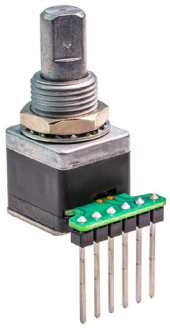
1/2" Package

FEATURES

- Low cost
- Long life
- Available in 3.3 or 5.0 Vdc operating voltages
- High torque version to emphasize rotational feel
- Economical size
- Optically coupled for more than 1 million cycles
- Low-power option uses nearly 100 times less power than most optical encoders

APPLICATIONS

- Global positioning/driver information systems
- Medical equipment
- Optional integral pushbutton
- Compatible with CMOS, TTL and HCMOS logic levels
- Available in 12, 16, 20, 24 and 32 detent positions (non-detent also available)
- Choice of cable lengths and terminations
- Low-power version ideal for battery-operated and other power-sensitive applications



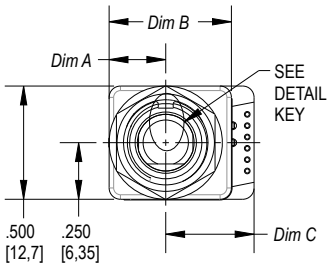


DIMENSIONS in inches [and millimeters]

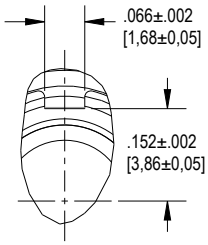
Dim A = .250 [6,35] for 62A and 62V
.290 [7,37] for 62D

Dim B = .540 [13,72] for 62A and 62V
.580 [14,73] for 62D

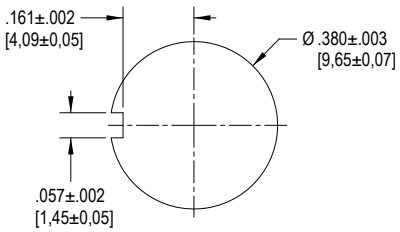
Dim C = *See Termination Options on Page 2*

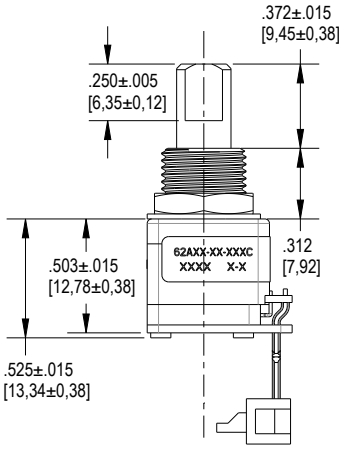


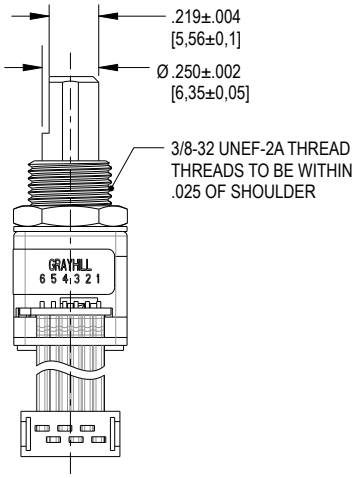
DETAIL KEY
SCALE 4.000



Suggested Mounting Panel Cutout



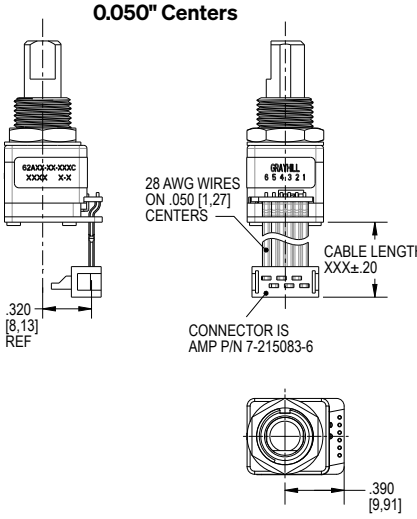




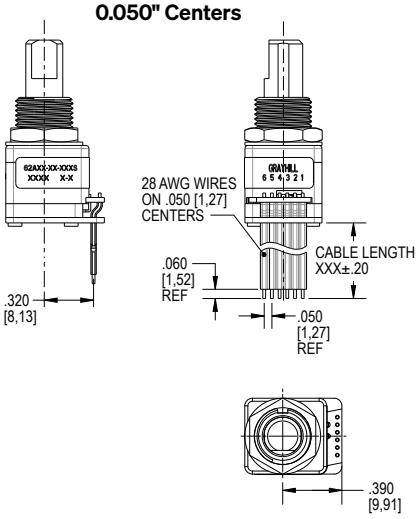
Specifications are subject to change.

TERMINATION OPTIONS

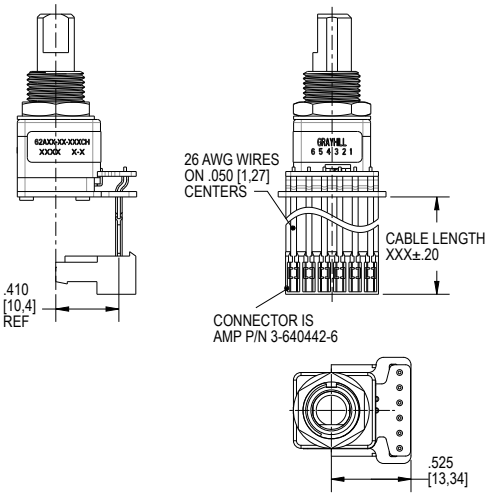
C = Connector 0.050" Centers



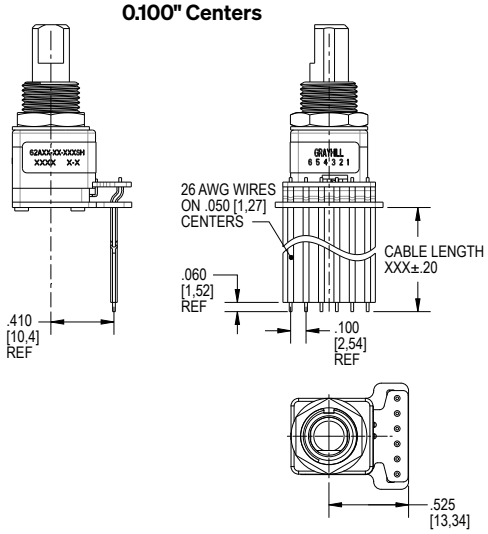
S = Stripped Cable 0.050" Centers



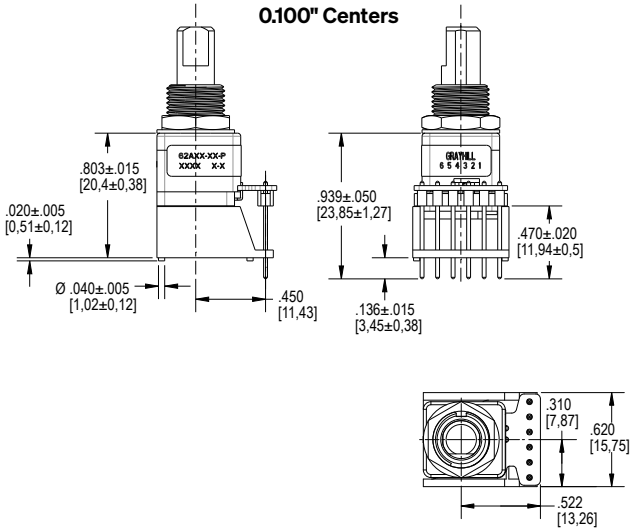
CH = Connector 0.100" Centers



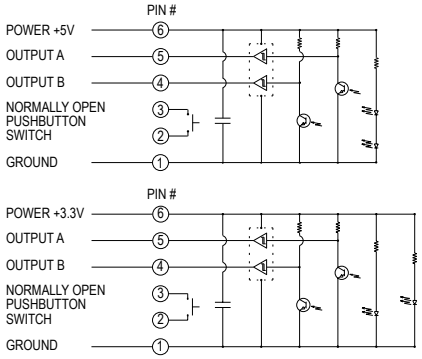
SH = Stripped Cable 0.100" Centers



P = Pin 0.100" Centers



CIRCUITRY: SURFACE MOUNT OPTICS Pushpull Outputs



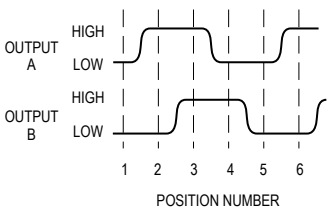
TRUTH TABLE AND WAVEFORM: Standard Quadrature 2-Bit Code

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



Specifications are subject to change.

SUPPLY CURRENT & LOGIC OUTPUT CHARACTERISTICS

Rotary Electrical and Mechanical Specifications

		AL & DL Style	A&D Style	VL & DVL Style	V & DV Style
1. **Coding**		2-bit quadrature coded output (see Truth Table)			
2. **Operating Voltage**		5.00 ± .25 Vdc		3.30 + .125 Vdc	
3. **Supply Current**		100 µA average 3.5 mA maximum peak	30 mA maximum	140 µA average 4.5 mA maximum peak	50 mA maximum
4. **Logical Output Characteristics**	SMT Optics	Push-pull outputs compatible with CMOS, TTL, and HCMOS Logic			
		Logic High: V_{OH} = 4.5 Vdc minimum at I_{OH} = -8.0 mA & V_{CC} = 5.00 Vdc		Logic High: V_{OH} = 2.8 Vdc minimum at I_{OH} = -8.0 mA & V_{CC} = 3.30 Vdc	
		Logic Low: V_{OL} = 0.5 Vdc maximum at I_{OL} = 8.0 mA		Logic Low: V_{OL} = 0.5 Vdc maximum at I_{OL} = 8.0 mA	

SPECIFICATIONS

Electrical and Mechanical Ratings

Pushbutton Rating	5 Vdc, 10 mA, resistive
Pushbutton Contact Resistance	Less than 10 ohms (TTL or CMOS compatible)
Pushbutton Life	3 million actuations min.
Pushbutton Contact Bounce	Less than 4 mS at make and less than 10 mS at break
Pushbutton Actuation Force	1000±300 grams
Pushbutton Travel	.010/.025 inch
Coding	2-bit quadrature coded output
Voltage Breakdown	250 Vac between mutually insulated parts
Rotational Life	1,000,000 cycles minimum (One cycle is a rotation through all positions and a full return)
Optical Rise and Fall Times	Less than 30 mS maximum
Operating Torque	Style A and V: 2.0±1.4 in-oz. initially Style D: 3.5±1.4 in-oz initially Non-detent: less than 1.5 in-oz initially
Shaft Push Out Force	45 lbs minimum
Mounting Torque	15 in-lbs maximum
Terminal Strength	15 lbs cable pull-out force minimum
Operating Speed	100 RPM maximum

Environmental Ratings

Operating Temperature Range	-40 °C to 85 °C
Storage Temperature Range	-40 °C to 85 °C
Relative Humidity	90–95% at 40 °C for 96 hours
Vibration Resistance	Harmonic motion with amplitude of 15G, within a varied 10 to 2000 Hz frequency for 12 hours per MIL-STD-202, Method 204
Mechanical Shock	Test 1: 100G for 6 mS, half sine, 12.3 ft/s Test 2: 100G for 6 mS, sawtooth, 9.7 ft/s

Materials and Finishes

Shaft	Zinc
Bushing	Zinc
Printed Circuit Boards	NEMA grade FR-4
Mounting Hardware	One brass, nickel-plated nut and zinc-plated spring steel with clear trivalent chromate finish lockwasher supplied with each switch. Nut is 0.094 inches thick by 0.435 inches across flats.
Flex Cable	26 AWG or 28 AWG, stranded/top coated wire, PVC coated on .050 or .100" centers (cabled version)
Header Pins	Phosphor bronze, tin-plated

ORDERING INFORMATION

These switches have Quadrature 2-bit code output and an optional shaft actuated pushbutton switch. Custom materials, styles, colors, and markings are available. Control knobs available.

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

6 2 X X X - X X - X X X X

Series

Style
A = 5.0V low torque
V = 3.3V low torque
D = 5.0V high torque
DV = 3.3V high torque
AL = 5.0V low torque, low power
VL = 3.3V low torque, low power
DL = 5.0V high torque, low power
DVL = 3.3V high torque, low power

Angle of Throw
Detented
11 = 11.25° or 32 positions
15 = 15.00° or 24 positions
18= 20.00° or 20 positions
22 = 22.50° or 16 positions
30 = 30.00° or 12 positions
Non-Detented (A&V only)
01 = 11.25° or 32 positions
05 = 15.00° or 24 positions
08= 18.00° or 20 positions
02 = 22.50° or 16 positions
03 = 30.00° or 12 positions

Termination
S = .050" stripped cable
C = .050" connector
SH = .100" stripped cable
CH = .100" connector
P = .100" header

Cable Termination
020 – 250 = 2.00" – 25.0"
.5" increments

Pushbutton Option
01 = No pushbutton
02 = Pushbutton

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.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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