

SERIES 62R

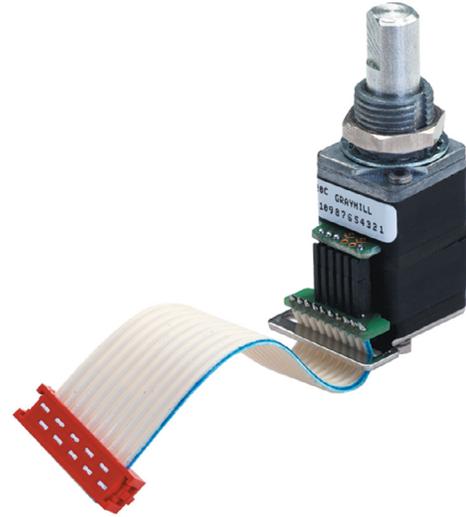
1/2" Package, Redundant Circuitry

FEATURES

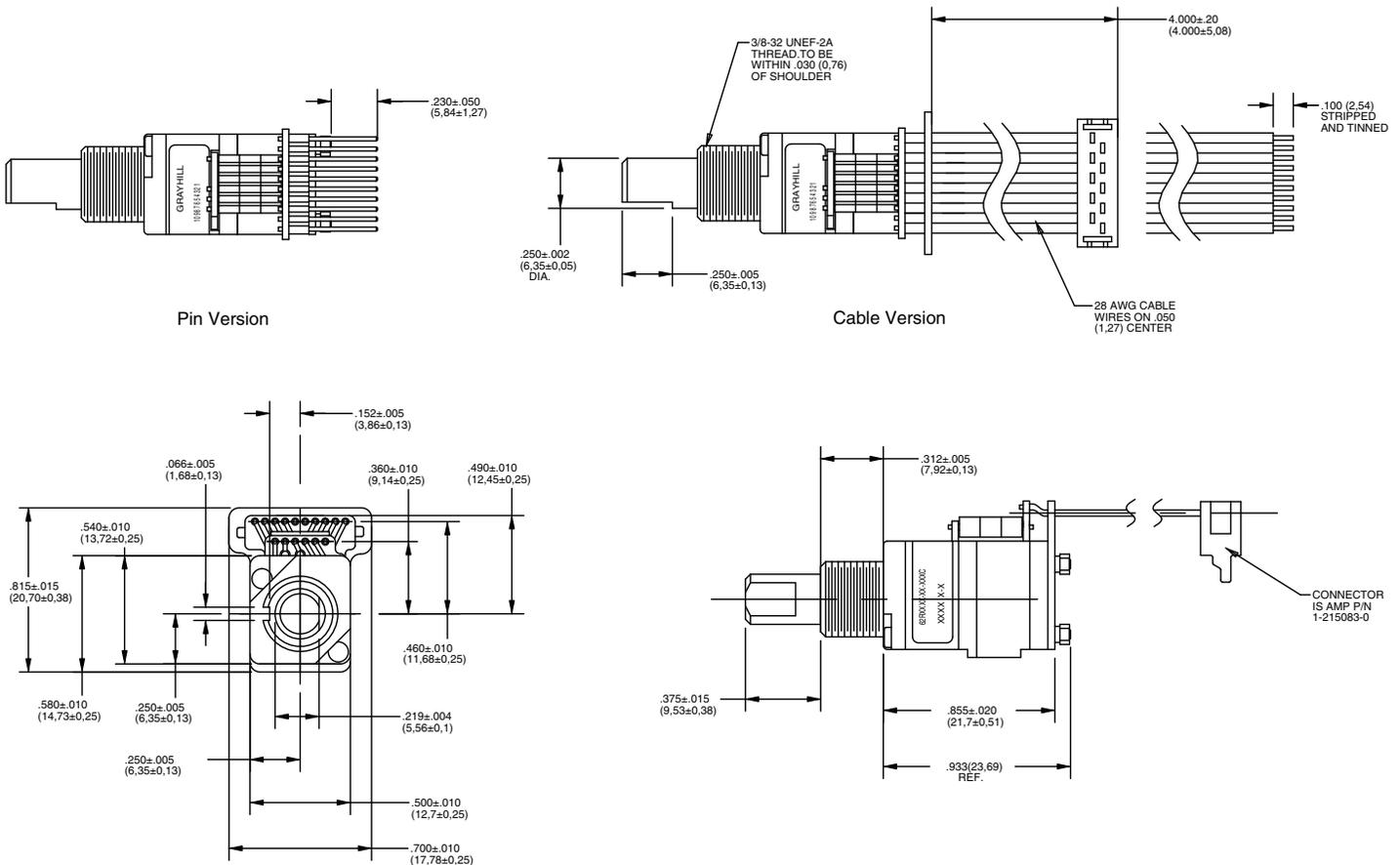
- Redundant circuitry
- 1 Million rotational cycles
- Compatible with CMOS, TTL and HCMOS logic
- Optional integral pushbutton
- Available in 16 and 24 detent positions
- Choices of cable length and terminations
- Ideal for critical applications

APPLICATIONS

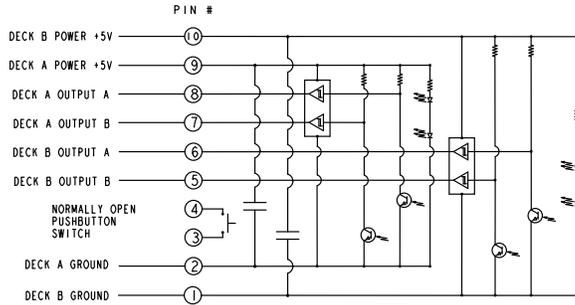
- Cockpit controls
- Medical equipment



DIMENSIONS in inches (and millimeters)

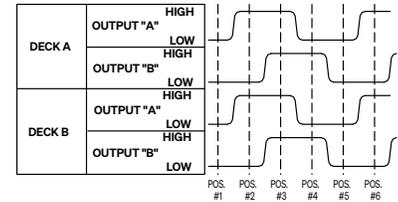


Unless otherwise specified, standard tolerances are ± 0.10 (0,25)

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

Truth Table (CW Rotation)

POSITION	DECK A		DECK B	
	OUTPUT "A"	OUTPUT "B"	OUTPUT "A"	OUTPUT "B"
1				
2	●		●	
3	●	●	●	●
4		●		●

● INDICATES LOGIC HIGH. BLANK INDICATES LOGIC LOW. CODE REPEATS EVERY 4 POSITIONS

Wave Form (CW Rotation)

SPECIFICATIONS
Pushbutton Switch Ratings

Pushbutton Rating: 10 mA, 5 Vdc, resistive
Contact Resistance: less than 10 ohms (TTL or CMOS compatible)
Pushbutton Life: 3 million actuations min.
Contact Bounce: less than 4 mS at make and less than 10 mS at break
Actuation Force: 1000 ±300 grams
Pushbutton Travel: .010/.025"

Switch Ratings

Coding: 2-bit quadrature coded output
Operating Voltage: 5.0 ±.25 Vdc
Voltage Breakdown: 250 Vac between mutually insulated parts
Supply Current: 50mA maximum @ 5.0Vdc (per deck)
Logic Output Characteristics:
Logic High: $V_{OH} = 4.5$ Vdc min at $I_{OH} = -8.0$ mA & $V_s = 5.00$ Vdc
Logic Low: $V_{OL} = 0.5$ Vdc max at $I_{OL} = -8.0$ mA
Mechanical 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: 3.5 ±1.4 in-oz initially
Shaft Push Out Force: 45 lbs minimum
Mounting Torque: 15 in-lbs max.
Terminal Strength: 15 lbs cable pull-out force min.
Operating Speed: 100 RPM max.

Environmental Ratings

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

Materials and Finishes

Shaft: Aluminum
Bushing: Zinc casting
Shaft Retaining Ring: Stainless steel
Detent Spring: Stainless steel
Printed Circuit Boards: NEMA grade FR-4 gold over nickel or palladium

Terminals: Brass, tin-plated
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 0.433 inches across flats)

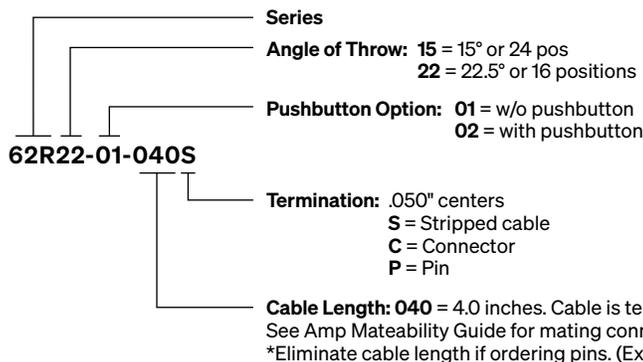
Rotor: Thermoplastic
Code Housing: Thermoplastic
Pushbutton Dome: Stainless steel
Dome Retaining Disk: Thermoplastic
Pushbutton Housing: Thermoplastic
Phototransistor: Planar Silicon NPN
Infrared Emitter: Gallium aluminum arsenide
Pushbutton Contact: Brass, nickel-plated
Flex Cable: 28 AWG stranded, halogen-free polyolefin insulation on .050" centers (cabled version)
Header Pins: Phosphor bronze, tin-plated
Spacer: Zinc casting
Backplate/Strain Relief: Stainless steel
Studs: Stainless steel

Options

Contact Grayhill for custom terminations, shaft and bushing configurations, and resolutions. Control knobs are also available.

ORDERING INFORMATION

Custom materials, styles, colors, and markings are available. Control knobs available.



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