

SERIES 61K
High Resolution, 4-Pin

FEATURES

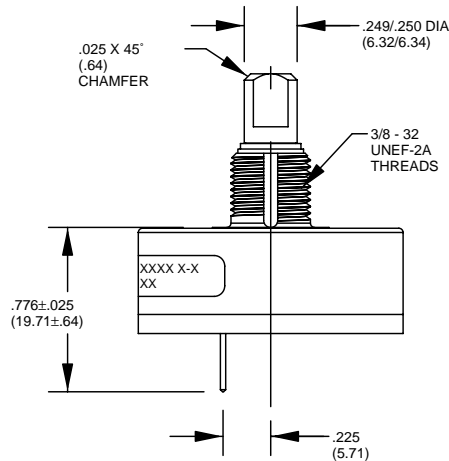
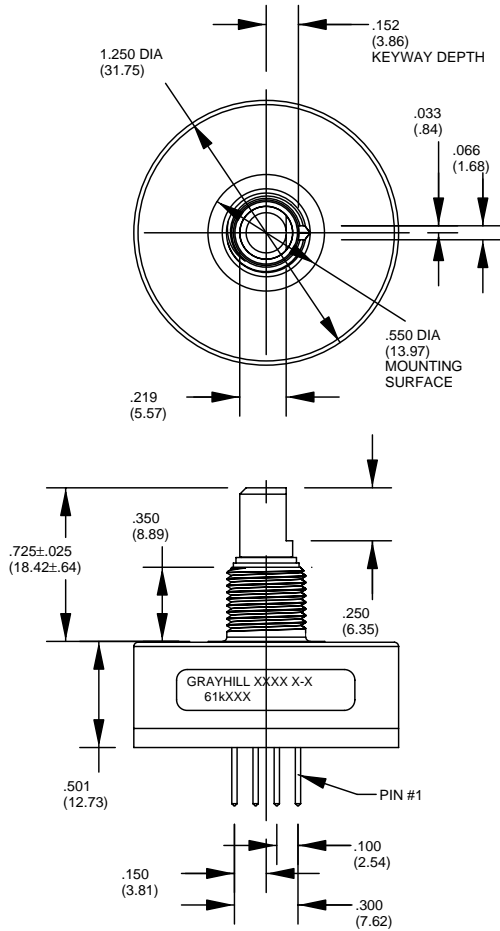
- 25, 32, 50, 64, 100, 128 and 256 Cycles per Revolution Available
- Sealed Version Available
- Rugged Construction
- Cable or Pin Versions
- 10 Million Life Cycles
- 300 RPM Shaft Rotation



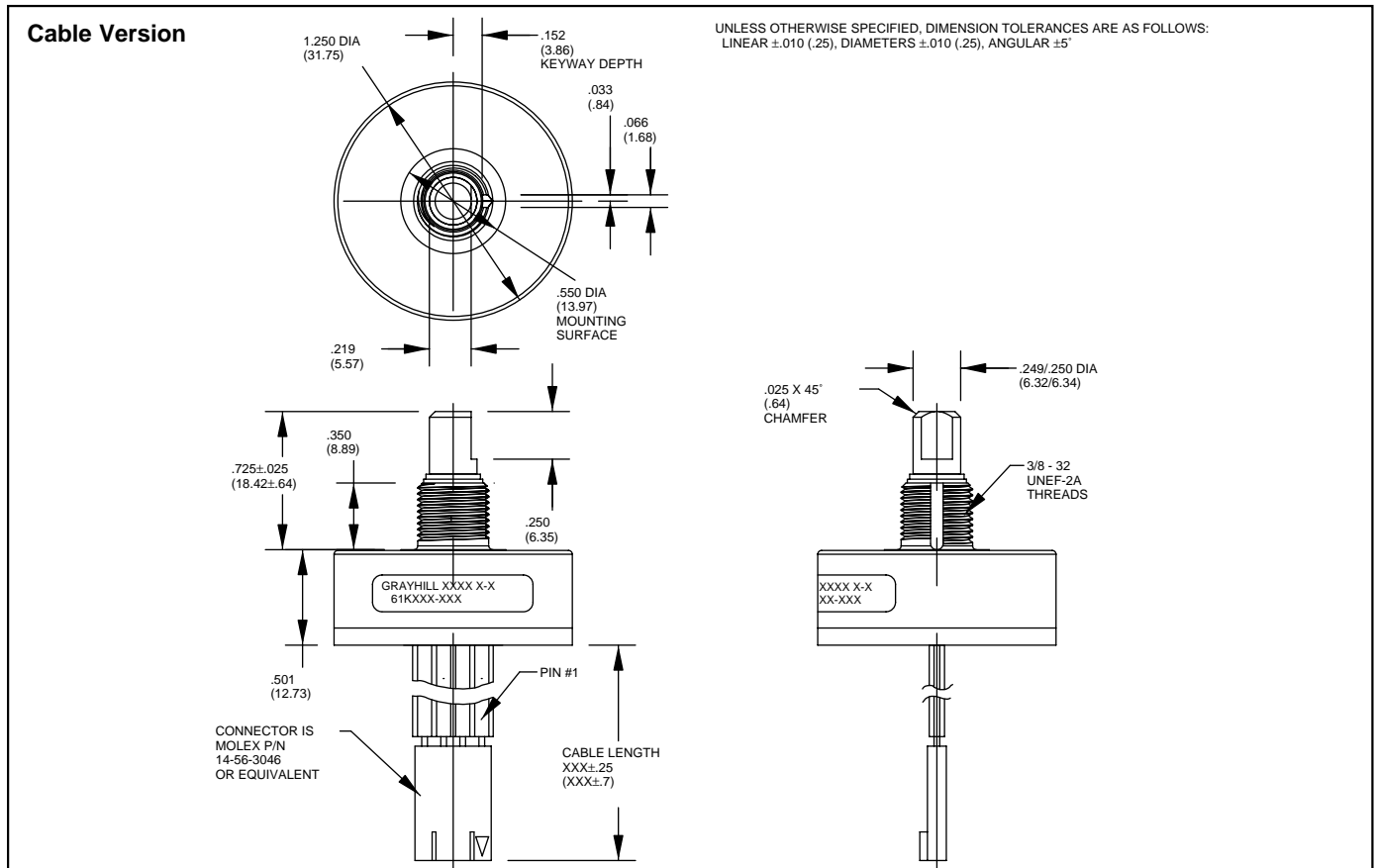
DIMENSIONS In inches (and millimeters)

Pin Version

UNLESS OTHERWISE SPECIFIED, DIMENSION TOLERANCES ARE AS FOLLOWS:
LINEAR ± 0.10 (.25), DIAMETERS ± 0.10 (.25), ANGULAR $\pm 5^\circ$

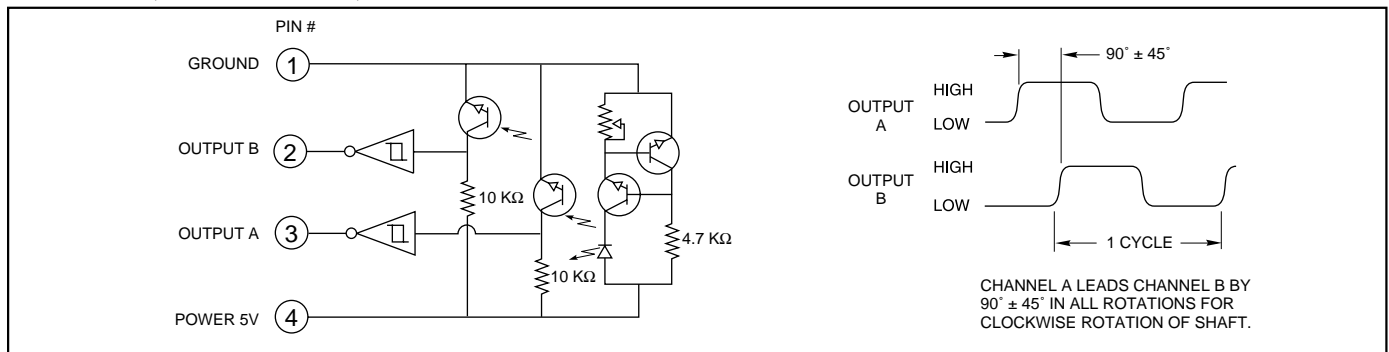


DIMENSIONS In inches (and millimeters)



Optical and Mechanical Encoders

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



SPECIFICATIONS

Electrical Ratings

Operating Voltage: 5.0 ±.25 Vdc
Supply Current: 30 mA maximum at 5 Vdc
Logic Output Characteristics:
 Output Type: Open collector with integrated Schmitt Trigger and 10K ohms pull-up resistor
 Maximum Sink Current: 16 mA at .40 volts
Power Consumption: 150 mW maximum
Optical Rise Time: 500 nS typical
Optical Fall Time: 16 nS typical

Mechanical Ratings

Mechanical Life: 10 million revolutions
Time Life: Guaranteed for 10 years of continuous operation (calculated from emitter degradation data)

Mounting Torque: 20 in-lbs maximum
Shaft Push Out Force: 100 lbs
Terminal Strength: 5 lbs terminal pull-out force minimum
Solderability: 95% free of pin holes and voids
Operating Torque: 1.5 in-oz maximum (no detents) for unsealed versions

Environmental Ratings

Operating Temperature Range: -40°C to 85°C
Storage Temperature Range: -55°C to 100°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 wave with velocity change of 12.3 ft/s. Test 2: 100g for 6 mS, sawtooth wave with velocity change of 9.7 ft/s.

Materials and Finishes

See page I-41.

ACCESSORIES

See page I-41. For control knobs see page I-57.

ORDERING INFORMATION

See page I-41.

SERIES 61R
High Resolution, 5-Pin
(Polarized Connection)

FEATURES

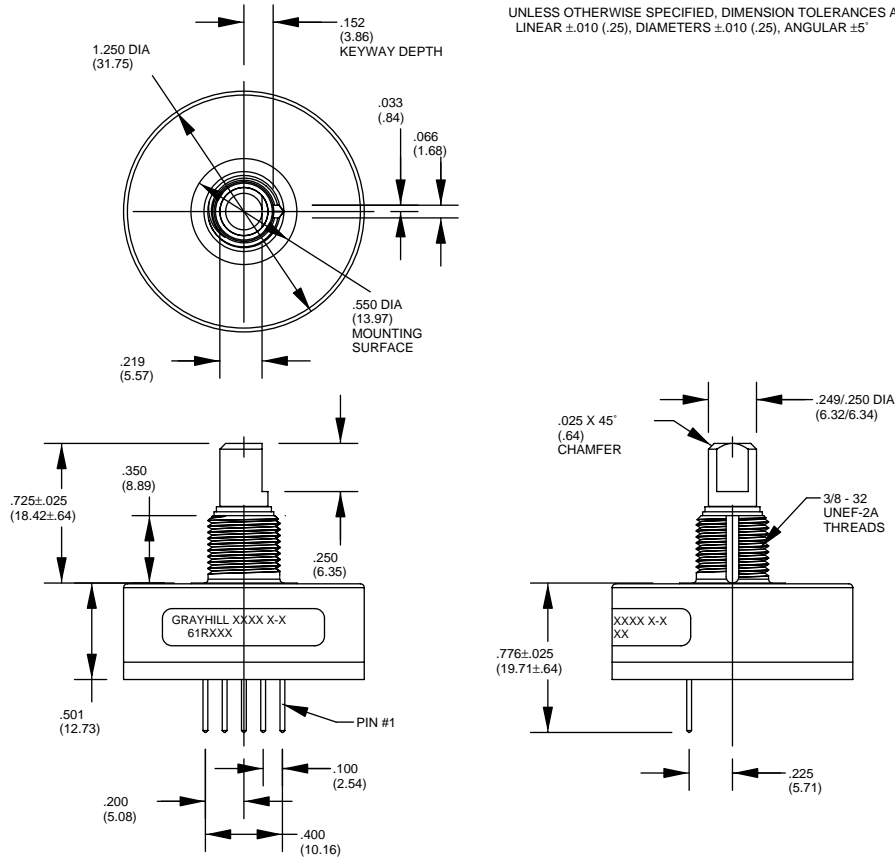
- 25, 32, 50, 64, 100, 128 and 256 Cycles per Revolution Available
- Sealed Version Available
- Rugged Construction
- Cable or Pin Version
- 10 Million Life Cycles
- 300 RPM Shaft Rotation
- Index Pulse Available



DIMENSIONS In inches (and millimeters)

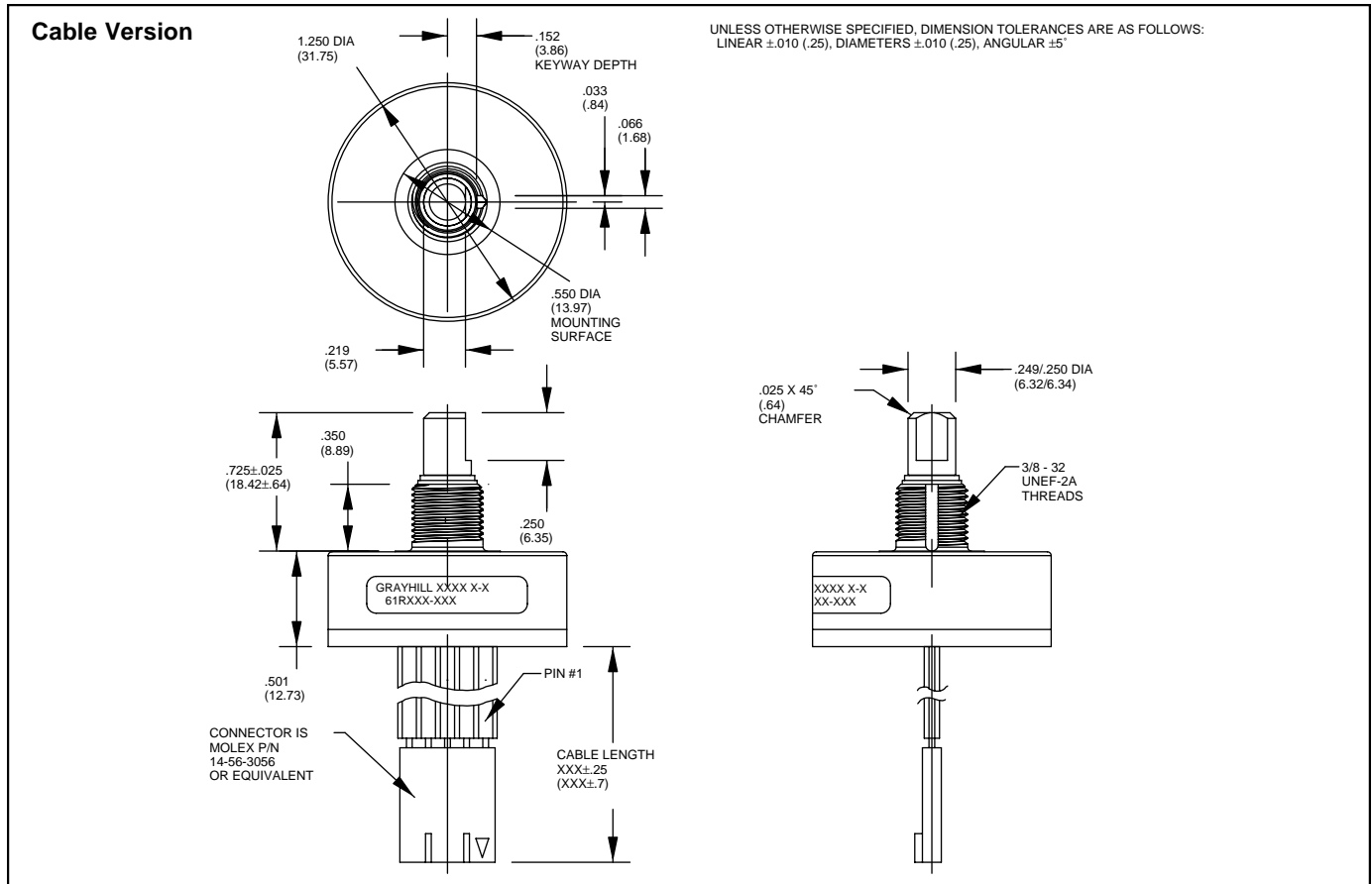
Pin Version

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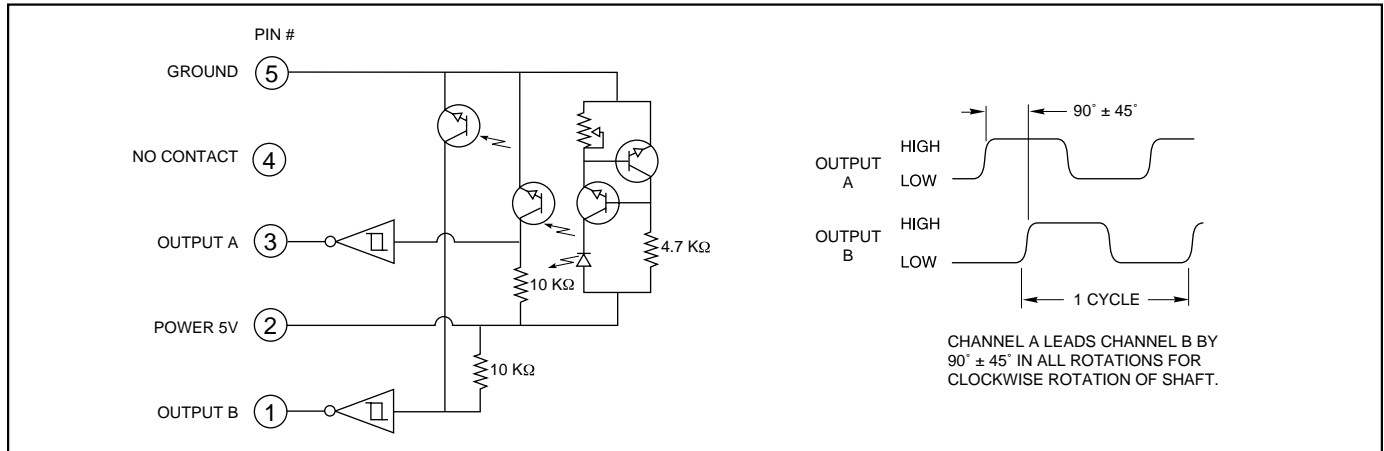
Optical and Mechanical Encoders

DIMENSIONS In inches (and millimeters)



Optical and Mechanical Encoders

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



SPECIFICATIONS

Electrical Ratings

- Operating Voltage:** 5.0 \pm .25 Vdc
- Supply Current:** 30 mA maximum at 5 Vdc
- Logic Output Characteristics:**
 - Output Type: Open collector with integrated Schmitt Trigger and 10K ohms pull-up resistor
 - Maximum Sink Current: 16 mA at .40 volts
 - Power Consumption: 150 mW maximum
 - Optical Rise Time: 500 nS typical
 - Optical Fall Time: 16 nS typical

Mechanical Ratings

- Mechanical Life:** 10 million revolutions
- Time Life:** Guaranteed for 10 years of continuous operation (calculated from emitter degradation data)
- Mounting Torque:** 20 in-lbs maximum
- Shaft Push Out Force:** 100 lbs
- Terminal Strength:** 5 lbs terminal pull-out force minimum
- Solderability:** 95% free of pin holes and voids
- Operating Torque:** 1.5 in-oz maximum (no detents) for unsealed versions

Environmental Ratings

- Operating Temperature Range:** -40°C to 85°C
- Storage Temperature Range:** -55°C to 100°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
- Shock Resistance:** Test 1: 100g for 6 mS, half-sine wave with velocity change of 12.3 ft/s. Test