

SERIES 61Z

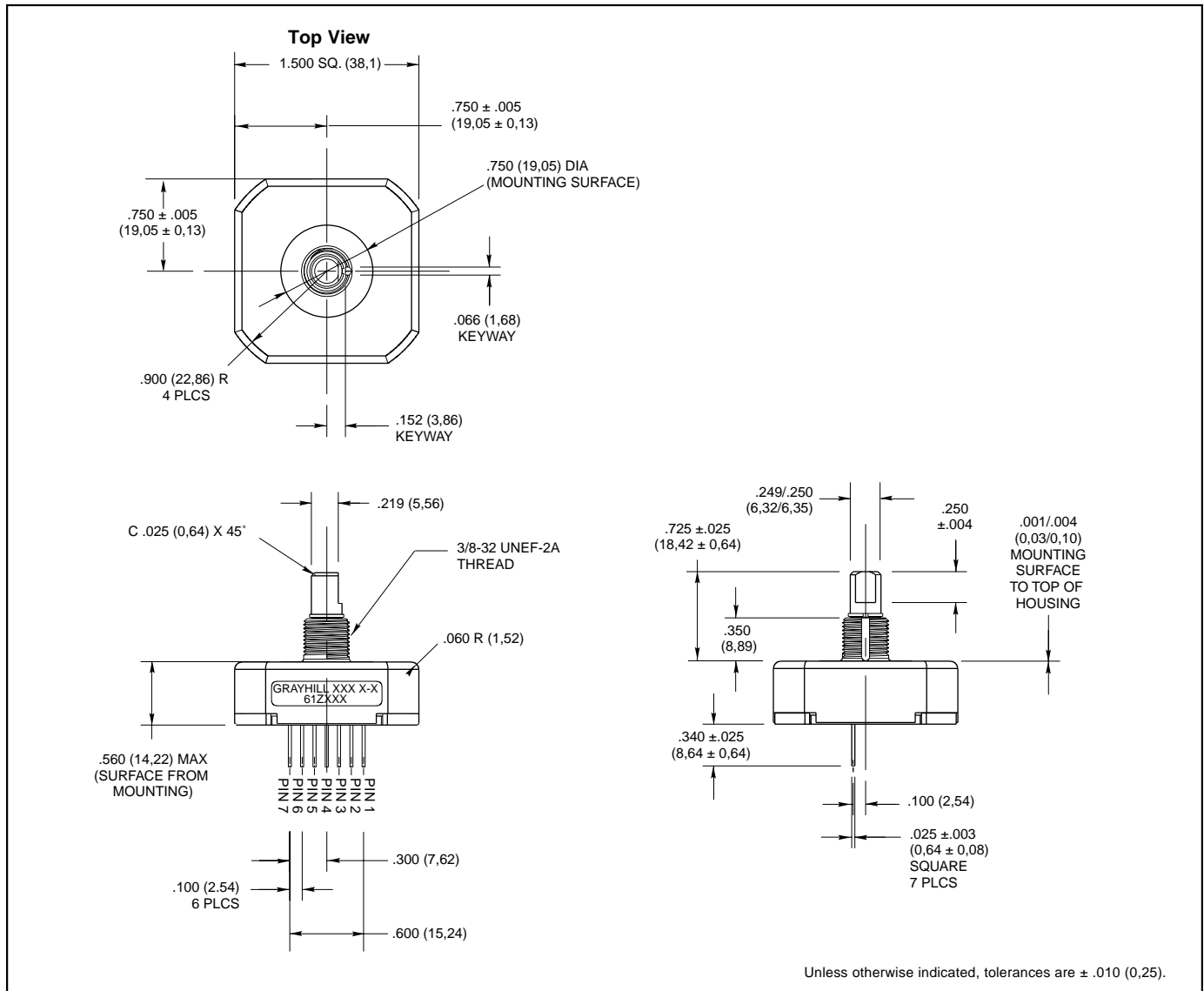
High Resolution, Redundant
Circuitry, 7-Pin

FEATURES

- 25, 32, 50, 64, 100, 128 and 256 Cycles per Revolution
- Rugged Construction
- 10 Million Life Cycles
- 300 RPM Shaft Rotation
- Shaft and Panel Seals Available
- Custom Cable Versions

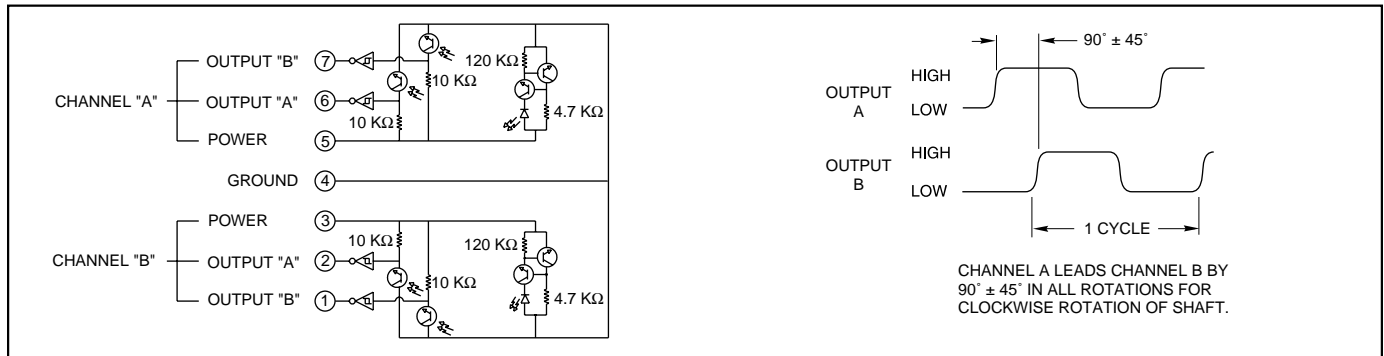


DIMENSIONS In inches (and millimeters)



Optical and Mechanical Encoders

CIRCUITRY AND WAVEFORM: Standard Redundant Quadrature 2-Bit Code



SPECIFICATIONS

Electrical Ratings

Operating Voltage: 5.0 ± .25 Vdc
Supply Current: 50 mA maximum at 5 Vdc
Logic Output Characteristics:
 Output Type: Open collector and 10 KΩ pull-up resistor with integrated Schmitt Trigger
 Maximum Sink Current: 16 mA at .40V
Power Consumption: 250 mW maximum at 5 Vdc
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 2: 100g for 6 mS, sawtooth wave with velocity change of 9.7 ft/s.

Materials and Finishes

Bushing: 6262-T9 aluminum alloy
Housing: Hiloy 610B
Shaft: Stainless steel insert molded into nylon rotor support
Code Rotor and Aperture: Chemically etched stainless steel/electroformed nickel
Printed Circuit Board: NEMA Grade FR-4. Five microinches minimum gold over 100 microinches minimum nickel over copper
Optical Barrier: Polyphthalamide (PPA)
Backplate: Polyester
Pin Header: Phosphor bronze, 200 microinches tin over 50 microinches nickel (pin version only)
Infrared Emitter: Gallium aluminum arsenide
Photo IC: Planar silicon
Retaining Ring: Stainless steel

ORDERING INFORMATION

Series
Style: Z = Standard, high resolution, redundant circuitry, 7-pin
 ZS = Sealed, high resolution, redundant circuitry, 7-pin
Cycles: per channel per revolution = 25, 32, 50, 64, 100, 128, 256

61ZS256

For Accessories see page E-23 for details. Control knobs available, see page E-39.

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