

## SERIES 62T Thumbwheel with Pushbutton

### FEATURES

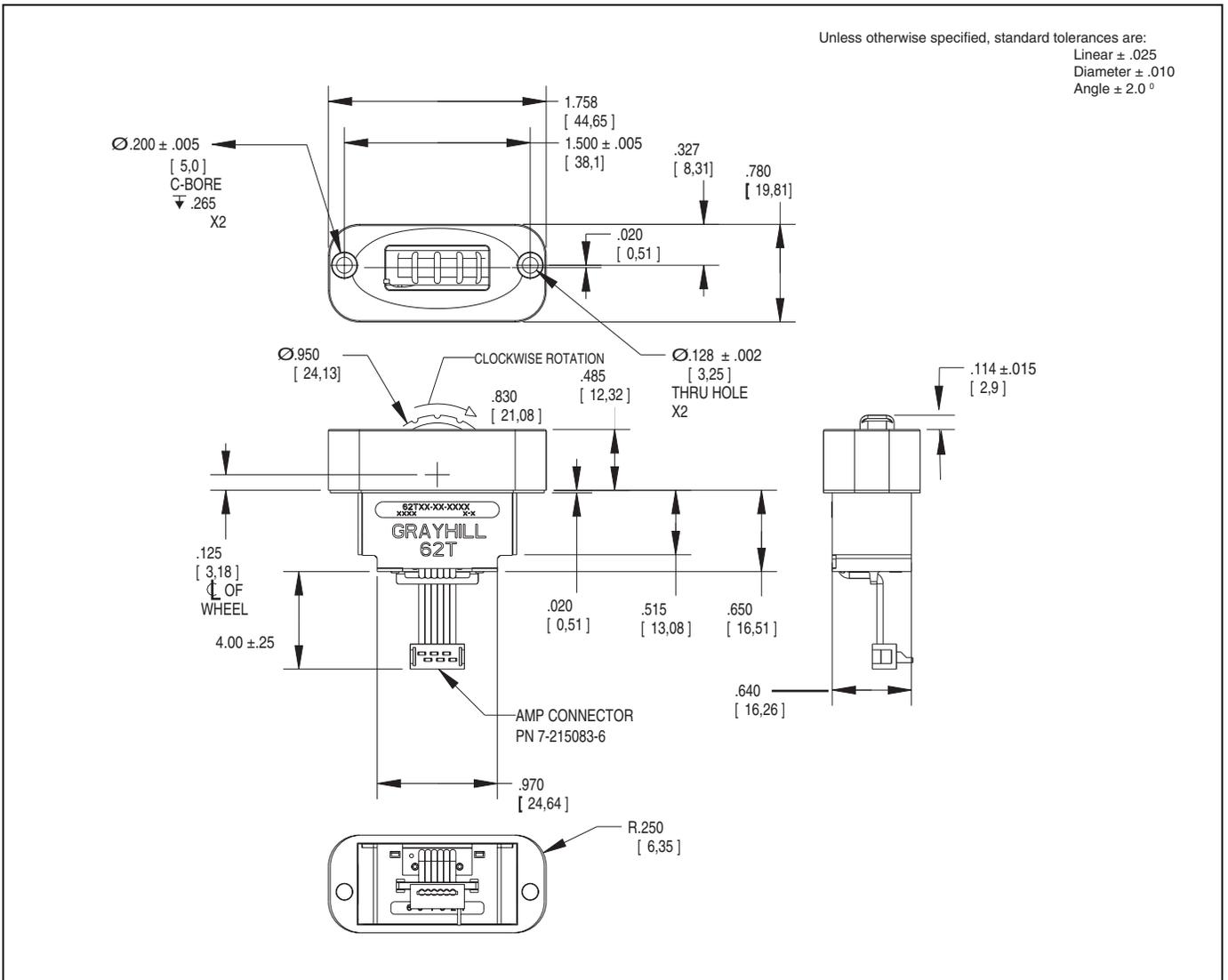
- Scroll and select functions
- Sealed against dust and particles
- Custom bezels that will blend with HMI grips and control panels
- Optional integrated pushbutton with over three million actuations
- MIL-STD-202 and MIL-STD-810F Compliant
- Standard panel seal
- Choice of cable length and termination

### APPLICATIONS

- Scroll & select equipment in industrial and non-automotive transportation applications
- Display selectors
- Hand-grip joysticks

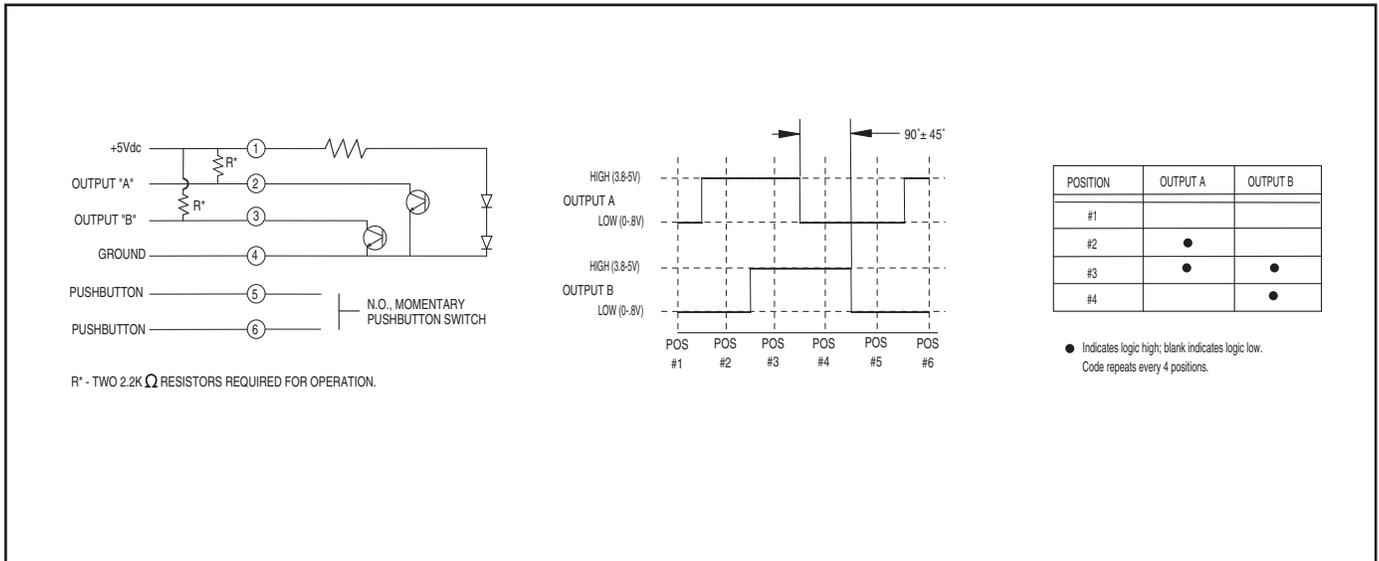


### DIMENSIONS in inches (and millimeters)



Optical and Mechanical Encoders

**WAVEFORM AND TRUTH TABLE**



**SPECIFICATIONS**

**Environmental Specifications**

- MIL-STD-810F Qualified
- Operating Temperature Range: -40° C to 85° C
- Storage Temperature Range: -55° C to 100° C
- Humidity: 240 hours at 95% humidity at 30° C
- Mechanical Vibration: Harmonic motion with amplitude of 15g, within a varied frequency of 10 to 2000 Hz
- Mechanical Shock:
  - Test 1: 100g for 6 ms half-sine wave with a velocity change of 12.3 ft/sec
  - Test 2: 100g for 6 ms sawtooth wave with a velocity change of 9.7 ft/sec

**Pushbutton Electrical and Mechanical Specifications**

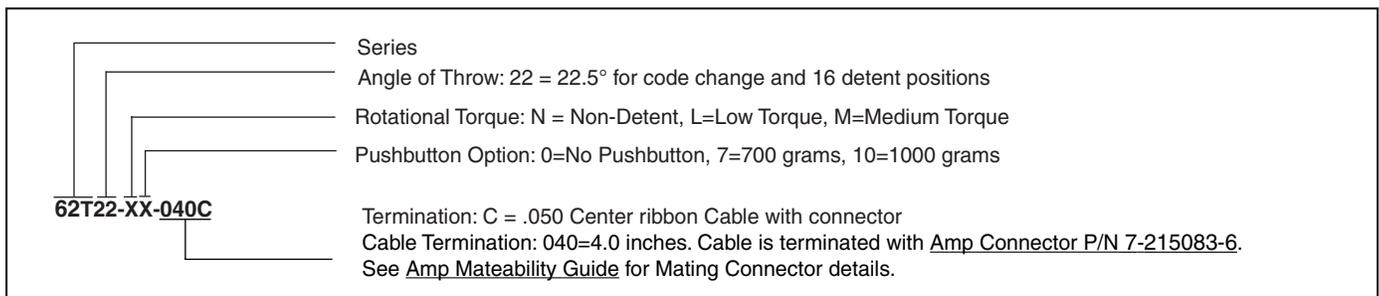
- Rating: 10mA @ 5 Vdc
- Contact Resistance: <10ohms
- Life: 3 million actuations minimum
- Contact Bounce: <4 ms make, <10ms break
- Actuation Force: N – None, 7–700g, 10 – 1000g.
- Thumbwheel Travel: .060 ± .015 in

**Rotary Electrical and Mechanical Specifications**

- Operating Voltage: 5.00±0.25 Vdc
- Supply Current: 25mA Max.
- Output: Open collector phototransistor, external pull up resistors are required
- Output Code: Two-bit quadrature, channel A leads channel B by 90° electrically during clockwise rotation of the thumbwheel
- Logic high shall be no less than 3.8 Vdc
- Logic low shall be no greater than 0.8 Vdc
- Power Consumption: 125 mW Max.
- Mechanical Life: 1,000,000 cycles of operation for Low and Non-Rotational Torque. 500,000 cycles of operation for Medium Rotational Torque. 1 cycle is a rotation through all positions and a full return.
- Average Rotational Torque:
  - M: 2.2±.75 in-oz, L: 1.2±0.5 in-oz, N: <0.50 in-oz. Initially torque shall be within 75% of initial value throughout life.

**Materials and Finishes**

- Face Plate: Plastic
- Housing: ABS Plastic
- Side Plate: Reinforced thermoplastic
- Wiper: Silicone rubber with adhesive
- Gasket: Silicone rubber with adhesive
- Wheel: Plastic
- Shaft: Aluminum
- Slide Springs: Music wire
- Detent Spring: Music wire
- Detent Balls: Nickel plated stainless steel
- PC Boards: NEMA grade FR4. Double clad with copper
- Plated with gold over nickel
- Pushbutton board is tin plating over copper
- LED: Gallium Aluminum Arsenide
- Phototransistor: Gold and Aluminum Alloys
- Code Section Housing: Reinforced plastic
- Detent Housing: Thermoplastic
- Code Rotor: Delrin 100 plastic
- Dome: Stainless steel
- Dome retainer: Delrin 100 plastic
- Slide Rods: Stainless steel
- Splining Key: Stainless steel
- Actuator: Reinforced thermoplastic
- Screws: Aluminum or Stainless
- Wiper Plate: Copper
- Solder: Lead free (96.5% tin, 3% silver, 0.5% copper, no clean)



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Optical and Mechanical Encoders

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