



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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## SERIES 62T Thumbwheel with Pushbutton

### FEATURES

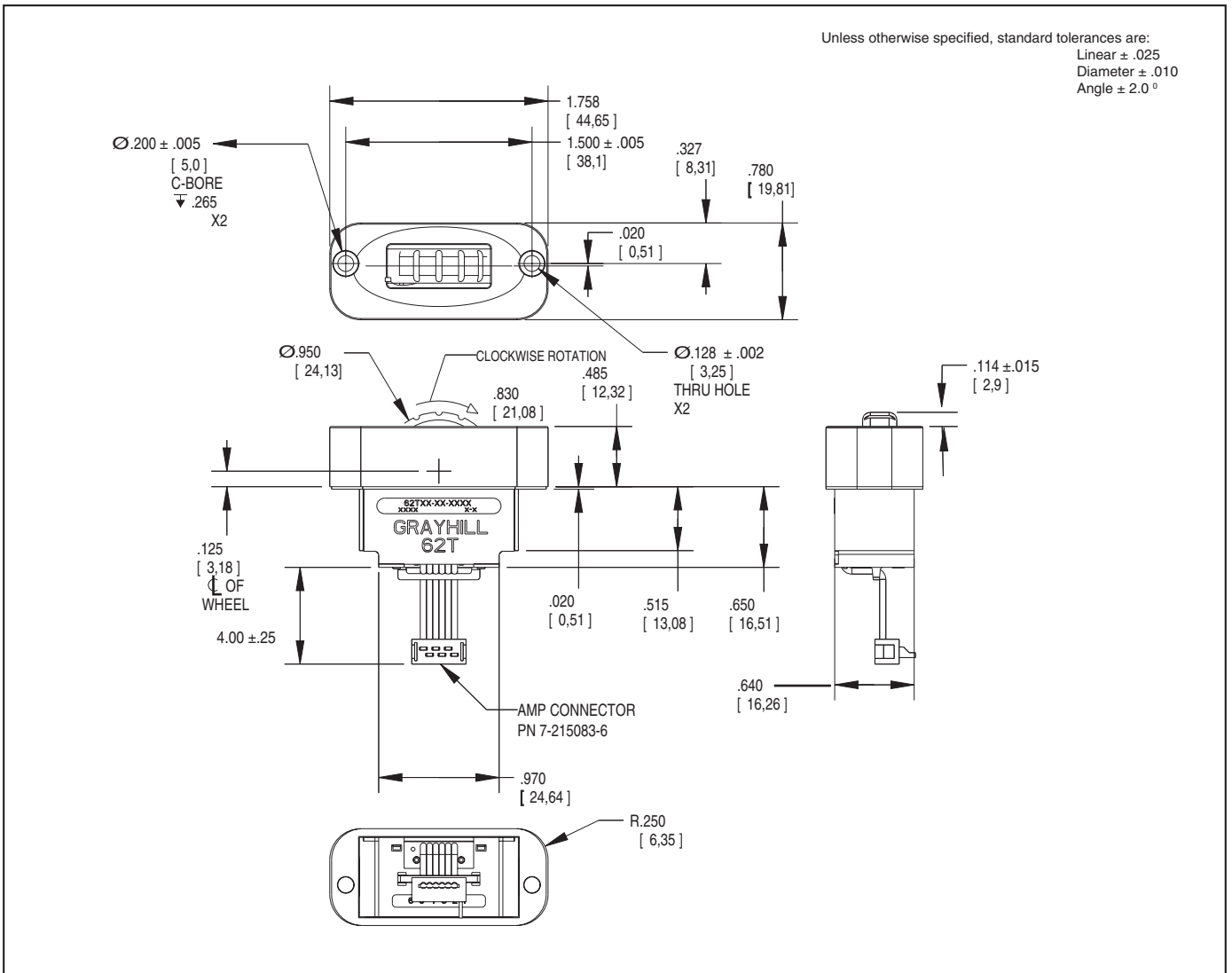
- Scroll and select functions
- Sealed against dust and particles
- Custom bezels that will blend with HMI grips and control panels
- Optional integrated pushbutton with over three million actuations
- MIL-STD-202 and MIL-STD-810F Compliant
- Standard panel seal
- Choice of cable length and termination

### APPLICATIONS

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



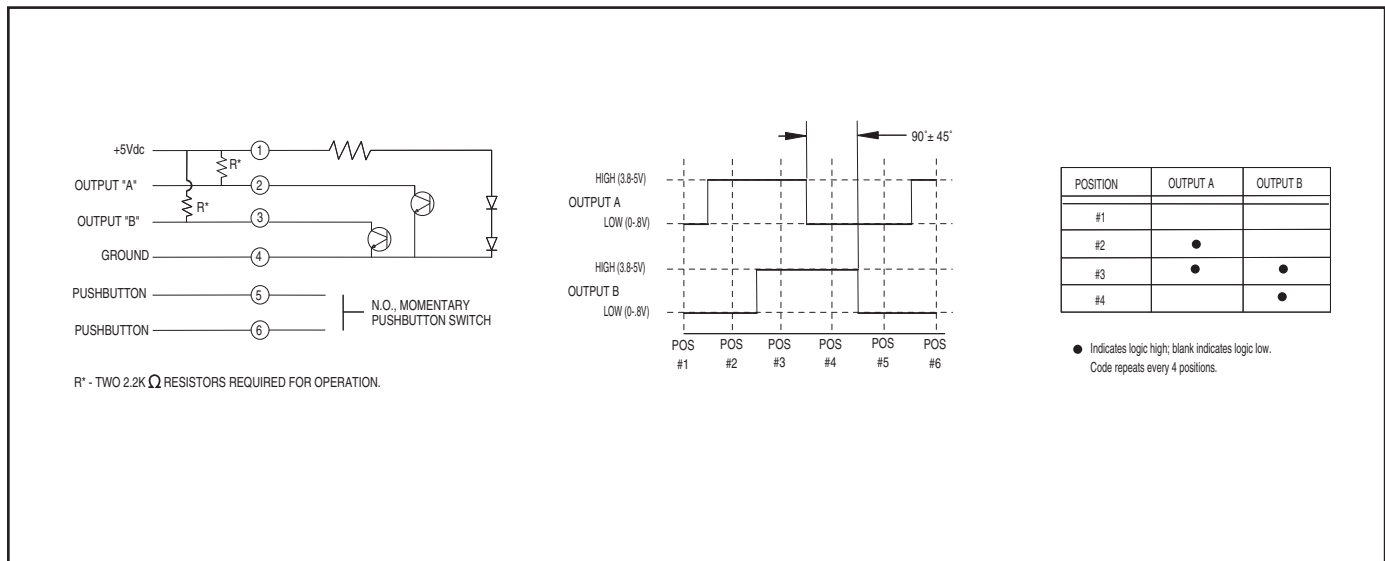
### DIMENSIONS in inches (and millimeters)



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

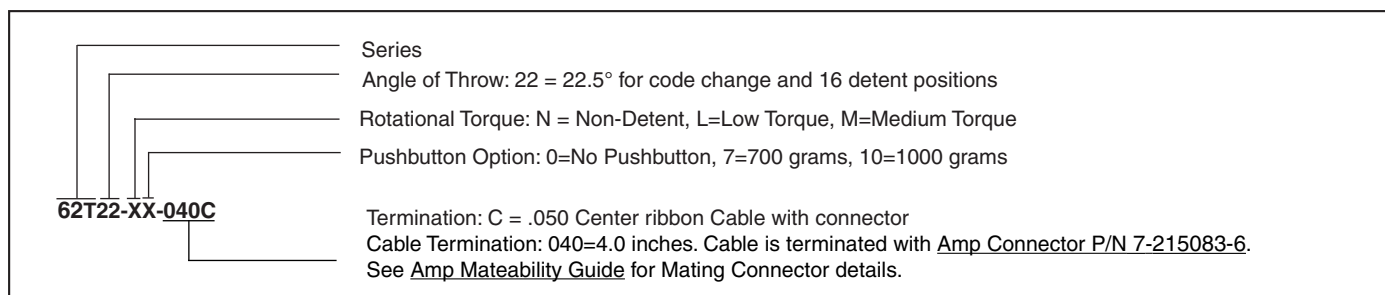
**Rating:** 10mA @ 5 Vdc  
**Contact Resistance:** <10ohms  
**Life:** 3 million actuations minimum  
**Contact Bounce:** <4 ms make, <10ms break  
**Actuation Force:** N – None, 7–700g, 10 – 1000g.  
**Thumbwheel Travel:** .060 ± .015 in

#### 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)



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