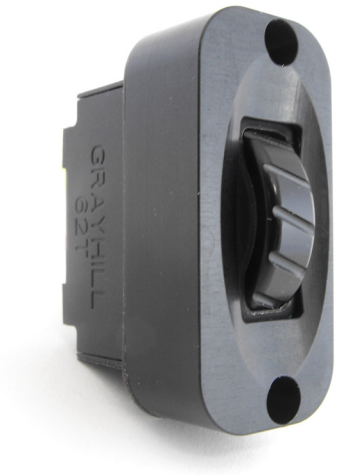
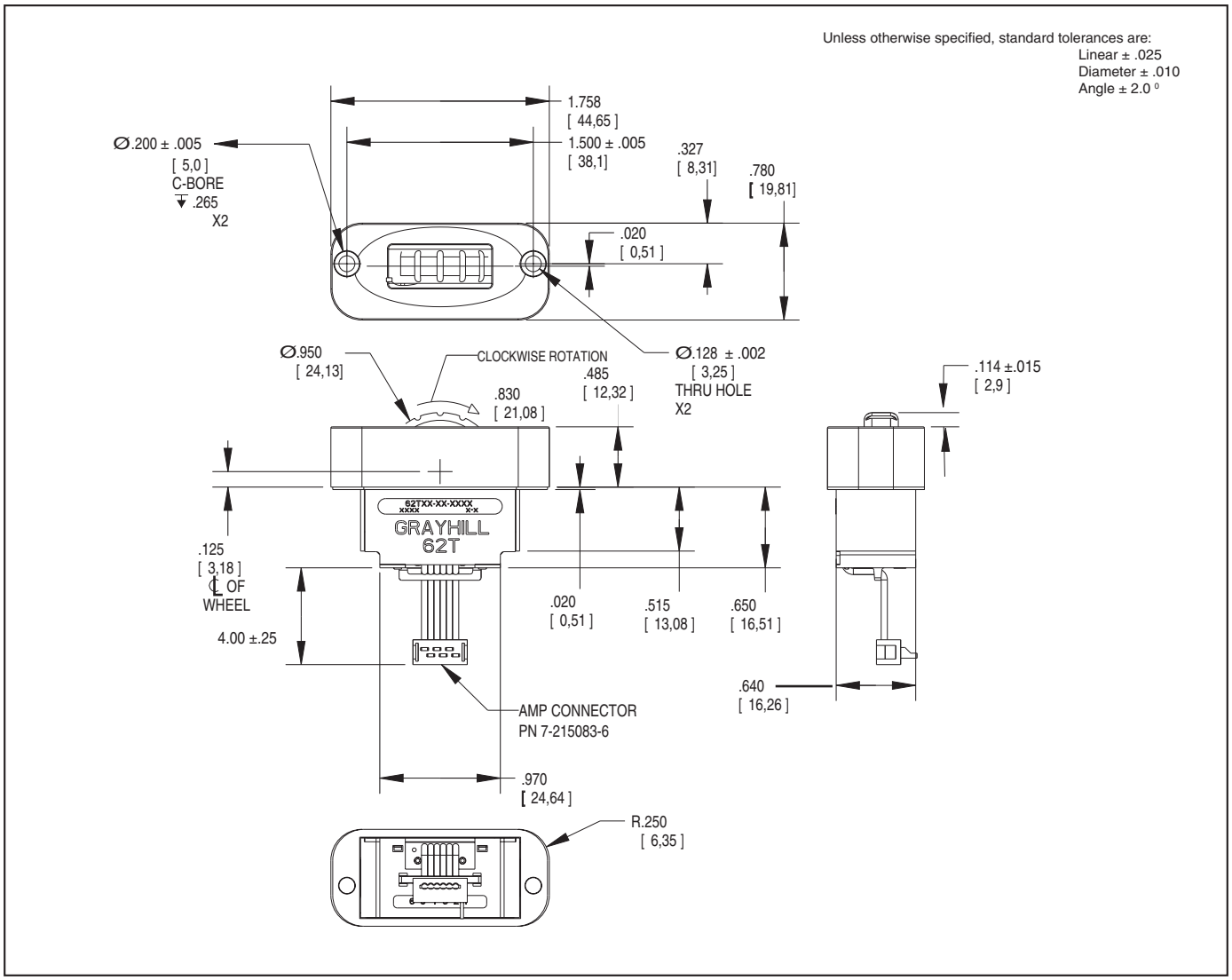
SERIES 62T
Thumbwheel with Pushbutton

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

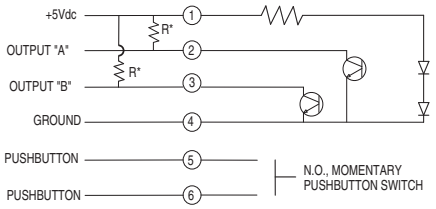
APPLICATIONS
- Scroll & select equipment in industrial and non-automotive transportation applications
- Display selectors
- Hand-grip joysticks



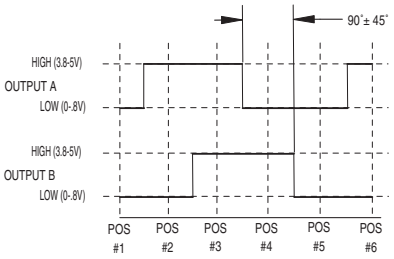
DIMENSIONS in inches (and millimeters)



WAVEFORM AND TRUTH TABLE



R* - TWO 2.2K Ω RESISTORS REQUIRED FOR OPERATION.



POSITION	OUTPUT A	OUTPUT B
#1		
#2	●	
#3	●	●
#4		●

● Indicates logic high; blank indicates logic low.
Code repeats every 4 positions.

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

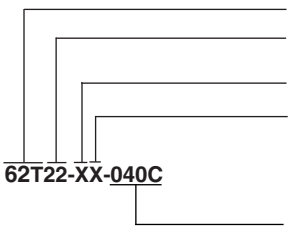
Rating: 10mA @ 5 Vdc
Contact Resistance: <10ohms
Life: 3 million actuations minimum
Contact Bounce: <4 ms make, <10ms break
Actuation Force: N – None, 7–700g, 10 – 1000g.
Thumbwheel Travel: .060 ± .015 in

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)



Series
Angle of Throw: 22 = 22.5° for code change and 16 detent positions
Rotational Torque: N = Non-Detent, L=Low Torque, M=Medium Torque
Pushbutton Option: 0=No Pushbutton, 7=700 grams, 10=1000 grams

Termination: C = .050 Center ribbon Cable with connector
Cable Termination: 040=4.0 inches. Cable is terminated with Amp Connector P/N 7-215083-6.
See Amp Mateability Guide for Mating Connector details.

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Grayhill:

62T22-M7-030C 62T22-M7-040S 62T22-N0-040C 62T22-M10-040C 62T22-M0-040C 62T22-M0-060C 62T22-M7-020C 62T22-N7-040C 62T22-L7-040C 62T22-M7-040C 62T22-L10-040C 62T22-M7-060C 62T22-L7-020C 62T22-L0-040C 62T22-M0-030C