

## SERIES 62T

### Thumbwheel with Pushbutton

#### FEATURES

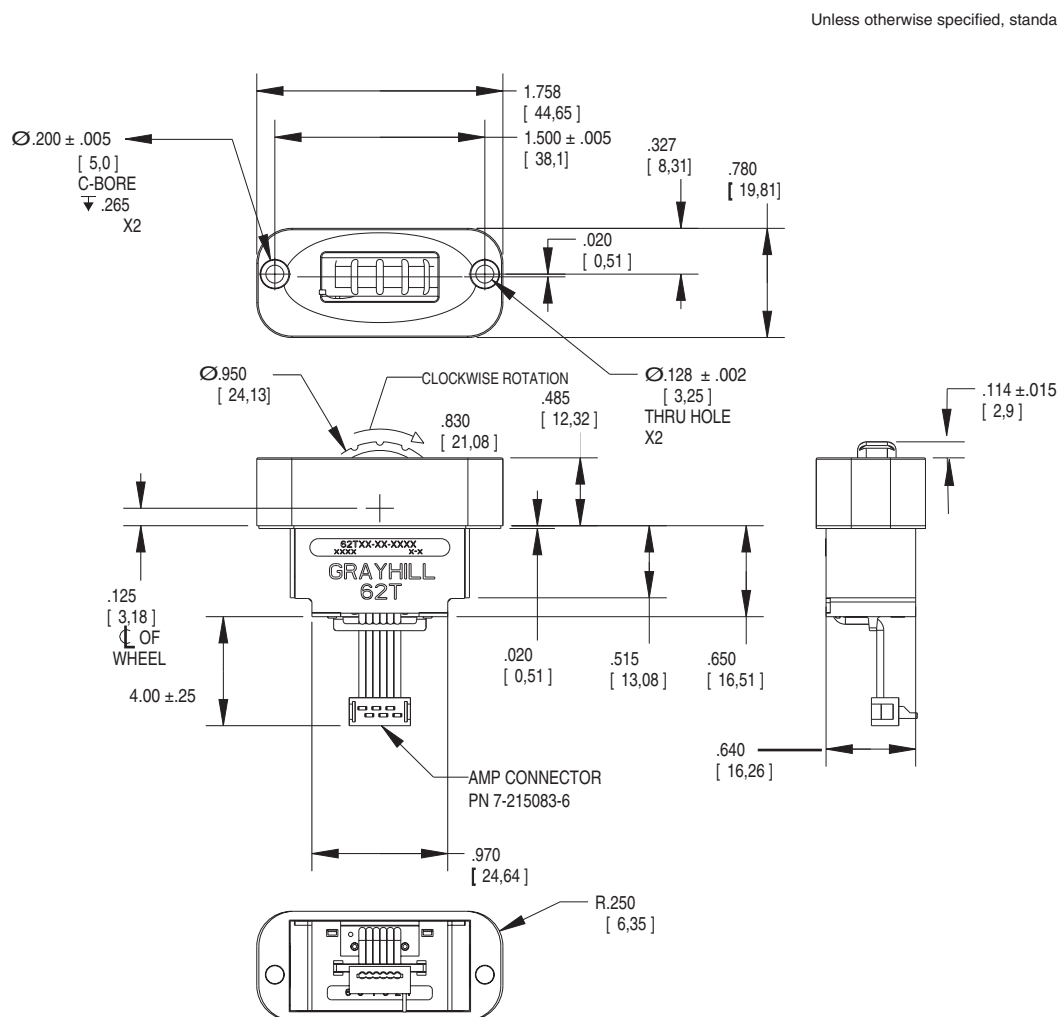
- Scroll and select functions
- Sealed against dust and particles
- Custom bezels that will blend with HMI grips and control panels
- Optional integrated pushbutton with over three million actuations
- MIL-STD-202 and MIL-STD-810F Compliant
- Standard panel seal
- Choice of cable length and termination

#### APPLICATIONS

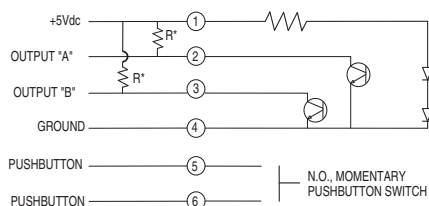
- Scroll & select equipment in industrial and non-automotive transportation applications
- Display selectors
- Hand-grip joysticks



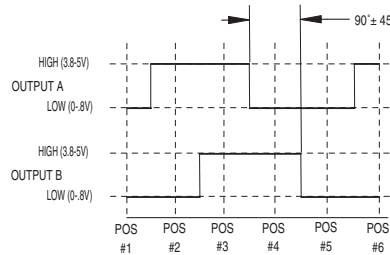
#### DIMENSIONS in inches (and millimeters)



## WAVEFORM AND TRUTH TABLE



R\* - TWO 2.2K  $\Omega$  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 and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill.

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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