SERIES 62B

Push-Pull, High Torque

FEATURES

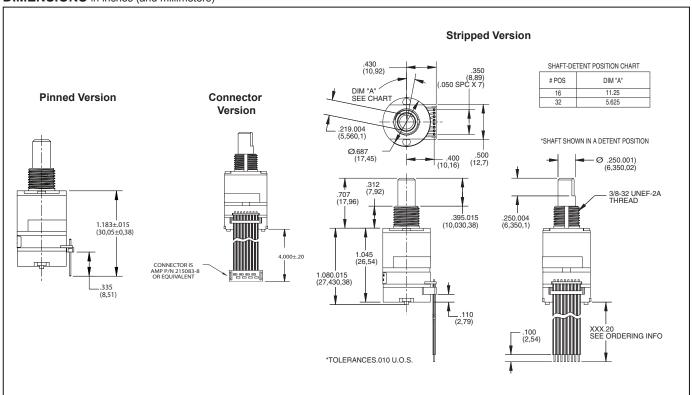
- Multiple Switching Functions Available in One Compact Device
- Push and Pull Travel Options
- Pull Shaft Resists Accidental Actuation
- High Rotational Torque for Positive Detent Feel and Superior Tactile Feedback
- · Long Life, High Reliability
- CMOS, HCMOS, and TTL Compatible
- Pin, Cable and Connector with Cable Termination Options
- Custom Modifications Available

APPLICATIONS

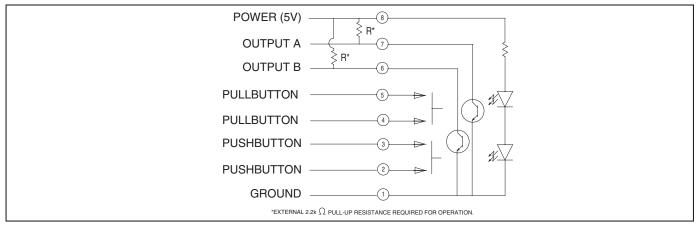
- Use for Menu Scrolling or Function Selection
- Avionics
- Industrial
- Medical



DIMENSIONS in inches (and millimeters)

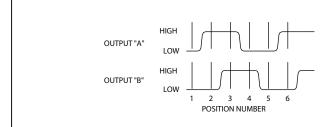


SWITCH SCHEMATIC, WAVEFORM, AND TRUTH TABLE





WAVEFORM AND TRUTH TABLE Standard Quadrature 2-Bit Code



Clockwise Rotation		
Position	Output A	Output B
1		
2	•	
3	•	•
4		•

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

SPECIFICATIONS

Environmental Specifications

Operating Temperature Range: -40°C to 85° C

Storage Temperature Range: -55° C to 100° C Humidity: 96 hours at 90-95% humidity at 40° C

Mechanical Vibration: Harmonic motion with amplitude of 15 g, within a varied frequency of 10 to 2000 Hz

Mechanical Shock:

Test 1: 100 g for 6 ms half-sine wave with a velocity change of 12.3 ft/sec

Test 2: 100 g for 6 ms sawtooth wave with a

velocity change of 9.7 ft/sec

Rotary Electrical and Mechanical Specifications

Operating Voltage: 5.00±.25 Vdc

Supply Current: 30 mA maximum at 5 Vdc Output: Open collector phototransistor, exter-

nal pull-up resistors are required

Output Code: Two-bit quadrature, channel A leads channel B by 90° electrically during clockwise rotation of the shaft

Logic Output Characteristics:

Logic high signal shall be no less

than 3.0 Vdc

Logic low signal shall be no greater

than 1.0 Vdc

Minimum Sink Current: 2.0 mA

Power Consumption: 150 mW maximum Mechanical Life: 1 million rotational cycles of operation. One cycle is a rotation through all

positions and a full return

Average Rotational Torque: 16 position: 5.0 ± 1.5 in-oz, 32-position: 2.5 ± 1.5 in-oz. Torque shall be within 50% of initial value

throughout life

Mounting Torque: 15 in-oz maximum Shaft Push-Out Force: 45 lbs minimum Shaft Pull-Out Force: 20 lbs minimum Terminal Strength: 15 lbs minimum terminal pull-out force for cable or header

Solderability: 95% free of pin holes and

voids

termination

Pull-Button/Push-Button Electrical and Mechanical Specifications

Rating: 10 mA at 5 Vdc

Contact Resistance: <10 ohms Life: 3 million actuations minimum Contact Bounce: <4 ms make,<10 ms

break

Actuation Force: 1700±450 g for both push

and pull-button

Shaft Travel: .030±.010 standard travel.

.050±.010 long travel

Materials and Finishes

Bushing: Zinc Diecast, Cadmium Plated per

QQP-416, Class II, Type II

Shaft: Aluminum

Detent Cover: Powered Metal per

SS-316N1-25

Through Bolts: 305 Stainless Steel Through Bolts Nuts: 305 Stainless Steel Shaft Travel Springs: Carbon Steel,

Oil Dip Finish

Detent Ball: Stainless Steel Detent Spring: Tinned Music Wire Spacer/Push Dome Retainer: Ryton R-4

Push Actuator: Zytel 70G33L Snap Dome: Stainless Steel

Printed Circuit Boards: Nema Grade FR4. Double Clad with Copper, Plated with Gold

over Nickel

Infrared Light Emitting Diode Chips: Gal-

lium Aluminum Arsenide

Silicon Phototransistor Chips: Gold and

Aluminum Alloys

Resistor: Metal Oxide on Ceramic Substrate

Solder Pins: Brass, Plated with Tin

Code Rotor: Delrin 100 Code Housing: Hiloy-610 Pull Dome Retainer: Ryton R-4

Pull Actuator: Polyurethane, Isoplast 101

LGF40 Blk Cover: Ryton R-4

Cable: Copper Standard with Topcoat in PVC Insulation (Cabled Versions Only) Connector: PA4.6 with Tin over Nickel Plated Phosphor Bronze (Cable/Connector

Versions)

Label: TT406 Thermal Transfer Cast Film Solder: Sn/Ag/Cu, lead-free, no clean Lubricating Grease: Nye Nyogel 774L Mounting Hex Nut: Tin/Zinc Over 1/2 Hard

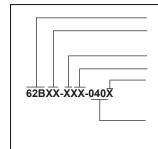
Lockwasher: 8-18 Stainless Steel, Passiv-

ate Finish

Pin Header: Hi-Temp Glass Filled Thermoplastic UL94V-0, Phosphor Bronze (Pinned

Versions Only)

ORDERING INFORMATION



Series

Angle of Throw: 22 = 22.5° For Code Change and 16 Detent Positions.

11 = 11.25° For Code Change and 32 Detent Positions.

Push/Pull-Button Travel: S = Standard Travel (.030" Both Directions). L = Long Travel (.050" Both Directions)

Push/Pull Option: P = Pull-Button Only. PP = Push and Pull-Button Termination: C = .050" Pitch Ribbon Cable with Connector

S = .050" Pitch Ribbon Cable with Stripped End

P = .050" Pitch Pin Header

Cable Termination: 040 = 4.0in. Cable is terminated with Amp Connector P/N 215083-6.

See Amp Mateability Guide for mating connector details. *Eliminate cable length if ordering pins (Ex: 62B22-SP-P)