SERIES 26
Pull to Turn
Isolated Positions
BCD or Gray Code
Shaft & Panel Seal

DESCRIPTION
An isolated position is one that cannot be reached by normal rotation. This version of the Series 26 mechanical encoder requires that the operator Pull-To-Turn in order to reach the isolated position. To rotate out of the isolated position, the operator must Pull-To-Turn again.

Use isolated positions to protect a switch position from indiscriminate rotation. This feature is typically used for positions such as “calibrate”, “off” and/or “stand-by”.

DIMENSIONS  in inches (and millimeters)

SPECIFICATIONS
Electrical Ratings
Rated: 25,000 cycles with logic compatible loads. Make and break 200 mA.
Contact Resistance: 500 milliohms maximum
(less than 100 milliohms initially)
Insulation Resistance: 1000 megohms minimum (10,000 megohms initially)
Dielectric Strength: 250 Vac minimum

Materials and Finishes
Panel Seal: Silicone Rubber
Shaft Seal: Fluorosilicone
Mounting Nut: Brass, tin/zinc-plated
Lockwasher: Steel, tin/zinc-plated
Detent Balls: Carbon steel, nickel-plated
Detent Spring: Pretinned music wire
Detent Rotor: Thermoplastic
Shaft, Stop Arm and Pins: Stainless steel
Bushing: Zamak 3 zinc alloy, tin plate
Switch Base: Dialyl phthalate
Printed Circuit Board: NEMA Grade FR-4
Terminals: Brass, gold over nickel plate
Contacts: Copper alloy, gold over nickel

Additional Characteristics
Shaft Vertical Travel: .050 +/- .010
Pull Force Required: 1.75 +/- .75 lbs.
Rotational Torque: 7 to 13oz-in
Vibration Resistance: 10 to 55 Hz at 0.060” double amplitude; no damage and no contact openings per MIL-STD-202, Method 201A
Shock Resistance: Passes medium requirement per MIL-DTL-3786
Stop Strength: 5 in-lbs minimum
Mounting Strength: 15 in-lbs max
Relative Humidity: 90-95% at 40°C for 240 hours (MIL-STD-202 Method 103, Test Condition A)

OPTIONS
Isolated Positions
The Grayhill system for isolating positions lets you choose the positions to be isolated. Grayhill inserts isolation posts next to the positions to be isolated.

To rotate out of the isolated position, the operator must Pull-To-Turn again.

16 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
To isolate position 1 and position 2 from all other positions and from each other, indicate isolation posts as shown here:
16   16
    P   P
  1   2
3 4 5 6 7 8 9 10 11 12 13 14 15 16
To isolate just position 1, describe like this:
16   16
    P   P
  1
3 4 5 6 7 8 9 10 11 12 13 14 15 16
To isolate positions 1 and 2 from all other positions, but not from each other, do this:
16   16
    P   P
  1 2
3 4 5 6 7 8 9 10 11 12 13 14 15 16

Fixed Stop Switches
The switch may have continuous rotation, or specified to limit the rotation.

When a 1-pole switch has less than the maximum number of positions, consider also the stop system. Following is the arrangement for a 6 position switch with the position 1 isolated.

STOP 1P2P3 4 5 6 7 8 9 10 11 12 13 14 15 16
To isolate just position 1, describe like this:
16   16
    P   P
  1
3 4 5 6 7 8 9 10 11 12 13 14 15 16

CODE AND TRUTH TABLE

<table>
<thead>
<tr>
<th>Switch Position</th>
<th>Code Position</th>
<th>BCD Output*</th>
<th>Gray Output*</th>
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<tbody>
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</table>

*Dot indicates terminal tied to common.

ORDERING INFORMATION
Due to the vast number of possible configurations of isolated positions and stop arrangements, each Series 26 Pull-to-Turn Mechanical Encoder will be assigned a unique part number. For example, part 26YY50202 is a 16 position gray code switch with positions 1 and 16 isolated and a STOP at each extreme.

Contact Grayhill or an authorized representative to create a part number and obtain pricing.