**SERIES 77**

0.5" Diameter, 200 mA
0.18" Behind Panel

**FEATURES**
- Small Size - Minimal Space Required Behind Panel
- Available with Continuous Rotation or a Fixed Stop
- High Stop Strength
- Shaft and Panel Seal
- Process Seal available
- Single Deck with 1 or 2 Poles

**APPLICATIONS**
- Handheld Radios
- Handheld Medical Devices
- Night Vision Products
- Laser Aiming Devices

**DIMENSIONS** in inches [and millimeters]

Recommended Mounting Torque: Tighten mounting hex nut to 12 in-lb (15 in-lb max). Before applying torque, rotation of the switch housing must be constrained by the housing flat via the “Recommended Panel Cut-Out” or similar method. Constraining by PCB or anything soldered to the terminals will result in damage to the switch.

Grayhill part number and date code marked on label. Customer part number marked on request.
RATED LOADS
Switches are rated to make and break the following loads:

<table>
<thead>
<tr>
<th>Environment Condition</th>
<th>Lamp Load</th>
<th>Inductive Load (140mH)</th>
<th>Resistive Load</th>
<th>Cycles</th>
<th>Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Millamp</td>
<td>Volts</td>
<td>Millamp</td>
<td>Volts</td>
<td></td>
</tr>
<tr>
<td>Atmospheric Pressure</td>
<td>50</td>
<td>28 VDC</td>
<td>30</td>
<td>28 VDC</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>28 VDC</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>50</td>
<td>28 VDC</td>
<td>10</td>
<td>28 VDC</td>
<td></td>
</tr>
<tr>
<td>Reduced Pressure</td>
<td>50</td>
<td>115 VDC</td>
<td>10</td>
<td>0.03 VDC</td>
<td>40</td>
</tr>
</tbody>
</table>

One cycle is 360-degree rotation and a return through all switch positions to the starting position.

Electrical Specifications
Contact Resistance: 50 milliohms max (15 milliohms initially).
100 milliohms max low level.
Insulation Resistance: 50,000 Mohms initially (10,000 Mohms after life) at 100 VDC
Voltage Breakdown: 600 Vac initially, 250 Vac after life

Mechanical / Environmental Ratings
Operating Temperature: -40°C to +85°C
Storage Temperature: -65°C to +100°C
Altitude: 70,000 feet
Rotational Torque: 3 in-oz min. to 7 in-oz max
Stop Strength: 7.5 inch pounds min
Withstanding Shaft Push Force: 100 pounds
Weight: 4.7 grams with hardware
3.9 grams without hardware
Vibration: MIL-STD-3786, MIL-STD-202, method 204, condition "B"

Materials and Finishes
Switch Base: Diallyl Phthalate per MIL-M-14
Bushing: Zinc alloy
Detent Rotor: Nylon
Detent Balls: Steel, nickel-plated
Contact Spring: music wire
Detent Spring: Stainless steel
Shaft: Stainless steel

Contact Grayhill if the life limiting criteria is more critical than those listed, if the required cycles of operation are greater than those listed, if a larger make and break current is required than the one listed for the desired number of cycles, or if elevated temperatures or reduced pressures are part of the operating environment.

ORDERING INFORMATION
Series 77
S = Shaft & Panel Sealed, leave blank for no shaft & panel seal
P = PC Terminals
T = Process Seal*, Leave blank for no process seal
Angle of throw: 36° - 36°
Number of Decks: 01 Only
Stop arrangement: Needed only with 1 pole switches with maximum positions.
Leave blank for continuous rotation; add F for fixed stop.
Contacts: N = Non-shorting; S = Shorting*
Positions per pole: 02 up to 10 positions (1 pole),
02 up to 05 positions (2 poles)
Poles per deck: 1 or 2

*Process seal (T style) is required for all Shorting contact switches

For prices and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill.