## General Specifications

### Electrical Capacity (Resistive Load)

- **Power Level (silver):** 1A @ 125V AC or 1A @ 30V DC  
- **Logic Level (gold):** 0.4VA maximum @ 28V AC/DC maximum  
- **Logic/Power Level:** Combines silver & gold ratings  

Note: Find additional explanation of dual rating & operating range in Supplement section.

### Other Ratings

- **Contact Resistance:** 20 milliohms maximum for silver; 30 milliohms maximum for gold  
- **Insulation Resistance:** 1,000 megohms minimum @ 500V DC  
- **Dielectric Strength:** 1,000V AC minimum between contacts for 1 minute minimum; 1,500V AC minimum between contacts & case for 1 minute minimum  
- **Mechanical Life:** 200,000 operations minimum  
- **Electrical Life:** 25,000 operations minimum for silver; 100,000 operations minimum for gold  
- **Nominal Operating Force:** Single pole 2.94N & double pole 4.90N  
- **Contact Timing:** Nonshorting (break-before-make)  
- **Travel:** Pretravel .023” (0.6mm); Overtravel .016” (0.4mm); Total Travel .039” (1.0mm)

### Materials & Finishes

- **Plunger:** Brass with nickel plating  
- **Support Bracket:** Brass with tin plating  
- **Bushing/Housing:** Glass fiber reinforced polyamide (UL94V-0)  
- **Sealing Ring:** Nitrile butadiene rubber  
- **Base:** Glass fiber reinforced polyamide (UL94V-0)  
- **Movable Contacts:** Silver alloy with silver plating (code W); copper with gold plating (code G); or silver alloy with gold plating (code A)  
- **Stationary Contacts:** Silver alloy with silver plating (code W); copper with gold plating (code G); or silver alloy with gold plating (code A)  
- **Terminals:** Brass with silver or gold plating

### Environmental Data

- **Operating Temp Range:** –30°C through +85°C (–22°F through +185°F)  
- **Humidity:** 90 ~ 95% humidity for 96 hours @ 40°C (104°F)  
- **Vibration:** 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours  
- **Shock:** 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

### Installation

- **Cap Installation Force:** 49.0N (11.0 lbf) for plunger A & 79.4N (17.9 lbf) for plunger B

### PCB Processing

- **Soldering:** Wave Soldering Recommended. See Profile B in Supplement section.  
- **Manual Soldering:** See Profile B in Supplement section.  
- **Cleaning:** Automated cleaning. See Cleaning specifications in Supplement section.

### Standards & Certifications

- **Flammability Standards:** UL94V-0 rated bushing/housing & base  
  - **UL:** File No. E44145 - Recognized only when ordered with marking on switch.  
  - **CSA:** File No. 023535_0_000 - Certified only when ordered with marking on switch.  

Add “/U” or “/CUL” before dash in part number to order UL or CSA recognized switch. All models recognized at 1A @ 125V AC, 1A @ 30V DC, or 0.4A @ 28V DC. All models certified at 1A @ 125V AC, 1A @ 30V DC, or 0.4A @ 28V DC.
Distinctive Characteristics

Snap-acting contact mechanism gives short travel, sensitive actuation, light touch, smooth feel, audible feedback, and a longer electrical life.

Single unit construction of the bushing and top of the housing gives protection from cleaning fluids or other liquids.

O-ring surrounding actuator at top of bushing interior prevents liquids from reaching switch mechanism.

Ultrasonic welding of upper and lower housing seals out contaminants and allows automated soldering and cleaning.

Terminals are epoxy sealed to prevent entry of flux, solvents, and other contaminants.

Bracketed models have crimped bracket legs to ensure secure PC mounting and prevent dislodging during automated soldering.

Logic level and power capabilities are available to suit varying applications.
## Series M2

### Process Sealed Miniature Pushbuttons

### TYPICAL SWITCH ORDERING EXAMPLE

<table>
<thead>
<tr>
<th>Poles &amp; Circuits</th>
<th>Contact Materials &amp; Ratings</th>
<th>Snap-on Caps</th>
<th>Cap Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 SPDT ON (ON)</td>
<td>Silver; Rated 1A @ 125V AC &amp; 1A @ 30V DC</td>
<td>For Plunger A</td>
<td>A Black</td>
</tr>
<tr>
<td>25 DPDT ON (ON)</td>
<td>Gold; Rated 0.4VA maximum @ 28V AC/DC maximum</td>
<td>For Plunger B</td>
<td>B White</td>
</tr>
<tr>
<td>( ) = Momentary</td>
<td>Gold over Silver; Rated 1A @ 125V AC &amp; 0.4VA max @ 28V AC/DC max</td>
<td>F .201” (5.1mm) Diameter</td>
<td>C Red</td>
</tr>
</tbody>
</table>

### Plungers
- A .282” (7.16mm) Long for cap codes F & H
- B .307” (7.8mm) Long for cap codes B & C

### Bushing
- A5 .250” (6.35mm) Double Flatted

### PC Terminals
- 03 Straight
- 13 Straight with .460” (11.7mm) Bracket
- 30 .150” (3.81mm) Right Angle
- 40 .150” (3.81mm) Vertical

### Snap-on Caps
- For Plunger A
  - F .201” (5.1mm) Diameter
  - H .295” (7.5mm) Diameter
- For Plunger B
  - B .315” (8.0mm) Diameter
  - C .394” (10.0mm) Diameter

### Cap Colors
- A Black
- B White
- C Red
- * E Yellow
- * F Green
- * G Blue
- * H Gray

### IMPORTANT:
Switches are supplied without UL, cULus & CSA marking unless specified. UL, cULus & CSA recognized only when ordered with marking on the switch. Specific models, ratings, & ordering instructions are noted on the General Specifications page.

### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

**M2B15AA5G30-FC**

- .250” (6.35mm) Bushing with Double Flat
- Red .201” (5.1mm) Diameter Cap on .282” (7.16mm) Long Plunger
- SPDT ON-(ON) Circuit
- Right Angle PC Terminals
- Gold Contacts with 0.4VA Rating
Process Sealed Miniature Pushbuttons

Series M2

POLES & CIRCUITS

<table>
<thead>
<tr>
<th>Pole</th>
<th>Model</th>
<th>Plunger Position ( ) = Momentary</th>
<th>Connected Terminals</th>
<th>Throw &amp; Schematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>M2B15</td>
<td>Normal</td>
<td>1-3</td>
<td>SPDT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Down</td>
<td>1-2</td>
<td></td>
</tr>
<tr>
<td>DP</td>
<td>M2B25</td>
<td>Normal</td>
<td>1-3 4-6</td>
<td>DPDT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Down</td>
<td>1-2 4-5</td>
<td></td>
</tr>
</tbody>
</table>

Note: Terminal numbers are not actually on the switch.

PLUNGERS

A .282” (7.16mm) Long

For cap codes F & H

Material: Chrome over brass

B .307” (7.8mm) Long

For cap codes B & C

Material: Chrome over brass

BUSHING

A5 .250” (6.35mm) Double Flatted

CONTACT MATERIALS & RATINGS

W Silver over Silver  
Power Level  
1A @ 125V AC & 1A @ 30V DC

G Gold over Brass or Copper  
Logic Level  
0.4VA maximum @ 28V AC/DC maximum

Complete explanation of operating range in Supplement section.

A Gold over Silver  
Power Level or Logic Level  
1A @ 125V AC or 0.4VA maximum @ 28V AC/DC maximum

Note: This dual rated option is suitable when two or more identical switches are used in logic and in power circuits within the same application. See Supplement section for complete explanation of dual rating and operating range.

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Series M2

Process Sealed Miniature Pushbuttons

PC TERMINALS

03 Straight

13 Straight with .460” (11.7mm) Bracket

30 .150” (3.81mm) Right Angle

40 .150” (3.81mm) Vertical

SNAP-ON CAPS

For Plunger Type A

F AT475 .201” (5.1mm) Diameter

Material: Polyamide
Colors Available: A, B, C

H AT496 .295” (7.5mm) Diameter

Material: Polyamide
Colors Available: A, B, C

For Plunger Type B

B AT443 .315” (8.0mm) Diameter

Material: Polycarbonate

C AT442 .394” (10.0mm) Diameter

Material: Polycarbonate

Cap Colors Codes: A Black  B White  C Red  E Yellow  F Green  G Blue  H Gray
Series M2

Process Sealed Miniature Pushbuttons

TYPICAL SWITCH DIMENSIONS

Right Angle PC

Single Pole

M2B15AA5G30-FC

Right Angle PC

Double Pole

M2B25AA5G30-FC

Vertical PC

Single Pole

M2B15AA5G40-FC

Vertical PC

Double Pole

M2B25AA5G40-FC

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