## SECTION B
### PUSHBUTTON SWITCHES

#### Introduction

**Standard Pushbutton Switches**
- Momentary and alternate action
- Ratings up to 40 amperes
- One and two pole configurations
- Single hole mounting
- Decorative actuators in various colors
- Two moisture proof series

**Uniform Panel Appearance (UPA) Pushbutton Switches**
- Ratings up to 10 amperes
- One, two and four pole configurations
- Solder lug or quick connect terminals
- Momentary snap or push-pull action
- Single hole mounting
- RFI version available

**Sub-Miniature Pushbutton Switches**
- Snap action
- MIL approved
- Sealed or non-sealed
- Low operating force

**Illuminated Switches**
- Momentary or alternate action
- Ratings up to 2 amperes
- Two pole and two circuit configurations
- Single hole mounting
- Most designed to use MS25237 type lamps

**Hand Controls with Pushbutton Switches**
- Control stick mounting
- Non “freeze” durable phenolic handle
- Heavy duty trigger switch
- Available with cord for remote operation
- Available with auxiliary switch

**Special Designed Pushbutton Switches**
- Foot operated microphone switches
- Mechanically actuated switches with lock feature
- Switching mechanism sealed against dust and moisture
- Rugged construction with flush mounting design
**PUSHBUTTON SWITCHES**

Series—D200 Heavy Duty  
Momentary Snap Action Pushbutton Switches

### FEATURES
- High current carrying capability
- Heavy duty pushbutton
- Snap action mechanism
- Minimal arcing and contact wear
- Fast double break action
- Variety of case styles and colors
- Protective shields can be ordered separately to prevent accidental actuation on “W” case model
- Black pushbutton supplied as standard

### SPECIFICATIONS
- Operating force: 2.5 lbs ± .5 lb (11N ± 2.2N)
- Electrical life: 25,000 operations minimum at rated load
- Total plunger travel (Approx.): 0.085 in. (2.16mm), 0.438 in. (11.12mm) with “L” Adapter
- Operating temperature: -40°F to +160°F (-40°C to +71°C)
- Momentary snap action
- Terminals: End Screw (Center Terminal Solder)
- Weight: “W” case 0.040 lb (18g), “P” case 0.050 lb (23g), “L” case 0.045/0.55lb (20g/25g)

### CURRENT RATINGS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Operation</th>
<th>28VDC</th>
<th>115VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>D201</td>
<td>1</td>
<td>Momentary</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>D202</td>
<td>1</td>
<td>Momentary</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>D203</td>
<td>1</td>
<td>Momentary</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>D204</td>
<td>1</td>
<td>Momentary</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>D205</td>
<td>1</td>
<td>Momentary</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>D207</td>
<td>1</td>
<td>Momentary</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

---

**WHEN ORDERING SPECIFY**...

- Catalog number of base switch — followed by suffix letters and numbers for type and color of case and pushbutton

**Order Example**

D201  
LB  
5R  
=  
D201LB5R

### SELECTION TABLE

**SERIES AND TYPE**

<table>
<thead>
<tr>
<th>D200 Series</th>
<th>Base Catalog Number</th>
<th>Circuit</th>
<th>Case and Type Color</th>
<th>Code Suffix</th>
<th>Pushbutton Style and Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>D201</td>
<td>1 P.S.T.-NO Dbl. Brk</td>
<td>Type &quot;L&quot;</td>
<td>NO. 5 LB</td>
<td>Chrome 5</td>
<td></td>
</tr>
<tr>
<td>D202</td>
<td>1 P.S.T.-NC Dbl. Brk</td>
<td>Black</td>
<td>L</td>
<td>Black 5B</td>
<td></td>
</tr>
<tr>
<td>D203</td>
<td>1 P.D.T.-2 Ckt</td>
<td>Clear</td>
<td>L</td>
<td>Chrome 5</td>
<td></td>
</tr>
</tbody>
</table>

**D201L5 With Type “L” Case**

| D204        | S.P.-NO3 Terminal   | Type "P" | NO. 2 PB | Red 2R       |
| D205        | S.P.-NC3 Terminal   | Black | P | White 2W     |

**D201P3 With Type “P” Case**

| D207        | S.P.-NO4 Terminal   | Type "W" | NO. 2 WB | Red 2R       |
|             |                    | Black | W | White 2W     |

**D201W3 With Type “W” Case**

| D207        | S.P.-NO4 Terminal   | Type "W" | NO. 3 WB | Red 3R       |
|             |                    | Black | W | White 3W     |

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3/8 Diameter Typical
Series—D200 Heavy Duty

Momentary Snap Action Pushbutton Switches

APPROXIMATE DIMENSIONS—D200 “L” CASE

APPROXIMATE DIMENSIONS—D200 “P” CASE

APPROXIMATE DIMENSIONS—D200 “W” CASE

BASIC SWITCH AND SCHEMATIC DIAGRAM

D201   D202   D203   D204   D205   D207

STANDARD

0.00 = inches
[0.0] = mm

Dimensions for reference only.
PUSHBUTTON SWITCHES
Series—H2200 Double Pole

Momentary Snap Action Pushbutton Switches

FEATURES
- Double pole
- Optional mounting adapters
- Various styles and colors of pushbuttons
- Solder terminals
- Momentary snap action
- Protective shields can be ordered separately to prevent accidental actuation on “W” case model
- Black pushbutton supplied as standard
- Other colors available

SPECIFICATIONS
- Operating force: 5.5 ± 1.5 lbs (24.2N ± 6.6N)
- Release force: 1 lb minimum (.45N)
- Electrical life: 25,000 operations minimum at rated load
- Terminals: Solder
- Weight approx.: .05 lb (.023g)

CURRENT RATINGs

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC Inductive</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2211</td>
<td>2</td>
<td>Momentary</td>
<td>10</td>
</tr>
<tr>
<td>H2222</td>
<td>2</td>
<td>Momentary</td>
<td>10</td>
</tr>
<tr>
<td>H2266</td>
<td>2</td>
<td>Momentary</td>
<td>10</td>
</tr>
</tbody>
</table>

p.f. = .75

SELECTION TABLE

SELECTION TABLE

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Circuit Type</th>
<th>Adapter Type and Color</th>
<th>Pushbutton Type and Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2211</td>
<td>2 P.S.T.- NO</td>
<td>Black PB</td>
<td>NO 2 Red 2R</td>
</tr>
<tr>
<td>H2222</td>
<td>2 P.S.T.- NC</td>
<td>Clear P</td>
<td>NO 2 Black 2</td>
</tr>
<tr>
<td>H2266</td>
<td>2 P.D.T.</td>
<td>Black PAB</td>
<td>NO 3 Red 3R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clear PA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Black UB</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clear U</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Black WB</td>
<td>NO 4 Red 4R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clear W</td>
<td></td>
</tr>
</tbody>
</table>

- Clear anodized aluminum is standard. All threads are 1/2-32 NS-2B internal; 5/8-24 NEF-2A external except as noted.
- The different pushbutton types are only available when using with one of the 4 different adapters.
- When used with any of these adapters the switch can be used as part of the UPA group of switches on pages 94 and 95.

WHEN ORDERING SPECIFY...

- For switch with pushbutton only — specify catalog number of base switch followed by code for pushbutton color. Use code R for red and leave blank if black button is desired. Examples:
  - H2211PB3
  - H2266PB3R

- For switch with mounting adapter — specify catalog number of base switch followed by suffix letters and numbers for type and color of adapter and pushbutton. Example:
  - H2211PB3R
Series—H2200 Double Pole Momentary Snap Action Pushbutton Switches

APPROXIMATE DIMENSIONS—H2200

BASIC SWITCH AND SCHEMATIC DIAGRAM

D.P.S.T. NORMALLY OPEN
H2211

D.P.S.T. NORMALLY CLOSED
H2222

D.P.D.T.
H2266

STANDARD
0.00 = inches
(0,0) = mm

Dimensions for reference only.
Series—J 300  Alternate Action Moisture Proof Pushbutton Switches

FEATURES
- Alternate action push-push
- Moisture proof
- Snap action contact design
- Seven adaptor styles
- Four button colors
- EMI/RFI version (J334)

SPECIFICATIONS
- DPDT (J333, J334) and two circuit (J313)
- EMI/RFI shielded (J334P6)
- Seal level 2 per MIL-S-8805
- Operating force: 2.75 ± 1 lb (12.1N ± 4.4N)
- Electrical life: 25,000 operations minimum
- Operating temperature: -40°F to +185°F (-40°C to +85°C)
- Total plunger travel: 0.200 in. (5.1mm) approx.
- Weight (approx.): 0.035 lbs (15.9g)
- Available in number 8 button style only

CURRENT RATINGS
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>120VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>J313</td>
<td>1</td>
<td>Alternate</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>J333</td>
<td>2</td>
<td>Alternate</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>J334</td>
<td>2</td>
<td>Alternate</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

- p.f. = .75
- EMI/RFI shielded

ORDERING INFORMATION

SPECIFY ADAPTOR
- Seven Adaptor Styles
  - Specify Black: B, Clear: No letter
- Plunger Color, Specify:
  - Black: No letter
  - Red: R
  - White: W
  - Gray: GY
- DPDT J333 and Two Circuit J313
- J334 only available as J334P6 or J334P6R

ADAPTER STYLES

STANDARD
0.00 = inches
[0.0] = mm
Dimensions for reference only.
Series—J 300  Alternate Action Moisture Proof Pushbutton Switches

DIMENSIONS—J300

Schematic diagrams J313 type and J333 and J334 type

“W” J334P6 - EMI/RFI Shielding

Graphic illustration defines relative shielding efficiency of RFI shielded component/components over unshielded device.
PUSHBUTTON SWITCHES

Series—C20050

Momentary Snap Action Pushbutton Switches

**Features**
- Snap action pushbutton
- Compact size
- Black or red buttons available
- Momentary

**Specifications**
- Meets MIL-S-8805/20
- Operating force: 5.5 ± 1 lb (2.48kg ± .68kg)
- Release force: 3.5 ± 1 lb (1.575kg ± .45kg)
- Electrical life: 40,000 operations minimum at rated load
- Mechanical life: 50,000 operations minimum
- Terminal strength: 5 lbs (2.25kg)
- Single pole, two circuit
- Weight approx.: .02 lb (9g)

**Selection Table**

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Operation</th>
<th>Case Color</th>
<th>Button Color</th>
<th>Catalog Number</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P.D.T.-2 Ckt.</td>
<td>Momentary</td>
<td>Clear</td>
<td>Black</td>
<td>C20050</td>
<td>MS16712-1</td>
</tr>
<tr>
<td>1 P.D.T.-2 Ckt.</td>
<td>Momentary</td>
<td>Clear</td>
<td>Red</td>
<td>C20050R</td>
<td>MS16712-2</td>
</tr>
</tbody>
</table>

**Approximate Dimensions—C20050**

**Basic Switch Schematic Diagram**

Dimensions for reference only. Mounting and terminal hardware supplied unassembled.
**Series—J 4004 Alternate Action**

**Alternate Action Pushbutton Switches**

**FEATURES**
- Alternate action
- Snap action mechanism
- Single piece case construction
- Two case and four button colors available

**SPECIFICATIONS**
- Single pole, double throw, two circuit
- Operating force: 2 ± 0.75 lb (8.8N ± 3.3N)
- Mechanical life: 50,000 operations minimum
- Total plunger travel: 0.172in. (4.37mm) approx.
- Weight (approx.): 0.32 lbs (15g)
- Solder lug terminals

**WHEN ORDERING SPECIFY...**
- Catalog number of base switch — followed by suffix letters for color of case and pushbutton

**SELECTION TABLE**

<table>
<thead>
<tr>
<th>Base Catalog Number</th>
<th>Circuit</th>
<th>Case Color</th>
<th>Pushbutton Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>J4004</td>
<td>1 P.D.T.-2 Ckt.</td>
<td>Black</td>
<td>Gray</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clear</td>
<td>Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Black</td>
</tr>
</tbody>
</table>

**CURRENT RATINGS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>125VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>J4004</td>
<td>1</td>
<td>Alternate</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**CURRENT RATINGS NOTES**
- p.f. = .75

**APPROXIMATE DIMENSIONS**

**SCHEMATIC DIAGRAM**

For dimensions, see the table and reference images provided.
Series—J 100 Alternate Action

High Current Pushbutton Switches

FEATURES
- Alternate action
- Snap action mechanism
- Single piece case construction
- Compact cylindrical size
- Black button standard
- Other colors available

SPECIFICATIONS
- Rated up to 40 amps DC or AC
- Operating force: 4 ± 2 lbs (1.8kg ± 0.9kg)
- Total plunger travel: 0.25 in. (6.40mm) approx.
- Weight (approx.): 1 oz. approx. (28.3g)

CURRENT RATINGS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>115VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>J100</td>
<td>1</td>
<td>Alternate</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>J103</td>
<td>1</td>
<td>Alternate</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

SELECTION TABLE

<table>
<thead>
<tr>
<th>Series and Type</th>
<th>Circuit</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>J100</td>
<td>1 P.S.T.-NO.</td>
<td>J100</td>
</tr>
<tr>
<td>J103</td>
<td>1 P.D.T.-ON-ON</td>
<td>J103</td>
</tr>
</tbody>
</table>

APPROXIMATE DIMENSIONS—J100 AND J103

- J103 has three terminals

SCHEMATIC DIAGRAMS

STANDARD
0.00 = inches
[0.00] = mm

Dimensions for reference only.
Mounting and terminal hardware supplied unassembled.
Series—W300

Moisture-proof Pushbutton Switches

**FEATURES**
- Moisture-proof
- Momentary snap action
- Black plunger (as standard)
- Various color adapters available
- Alternate action pushbutton

**SPECIFICATIONS**
- Electrical life: 25,000 operations minimum at rated current
- Temperature range: -67°F to +185°F (-55°C to +85°C)
- Exceeds MIL-S-8805 seal level 2
- Operating force: 5 ± 1 lb (22N ± 4.4N)
- Total plunger travel: 0.085 in. (2.2mm) approx.
- Weight with adapter: 0.025 lbs approx.

**CURRENT RATINGS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC Resistance</th>
<th>125VAC Inductive</th>
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<tbody>
<tr>
<td>W300</td>
<td>1</td>
<td>Momentary</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

**SELECTION TABLE**

<table>
<thead>
<tr>
<th>Series and Type</th>
<th>Operation</th>
<th>Circuit Catalog Schematic</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>W300</td>
<td>Momentary</td>
<td>![Circuit Schematic]</td>
<td>W301</td>
</tr>
<tr>
<td></td>
<td>Snap Action</td>
<td>![Circuit Schematic]</td>
<td>W302</td>
</tr>
<tr>
<td></td>
<td></td>
<td>![Circuit Schematic]</td>
<td>W303</td>
</tr>
</tbody>
</table>

**WHEN ORDERING SPECIFY...**
- Plunger Color:
  - Gray: GY
  - White: W
  - Red: R
  - Black: No Letter

**APPROXIMATE DIMENSIONS—W300**

Supplied with two terminal screws, lock washers and lugs.

**STANDARD**

0.00 = inches

[0.0] = mm

Dimensions for reference only.

Mounting and terminal hardware supplied unassembled.
**PUSHBUTTON SWITCHES**

**Series—W9000**

**Swivel Action Pushbutton Switches**

**Features**
- Swivel action allows operation from any angle
- Large button
- Splash proof
- Momentary snap action
- Solder lug terminals
- Variety of adapter and button colors

**Specifications**
- Meets MIL-S-8805 seal level 6 (splash proof)
- Electrical life: 25,000 operations minimum at rated load
- Mechanical life: 200,000 operations (50,000 operations for 3 terminal design)
- Operating force: 4 ± 1 lb (17.6N ± 4.4N)
- Total plunger travel: 0.085 in. (2.2mm) approx.
- Weight with adapter: 0.088 lbs approx.

**Selection Table**

**Series and Type**

<table>
<thead>
<tr>
<th>Base Catalog Number</th>
<th>Operation</th>
<th>Circuit and Schematic</th>
<th>Code Suffix</th>
<th>Code Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>W9001</td>
<td></td>
<td>1P.S.T.-N.O.</td>
<td>Black</td>
<td>P.S.T.-N.O.</td>
</tr>
<tr>
<td>W9002</td>
<td></td>
<td>1P.S.T.-N.C.</td>
<td>Red</td>
<td>P.S.T.-N.C.</td>
</tr>
<tr>
<td>W9003</td>
<td>Momentary</td>
<td>1 P.S.T.</td>
<td>Black</td>
<td>P.S.T.</td>
</tr>
<tr>
<td>W9004</td>
<td>Momentary</td>
<td>3 Terminal N.O.</td>
<td>Red</td>
<td>3 Terminal N.O.</td>
</tr>
<tr>
<td>W9005</td>
<td>Momentary</td>
<td>1P.S.T.</td>
<td>Black</td>
<td>1P.S.T.</td>
</tr>
<tr>
<td>W9006</td>
<td>Momentary</td>
<td>3 Terminal N.C.</td>
<td>Gray</td>
<td>3 Terminal N.C.</td>
</tr>
</tbody>
</table>

**Dimensions—W9000**

**Panel Cutout**

**When Ordering Specify...**

**Basic Switch & Schematic Diagram**

**Features**
- Normally Open
- Normally Closed
- Two Circuit
- 3 Terminal N.O.
- 3 Terminal N.C.
- S.P.D.T.

<table>
<thead>
<tr>
<th>W9001</th>
<th>W9002</th>
<th>W9003</th>
<th>W9004</th>
<th>W9005</th>
<th>W9006</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
<td><img src="image3.png" alt="Diagram" /></td>
<td><img src="image4.png" alt="Diagram" /></td>
<td><img src="image5.png" alt="Diagram" /></td>
<td><img src="image6.png" alt="Diagram" /></td>
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</table>

**Current Ratings**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>120VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>W9000</td>
<td>1</td>
<td>Momentary</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

- p.f. = .75
- 3 amps max, through center terminal.
PUSHBUTTON SWITCHES

Series—W9600

Wide Button Moistureproof Pushbutton Switches

FEATURES

- Splashproof
- Wide diameter button
- Variety of button colors available
- Momentary snap action
- Solder lug terminals
- RFI shielded version (W9623)

- Meets MIL-S-8805 seal level 6 (splashproof)
- Electrical life: 25,000 operations minimum at rated current
- Mechanical life: 200,000 operations (50,000 operations for 3 terminal design)
- Operating force: 4 ± 1 lbs (17.6N ± 4.4N)
- Total plunger travel: 0.080 in. ± .015 (2.0mm ± .38) approx.
- Vibration: 10-2000Hz 15g.
- Shock: 100g. 6 Ms sawtooth
- Weight with adapter: 0.048 lbs approx.
- EMI/RFI shielded (W9623 only)

SPECIFICATIONS

- Electrode life: 25,000 operations minimum at rated current
- Mechanical life: 200,000 operations (50,000 operations for 3 terminal design)
- Operating force: 4 ± 1 lbs (17.6N ± 4.4N)
- Total plunger travel: 0.080 in. ± .015 (2.0mm ± .38) approx.
- Vibration: 10-2000Hz 15g.
- Shock: 100g. 6 Ms sawtooth
- Weight with adapter: 0.048 lbs approx.
- EMI/RFI shielded (W9623 only)

CURRENT RATINGS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>125VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>W9600</td>
<td>1</td>
<td>Momentary</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

- \( \text{p.f.} = .75 \)
- \( 3 \) amps max. through center terminal.

SELECTION TABLE

<table>
<thead>
<tr>
<th>SERIES AND TYPE</th>
<th>Code Suffixes - Add to Cat. No.</th>
<th>Adapter Color</th>
<th>Pushbutton Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Catalog Number</td>
<td>Operation</td>
<td>Circuit and Schematic</td>
<td>Color</td>
</tr>
<tr>
<td>W9601</td>
<td>1 P.S.T.-N.O.</td>
<td>1 P.S.T.-N.O.</td>
<td>Black</td>
</tr>
<tr>
<td>W9602</td>
<td>1 P.S.T.-N.C.</td>
<td>1 P.S.T.-N.C.</td>
<td>Clear</td>
</tr>
<tr>
<td>W9603</td>
<td>1 P.-2 Circuit</td>
<td>1 P.-2 Circuit</td>
<td>Red</td>
</tr>
<tr>
<td>W9604</td>
<td>Momentary Snap Action</td>
<td>1 P.S.T. 3 Terminal N.O.</td>
<td>Black</td>
</tr>
<tr>
<td>W9605</td>
<td>1 P.S.T. 3 Terminal N.C.</td>
<td>1 P.S.T. 3 Terminal N.C.</td>
<td>Black</td>
</tr>
<tr>
<td>W9623*</td>
<td>Two Circuit 1 NO + 1NC</td>
<td>Two Circuit 1 NO + 1NC</td>
<td>Black</td>
</tr>
</tbody>
</table>

* EMI/RFI shielded

DIMENSIONS—W9600

PANEL CUTOUT

WHEN ORDERING SPECIFY...

- Pushbutton Color
- Adaptor Color
- Basic Switch

STANDARD

0.01 = inches
0.02 = mm

Dimensions for reference only.
PUSHBUTTON SWITCHES
Series—W9600
Wide Button Moistureproof Pushbutton Switches

BASIC SWITCH & SCHEMATIC DIAGRAM

\[ \text{Diagram showing switch configurations} \]

TWO CIRCUIT MODEL W9623 EMI/RMI SHIELDED

\[ \text{Diagram showing two circuit model with shielding} \]

For W9606 or S PDT circuit mount terminal jumper to terminal #2 and #4.

Graphic illustration defines relative shielding efficiency of RFI shielded component/components over unshielded device.

STANDARD
0.00 = inches
[0.0] = mm

Dimensions for reference only.
**PUSHBUTTON SWITCHES**

Series—C100, W100, WC150

**FEATURES**
- Low level switching capability
- Moisture-proof
- Momentary action (except #7 Button)
- Push-Pull action (#7 button only)
- Up to 1 million mechanical cycles
- EMI/RFI shielding available
- Tease resistant, snap action
- Six circuit arrangements available
- Various adapter and button styles and colors
- High contact pressure
- Compact size
- Corrosion resistant case and adapters

**SPECIFICATIONS**
- **MS27903** (WC150 series only)
- **Operating temperature:** -40°F to +158°F (-40°C to +70°C)
- **Electrical life:** 25,000 cycles at rated load
- **Operating force:** Approx. 2.5 - 5 lbs (Momentary) Approx. 1.5 - 2.5 lbs (Push-Pull)
- **Total plunger travel:** 0.085 in. (2.16mm) Approx.
- **W100 and WC150 exceeds seal level 2 per MIL-S-8805**
- **C100 series meets seal level 2 per MIL-S-8805**

**CURRENT RATING**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>28VDC</th>
<th>125VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resistive Load</td>
<td>Inductive Load</td>
</tr>
<tr>
<td>C100 Series</td>
<td>10 Ω</td>
<td>5</td>
</tr>
<tr>
<td>W100 Series</td>
<td>10 Ω</td>
<td>5</td>
</tr>
<tr>
<td>WC150 Series</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>W403 PE (R)</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

1. 3 amps max. through center terminal of A800 and A11200
2. 3 amps max. through center terminal of W104 and W105
3. p.f. = .75
4. EMI/RFI shielded

**SELECTION TABLE**

**SERIES NUMBER**

<table>
<thead>
<tr>
<th>Base Switch – Catalog Number</th>
<th>Options – Suffix Number</th>
<th>Solder Lug Terminals</th>
<th>Mounting Adapters</th>
<th>Auxiliary Buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>C100 (Non-Sealed)</td>
<td></td>
<td>Normal Force</td>
<td>Light Op. Force</td>
<td></td>
</tr>
<tr>
<td>SP-NO</td>
<td>C100</td>
<td>C111</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>SP-NC</td>
<td>C3100</td>
<td>C112</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>1 P.D.T. 2 Ckt.</td>
<td>C200</td>
<td>C113</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>SP-NO 3 Term.</td>
<td>A800</td>
<td>C114</td>
<td>–</td>
<td>–</td>
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<tr>
<td>SP-NC 3 Term.</td>
<td>A11200</td>
<td>C115</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>1 P.D.T. Dbl. Brk.</td>
<td>C4100</td>
<td>C116</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>W100 (Sealed)</td>
<td></td>
<td>Normal Force</td>
<td>Light Op. Force</td>
<td></td>
</tr>
<tr>
<td>SP-NO</td>
<td>–</td>
<td>W101</td>
<td>W111</td>
<td>–</td>
</tr>
<tr>
<td>SP-NC</td>
<td>–</td>
<td>W102</td>
<td>W112</td>
<td>–</td>
</tr>
<tr>
<td>1 P.D.T. 2 Ckt.</td>
<td>–</td>
<td>W103</td>
<td>W113</td>
<td>–</td>
</tr>
<tr>
<td>SP-NC 3 Term.</td>
<td>–</td>
<td>W104</td>
<td>W114</td>
<td>–</td>
</tr>
<tr>
<td>1 P.D.T. Dbl. Brk.</td>
<td>–</td>
<td>W105</td>
<td>W115</td>
<td>–</td>
</tr>
<tr>
<td>WC150 (Sealed)</td>
<td></td>
<td>Normal Force</td>
<td>Light Op. Force</td>
<td></td>
</tr>
<tr>
<td>2 P.D.T. 4 Ckt.</td>
<td>–</td>
<td>WC150</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

**WHEN ORDERING SPECIFY...**

- Catalog number of base switch followed by suffix numbers of options (when required) as selected from Selection Table.

**Part Resistive Inductive Resistive Inductive**

<table>
<thead>
<tr>
<th>Number</th>
<th>Load Load Lamp Load Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>125</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**WHEN ORDERING SPECIFY...**

- Catalog number of base switch followed by suffix numbers of options (when required) as selected from Selection Table.
PUSHBUTTON SWITCHES
Series—C100, W100, WC150

APPROXIMATE DIMENSIONS—PUSHBUTTON SWITCHES

W100

WC150
(RR Version Slightly Larger)

C100 Without Adapter

C100 With Adapter

APPROXIMATE DIMENSIONS—AUXILIARY BUTTONS

<table>
<thead>
<tr>
<th>Style Number 2</th>
<th>Style Number 3</th>
<th>Style Number 4</th>
<th>Style Number 6</th>
<th>Style Number 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>mm.</td>
<td>in.</td>
<td>mm.</td>
<td>in.</td>
<td>mm.</td>
</tr>
<tr>
<td>Series C100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without Adapter</td>
<td>7.9</td>
<td>.31</td>
<td>7.9</td>
<td>.31</td>
</tr>
<tr>
<td>With Adapter</td>
<td>9.5</td>
<td>.37</td>
<td>7.9</td>
<td>.31</td>
</tr>
<tr>
<td>Series W100 &amp; WC150</td>
<td>9.5</td>
<td>.37</td>
<td>7.9</td>
<td>.31</td>
</tr>
</tbody>
</table>

SCHEMATIC DIAGRAMS

STANDARD
0.00 = inches
[0,0] = mm

Dimensions for reference only.
Series—C100, W100, WC150

APPROXIMATE DIMENSIONS—MOUNTING ADAPTERS

STANDARD:

OPTIONAL:

EMI / RFI SHIELDED

Graphic illustration defines relative shielding efficiency of RFI shielded component/components over unshielded device.

Graphic illustration defines relative shielding efficiency of RFI shielded component/components over unshielded device.
Sub-Miniature Pushbutton Switches

FEATURES
- Sealed or unsealed versions
- Low operating force
- Momentary snap action
- EMI/RFI version (BR7070)
- Black or red adapter colors available
- Clear or black case colors available
- Compact, space saving design

SPECIFICATIONS
- MIL-S-8805 approved
- Total plunger travel: 0.093 in. (2.36mm) minimum
- Electrical life: 25,000 operations minimum at de-rated current
- 10,000 operations minimum at rated current
- Operating force:
  - B9000: 1.5 (6.66N ± .5 lb (2.22N))
  - BW9000: 1.75 (7.77N ± .5 lb (2.22N))
  - B07070: 1.5 (6.66N ± .75 lb (3.33N))
  - BR7070: 2.0 (8.88N ± .75 lb (3.33N))
- Weight approx.:
  - B9000: 0.01 lb (4.5g) Max.
  - BW9000: 0.01 lb (4.5g) Max.
  - B07070: 0.02 lb (9.1g) Approx.
  - BR7070: 0.02 lb (9.1g) Max.
- EMI/RFI shielded (BR7070 only)

CURRENT RATINGS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Poles</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>125VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resitive Load</td>
<td>Inductive Load</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resistive Load</td>
<td>Inductive Load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B9001</td>
<td>Momentary</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>B9002</td>
<td>Momentary</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>BW9001</td>
<td>Momentary</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>BW9002</td>
<td>Momentary</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>BW9021</td>
<td>Momentary</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>BW9022</td>
<td>Momentary</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>B7070</td>
<td>Momentary</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>BR7070</td>
<td>Momentary</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

SERIES TYPE

APPROXIMATE DIMENSIONS

FEATURES

SELECTION TABLES
### Sub-Miniature Pushbutton Switches

**Catalog Number**

- B7070
- BR7070

**Military Part Number**

- M8805/95-001
- M8805/95-002
- M8805/95-003
- M8805/95-004

**Case Color**

- Clear
- Red
- Black

**Button Color**

- Black
- Red

**Solder Terminals**

- EMI/RFI Shielded

---

**Series Type**

- B7070
  - Two Pole

---

**Schematic Diagrams—B7070**

**Panel Cut-Out**

---

**Catalog Number**

- BR7070
- BR7070R
- BR7070B
- BR7070BR

**Case Color**

- Clear
- Red
- Black

**Button Color**

- Black
- Red

**Solder Terminals**

- EMI/RFI Shielded

---

**Catalog Number**

- BR7070
- BR7070R
- BR7070B
- BR7070BR

**Case Color**

- Clear
- Red
- Black

**Button Color**

- Black
- Red

**Solder Terminals**

- EMI/RFI Shielded

---

**Dimensions for reference only.**

0.00 = inches
0.00 = mm
Series -- A20000 Momentary Snap Action
J20000 Push-Push (Alternate) Action

FEATURES
- Moisture resistant
- Flame retardant back material
- Low operating force
- Independent lamp circuit
- Rugged case
- A20000 Series momentary snap action
- J20000 Series alternate action
- Watertight enclosure design level 3
- MIL-S-8805
- Temperature range: -67°F to +185°F (-55°C to +85°C)
- Operating force: 2 ± 1 lb (8.88N)
- Plunger travel: 0.160 in. (4.06mm) approx.
- Uses either M22885/19 screw type or M22885/1 snap intype lenses

SPECIFICATIONS
- Part Number: J20000 2 alternate
- Number of Poles: 2 alternate
- Operation: Resistive, Inductive, Lamp
- Lamp Resisitve: 1.5
- Lamp Inductive: 0.5
- Lamp Resistive: 2
- Lamp Inductive: 1.5
- Lamp Lamp: 0.5

SELECTION TABLE

APPROXIMATE DIMENSIONS

SCHEMATIC DIAGRAMS—A20000 AND J20000

RECOMMENDED PANEL MOUNTING HOLE DIMENSIONS
PUSHBUTTON SWITCHES

Series—8895-8897, 8899
Hand Controls with Pushbutton Switches

FEATURES
• High strength handles and caps
• Control stick mounted on hand
  hold grips
• Trigger operated pushbutton switches
  in handle
• Positive action, double break
  trigger switch
• Auxiliary switch in cap on 8895K1
• Catalog part numbers 8895 and 8896
  mount to control stick
• Catalog part number 8897 features a
  hand strap for multi-task capability

SPECIFICATIONS
• High impact thermoset molding materials
  used in handles and caps
• Temperature range: -67°F to +150°F
  (-55°C to +65°C)
• Life: 10,000 operations at rated load
  10,000 operations mechanical life

CURRENT RATINGS

<table>
<thead>
<tr>
<th>Catalog</th>
<th>Type of Operation</th>
<th>28VDC</th>
<th>115VAC 60 or 400Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>8895K1</td>
<td>Trigger PB sw</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Auxiliary PB sw</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>8896K1</td>
<td>Trigger PB sw</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Auxiliary PB sw</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>8897K1</td>
<td>Trigger PB sw</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Pushbutton sw</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

• Contact Customer Service for product information 800/955-7354, 941/751-7138, Fax 941/751-7173.

SELECTION TABLE

<table>
<thead>
<tr>
<th>Type</th>
<th>Poles and Throw</th>
<th>Circuit Arrangement</th>
<th>Features</th>
<th>Government Drawing Number</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pistol Grip</td>
<td>1 P.S.T.</td>
<td>OFF ON**</td>
<td>With Auxiliary Switch</td>
<td>NAF1173-1</td>
<td>8896K1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>With Hand Strap</td>
<td>NAF1174-1</td>
<td>8897K1</td>
</tr>
</tbody>
</table>

** Momentary circuit
PUSHBUTTON SWITCHES
Series—8895-8897, 8899
Hand Controls with Pushbutton Switches

APPROXIMATE DIMENSIONS—8895K1

APPROXIMATE DIMENSIONS—8896K1

STANDARD
0.00 = inches
[0,0] = mm
Dimensions for reference only.
Series—8895-8897, 8899

Hand Controls with Pushbutton Switches

APPROXIMATE DIMENSIONS—8897

APPROXIMATE DIMENSIONS—8899

OPTIONS/ACCESSORIES
- Replace trigger switch with sealed pushbutton switch
- Harness assemblies available
- Auxiliary toggle or pushbutton switches installed in cap (8896K & 8897K type)
- Multi-function switch variations
- Replacement components
- Joystick or hand held configurations available (8899K series)

STANDARD
0.00 = inches
[0,0] = mm

Dimensions for reference only.
PUSHBUTTON SWITCHES

Series—8870, 8809  Special Designed Pushbutton Switches

FEATURES

• All switches employ momentary action
• Foot or hand operation designs
• Plunger has ice and mud scraper
• Mechanical lock on 8809K559
• Mechanical lock has spring loaded release design
• Logic to power switching load capability

SPECIFICATIONS

• MS approved and QPL'd to MIL-S-8805
• Temperature range: -40°F to +185°F (-40°C to +85°C)
• Life: 20,000 operations at rated load
  50,000 operations mechanical life

CURRENT RATINGS

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>28VDC</th>
<th>115VAC 60 or 400Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resistive Load</td>
<td>Inductive Load</td>
</tr>
<tr>
<td>8870K2</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>8870K3</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>8870K4</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>8870K5</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>8909K559</td>
<td>6</td>
<td>-</td>
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</tbody>
</table>

SELECTION TABLE

<table>
<thead>
<tr>
<th>Pole Arrangement</th>
<th>Circuit Arrangement</th>
<th>Mounting</th>
<th>Features</th>
<th>Government Part Number</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P.S.T.</td>
<td>OFF</td>
<td>ON</td>
<td>Rush</td>
<td>Microphone PB Switches</td>
<td>M8805/55-001</td>
</tr>
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<td></td>
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<td></td>
<td>8870K2</td>
</tr>
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<td></td>
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<td>Foot Operated</td>
<td>M8805/55-002</td>
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<td>8870K3</td>
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<td>M8805/55-003</td>
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<td>8870K4</td>
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<td></td>
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<td>M8805/55-004</td>
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<td></td>
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<td></td>
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<td></td>
<td>8870K5</td>
</tr>
<tr>
<td>2 P.S.T.</td>
<td>OFF</td>
<td>ON</td>
<td>Rush</td>
<td>Roller Operated</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8909K559</td>
</tr>
</tbody>
</table>

OPTIONS/ACCESSORIES

• Terminal screws furnished assembled
• Double throw contacts – 8870
• Special marking
Series—8870, 8809
Special Designed Pushbutton Switches

APPROXIMATE DIMENSIONS—8870K2, K3, K4, K5

APPROXIMATE DIMENSIONS—8809K559

STANDARD
0.00 = inches
[0.0] = mm

Dimensions for reference only.