Bolted Pressure Contact Switches
Type BM

Applications Include
- AC/DC Switchboards
- Rectifier Disconnect Switches
- Contact Rail Switches
- Trolleyline Disconnect Switches
- Motor Control Isolation Switches
- DC Substation Switches
Applications
Filnor BM Bolted Pressure Contact Switches are designed for non-load break applications. Typical application is for circuit isolation in many types of systems, including industrial motor controls, AC/DC distribution panels, and power distribution for transit systems.

What is a Type BM Bolted Pressure Switch
The Filnor Type BM is an open style switch utilizing the proven Filnor Inc. bolted pressure contact switch.

- The switch is an open style switch consisting of two parallel, moveable blades with stationary contacts at each end.
- A bolt passes through the blades, hinge and clip stationary contacts and a fixed clamping nut.
- Pressure is applied on the contacts rotating the clip and hinge bolts, connected together by a linkage assembly, effectively tightening the joint.
- The result is a joint current carrying capacity similar to bolted bus bar.

Design Features
- Engineered to ensure reliability, safety, ease of operation, and low maintenance.
- Switch current carrying materials are ETP 110 Copper Bar.
- Terminals and contact surfaces are silver plated ensuring low contact resistance not affected by oxidation.
- Current density designed for 1k Amperes per square inch minimum.
- Switch design for current flow straight through the switch to reduce overload stresses.
- Terminals with standard NEMA hole patterns.
- GPO-3 insulating base.

Switch Shown: BM 2010-2P-2X-K3
2000 A, 1000 V, 2-Pole, 2 NO, 2 NC, Auxiliary Contact Provision for Key Interlock in the open and closed position
Design Criteria & Testing
• Individual units are factory tested prior to shipment for:
  - Dielectric Withstand
  - Contact resistance
  - Dimensional Outline
  - Build Configuration

• A copy of the factory test report is included with each switch.
• Switches are designed and tested in strict accordance with the following
  standards as applicable, UL, CUI, Nema, ANSI, IEEE.
• Each switch unit is date coded on a label for tracing purposes.
• Applicable warning signs applied.

Standard Switch Ratings
• Continuous Current Ratings (Amperes): 800, 1200, 1600, 2000, 2500, 3000, 4000, 8000, 10,000, 12,000*
• Fault Current Rating: 160 kA DC @ 100 ms
• Voltage Rating: 1000 V AC or DC
• Test Withstand Voltage: 4250 V rms 60 sec
* 40 degrees C ambient with 60 degrees C rise.

Benefits Include
• Clean Compact Design
• Rugged Construction
• Proven Performance
• High Current Capacity
• Large Isolation Air Gap and Creepage Paths
• Standard NEMA Drilling on Terminal Paths
• Extensive Options List to adapt Switch to the Application

Available Switch Configurations
• Single Throw
• Double Throw
• 1 thru 4 Poles
• Handle Operated
• Hook Stick Operated
• Motor Operated
• Pole Mounted

6000 A, 1000 V DC, 1-Pole, Single Throw, Motor Operated, With Auxiliary Contacts, Special Design

2000 A, 1000 V, 2-Pole, Double Throw, Special Design Type BM
Switch Operator
The TYPE BM switch utilizes a straight type handle, or hook stick eye, attached through an insulator to the hinge actuator assembly to manually open and close the switch. Insulating material and a shield are provided to prevent contact with electrically live components. The switch is not to be operated under loaded conditions.

Terminal Arrangements
The TYPE BM switch terminals are drilled to NEMA standards.

Switch Stop and Padlock Attachment
The TYPE BM switch is provided with a rugged positive stop in the open position. Provisions for padlocking the switch in the open and closed positions are provided.

Switch Enclosures
Enclosures for the TYPE BM switch are to be designed for vertical switch mounting. Switch supporting structure must be flat and parallel where the switch is mounted.

Available Options
- Cable connectors
- Auxiliary contacts
- Key interlock provisions
- Key interlocks
- Hook stick operator
- Fusible
- Motor operated
- Front operated handle assembly (for operating outside enclosure)
- Higher currents and voltages
- Special designs application

Common Switches

<table>
<thead>
<tr>
<th>AMP</th>
<th>1 Pole</th>
<th>2 Pole</th>
<th>3 Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>BM-08-10-1P</td>
<td>BM-08-10-2P</td>
<td>BM-08-10-3P</td>
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<tr>
<td>1200</td>
<td>BM-12-10-1P</td>
<td>BM-12-10-2P</td>
<td>BM-12-10-3P</td>
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<tr>
<td>1600</td>
<td>BM-16-10-1P</td>
<td>BM-16-10-2P</td>
<td>BM-16-10-3P</td>
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<td>2000</td>
<td>BM-20-10-1P</td>
<td>BM-20-10-2P</td>
<td>BM-20-10-3P</td>
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<tr>
<td>2500</td>
<td>BM-25-10-1P</td>
<td>BM-25-10-2P</td>
<td>BM-25-10-3P</td>
</tr>
<tr>
<td>3000</td>
<td>BM-30-10-1P</td>
<td>BM-30-10-2P</td>
<td>BM-30-10-3P</td>
</tr>
<tr>
<td>4000</td>
<td>BM-40-10-1P</td>
<td>BM-40-10-2P</td>
<td>BM-40-10-3P</td>
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<tr>
<td>5000</td>
<td>BM-50-10-1P</td>
<td>BM-50-10-2P</td>
<td>BM-50-10-3P</td>
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<tr>
<td>6000</td>
<td>BM-60-10-1P</td>
<td>BM-60-10-2P</td>
<td>BM-60-10-3P</td>
</tr>
<tr>
<td>8000</td>
<td>BM-80-10-1P</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10,000</td>
<td>BM-100-10-1P</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12,000</td>
<td>BM-120-10-1P</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

Refer to attached drawings for single throw switch dimensions and options.
Ordering Data
1) Switch Rating
2) Voltage Insulation Rating
3) Number of Poles
4) Auxiliary Switch Position (If Required)
5) Key Interlock Position (If Required)
6) Hook Stick Operator (If Required)
7) Additional Specifications

- Handle Operator Provided as Standard.
- Refer to the proper switch data sheet for ordering information.

Other Filnor Switch Products Available

Type EBM Switches
Enclosed Bolted Pressure Switch with side operated manual handle, non-load break.

Type BPI Switches
Enclosed Bolted Pressure Switch with side operated Quick Brake Mechanism and Arc Breaking capability.

Type DB Switches
High Current Switch applications.

Medium Voltage Switches
Isolation and grounding applications. 200 - 12,000 Ampere, 5 kV - 38 kV.

Knife Switches

Transfer Switches
Open or enclosed.

Custom Designed Switches
Switches designed to suit your exact specifications.

Please contact Filnor, Inc. for complete information on the above products, as well as additional Resistor and Control Units not listed.

Special Design Medium Voltage Switch
6300 A, 15 kV, 3-Pole, Single Throw, Motor Operated, Medium Voltage Bolted Pressure Switch
1600 A, 1000 V, 1-Pole, Single Throw, Type BM

2000 A, 1000 V, 2-Pole, Single Throw, Type BM

2000 A, 1000 V, 2-Pole, Double Throw, Special Design Type BM

6000 A, 1000 V DC, 1-Pole, Single Throw, Motor Operated, With Auxiliary Contacts, Special Design
Common Switches
800 - 2000 Ampere, 1-Pole, Single Throw

<table>
<thead>
<tr>
<th>Switch Rating (Amps)</th>
<th>Model Number</th>
<th>T (inches)</th>
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<tbody>
<tr>
<td>600</td>
<td>BM6001-P</td>
<td>0.39</td>
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<tr>
<td>1200</td>
<td>BM12001-P</td>
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<td>1600</td>
<td>BM16001-P</td>
<td>0.44</td>
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<tr>
<td>2000</td>
<td>BM20001-P</td>
<td>0.50</td>
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Switch Features:
- Amp Rating - See Table Below
- 2001 Volt Insulation Class
- Double Pole
- Single Throw
- Manual Operator
- Open Panel Mount
- Non-Lock Break Operation

Switch Options:
- K1 = Provision for key interlock in open position
- K2 = Provision for key interlock in closed position
- K3 = Provision for key interlock in open & closed position (common interlock unit)
Common Switches
3000 & 4000 Ampere, 1-Pole, Single Throw

<table>
<thead>
<tr>
<th>SWITCH RATING</th>
<th>HOLE NUMBER</th>
<th>T INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000</td>
<td>BM405-20P</td>
<td>0.50</td>
</tr>
<tr>
<td>4000</td>
<td>BM405-30P</td>
<td>0.75</td>
</tr>
</tbody>
</table>

**Drawings:**
- Terminal Detail
- Switch Features
- Switch Options

**Table:**
- Switch Rating
- Hole Number
- T Inches

- Key Interlock
- Auxiliary Switches
- Type of Key Interlock
- Switch Type
- Position

- Terminal Details
- Switch Features:
  - Amp Rating – See Table Below
  - 1000 Volt Insulation Class
  - Single Pole
  - Single Throw
  - Manual Operation
  - Open Panel Mount
  - Non-Locking Break Operation

- Switch Options:
  - (X) Two (2) Auxiliary Switches
  - Form “C” Contact
  - Closer Position
  - Open Position
  - (X) Four (4) Auxiliary Switches
  - Form “C” Contact
  - Closer Position
  - Open Position
  - K1: Provision for Key Interlock in Open Position
  - K2: Provision for Key Interlock in Closer Position
  - K3: Provision for Key Interlock in Open & Closer Position
  - Common Interlock Unit

- Diagrams:
  - Terminal Detail
  - Switch Features
  - Switch Options

**Contact Information:**
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Common Switches
5000 - 8000 Ampere, 1-Pole, Single Throw
Common Switches
10,000 & 12,000 Ampere, 1-Pole, Single Throw

<table>
<thead>
<tr>
<th>SWITCH RATING (Amps)</th>
<th>MODEL NUMBER</th>
<th>&quot;T&quot; INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>10000</td>
<td>BM10000-1P</td>
<td>0.75</td>
</tr>
<tr>
<td>12000</td>
<td>BM12000-1P</td>
<td>0.75</td>
</tr>
</tbody>
</table>
Common Switches
800 - 2000 Ampere, 2-Pole, Single Throw
Bolted Pressure Contact Switches
Type BM

Please contact Filnor, Inc. for more information regarding our Bolted Pressure Contact Switches.