# General Specifications

#### **Electrical Capacity (Resistive Load)**

Power Level:

10A @ 125/250V AC for JPM models & 16A @ 125/250V AC for JPL models

| С | Other Ratings<br>Contact Resistance:<br>Insulation Resistance: | 20 milliohms maximum<br>1,000 megohms minimum @ 500V DC                           |
|---|--|---|
|   | Dielectric Strength:   | 2,000V AC minimum between contacts for 1 minute minimum;                          |
|   |  | 4,000V AC minimum between contacts & case for 1 minute minimum                    |
|   | Mechanical Life:   | 25,000 operations minimum   |
|   | Electrical Life:   | 25,000 operations minimum   |
|   | Nominal Operating Force:                                       | JPM Single Pole 3.53N & Double Pole 6.47N   |
|   |  | JPL Single Pole 4.51N & Double Pole 9.02 N  |
|   | Contact Timing:  | Nonshorting (break before make)   |
|   | Latchdown:   | Normal position - flush with barrier; latchdown position079" (2.0mm) below normal |
| ) | Travel:  | Pretravel .059" (1.5mm); Overtravel .071" (1.8mm); Total Travel .130" (3.3mm)     |
|   |  |   |

#### **Materials & Finishes**

| Housing/Frame & Barrier: | Polyamide (UL94V-0)             | Movable Contacts:    | Silver alloy              |
|--------------------------|---------------------------------|----------------------|---------------------------|
| Interior Seal:           | Polyphenylene sulfide (UL94V-0) | Stationary Contacts: | Silver alloy plus copper  |
| Case/Base:               | Melamine (UL94V-0)              | Terminals:           | Brass with silver plating |

#### **Environmental Data**

| <b>Operating Temp Range:</b> | –10°C through +70°C (+14°F through +158°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/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction) |
| Process Seal:                | Dust resistant inner seal  |
|                              |  |

#### Installation

Soldering Time & Temp:

Manual Soldering: See Profile A in Supplement section.

#### **Standards & Certifications**

| Flammability Standards: | UL94V-0 for housing/frame, barrier, interior seal, & case/base  |
|-------------------------|---|
| TV Ratings for UL:      | JPM (TV-5) Overload Test @ 125V AC for 50 operations:   |
| -                       | Steady State Current (rms) 7.5A; Minimum Inrush Current (peak) 111A                                     |
|                         | JPM (TV-5) Endurance Test @ 125V AC for 25,000 operations:  |
|                         | Steady State Current (rms) 5A; Minimum Inrush Current (peak) 78A  |
|                         | JPL (TV-8) Overload Test @ 125V AC for 50 operations:   |
|                         | Steady State Current (rms) 12A; Minimum Inrush Current (peak) 163A                                      |
|                         | JPL (TV-8) Endurance Test @ 125V AC for 25,000 operations:  |
|                         | Steady State Current (rms) 8A; Minimum Inrush Current (peak) 117A                                       |
|                         | File No. E44145 - Recognized only when ordered with marking on switch.                                  |
|                         | Add "/U" or "/CUL" before dash in part number to order UL recognized switch.                            |
|                         | All JPM models certified at 10A @ 125V AC, TV5 & JPL models at 16A @ 125V AC, TV8.                      |
| VDE:                    | License No. 40028887 - Approved only when ordered with marking on switch.                               |
|                         | Add "/V" before dash in part number to order VDE approved switch.                                       |
|                         | All JPM models approved at steady state 5A, inrush 80A, resistive 10A, & motor load 6A all at           |
|                         | 250V AC.  |
|                         | License No. 40039784  |
|                         | All JPL models approved at steady state 8A, inrush 128A, resistive 16A, & motor load 8A all at 250V AC. |
|                         |   |
|                         |   |



Toggles

Slides

Tactiles

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Touch

Supplement Accessories Indicators

Toggles

Rockers

Keylocks Programmable Illuminated PB Pushbuttons

Rotaries

Slides

Tactiles

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Touch

Supplement Accessories Indicators

## Distinctive Characteristics

Industry's first molded pushbutton with TV rating. Designed to handle large inrush current. JPM models certified for TV-5 rating and JPL models for TV-8 rating.

Prominent external insulating barriers increase insulation resistance and dielectric strength.

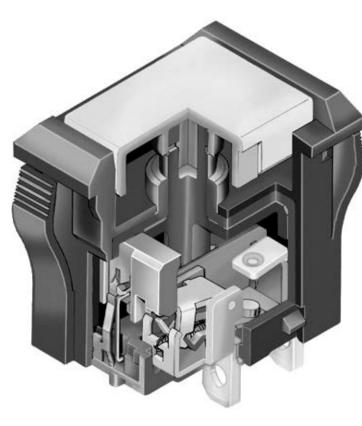
Constructed for dust resistance with interior seal of polyphenylene sulfide (PPS) between actuator and contact area.

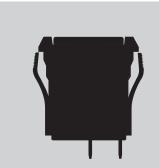
Specially designed to break light contact welds.

Snap-action contact mechanism.

Terminals are molded in and epoxy sealed to lock out flux, dust, and other contaminants.

Outer case of heat resistant resin meets UL's 94V-0 flammability standard.





Actual Size JPM



Toggles

Rockers

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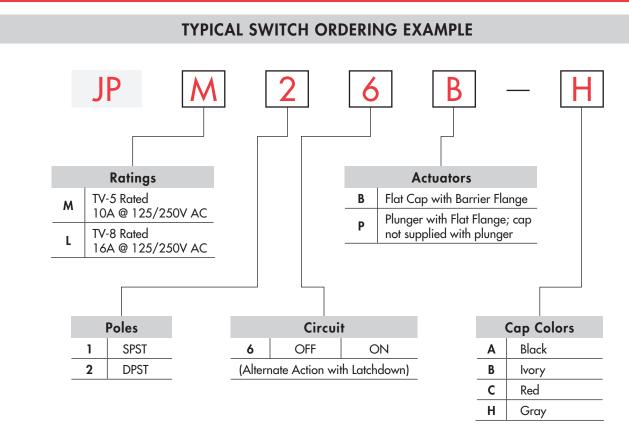
Tactiles

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Touch

Indicators

Supplement Accessories



#### **IMPORTANT:**



Switches are supplied without UL & VDE markings unless specified. UL recognized only when ordered with marking on the switch. VDE approved 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 JPM26B-H





|  |                |                 |                     | RATINGS                            |                   |   | -   |
|--|----------------|-----------------|---------------------|------------------------------------|-------------------|---|-----|
| Μ  | TV-5 Rated     |                 | Power Level 10A @ 1 |                                    |                   | 25/250V AC  |     |
| L  | TV-8 Rated     |                 | Power               | Level                              | 16A @ 1           | 25/250V AC  |     |
|  | ١              | Note: See Gener | al Specifications   | page to find com                   | plete explanation | of TV ratings.  | - C |
|  |                |                 | POL                 | ES & CIRCU                         | IT                | I   |     |
| Plunger Position   |                |                 | Position            | Connected Terminals                |                   | Throw & Schematics  | _   |
| Pole   | Model          | Normal          | Down                | Normal                             | Down              | Note: Terminal numbers are actually on the switch.  |     |
| SP   | JPM16<br>JPL16 | OFF             | ON                  | OPEN                               | 1-1α              | SPST  |     |
| DP   | JPM26<br>JPL26 | OFF             | ON                  | OPEN                               | 1-1a 2-2a         | DPST  | _   |
|  | · ·            |                 | A                   | CTUATORS                           |                   |   |     |
| B       Flat Cap with Barrier Flange       Plunger with Flat Flange         The barrier is an integral part of the switch. This housing is black, molded polyamide       The flange is an integral part of the switch. This housing is black, molded polyamide |                |                 |                     |                                    |                   |   |     |
| is black, molded polyamide<br>matte finish material.<br>Cap details below.   |                |                 |                     | Mo cap supplied.                   |                   |   |     |
|  |                |                 |                     |                                    |                   |   |     |
|  |                |                 | C                   | AP COLORS                          |                   |   |     |
| AT3021 Flat Cap<br>for Actuator Type B with Barrier Flange   |                |                 | (22                 | 0) (18.0)                          |                   | The cap is flush with the barrier<br>in normal position and .079"<br>(2.0mm) below that in latchdown  |     |
| Cap Material:<br>Polyphenylene Oxide<br>Finish: Matte<br>Cap Colors Available:   |                |                 |                     | .866<br>.709<br>t<br>(6.8)<br>.268 |                   | position.<br>The latchdown feature on this<br>alternate action device provides<br>visible, audible, and tactile feed-<br>back. This design gives smooth,<br>responsive operation. |     |
|  |                |                 |                     |                                    |                   |   |     |
| A B  | lack           | B               | C Red               | Н                                  | Gray              |   |     |



Panel Thickness Range applies to both

JPM & JPL models.

.039" ~ .157"

 $(1.0 \text{mm} \sim 4.0 \text{mm})$ 

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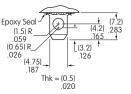
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#### PANEL CUTOUT & TERMINALS

- (28.0) 1.102

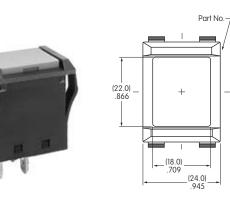
| (21.2) .835 JPM & JPL Solder Lug/ .187"(4.75mm) Quick Connect Terminals

This switch assembly, when used with connectors, is not VDE approved.

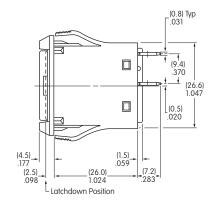


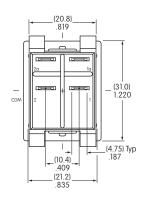
#### **TYPICAL SWITCH DIMENSIONS**

#### Flat Cap with Barrier Flange



#### JPM & JPL Single & Double Pole



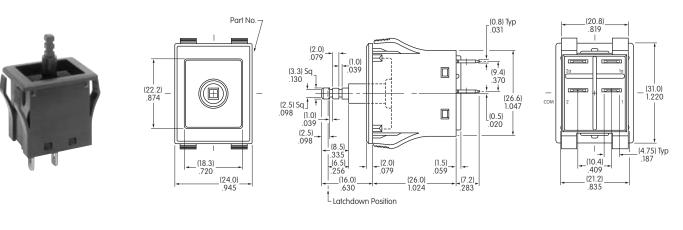


#### JPM26B-H

Single pole model does not have terminals 2 & 2a.

#### **Plunger with Flat Flange**





JPL16P

Single pole model does not have terminals 2 & 2a.



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 67081K512X
 701PB580
 7199K101
 810K12910
 810KSV30B
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 MML21KA3ABK
 MML23KA3AC05K-001

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 A22NZBMMNGA
 A22NZBNANGA
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