General Specifications

Electrical Capacity (Resistive Load)

Power Level: 10A @ 125/250V AC for JWM & JWMW models; 10A @ 30V DC for JWMW;
16A @ 125/250V AC for JWL & JWLW models; 5A @ 72V DC for telecommunication applications

Other Ratings

Contact Resistance: 10 milliohms maximum for JWM & JWMW; 20 milliohms maximum for JWL & JWLW
Insulation Resistance: 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: JWM & JWMW Single Pole 3.92N & Double Pole 7.84N
JWL Single Pole 5.00N & Double Pole 10.00N; JWLW Double Pole 10.00N
Angle of Throw: 26°

Materials & Finishes

Rocker: Polyphenylene ether (UL94V-0)
Housing/Frame & Barrier: Polyamide (UL94V-0)
Interior Seal for JWM & JWL: Polyphenylene sulfide (UL94V-0)
Case/Base: Melamine (UL94V-0)
Contacts: JWM & JWMW: Silver alloy with silver plating
JWL & JWLW: Silver alloy plus copper with silver plating
Terminals: Brass with silver plating

Environmental Data

Operating Temperature Range: –25°C through +70°C (–13°F through +158°F) for JWM & JWL;
–25°C through +85°C (–13°F through +185°F) for panel seal JWMW & JWLW models
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^2) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
Sealing: IP67 of IEC60529 standard for panel seal JWMW & JWLW models; dust resistant inner seal for others

Installation

Soldering Time & Temperature: Manual Soldering: See Profile A in Supplement section.

Standards & Certifications

Flammability Standards: UL94V-0 for rocker, housing, seal & case/base of JWL, JWM, JWMW & JWLW models
TV Ratings for UL & CSA: JWM (TV-5) Overload Test @ 120V AC for 50 operations:
Steady State Current (rms) 7.5A; Minimum Inrush Current (peak) 111A.
JWM (TV-5) Endurance Test @ 120V AC for 25,000 operations:
Steady State Current (rms) 5A; Minimum Inrush Current (peak) 78A.
JWL (TV-8) Overload Test @ 120V AC for 50 operations:
Steady State Current (rms) 12A; Minimum Inrush Current (peak) 163A.
JWL (TV-8) Endurance Test @ 120V AC for 25,000 operations:
Steady State Current (rms) 8A; Minimum Inrush Current (peak) 117A.

UL: File No. E44145
JWM & JWMW models recognized at 10A @ 250V AC.
JWMW recognized at 10A @ 30V DC.
JWL & JWLW models recognized at 16A @ 250V AC; JWL at 5A @ 72V DC.

Models below recognized only when ordered with marking on switch.
JWMW: add "/U" to end of part number to order UL mark on switch; add "/CUL" to end of part number to order cULus mark on switch.
JWL: add "/U-DC" to end of part number to request UL rating on DC rated switch.

CSA: File No. 023535_0_000
JWM & JWMW models certified at 10A @ 250V AC; JWL models certified at 16A @ 250V AC

VDE: License No. 115674
JWM models approved at steady state 5A, inrush 80A, resistive 10A, & motor load 6A all at 250V AC; JWL models approved at steady state inrush 128A, resistive 16A, & motor load 8A all at 250V AC.
Note: JWM & JWL Double Pole, Single Throw models approved only with the international ON-OFF symbols on the actuator.

Distinctive Characteristics

Industry's first molded rocker with TV rating. Designed to handle large inrush current, with high electrical capacity of 10 and 16 Amps. JWM models certified for TV-5 rating and JWL models for TV-8 rating.

JWMW and JWLW panel seal versions meet IP67 of IEC60529 Standards (similar to NEMA 4 and 6).

Prominent external insulating barriers increase insulation resistance and dielectric strength.

Uniquely constructed to break light contact welds.

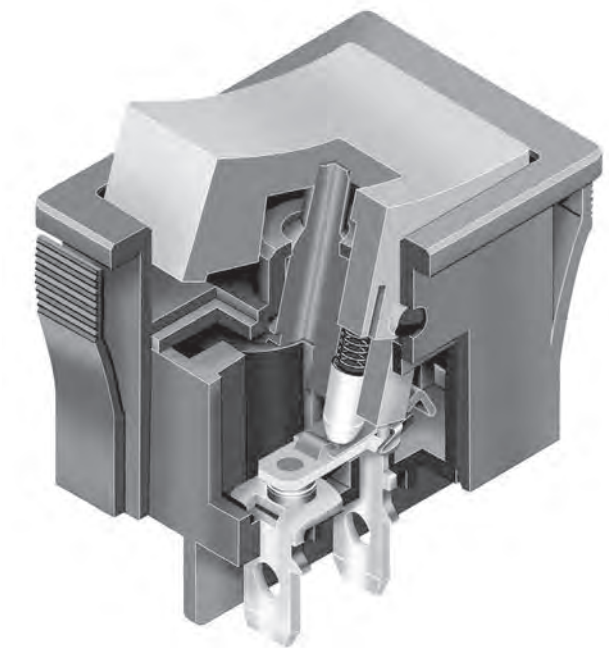
Increased electrical life with specially designed plate to minimize contact bounce.

Constructed for dust resistance with interior cover between actuator and contact area.

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

Solder lug/quick connect terminals can be used with connector.

Housing and case of heat resistant resin meet UL94V-0 standard.



Actual Size JWM

Series JW

High Inrush 10 & 16 Amp Rockers

TYPICAL SWITCH ORDERING EXAMPLE

JW | LW | 2 | 1 | R | A | 1 | A | — | ☐

Ratings

M	10A @ 125/250V AC
MW	Panel Seal 10A @ 125/250V AC
L	16A @ 125/250V AC
LW	Panel Seal 16A @ 125/250V AC

Poles

1	SPST SPDT
2	DPST DPDT

Notes:
DPST must have international ON-OFF symbols for VDE approval.
JWLW available in DPST & DPDT only.

Circuits

1	ON	NONE	OFF
2	ON	NONE	ON

Barrier Types

R	No Barrier
B	With Barrier

Note: JWMW & JWLW combine with code R only.

Cap Colors

A	Black
B	Ivory
C	Red
H	Gray

Note: JWMW & JWLW available with black or red caps only.

Inscription Orientation

No Code	No Inscription
1	Horizontal
2	Vertical

These are inscriptions for Single Throw models only.

Housing Colors

A	Black
B	Ivory
H	Gray

Note: JWMW & JWLW available with black only.

Barrier Colors

A	Black
B	Ivory
H	Gray

IMPORTANT:

Standard markings for JWM & JWL: TV Rating, UL, CSA & VDE.
Standard marking for JWLW: cULus.
Specific models, ratings & ordering instructions for international approvals are noted on General Specifications page.

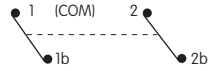
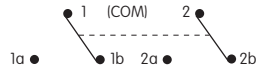
DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

JWLW21RA1A

RATINGS

M	Power Level	10A @ 125/250V AC	MW	Panel Seal	Power Level	10A @ 125/250V AC
L	Power Level	16A @ 125/250V AC	LW	Panel Seal	Power Level	16A @ 125/250V AC

POLES & CIRCUITS

		Rocker Position			Connected Terminals			Throw & Schematics
Pole	Model	Down	Center	Up	Down	Center	Up	Note: Terminal numbers are not actually on the switch. Actuator positions oriented with switch part number facing front.
SP	JWM11 JWMW11 JWL11	ON	NONE	OFF	1-1b	OPEN	OPEN	SPST 
SP	JWM12 JWMW12 JWL12	ON	NONE	ON	1-1b	OPEN	1-1a	SPDT 
DP	JWM21 JWMW21 JWL21 JWLW21	ON	NONE	OFF	1-1b 2-2b	OPEN	OPEN	DPST 
DP	JWM22 JWMW22 JWL22 JWLW22	ON	NONE	ON	1-1b 2-2b	OPEN	1-1a 2-2a	DPDT 

BARRIER TYPES & COLORS

R **No Barrier**

No-barrier type has a flat flange which is an integral part of the switch.

JWMW and JWLW panel seal devices have exterior seal of acrylonitrile butadiene rubber covering the flange.

Flange/Housing Material: Polyamide Finish: Matte

B **With Barrier**

Barrier type designates that either AT217 (for JWM) or AT218 (for JWL) is factory assembled.
Dimensions for barriers are shown in the Accessories section.

Barrier Colors Available: A Black B Ivory H Gray

Barrier Material: Polyamide Finish: Matte

CAP COLORS

Cap Colors Available: A Black B Ivory C Red H Gray

Cap Material: Polyphenelene Oxide

Finish: Matte

Rocker cap is an integral part of the switch and not available separately.

JWMW and JWLW available with black or red caps only.

INSCRIPTIONS

No Code — **No Inscription**

DPST models without inscriptions do not have VDE approval.

1 — **Inscription for Horizontal Mounting**

2 — **Inscription for Vertical Mounting**

The IEC symbols for On-Off are supplied with Single Throw models only.
Orientation of inscription must be selected.
Inscription Colors: Black ink on Ivory or Gray cap. White ink on Black or Red cap.
Contact factory for other inscriptions.

HOUSING

Material: Polyamide

Finish: Matte

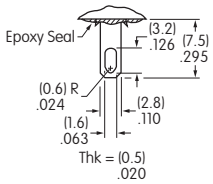
Colors Available: **A** Black **B** Ivory **H** Gray

JWMW and JWLW panel seal models available with black housing only.

TERMINALS

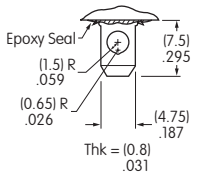
Solder Lug/Quick Connect .110" (2.8mm)

JWM & JWMW



Solder Lug/Quick Connect .187" (4.75mm)

JWL & JWLW



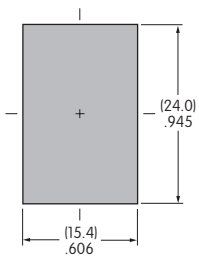
PANEL CUTOUTS

Panel Thickness Range

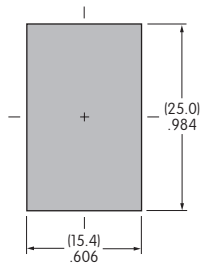
Without Barrier (JWM & JWMW):
.039" ~ .157" (1.0mm ~ 4.0mm)

With Barrier (JWM):
.024" ~ .126" (0.6mm ~ 3.2mm)

JWM



JWMW

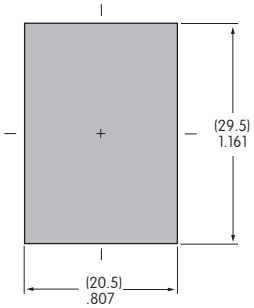


Panel Thickness Range

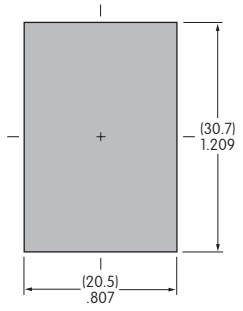
Without Barrier (JWL & JWLW):
.039" ~ .157" (1.0mm ~ 4.0mm)

With Barrier (JWL):
.024" ~ .126" (0.6mm ~ 3.2mm)

JWL

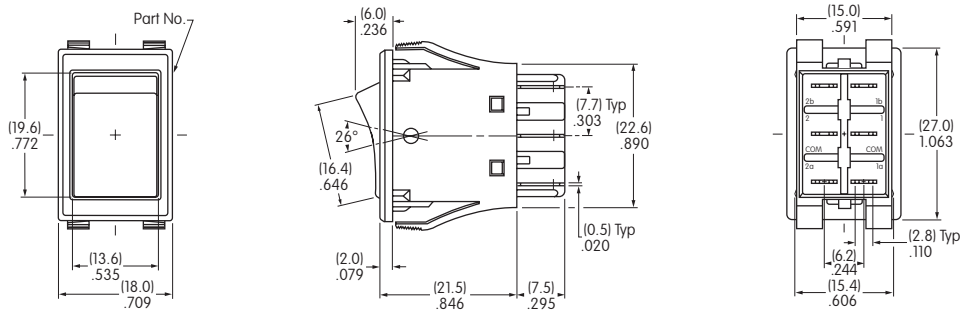


JWLW



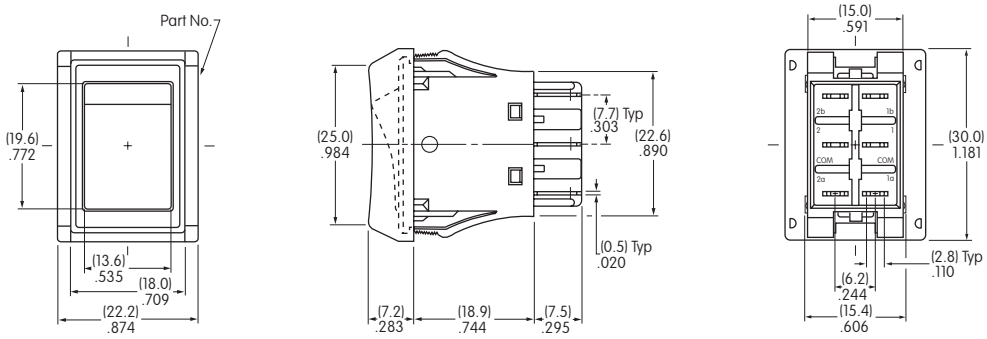
TYPICAL SWITCH DIMENSIONS FOR JWM & JWMW

Single & Double Pole — No Barrier • 10 Amp



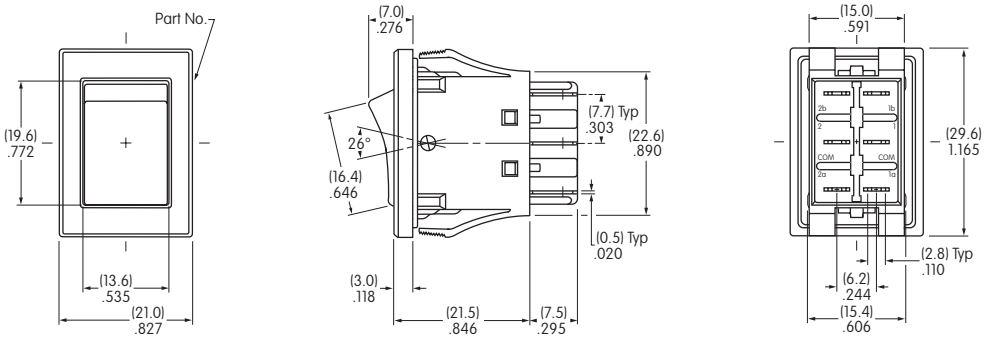
JWM11RC1A

Single & Double Pole — With Barrier • 10 Amp



JWM11BCA-H

Single & Double Pole — Panel Seal • No Barrier • 10 Amp



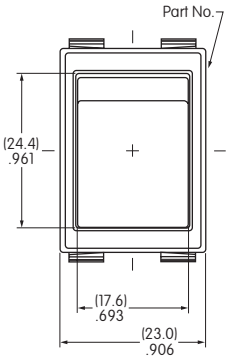
JWMW22RCA

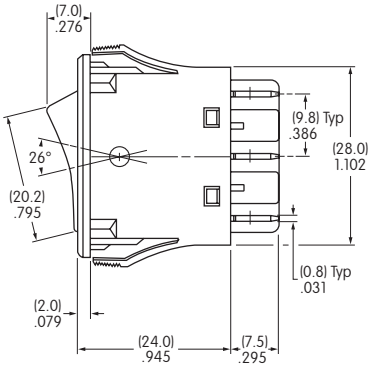
Single pole double throw models do not have terminals 2a, 2, & 2b; single throw models do not have 1a & 2a.

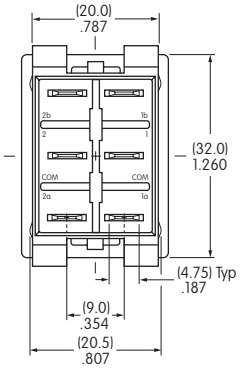
TYPICAL SWITCH DIMENSIONS FOR JWL & JWLW

No Barrier • 16 Amp

Single & Double Pole





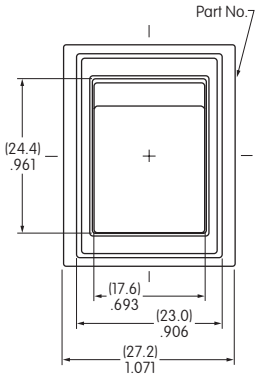


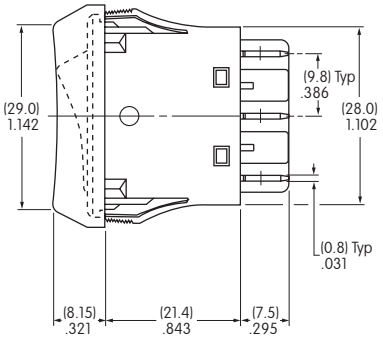
JWL21RC2A

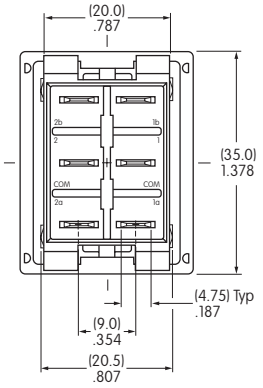
Single pole double throw models do not have terminals 2a, 2, & 2b; single throw models do not have 1a & 2a.

With Barrier • 16 Amp

Single & Double Pole





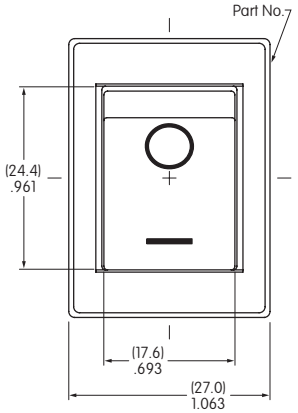


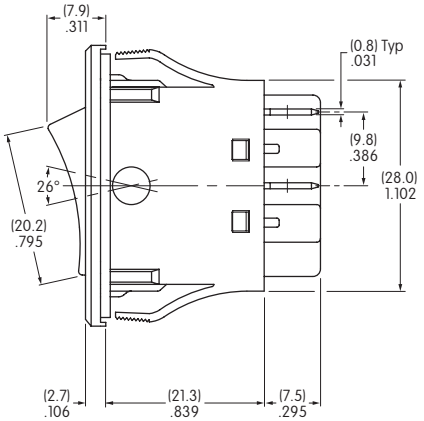
JWL11BCA-H

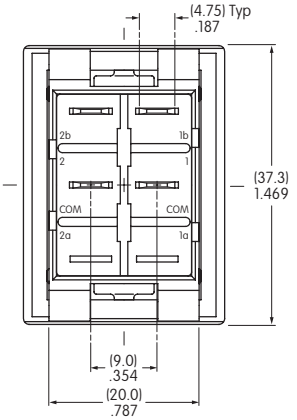
Single pole double throw models do not have terminals 2a, 2, & 2b; single throw models do not have 1a & 2a.

Panel Seal • 16 Amp • Inscription

Double Pole Single Throw



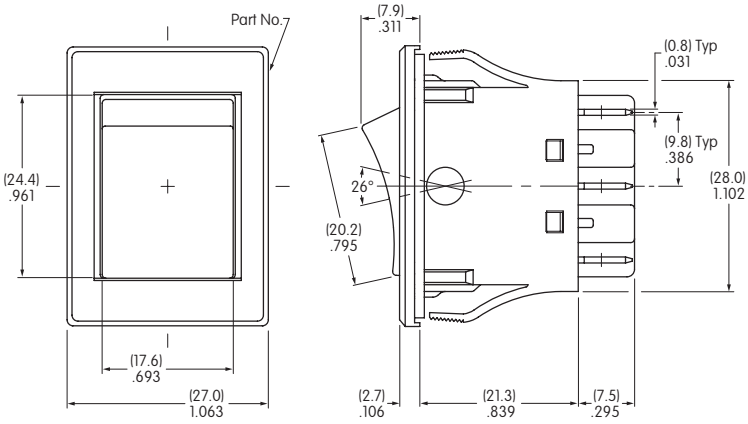




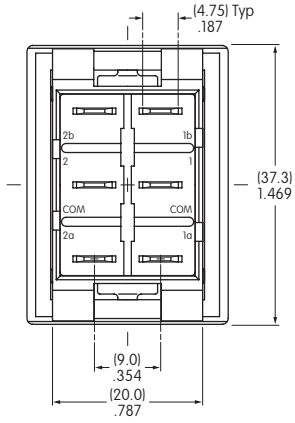
JWLW21RA1A

TYPICAL SWITCH DIMENSIONS FOR JWLW

Double Pole Double Throw



Panel Seal • 16 Amp • No Inscription

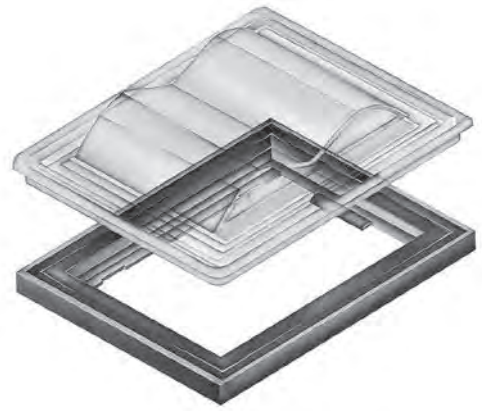


JWLW22RAA

OPTIONAL DUST COVER

AT4126
Dust Cover for JWL Rocker

When installed, the Dust Cover protects the switch from an environment containing small particles and dust. The switch is operable with the Dust Cover in place.



Materials:

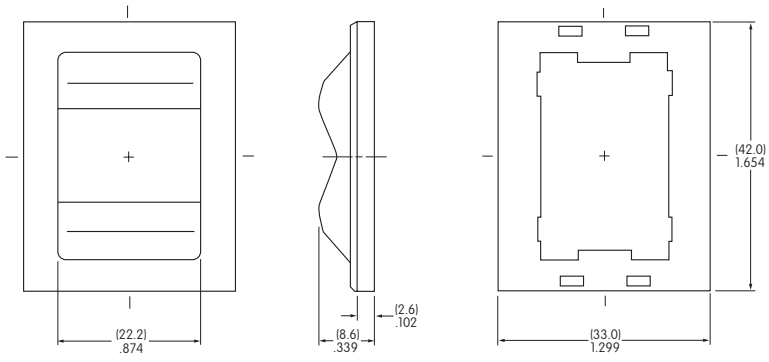
Lid: Clear Polyvinyl Chloride
Base: Black Polyamide

Recommended Temperature Range:

–10° ~ +70°C (+14°F ~ +158°F)
Loses pliability below 0°C (+32°F)

Recommended Panel Thickness:

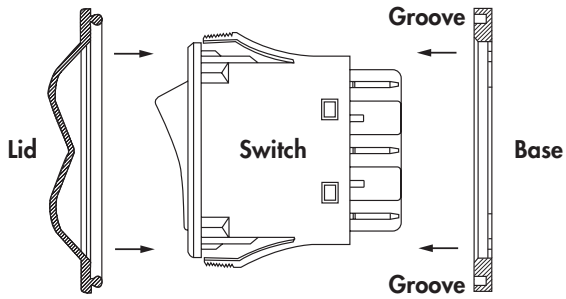
.031″ ~ .134″ (0.8mm ~ 3.4mm)



Top Side Bottom

Assembly Instructions:

1. Insert bottom of switch through the **base** until the tabs lock into place.
2. Snap the switch into the panel.
3. Seat the **lid** into the **grooves** of the **base**.



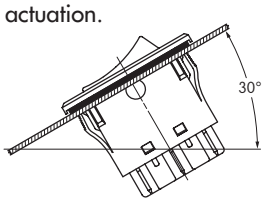
Notes

1. The dust cover is not for use with JWLW.
2. The dust cover cannot be used with the barrier option.

PRECAUTIONS FOR HANDLING & STORAGE FOR JWMW/LW (PANEL SEAL TYPES)

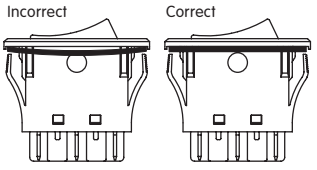
Operating Environment

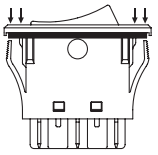
- Do not install switch where heavy dust collection occurs. Dust build-up under rocker may affect switch actuation.
- Do not actuate switch if submerged in water or oil.
- Installation is not recommended on horizontal surface in an environment where frequent splashing of water may occur. In such an environment, a minimum 30° angle installation is advisable. If there is a possibility of freezing, install vertically so no moisture will be retained within switch housing.

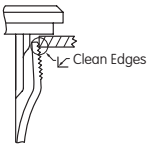


Panel Mounting

- Before snapping a switch into the panel, align the gasket evenly under bezel of the switch.
- When mounting into a panel, apply equal pressure to sides of bezel and insert parallel to panel.
- After mounting a switch, be sure there are no gaps between switch and panel. Lightly push into panel.
- After installing into panel, do not apply excessive force.
- After panel installation and wiring is completed, do not apply force horizontally or vertically from behind panel.
- Behind the panel, cut area should be squared. If front of panel is painted, do not allow any paint to collect in corners of cutout to prevent level mounting.
- Avoid reinstalling a switch once it has been mounted in a panel. This may cause deterioration of panel sealability.







General Specifications

Electrical Capacity (Resistive Load)

Power Level: 10A @ 125/250V AC
6A @ 125/250V AC (UL/CSA)
5A (3A) @ 125/250V AC (VDE)

Other Ratings

Contact Resistance: 10 milliohms maximum
Insulation Resistance: 500 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: 30,000 operations minimum
Electrical Life: 10,000 operations minimum
Nominal Operating Force: Single Pole 3.92N & Double Pole 5.39N
Angle of Throw: 30°

Materials & Finishes

Rocker: Polyamide (UL94V-0)
Housing/Case: Polyamide (UL94V-0)
Movable Contactor: Copper with silver plating
Movable Contacts: Silver alloy
Stationary Contacts: Silver alloy
End Terminals: Brass with silver plating
Common Terminals: Copper with silver plating
Lamp Terminals: Phosphor bronze with tin plating (illuminated models only)

Environmental Data

Operating Temp Range: –25°C through +70°C (–13°F through +158°F) for nonilluminated models;
–25°C through +50°C (–13°F through +122°F) for illuminated models
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 15 minutes; 3 right angled directions for 2 hours
Shock: 50G (490m/s^2) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
Sealing: Dust resistant inner seal

Installation

Soldering: Manual Soldering: See Profile A in Supplement section.
Cleaning: These devices are not process sealed. Hand cleaning locally using alcohol based solution.

Standards & Certifications

Flammability Standards: UL94V-0 for rocker & housing/case
UL: File No. E44145
All JWS models recognized at 6A @ 125/250V AC
CSA: File No. 023535_0_000
All JWS models certified at 6A @ 125/250V AC
VDE: License No. 119153
All JWS models approved at 5A (3A) @ 125/250V AC

Distinctive Characteristics

Rocker caps and housing available in a variety of colors.

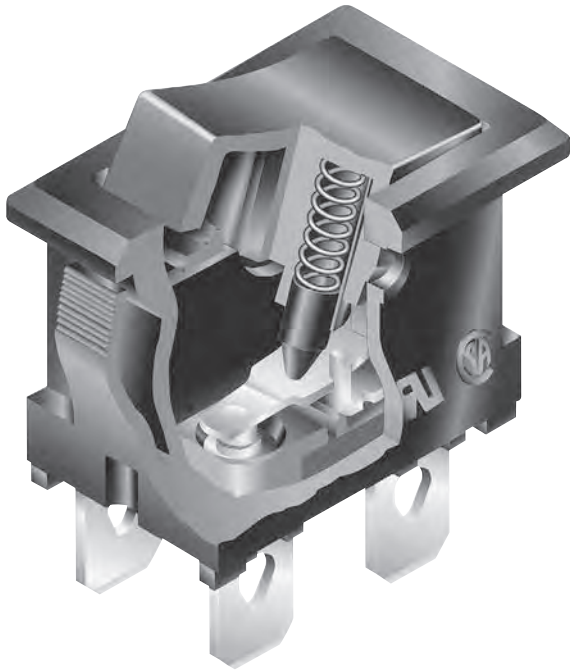
Protective barrier available to prevent accidental actuation.

Constructed for dust resistance with interior cover of polyamide between actuator and contact area.

Easy, crisp actuation.

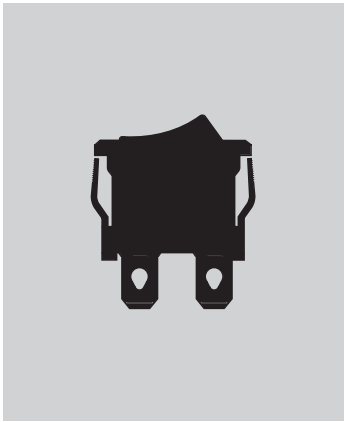
Small size well suited for telecommunication, measuring, automation, and consumer applications.

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



Outer case of heat resistant resin meets UL94V-0 flammability standard.

Actual Size



TYPICAL SWITCH ORDERING EXAMPLE

JW S 2 1 R A A ☐ – ☐

Rating

S	10A @ 125/250V AC 6A @ 125/250V AC (UL/CSA) 5A (3A) @ 125/250V AC (VDE)

Poles

1	SPST Nonilluminated & Illuminated
2	DPST Nonilluminated only

Circuit

1	ON	NONE	OFF

Barrier Types

R	No Barrier
B	With Barrier

Cap Colors

A	Black
* B	Ivory
C	Red

* For Nonilluminated only

Housing Colors

A	Black
* B	Ivory

* For Nonilluminated only

Spot Illumination

No Code	Nonilluminated
C	Red LED
D	Amber LED
F	Green LED

Barrier Color

A	Black

IMPORTANT:

cULus & VDE markings are standard on all models. Models & specific ratings are noted on General Specifications page.

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

JWS21RAA

Series JWS

RATING

S	**Power Level**	10A @ 125/250V AC	6A @ 125/250V AC (UL/CSA)	5A (3A) @ 125/250V AC (VDE)

POLES & CIRCUITS

		Rocker Position			Connected Terminals			Throw & Schematics
Pole	**Model**	**Down**	**Center**	**Up**	**Down**	**Center**	**Up**	Note: Terminal numbers are actually on the switch.
SP	**JWS11**	ON	NONE	OFF	2-3	OPEN	OPEN	SPST 
DP	**JWS21**	ON	NONE	OFF	1-3 4-6	OPEN	OPEN	DPST 

BARRIER TYPES & COLORS

R **No Barrier**

No-barrier type has a flat flange which is an integral part of the switch.

B **With Barrier**

Barrier Material: Polyamide
Finish: Matte

Barrier AT219 is factory assembled. Dimensions for barrier are shown in the Accessories section.

Barrier Color Available: A Black

CAP COLORS

Cap Material: Polyamide

Finish: Matte

Rocker cap is an integral part of the switch and not available separately.
* Ivory for nonilluminated models only.

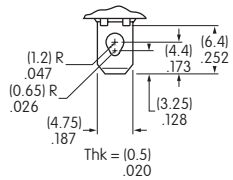
Cap Colors Available: A Black B * Ivory C Red

HOUSING

Material: Polyamide
Finish: Matte

Colors Available: A Black B Ivory (for nonilluminated models only)

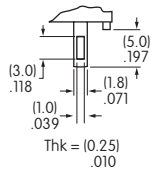
TERMINALS



Switch

Solder Lug/.187" (4.75mm) Quick Connect

Switch assembly with connectors is not UL, CSA, C-UL, or VDE approved.



Lamp
(spot illuminated models only)

LED COLORS & SPECIFICATIONS FOR SPOT ILLUMINATED MODELS

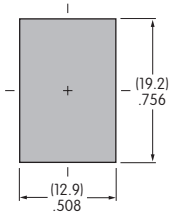
LEDs are supplied as an integral part of illuminated devices and are not available separately. LED polarity markings are on the bottom of the switch.

The electrical specifications shown here are determined at a basic temperature of 25°C.

If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula in the Supplement section.

Color		C Red	D Amber	F Green
Maximum Forward Current	I_{FM}	30mA	20mA	30mA
Typical Forward Current	I_F	10mA	10mA	10mA
Forward Voltage	V_F	1.8V	2.0V	2.1V
Maximum Reverse Voltage	V_{RM}	5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F	No Current Reduction Rate Within Specified Operating Temperature		
Ambient Temperature Range		−25°C ~ +50°C		

PANEL CUTOUT & PANEL THICKNESS RANGES



Panel Thickness Ranges:

Without Barrier:
.030″ ~ .079″ (0.75mm ~ 2.0mm)

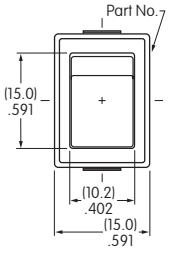
With Barrier:
.024″ ~ .059″ (0.6mm ~ 1.5mm)

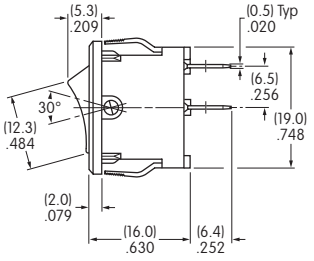
TYPICAL SWITCH DIMENSIONS

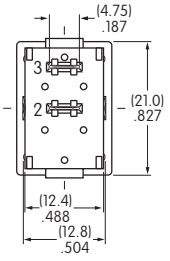
Nonilluminated • No Barrier

Single Pole

JWS11RCA



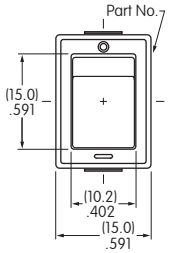


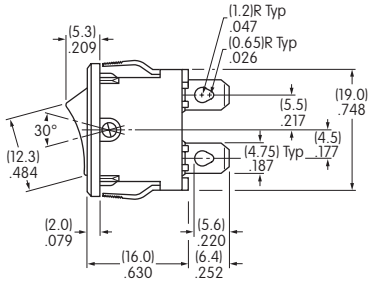


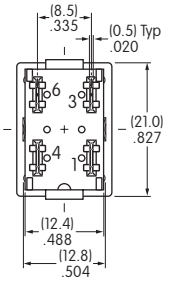
Nonilluminated • No Barrier

Double Pole

JWS21RAA



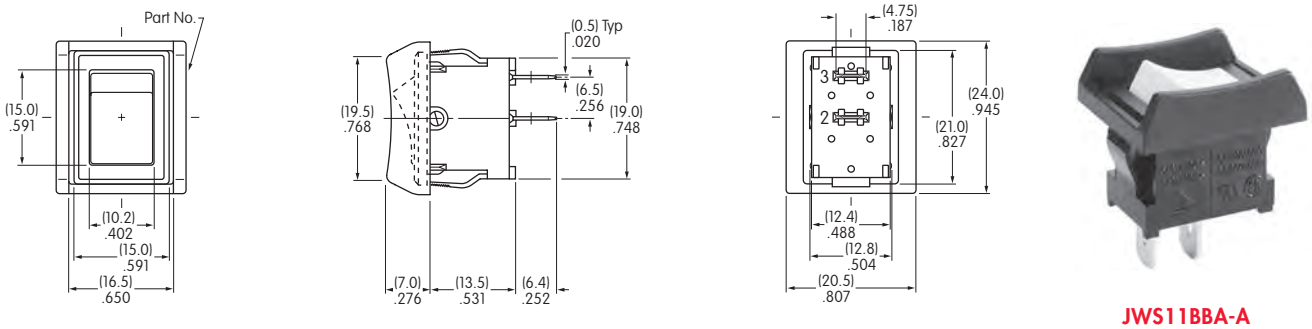




DPST models have IEC symbols for On-Off on the flange.

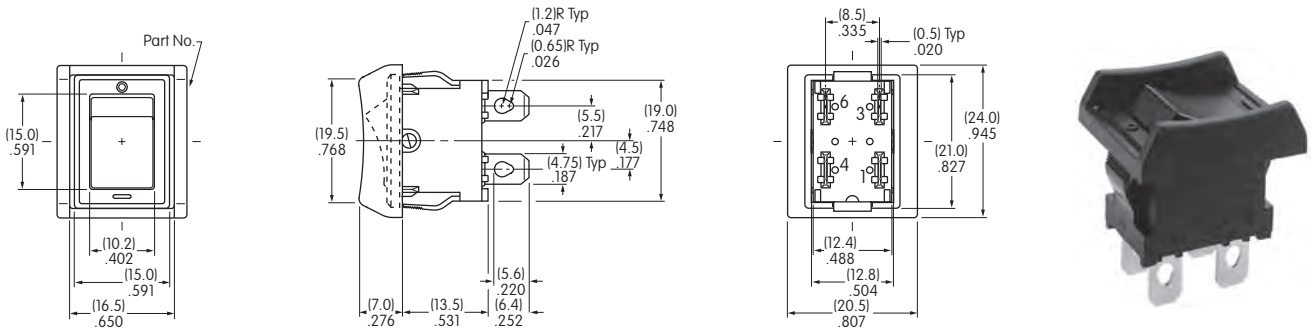
TYPICAL SWITCH DIMENSIONS

Single Pole — Nonilluminated • With Barrier



JWS11BBA-A

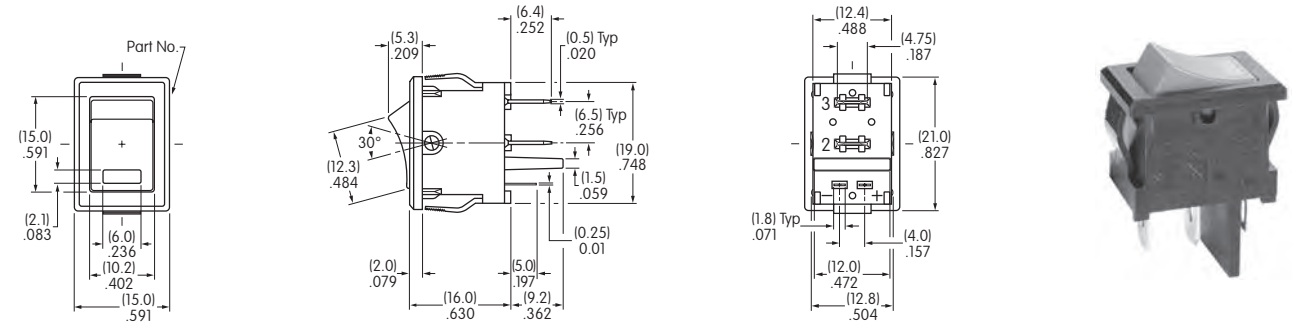
Double Pole — Nonilluminated • With Barrier



DPST models have IEC symbols for On-Off on the flange.

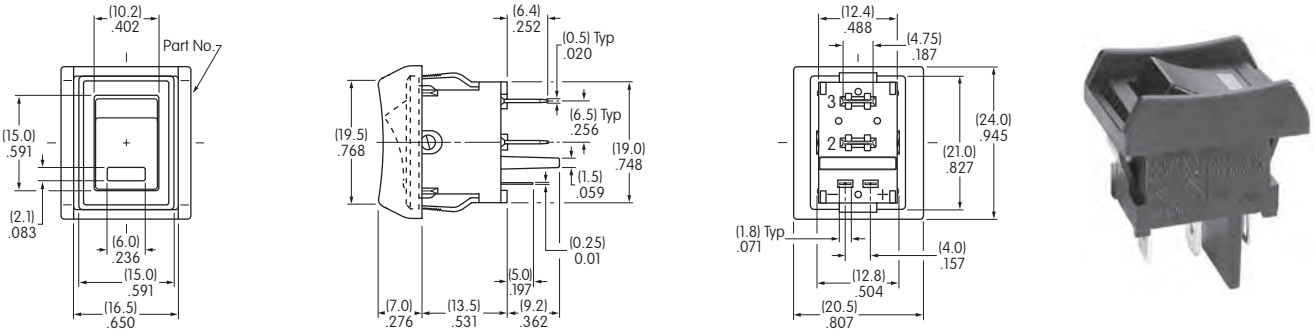
JWS21BAA-A

Single Pole — Spot Illuminated • No Barrier



JWS11RCAF

Single Pole — Spot Illuminated • With Barrier



JWS11BAAF-A