



**16 A Type Power Rocker
Switches with a 3 mm
Contact gap Secured**

**AJ8 (J8)
SWITCHES**

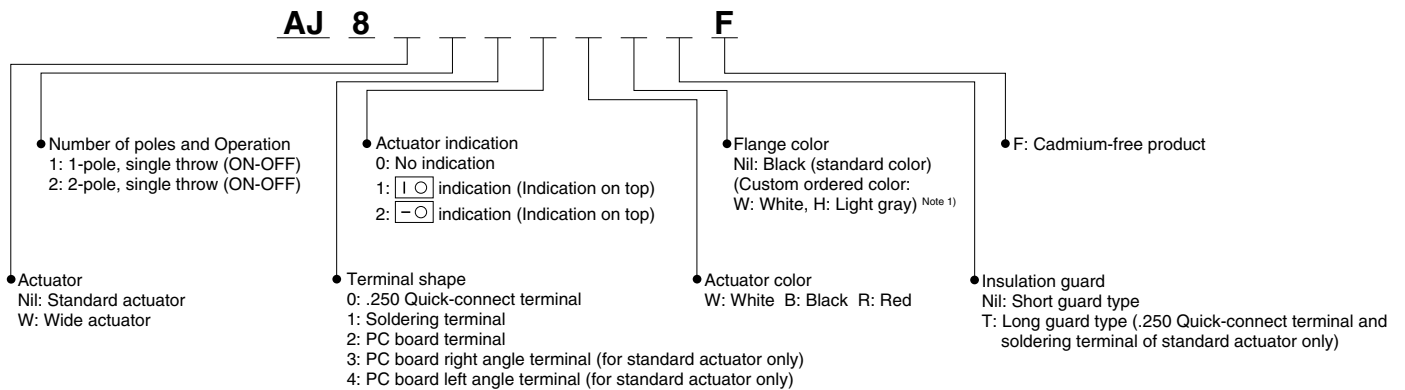
FEATURES

- Power rocker switches for safety requirements.
- High inrush current resistance is ideal for Power switch of office automation equipment.
- A broad product line (TV-8 rating type added to lineup)



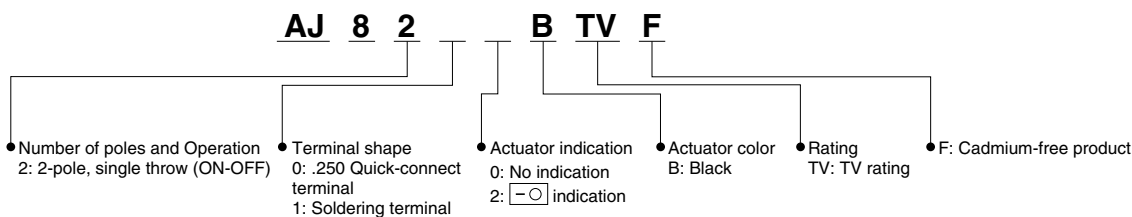
RoHS compliant

ORDERING INFORMATION



Notes: 1. Please consult us for details concerning different flange colors.
2. "I O" is engraved on all flanges.
3. The color of indication on the actuator:
• White actuator: black
• Others: white
4. They come with a stamp indicating agency standards.

■ TV rating type



AJ8 (J8) Switches

PRODUCT TYPES

■ Standard actuator type

1) Without indication on actuators

Terminal shape	Poles	Operating types	Part No.	
			Without indication	
.250 Quick-connect terminal	1-pole	ON-OFF	AJ8100*F	
	2-pole		AJ8200*F	
Soldering terminal	1-pole		AJ8110*F	
	2-pole		AJ8210*F	
PC board terminal	1-pole		AJ8120*F	
	2-pole		AJ8220*F	
PC board right angle terminal	1-pole		AJ8130*F	
	2-pole		AJ8230*F	
PC board left angle terminal	1-pole		AJ8140*F	
	2-pole		AJ8240*F	

(Standard flange color is black.)

Notes: 1. A letter indicating the actuator color is entered in place of asterisk. (W: White, B: Black, R: Red)

For other flange colors type, black is the standard. For requests of other flange color, please refer to ORDERING INFORMATION.

2. Long guard type is available for .250 Quick-connect terminal and soldering terminal type. When ordering, please add a "T" before the "F" at the end of the part number.

3. The color of indication on the actuator:

- For white actuator: black
- For others: white

4. They come with a stamp indicating agency standards.

5. Note that the position of the | mark on the flange is used as a reference for left angle and right angle terminals as shown in the diagram below.



Right angle terminal



Left angle terminal

2) With indication on actuators

Terminal shape	Poles	Operating types	Part No.	
			With ○ indication	With —○ indication
.250 Quick-connect terminal	1-pole	ON-OFF	AJ8101*F	AJ8102*F
	2-pole		AJ8201*F	AJ8202*F
Soldering terminal	1-pole		AJ8111*F	AJ8112*F
	2-pole		AJ8211*F	AJ8212*F
PC board terminal	1-pole		AJ8121*F	AJ8122*F
	2-pole		AJ8221*F	AJ8222*F
PC board right angle terminal	1-pole		AJ8131*F	AJ8132*F
	2-pole		AJ8231*F	AJ8232*F
PC board left angle terminal	1-pole		AJ8141*F	AJ8142*F
	2-pole		AJ8241*F	AJ8242*F

(Standard flange color is black.)

Notes: 1. A letter indicating the actuator color is entered in place of asterisk. (W: White, B: Black, R: Red)

For other flange colors type, black is the standard. For requests of other flange color, please refer to ORDERING INFORMATION.

2. Long guard type is available for .250 Quick-connect terminal and soldering terminal type. When ordering, please add a "T" before the "F" at the end of the part number.

3. The color of indication on the actuator:

- For white actuator: black
- For others: white

4. They come with a stamp indicating agency standards.

5. Note that the position of the | mark on the flange is used as a reference for left angle and right angle terminals as shown in the diagram below.



Right angle terminal



Left angle terminal

■ Wide actuator type

1) Without indication on actuators

Terminal shape	Poles	Operating types	Part No.	
			Without indication	
.250 Quick-connect terminal	1-pole	ON-OFF	AJ8W100*F	
	2-pole		AJ8W200*F	
Soldering terminal	1-pole		AJ8W110*F	
	2-pole		AJ8W210*F	
PC board terminal	1-pole		AJ8W120*F	
	2-pole		AJ8W220*F	

2) With indication on actuators

Terminal shape	Poles	Operating types	Part No.	
			With ○ indication	With —○ indication
.250 Quick-connect terminal	1-pole	ON-OFF	AJ8W101*F	AJ8W102*F
	2-pole		AJ8W201*F	AJ8W202*F
Soldering terminal	1-pole		AJ8W111*F	AJ8W112*F
	2-pole		AJ8W211*F	AJ8W212*F
PC board terminal	1-pole		AJ8W121*F	AJ8W122*F
	2-pole		AJ8W221*F	AJ8W222*F

(Standard flange color is black.)

Notes: 1. A letter indicating the actuator color is entered in place of asterisk. (W: White, B: Black, R: Red)

For other flange colors type, black is the standard. For requests of other flange color, please refer to ORDERING INFORMATION.

2. The color of indication on the actuator:

- For white actuator: black
- For others: white

3. They come with a stamp indicating agency standards.

■ TV rating type

Terminal shape	Poles	Operating types	Part No.	
			Without indication	With —○ indication
.250 Quick-connect terminal	2-pole	ON-OFF	AJ8200BTVF	—
			—	AJ8202BTVF
AJ8210BTVF			—	
—			AJ8212BTVF	

SPECIFICATIONS

■ Contact rating

Voltage	Resistive load (Power factor = 1)	Motor load* (EN61058-1) (Power factor = 0.6)	Inrush load
250V AC	16A	4A	160A (8.3ms)

Note: * The motor load is in accordance with EN61058-1. Inrush current can be switched up to the value of 6 times the indicated rating.

■ TV rating

Contact voltage	Resistive load (Power factor = 1)	Motor load (EN6105801) (Power factor = 0.6)	Capacitor load (EN61058-1) (Inrush load)	Lamp load (UL1054) (TV-8)	Expected electrical life (at 7 cpm)
120V AC	—	—	—	8/117A	Min. 2.5 × 10 ⁴
250V AC	16A	4A	160A (8.3ms)	—	Min. 10 ⁴

■ Characteristics

Item	Specifications	
Expected life	Mechanical	Min. 5 × 10 ⁴ (at 20 cpm.)
	Electrical (at rated load)*	Min. 10 ⁴ (at 7 cpm.)
Insulation resistance	Min. 100 MΩ (at 500V DC measured by insulation resistive meter) Between terminals	
Dielectric strength	Initial, 2,000 Vrms (detection current: 10 mA) Between terminals	
Contact resistance	Initial, Max. 100mΩ (by voltage drop at 1A, 2 to 4V DC)	
Temperature rise (at terminal section)	Max. 30°C at 6 × 10 ³ ope. or less (UL1054), Max. 55°C from 6 × 10 ³ ope. to 10 ⁴ (EN61058-1)	
Vibration resistance	10 to 55 Hz at double amplitude of 1.5mm (Contact opening Max. 1 msec.)	
Shock resistance	Min. 490m/s ²	
Actuator strength	40 N for 1 minute (operating direction)	
Terminal strength (.250 Quick-connect terminal)	100 N for 1 minute or more (Pull & push direction)	
Ambient temperature	−25°C to +85°C (T85) (no freezing and condensing)	
Flame retardancy	UL94V-0	
Tracking resistance	Min. 175	
Operating force (reference characteristics)	1-pole	2.45 ± 1.47N
	2-pole	4.5 ± 2.5N
Contact material	AgSnO ₂ alloy	

Note: Test conditions and judgment are complying with NECA C 6571, EN61058-1 and UL1054.

* Except TV rating type

AJ8 (J8) Switches

DIMENSIONS

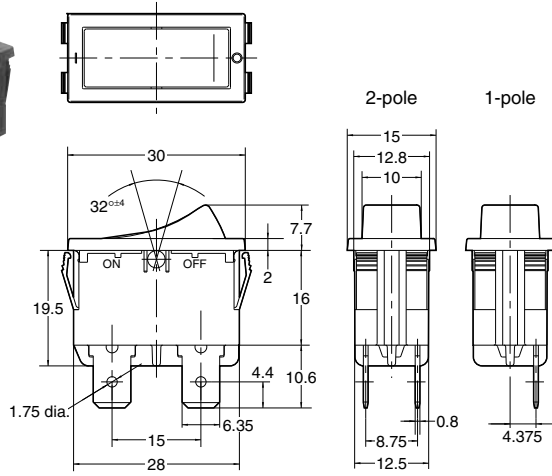
(Unit: mm) General tolerance: ± 0.5

The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://industrial.panasonic.com/ac/e/>

■ .250 Quick-connect terminal/Short guard type

CAD Data

External dimensions



Long guard type
.250 Quick-connect terminal

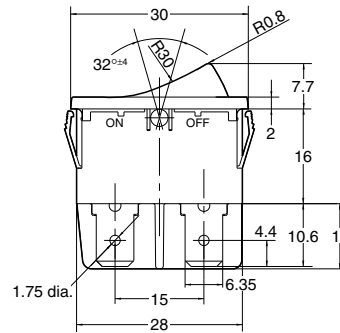
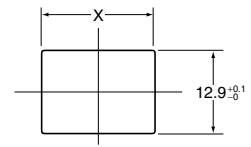


Diagram of recommended
panel mounting holes

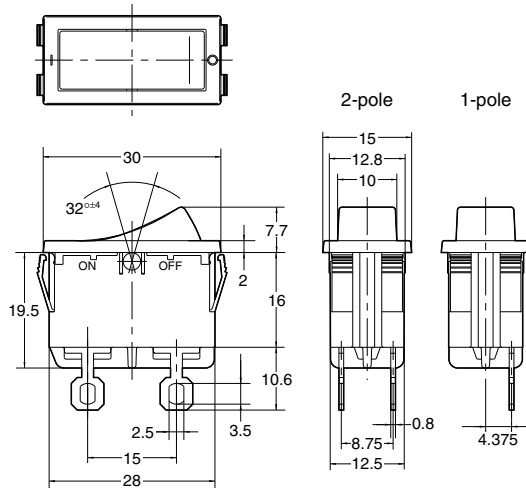


Panel thickness	X
0.75 to less than 1.25	28.2 ^{+0.1} _{-0.1}
1.25 or more to less than 2	28.4 ^{+0.1} _{-0.1}
2 or more to 3	28.8 ^{+0.1} _{-0.1}

■ Soldering terminal

CAD Data

External dimensions



Long guard type
Soldering terminal

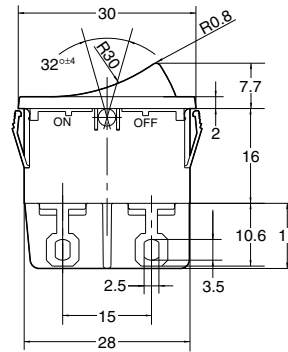
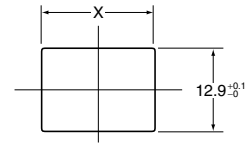


Diagram of recommended
panel mounting holes

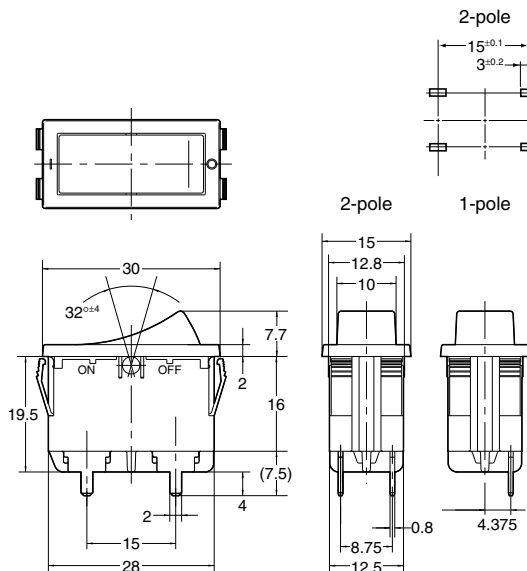


Panel thickness	X
0.75 to less than 1.25	28.2 ^{+0.1} _{-0.1}
1.25 or more to less than 2	28.4 ^{+0.1} _{-0.1}
2 or more to 3	28.8 ^{+0.1} _{-0.1}

■ PC board terminal

CAD Data

External dimensions



PC board pattern

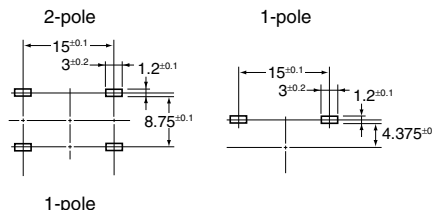
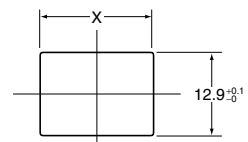



Diagram of recommended
panel mounting holes



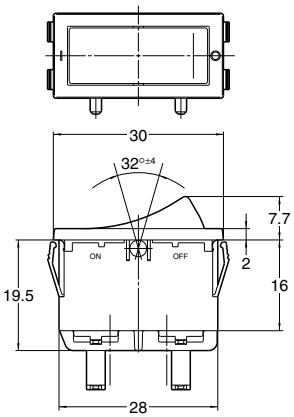
Panel thickness	X
0.75 to less than 1.25	28.2 ^{+0.1} _{-0.1}
1.25 or more to less than 2	28.4 ^{+0.1} _{-0.1}
2 or more to 3	28.8 ^{+0.1} _{-0.1}

■ PC board right angle terminal

CAD Data



External dimensions



PC board pattern

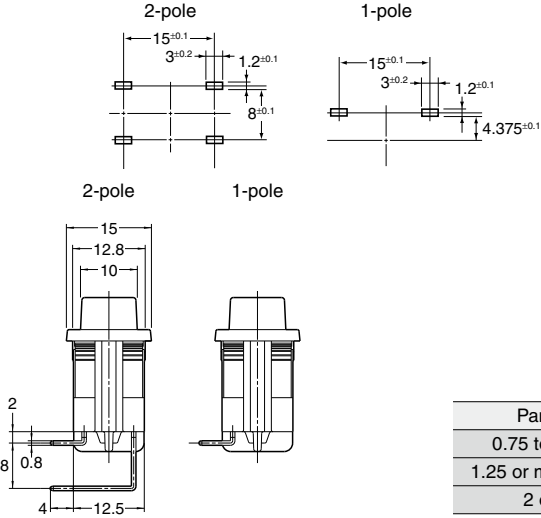
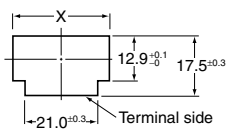


Diagram of recommended panel mounting holes




Panel thickness	X
0.75 to less than 1.25	28.2 ⁺⁰ _{-0.1}
1.25 or more to less than 2	28.4 ⁺⁰ _{-0.1}
2 or more to 3	28.8 ⁺⁰ _{-0.1}

Note: Left angle terminal type is also available.

■ Wide actuator type

CAD Data



External dimensions

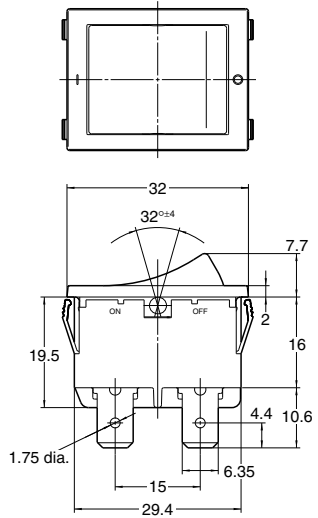
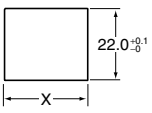


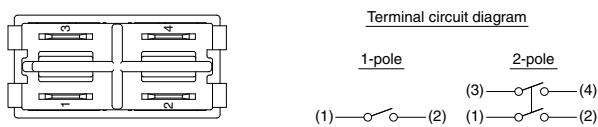
Diagram of recommended panel mounting holes



Panel thickness	X
1 to less than 1.8	30.0 ⁺⁰ _{-0.1}
1.8 or more to 2.3	30.7 ⁺⁰ _{-0.1}

Note: Dimensions for the terminals of soldering terminal type and PC board terminal type are the same as those of standard actuator type.

■ Terminal circuit diagram (common)



* .250 Quick-connect terminal/Long guard type

CAUTIONS FOR USE

■ Switch mounting

Mount the switch with the hole cutting dimensions shown in the dimensions. Please contact us if you are considering using a panel of other than the recommended size and shape.

■ Regarding fastening lead wires to terminals

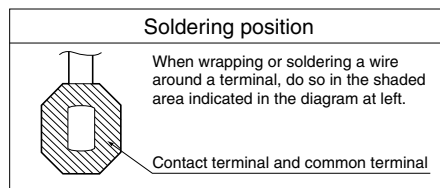
1) When connecting the tab terminals, use a .250 Quick-connect and insert the terminals straight in. If they are skewed, the terminals will require excessive insertion force.

In addition, there is some variation in the insertion force required for different receptacles from different manufacturers, so confirm how much force is needed under actual conditions.

Do not solder wires onto tab terminals.

2) With manual soldering: Complete the soldering connection work within 3 seconds with the tip of the soldering iron at a temperature of 420°C or lower, and take care not to apply any force to the terminal area.

Avoid touching the switch with soldering iron.



Refer to the diagram above, "soldering position," for details on the position where a wire should be soldered to a terminal.

When soldering PC board terminals, keep soldering time to within 5 seconds at 270°C soldering bath or within 3 seconds at 350°C soldering bath.

3) The terminals should be connected in such a way that they are not under constant stress from the connecting wires.

4) Terminal material is copper alloy which may discolor due to finger's oil or after a long time. But that discoloration does not effect actual performance.

■ Resistance to chemicals

To clean the switch unit, use a neutral detergent diluted with water. Do not use acidic or alkaline solvents as they may damage the switch.

Furthermore, be careful not to get any of the detergent solution inside of the switch while cleaning it.

■ Environment

Avoid using and storing these switches in a location where they will be exposed to corrosive gases, silicon, or high dust levels, all of which can have an adverse effect on the contacts.

■ Take care not to drop the product as it may impair performance.

REFERENCE

■ Outline of UL1054 test

Overload test AJ8 (J8): 20A 277V AC (Power factor 0.75 to 0.8)

50 operation

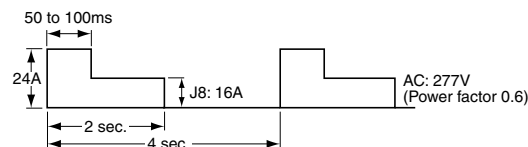
Endurance test AJ8 (J8): 16A 277V AC (Power factor 0.75 to 0.8)

6×10³ operation

After testing, temperature rise of terminals should be less than 30°C and no abnormality should be observed in characteristics.

■ Outline of EN61058-1 test

After switching 5 × 10³ times on the above load condition at both 85⁺⁵°C and 25±10°C, temperature rise of terminals should be less than 55°C and no abnormality should be observed in characteristics.



INTRODUCTION TO 4P CONNECTORS FOR THE AJ8 (J8) SWITCH (produced by Nippon Tanshi Co., Ltd)



Note: This connector for AJ8 (J8) switches is not available from Panasonic.

Suitable switches: AJ8 (J8) switch, .250 Quick-connect terminal

(Note: Terminal guard long type switches are not suitable for this connector.)

• Housing

Product number: N1620-4204

• Receptacle

Product number: 17168-2 (post-plated product for fine wires)

17168-M2 (material plated product for fine wires)

172131-M2 (for thick wires)

• If you have any questions, please directly contact:

Nippon Tanshi Co., Ltd.