Discontinued as of August 31, 2012

Panasonic
ideas for life

POWER ROCKER SWITCH

AJ9 (J9) SWITCHES

AJ9 switch snap-in mounting type



AJ9 switch screw mounting type



RoHS compliant

FEATURES

1. Power rocker switches for safety requirements.

• All versions comply with ClassⅡ EN61058-1 insulation grade.
Insulation distance: 8mm Min.
Contact gap: 3mm Min.

• International Standard-approved status

	Already approved
AJ9 switch	UL, CSA, VDE, SEMKO

2. High inrush current resistance is ideal for office automation equipment.

Type	Inrush	Contact rating	Expected life
AJ9	100A	16A 250V AC	Min.10^4

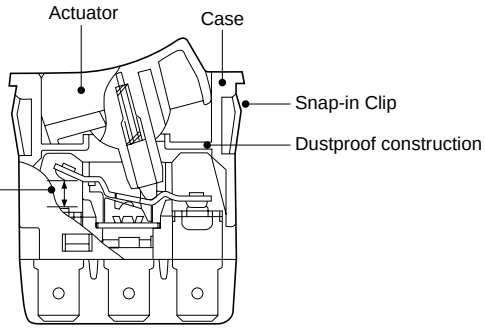
3. Eight standard actuator colors

White, black, red, dark gray, light gray, blue, green, yellow

PRECAUTIONS WHEN USING CADMIUM-FREE CONTACT TYPE

Models with cadmium-free contacts have been introduced in order to reduce environmentally harmful substances. (“F” is affixed to the end of the part number.) We ask customers who are currently using products with cadmium-containing contacts (no “F” at the end of the part number) to please make the switch to models with cadmium-free contacts. When switching, operating life may differ depending on the load. Please be sure to verify this by conducting an evaluation using actual equipment.

CONSTRUCTION



The EN60950 (intended for office automation equipment) conforms with a 3mm gap.
When directly opening or closing the primary power supply side, a contact gap of at least 3mm is required in order to ensure safety.

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ORDERING INFORMATION

AJ 9 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ F

9: AJ9 switch

Poles
1: 1-pole 2: 2-pole

Mounting type
1: Snap-in mounting (16A)
2: Screw mounting (16A)

Operating type
0: ON-OFF 1: ON-ON

Terminal shape
0: .250 Quick-connect terminal
1: Soldering compatible with .250 Quick-connect terminal
2: PC board terminal

Actuator indication
0: No indication
1: |○ indication
2: —○ indication

Actuator color Remark 2)
W: White B: Black R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow

Flang color
Nil: Black (standard color)
(Custom ordered color: W: White, R: Red, Z: Dark gray, H: Light gray, L: Blue, G: Green, Y: Yellow) Remark 1)

Approved standard
3: UL, CSA, VDE, SEMKO
9: UL, CSA Remark 3)

F: Cadmium-free product

Remarks: 1. Please consult us for details concerning different flange colors.
2. The color of "| ○" indication on the actuator:
• White actuator: black
• Others: white
3. The ON-OFF type with no indications on the actuator have received UL and CSA certifications.

PRODUCT TYPES

1. Snap-in mounting type

(1) Without indication on actuators

Terminal shape	Poles	Operating types	Part number (Without indication)
.250 Quick-connect terminal	1-pole	ON-OFF	AJ911000∗9F
		ON-ON	AJ911100∗3F
	2-pole	ON-OFF	AJ921000∗9F
		ON-ON	AJ921100∗3F
Soldering compatible with .250 Quick-connect terminal	1-pole	ON-OFF	AJ911010∗9F
		ON-ON	AJ911110∗3F
	2-pole	ON-OFF	AJ921010∗9F
		ON-ON	AJ921110∗3F
PC board terminal	1-pole	ON-OFF	AJ911020∗9F
		ON-ON	AJ911120∗3F
	2-pole	ON-OFF	AJ921020∗9F
		ON-ON	AJ921120∗3F

(Standard flange color is black. For other colors type, they are custom ordered.)
Remarks: 1. A letter indicating the actuator color is entered in place of ∗ symbol. (W: White B: Black R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow)
For requests of other flange color, please suffix following letter. (W: White R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow)
2. The color of | ○ indication on the actuator:
White actuator: black, Others: white
3. The ON-OFF type with no indications on the actuator have received UL and CSA certifications.
All other types come with a stamp indicating international standards without your request.

(2) With indication on actuators

Terminal shape	Poles	Operating types	Part No. (With I ○ indication)	Part No. (With — ○ indication)
.250 Quick-connect terminal	1-pole	ON-OFF	AJ911001∗3F	AJ911002∗3F
		ON-ON	AJ911101∗3F	AJ911102∗3F
	2-pole	ON-OFF	AJ921001∗3F	AJ921002∗3F
		ON-ON	AJ921101∗3F	AJ921102∗3F
Soldering compatible with .250 Quick-connect terminal	1-pole	ON-OFF	AJ911011∗3F	AJ911012∗3F
		ON-ON	AJ911111∗3F	AJ911112∗3F
	2-pole	ON-OFF	AJ921011∗3F	AJ921012∗3F
		ON-ON	AJ921111∗3F	AJ921112∗3F
PC board terminal	1-pole	ON-OFF	AJ911021∗3F	AJ911022∗3F
		ON-ON	AJ911121∗3F	AJ911122∗3F
	2-pole	ON-OFF	AJ921021∗3F	AJ921022∗3F
		ON-ON	AJ921121∗3F	AJ921122∗3F

(Standard flange color is black. For other colors type, they are custom ordered.)

Remarks: 1. A letter indicating the actuator color is entered in place of ∗ symbol. (W: White B: Black R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow)
For requests of other flange color, please suffix following letter. (W: White R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow)
2. The color of I ○ indication on the actuator:
White actuator: black, Others: white
3. The ON-OFF type with no indications on the actuator have received UL and CSA certifications.
All other types come with a stamp indicating international standards without your request.

2. Screw mounting type

(1) Without indication on actuators

Terminal shape	Poles	Operating types	Part number (Without indication)
.250 Quick-connect terminal	1-pole	ON-OFF	AJ912000∗9F
		ON-ON	AJ912100∗3F
	2-pole	ON-OFF	AJ922000∗9F
		ON-ON	AJ922100∗3F
Soldering compatible with .250 Quick-connect terminal	1-pole	ON-OFF	AJ912010∗9F
		ON-ON	AJ912110∗3F
	2-pole	ON-OFF	AJ922010∗9F
		ON-ON	AJ922110∗3F
PC board terminal	1-pole	ON-OFF	AJ912020∗9F
		ON-ON	AJ912120∗3F
	2-pole	ON-OFF	AJ922020∗9F
		ON-ON	AJ922120∗3F

(2) With indication on actuators

Terminal shape	Poles	Operating types	Part No. (With I ○ indication)	Part No. (With — ○ indication)
.250 Quick-connect terminal	1-pole	ON-OFF	AJ912001∗3F	AJ912002∗3F
		ON-ON	AJ912101∗3F	AJ912102∗3F
	2-pole	ON-OFF	AJ922001∗3F	AJ922002∗3F
		ON-ON	AJ922101∗3F	AJ922102∗3F
Soldering compatible with .250 Quick-connect terminal	1-pole	ON-OFF	AJ912011∗3F	AJ912012∗3F
		ON-ON	AJ912111∗3F	AJ912112∗3F
	2-pole	ON-OFF	AJ922011∗3F	AJ922012∗3F
		ON-ON	AJ922111∗3F	AJ922112∗3F
PC board terminal	1-pole	ON-OFF	AJ912021∗3F	AJ912022∗3F
		ON-ON	AJ912121∗3F	AJ912122∗3F
	2-pole	ON-OFF	AJ922021∗3F	AJ922022∗3F
		ON-ON	AJ922121∗3F	AJ922122∗3F

Remarks: 1. A letter indicating the actuator color is entered in place of ∗ symbol. (W: White B: Black R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow)
2. The color of I ○ indication on the actuator:
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3. The ON-OFF type with no indications on the actuator have received UL and CSA certifications.
All other types come with a stamp indicating international standards without your request.

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SPECIFICATIONS

1. Contact rating

Type	Voltage	Resistive load (cos $\phi \fallingdotseq 1.0$)	Motor load (EN61058-1) (cos $\phi \fallingdotseq 0.6$)
AJ9 switch	250V AC	16A	4A

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

2. Characteristics

Expected life (Min. operations)	Mechanical	Min. 5×10^4 (at 20 cpm.)
	Electrical	Min. 10^4 (at 10 cpm., at rated load)
Initial insulation resistance (Between terminals)		Min. 100 MΩ (at 500V DC measured by insulation resistive meter)
Initial breakdown voltage (Between terminals)		2,000 Vrms detection current: 10 mA
Initial contact resistance (By voltage drop at 1A, 2 to 4V DC)		Max. 20mΩ
Temperature rise	at 6×10^3 ope. or less	Max. 30°C (UL1054)
	from 6×10^3 ope. to 10^4	Max. 55°C (EN61058-1)
Vibration resistance		10 to 55 Hz at double amplitude of 1.5mm
Shock resistance		Min. 294m/s²{30 G}
Actuator strength		40 N {4.08kgf} for 1 minute (operating direction)
Tensile terminal strength		100 N {10.2kgf} for 1 minute or more (Pull & push direction)
Ambient temperature		–25°C to +85°C (Not freezing below 0°C)
Flame retardancy		UL94V-0
Tracking resistance		Min. 175
Operating force (reference characteristics)	1-pole	3.92 ± 1.96N {400 ±200gf}
	2-pole	5.88 ± 24.5N {600 ±250gf}
Contact material		AgZnO alloy

Remark: Test conditions are in accordance with EN61058-1, UL1054 and JIS C 6571.

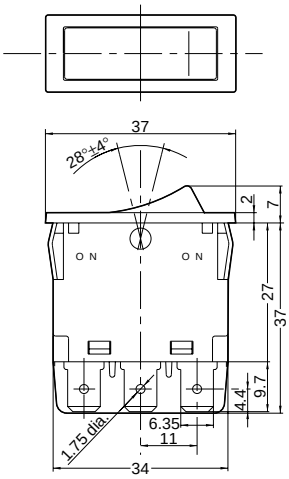
DIMENSIONS

mm General tolerance: ±0.5

1) .250 Quick-connect terminal

1. Snap-in mounting type





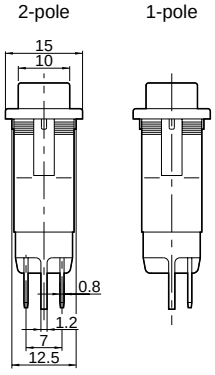
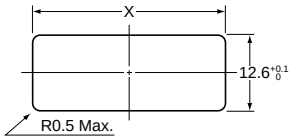


Diagram of recommended locations for panel mounting holes



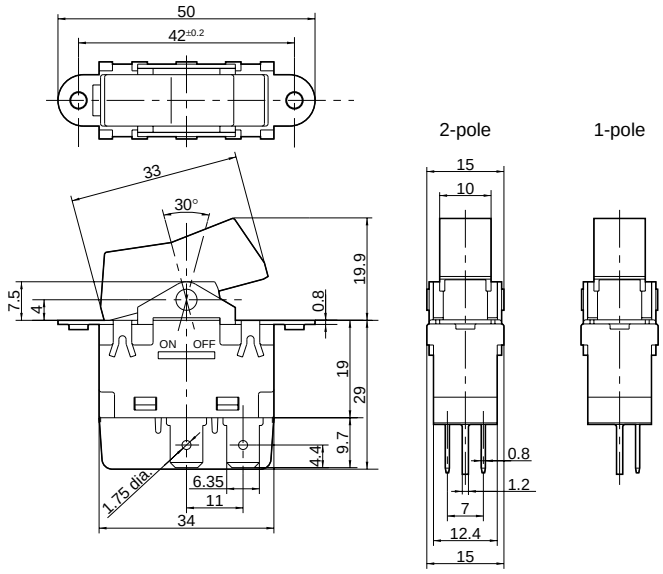
Panel thickness	X
0.75 to 1.25	$34.2^{+0.1}_{0}$
1.25 to 2	$34.4^{+0.1}_{0}$

Remark: For soldering compatible with .250 Quick-connect terminal and PC board terminal, only terminal shape is changed.

2. Screw mounting type

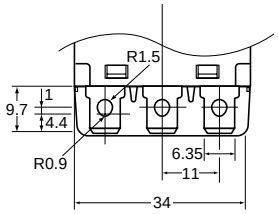
mm General tolerance: ±0.5





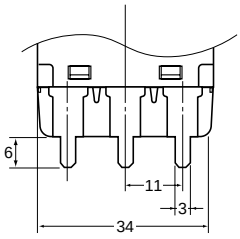
Remark: For soldering compatible with .250 Quick-connect terminal and PC board terminal, only terminal shape is changed.

2) Soldering compatible with .250 Quick-connect terminal

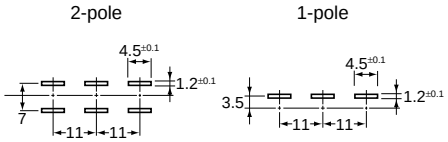


Remark: Dimensions other than listed above are same as those of .250 Quick-connect terminal.

3) PC board terminal



PC board pattern (ON-ON)



Remark: Dimensions other than listed above are same as those of .250 Quick-connect terminal.

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NOTES

1. Switch mounting

Mount the switch with the recommended panel mounting hole dimensions shown in the dimensions.

Contact us if you are considering using a panel of other than the recommended size and shape.

2. 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 (60W 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.

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.

3. 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.

4. 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.

5. Take care not to drop the product as it may impair perfomance.

REFERENCE

1. Outline of UL1054 test

Overload test AJ9: 20A 250V AC
(Power factor 0.75 to 0.8)
50 operation
Endurance test AJ9: 16A 250V AC
(Power factor 0.75 to 0.8)
6×10^3 operation
After testing, temperature rise of terminals should be less than 30°C and no abnormality should be observed in characteristics.

2. Outline of EN61058-1 test

After switching 5×10^3 times on the above load condition at both 85^{+5}_{0}°C and 25±10°C, temperature rise of terminals should be less than 55°C and no abnormality should be observed in characteristics.

