NAiS

POWER ROCKER SWITCH

J8 (AJ8) SWITCHES

J8 switch standard actuator

J8 switch Wide actuator

FEATURES

1. Power rocker switches for the require of safety.

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

• International Standard-approved status

As of Jul. 1999

		Already approved
J8 switch	Standard actuator type	UL, CSA, VDE, TÜV, BEAB, ÖVE, KEMA, SEMKO, NEMKO, DEMKO, FIMKO, SEV
	Wide actuator type	UL, CSA, VDE, TÜV, SEMKO, NEMKO, DEMKO, FIMKO, SEV, KEMA, ÖVE

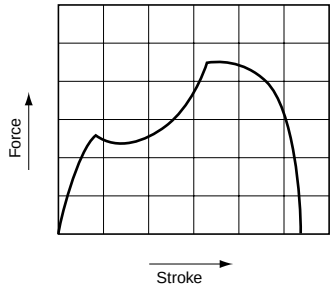
2. High inrush current resistance is ideal for office automation equipment.

Type	Inrush	Contact rating	Expected life
J8	160A	16A 250V AC	Min.10^4

3. Operation that only requires a light touch

The best operation characteristics was sought by analyzing touch data gathered by monitoring 1,500 people.

• Power Rocker Switch touch curve



4. A broad product line

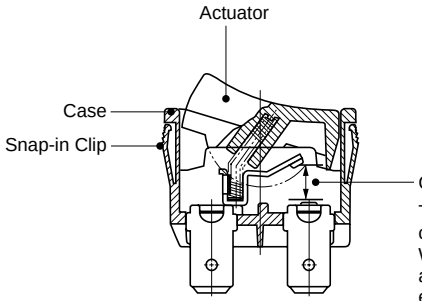
The J8 switches are available with five different types of pins:quick-connect terminals, soldering terminals, PC board terminals, right angle terminals and left angle terminals.

5. Eight standard actuator colors

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

6. We can handle special orders with specific colors and indications.

CONSTRUCTION



The EN60950 (intended for office automation equipment) conforms with a 3mm .118inch gap.
When directly opening or closing the primary power supply side, a contact gap of at least 3mm .118inch is required in order to ensure safety.

ORDERING INFORMATION

Ex. AJ8 | W | 1 | 0 | 0 | W | W | T

Type of switch	Size of handle	Poles	Terminal shape	Actuator indication	Actuator color*	Flang color*	Insulation guard
AJ7: J8 switch	Nil: Standard size (10 mm .394inch) W: Wide size (19 mm .748 inch)	1: Single pole 2: Double pole	0: .250 Quick-connect terminal 1: Soldering terminal 2: PC board terminal 3: PC board right andle terminal 4: PC board left angle terminal	0: 1: 2:	W: White B: Black R: Red Z: Dark gray H: Light gray L: Blue G: Green Y: Yellow	Nil: Black (W: White) (R: Red) (Z: Dark gray) (H: Light gray) (L: Blue) (G: Green) (Y: Yellow)	Nil: Short guard type T: Long guard type (.250 Quick-connect terminal and soldering terminal of standard size only)

Remarks: 1. Please consult us for details concerning different flange colors.
2. "|○" is engraved on all flanges.
3. The color of |○ indication on the actuator:
• White actuator: black
• Others: white

PRODUCT TYPES

1. Standard actuator type

(1) Without indication on actuators

Terminal shape	Poles	Operating types	Without indication
.250 Quick-connect terminal	Single pole	ON-OFF	AJ8100*
	Double pole		AJ8200*
Soldering terminal	Single pole		AJ8110*
	Double pole		AJ8210*
PC board terminal	Single pole		AJ8120*
	Double pole		AJ8220*
PC board right angle terminal	Single pole		AJ8130*
	Double pole		AJ8230*
PC board left angle terminal	Single pole		AJ8140*
	Double pole		AJ8240*

(2) With |○ indication on actuators

Terminal shape	Poles	Operating types	With |○ indication	With —○ indication
.250 Quick-connect terminal	Single pole	ON-OFF	AJ8101*	AJ8102*
	Double pole		AJ8201*	AJ8202*
Soldering terminal	Single pole		AJ8111*	AJ8112*
	Double pole		AJ8211*	AJ8212*
PC board terminal	Single pole		AJ8121*	AJ8122*
	Double pole		AJ8221*	AJ8222*
PC board right angle terminal	Single pole		AJ8131*	AJ8132*
	Double pole		AJ8231*	AJ8232*
PC board left angle terminal	Single pole		AJ8141*	AJ8142*
	Double pole		AJ8241*	AJ8242*

(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. Long guard type is available for .250 Quick-connect terminal and soldering terminal type.
When ordering, please suffix T.
3. The color of |○ indication on the actuator:
White actuator: black Others: white
4. They come with a stamp indicating international standards without your request.
5. Note that the position of the | mark on the flange is used as a reference for left angle and right angle units as shown in the diagram below.

Right angle terminal

Left angle terminal

2.Wide actuator type

(1) Without indication on actuators

Terminal shape	Poles	Operating types	Without indication
.250 Quick-connect terminal	Single pole	ON-OFF	AJ8W100*
	Double pole		AJ8W200*
Soldering terminal	Single pole		AJ8W110*
	Double pole		AJ8W210*
PC board terminal	Single pole		AJ8W120*
	Double pole		AJ8W220*

(2) With ｜○ indication on actuators

Terminal shape	Poles	Operating types	With ｜○ indication	With —○ indication
.250 Quick-connect terminal	Single pole	ON-OFF	AJ8W101*	AJ8W102*
	Double pole		AJ8W201*	AJ8W202*
Soldering terminal	Single pole		AJ8W111*	AJ8W112*
	Double pole		AJ8W211*	AJ8W212*
PC board terminal	Single pole		AJ8W121*	AJ8W122*
	Double pole		AJ8W221*	AJ8W222*

(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. They come with a stamp indicating international standards without your request.

SPECIFICATIONS

1. Contact rating

Type	Voltage	Resistive load (cos $\phi \fallingdotseq$ 1.0)	Motor load (EN61058-1) (cos $\phi \fallingdotseq$ 0.6)
J8 switch	AC 250V	16A	4A

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

2. Characteristics

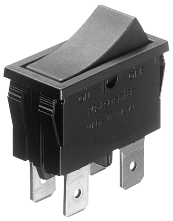
Expected life (Min. operations)	Mechanical	Min. 5×10^4 (at 20 cpm.)
	Electrical	Min. 10^4 (at 7 cpm., at rated load)
Initial insulation resistance (Between terminals)		Min. 100 MΩ (at 500V DC measured by insulation resistive meter)
Initial breakdown voltage (Between terminals)		2,000 Vrms detection current: 10 mA
Initial contact resistance (By voltage drop at 1A, 2 to 4V DC)		Max. 100mΩ
Temperature rise	at 6×10^3 ope. or less	Max. 30°C (UL1054)
	from 6×10^3 ope. to 10^4	Max. 55°C (VDE0630)
Vibration resistance		10 to 55 Hz at double amplitude of 1.5mm
Shock resistance		Min. 490m/s^2{50 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 – 13 ° F to +185 ° F (Not freezing below 0°C 32 ° F)
Ambient humidity		Max. 85%R.H.
Flame retardancy		UL94V-0
Tracking resistance		Min. 175
Operating force (reference characteristics)	Single pole	2.45 ± 1.47N {0.25 ±0.15kgf}
	Double pole	4.5 ± 2.5N {0.46 ±0.25kgf}

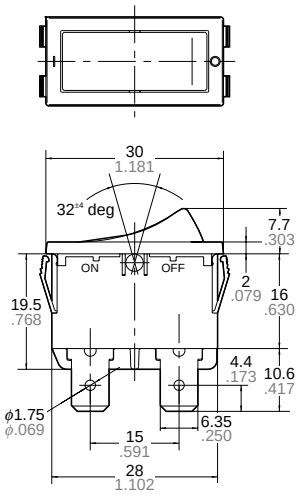
Remark: Test conditions are in accordance with EN61058-1, UL1054 and JIS C 6571.

DIMENSIONS

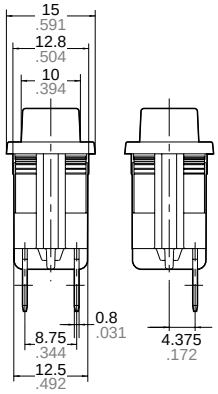
mm inch General tolerance ±0.5 ±.020

1) .250 Quick-connect terminal/Short guard type





Double pole Single pole



Long guard type
.250 Quick-connect terminal

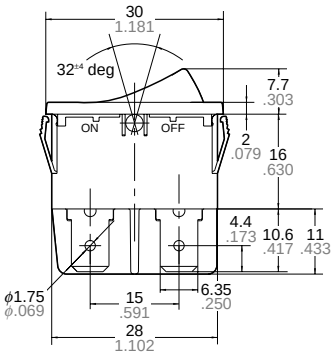
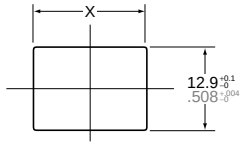
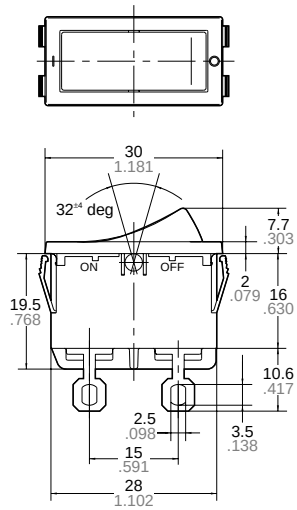


Diagram of recommended locations for panel mounting holes

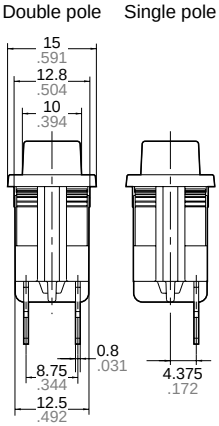


Panel thickness	X
0.75 to 1.25 .030 to .049	28.2 +0 −0.1 1.110 +0 −.004
1.25 to 2 .049 to .079	28.4 +0 −0.1 1.118 +0 −.004
2 to 3 .079 to .118	28.8 +0 −0.1 1.134 +0 −.004

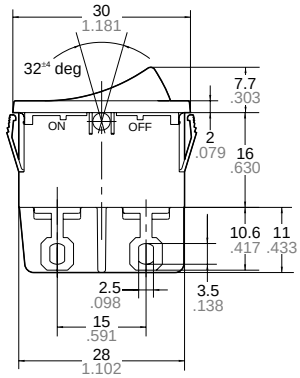
2) Soldering terminal



Double pole Single pole



Long guard type
Soldering terminal



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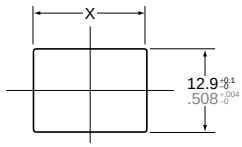
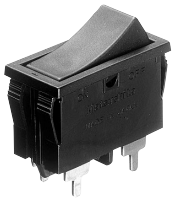


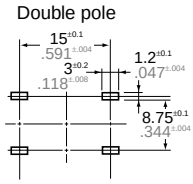
Panel thickness	X
0.75 to 1.25 .030 to .049	28.2 +0 −0.1 1.110 +0 −.004
1.25 to 2 .049 to .079	28.4 +0 −0.1 1.118 +0 −.004
2 to 3 .079 to .118	28.8 +0 −0.1 1.134 +0 −.004

3) PC board terminal



PC board pattern

Double pole



Single pole

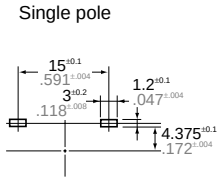
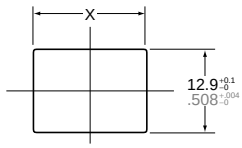
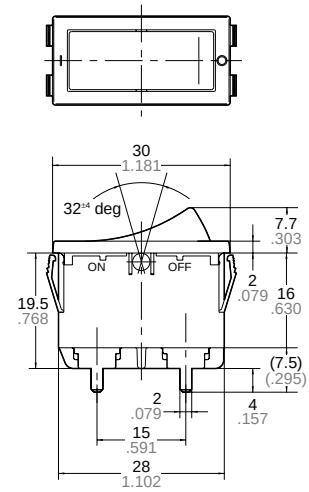
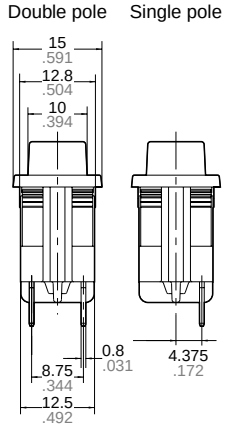


Diagram of recommended locations for panel mounting holes





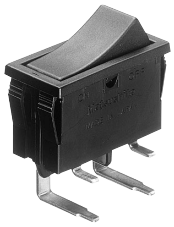
Double pole Single pole



Panel thickness	X
0.75 to 1.25 .030 to .049	28.2 +0 −0.1 1.110 +0 −.004
1.25 to 2 .049 to .079	28.4 +0 −0.1 1.118 +0 −.004
2 to 3 .079 to .118	28.8 +0 −0.1 1.134 +0 −.004

4) PC board right angle terminal

mm inch General tolerance ±0.5 ±.020



PC board pattern

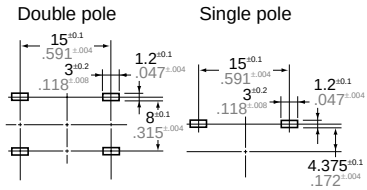
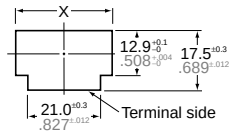
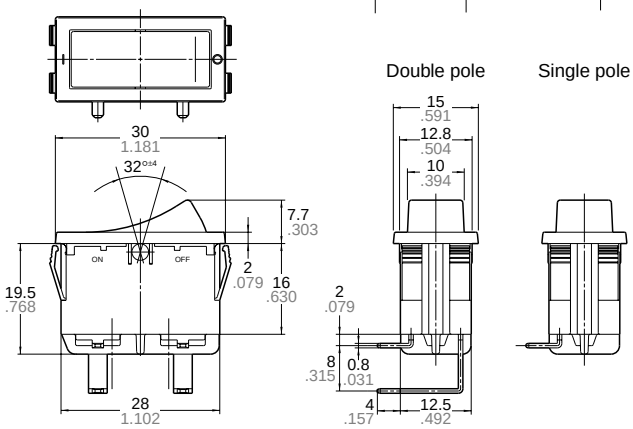


Diagram of recommended locations for panel mounting holes



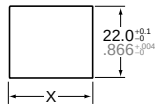


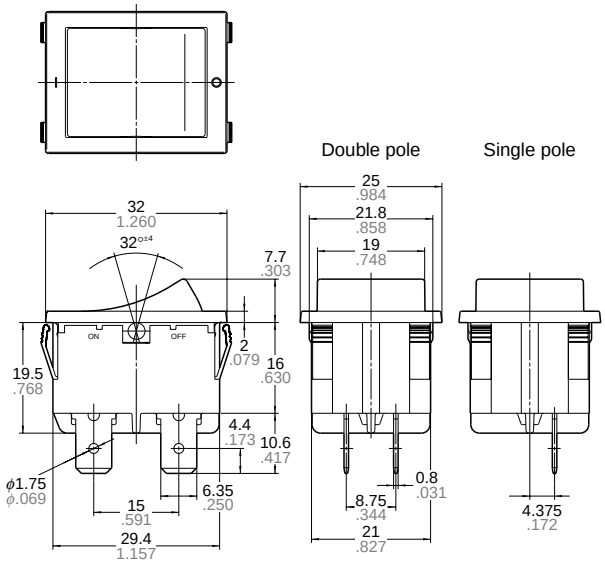
Remark: Left angle terminals type is also available.

Panel thickness	X
0.75 to 1.25 .030 to .049	$28.2^{+0}_{-0.1}$ $1.110^{+0}_{-.004}$
1.25 to 2 .049 to .079	$28.4^{+0}_{-0.1}$ $1.118^{+0}_{-.004}$
2 to 3 .079 to .118	$28.8^{+0}_{-0.1}$ $1.134^{+0}_{-.004}$

5) Wide actuator type

Diagram of recommended locations for panel mounting holes





Panel thickness	X
1 to less than 1.8 .039 to .071	$30.0^{+0}_{-0.1}$ $1.181^{+0}_{-.004}$
1.8 to 2.3 .071 to .091	$30.7^{+0}_{-0.1}$ $1.209^{+0}_{-.004}$

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

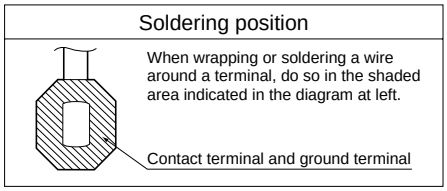
NOTES

1. Switch mounting

Mount the switch with the hole cutting 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 788°F or lower, and take care not to apply any force to the terminal area.
It should be avoided to touch 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 sec. at 270°C 518°F soldering bath or within 3 sec. at 350°C 662°F 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 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.

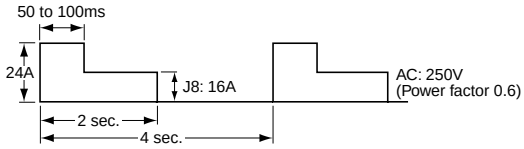
REFERENCE

1. Outline of UL1054 test

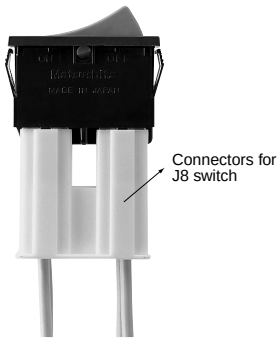
Overload test J8: 20A 250V AC
(Power factor 0.75 to 0.8)
50 operation
Endurance test J8: 16A 250V AC
(Power factor 0.75 to 0.8)
6×10^3operation
After testing, temperature rise of terminals should be less than 30°C 86°F and no abnormality should be observed in characteristics.

2. Outline of EN61058-1 test

After switching 5×10 times on the above load condition at both 85^{+5}_{0}°C 185^{+41}_{+32}°F and 25±10°C 77±50°F, temperature rise of terminals should be less than 55°C 131°F and no abnormality should be observed in characteristics.



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



Notes) This J8 switch connector is not available from Matsushita Electric Works. Contact us for further details on this connector.

Suitable switches: 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)