

# Remote Reset Rocker Switch A8GS

## Minimum size class in the industry Rocker switch with reset function

- Zero standby power by Reset function.
- High inrush-current durability.  
Conforming to TV-8 rating. (Inrush 117A)
- Model variation for Micro loads.
- Model variation of micro load and high capacity combination. (DPST)  
It is able to operate micro load and high capacity load at the same time.
- Contact gap of 3 mm minimum.
- UL and cUL standard approved, Conforming to EN standards.
- Model variation for 3.3VDC circuit.



**NEW**

**RoHS Compliant** (Please refer the Precautions)

**Usage example**

- Saving energy by cutting the standby power.
- Saving energy by preventing forgetting to turn OFF main power.
- Turning OFF main power by remote.
- Turning OFF main power of many equipments at the same time.

\* There are 2 kinds of main models A8GS. (Delay OFF Function model and Remote Reset model) With regard to the models with Delay OFF Function, please refer to the other catalog.

## List of Models

### 1. Reset function type

Contact Form 1 to 2: Power contact terminal a, b: Micro load contact terminal +, -: Coil terminal		SPST						Quantity per box	
		Micro load contact terminal × 1		Power contact terminal × 1					
Terminals		CT Connector		Quick-connect terminals #187 (t=0.8)		Solder terminals			
Reset voltage		5V model		3.3V model		5V model		3.3V model	
Marking on caps	No Marking	A8GS-S1105	A8GS-S1103	A8GS-P1185	A8GS-P1183	A8GS-P1115	A8GS-P1113	50	
		A8GS-S1205	A8GS-S1203	A8GS-P1285	A8GS-P1283	A8GS-P1215	A8GS-P1213		
		A8GS-S1305	A8GS-S1303	A8GS-P1385	A8GS-P1383	A8GS-P1315	A8GS-P1313		

Contact Form 1 to 2: Power contact terminal a, b: Micro load contact terminal +, -: Coil terminal		DPST				Quantity per box
		Micro load contact terminal × 1 + Power contact terminal × 1				
Terminals		Micro load contact terminal : CT Connector Power contact terminal : Quick-connect terminals #187 (t=0.8)		Micro load contact terminal : CT Connector Power contact terminal : Solder terminals		
Reset voltage		5V model		3.3V model		
Marking on caps	No Marking	A8GS-C1185	A8GS-C1183	A8GS-C1115	A8GS-C1113	50
		A8GS-C1285	A8GS-C1283	A8GS-C1215	A8GS-C1213	
		A8GS-C1385	A8GS-C1383	A8GS-C1315	A8GS-C1313	

Contact Form 1 to 4: Power contact terminal +, -: Coil terminal		DPST				Quantity per box
		Power contact terminal × 2				
Terminals		Quick-connect terminals #187 (t=0.8)		Solder terminals		
Reset voltage		5V model	3.3V model	5V model	3.3V model	
Marking on caps	No Marking	A8GS-D1185	A8GS-D1183	A8GS-D1115	A8GS-D1113	50
		A8GS-D1285	A8GS-D1283	A8GS-D1215	A8GS-D1213	
		A8GS-D1385	A8GS-D1383	A8GS-D1315	A8GS-D1313	

Note: 1. [ V ] is shown at the end of model name for TV-8 approved models. (Example : A8GS-P1185V, A8GS-C1185V, A8GS-D1185V)

Note: 2. TV-8 approved model is only for Power switch circuit.

Note: 3. [ 3 ] is shown at the end of model name for reset voltage 3.3 VDC models. (Example : A8GS-P1183).  
[ 5 ] is shown at the end of model name for reset voltage 5 VDC models. (Example : A8GS-P1185).

## 2. Without Reset function type

Contact Form 1 to 4: Power contact terminal a, b: Micro load contact terminal		SPST			DPST		Quantity per box
		Micro load contact terminal × 1	Power contact terminal × 1		Power contact terminal × 2		
		a ■ — ■ b	1 ■ — ■ 2				
Terminals		CT Connector	Quick-connect terminals #187 (t=0.8)	Solder terminals	Quick-connect terminals #187 (t=0.8)	Solder terminals	
Marking on caps	No Marking	A8GS-S1100	A8GS-P1180	A8GS-P1110	A8GS-D1180	A8GS-D1110	50
		A8GS-S1200	A8GS-P1280	A8GS-P1210	A8GS-D1280	A8GS-D1210	
		A8GS-S1300	A8GS-P1380	A8GS-P1310	A8GS-D1380	A8GS-D1310	

Contact Form 1 to 2 Power contact terminal a, b: Micro load contact terminal		DPST		Quantity per box
		Micro load contact terminal × 1 + Power contact terminal × 1		
Terminals		Micro load contact terminal : CT Connector Power contact terminal : Quick-connect terminals #187 (t=0.8)	Micro load contact terminal : CT Connector Power contact terminal : Solder terminals	
Marking on caps	No Marking	A8GS-C1180	A8GS-C1110	50
		A8GS-C1280	A8GS-C1210	
		A8GS-C1380	A8GS-C1310	

Note: 4. These models are without reset function, it has same function with standard Rocker switch.

## Ratings

### Contact Ratings

	Rated voltage	Rated current (Resistive load)
Power contact terminal	125 VAC	16 A
	250 VAC	10 A
Micro load contact terminal	5 VDC	0.2 A

Note: 1. The above ratings were tested under the following conditions:

- (1) Ambient temperature : 20 ± 2 °C
- (2) Ambient humidity : 65 ± 5 % RH
- (3) Switching frequency : 7 times/min

### Reset Coil Ratings

Model	Rated voltage, current	Operating voltage range	Rated usage cycle	Coil resistance (Coil temperature: 20 ± 2 °C)
Reset voltage : 5V model (A8GS-□□□□5)	5VDC 455 mA	4.5 to 5.5 VDC	ON: 50 to 100 ms OFF: Min 5 sec	11 Ω ± 20 %
Reset voltage : 3.3V model (A8GS-□□□□3)	3.3VDC 300 mA	3.0 to 3.6 VDC	ON: 50 to 100 ms OFF: Min 5 sec	11 Ω ± 20 %

Note: 1. Voltage for coil should be set within operating voltage range and applied time should be within rated usage cycle. Otherwise the performance of the coil may be deteriorated.

Note: 2. In case of applying voltage within the range from 5.5 to 24 VDC to the coil, contact your OMRON sales representative.

## Contact specifications

	Micro load contact	Power contact
Material	Gold alloy	Silver alloy
Contact gap	3 mm	3 mm
Minimum applicable load (Reference value) *	3 VDC 1 mA	5 VDC 200 mA

\* Please refer to "Using Micro loads" in "Precautions"(P6) for more information on the minimum applicable load.

## Characteristics

Permissible operating frequency	Mechanical	Switch operation: 20 times/min max, Coil operation: 7 times/min max
	Electrical	7 times/min max
Insulation resistance		100 MΩ min (at 500 VDC with insulation tester)
Contact resistance (initial value)	Power contact terminal	100 mΩ max (6 VDC to 8 V, 1 A Voltage drop method)
	Micro load contact terminal	100 mΩ max (6 VDC to 8 V, 0.1 A Voltage drop method)
Dielectric strength	Between terminals of the same polarity	AC2,000 V 50/60 Hz 1 min
	Between terminals of the different polarity	AC2,000 V 50/60 Hz 1 min
	Between each terminals of the switch and terminals of coil	AC4,000 V 50/60 Hz 1 min
	Between each terminals of switch and ground	AC4,000 V 50/60 Hz 1 min
Vibration resistance *	Malfunction	10 to 55 Hz 1.5 mm double amplitude (Malfunction within 1 ms)
Shock resistance *	Malfunction	300 m/s <sup>2</sup> min (Malfunction within 1 ms)
	Destruction	1000 m/s <sup>2</sup> max
Ambient operating temperature		-10 to +55 °C (with no icing or condensation, 60 % RH max)
Ambient operating humidity		90 %RH max (+5 to 35 °C with no icing or condensation)
Durability	Mechanical	Switch operation: 30,000 operations min, Coil operation: 10,000 operations min
	Electrical	Switch operation: 10,000 operations min
Inrush current		117 A max.
Degree of protection		IEC IP40
Contact release time **		100 ms max
Weight		A8GS-Sxxxx: around 9 g A8GS-Pxxxx: around 10 g A8GS-Cxxxx: around 11 g A8GS-Dxxxx: around 12 g

Note: 1. Above specification values are initial values.

\*For the testing condition in individual specification, contact your OMRON sales representative.

\*\*Time from voltage applied to reset coil to actual contacts opening.

## Approved Safety Standards

### UL (UL61058-1)

	Approved safety standards ratings	TV-8 approved ratings *
Power contact terminal	16 A 125 VAC	TV-8
	10 A 250 VAC	
Micro load contact terminal	-	-

### TÜV (EN61058-1)

	Approved safety standards ratings	TV-8 approved ratings *
Power contact terminal	10 (4) A 250 VAC	8/128 A 250 VAC
Micro load contact terminal	0.2 A 5 VDC	0.2 A 5 VDC

Note: 1. Approved safety standard ratings for Signal Switch Circuit is only for 'A8GS-Cxxxx' model. 'A8GS-Sxxxx' model is not approved.

\*These ratings are only for TV-8 rating approved models.

## Connector for Signal Switch Circuit and Coil Circuit

CT connectors produced by Tyco Electronics Corporation or XR connectors produced by JST shall be used for connection of Signal and Coil circuit. Other connectors shall not be used.

	Connector Terminal no.	Connection with Switch	Tyco Electronics Corporation: CT connector				JST: XR Connector	
			Housing	Pressure welding type		Cramping type		
				Contact		AWG #28-26		AWG #24
Micro load contact terminal	1	a (Switch COM)	179228-3	AWG #30-26	AWG #26-22	173977-3	2-179694-3	03XR-6□-P*
	2	---						
	3	b (Switch NO)						
Coil terminal	1	+ (Coil)	179228-2	179609-1	179227-1	173977-2	2-179694-2	02XR-6□-P*
	2	-(Coil)						

\* □ indicates Housing color.

# A8GS

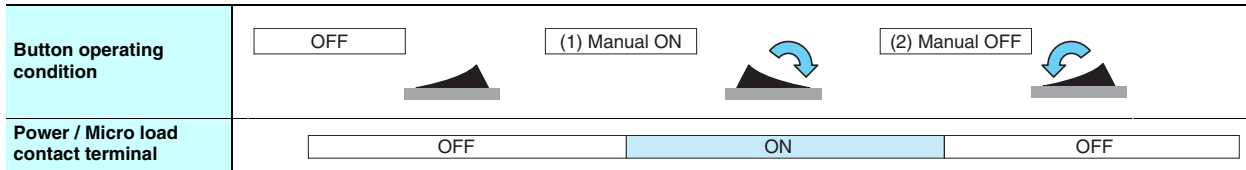
## Operation

### Remote Reset Function

Button is operated for turning OFF of Power and Micro load contact terminal by applying external signal to coil.

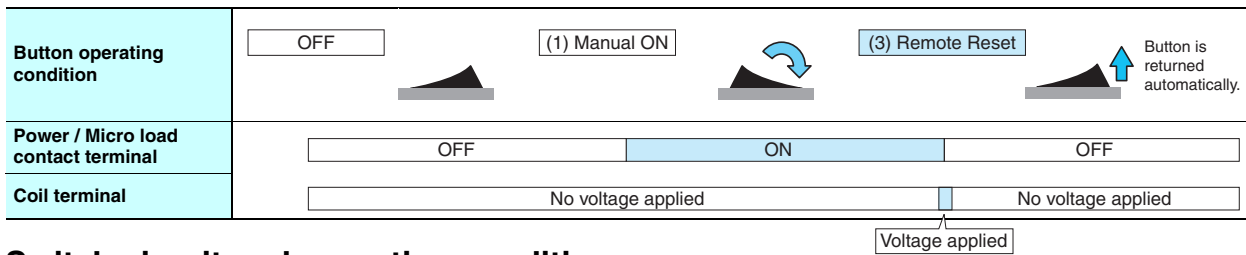
### Manual Operation

Power and Micro load contact terminal are operated to turn ON/OFF by manual, same as standard Rocker switch.

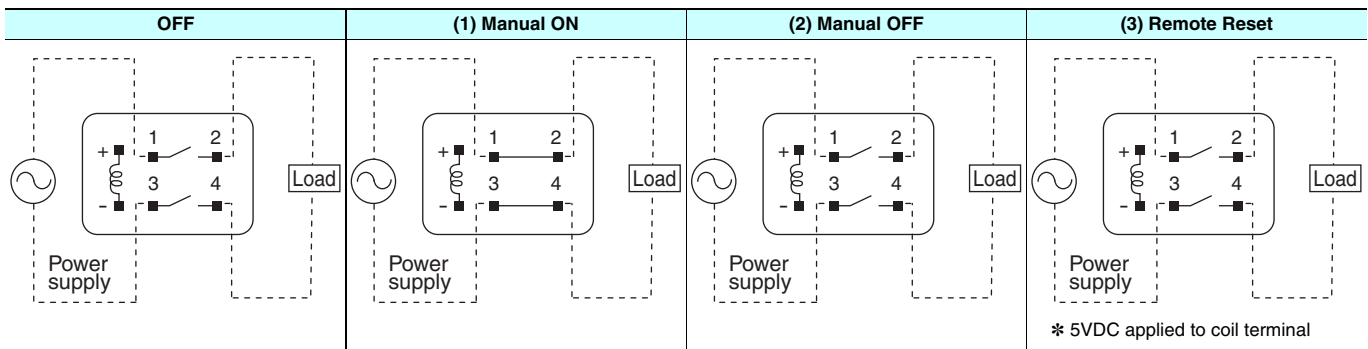


### Remote Reset Function Operation

It is able to turn OFF Power and Micro load contact terminal from manual ON condition by applying voltage to coil.



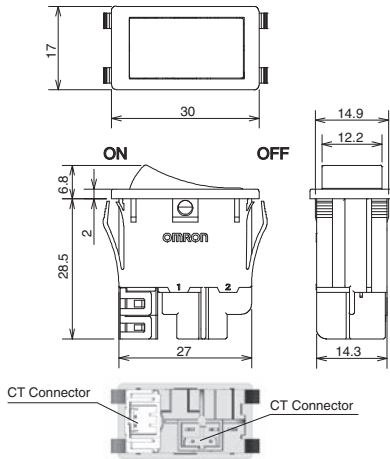
### Switch circuit and operating condition



Note: 1. The above circuit is referring to the 'A8GS-Dxxxx' model.

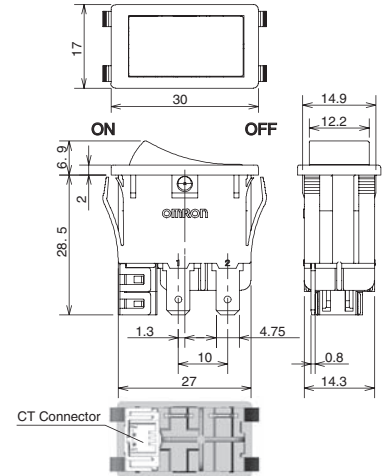
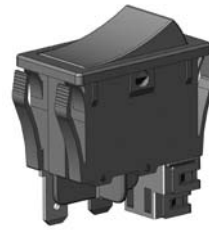
Dimensions (Unit: mm) / Operating Characteristics

A8GS-S1□05  
A8GS-S1□03



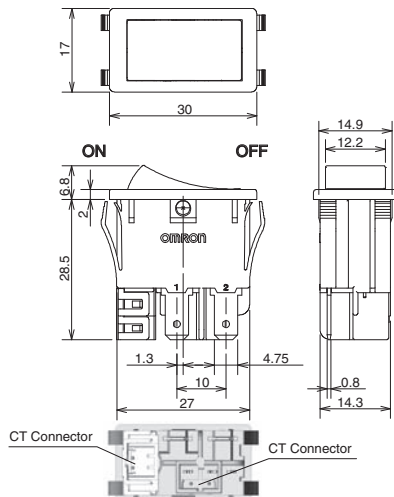
Operating force (OF)  $1.0 \pm 0.6$  N

A8GS-P1□85  
A8GS-P1□15\*  
A8GS-P1□83  
A8GS-P1□13\*



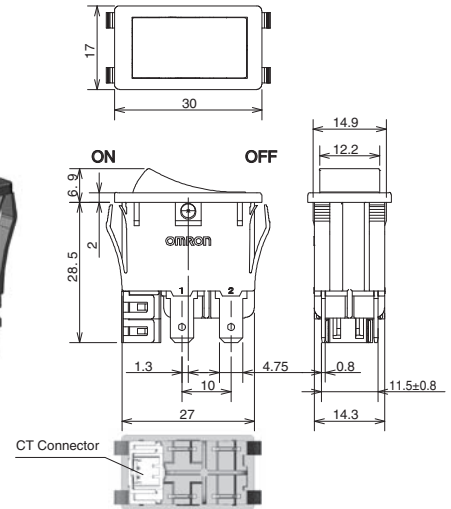
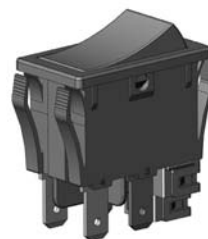
Operating force (OF)  $1.5 \pm 0.9$  N

A8GS-C1□85  
A8GS-C1□15\*  
A8GS-C1□83  
A8GS-C1□13\*



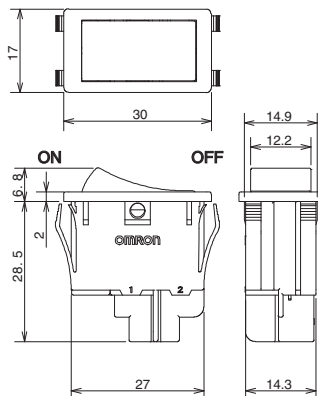
Operating force (OF)  $2.0 \pm 1.2$  N

A8GS-D1□85  
A8GS-D1□15\*  
A8GS-D1□83  
A8GS-D1□13\*



Operating force (OF)  $2.0 \pm 1.2$  N

A8GS-□□□□0  
(No reset function model)



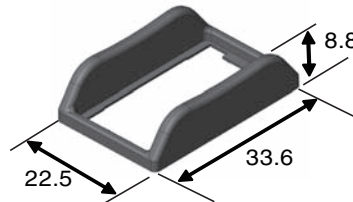
- The above model is referring the 'A8GS-S1100'.
- No reset function models are without coil circuit.
- Specifications are same with reset function models.

Accessories parts (Sold Separately)

Protector can improve resistance against external force to the actuator from side (angled) direction.

Protector  
Model: A8GS-211(P)  
Color: Black

Mounting image



**Note:** 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
 2. When initial operation or operation after reset, operating force is increased, due to switch structure.  
 3. TV-8 approved models are same outline and characteristics with standard models.  
 \* Solder terminals model has different hole shape, compare with Quick-connect terminals. Outline and characteristics are same.

# A8GS

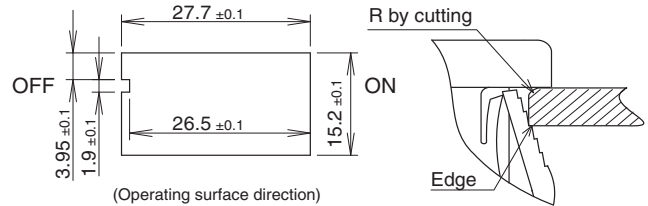
## Panel Cutout

Panel thickness: 0.8 to 2.3 mm

Panel cutout design is for prevention of false insertion. Please be careful about the direction of the protrusion.

The rollover of the panel shall be on the front face. And panel back side shall be Edge shape by processing.

**Note:** 1. Recommendation panel material is "SPCC", however, in case of soft material or Panel back side shape is not edge, mounting strength may down. Please check and try by actual mounting panel and set the Panel thickness and hole dimension.



## Precautions

### WARNING

Do not wire the switch or touch any terminal of the Switch while power is being supplied. Or it may result in electric shock.



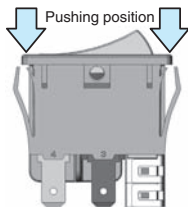
### Cautions

Use the switch within the rated voltage and current ranges, otherwise the switch may have deteriorated durability. Radiate heat, or burn out. This particularly applies to the instantaneous voltages and currents when switching.

### Caution of usage

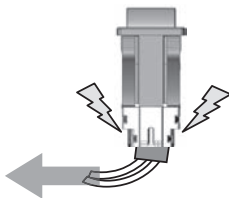
#### ●Mounting

- Easy to mount by snap fitting.
- Do not impose excessive force on switch at the time of panel mounting.
- Do not detach the switch after installed. Otherwise, the holding strength may be loose.
- Apply the force to housing when installing to panel. Do not apply the force to the button (rocker) part when installing to the panel.



#### ●Wiring

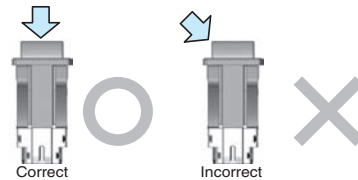
- Confirm the size of the receptacles and be sure to connect them firmly.
- Use an appropriate wire allowable to carry current.
- Be sure that there is no mechanical stress on terminals and coil terminals. Otherwise, the switch may malfunction and/or damaged. (Example: Too strong wiring)



- Take appropriate insulation distance between switch terminal and other metal parts after wiring.
- Coil has polarity, please confirm polarity when wiring.
- Do not apply continuous voltage more than 10 seconds at any time. Otherwise, insulation deterioration may occur by heat of coil. Please consider the circuit design.
- Reverse voltage may cause of accurate discrete semiconductor devices. In case of controlling by accurate discrete semiconductor devices, Please consider the circuit design. (Example : add the surge absorbing circuit)
- In case of manual soldering, soldering time is max 4 sec by soldering iron (Max 350 °C at the iron tip) and do not add the stress to terminals.
- In case of touching the soldering iron to the root of terminals, it may cause Housing parts melt.

#### ●Handling

- Do not apply excessive operating force to the switch.
- Do not drop or apply the excessive shock. Otherwise the switch may be damaged or deformed.
- Do not impose force to operating part from an angle, Otherwise the switch may be damaged or deformed.



#### ●Environment for storage and use

- To prevent the terminals color change and others while storage, Do not keep for a long term in the following conditions.
  - (1) High temperature, high humid environment
  - (2) Corrosive gas
  - (3) The place where the direct rays of the sun
  - (4) The place where the sea breeze
  - (5) Environmental with a sudden temperature change
 This switch is not sealed to prevent from entering dust and liquid. Do not use under dust and liquid condition.
- Switch shall not be icing or condensation.
- Strong magnetic field may cause malfunction. Check function is recommended under practical use conditions.

#### ●Using Micro Loads

In case of using the switch under the micro loads, please refer the Minimum applicable load and set the load more than minimum applicable load.

Even when using micro load within the operating range, if inrush current occurs, it may increase contact wear and so deteriorate durability. Therefore, insert a contact protection circuit where necessary.

The minimum applicable load is the L-level reference value. This value indicates the malfunction reference level for the reliability level of 60 %. ( $\lambda 60$ )

The equation,  $\lambda 60 = 0.5 \times 10^{-6} / \text{operations}$  indicates that the estimated malfunction rate is less than 1/2,000,000 operations with a reliability level of 60 %.

#### ●RoHS Compliant

The "RoHS Compliant" designation indicates that the listed models do not contain the six hazardous substances covered by the RoHS Directive.

Reference: The following standards are used to determine compliance for the six substances.

Lead	: 1,000 ppm max.
Mercury	: 1,000 ppm max.
Cadmium	: 100 ppm max.
Hexavalent chromium	: 1,000 ppm max.
PBB	: 1,000 ppm max.
PBDE	: 1,000 ppm max.



- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

**Note: Do not use this document to operate the Unit.**



### Safety-considered Power Rocker Switch

- Low heat radiation with a Unique leaf spring mechanism.
- Positive-opening mechanism incorporated.
- AC operated Neon lamp illumination models available.
- Contact gap of 3 mm minimum.
- Variety of color models available
- UL and CSA standards approved. Conforms to EN standard.



RoHS Compliant

Caution  
Refer to Precautions

### List of Models

#### Non-illuminated Models

Contact Form					Quantity per box
Color of cases		White	Black	Gray	
Color of caps	White	A8A-201	A8A-201-1	-	50
	Red	A8A-202	A8A-202-1	A8A-202-2	
	Green	A8A-203	A8A-203-1	A8A-203-2	
	Blue	A8A-204	A8A-204-1	-	
	Yellow	A8A-205	A8A-205-1	-	
	Black	A8A-207	A8A-207-1	A8A-207-2	

#### Note: Marking of Non-illuminated Models

The cap of the above mentioned models is without marking.  
 Models with marking is with suffix "-□F" such as A8A-201-F and A8A-201-1F.  
 Models with marking is with suffix "-□D" such as A8A-201-D and A8A-201-1D.  
 Consult your Omron sales representative for details.

#### Illuminated Models

Contact Form							Quantity per box
Rated voltage		100 VAC			200 to 220 VAC		
Color of cases		White	Black	Gray	White	Black	Gray
Color of caps	Red	A8A-212	A8A-212-1	A8A-212-2	A8A-222	A8A-222-1	A8A-222-2
	Green	A8A-213	A8A-213-1	A8A-213-2	A8A-223	A8A-223-1	A8A-223-2
	Orange	A8A-216	A8A-216-1	A8A-216-2	A8A-226	A8A-226-1	A8A-226-2

#### Note: Marking of illuminated Models

The cap of the above mentioned models is without marking.  
 Models with marking is with suffix "-□A" such as A8A-212-A and A8A-212-1A.  
 Models with marking is with suffix "-□G" such as A8A-212-G and A8A-212-1G.  
 Consult your Omron sales representative for details.

## ■ Ratings

Rated load	Non-inductive		Inductive	
	Resistive load	Lamp load	Inductive load	Inductive motor load
125 VAC	16A	10A	16A	16A
250 VAC	16A	10A	8A	16A

- Note:**
- The above value shows steady current.
  - The inductive load has a power factor of 0.4 min (AC) and a time constant of 7 ms min (DC).
  - Lamp load has an inrush current of 10 times the steady current.
  - Motor load has an inrush current of 6 times the steady current.
  - The above ratings were tested under the following conditions:
    - Ambient temperature: 20±2 °C
    - Ambient humidity: 65±5 %RH
    - Switching frequency: 20 times/min.

## ■ Neon lamps

Models	Rated voltage	Rated current
A8A-21□-□	100 VAC	1.5 mA
A8A-22□-□	200 to 220 VAC	1.5 mA

- Note:**
- Life expectancy: 15,000 Hr min.
  - Lamp is not exchangeable.

## ■ Approved Safety Standards

### UL (UL508)

16A 125 VAC, 16A 250 VAC

### CSA (CSA C22.2 No.55)

16A 125 VAC, 16A 250 VAC

### VDE (EN61058-1)

16A 250 VAC

## ■ Characteristics

Permissible operating speed		1 to 500 mm/s
Permissible operating frequency	Mechanical	30 operations / min max.
	Electrical	20 operations / min max.
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		20 mΩ max. (6 to 8 VDC, 1 A, voltage drop method)
Dielectric strength	Between terminals of the same polarity	2.000 VAG, 50/60 Hz, for 1 min
	Between terminals of the different polarity	2.000 VAG, 50/60 Hz, for 1 min (See Note *)
	Between charged metal parts and the ground terminal	4.000 VAG, 50/60 Hz, for 1 min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction	300 m/s <sup>2</sup> max.
Durability	Mechanical	40,000 operations min.
	Electrical	20,000 operations min.
Weight		Non-illuminated: Approx 15g. Illuminated: Approx 16g.
Inrush current		100A max. (100 ms max.)
Ambient operating temperature		- 25 to +50 °C (with no icing or condensation)
Ambient operating humidity		45 to 85 %RH
Degree of protection		IEC IP40
Electric shock protection class		Class II
PTI (proof tracking index)		175
Pollution degree		2

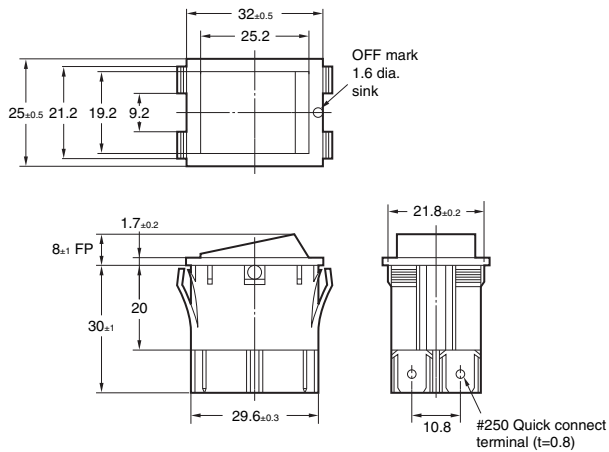
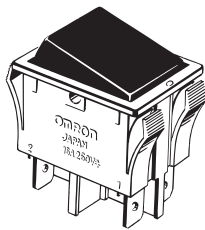
**Note:** For the condition in individual standard, contact your OMRON sales representative.

- \* Condition in the Neon lamp illuminated models are excluded.

**Operating Circuit**

	Non-illuminated Models	Neon lamp illuminated Models	
Correct wiring	Fig. A 	Fig. C Illuminated in accordance with power source 	Fig. D Illuminated in accordance with switch-on 
Incorrect wiring	Fig. B 	Fig. E 	
Note	1. Do not apply any different voltage between the couple of terminals 1- 2, and 3- 4. 2. Safety standards approved for the figures A, C, and D.		

**Dimensions** (Unit: mm)  
**A8A**

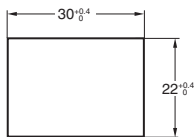


**Operating Characteristics**

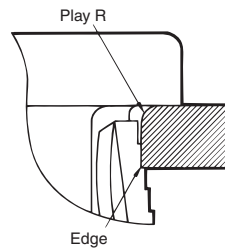
Operating force (OF) max.	19.6 N (2,000 gf)
Free Position (FP)	8±1 mm
Operating Position (OF)	5±1 mm

Note: Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

**Panel Cutout**



Note: Recommended panel thickness:  
1.0 to 3.0 mm.

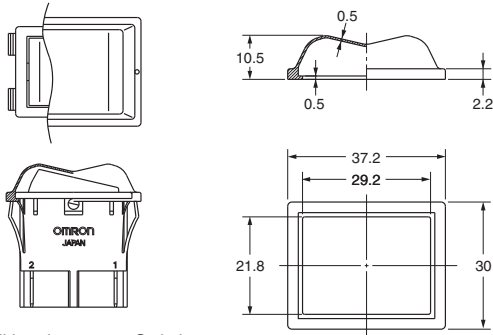


When processing the panel, be sure that the Play R is on the switch operation side.  
Be sure that the Edge is on the reverse side of panel when processing.

## ■Optional Accessories (Sold separately)

Rubber cap for high dustproof.

### A8A RUBBER CAP



Condition the cap on Switch

## ■Precautions

Be sure to read the Safety precautions common to all Rocker Switches for correct use.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

**Note: Do not use this document to operate the Unit.**

### Rocker Switch with External Reset Function for High capacity Switching

- Energy-saving reset function triggered with external signals.
- Incorporates unique switching mechanism switching 20 A with excellent inrush-current durability.
- Double-pole, double-throw (DPDT) contact.
- Contact gap of 3 mm minimum.
- UL and cUL standard approved.  
Conforms to EN standards.



RoHS Compliant

Caution  
Refer to Precautions

### List of Models

Contact Form	DPDT 	Quantity per box
Color of cases	Black	50
Cap color	Black	
Model	A8G-107-1-24	

### Ratings

Rated load	Non-inductive		Inductive	
	Resistive load	Lamp load	Inductive load	Motor load
250 VAC	20A	10A	8A	8A

- Note:**
1. The non-inductive lamp load has an inrush current 10 times steady current.
  2. The inductive load has a power factor of 0.4 minimum (AC).
  3. The motor load has an inrush current 6 times steady current.

The above ratings were tested under the following conditions:

1. Ambient temperature: 20±2 °C
2. Ambient humidity: 65±5 %RH
3. Switching frequency: 7 times/min.

### Reset Coil

Rated voltage (operating voltage range)	Reset voltage (coil temperature: 20°C±2°C)	Rated energized current (coil temperature: 20°C±2°C)	Coil resistance (coil temperature: 20°C±2°C)	Permissible voltage applied period
24 VDC±10% (21.6 to 26.4 VDC)	21.6 V max.	185 mA±20%	130 Ω±20%	100 ms for min 1 s max.

- Note:**
1. Current must not flow for more than 10 s, otherwise the performance of the coil may be affected.
  2. If a semiconductor element is used to control the reset coil, the residual voltage caused by leakage current must be 2.4 VDC max.

**Approved Standards**

UL, cUL (UL 1054/CSA C22.2 No.55)

20A 250 VAC

KEMA (EN61058-1)

20(8)A 250 VAC

**Characteristics**

Permissible operating frequency	Mechanical	20 operations/min max.
	Electrical	Switching frequency: 7 times/min.; Coil operation: 7 times/min.
Insulation resistance		100 MΩ min. (500 VDC)
Dielectric strength	Between terminals of the same polarity	2,000 VAC, 50/60 Hz, for 1 min
	Between terminals of the different polarity	2,000 VAC, 50/60 Hz, for 1 min
	Between charged metal parts and the ground terminal	4,000 VAC, 50/60 Hz, for 1 min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction	98 m/s <sup>2</sup> (10G)
	Destruction	500 m/s <sup>2</sup> (50G) max.
Durability	Mechanical	Switching operation 100,000 times min.
	Electrical	Switching operation 50,000 times min.
Contact release time (see note)		100 ms max.
Ambient operating temperature		-10 to +55 °C (with no icing or condensation)
Ambient operating humidity		45 to 85 %RH

Note: For the condition in individual standard, contact your OMRON sales representative.

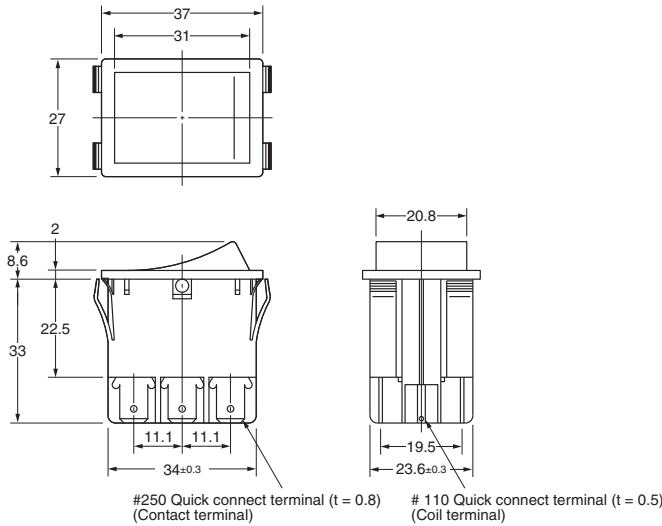
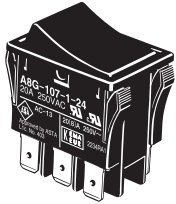
Contact release time is the period of time during which contacts 1 and 2 and contacts 4 and 5 are released after voltage is imposed on the coil.

**Operation**

Item	No excitation, load 1 turned off, and load 2 turned on	No excitation, load 1 turned on, and load 2 turned off	Excitation, load 1 turned off, and load 2 turned on
Operation	<p>Permanent magnet    Coil    Reset spring</p>	<p>Manual operation</p> <p>The permanent magnet keeps the moving iron and iron core in contact.</p>	<p>Automatic reset</p> <p>The coil is excited and the moving iron is reset with the reset spring.</p>
Circuit configuration			<p>24 VDC applied to coil terminal</p>

**■Dimensions** (Unit: mm)

A8G

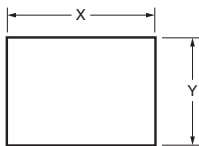


**Note:** Unless otherwise specified, a tolerance of ±0.8 mm applies to all dimensions.

**■Operating Characteristics**

Operating force (OF) max.	19.6 N {2,000 gf}
---------------------------	-------------------

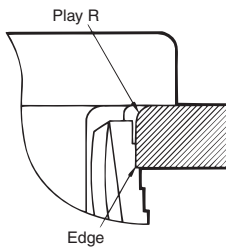
**■Panel Cutout**



Panel thickness	X	Y
1.6 to 3.0 mm	34.4 <sup>+0.2</sup> <sub>0</sub> mm	24.4 <sup>+0.3</sup> <sub>0</sub> mm

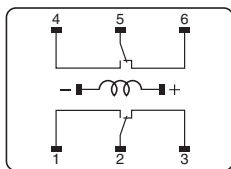
**Note:** Recommended panel material: SPCC

Consult your OMRON representative when using a panel with a thickness other than the above.



When processing the panel, be sure that the Play R is on the switch operation side. Be sure that the Edge is on the reverse side of panel when processing.

**■Contact Form**



1 to 6: Contact terminals  
-, +: Coil terminals

**Note:** When 24 VDC is applied to the coil, contacts 2 and 3 and contacts 5 and 6 are ON.

## ■Precautions

Be sure to read the Safety precautions common to all Rocker Switches for correct use.

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**Note: Do not use this document to operate the Unit.**

**OMRON Corporation**

ELECTRONIC AND MECHANICAL COMPONENTS COMPANY

Contact: [www.omron.com/ecb](http://www.omron.com/ecb)

Cat. No. A106-E1-04  
1212(0207)(O)



## Dual-pushbutton switch

## A8N

### Dual-Pushbutton Switch for High Capacity Switching

- Miniature size with High current 16A switching.
- Easy to mount by snap fitting.
- Dust & waterproof construction with panel seal (Equivalent to IP67 (IEC-60529)).
- UL, cUL and TV-8 standard approved. Conforms to EN standards.



RoHS Compliant

⚠ Caution  
Refer to Precautions

### List of Models

Contact Form	SPST	DPST	Quantity per box
Color of button	White/Red	White/Red	
Color of cases	Black	Black	
Marking on caps			100
	A8NS-3162	A8ND-3162	

### Ratings

Rated load	Non-inductive	Inductive	
	Resistive load	Inductive load	Inductive motor load
125 VAC	16A	16A	10A
250 VAC	16A	16A	10A

- Note:**
1. The inductive load has a power factor of 0.7 minimum (AC).
  2. The motor load has an impulse current 6 times the normal current.
  3. The above ratings were tested under the following conditions:
    - (1) Ambient temperature: 20±2 °C
    - (2) Ambient humidity: 65±5 %RH
    - (3) Switching frequency: 7 times/min.

### Approved Safety Standards

UL, cUL (UL1054/CSA C22.2 No. 55)

16A 125 VAC, 16A 250 VAC, TV-8

DEMKO (EN61058-1)

16A 125 VAC, 16A 250 VAC

**Note:** Quick connect terminals are not in compliance with IEC standards.

### Characteristics

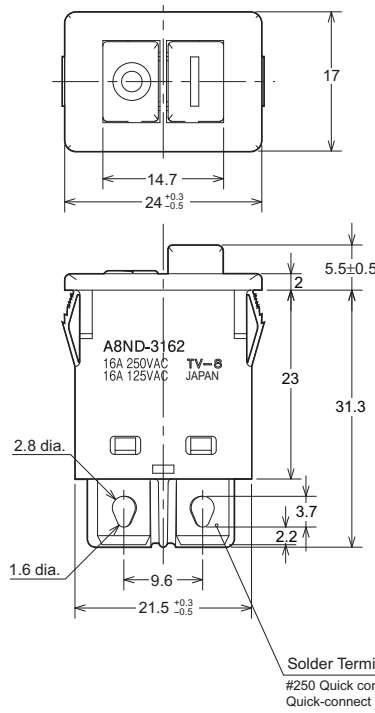
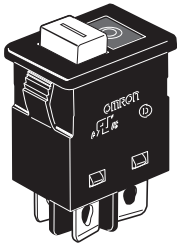
Permissible operating frequency	Mechanical	20 operations / min max.
	Electrical	7 operations / min max.
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		20 mΩ max. (6 to 8 VDC, 1 A, voltage drop method)
Dielectric strength	Between terminals of the same polarity	2,000 VAC 50/60Hz, for 1min
	Between terminal and case ground	4,000 VAC 50/60Hz, for 1min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction	1,000 m/s <sup>2</sup> max.
Durability	Mechanical	50,000 operations min.
	Electrical	10,000 operations min.
Inrush current		117 A max.
Degree of protection		Panel seal IEC IP67
Ambient operating temperature		- 25 to +55 °C (at ambient humidity of 60 % max.) (with no icing or condensation)
Ambient operating humidity		25 to 85 %RH (at +15 to 35 °C)
Weight		9.6 g (SPST), 11.1 g (DPST)

**■Dimensions** (Unit: mm)

**A8NS-3162**

**A8ND-3162**

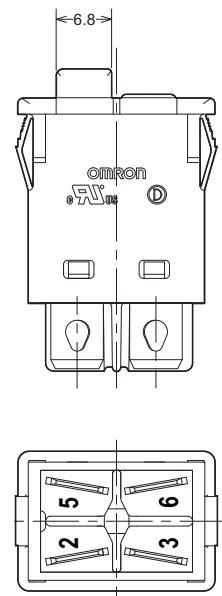
**Note:** The following illustrations and drawings are for 2 poles (DPST) models, 1 pole (SPST) models have single side terminals.



**● Operating Characteristics**

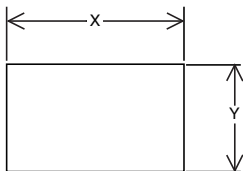
No. of poles	1 (SPST)	2 (DPST)
Operating force (OF) max.	9 N {918 gf}	22 N {2,243 gf}

Solder Terminal  
 #250 Quick connect terminal (t=0.8) common use  
 Quick-connect Terminals are not in compliance with IEC standards.

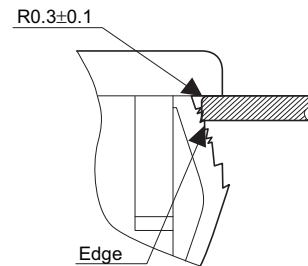


**Note:** Unless otherwise specified, a tolerance of ±0.3 mm applies to all dimensions.

**■Panel Cutout**



Panel thickness (mm)	X (mm)	Y (mm)
1.0 to 1.9	22.3 <sup>0</sup> <sub>-0.1</sub>	14.8 <sup>+0.1</sup> <sub>0</sub>
2.0 to 2.8	23.2 <sup>+0.1</sup> <sub>0</sub>	



Process the above-mentioned R on the mounting hole side of panel, or be sure that the Play R is on the operation side of panel when using.  
 Be sure that the Edge is on the reverse side of panel when processing.

**■Precautions**

Be sure to read the Safety precautions common to all Rocker Switches for correct use.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

**Note: Do not use this document to operate the Unit.**

## Miniature Rocker Switch

## A8L

### Miniature Rocker Switch for High Capacity Switching

- Withstands inrush currents up to 100 A with a unique switching mechanism.
- Soft touch with firm switching action.
- Easy to mount by snap fitting.
- Contact gap of 3 mm minimum.
- UL and cUL standards approved. Conforms to EN standards.



RoHS Compliant

⚠ Caution  
Refer to Precautions

### ■ List of Models

Contact Form		 SPST					Quantity per box
Terminals	Solder terminals	PCB terminals	Right-angled PCB terminals	Left-angled PCB terminals	Quick-connect terminals #187		
Color of caps and cases		Black	Black	Black	Black	Black	
Marking on caps	Without markings	A8L-11-11N1	A8L-11-12N1	A8L-11-13N1	A8L-11-14N1	A8L-11-15N1	300
		A8L-11-11N2	A8L-11-12N2	A8L-11-13N2	A8L-11-14N2	A8L-11-15N2	
		A8L-11-11N3	A8L-11-12N3	A8L-11-13N3	A8L-11-14N3	A8L-11-15N3	
		A8L-11-11N6	A8L-11-12N6	A8L-11-13N6	A8L-11-14N6	A8L-11-15N6	

Contact Form		 DPST					Quantity per box
Terminals	Solder terminals	PCB terminals	Right-angled PCB terminals	Left-angled PCB terminals	Quick-connect terminals #187		
Color of caps and cases		Black	Black	Black	Black	Black	
Marking on caps	Without markings	A8L-21-11N1	A8L-21-12N1	A8L-21-13N1	A8L-21-14N1	A8L-21-15N1	300
		A8L-21-11N2	A8L-21-12N2	A8L-21-13N2	A8L-21-14N2	A8L-21-15N2	
		A8L-21-11N3	A8L-21-12N3	A8L-21-13N3	A8L-21-14N3	A8L-21-15N3	
		A8L-21-11N6	A8L-21-12N6	A8L-21-13N6	A8L-21-14N6	A8L-21-15N6	

**Note:** Simple dust-proof models are available. Consult your OMRON representative.

## ■ Ratings

Rated load	Non-inductive		Inductive	
	Resistive load	Lamp load	Inductive load	Inductive motor load
125 VAC	10 A	10 A	8 A	8 A
250 VAC	10 A	10 A	8 A	8 A

- Note:**
1. The non-inductive lamp load has an inrush current 10 times steady current.
  2. The inductive load has a power factor of 0.4 minimum (AC).
  3. The motor load has an inrush current 6 times steady current.

The above ratings were tested under the following conditions:

1. Ambient temperature:  $20 \pm 2^\circ\text{C}$
2. Ambient humidity:  $65 \pm 5\% \text{RH}$
3. Switching frequency: 7 times/min

## ■ Approved Safety Standards

UL, cUL (UL1054/CSA C22.2 No. 55)

10 A, 125 VAC; 10 A, 250 VAC

TÜV (EN61058-1)

10 (8) A, 250 VAC

## ■ Characteristics

Permissible operating frequency	Mechanical	20 operations/min max.
	Electrical	7 operations/min max.
Insulation resistance		100 M $\Omega$ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		100 m $\Omega$ max. (6 to 8 VDC, 1 A, voltage drop method)
Dielectric strength	Between terminals of the same polarity	2,000 VAC, 50/60 Hz, for 1 min
	Between terminals of the different polarity	2,000 VAC, 50/60 Hz, for 1 min
	Between charged metal parts and the ground terminal	4,000 VAC, 50/60 Hz, for 1 min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction	300 m/s <sup>2</sup>
	Destruction	500 m/s <sup>2</sup>
Durability	Mechanical	50,000 operations min.
	Electrical	10,000 operations min.
Inrush current		100 A max. (8.3 ms max.)
Degree of protection		IEC IP40
Ambient operating temperature		-20 to +55°C (with no icing or condensation)
Ambient operating humidity		45 to 85%RH

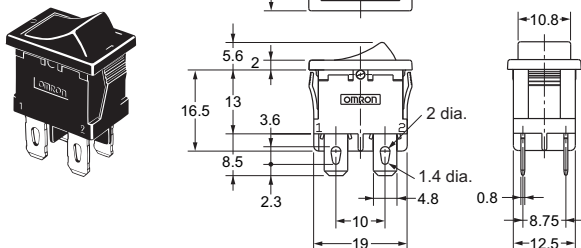
**Note:** Consult your OMRON representative for details of performance characteristics with respect to individual standards.

## ■ Dimensions (Unit: mm)

**Note:** The following illustrations and drawings are for 2 poles (DPST) models, 1 pole (SPST) models have single side terminals.

### Solder Terminals

A8L-11-11N1 A8L-21-11N1  
 A8L-11-11N2 A8L-21-11N2  
 A8L-11-11N3 A8L-21-11N3  
 A8L-11-11N6 A8L-21-11N6



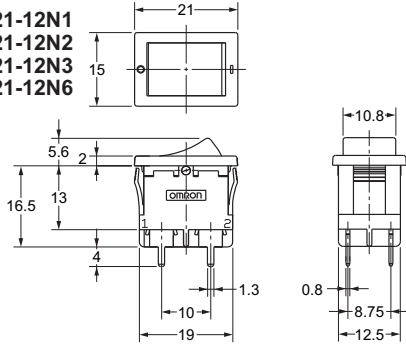
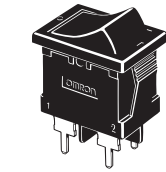
### ■ Operating Characteristics

No. of poles	1 (SPST)	2 (DPST)
Operating force (OF)	2.16 $\pm$ 1.18 N {220 $\pm$ 120 gf}	3.92 $\pm$ 2.45 N {400 $\pm$ 250 gf}

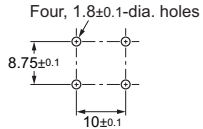
**Note:** Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

**PCB Terminals**

A8L-11-12N1 A8L-21-12N1  
 A8L-11-12N2 A8L-21-12N2  
 A8L-11-12N3 A8L-21-12N3  
 A8L-11-12N6 A8L-21-12N6



**PCB Dimensions (Bottom View)**

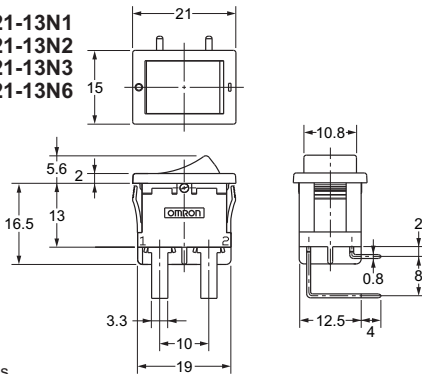
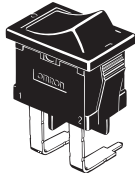


**Operating Characteristics**

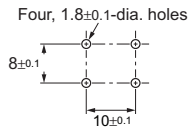
No. of poles	1 (SPST)	2 (DPST)
Operating force(OF)	2.16±1.18 N {220±120 gf}	3.92±2.45 N {400±250 gf}

**Right-angled PCB Terminals**

A8L-11-13N1 A8L-21-13N1  
 A8L-11-13N2 A8L-21-13N2  
 A8L-11-13N3 A8L-21-13N3  
 A8L-11-13N6 A8L-21-13N6



**PCB Dimensions (Bottom View)**

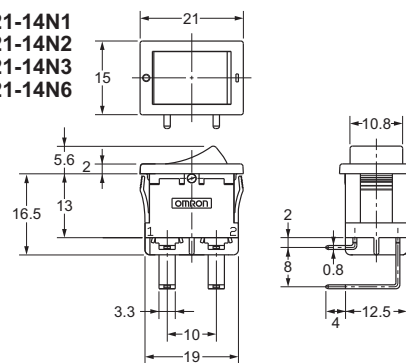
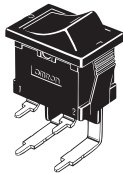


**Operating Characteristics**

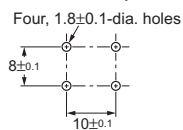
No. of poles	1 (SPST)	2 (DPST)
Operating force(OF)	2.16±1.18 N {220±120 gf}	3.92±2.45 N {400±250 gf}

**Left-angled PCB Terminals**

A8L-11-14N1 A8L-21-14N1  
 A8L-11-14N2 A8L-21-14N2  
 A8L-11-14N3 A8L-21-14N3  
 A8L-11-14N6 A8L-21-14N6



**PCB Dimensions (Bottom View)**



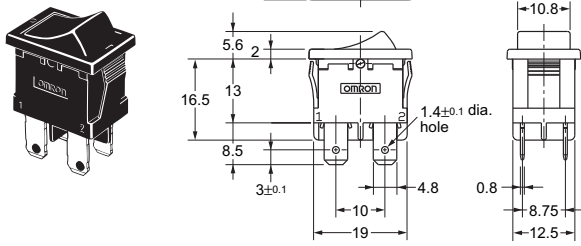
**Operating Characteristics**

No. of poles	1 (SPST)	2 (DPST)
Operating force(OF)	2.16±1.18 N {220±120 gf}	3.92±2.45 N {400±250 gf}

**Note:** Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

**Quick-connect Terminals #187**

A8L-11-15N1 A8L-21-15N1  
 A8L-11-15N2 A8L-21-15N2  
 A8L-11-15N3 A8L-21-15N3  
 A8L-11-15N6 A8L-21-15N6

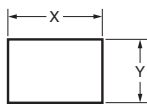


**Operating Characteristics**

No. of poles	1 (SPST)	2 (DPST)
Operating force(OF)	2.16±1.18 N {220±120 gf}	3.92±2.45 N {400±250 gf}

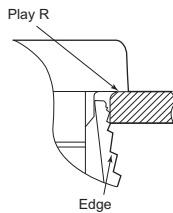
**Note:** Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

**Panel Cutout**



Panel thickness (mm)	X (mm)	Y (mm)
0.75 to 1.25	19.2 <sup>0</sup> <sub>-0.1</sub>	12.9 <sup>+0.1</sup> <sub>0</sub>
1.26 to 2.5	19.4 <sup>+0.1</sup> <sub>-0.3</sub>	12.9 <sup>+0.1</sup> <sub>0</sub>

**Note:** Recommended panel material: SPCC



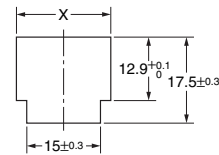
When processing the panel, be sure that the Play R is on the switch operation side.  
 Be sure that the Edge is on the reverse side of panel when processing.

**Precautions**

Be sure to read the Safety precautions common to all Rocker Switches for correct use.

**Panel Cutout for Angled PCB Terminals**

(A8L-□□-□3□□, A8L-□□-□4□□)



Panel thickness (mm)	X (mm)
0.75 to 1.25	19.2 <sup>0</sup> <sub>-0.1</sub>
1.26 to 2.5	19.4 <sup>+0.1</sup> <sub>-0.3</sub>

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**Note: Do not use this document to operate the Unit.**



### Panel Seal Rocker Switch for High Capacity Switching

- Miniature size with High current 16A switching.
- Easy to mount by snap fitting.
- Dust & waterproof construction with panel seal (Equivalent to IP67 (IEC-60529)).
- UL, cUL and TV-8 standard approved. Conforms to EN standards.



RoHS Compliant

Caution  
Refer to Precautions

### List of Models

Contact Form	SPST		DPST		Quantity per package	
	2	3	2	3		
Color of caps and cases	Black	White	Black	White		
Marking on caps	I O	A8WS-1162	A8WS-2262	A8WD-1162	A8WD-2262	100
	- O	A8WS-1163	A8WS-2263	A8WD-1163	A8WD-2263	

### Ratings

Rated load	Non-inductive	Inductive	
	Resistive load	Inductive load	Motor load
125 VAC	16A	16A	10A
250 VAC	16A	16A	10A

- Note:**
1. The inductive load has a power factor of 0.7 minimum (AC).
  2. The motor load has an impulse current 6 times the normal current.
  3. The above ratings were tested under the following conditions:
    - (1) Ambient temperature: 20±2 °C
    - (2) Ambient humidity: 65±5 %RH
    - (3) Switching frequency: 7 times/min.

### Approved Safety Standards

UL, cUL (UL1054/CSA C22.2 No. 55)

16A 125 VAC, 16A 250 VAC, TV-8

DEMKO (EN61058-1)

16A 125 VAC, 16A 250 VAC

**Note:** Quick connect terminals are not in compliance with IEC standards.

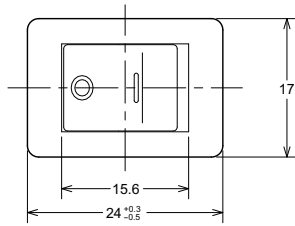
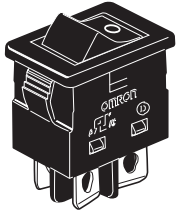
### Characteristics

Permissible operating frequency	Mechanical	20 operations / min max.
	Electrical	7 operations / min max.
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		20 mΩ max. (6 to 8 VDC, 1 A, voltage drop method)
Dielectric strength	Between terminals of the same polarity	2,000 VAC 50/60Hz, for 1min
	Between terminal and case ground	4,000 VAC 50/60Hz, for 1min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction	1,000 m/s <sup>2</sup> max.
Durability	Mechanical	50,000 operations min.
	Electrical	10,000 operations min.
Inrush current		117 A max.
Degree of protection		Panel seal IEC IP67
Ambient operating temperature		- 25 to +55 °C (at ambient humidity of 60 % max.) (with no icing or condensation)
Ambient operating humidity		25 to 85 %RH (at +15 to 35 °C)
Weight		7.8 g (SPST), 9.3 g (DPST)

**■Dimensions** (Unit: mm)

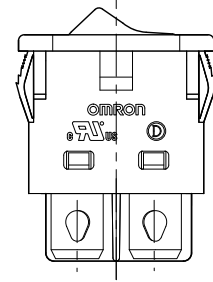
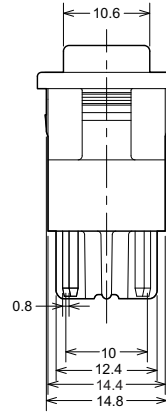
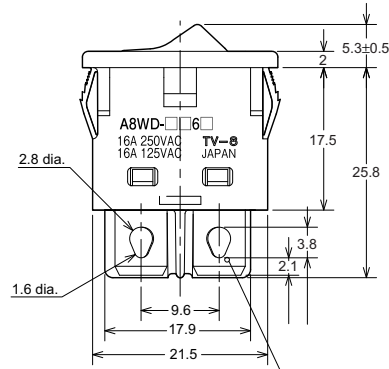
- A8WS-1162
- A8WS-1163
- A8WS-2262
- A8WS-2263
- A8WD-1162
- A8WD-1163
- A8WD-2262
- A8WD-2263

**Note:** The following illustrations and drawings are for 2 poles (DPST) models, 1 pole (SPST) models have single side terminals.

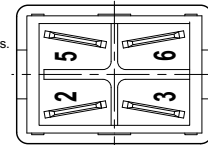


**● Operating Characteristics**

No. of poles	1 (SPST)	2 (DPST)
Operating force (OF) max.	12 N {1,224 gf}	23 N {2,345 gf}

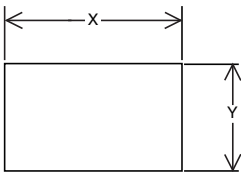


Solder Terminal  
 #250 Quick connect terminal (t=0.8) common use  
 Quick-connect Terminals are not in compliance with IEC standards.

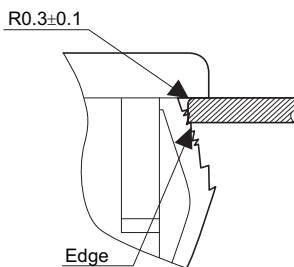


**Note:** Unless otherwise specified, a tolerance of ±0.3 mm applies to all dimensions.

**■Panel Cutout**



	Panel thickness (mm)	X (mm)	Y (mm)
Without rubber cap	1.0 to 1.9	22.3 <sup>+0.1</sup> <sub>0</sub>	14.8 <sup>+0.1</sup> <sub>0</sub>
	2.0 to 2.8	23.2 <sup>+0.1</sup> <sub>0</sub>	
With rubber cap	2.0 <sup>0</sup> <sub>-0.07</sub>	22.4 <sup>+0.1</sup> <sub>0</sub>	

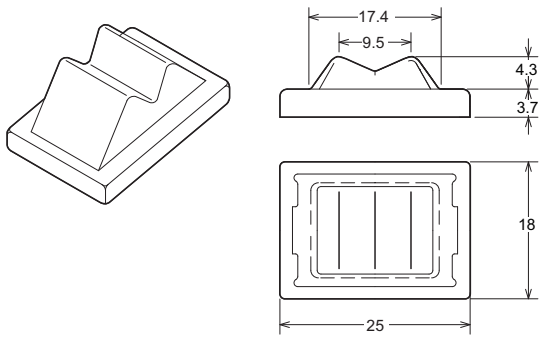


Process the above-mentioned R on the mounting hole side of panel, or be sure that the Play R is on the operation side of panel when using.  
 Be sure that the Edge is on the reverse side of panel when processing.

## ■Optional Accessories (Sold separately)

Rubber cap for high dustproof.

### A8W-RUBBER CAP



## ■Precautions

Be sure to read the Safety precautions common to all Rocker Switches for correct use.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

**Note: Do not use this document to operate the Unit.**

## Miniature Rocker Switch

## A8M

### Miniature Rocker Switch for High Capacity Switching

- Miniature size with High current 16A switching.
- Easy to mount by snap fitting.
- UL and cUL standard approved.  
Conforms to EN standards.



RoHS Compliant

Caution  
Refer to Precautions

### List of Models

Contact Form		SPST	DPST	Quantity per box
Color of caps and cases		Black	Black	
Marking on caps		A8MS-1162	A8MD-1162	100
		A8MS-1163	A8MD-1163	

### Ratings

Rated load	Non-inductive	Inductive	
	Resistive load	Inductive load	Motor load
125 VAC	16 A	16 A	10 A
250 VAC	16 A	16 A	10 A

- Note:** 1. The inductive load has a power factor of 0.7 minimum (AC).  
 2. The motor load has an impulse current 6 times the normal current.  
 3. The above ratings were tested under the following conditions:  
 (1) Ambient temperature: 20±2 °C  
 (2) Ambient humidity: 65±5 %RH  
 (3) Switching frequency: 7 times/min.

### Approved Safety Standards

UL, cUL (UL1054/CSA C22.2 No. 55)

16A 125 VAC, 16A 250 VAC

VDE (EN61058-1)

16A 125 VAC, 16A 250 VAC

**Note:** Quick connect terminals are not in compliance with IEC standards.

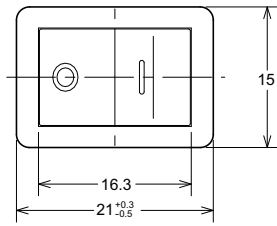
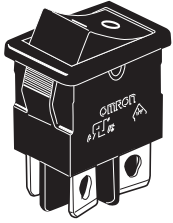
### Characteristics

Permissible operating frequency	Mechanical	20 operations / min max.
	Electrical	7 operations / min max.
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		20 mΩ max. (6 to 8 VDC, 1 A, voltage drop method)
Dielectric strength	Between terminals of the same polarity	2,000 VAC 50/60Hz, for 1min
	Between terminal and case ground	4,000 VAC 50/60Hz, for 1min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction	1,000 m/s <sup>2</sup> max.
Durability	Mechanical	50,000 operations min.
	Electrical	10,000 operations min.
Inrush current		117 A max.
Degree of protection		IEC IP40
Ambient operating temperature		- 25 to +55 °C (at ambient humidity of 60 % max.) (with no icing or condensation)
Ambient operating humidity		25 to 85 %RH (at +15 to 35 °C)
Weight		4.5 g (SPST), 5.9 g (DPST)

**■Dimensions** (Unit: mm)

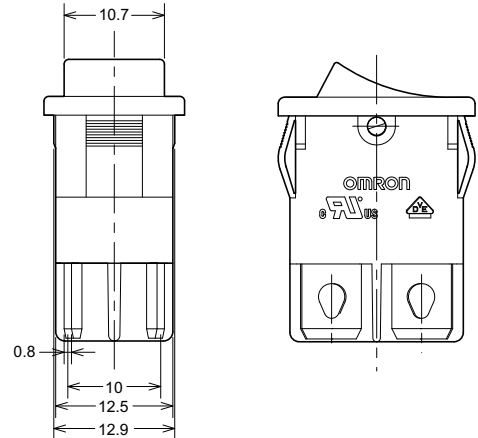
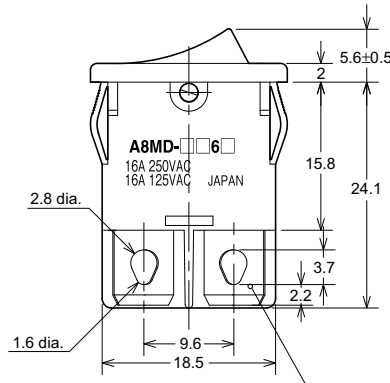
- A8MS-1162
- A8MS-1163
- A8MD-1162
- A8MD-1163

**Note:** The following illustrations and drawings are for 2 poles (DPST) models, 1 pole (SPST) models have single side terminals.

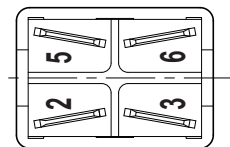


**● Operating Characteristics**

No. of poles	1 (SPST)	2 (DPST)
Operating force (OF) max.	8 N {816 gf}	14 N {1,428 gf}

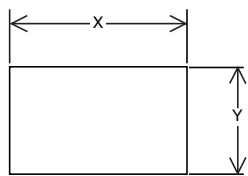


Solder Terminal  
 #250 Quick connect terminal (t=0.8) common use  
 Quick connect terminals are not in compliance with IEC standards.

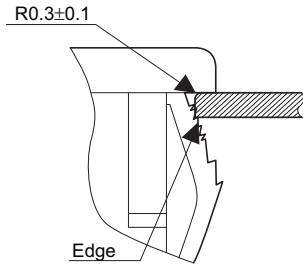


**Note:** Unless otherwise specified, a tolerance of ±0.3 mm applies to all dimensions.

**■Panel Cutout**



Panel thickness (mm)	X (mm)	Y (mm)
0.75 to 1.25	19.2 <sup>+0.1</sup> <sub>0</sub>	12.9 <sup>+0.1</sup> <sub>0</sub>
1.26 to 2.00	19.4 <sup>+0.1</sup> <sub>0</sub>	
2.01 to 3.00	19.8 <sup>+0.1</sup> <sub>0</sub>	



Process the above-mentioned R on the mounting hole side of panel, or be sure that the Play R is on the operation side of panel when using.  
 Be sure that the Edge is on the reverse side of panel when processing.

**■Precautions**

Be sure to read the Safety precautions common to all Rocker Switches for correct use.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
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**Note: Do not use this document to operate the Unit.**

## Delay OFF Rocker Switch

## A8GS-T

## Minimum size class in the industry

## Remote Reset Rocker Switch with Delay OFF Function

- Rocker switch with Delay OFF Function. Switch is kept to turn ON, even if button is operated to turn OFF, and Switch is turned OFF by external signal.
- Zero standby power with Reset function, switching OFF by external signal.
- Preventing from application trouble such as a data lost or circuit damage by forced power OFF.
- Timing control of main power switch turn OFF for safety application design with Delay OFF function.
- Contact gap of 3 mm minimum.
- UL and cUL standard approved, Conforming to EN standards.



NEW

**RoHS Compliant** (Please refer the Precautions)

## Usage example

Saving energy by cutting standby power.  
 Saving energy by preventing forgetting turn OFF main power.  
 Turning OFF main power by remote.  
 Turning OFF main power of many equipments at the same time.  
 Timing control of main power switch turn OFF for safety design.  
 Preventing from circuit and data damage by power flicker.

\* There are 2 kinds of main models A8GS. (Delay OFF Function model and Remote Reset model) With regard to the models with Delay OFF Function, please refer to the other catalog.

## List of Models

Contact Form 1 to 4: Power contact terminal a, b: Signal contact terminal +, -: Coil terminal		Signal Contact Terminal: SPST + Power Contact Terminal: DPST		Quantity per box
		Signal Contact Terminal × 1 + Power Contact Terminal × 2		
Terminals		Signal Contact Terminal: CT Connector Power Contact Terminal: Quick-connect terminals #187(t=0.8)	Signal Contact Terminal: CT Connector Power Contact Terminal: Solder terminals	
Marking on caps	No Marking	A8GS-T1185K	A8GS-T1115K	50
		A8GS-T1285K	A8GS-T1215K	
		A8GS-T1385K	A8GS-T1315K	

Note: 1. This is not general 3 pole switch.

(1) Signal contact terminal is only for detecting button ON/OFF.

(2) Power contact terminal is for turning ON/OFF of circuit. Switch is turned OFF by external signal only, after turning OFF of button.

# A8GS-T

## Ratings

### Contact Ratings

	Rated voltage	Rated current (Resistive load)
Power Contact Terminal	125 VAC	16 A
	250 VAC	10 A
Signal Contact Terminal	5 VDC	0.2 A

Note: 1. The above ratings were tested under the following conditions:

- (1) Ambient temperature :  $20 \pm 2$  °C
- (2) Ambient humidity :  $65 \pm 5$  % RH
- (3) Switching frequency : 7 times/min

### Reset Coil Ratings

Rated voltage, current	Operating voltage range	Rated usage cycle	Coil resistance (Coil temperature: $20 \pm 2$ °C)
5 VDC 455 mA	4.5 to 5.5 VDC	ON: 50 to 100 ms OFF: Min 5 sec	$11 \Omega \pm 20$ %

Note: 1. Voltage for coil should be set within operating voltage range and applied time should be within rated usage cycle. Otherwise the performance of the coil may be deteriorated.

Note: 2. In case of applying voltage within the range from 5.5 to 24 VDC to the coil, contact your OMRON sales representative.

## Contact specifications

	Signal contact	Power contact
Material	Gold alloy	Silver alloy
Contact gap	3 mm	3 mm
Minimum applicable load (Reference value) *	3 VDC 1 mA	5 VDC 200 mA

\* Please refer to "Using Micro loads" in "Precautions" for more information on the minimum applicable load.

## Characteristics

Permissible operating frequency	Mechanical	Switch operation: 20 times/min max, Coil operation: 7 times/min max
	Electrical	7 times/min max
Insulation resistance		100 M $\Omega$ min (at 500 VDC with insulation tester)
Contact resistance (initial value)	Power contact terminal	100 m $\Omega$ max (6 VDC to 8 V, 1 A Voltage drop method)
	Signal contact terminal	100 m $\Omega$ max (6 VDC to 8 V, 0.1 A Voltage drop method)
Dielectric strength	Between terminals of the same polarity	2,000 VAC 50/60 Hz 1 min
	Between terminals of the different polarity	2,000 VAC 50/60 Hz 1 min
	Between each terminals of the switch and terminals of coil	4,000 VAC 50/60 Hz 1 min
	Between each terminals of switch and ground	4,000 VAC 50/60 Hz 1 min
Vibration resistance *	Malfunction	10 to 55 Hz 1.5 mm double amplitude (Malfunction 1 ms max)
	Destruction	300 m/s <sup>2</sup> min (Malfunction 1 ms max)
Shock resistance *	Malfunction	1000 m/s <sup>2</sup> max
	Destruction	
Ambient operating temperature		-10 to +55 °C (with no icing or condensation, 60 % RH max)
Ambient operating humidity		90 % RH max (+5 to 35 °C with no icing or condensation)
Durability	Mechanical	Switch operation: 30,000 operations min, Coil operation: 10,000 operations min
	Electrical	Switch operation: 10,000 operations min, Coil operation: 10,000 operations min
Degree of protection		IEC IP40
Contact release time **		100 ms max
Weight		A8GS-TxxxxK: Around 15 g

Note: 1. Above specification values are initial values.

\* For the testing condition in individual specification, contact your OMRON sales representative.

\*\* Time from voltage applied to reset coil to actual contacts opening.



## Approved Safety Standards

### UL (UL61058-1)

	Approved safety standards ratings
Power contact terminal	16 A 125 VAC
Signal contact terminal	10 A 250 VAC
	–

### TÜV (EN61058-1)

	Approved safety standards ratings
Power contact terminal	10(4) A 250 VAC
Signal contact terminal	0.2 A 5 VDC

Note: 1. There are no approved models of TV-8 rating for Delay OFF Function models.

## Connector for Signal Switch Circuit and Coil Circuit

CT connectors produced by Tyco Electronics Corporation or XR connectors produced by JST shall be used for connection of Signal and Coil circuit. Other connectors shall not be used.

	Connector Terminal no.	Connection with Switch	Tyco Electronics Corporation: CT connector				JST: XR Connector	
			Pressure welding type		Cramping type			
			Housing	Contact		AWG #28-26		AWG #24
			AWG #30-26	AWG #26-22			AWG #28-26	
Signal contact terminal	1	a (Switch COM)	179228-3	179609-1	179227-1	173977-3	2-179694-3	03XR-6□-P*
	2	---						
	3	b (Switch NO)						
Coil terminal	1	+ (Coil)	179228-2			173977-2	2-179694-2	02XR-6□-P*
	2	- (Coil)						

\* □ indicates Housing color.

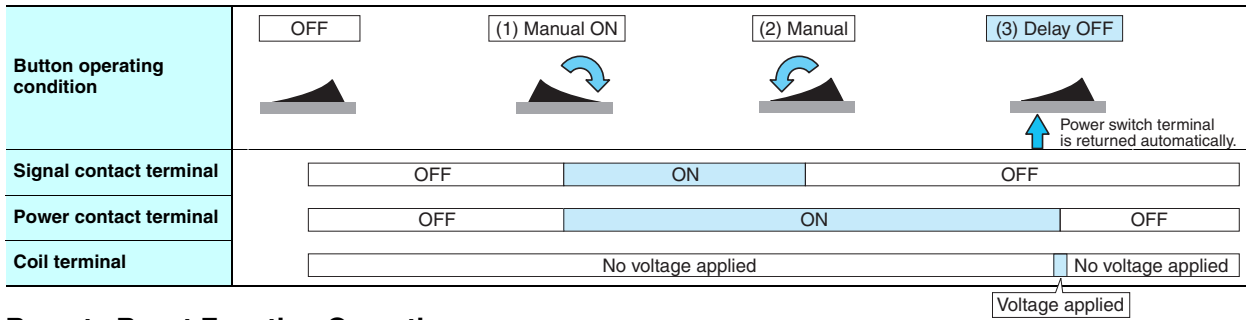
## Operation

### Delay OFF Function

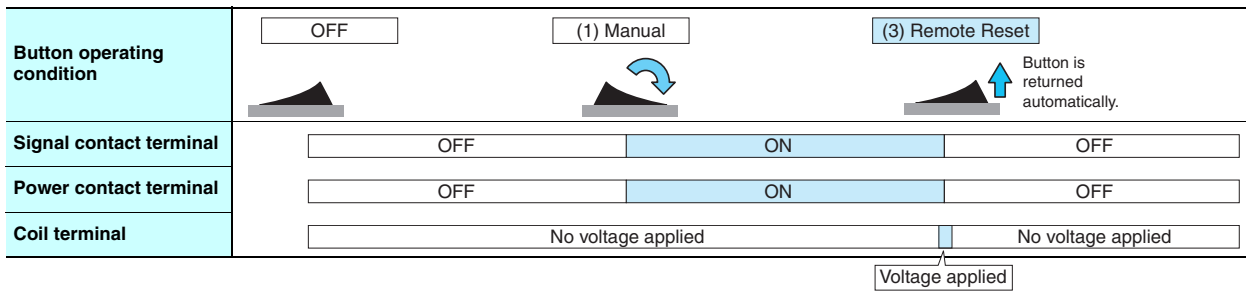
Power contacts are kept in ON status, even if button is operated to turn OFF by manual operation of button.  
And Switch is turned OFF by external signal to coil embedded in switch.

- (1) Signal contact terminal and Power contact terminal are turned ON by manual operation of button.
- (2) Power contact terminal is kept in ON status, even if button is operated to turn OFF by manual operation.  
Only Signal contact terminal is turned OFF.
- (3) Power contact terminal is turned OFF when external signal is applied to coil.  
Furthermore, it is able to turn OFF both signal and power contact terminals from manual ON condition at the same time by applying voltage to coil as Remote Reset Function.

### Delay OFF Function Operation

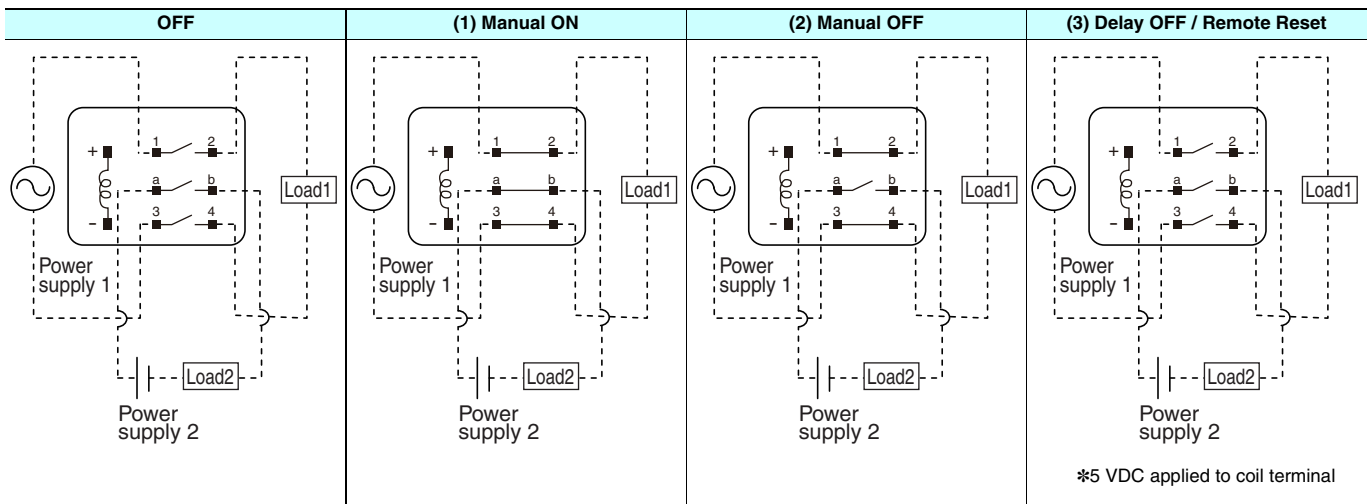


### Remote Reset Function Operation



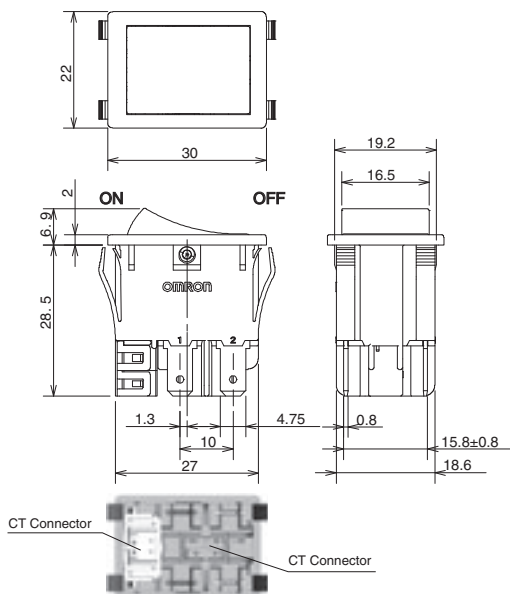
**Note:** 1. Once switch is turned ON, Power contact terminal is not able to be turned OFF by manual operation.  
Please apply the voltage to the coil in order to turn OFF Power switch circuit.

### Switch circuit and operating condition



## Dimensions (Unit: mm)/Operating Characteristics

A8GS-T1□85K



Operating force (OF)	1.8 ± 1.4 N
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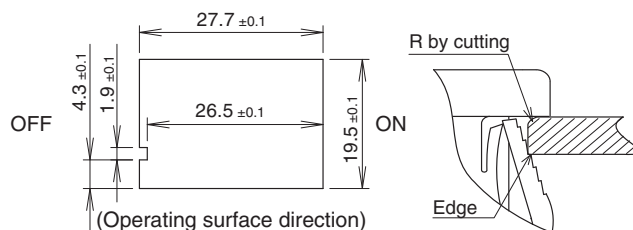
- Note:** 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.  
**Note:** 2. At initial operation or operation after reset, operating force is increased, due to switch structure.  
**Note:** 3. Solder terminals model has different hole shape, comparing with Quick-connect terminals. Outline and characteristics are same.  
**Note:** 4. No models of switch without delay off function (without coil), due to product design.

## Panel Cutout

Panel thickness: 0.8 to 2.3 mm

Panel cutout design is for prevention of false insertion.  
 Please be careful about the direction of the protrusion.

The rollover of the panel shall be on the front face.  
 And panel back side shall be Edge shape by processing.



- Note:** 1. Recommendation panel material is "SPCC", however, in case of soft material or Panel back side shape is not edge, mounting strength may down. Please check and try by actual mounting panel and set the Panel thickness and hole dimension.

# A8GS-T

## Precautions

### ⚠ WARNING

Do not wire the switch or touch any terminal of the Switch while power is being supplied. Or it may result in electric shock.



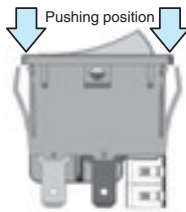
### Cautions

Use the switch within the rated voltage and current ranges, otherwise the switch may have deteriorated durability radiate heat, or burn out. This particularly applies to the instantaneous voltages and currents when switching.

### Caution of usage

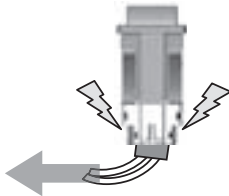
#### ●Mounting

- Easy to mount by snap fitting.
- Do not impose excessive force on switch at the time of panel mounting.
- Do not detach the switch after installed. Otherwise, the holding strength may be loose.
- Apply the force to housing when installing to panel. Do not apply the force to the button (rocker) part when installing to the panel.



#### ●Wiring

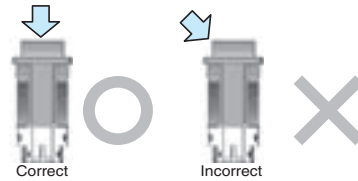
- Confirm the size of the receptacles and be sure to connect them firmly.
- Use an appropriate wire allowable to carry current.
- Be sure that there is no mechanical stress on terminals and coil terminals. Otherwise, the switch may malfunction and/or damaged. (Example: Too strong wiring)



- Take appropriate insulation distance between switch terminal and other metal parts after wiring.
- Coil has polarity, please confirm polarity when wiring.
- Do not apply continuous voltage more than 10 seconds at any time. Otherwise, insulation deterioration may occur by heat of coil. Please consider the circuit design.
- Reverse voltage may cause of accurate discrete semiconductor devices. In case of controlling by accurate discrete semiconductor devices, Please consider the circuit design. (Example : add the surge absorbing circuit)
- In case of manual soldering, soldering time is max 4 sec by soldering iron (Max 350 °C at the iron tip) and do not add the stress to terminals.
- In case of touching the soldering iron to the root of terminals, it may cause Housing parts melt.

#### ●Handling

- Do not apply excessive operating force to the switch.
- Do not drop or apply the excessive shock. Otherwise the switch may be damaged or deformed.
- Do not impose force to operating part from an angle, Otherwise the switch may be damaged or deformed.



#### ●Environment for storage and use

- To prevent the terminals color change and others while storage, Do not keep for a long term in the following conditions.
  - (1) High temperature, high humid environment
  - (2) Corrosive gas
  - (3) The place where the direct rays of the sun
  - (4) The place where the sea breeze
  - (5) Environmental with a sudden temperature changeThis switch is not sealed to prevent from entering dust and liquid. Do not use under dust and liquid condition.
- Switch shall not be icing or condensation.
- Strong magnetic field may cause malfunction. Check function is recommended under practical use conditions.

#### ●Using Micro Loads

In case of using the switch under the micro loads, please refer the Minimum applicable load and set the load more than minimum applicable load.

Even when using micro load within the operating range, inrush current occurs, it may increase contact wear and so deteriorate durability. Therefore, insert a contact protection circuit where necessary.

The minimum applicable load is the L-level reference value. This value indicates the malfunction reference level for the reliability level of 60 %. ( $\lambda 60$ )

The equation,  $\lambda 60 = 0.5 \times 10^{-6} / \text{operations}$  indicates that the estimated malfunction rate is less than 1/2,000,000 operations with a reliability level of 60 %.

#### ●RoHS Compliant

The "RoHS Compliant" designation indicates that the listed models do not contain the six hazardous substances covered by the RoHS Directive.

Reference: The following standards are used to determine compliance for the six substances.

Lead	: 1,000 ppm max.
Mercury	: 1,000 ppm max.
Cadmium	: 100 ppm max.
Hexavalent chromium	: 1,000 ppm max.
PBB	: 1,000 ppm max.
PBDE	: 1,000 ppm max.



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**Note: Do not use this document to operate the Unit.**