

Reset Rocker Switch

A8G

Rocker Switch with Reset Function for High Current 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.
- Approved by UL, cUL, and IEC.
- Bears the CE marking.



Ordering Information

Item	A8G-107-1-24
Contact configuration	<p>DPDT</p>
Flange color (case)	Black
Cap color	Black

■ Approved Standards

UL, cUL (File No. E41515)
ASTA (Licence No. 403)

■ Safety Standards

UL, cUL	20 A, 250 VAC
IEC	AC-13 20 A, 250 VAC

Specifications

■ Ratings

Contact

Rated load	Non-inductive resistive load:	20 A at 250 VAC
	Non-inductive lamp load:	10 A at 250 VAC
	Inductive load:	8 A at 250 VAC
	Inductive motor load:	8 A at 250 VAC

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

The above ratings were tested under the following conditions:

1. Ambient temperature: 20°C±2°C
2. Ambient humidity: 65%±5%
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 to 1 s

- 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.

■ Characteristics

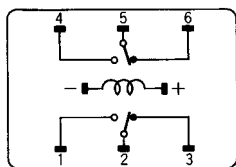
Permissible operating speed	1 to 500 mm/s
Permissible operating frequency	Mechanical: Switching frequency: 7 times/min.; Coil operation: 7 times/min. Electrical: 20 operations/min max.
Insulation resistance	100 MΩ min. (500 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz, for 1 min between terminals of the same polarity 2,000 VAC, 50/60 Hz, for 1 min between terminals of the different polarity 4,000 VAC, 50/60 Hz, for 1 min between charged metal parts and the ground terminal
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude (with a contact separation time of 1 ms max.)
Shock resistance	Malfunction: 98 m/s ² (10G) (with a contact separation time of 1 ms max.) Destruction: 500 m/s ² (50G) max.
Life expectancy	Mechanical: Switching operation: 50,000 times min.; Coil operation: 10,000 times min. Electrical: Switching operation: 100,000 times min.; Coil operation: 10,000 times min.
Contact release time (see note)	100 ms max.
Ambient temperature	Operating: -10°C to 55°C (with no icing or condensation) Storage: -25°C to 60°C (with no icing or condensation)
Ambient humidity	Operating: 45% to 85% Storage: 45% to 85%

Note: 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>The permanent magnet keeps the moving iron and iron core in contact.</p>	<p>The coil is excited and the moving iron is reset with the reset spring.</p>
Circuit configuration			

■ Terminal Arrangement



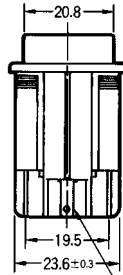
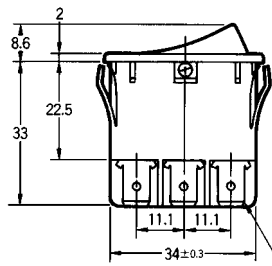
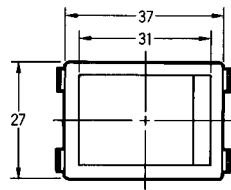
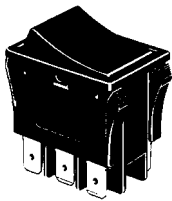
1 to 6: Contact terminals
-, +: Coil terminals

Note: When 24 VDC is imposed on the coil, contacts 2 and 3 and contacts 5 and 6 are ON.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

A8G



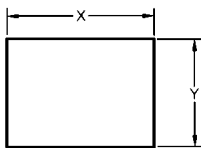
#250 tab terminal (l = 0.8)
(Contact terminal)

#110 tab terminal (l = 0.5)
(Coil terminal)

■ Operating Characteristics

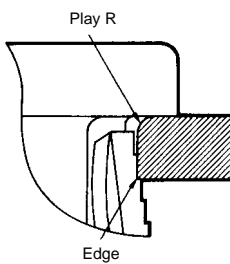
OF (operating force)	19.6 N (2,000 gf)
----------------------	-------------------

■ Panel Cutout



Panel thickness	X	Y
1.6 to 3.0 mm	34.4 ^{+0.2} mm	24.4 ^{+0.3} mm

Note: Recommended panel material: SPCC
Consult your OMRON representative when using a panel with a thickness other than the above.



Be sure that play R is the operation side.

Precautions



Caution

Do not wire the Switch or touch any terminal of the Switch while the power supply is connected to the Switch, otherwise an electric shock may be received.

Be sure that there is an enough insulation distance between any Switch terminal and metal part.

Wiring

Wire the contact terminals with #250 receptacles and the coil terminals with #110 receptacles. Insert the terminals straight into the receptacles. The insertion force varies with the receptacle. Test the insertion force of each receptacle under the actual operating conditions.

Do not solder the terminals, otherwise the performance of the terminals may be affected.

Be sure that the wires are thick enough according to the load (current) to be applied.

Current must not flow for more than 10 s, otherwise the performance of the coil may be affected.

Each coil terminal has a polarity. When wiring, be sure not to make any mistake in polarity.

The performance of the Switch may be affected if the Switch is used for switching minute loads. Test the Switch under the actual operating conditions.

Mounting

Do not use panels other than ones with the designated thickness and dimensions. Remove all burrs from the cutout before installing the Switch. Otherwise, the Switch may malfunction.

Do not impose excessive force on the Switch at the time of panel-mounting.

Operating Environment

Do not use the Switch in places with sulfide gas, corrosive gas, sea breeze, oil spray, or direct sunlight. Otherwise, the Switch may malfunction.

The Switch is not of dust-proof construction. Do not use the Switch in places with excessive dust. Otherwise, the contacts of the Switch may be damaged.

The Switch may malfunction in a strong magnetic field because the Switch has a permanent magnet and solenoid. Test the Switch under the actual operating conditions before use.

Handling

Do not drop the Switch. Otherwise, the Switch may malfunction.

Be sure that the terminals are free of any force after wiring.

Do not impose excessive force on the Switch. Otherwise, the Switch may deform.

The recommended panel material is SPCC. The Switch may fall off if the material is soft and cannot securely hold the Switch. When using a soft material, test the Switch with it before using the Switch in actual operation.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. A106-E1-1 In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation

Control Components Division H.Q.
28th Fl., Crystal Tower Bldg.
1-2-27, Shiromi, Chuo-ku,
Osaka 540 Japan
Phone: 06-949-6115 Fax: 06-949-6134

Printed in Japan
0497-1M (0497) Ⓐ