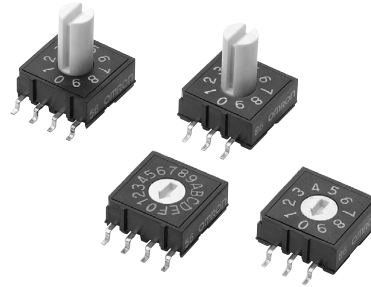


### Low-cost, Surface-mounting Rotary DIP Switches

- Temperature-resistant resin allows use in peak reflow temperatures of 260°C.
- Series includes flat and extended-shaft models.
- Two different types of terminal arrangement are available to allow flexibility in the circuit design.







RoHS Compliant (Refer to page 3 for details.)

**NEW**

### Ordering Information

#### ■ List of Models

Type and color of rotor			Top-actuated, flat (white)		Top-actuated, extended shaft (white)					
			Stick	Embossed taping	Stick	Embossed taping				
Number of positions	Terminal arrangement	Output code								
10	4 × 1	Real code	A6RS-101RF	48	A6RS-101RF-P	750	A6RS-101RS	48	A6RS-101RS-P	250
	3 × 3	Real code	A6RS-102RF		A6RS-102RF-P		A6RS-102RS		A6RS-102RS-P	
16	4 × 1	Real code	A6RS-161RF	48	A6RS-161RF-P	750	A6RS-161RS	48	A6RS-161RS-P	250
	3 × 3	Real code	A6RS-162RF		A6RS-162RF-P		A6RS-162RS		A6RS-162RS-P	

**Note:** Orders must be made in integral multiples of the quantities given for each package (stick: 48, embossed taping: 250 or 750).

### Specifications

#### ■ Ratings/Characteristics

<b>Rating</b>	25 mA at 24 VDC
<b>Ambient operating temperature</b>	-25 to 80°C at 60% max. (with no icing or condensation)
<b>Ambient operating humidity</b>	35% to 95% (at 5 to 35°C)
<b>Insulation resistance</b>	100 MΩ min. (at 250 VDC)
<b>Contact resistance</b>	200 mΩ max. (initial value)
<b>Dielectric strength</b>	250 VAC for 1 minute between terminals of the same polarity
<b>Vibration resistance</b>	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
<b>Shock resistance</b>	Malfunction: Approx. 300 m/s <sup>2</sup>
<b>Electrical life expectancy</b>	5,000 steps min.
<b>Operating torque</b>	1.96 × 10 <sup>-2</sup> N·m max.
<b>Weight</b>	4×1, top-actuated: 0.64 g 3×3, top-actuated: 0.62 g (Add 0.13 g for the extended-shaft version of each model.)

#### ■ Output Codes

##### 10-position Models

Position	Code			
	1	2	4	8
0				
1	●			
2		●		
3	●	●		
4			●	
5	●		●	
6		●	●	
7	●	●	●	
8				●
9	●			●

##### 16-position Models

Position	Code			
	1	2	4	8
0				
1	●			
2		●		
3	●	●		
4			●	
5	●		●	
6		●	●	
7	●	●	●	
8				●
9	●			●
A		●		●
B		●	●	●
C			●	●
D		●	●	●
E		●	●	●
F	●	●	●	●

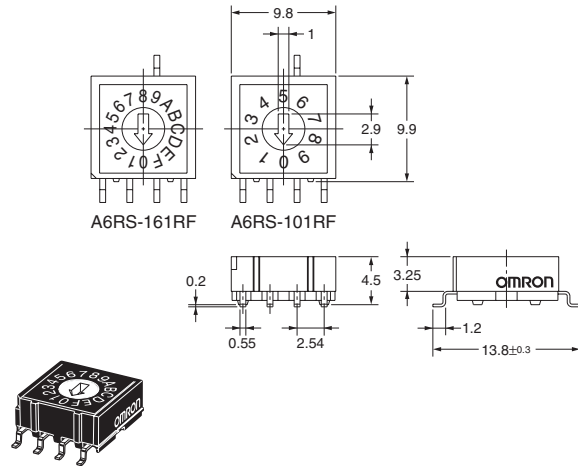
**Note:** "●" indicates that the internal switch is ON.

# Dimensions

- Note:** 1. All units are in millimeters unless otherwise indicated.  
2. A tolerance of  $\pm 0.4$  mm applies to the above dimensions unless otherwise specified.

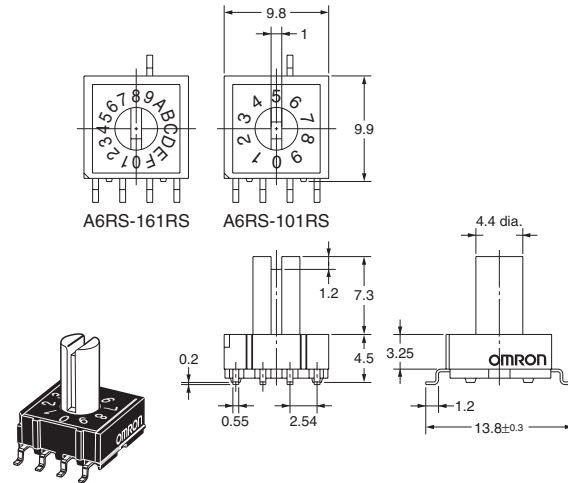
## Top-actuated Flat Models with 4×1 Terminal Arrangement

A6RS-101RF  
A6RS-101RF-P  
A6RS-161RF  
A6RS-161RF-P



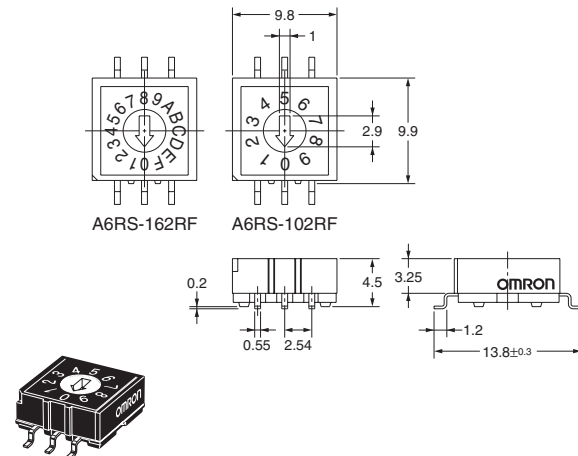
## Top-actuated Extended-shaft Models with 4×1 Terminal Arrangement

A6RS-101RS  
A6RS-101RS-P  
A6RS-161RS  
A6RS-161RS-P



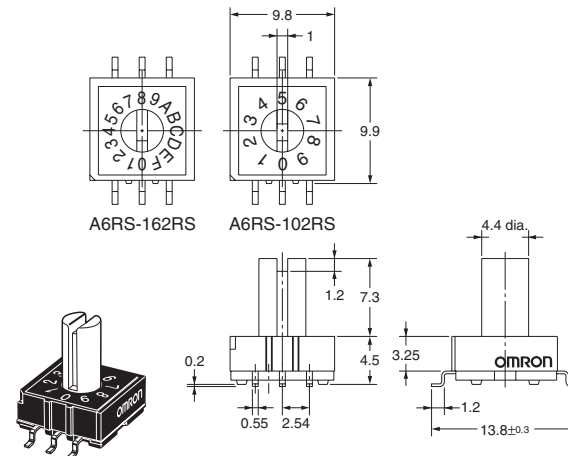
## Top-actuated Flat Models with 3×3 Terminal Arrangement

A6RS-102RF  
A6RS-102RF-P  
A6RS-162RF  
A6RS-162RF-P



## Top-actuated Extended-shaft Models with 3×3 Terminal Arrangement

A6RS-102RS  
A6RS-102RS-P  
A6RS-162RS  
A6RS-162RS-P



# Precautions

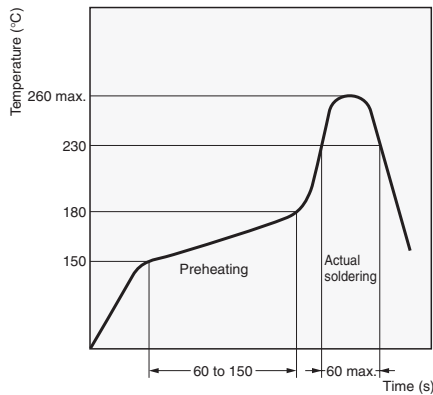
## ■ Precautions for safe use

**Note:** Refer to *Safety Precautions* in the *DIP Switches* (Cat. No. X040) for details on general safety precautions.

## ■ Precautions for Correct Use

### Soldering

- Make sure that Surface-mounting Rotary DIP Switches are set to 0 before soldering. Misalignment may result in reducing the operating load capacity.
- Observe the following conditions for reflow soldering the A6RS. (Measurement location: Top of Switch)



### Using Flux

The type of flux or the amount or method in which it is applied, including its use in reflow soldering, can have adverse effects on Switch performance. Assess the proper flux, conditions, and methods prior to using it.

### Handling

Do not apply excessive operating force to the Switch. Otherwise the Switch may be damaged or deformed, and the switch mechanism may malfunction as a result. Do not apply an operating force exceeding 9.8 N.

Set rotary-type DIP Switches with a flat-blade screwdriver that fits into the screwdriver groove. Using a screwdriver of inappropriate dimensions, or using a tool other than a flat-blade screwdriver may cause damage to the groove that may make the Switch impossible to operate.

Extended-shaft models can also be manually set, but be sure not to apply an excessive amount of force to the Switch when setting it.

### Washing

The A6RS cannot be washed. Attempting to wash it may result in malfunction due to flux and foreign matter from the PCB flowing into the A6RS together with the cleaning fluid.

### 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.

### Environment for Storage and Use

To prevent discoloration of the terminals and other problems during storage, do not store the A6RS in locations subject to the following conditions.

1. High temperatures or humidity
2. Corrosive gases
3. Direct sunlight

Also, the A6RS is not waterproof or splash-resistant. Do not install or use the A6RS in locations that are subject to contact with water.

Do not subject the A6RS to freezing or condensation.

**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. A165-E1-01 **In the interest of product improvement, specifications are subject to change without notice.**

## **OMRON Corporation**

**Electronic Components Company**

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