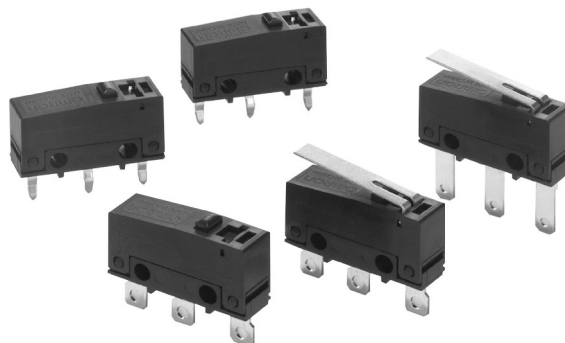


# Subminiature Basic Switch

## SS-P

### SS Series Compatible Mounting with a Simple Construction and Easy-to-Use Design Concept

- Insert molded base and improved case-to-base seal provides enhanced resistance to flux.
- Switch rating of 3 A at 125 VAC possible with a single-leaf movable spring. Models for micro loads with gold crossbar contact are also available.
- Long mechanical life.
- Internal lever provides increased durability and sensitivity.
- Solder, quick-connect terminals (#110), and PCB terminals are available, including even-pitched PCB terminals.
- RoHS Compliant.


**NEW**

## Ordering Information

### ■ Model Number Legend

SS-        P  

1   2   3   4

#### 1. Ratings

3: 3 A at 125 VAC  
01: 0.1 A at 30 VDC

#### 2. Contact Gap

G: 0.5 mm

#### 3. Actuator

None: Pin plunger  
L: Hinge lever  
L13: Simulated roller lever

#### 4. Terminals

None: Solder terminals  
T: Quick-connect terminals (#110)  
D: PCB terminals (Uneven pitch)  
B: PCB terminals (Even pitch)

## List of Models

**Stock Note:** Shaded items are normally stocked.

| Rating | Actuator               | Terminals                                                                         | Solder terminals | Quick-connect terminals (#110) | PCB terminals |             |
|--------|------------------------|-----------------------------------------------------------------------------------|------------------|--------------------------------|---------------|-------------|
|        |                        |                                                                                   |                  |                                | Uneven pitch  | Even pitch  |
| 3 A    | Pin plunger            |  | SS-3GP           | SS-3GPT                        | SS-3GPD       | SS-3GPB     |
|        | Hinge lever            |  | SS-3GLP          | SS-3GLPT                       | SS-3GLPD      | SS-3GLPB    |
|        | Simulated roller lever |  | SS-3GL13P        | SS-3GL13PT                     | SS-3GL13PD    | SS-3GL13PB  |
| 0.1 A  | Pin plunger            |  | SS-01GP          | SS-01GPT                       | SS-01GPD      | SS-01GPB    |
|        | Hinge lever            |  | SS-01GLP         | SS-01GLPT                      | SS-01GLPD     | SS-01GLPB   |
|        | Simulated roller lever |  | SS-01GL13P       | SS-01GL13PT                    | SS-01GL13PD   | SS-01GL13PB |

## Specifications

### Ratings

| Rated voltage | Model Item | SS-3P          | SS-01P |
|---------------|------------|----------------|--------|
|               |            | Resistive load |        |
| 125 VAC       | 3 A        |                | 0.1 A  |
| 30 VDC        | 3 A        |                | 0.1 A  |

**Note:** 1. The rating values apply under the following test conditions.

Ambient temperature: 20±2° C

Ambient humidity: 65±5%

Operating frequency: 30 operations/min

2. Contact your OMRON representative for information on models for other loads.

## ■ Characteristics

|                                               |                                                                                                                                                                                                                                                   |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating speed                               | 0.1 mm to 1 m/s (for pin plunger models)                                                                                                                                                                                                          |
| Operating frequency                           | Mechanical: 300 operations/min<br>Electrical: 30 operations/min                                                                                                                                                                                   |
| Insulation resistance                         | 100 MΩ min. (at 500 VDC)                                                                                                                                                                                                                          |
| Contact resistance (initial value)            | SS-3P: 50 mΩ max.<br>SS-01P: 100 mΩ max.                                                                                                                                                                                                          |
| Dielectric strength (See note 2)              | 1,000 VAC, 50/60 Hz for 1 min between terminals of the same polarities<br>1,500 VAC, 50/60 Hz for 1 min between current-carrying metal parts and ground, and between each terminal and non-current-carrying metal parts                           |
| Vibration resistance (See note 3)             | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude                                                                                                                                                                                                 |
| Shock resistance (See note 3)                 | Destruction: 1,000 m/s <sup>2</sup> {approx. 100 G} max.<br>Malfunction: 300 m/s <sup>2</sup> {approx. 30 G} max.                                                                                                                                 |
| Durability (See note 4)                       | Mechanical: 1,000,000 operations min. (60 operations/min)<br>Electrical: SS-3P: 70,000 operations min. (20 operations/min, 125 VAC)<br>100,000 operations min. (20 operations/min, 30 VDC)<br>SS-01P: 200,000 operations min. (20 operations/min) |
| Degree of protection                          | IEC IP40                                                                                                                                                                                                                                          |
| Degree of protection against electrical shock | Class I                                                                                                                                                                                                                                           |
| Proof tracking index (PTI)                    | 175                                                                                                                                                                                                                                               |
| Ambient operating temperature                 | -25° C to 85° C (at ambient humidity of 60% max.) (with no icing)                                                                                                                                                                                 |
| Ambient operating humidity                    | 85% max. (for 5° C to 35° C)                                                                                                                                                                                                                      |
| Weight                                        | Approx. 1.6 g (for pin plunger models)                                                                                                                                                                                                            |

**Note:** 1. The data given above are initial values.

2. The dielectric strength shown in the table indicates a value for models with a Separator.

3. For the pin plunger models, the above values apply for both the free position and total travel position. For the lever models, the values apply at the total travel position. Contact opening or closing time is within 1 ms.

4. Contact your OMRON sales representative for testing conditions.

## ■ Approved Standards

UL, CSA, and EN approval projected for September 2003.

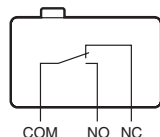
## ■ Contact Specifications

| Item                               | Model                | SS-3P           | SS-01P        |
|------------------------------------|----------------------|-----------------|---------------|
| Contact                            | Specification        | Rivet           | Crossbar      |
|                                    | Material             | Silver alloy    | Gold alloy    |
|                                    | Gap (standard value) | 0.5 mm          |               |
| Minimum applicable load (See note) |                      | 160 mA at 5 VDC | 1 mA at 5 VDC |

**Note:** For more information on the minimum applicable load, refer to *Using Micro Loads* on page 6.

## ■ Contact Form

### SPDT



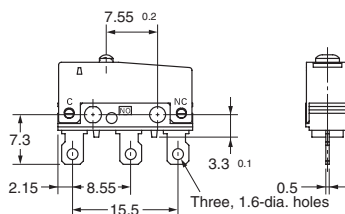
# Dimensions

## ■ Terminals

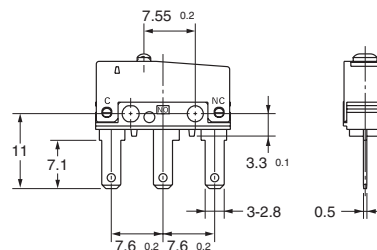
Unit: mm

**Note:** Terminal plate thickness is 0.5 mm for all models.

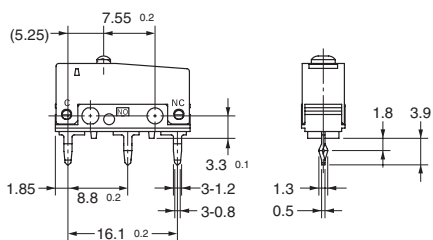
### Solder Terminals



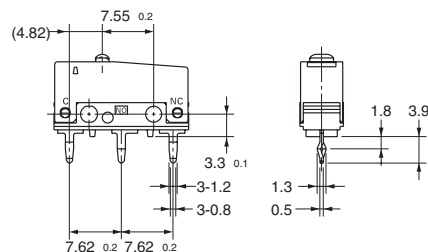
### Quick-connect Terminals (#110)



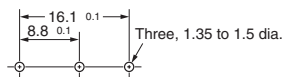
### PCB Terminals (Uneven pitch)



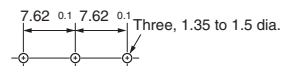
### PCB Terminals (Even pitch)



### PCB Mounting Dimensions (Reference)

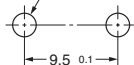


### PCB Mounting Dimensions (Reference)



## ■ Mounting Holes

Two, 2.4-dia. mounting holes or M2.3 screw holes

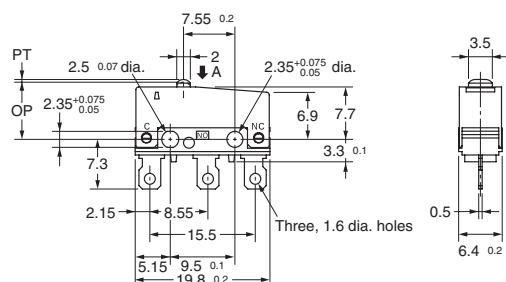


## ■ Dimensions and Operating Characteristics

Unit: mm

### Pin Plunger Models

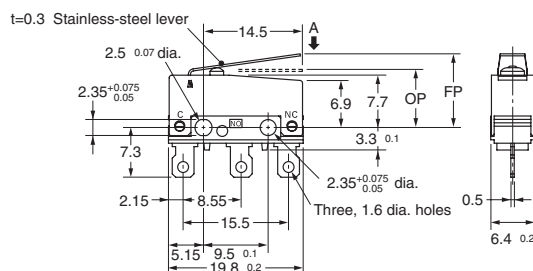
SS-3GP  
SS-01GP



| Model                         | SS-3GP                      | SS-01GP |
|-------------------------------|-----------------------------|---------|
| OF max.<br>RF min.            | 1.50 N<br>0.2 N             |         |
| PT max.<br>OT min.<br>MD max. | 0.6 mm<br>0.4 mm<br>0.15 mm |         |
| OP                            | 8.4±0.3 mm                  |         |

### Hinge Lever Models

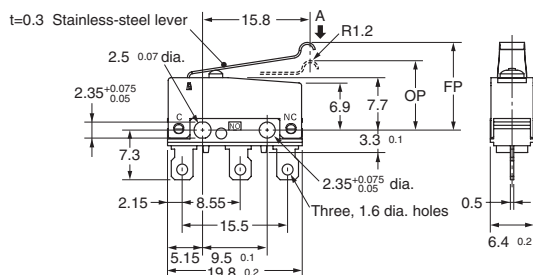
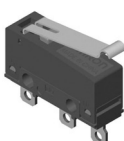
SS-3GLP  
SS-01GLP



| Model              | SS-3GLP               | SS-01GLP |
|--------------------|-----------------------|----------|
| OF max.<br>RF min. | 0.5 N<br>0.05 N       |          |
| OT min.<br>MD max. | 1.0 mm<br>0.8 mm      |          |
| FP max.<br>OP      | 13.6 mm<br>8.8±0.8 mm |          |

### Simulated Roller Lever Models

SS-3GL13P  
SS-01GL13P



| Model              | SS-3GL13P              | SS-01GL13P |
|--------------------|------------------------|------------|
| OF max.<br>RF min. | 0.5 N<br>0.05 N        |            |
| OT min.<br>MD max. | 1.0 mm<br>0.8 mm       |            |
| FP max.<br>OP      | 15.5 mm<br>10.7±0.8 mm |            |

**Note:** 1. The above illustrations and drawings are for solder terminal models. Refer to page 4 for details on models with quick-connect terminals (#110) or PCB terminals.

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

3. The operating characteristics are for operation in the A direction (  ).