OMRON ELECTRONICS

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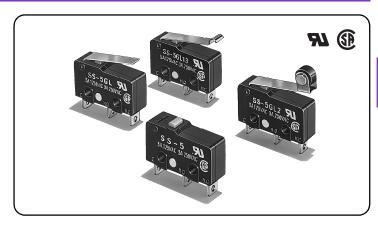
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Subminiature Basic Switch Offers High Reliability and Security

- The OMRON's best-selling micro switches of a wide variety from 0.1A to 10.1A.
- A variety of models are available, with operating force ranging from low to high.
- Two split springs ensure a high stability and durability of 30,000,000 operations.
- 1 mm MIN Contact Gap Models available for Interlock applications

RoHS Compliant

Model Number Legend



4. Contact form

5. Terminals

None: SPDT

6. Heat resistance

-2 : SPST-NC

-3 : SPST-NO

None: Solder terminals

D : PCB terminals

None: Standard (85°C)

-T : Heat-resistant (120°C)

T : Quick-connect terminals (#110)

1. Ratings 10: 250 VAC 10.1A 5 : 125 VAC 5 A 01:30 VDC 0.1A 2. Actuator -

None: Pin plunger GL: Hinge lever GL111: Long hinge lever GL13: Simulated roller lever GL2 : Hinge roller lever GL02 : Hinge roller lever

(Roller material: Stainless) heat-resistant

3. Maximum Operating Force (OF) None: 1.47 N {150 gf}

-F : 0.49 N {50 gf} (0.1 A, 5 A)

Note. These values are for the pin plunger models.

SS-1 2 3 4 5 6

-E : 0.25 N {25 gf} (0.1 A)

List of Models

Standard Models

| | | | Ratings | 10.1.1 | | 0.1.1 |
|-------------|-----------------------------------|--------------|------------------------------|----------|-----------|------------|
| Actuator | Terminals | Contact Form | Maximum Operating Force (OF) | 10.1 A | 5 A | 0.1 A |
| | | SPDT | | SS-10 | SS-5 | SS-01 |
| | Solder terminals | SPST-NC | | SS-10-2 | SS-5-2 | SS-01-2 |
| | | SPST-NO | | SS-10-3 | SS-5-3 | SS-01-3 |
| | Ouisle same sat | SPDT | 1 | SS-10T | SS-5T | SS-01T |
| | Quick-connect terminals (#110) | SPST-NC | 1.47 N {150 gf} | SS-10-2T | SS-5-2T | SS-01-2T |
| | terminais (#110) | SPST-NO | 1 | SS-10-3T | SS-5-3T | SS-01-3T |
| | | SPDT | | SS-10D | SS-5D | SS-01D |
| | PCB terminals | SPST-NC | | SS-10-2D | SS-5-2D | SS-01-2D |
| | | SPST-NO | | SS-10-3D | SS-5-3D | SS-01-3D |
| | | SPDT | | - | SS-5-F | SS-01-F |
| | Solder terminals | SPST-NC | 0.49 N {50 gf} | - | SS-5-F-2 | SS-01-F-2 |
| | | SPST-NO | | - | SS-5-F-3 | SS-01-F-3 |
| Pin plunger | Quick-connect | SPDT | | - | SS-5-FT | SS-01-FT |
| | terminals (#110) | SPST-NC | | - | SS-5-F-2T | SS-01-F-2T |
| | terrimais (#110) | SPST-NO | | - | SS-5-F-3T | SS-01-F-3T |
| | | SPDT | | - | SS-5-FD | SS-01-FD |
| | PCB terminals | SPST-NC | | - | SS-5-F-2D | SS-01-F-2D |
| | | SPST-NO | | - | SS-5-F-3D | SS-01-F-3D |
| | | SPDT | | - | - | SS-01-E |
| | Solder terminals | SPST-NC | | - | - | SS-01-E-2 |
| | | SPST-NO | | - | - | SS-01-E-3 |
| | Quick-connect | SPDT | | - | - | SS-01-ET |
| | terminals (#110) | SPST-NC | 0.25 N {25 gf} | - | - | SS-01-E-2T |
| | terriniais (#110) | SPST-NO | | - | - | SS-01-E-3T |
| | | SPDT | | - | - | SS-01-ED |
| | PCB terminals | SPST-NC | | - | - | SS-01-E-2D |
| | | SPST-NO | | - | - | SS-01-E-3D |

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

| Actuator | Terminals | Contact Form | Ratings Maximum Operating Force (OF) | 10.1 A | 5 A | 0.1 A |
|------------------------|---|----------------------------|---|--------------------------------|------------------------------|--------------------------------|
| | | SPDT | | SS-10GL | SS-5GL | SS-01GL |
| | Solder terminals | SPST-NC | | SS-10GL-2 | SS-5GL-2 | SS-01GL-2 |
| | | SPST-NO | | SS-10GL-3 | SS-5GL-3 | SS-01GL-3 |
| | Quick-connect | SPDT | | SS-10GLT | SS-5GLT | SS-01GLT |
| | terminals (#110) | SPST-NC | 0.49 N {50 gf} | SS-10GL-2T | SS-5GL-2T | SS-01GL-2T |
| | terrimais (#110) | SPST-NO | | SS-10GL-3T | SS-5GL-3T | SS-01GL-3T |
| | | SPST-NC | | SS-10GLD | SS-5GLD | SS-01GLD |
| | PCB terminals | | SS-10GL-2D | SS-5GL-2D | SS-01GL-2D | |
| | | SPST-NO | | SS-10GL-3D | SS-5GL-3D | SS-01GL-3D |
| | | SPDT | | - | SS-5GL-F | SS-01GL-F |
| | Solder terminals | SPST-NC | | - | SS-5GL-F-2 | SS-01GL-F-2 |
| Hinge lever | | SPST-NO | | - | SS-5GL-F-3 | SS-01GL-F-3 |
| go .ove. | Quick-connect | SPDT | | - | SS-5GL-FT | SS-01GL-FT |
| | terminals (#110) | SPST-NC | 0.16 N {16 gf} | - | SS-5GL-F-2T | SS-01GL-F-2T |
| <u>~</u> | | SPST-NO | | - | SS-5GL-F-3T | SS-01GL-F-3T |
| | DOD to media ala | SPDT | | - | SS-5GL-FD | SS-01GL-FD |
| | PCB terminals | SPST-NC | | - | SS-5GL-F-2D | SS-01GL-F-2D |
| | | SPST-NO | | - | SS-5GL-F-3D | SS-01GL-F-3D |
| | 0 - 1 - 1 1 1 - | SPDT | | - | - | SS-01GL-E |
| | Solder terminals | SPST-NC | | - | - | SS-01GL-E-2 |
| | | SPST-NO | | - | - | SS-01GL-E-3 |
| | Quick-connect | SPDT | 0.00 N (00 | - | - | SS-01GL-ET |
| | terminals (#110) | SPST-NC | 0.08 N {8 gf} | - | - | SS-01GL-E-2T |
| | , , | SPST-NO | | - | - | SS-01GL-E-3T |
| | PCB terminals | SPDT SPST-NC | | - | - | SS-01GL-ED |
| | rob terminais | SPST-NC SPST-NO | | - | - | SS-01GL-E-2D SS-01GL-E-3D |
| | | | | - | - | |
| | Solder terminals | SPDT SPST-NC | | SS-10GL111 SS-10GL111-2 | SS-5GL111 SS-5GL111-2 | SS-01GL111 SS-01GL111-2 |
| | Solder terminals | SPST-NO | | | | |
| | | | | SS-10GL111-3 | SS-5GL111-3 | SS-01GL111-3 |
| | Quick-connect | SPDT | 0.20 N (40 ef) | SS-10GL111T | SS-5GL111T | SS-01GL111T SS-01GL111-2T |
| | terminals (#110) | SPST-NC SPST-NO | | SS-10GL111-2T SS-10GL111-3T | SS-5GL111-2T SS-5GL111-3T | SS-01GL111-21 |
| | | | | SS-10GL111-31 | SS-5GL111-31 | SS-01GL111-31 |
| | PCB terminals | SPDT SPST-NC | - | SS-10GL111D SS-10GL111-2D | SS-5GL1112 SS-5GL111-2D | SS-01GL111D |
| | | SPST-NO | | SS-10GL111-2D | SS-5GL111-3D | SS-01GL111-2D |
| | Solder terminals Quick-connect terminals (#110) PCB terminals | SPDT | | - | SS-5GL111-5D | SS-01GL111-5D |
| | | SPST-NC | | - | SS-5GL111-F-2 | SS-01GL111-F-2 |
| | | SPST-NO | | - | SS-5GL111-F-3 | SS-01GL111-F-3 |
| Long hinge lever | | SPDT | | - | SS-5GL111-FT | SS-01GL111-FT |
| | | SPST-NC | 0.12 N {12 gf} | _ | SS-5GL111-F-2T | SS-01GL111-F-2T |
| | | SPST-NO | | - | SS-5GL111-F-3T | SS-01GL111-F-3T |
| <u></u> | | SPDT | | - | SS-5GL111-FD | SS-01GL111FD |
| | | SPST-NC | | - | SS-5GL111-F-2D | SS-01GL1111-F-2D |
| | | SPST-NO | | - | SS-5GL111-F-3D | SS-01GL111-F-3D |
| | | SPDT | | - | - | SS-01GL111-E |
| | Solder terminals | SPST-NC | | - | _ | SS-01GL111-E-2 |
| | | SPST-NO | | - | - | SS-01GL111-E-3 |
| | | SPDT | | - | - | SS-01GL111-ET |
| | Quick-connect | SPST-NC | 0.06 N {6 gf} | - | - | SS-01GL111-E-2T |
| | terminals (#110) | SPST-NO | 0.06 N {6 gi} | - | - | SS-01GL111-E-3T |
| | | SPDT | | - | - | SS-01GL111-ED |
| | PCB terminals | SPST-NC | | - | - | SS-01GL111-E-2D |
| | | SPST-NO | | - | - | SS-01GL111-E-3D |
| | | SPDT | | SS-10GL13 | SS-5GL13 | SS-01GL13 |
| | Solder terminals | SPST-NC | | SS-10GL13-2 | SS-5GL13-2 | SS-01GL13-2 |
| | | SPST-NO | | SS-10GL13-3 | SS-5GL13-3 | SS-01GL13-3 |
| | Quick-connect | SPDT | | SS-10GL13T | SS-5GL13T | SS-01GL13T |
| | terminals (#110) | SPST-NC | 0.49 N {50 gf} | SS-10GL13-2T | SS-5GL13-2T | SS-01GL13-2T |
| | Lemmais (#110) | SPST-NO | | SS-10GL13-3T | SS-5GL13-3T | SS-01GL13-3T |
| | | SPDT | | SS-10GL13D | SS-5GL13D | SS-01GL13D |
| | PCB terminals | SPST-NC | | SS-10GL13-2D | SS-5GL13-2D | SS-01GL13-2D |
| | | SPST-NO | | SS-10GL13-3D | SS-5GL13-3D | SS-01GL13-3D |
| | | SPDT | | - | SS-5GL13-F | SS-01GL13-F |
| | Solder terminals | SPST-NC | | - | SS-5GL13-F-2 | SS-01GL13-F-2 |
| Cimulated rellevier | | SPST-NO | | - | SS-5GL13-F-3 | SS-01GL13-F-3 |
| Simulated roller lever | Quick-connect | SPDT | | - | SS-5GL13-FT | SS-01GL13-FT |
| ~ | terminals (#110) | SPST-NC | 0.16 N {16 gf} | • | SS-5GL13-F-2T | SS-01GL13-F-2T |
| <u>~</u> | Lemmas (#110) | SPST-NO | | - | SS-5GL13-F-3T | SS-01GL13-F-3T |
| | | SPDT | | - | SS-5GL13-FD | SS-01GL13-FD |
| | PCB terminals | SPST-NC | | - | SS-5GL13-F-2D | SS-01GL13-F-2D |
| | | SPST-NO | | - | SS-5GL13-F-3D | SS-01GL13-F-3D |
| | | SPDT | | - | <u>-</u> | SS-01GL13-E |
| | Solder terminals | SPST-NC | | - | - | SS-01GL13-E-2 |
| | | SPST-NO | | - | - | SS-01GL13-E-3 |
| | Quick-connect | SPDT | | - | - | SS-01GL13-ET |
| | | SPST-NC | 0.08 N {8 gf} | - | - | SS-01GL13-E-2T |
| | terminals (#110) | SPST-NO | | = | - | SS-01GL13-E-3T |
| | . , , | | | | | |
| | | SPDT | | - | - | SS-01GL13-ED |
| | PCB terminals | SPDT SPST-NC SPST-NO | | - | - | SS-01GL13-ED SS-01GL13-E-2D |

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

| | | | Ratings | 10.1.4 | Γ Δ | 0.1.4 |
|--------------------|-----------------------------------|--------------|------------------------------|-------------|--------------|---------------|
| Actuator | Terminals | Contact Form | Maximum Operating Force (OF) | 10.1 A | 5 A | 0.1 A |
| | | SPDT | | SS-10GL2 | SS-5GL2 | SS-01GL2 |
| | Solder terminals | SPST-NC | | SS-10GL2-2 | SS-5GL2-2 | SS-01GL2-2 |
| | | SPST-NO | | SS-10GL2-3 | SS-5GL2-3 | SS-01GL2-3 |
| | Quick-connect | SPDT | | SS-10GL2T | SS-5GL2T | SS-01GL2T |
| | terminals (#110) | SPST-NC | 0.49 N {50 gf} | SS-10GL2-2T | SS-5GL2-2T | SS-01GL2-2T |
| | terminais (#110) | SPST-NO | | SS-10GL2-3T | SS-5GL2-3T | SS-01GL2-3T |
| | | SPDT | | SS-10GL2D | SS-5GL2D | SS-01GL2D |
| | PCB terminals | SPST-NC | | SS-10GL2-2D | SS-5GL2-2D | SS-01GL2-2D |
| | | SPST-NO | | SS-10GL2-3D | SS-5GL2-3D | SS-01GL2-3D |
| | Solder terminals | SPDT | | - | SS-5GL2-F | SS-01GL2-F |
| | | SPST-NC | 0.16 N {16 gf} | - | SS-5GL2-F-2 | SS-01GL2-F-2 |
| Hinge roller lever | | SPST-NO | | - | SS-5GL2-F-3 | SS-01GL2-F-3 |
| 9 | Outals assumed | SPDT | | - | SS-5GL2-FT | SS-01GL2-FT |
| Q | Quick-connect terminals (#110) | SPST-NC | | - | SS-5GL2-F-2T | SS-01GL2-F-2T |
| | terminais (#110) | SPST-NO | | - | SS-5GL2-F-3T | SS-01GL2-F-3T |
| | | SPDT | | - | SS-5GL2-FD | SS-01GL2-FD |
| | PCB terminals | SPST-NC | | - | SS-5GL2-F-2D | SS-01GL2-F-2D |
| | | SPST-NO | | - | SS-5GL2-F-3D | SS-01GL2-F-3D |
| | | SPDT | | - | - | SS-01GL2-E |
| | Solder terminals | SPST-NC | | - | - | SS-01GL2-E-2 |
| | | SPST-NO | | - | - | SS-01GL2-E-3 |
| | 0. 1.1 | SPDT | | - | - | SS-01GL2-ET |
| | Quick-connect | SPST-NC | 0.08 N {8 gf} | - | - | SS-01GL2-E-2T |
| | terminals (#110) | SPST-NO | | - | - | SS-01GL2-E-31 |
| | | SPDT | | - | - | SS-01GL2-ED |
| | PCB terminals | SPST-NC | | - | - | SS-01GL2-E-2D |
| | | SPST-NO | | - | - | SS-01GL2-E-3D |

●Heat Resistant Models

| | | | Ratings | 40.4 A | 5 A | 0.4.4 |
|---|-----------------------------------|--------------|------------------------------|---------------|--------------|---------------|
| Actuator | Terminals | Contact Form | Maximum Operating Force (OF) | 10.1 A | 5 A | 0.1 A |
| | Solder terminals | | | SS-10-T | SS-5-T | SS-01-T |
| Pin plunger | Quick-connect terminals (#110) | | 1.47 N {150 gf} | SS-10T-T | SS-5T-T | SS-01T-T |
| | PCB terminals | | | SS-10D-T | SS-5D-T | SS-01D-T |
| | Solder terminals | | | SS-10GL-T | SS-5GL-T | SS-01GL-T |
| Hinge lever | Quick-connect terminals (#110) | | 0.49 N {50 gf} | SS-10GLT-T | SS-5GLT-T | SS-01GLT-T |
| | PCB terminals | | | SS-10GLD-T | SS-5GLD-T | SS-01GLD-T |
| | Solder terminals | | 0.39 N {40 gf} | SS-10GL111-T | SS-5GL111-T | SS-01GL111-T |
| Long hinge lever | Quick-connect terminals (#110) | SPDT | | SS-10GL111T-T | SS-5GL111T-T | SS-01GL111T-T |
| | PCB terminals | | | SS-10GL111D-T | SS-5GL111D-T | SS-01GL111D-T |
| | Solder terminals | 1 | | SS-10GL13-T | SS-5GL13-T | SS-01GL13-T |
| Simulated roller lever | Quick-connect terminals (#110) | | 0.49 N {50 gf} | SS-10GL13T-T | SS-5GL13T-T | SS-01GL13T-T |
| | PCB terminals | | | SS-10GL13D-T | SS-5GL13D-T | SS-01GL13D-T |
| Lliana vallavlavas | Solder terminals | | | SS-10GL02-T | SS-5GL02-T | SS-01GL02-T |
| Hinge roller lever (Roller material: stainless steel) | Quick-connect terminals (#110) | | 0.49 N {50 gf} | SS-10GL02T-T | SS-5GL02T-T | SS-01GL02T-T |
| Statiliess steel) | PCB terminals | | | SS-10GL02D-T | SS-5GL02D-T | SS-01GL02D-T |

●1 mm MIN Contact Gap Models

| Actuator | | Terminals | Contact Form | Ratings Maximum Operating Force (OF) | 10.1 A | 5 A | 0.1 A |
|----------------|----|-----------------------------------|--------------|--------------------------------------|--------|--------------|-------|
| | _ | Solder terminals | | | - | SS-5FL111-3 | - |
| Long hinge lev | er | Quick-connect terminals (#110) | SPST-NO | 0.54 N {55 gf} | - | SS-5FL111-3T | - |

Contact Form

●SPDT ●SPST-NC ●SPST-NO COM NO NC COM NC COM NO

Contact Specifications

| Item | Model | SS-10 models | SS-5 models | SS-01 models | SS-5F models |
|---------|------------------------------|-----------------|----------------|-----------------|-----------------|
| | | models | models | models | models |
| | Specification | Riv | vet | Crossbar | Rivet |
| Contact | Material | Silveralloy | Silver | Gold alloy | Silver |
| Contact | Gap (standard value) | 0.5 | mm | 0.25 mm | 1mm min. |
| Inrush | NC | 20 A | max. | 1 A max. | - |
| current | NO | 15 A max. | 10 A max. | 1 A max. | 10 A max. |
| | applicable load e value)* | 5 VDC | 5 VDC 160 mA | | 5 VDC 160 mA |

Please refer to "Ousing Micro Loads" in "Precautions" for more information on the minimum applicable load.

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

Ratings

| | Item | Resistive load |
|--------------|---------------|-----------------|
| Model | Rated voltage | ricsistive load |
| SS-10 models | 250 VAC | 10.1 A |
| SS-5 models | 125 VAC | 5 A |
| OO 0 models | 250 VAC | 3 A |
| SS-01 models | 125 VAC | 0.1 A |
| 33-01 models | 30 VDC | 0.1 A |
| SS-5F models | 250 VAC | 3 A |
| 33-3F models | 30 VDC | 5 A |

Note. The above rating values apply under the following test conditions.

- (1) Ambient temperature: 20±2°C
- (2) Ambient humidity: 65±5%
- (3) Operating frequency: 30 operations/min

Approved Safety Standards

Models shown in the "**List of Models**" are UL and CSA approved models.

Note. Note that heat resistant models are not standard approved models.

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

| Model Rated voltage | SS-10 | SS-5 | SS-01 | SS-5F |
|------------------------|-------------|------------|------------|----------|
| 125 VAC 250 VAC | - 10.1 A | 5 A 3 A | 0.1 A - | - 3 A |
| 30 VDC | - | - | 0.1 A | 5 A |

Consult your OMRON sales representative for specific models with VDE standard approvals. VDE (EN61058-1)

| Model Rated voltage | SS-10 | SS-5 | SS-5F |
|------------------------|-------|------|-------|
| 250 VAC | 10 A | 5 A | 3 A |

Testing conditions: 5E4 (50,000 operations) T85 (0°C to 85°C)

Characteristics

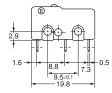
| Permissible of | | Model | SS-10 models SS-5 models SS-01 models SS-5F models | | | | | |
|---|---|--|--|------------------|----------------------------------|---|-----|---|
| Permissible operating speed | | | 0.1 mm to 1 m/s (for pin plunger models) | | | | | |
| Permissible operating | Mechanical | | 400 operations/min | | | | | |
| | Electrical | | | 60 operation | ons/min | | | |
| Insulation res | sistance | | 100 MΩ mir | n. (at 500 VDC | with insulatio | n tester) | | |
| Contact resi | iotopoo | OF 1.47 N models | 30 mΩ ma | x. | $50 \text{ m}\Omega$ max. | 30 m Ω max. | | |
| (initial value | | OF 0.49 N models | - | 50 mΩ max. | 100 m Ω max. | - | | |
| (IIIIIIai vaiuc | ′) | OF 0.25 N models | - | | $150\text{m}\Omega\text{max}.$ | - | | |
| | Between ter same polari | rminals of the ty | 1,000 VAC 50/60 H | z for 1 min | 600 VAC 50/60 Hz for 1 min | 1,000 VAC 50/60 Hz for 1 min | | |
| | Between cu metal parts | rrent-carrying and ground | 1, | 500 VAC 50/60 | Hz for 1 min | | | |
| | Between each terminals and non-current-carrying metal parts | | 1, | 500 VAC 50/60 |) Hz for 1 min | | | |
| Vibration resistance *2 | Malfunction | | 10 to 55 Hz, 1.5 mm double amplitude | | | | | |
| | | OF 1.47 N models | 1,000 m/s ² {approx. 100G} max. | | | | | |
| | Durability | Durability | Durability | OF 0.49 N models | 500 m/s ² {a | pprox. 50G} ma | ax. | - |
| Shock | OF 0.25 N models | | 500 m/s ² {approx. 50G} max. | | | - | | |
| resistance | ce Malfunction | OF 1.47 N models | 3 | 00 m/s² {approx | x. 30G} max. | | | |
| | *2 | OF 0.49 N models | • | pprox. 20G} ma | | - | | |
| | _ | OF 0.25 N models | 200 m/s ² {a | pprox. 20G} ma | ax. | - | | |
| Durability | Mechanical | | 10,000,000 operations min. (60 operations/min) | | perations min. tions/min) | 100,000 operations min. (60 operations/min) | | |
| *3 Electrical | | | 50,000 operations min. (30 operations/min) | | erations min. ations/min) | 100,000 operations min. (30 operations/min) | | |
| Degree of p | rotection | | | IEC IP | 240 | | | |
| Degree of protection against electric shock | | | Class | s I | | | | |
| Proof tracking index (PTI) | | 175 | | | | | | |
| Ambient operating temperature | | -25°C to +85°C (at ambient humidity of 60% max.) (with no icing or condensation) | | | | | | |
| Ambient ope | erating humi | idity | 85% max. (for +5°C to +35°C) | | | | | |
| Weight | | | Approx. 1.6g (pin plunger models) | | | | | |

Note. The data given above are initial values.

- *1. The values for dielectric strength shown are for models with a Separator (refer to "Micro Switch Common Accessories").
- *2. The values are at Free Position and Total Travel Position values for pin plunger, and Total Travel Position value for lever. Close or open circuit of the contact is 1ms max.
- *3. For testing conditions, consult your OMRON sales representative.

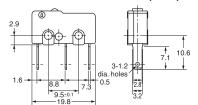
Terminals/Appearances (Unit: mm)

Solder terminals

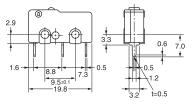




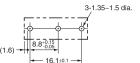
●Quick connect terminals (#110)



PCB terminals



<PCB Mounting Dimensions (Reference)>



Note. SPST-NO terminal models do not have NC terminal.

Mounting Holes (Unit: mm)



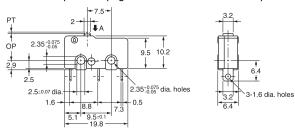
Dimensions (Unit: mm) and Operating Characteristics

The illustrations and drawings are for solder terminals models.

Refer to "Terminals/Appearances" of the previous page for details on models with quick connect terminals (#110) or PCB terminals.

●Pin plunger SS-10 SS-5 (-F) SS-01 (-E, -F)

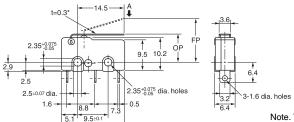




| Operating Characteris | tics | Model | SS-10 | SS-5 SS-01 | SS-5-F SS-01-F | SS-01-E |
|------------------------------------|----------|--------------|-----------------------------------|-----------------------------------|---------------------------------|---------------------------------|
| Operating Force Releasing Force | OF RF | Max. Min. | 1.47 N {150 gf} 0.25 N {25 gf} | 1.47 N {150 gf} 0.25 N {25 gf} | 0.49 N {50 gf} 0.04 N {4 gf} | 0.25 N {25 gf} 0.02 N {2 gf} |
| Pretravel | PT | Max. | 0.6 mm | 0.5 mm | 0.5 mm | 0.5 mm |
| Overtravel | OT | Min. | 0.4 mm | 0.5 mm | 0.5 mm | 0.5 mm |
| Movement Differential | MD | Max. | 0.12 mm | 0.1 mm | 0.1 mm | 0.1 mm |
| Operating Position | OP | | 8.4±0.5 mm | | | |

●Hinge lever SS-10GL SS-5GL (-F) SS-01GL (-E, -F)





* Stainless-steel lever

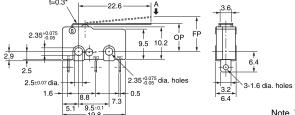
* Stainless-steel level

| | | of RF are for cases plied to the plunger. |
|----------|------------|---|
| \$\$-5GI | \$\$.5GL-F | |

| Model Operating Characteristics | | SS-10GL | SS-5GL SS-01GL | SS-5GL-F SS-01GL-F | SS-01GL-E | | |
|-------------------------------------|----------|---------|-----------------------|-----------------------|----------------|------------------------------------|--|
| Operating Force | OF | Max. | 0.49 N {50 gf} | 0.49 N {50 gf} | 0.16 N {16 gf} | 0.08 N {8 gf} | |
| Releasing Force | RF | Min. | 0.06 N {6 gf} | 0.06 N {6 gf} | 0.02 N {2 gf} | 0.01 N {1 gf} (reference value) | |
| Overtravel | ОТ | Min. | 1.0 mm | 1.2 mm | 1.2 mm | 1.2 mm | |
| Movement Differential | MD | Max. | 1.0 mm | 0.8 mm | 0.8 mm | 0.8 mm | |
| Free Position Operating Position | FP OP | Max. | 13.6 mm 8.8±0.8 mm | | | | |

●Long hinge lever SS-10GL111 SS-5GL111 (-F) SS-01GL111 (-E, -F) SS-5FL111-3





Note. The indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

| Operating Characteris | tics | Model | SS-10GL111 | SS-5GL111 SS-01GL111 | SS-5FL111-3 | SS-5GL111-F SS-01GL111-F | SS-01GL111-E |
|-----------------------|------|-------|---------------------|-------------------------|----------------|-----------------------------|-------------------|
| Operating Force | OF | Max. | 0.39 N {40 gf} | 0.39 N {40 gf} | 0.54 N {55 gf} | 0.12 N {12 gf} | 0.06 N {6 gf} |
| Releasing Force | RF | Min. | 0.03 N {3 gf} | 0.03 N {3 gf} | 0.01 N {1 gf} | 0.02 N {2 gf} | 0.003 N {0.3 gf} |
| | | | | | | (reference value) | (reference value) |
| Overtravel | ОТ | Min. | 1.2 mm | 1.2 mm | 1.0 mm | 1.2 mm | 1.2 mm |
| Movement Differential | MD | Max. | 1.2 mm | 1.2 mm | 3.0 mm | 1.2 mm | 1.2 mm |
| Free Position | FP | Мах. | 16.8 mm | | | | |
| Operating Position | OP | | 8.8±1.5 mm 8.8±2 mm | | | | |

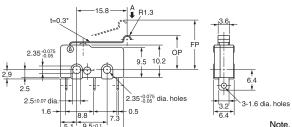
Note 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

Note 2. The operating characteristics are for operation in the A direction (\P).

●Simulated roller lever SS-10GL13 SS-5GL13 (-F) SS-01GL13 (-E, -F)







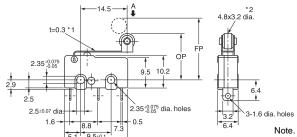
* Stainless-steel lever

Note. The indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

| Model Operating Characteristics | | Model | SS-10GL13 | SS-5GL13 SS-01GL13 | SS-5GL13-F SS-01GL13-F | SS-01GL13-E |
|---------------------------------|----|-------|----------------|-----------------------|---------------------------|-------------------|
| Operating Force | OF | Max. | 0.49 N {50 gf} | 0.49 N {50 gf} | 0.16 N {16 gf} | 0.08 N {8 gf} |
| Releasing Force | RF | Min. | 0.06 N {6 gf} | 0.06 N {6 gf} | 0.02 N {2 gf} | 0.01 N {1 gf} |
| | | | | | | (reference value) |
| Overtravel | ОТ | Min. | 1.0 mm | 1.2 mm | 1.2 mm | 1.2 mm |
| Movement Differential | MD | Max. | 1.0 mm | 0.8 mm | 0.8 mm | 0.8 mm |
| Free Position | FP | Max. | 15.5 mm | | | |
| Operating Position | OP | | 10.7±0.8 mm | | | |

●Hinge roller lever SS-10GL2 SS-5GL2 (-F) SS-01GL2 (-E, -F)





*1. Stainless-steel lever *2. Polyacetal resin roller

Note. The indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

| Note of the indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

| Operating Characteristics | | Model | SS-10GL2 | SS-01GL2 | SS-01GL2-F | SS-01GL2-E |
|-------------------------------------|----------|--------------|---------------------------------|---------------------------------|---------------------------------|---|
| Operating Force Releasing Force | OF RF | Max. Min. | 0.49 N {50 gf} 0.06 N {6 gf} | 0.49 N {50 gf} 0.06 N {6 gf} | 0.16 N {16 gf} 0.02 N {2 gf} | 0.08 N {8 gf} 0.01 N {1 gf} (reference value) |
| Overtravel | OT | Min. | 1.0 mm | 1.2 mm | 1.2 mm | 1.2 mm |
| Movement Differential | MD | Max. | 1.0 mm | 0.8 mm | 0.8 mm | 0.8 mm |
| Free Position Operating Position | FP OP | Max. | 19.3mm 14.5±0.8mm | | | |

Note 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

Note 2. The operating characteristics are for operation in the A direction (\ \ \).

Precautions

★Please refer to "Common Precautions" for correct use.

Cautions

Soldering

- Complete the soldering at the iron tip temperature below 350°C within 5 seconds, and do not apply any external force for 1 minute after soldering. Soldering at an excessively high temperature or soldering for more than 5 seconds may deteriorate the characteristics of the Switch.
- Be sure to apply only the minimum required amount of flux.
 Switch may have contact failures if flux intrudes into the interior of the Switch.
- If the PCB terminal models are soldered in the solder bath, flux will permeate inside the Switch and cause contact failure.
 Therefore, manually solder the PCB terminal.

Correct Use

Mounting

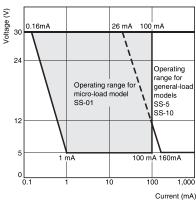
- Use M2.3 mounting screw with plane washers or spring washers to securely mount the Switch. Tighten the screws to a torque of 0.23 to 0.26 N·m {2.3 to 2.7 kgf·cm}.
- Mount the Switch onto a flat surface. Mounting on an uneven surface may cause deformation of the Switch, resulting in faulty operation or breakage in the housing.

●Using Micro Loads

Using a model for ordinary loads to open or close the contact of a micro load circuit may result in faulty contact. Use models that operate in the following range. However, even when using micro load models within the following operating range, if inrush current occurs when the contact is opened or closed, it may increase the contact wear and so decrease durability. Therefore, insert a contact protection circuit where necessary. The N-level reference value applies for the minimum applicable load. This value indicates the malfunction reference level for the reliability level of 60% (λ 60).

(JIS C5003)

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



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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

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

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