OMRON

Sealed Ultra Subminiature Basic Switch

D2JW

Ultra-small and Highly Sealed

- Degree of protection for the lead wire models conforms to IEC IP67. (Lead wire type only)
- Wide range of operating temperature from –40°C to 85°C.
- Gold crossbar contact and coil spring offer long life expectancy and high contact reliability.

Ordering Information

■ Model Number Legend

D2JW-01□-□

1 2 3

1. Ratings
01: 0.1 A, 30 VDC

2. Actuator
1: Pin plunger
K1A1: Short hinge lever
K11: Hinge lever
K31: Simulated hinge lever
K21: Hinge roller lever

3. Terminal
None: Solder terminal
MD: Molded lead wire terminal

■ List of Models

Actuator	Model	
	Solder 	Molded lead wire 
Pin plunger 	D2JW-011	D2JW-011-MD
Short hinge lever 	D2JW-01K1A1	D2JW-01K1A1-MD
Hinge lever 	D2JW-01K11	D2JW-01K11-MD
Simulated hinge lever 	D2JW-01K31	D2JW-01K31-MD
Hinge roller lever 	D2JW-01K21	D2JW-01K21-MD

Note: The standard lengths of the lead wires (AVS0.3f) of models incorporating them are 30 cm.

Specifications

■ Ratings

Electrical ratings	0.1 A at 30 VDC (resistive load)

The ratings values apply under the following test conditions:

Ambient temperature: 20±2°C

Ambient humidity: 65±5%

Operating frequency: 30 operations/min

Minimum applicable load	1 mA at 5 VDC

■ Characteristics

Operating speed	1 mm to 250 mm/s (see note 1)
Operating frequency	Mechanical: 240 operations/min Electrical: 30 operations/min
Insulation resistance	100 MΩ min. (at 500 VDC)
Contact resistance (initial value)	100 mΩ max. (molded lead wire models: 140 mΩ max.)
Dielectric strength	600 VAC, 50/60 Hz for 1 min between terminals of the same polarity 1,000 VAC, 50/60 Hz for 1 min between current-carrying metal parts and ground (see note 2), and between each terminal and non-current-carrying metal parts
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude (see note 3)
Shock resistance	Destruction: 1,000 m/s^2 {approx. 100G} max. Malfunction: 200 m/s^2 {approx. 20G} max. (see note 3)
Life expectancy	Mechanical: 1,000,000 operations min. Electrical: 100,000 operations min.
Degree of protection	IP67 for molded lead wire terminal models IP50 for solder terminal models
Degree of protection against electric shock	Class I
Proof tracking index (PTI)	175
Ambient temperature	Operating: –40°C to 85°C (with no icing or condensation)
Ambient humidity	Operating: 35% to 98%
Weight	Approx. 7 g (molded lead wire models, pin plunger models)

Note: 1. The operating speed value shown is for pin plunger models. (For different models, contact your OMRON representative.)

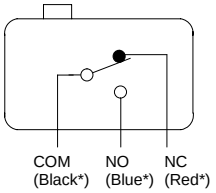
2. The dielectric strength values shown apply for use with Separator (terminal type).

3. The values shown apply for malfunctions of 1 ms max.

■ Contact Specifications

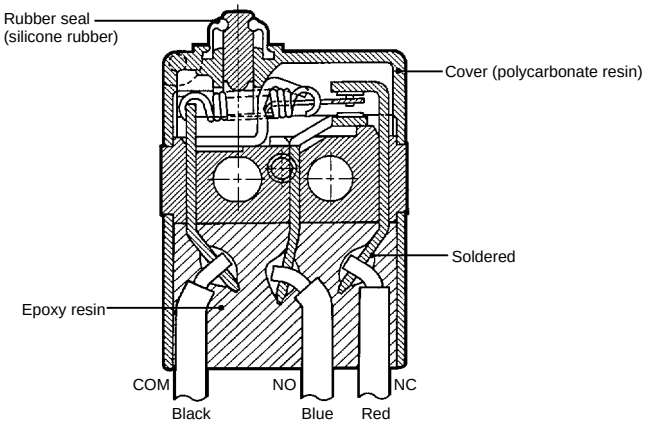
Contact	Specification	Crossbar
	Material	Gold alloy
	Gap (standard value)	0.5 mm
Inrush current	NC	0.1 A max.
	NO	0.1 A max.

■ Contact Form (SPDT)



*Indicates the color of the lead wire.

Nomenclature



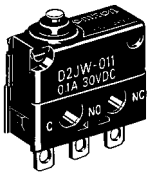
Dimensions

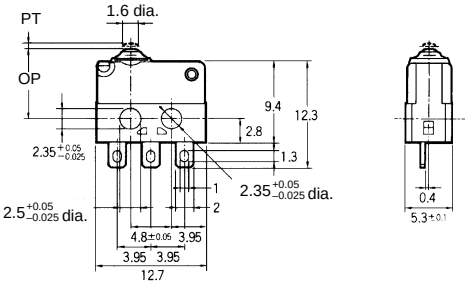
Note: 1. All units are in millimeters unless otherwise indicated.
2. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.
3. Actuators of the molded lead wire terminals are omitted here. The dimensions (other than the terminals) and operating characteristics of the molded lead wire terminals are the same as those for the solder terminals.

■ Dimensions and Operating Characteristics

Pin Plunger

D2JW-011

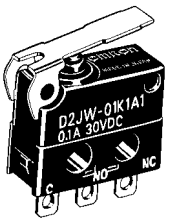


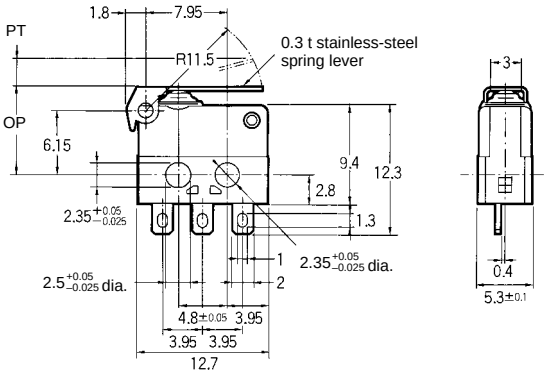


OF max.	2.45 N {250 gf}
RF min.	0.98 N {100 gf}
PT max.	0.6 mm
OT min.	0.3 mm
MD max.	0.1 mm
OP	8.1±0.3 mm

Short Hinge Lever

D2JW-01K1A1

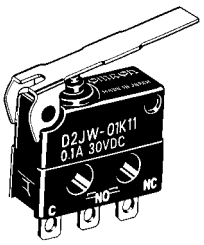


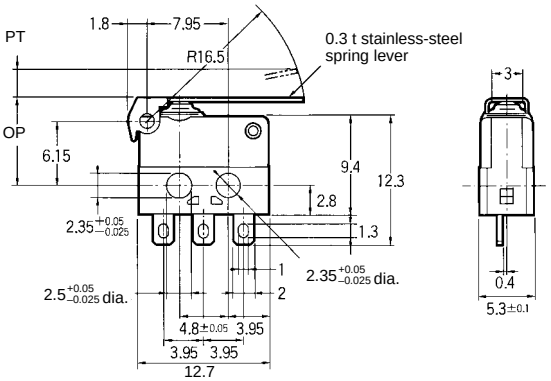


OF max.	1.15 N {117 gf}
RF min.	0.23 N {23 gf}
PT max.	5.4 mm
OT min.	0.7 mm
MD max.	0.5 mm
OP	8.4±0.8 mm

Hinge Lever

D2JW-01K11

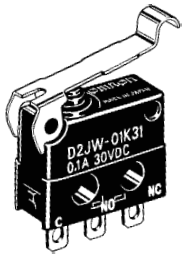


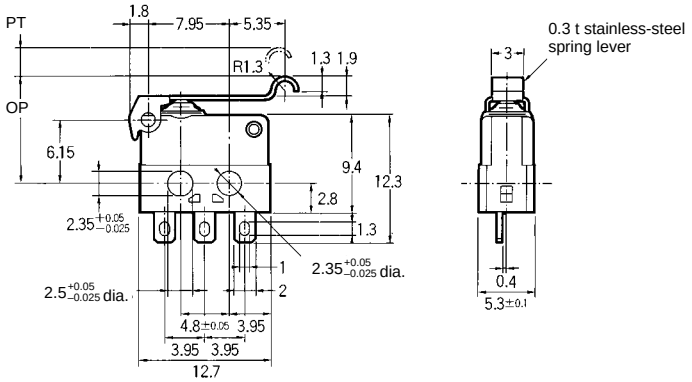


OF max.	0.80 N {82 gf}
RF min.	0.15 N {16 gf}
PT max.	6.4 mm
OT min.	1.4 mm
MD max.	0.7 mm
OP	8.4±0.8 mm

Simulated Hinge Lever

D2JW-01K31

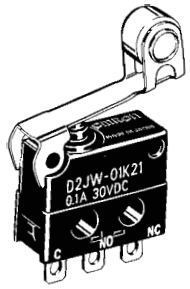


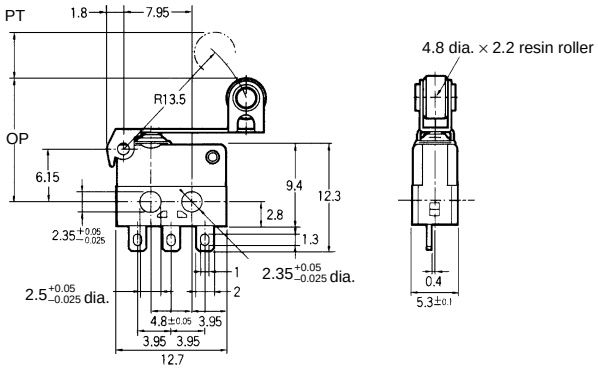


OF max.	0.95 N {97 gf}
RF min.	0.19 N {20 gf}
PT max.	5.5 mm
OT min.	1.1 mm
MD max.	0.6 mm
OP	10.3±0.8 mm

Hinge Roller Lever

D2JW-01K21

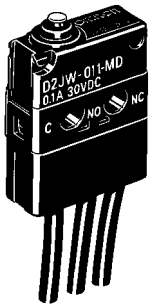


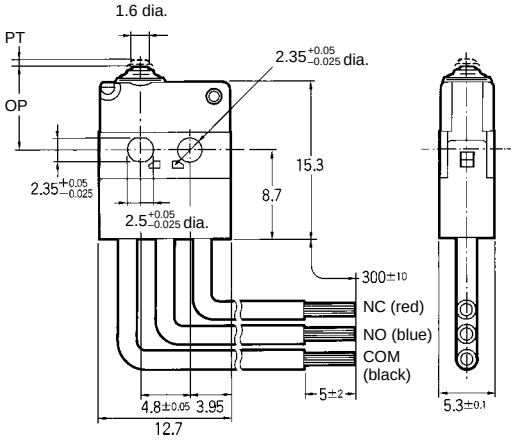


OF max.	0.98 N {100 gf}
RF min.	0.19 N {20 gf}
PT max.	5.2 mm
OT min.	1.1 mm
MD max.	0.5 mm
OP	14.6±0.8 mm

Molded Lead Wire

D2JW-01□□□-MD

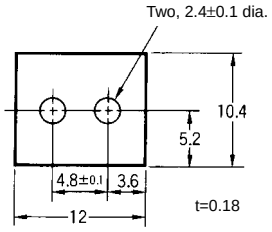




Note: Letters and numbers are inserted in □ by the actuator.

■ Separator (Order Separately)

Model	Separator for D2JW



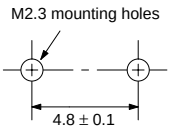
Precautions

■ Cautions

Mounting Dimensions

Use M2.3 mounting screws with plain or spring washers to mount the Switch. Tighten the screws to a torque of 0.20 to 0.29 N • m {2 to 3 kgf • cm}.

Mounting Holes



Terminal Connection

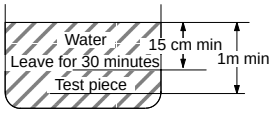
To solder the lead to the terminal, apply a soldering iron rated at 30 W max. (temperature of soldering iron: 250°C max.) within 3 seconds.

If soldering is not carried out under the proper conditions there is a danger of over-heating and subsequent heat damage. Applying a soldering iron for too long a time or using one that is rated at more than 30 W may degrade the Switch characteristics.

Degree of Protection

The D2JW satisfies the following test condition specified by the IEC Publication 529:

Degree of protection: IP67
Test method:See the figure below.



Note: Temperature difference between the test piece and water must be 5°C or more.

Leave the test piece in water for 30 min with the top of the test piece submerged 15 cm or more below the water level and the bottom of the test piece submerged 1 m or more below the water level.

This test is to check the ingress of water into the switch enclosure after submerging the switch in water for a given time. Even if this test condition is met, the switch cannot be used in water.

Protection Against Chemicals

Prevent the Switch from coming into contact with oil and chemicals. Otherwise, damage to or deterioration of Switch materials may result.

■ Correct Use

Refer to pages 22 to 29 for common precautions.

Separator

When mounting the Switch on a metallic surface, be sure to use a Separator between the Switch and the mounting plate.

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. B040-E1-1B