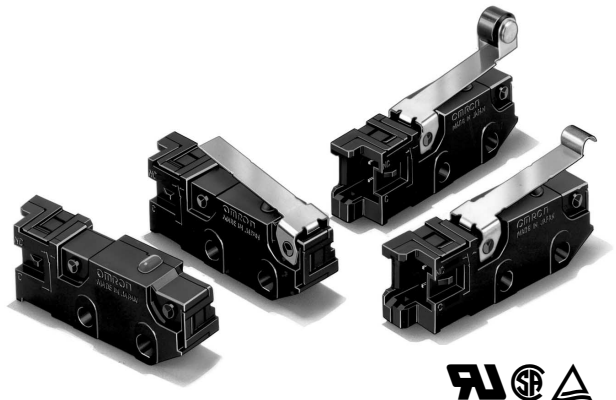


Subminiature Basic Switch

D3M

Quick-connect Terminals Simplify Wiring and Reduce Production Steps

- Easy wiring is ensured by quick-connect terminals, and horizontal layout of terminals saves mounting space.
- External actuator mounts in either of two directions to increase Switch mounting flexibility.
- Same mounting pitch as the OMRON SS Subminiature Basic Switch.



Ordering Information

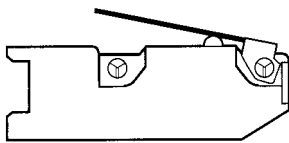
Model Number Legend

D3M-01□□□
1 2 3

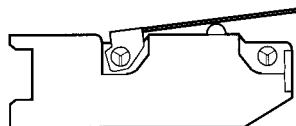
1. Actuator Mounting Position

None: No actuator

K: Pushbutton close to actuator fulcrum



L: Pushbutton far from actuator fulcrum



2. Actuator

None: Pin plunger

1: Hinge lever

2: Hinge roller lever

3: Simulated roller lever








3. Contact Form

None: SPST-NC (with red pushbutton)

-3: SPST-NO (with black pushbutton)

Note: For details about models with a low operating force, contact your OMRON sales representative.

■ List of Models

Actuator	Actuator mounting position	Contact type	Model
Pin plunger		SPST-NC	D3M-01
		SPST-NO	D3M-01-3
Hinge lever	K 	SPST-NC	D3M-01K1
		SPST-NO	D3M-01K1-3
	L 	SPST-NC	D3M-01L1
		SPST-NO	D3M-01L1-3
Hinge roller lever	K 	SPST-NC	D3M-01K2
		SPST-NO	D3M-01K2-3
	L 	SPST-NC	D3M-01L2
		SPST-NO	D3M-01L2-3
Simulated roller lever	K 	SPST-NC	D3M-01K3
		SPST-NO	D3M-01K3-3
	L 	SPST-NC	D3M-01L3
		SPST-NO	D3M-01L3-3

Specifications

■ Ratings

Rated voltage	Resistive load
30 VDC	0.1 A

■ Characteristics

Permissible operating speed (see note 1)	0.1 mm/s to 1 m/s
Permissible operating frequency	Mechanical: 400 operations/min max.
	Electrical: 60 operations/min max.
Insulation resistance	100 MΩ min. at 500 VDC
Contact resistance (initial value) (see note 2)	100 mΩ max. including connector and 50-mm AWG28 lead-wire resistance
Dielectric strength (see note 3)	1,000 VAC at 50/60 Hz for 1 min between terminals of the same polarity 1,500 VAC at 50/60 Hz for 1 min between charged metal part and ground 1,500 VAC at 50/60 Hz for 1 min between non-charged metal part and each terminal
Vibration resistance (see note 4)	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude for 1 ms max. with contacts closed or open.
Shock resistance (see note 4)	Destruction: 1,000 m/s ² {approx. 100G} max. Malfunction: 300 m/s ² {approx. 30G} for 1 ms max. with contacts closed or open.
Life expectancy	Mechanical: 500,000 operations (at full-stroke operating speed of 10 mm/s at a frequency of 60 operations/min)
	Electrical: 200,000 operations (at full-stroke operating speed of 10 mm/s at a frequency of 30 operations/min)
Enclosure rating	IP00
Degree of protection against electric shock	Class I
Proof tracking index (PTI)	175
Ambient temperature	Operating: -25°C to 85°C (at ambient humidity of 60% max.) (with no icing)
Ambient humidity	Operating: 85% max. (5°C to 35°C)
Weight	Approx. 2 g (pin plunger models)

- Note:**
- The permissible operating speed applies to pin plunger models.
 - Includes the resistance of the connector and lead wire (AWG #28, 50-mm length).
 - The dielectric strength values shown in the table are for models with a Separator. (Refer to page 162.)
 - For the pin plunger models, the above values apply for use at both the free position and total travel position. For the lever models, they apply at the total travel position. Contact opening or closing time is within 1 ms.

■ Approved Standards

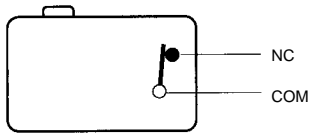
Agency	Standard	File No.
TÜV Rheinland	EN61058-1	R9750979
UL	UL1054	E41515
CSA	CSA C22.2 No. 55	LR21642

■ Contact Specifications

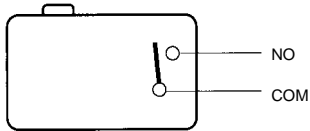
Contact	Crossbar
Material	Gold alloy
Distance between contacts	0.5 mm
Inrush current	1 A max.
Minimum applicable load	1 mA at 5 VDC

■ Contact Form

SPST-NC



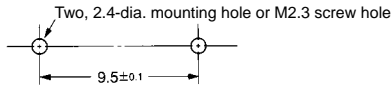
SPST-NO



Dimensions

■ Mounting Holes

Note: All units are in millimeters unless otherwise indicated.

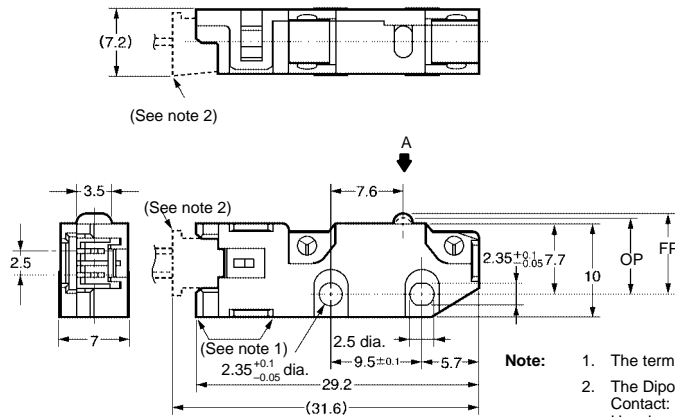
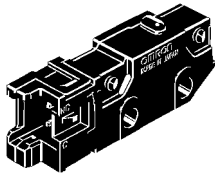


■ Dimensions and Operating Characteristics

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

Pin Plunger

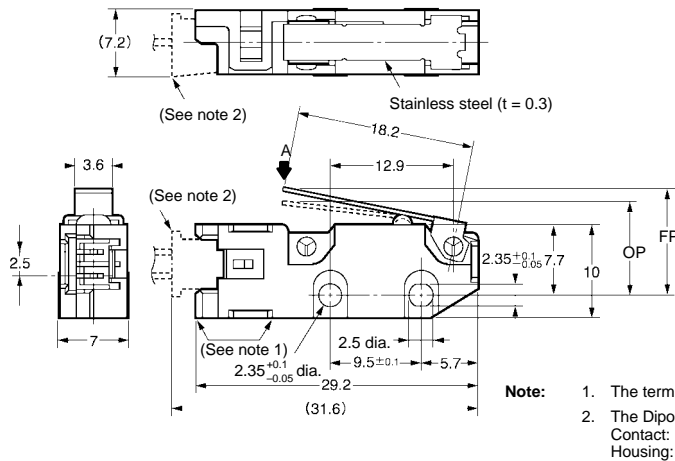
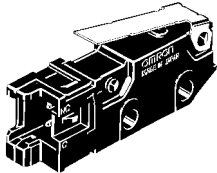
D3M-01
D3M-01-3



Model	D3M-01 D3M-01-3
OF max.	1.50 N {153 gf}
RF min.	0.25 N {25 gf}
PT max.	0.6 mm
OT min.	0.4 mm
MD max.	0.1 mm
OP	8.4±0.3 mm

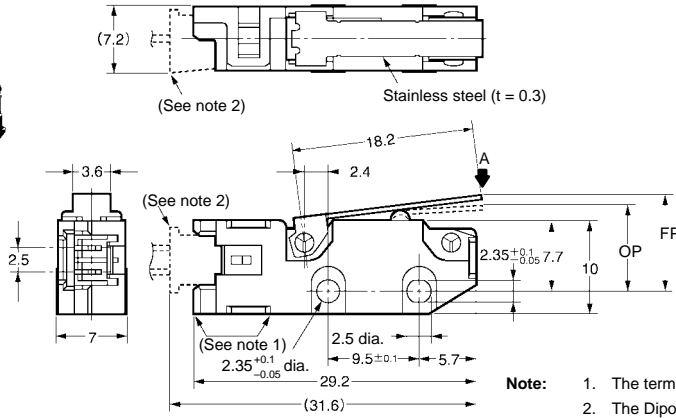
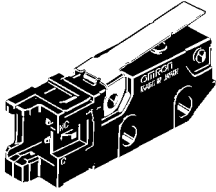
Hinge Lever

D3M-01K1
D3M-01K1-3



Model	D3M-01K1 D3M-01K1-3
OF max.	0.50 N {51 gf}
RF min.	0.06 N {6 gf}
OT min.	1.2 mm
MD max.	0.8 mm
FP max.	14.0 mm
OP	10.0±0.8 mm

D3M-01L1
D3M-01L1-3

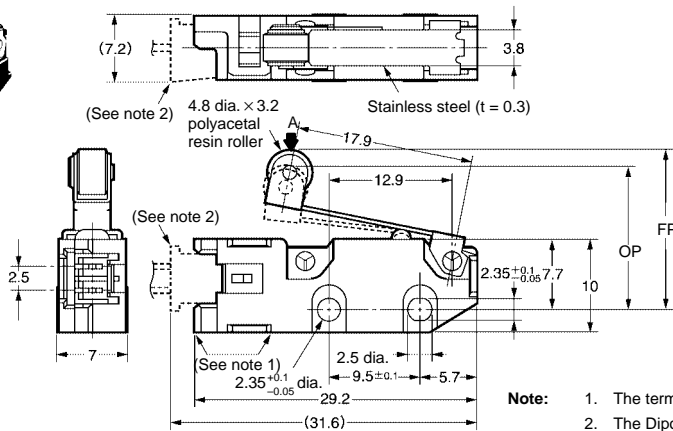
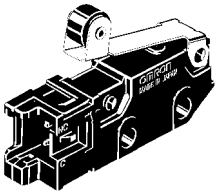


Model	D3M-01L1 D3M-01L1-3
OF max.	1.00 N {102 gf}
RF min.	0.10 N {10 gf}
OT min.	0.7 mm
MD max.	0.6 mm
FP max.	11.5 mm
OP	9.2±0.6 mm

- Note:**
1. The terminals connect to JST's Dipole XA Connector.
 2. The Dipole XA Connector consists of the following components.
Contact: SXA-001T-P0.6
Housing: XAP-02V-1

Hinge Roller Lever

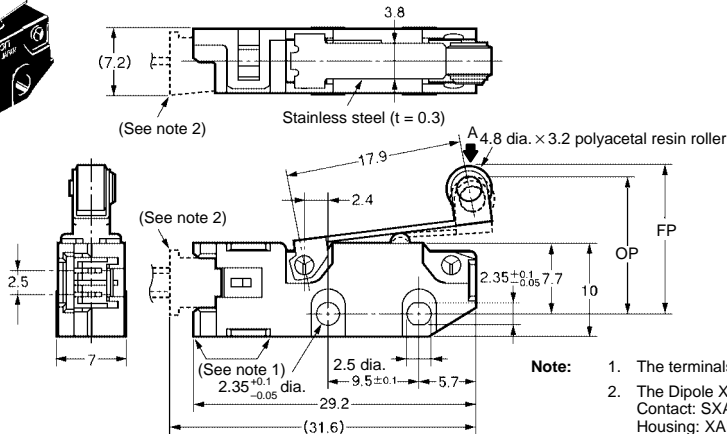
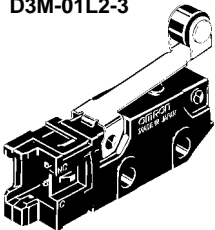
D3M-01K2
D3M-01K2-3



Model	D3M-01K2 D3M-01K2-3
OF max.	0.50 N {51 gf}
RF min.	0.06 N {6 gf}
OT min.	1.2 mm
MD max.	0.8 mm
FP max.	19.7 mm
OP	15.7±0.8 mm

- Note:**
1. The terminals connect to JST's Dipole XA Connector.
 2. The Dipole XA Connector consists of the following components.
Contact: SXA-001T-P0.6
Housing: XAP-02V-1

D3M-01L2
D3M-01L2-3

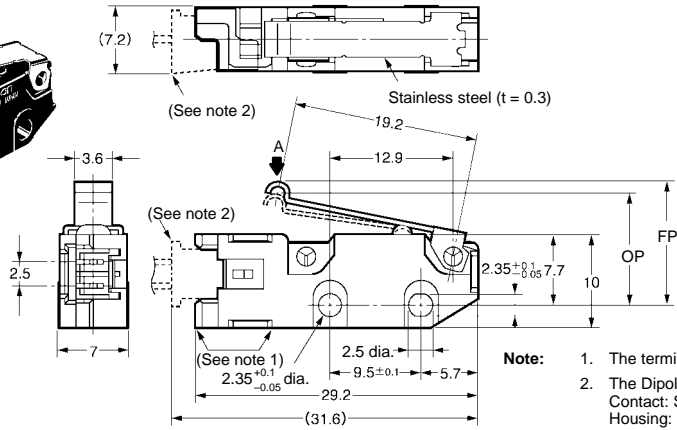
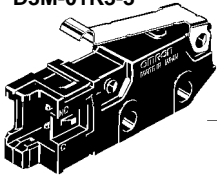


Model	D3M-01L2 D3M-01L2-3
OF max.	1.00 N {102 gf}
RF min.	0.10 N {10 gf}
OT min.	0.7 mm
MD max.	0.6 mm
FP max.	17.2 mm
OP	14.9±0.6 mm

- Note:**
1. The terminals connect to JST's Dipole XA Connector.
 2. The Dipole XA Connector consists of the following components.
Contact: SXA-001T-P0.6
Housing: XAP-02V-1

Simulated Roller Lever

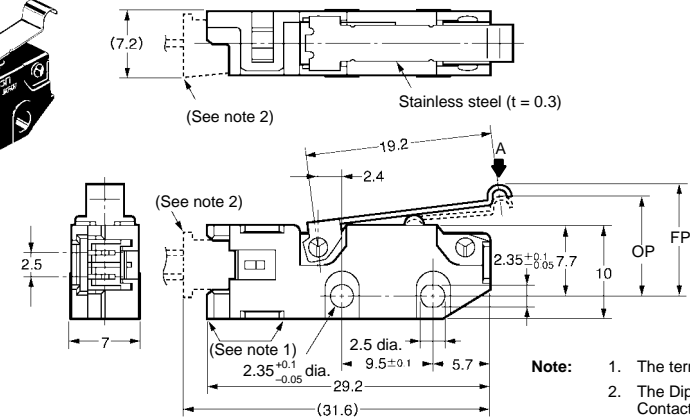
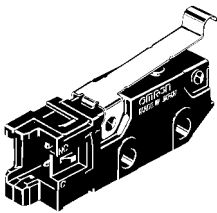
**D3M-01K3
D3M-01K3-3**



Model	D3M-01K3 D3M-01K3-3
OF max.	0.50 N {51 gf}
RF min.	0.06 N {6 gf}
OT min.	1.2 mm
MD max.	0.8 mm
FP max.	16.2 mm
OP	12.2±0.8 mm

- Note:**
1. The terminals connect to JST's Dipole XA Connector.
 2. The Dipole XA Connector consists of the following components.
Contact: SXA-001T-P0.6
Housing: XAP-02V-1

**D3M-01L3
D3M-01L3-3**



Model	D3M-01L3 D3M-01L3-3
OF max.	1.00 N {102 gf}
RF min.	0.10 N {10 gf}
OT min.	0.7 mm
MD max.	0.6 mm
FP max.	13.6 mm
OP	11.3±0.6 mm

- Note:**
1. The terminals connect to JST's Dipole XA Connector.
 2. The Dipole XA Connector consists of the following components.
Contact: SXA-001T-P0.6
Housing: XAP-02V-1

Precautions

Refer to pages 26 to 33 for common precautions.

■ Correct Use

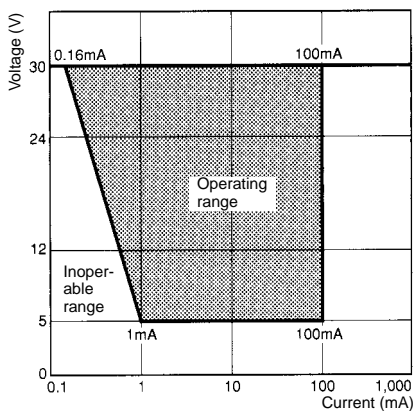
Mounting

Use M2.3 mounting screws 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}.

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 operating range shown below, if inrush current occurs when the contact is opened or closed, it may increase contact wear and so decrease life expectancy. Therefore, insert a contact protection circuit where necessary.

The minimum applicable load is the N-level reference value. This value indicates the malfunction reference level for the reliability level of 60% ($\lambda 60$). The equation, $\lambda 60 = 0.5 \times 10^{-6}/\text{operations}$ indicates that the estimated malfunction rate is less than 1/2,000,000 operations with a reliability level of 60%.



■ Connectors

The terminals connect to JST's XA Connector.

The XA Connector consists of the following components.

Contact: SXA-001T-P0.6

Housing: XAP-02V-1

OMRON does not sell the XA Connector. Contact the following.

J.S.T. Manufacturing Co., Ltd. (Japan)

Tel: (81)6-6968-2722

Fax: (81)6-6968-1201

J.S.T. (U.K.) Ltd. (United Kingdom)

Tel: (44)1986-874131

Fax: (44)1986-874276

J.S.T. Corporation (U.S.A.)

Tel: (1)847-473-1957

Fax: (1)847-473-0144

J.S.T. (H.K.) Co. Ltd. (Hong Kong)

Tel: (852)24137979

Fax: (852)24111193

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. B100-E1-02A