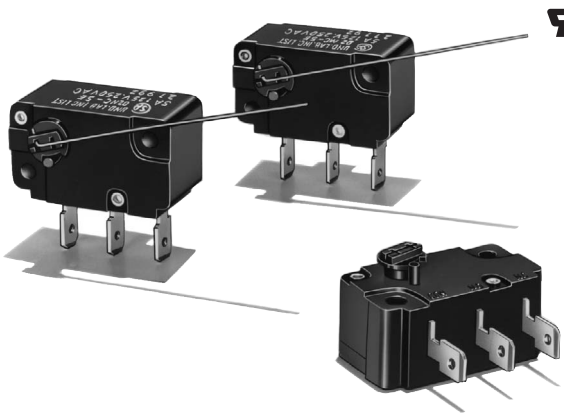
D2MC

Low-Torque Basic Switch

Highly Reliable Rotary-action Switch for Low Torque Operation (0.5 mN·m)

- **0.5A rated model employs crossbar gold-alloy contacts for excellent contact reliability in the micro load range.**
- **Long durability (10,000,000 mechanical operations min.) through use of a movable coil spring.**

RoHS Compliant



Model Number Legend

D2MC- 1 2 3

1. Ratings
5: 250 VAC 5A
01: 30 VDC 0.5A

2. Maximum Operating Torque (OTq)
E: 0.5 m N·m {5.1 gf·cm}
F: 0.75 m N·m {7.6 gf·cm}
H: 1.00 m N·m {10.2 gf·cm}

3. Direction of Actuator
None : Clockwise
L : Counterclockwise

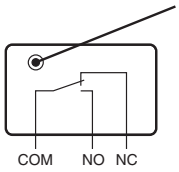
List of Models

Direction of actuation	Ratings: Operating Torque (OTq)	5A	0.5A
Clockwise (CW)	0.5 m N·m {5.1 gf·cm}	**D2MC-5E**	**D2MC-01E**
	0.75 m N·m {7.6 gf·cm}	**D2MC-5F**	**D2MC-01F**
	1.00 m N·m {10.2 gf·cm}	**D2MC-5H**	**D2MC-01H**
Counter-clockwise (CCW)	0.5 m N·m {5.1 gf·cm}	**D2MC-5EL**	**D2MC-01EL**
	0.75 m N·m {7.6 gf·cm}	**D2MC-5FL**	**D2MC-01FL**
	1.00 m N·m {10.2 gf·cm}	**D2MC-5HL**	**D2MC-01HL**

Note. All the models listed here are supplied without actuator lever.
If an actuator lever is required, please order separately by indicating the model number of the actuator lever (CAA1M).

Contact Form

●SPDT



Contact Specifications

Item	Model	D2MC-5	D2MC-01
Contact	Specification	Rivet	Crossbar
	Material	Silver alloy	Gold alloy
	Gap (standard value)	0.5 mm	
Inrush current	NC	15A max.	0.5A max.
	NO	7A max.	0.5A max.
Min. applicable load (see note)		5 VDC 160mA	5 VDC 1mA

Ratings

Model	Item: Rated voltage	Resistive load
D2MC-5 models	125 VAC	5A
	250 VAC	5A
D2MC-01 models	125 VAC	0.5A
	30 VDC	0.5A

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

Characteristics

Item			Model: D2MC-5 models	D2MC-01 models
Permissible operating speed			1° to 360°/s	
Permissible operating frequency	Mechanical		240 operations/min	
	Electrical		60 operations/min (for 0.5 m N·m)	
Insulation resistance			100 MΩ min. (at 500 VDC with insulation tester)	
Contact resistance (initial value)			20 mΩ max.	100 mΩ max.
Dielectric strength	Between terminals of the same polarity		600 VAC 50/60 Hz 1min	
	Between current-carrying metal parts and ground		1,500 VAC 50/60 Hz 1min	
	Between each terminal and non-current-carrying metal parts		1,500 VAC 50/60 Hz 1min	
Vibration resistance * 1	Malfunction		10 to 55 Hz, 1.5 mm double amplitude	
Shock resistance	Durability		1,000 m/s² {approx. 100G} max.	
	Malfunction * 1	Models with OTq of 0.5 m N·m:	100 m/s² {10 G} max.	
		Models with OTq of 0.75 m N·m:	100 m/s² {10 G} max.	
		Models with OTq of 1.00 m N·m:	200 m/s² {20 G} max.	
Durability * 2	Mechanical		10,000,000 operations min. (60 operations/min)	
	Electrical		100,000 operations min. (30 operations/min)	
Degree of protection			IEC IP40	
Ambient operating temperature			−25°C to +80°C (at ambient humidity of 60% max.) (with no icing or condensation)	
Ambient operating humidity			85% max. (for +5°C to +35°C)	
Weight			Approx. 10g	

Note. The data given above are initial values.
*1. Close or open circuit of the contact is 1ms max.
*2. For testing conditions, consult your OMRON sales representative.

Approved Safety Standard

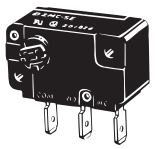
UL (UL1054) /CSA (CSA C22.2 No.55)

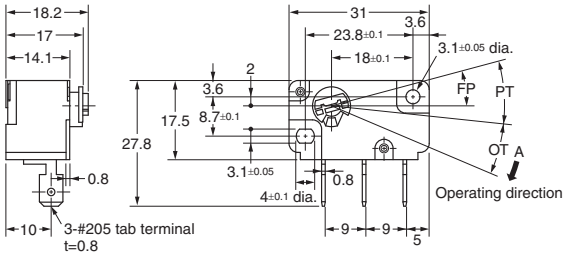
Rated voltage / Model	D2MC-01	D2MC-5
125 VAC	0.5A	5A
250 VAC	-	5A
30 VDC	0.5A	-

Dimensions (Unit: mm) /Operating Characteristics

The □ in the model number are for the Ratings and OTq code. See the "**List of Models**" for available combinations of models.

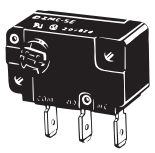
●Clockwise (CW)
D2MC-□□

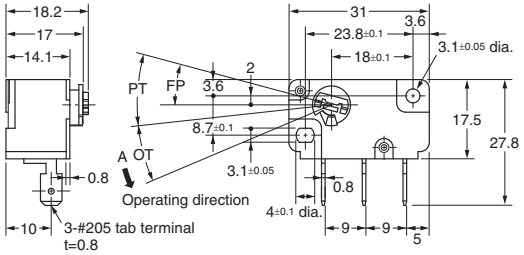




Operating characteristics / Model			D2MC-5E D2MC-01E	D2MC-5F D2MC-01F	D2MC-5H D2MC-01H
Operating Torque Releasing Torque	OTq RTq	Max. Min.	0.5 m N·m {5.1 gf·cm} 0.06 m N·m {0.6 gf·cm}	0.75 m N·m {7.6 gf·cm} 0.09 m N·m {0.9 gf·cm}	1.00 m N·m {10.2 gf·cm} 0.13 m N·m {1.3 gf·cm}
Pretravel	PT	Max.	21°	21°	21°
Overtravel	OT	Min.	17°	17°	17°
Movement Differential	MD	Min.	3°	3°	3°
Release Travel	RT	Min.	5°	5°	5°
Total Travel Free Position	TT FP	Min.	38° 15°±3°		

●Counterclockwise (CCW)
D2MC-□□L





Operating characteristics / Model			D2MC-5EL D2MC-01EL	D2MC-5FL D2MC-01FL	D2MC-5HL D2MC-01HL
Operating Torque Releasing Torque	OTq RTq	Max. Min.	0.5 m N·m {5.1 gf·cm} 0.06 m N·m {0.6 gf·cm}	0.75 m N·m {7.6 gf·cm} 0.09 m N·m {0.9 gf·cm}	1.00 m N·m {10.2 gf·cm} 0.13 m N·m {1.3 gf·cm}
Pretravel	PT	Max.	21°	21°	21°
Overtravel	OT	Min.	17°	17°	17°
Movement Differential	MD	Min.	3°	3°	3°
Release Travel	RT	Min.	5°	5°	5°
Total Travel Free Position	TT FP	Min.	38° 15°±3°		

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 "Basic Switches Common Precautions" for correct use.

Cautions

- Connecting to the tab terminal #205
  Insert the receptacle for #205 straight toward the terminal. Applying excessive external force horizontally or vertically may cause deformation of terminals and may damage the housings.

Correct Use

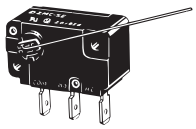
●Mounting

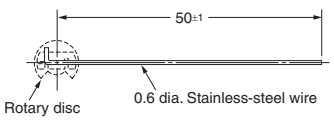
Use M3 mounting screw with plane washers or spring washers to securely mount the Switch.
Tighten the screws to a torque of 0.2 to 0.29 N·m {2 to 3 kgf·cm}.

Actuator Lever (Sold Separately)

●CAA1M

In addition to the standard wire lever model shown here, various other levers (wire levers) are available upon request. Please purchase the actuator lever you need separately.

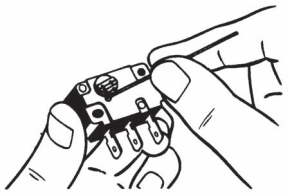




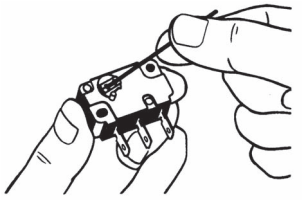
●Mounting Actuator Lever

Lever can be mounted easily with one touch as shown below.

1. Insert the end of the actuator lever into the hole in the rotary disc.



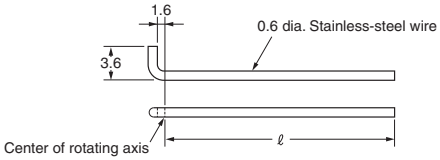
2. Push the lever down in the direction of the groove in the rotary disc.



●Designing Own Actuator

Read the following instructions if you decide to design your own actuator lever.

- Materials: stainless steel, piano wire, hard aluminum wire, etc.
- Shape: There are no restrictions on the tip shape or length of the actuator lever. However, if the lever is too long, improper switch resetting or contact chattering may occur. Therefore, the shape of lever as shown below is suitable. The appropriate value of dimension (ℓ) from the fulcrum is 50 mm.



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