

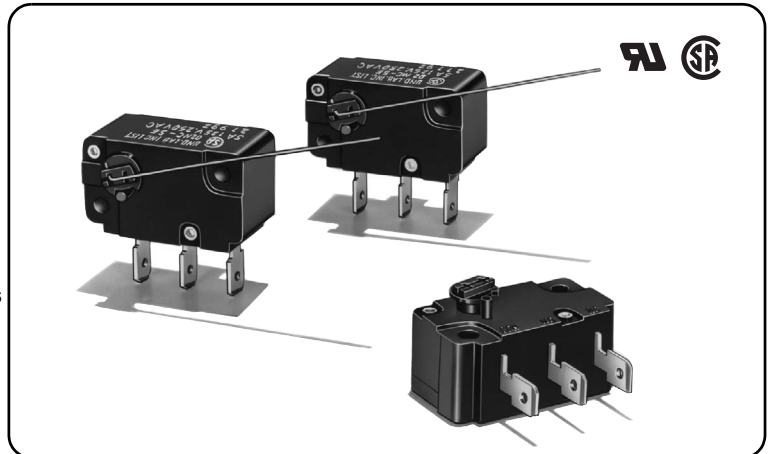
# D2MC

Low-Torque Basic Switch

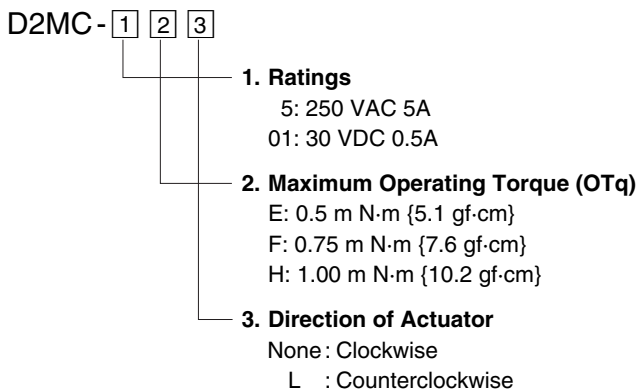
## Highly Reliable Rotary-action Switch for Low Torque Operation (0.5 mN·m)

- 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



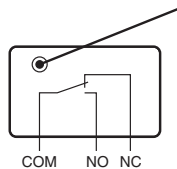
### List of Models

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

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          | 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.<br>(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           | Malfunition  | 10 to 55 Hz, 1.5 mm double amplitude  |                                  |
| Shock resistance                   | Durability   | 1,000 m/s <sup>2</sup> {approx. 100G} max.  |                                  |
|                                    | Malfunition * 1  | Models with OTq of 0.5 m N·m:   | 100 m/s <sup>2</sup> {10 G} max. |
|                                    |  | Models with OTq of 0.75 m N·m:  | 100 m/s <sup>2</sup> {10 G} max. |
|                                    | Models with OTq of 1.00 m N·m:                             | 200 m/s <sup>2</sup> {20 G} max.  |                                  |
| Durability * 2                     | Mechanical   | 10,000,000 operations min.<br>(60 operations/min)                                   |                                  |
|                                    | Electrical   | 100,000 operations min.<br>(30 operations/min)                                      |                                  |
| Degree of protection               |  | IEC IP40  |                                  |
| Ambient operating temperature      |  | -25°C to +80°C (at ambient humidity of 60% max.)<br>(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)

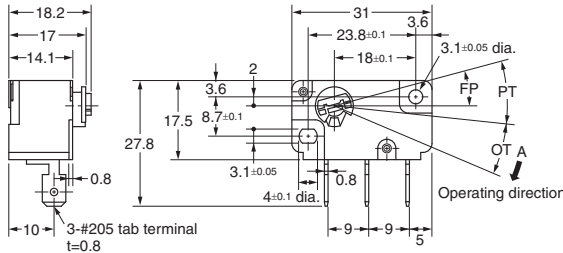
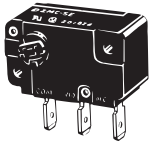
| Rated voltage      | Model | D2MC-01   | D2MC-5   |
|--------------------|-------|-----------|----------|
| 125 VAC<br>250 VAC |       | 0.5A<br>- | 5A<br>5A |
| 30 VDC             |       | 0.5A      | -        |

## 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.

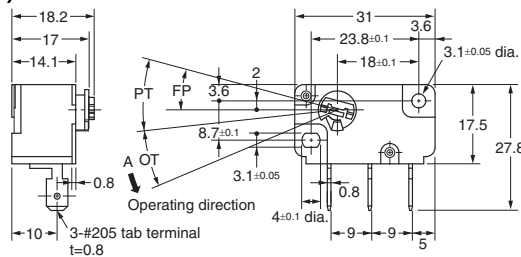
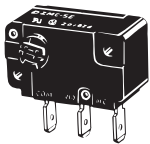
D  
2  
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C

### ●Clockwise (CW) D2MC-□□



| Operating characteristics | Model | D2MC-5E                | D2MC-5F                | D2MC-5H                 |
|---------------------------|-------|------------------------|------------------------|-------------------------|
|                           |       | D2MC-01E               | D2MC-01F               | D2MC-01H                |
| Operating Torque OTq      | Max.  | 0.5 m N-m (5.1 gf-cm)  | 0.75 m N-m (7.6 gf-cm) | 1.00 m N-m (10.2 gf-cm) |
| Releasing Torque RTq      | Min.  | 0.06 m N-m (0.6 gf-cm) | 0.09 m N-m (0.9 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              | TT    | Min. 38°               | 38°                    |                         |
| Free Position             | FP    | 15°±3°                 |                        |                         |

### ●Counterclockwise (CCW) D2MC-□□L



| Operating characteristics | Model | D2MC-5EL               | D2MC-5FL               | D2MC-5HL                |
|---------------------------|-------|------------------------|------------------------|-------------------------|
|                           |       | D2MC-01EL              | D2MC-01FL              | D2MC-01HL               |
| Operating Torque OTq      | Max.  | 0.5 m N-m (5.1 gf-cm)  | 0.75 m N-m (7.6 gf-cm) | 1.00 m N-m (10.2 gf-cm) |
| Releasing Torque RTq      | Min.  | 0.06 m N-m (0.6 gf-cm) | 0.09 m N-m (0.9 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              | TT    | Min. 38°               | 38°                    |                         |
| Free Position             | FP    | 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

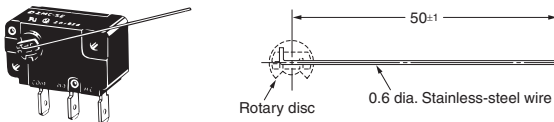
#### ●Mounting

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

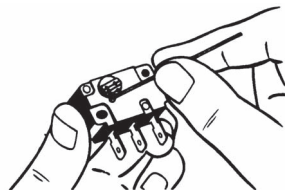
In addition to the standard wire lever model shown here, various other levers (wire levers) are available upon request. Please purchase the actuator lever you need separately.



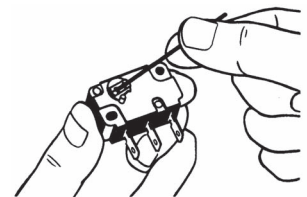
### ●Mounting Actuator Lever

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.



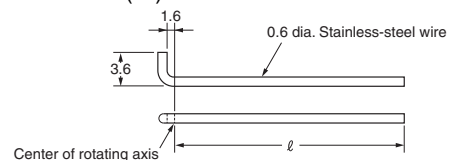
2. Push the lever down in the direction of the groove in the rotary disc.



### ●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.



- 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 systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

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



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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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