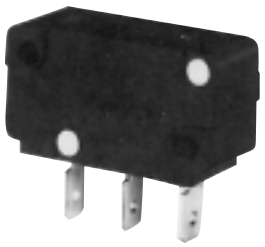
# Basic Switch

# D2MC

## Low Torque Basic Switch

- Highly reliable rotary-action switch for low torque operation
- 0.5 A rated type (D2MC-01□) employs crossbar alloy contacts which exhibit unsurpassed contact reliability in very small load ranges
- High-capacity 5 A type (D2MC-5□) employs silver contacts
- Long life (10,000,000 mechanical operations min.) through use of a movable coil spring



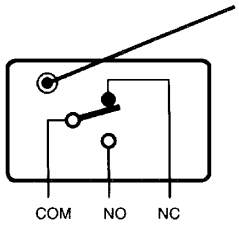
## Ordering Information

| Terminal | Rated Current | Operating Torque | Part Number | |
|---|---|---|---|---|
| | | | Direction of actuator | |
| | | | Clockwise | Counterclockwise |
| Quick connect #205 | 5 A | 5.1 g-cm | **D2MC-5E** | **D2MC-5EL** |
| | | 7.6 g-cm | **D2MC-5F** | **D2MC-5FL** |
| | | 10.2 g-cm | **D2MC-5H** | **D2MC-5HL** |
| | 0.5 A | 5.1 g-cm | **D2MC-01E** | **D2MC-01EL** |
| | | 7.6 g-cm | **D2MC-01F** | **D2MC-01FL** |
| | | 10.2 g-cm | **D2MC-01H** | **D2MC-01HL** |

Note: 1. All the types listed are supplied without actuator lever. If an actuator lever is required, please order separately by indicating the type name of the actuator lever. See “Accessories.”

2. The above switches accept the one-touch snap-in actuator. If retainer mounting is desired, contact OMRON for the appropriate information.

### ■ CONTACT FORM




## Specifications

| Model | Electrical ratings | inrush current |
|---|---|---|
| D2MC-5□ | 5 A, 125/250 VAC (resistive load) | NC: 15 A, NO: 7A |
| D2MC-01□ | 0.5 A, 125 VAC/30 VDC (resistive load) | 0.5 A |

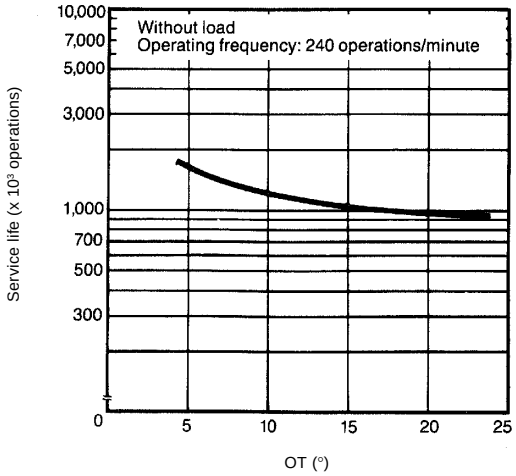
# Characteristics

| | | D2MC-5□ | D2MC-01□ |
|---|---|---|---|
| Operating Speed | 1 to 360°/second | | |
| Operating frequency | Mechanical | 240 operations per minute | 240 operations per minute |
| | Electrical | 20 operations per minute | 60 operations per minute |
| Contact resistance | | 20 mΩ max. (initial) | 100 mΩ max. (initial) |
| Insulation resistance | | 100 mΩ max. (at 500 VDC) | |
| Dielectric strength | | 600 VAC, 50/60 Hz for 1 minute between nonconnected terminals<br>1,500 VAC, 50/60 Hz for 1 minute between current-carrying part and ground and between noncurrent-carrying part and terminal | |
| Vibration | Malfunction durability | 10 to 55 Hz, 1.5 mm double amplitude | |
| Shock | Mechanical durability | 1,000 m/s$^2$ (approx. 100 g) | |
| | Malfunction durability | D2MC-□E: 100 m/s$^2$ (approx. 10 g)<br>D2MC-□F: 100 m/s$^2$ (approx. 10 g)<br>D2MC-□H: 200 m/s$^2$ (approx. 20 g) | |
| Ambient temperature | Operating | -25° to 80°C | |
| Humidity | | 85% RH max. | |
| Service life (at rated OT value) | Mechanical | 10,000,000 operations min. | |
| | Electrical | 100,000 operations min. | 100,000 operations min.<br>(1,000,000 operations at 0.1A, 125 VAC/30VDC) |
| Weight | | Approx. 10.5 g | |

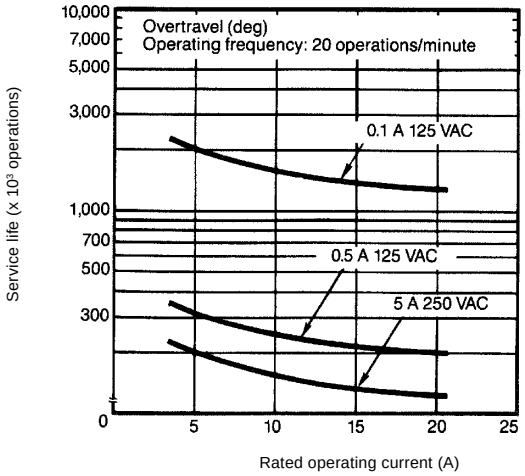
Note: Data shown are of initial value.

## ■ CHARACTERISTIC DATA

**Mechanical service life**




**Electrical service life (p.f. = 1)**




## ■ APPROVALS

**UL (File No. E41515) / CSA (File No. LR21642)**

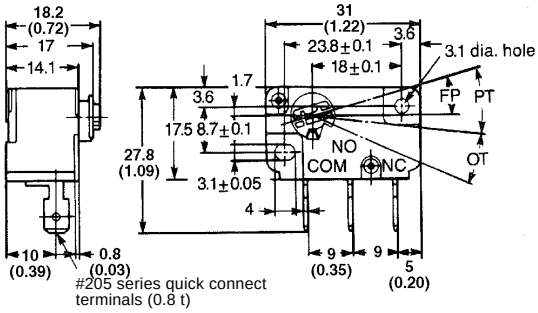
| Type | Rating |
|---|---|
| D2MC-5□ Series | 5 A, 125 VAC/250 VAC |
| D2MC-01□ Series | 0.5 A, 125 VAC/30 VDC |

Note: The rated values approved by each of the safety standards (e.g. UL, CSA) may be different from the performance characteristics individually defined in this catalog.

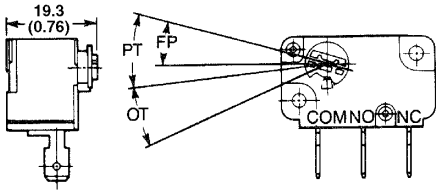
# Dimensions

Unit: mm (inch)

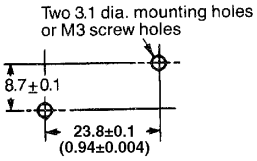
**Snap-on mounting**
**Clockwise type**




**Counterclockwise type**




**Mounting holes**




| Operating characteristics | D2MC-□E | D2MC-□F | D2MC-□H |
|---|---|---|---|
| OT max. | 5.1 g-cm | 7.6 g-cm | 10.2 g-cm |
| RT min. | 0.6 g-cm | 0.9 g-cm | 1.3 g-cm |
| PT max. | 21° | 21° | 21° |
| OT min. | 17° | 17° | 17° |
| MD min. | 3° | 3° | 3° |
| RT min. | 5° | 5° | 5° |
| TT min. | 38° | 38° | 38° |
| FP | 15 ± 3° | 15 ± 3° | 15 ± 3° |

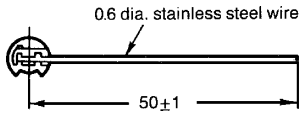
Note: Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions..

# Accessories

(Order separately)

## ■ ACTUATOR LEVER

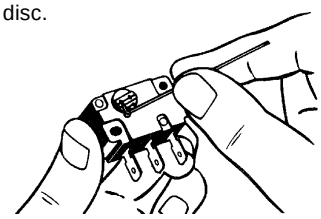
**Model CAA1M for snap-on mounting**



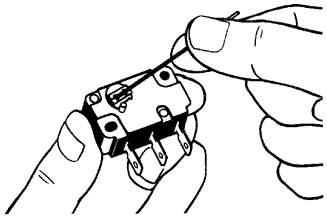

In addition to the standard wire lever type shown here, various other levers are available upon request.

## ■ MOUNTING ACTUATOR LEVER

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



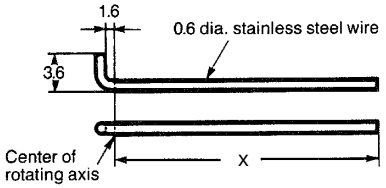
2. Push the lever down in the direction of the groove in the rotary disc.



## ■ DESIGNING YOUR OWN ACTUATOR LEVER

If you decide to make your own actuator lever, the materials used should be stainless steel, piano wire, hard aluminum wire, etc.

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 the lever as shown below is suitable.




The appropriate value of dimension (x) from the fulcrum is 50 mm.

## ■ MICROVOLTAGE/-CURRENT LOAD TYPE

For details, refer to “General Information.”

# Precautions

## ■ MOUNTING/SOLDERING

When mounting the switch with screws, use M3 screws with plane washers or spring washers. Tighten the screws at a torque of 3 kg-cm.

To solder the lead to the terminal, apply a soldering iron rated at 60 W max. quickly (within 5 seconds) with the actuator at the free position.

Note that applying a soldering iron for too long a time or using one that is rated at more than 60 W may degrade the switch characteristics.

Do not change the operating position by modifying the actuator.

OMRON

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