

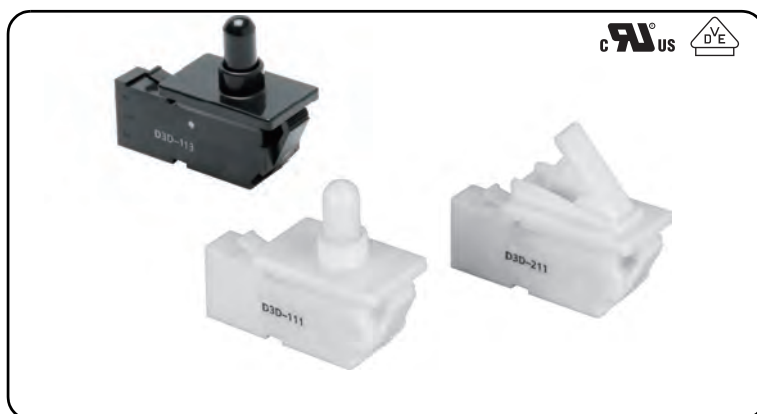
# D3D

## Miniature Door Switch

### 9mm long stroke with its unique mechanism (plunger model)

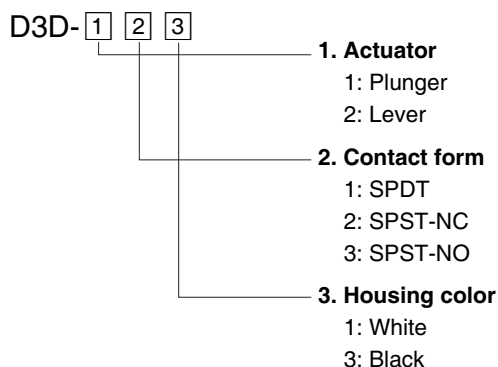
- Choose from plunger or lever as the actuator type.
- Crimp-type connector offers an easy wiring work and efficiency.
- Snap-fit attachment for easy installation.
- Providing two colors, black and white.
- Mainly used for refrigerators.

RoHS Compliant



D  
3  
D

### Model Number Legend

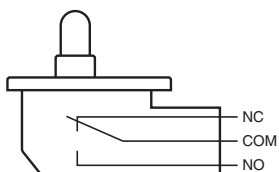


### List of Models

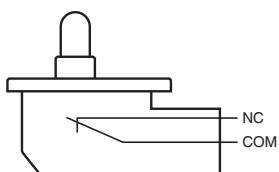
| Actuator                                                                            | Housing color | Contact form |         |         |
|-------------------------------------------------------------------------------------|---------------|--------------|---------|---------|
|                                                                                     |               | SPDT         | SPST-NC | SPST-NO |
|  | White         | D3D-111      | D3D-121 | D3D-131 |
|                                                                                     | Black         | D3D-113      | D3D-123 | D3D-133 |
|  | White         | D3D-211      | D3D-221 | D3D-231 |
|                                                                                     | Black         | D3D-213      | D3D-223 | D3D-233 |

### Contact Form

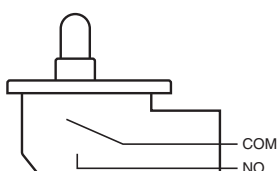
#### ●SPDT



#### ●SPST-NC



#### ●SPST-NO



### Contact Specifications

| Item                                        | Model         | D3D        |
|---------------------------------------------|---------------|------------|
| Contact                                     | Specification | Crossbar   |
|                                             | Material      | Gold alloy |
| Minimum applicable load (reference value) * |               | 5 VDC 1 mA |

\* Please refer to "●Using Micro Loads" in "Precautions" for more information on the minimum applicable load.

### Ratings

| Rated voltage | Resistive load |
|---------------|----------------|
| 125 VAC       | 1 A            |
| 250 VAC       | 0.5 A          |

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

### Approved Safety Standards

UL (UL61058-1)/cUL (CSA C22.2 No.61058-1)

| Rated voltage | Model | D3D            |
|---------------|-------|----------------|
|               | Item  | Resistive load |
| 125 VAC       |       | 1 A            |
| 250 VAC       |       | 0.5 A          |

#### VDE (EN61058-1)

| Rated voltage | Model | D3D   |
|---------------|-------|-------|
| 125 VAC       |       | 1 A   |
| 250 VAC       |       | 0.5 A |

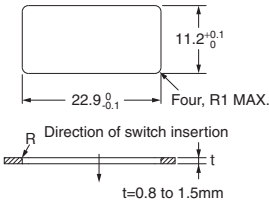
Testing conditions: 5E4 (50,000 operations) T55 (0°C to 55°C)

Characteristics

|                                             |                                                             |                                                                               |
|---------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------|
| Permissible operating speed                 |                                                             | 7.5 mm to 500 mm/s                                                            |
| Permissible operating frequency             | Mechanical                                                  | 120 operations/min                                                            |
|                                             | Electrical                                                  | 20 operations/min                                                             |
| Insulation resistance                       |                                                             | 100 MΩ min. (at 500 VDC with insulation tester)                               |
| Contact resistance (initial value)          |                                                             | 100 mΩ max.                                                                   |
| Dielectric strength                         | Between terminals of the same polarity                      | 1,000 VAC 50/60 Hz 1 min                                                      |
|                                             | Between current-carrying metal parts and ground             | 1,500 VAC 50/60Hz 1 min                                                       |
|                                             | Between each terminals and non-current-carrying metal parts | 1,500 VAC 50/60Hz 1 min                                                       |
| Vibration resistance *1                     | Malfunction                                                 | 10 to 55Hz, 1.5 mm double amplitude                                           |
| Shock resistance *1                         | Durability                                                  | 490 m/s <sup>2</sup> {approx. 49G} max.                                       |
|                                             | Malfunction                                                 | 300 m/s <sup>2</sup> {approx. 30G} max.                                       |
| Durability *2                               | Mechanical                                                  | 300,000 operations min. (60 operations/min)                                   |
|                                             | Electrical                                                  | 50,000 operations min. (20 operations/min)                                    |
| Degree of protection                        |                                                             | IEC IP00                                                                      |
| Degree of protection against electric shock |                                                             | Class I                                                                       |
| Proof tracking index (PTI)                  |                                                             | 250                                                                           |
| Ambient operating temperature               |                                                             | -30°C to +60°C (at ambient humidity 60% max.) (with no icing or condensation) |
| Ambient operating humidity                  |                                                             | 85% max. (for +5 to +35°C)                                                    |
| Weight                                      |                                                             | Approx. 4g                                                                    |

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

Mounting Holes (Unit: mm)

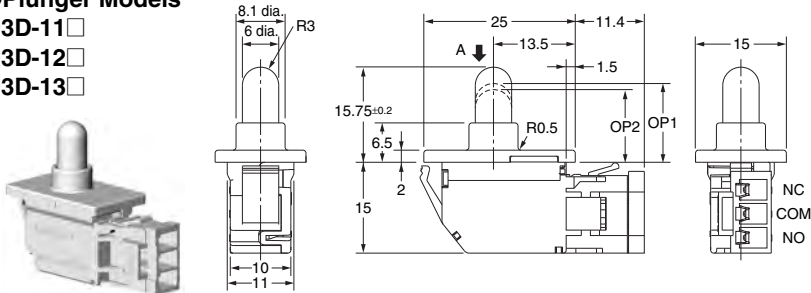


Dimensions (Unit: mm) and Operating Characteristics

The illustrations are for models with white housing as a representative. The □ is replaced with the code for the housing color that you need. See the "List of Models" for available combinations of models.

●Plunger Models

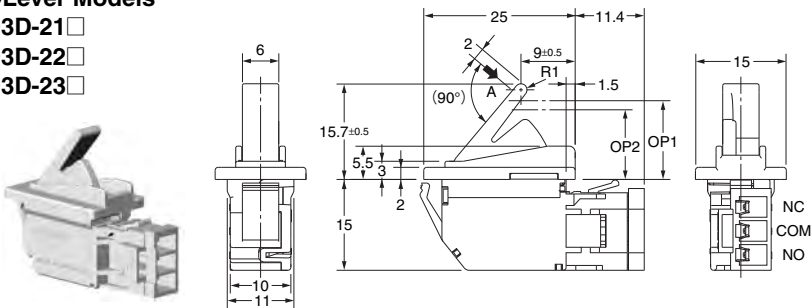
- D3D-11□
- D3D-12□
- D3D-13□



|                           |     | Type  | Plunger model            |                   |                  |
|---------------------------|-----|-------|--------------------------|-------------------|------------------|
| Operating Characteristics |     | Model | D3D-11□                  | D3D-12□           | D3D-13□          |
| Operating Force           | OF  | Max.  | 2.0 N {204 gf}           |                   |                  |
| Total Travel Force        | TTF | Max.  | 3.5 N {357 gf}           |                   |                  |
| Total Travel              | TT  |       | 9.0 mm (reference value) |                   |                  |
| Operating Position        | OP  | Min.  | OP1 (NC-OFF)<br>13 mm    | 13 mm<br>(NC-OFF) | 12 mm<br>(NO-ON) |
|                           |     |       | OP2 (NO-ON)<br>12 mm     |                   |                  |

●Lever Models

- D3D-21□
- D3D-22□
- D3D-23□



|                           |     | Type  | Lever model              |                   |                    |
|---------------------------|-----|-------|--------------------------|-------------------|--------------------|
| Operating Characteristics |     | Model | D3D-21□                  | D3D-22□           | D3D-23□            |
| Operating Force           | OF  | Max.  | 2.0 N {204 gf}           |                   |                    |
| Total Travel Force        | TTF | Max.  | 2.5 N {245 gf}           |                   |                    |
| Total Travel              | TT  |       | 9.7 mm (reference value) |                   |                    |
| Operating Position        | OP  | Min.  | OP1 (NC-OFF)<br>13 mm    | 13 mm<br>(NC-OFF) | 11.5 mm<br>(NO-ON) |
|                           |     |       | OP2 (NO-ON)<br>11.5 mm   |                   |                    |

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 "Common Precautions" for correct use.

### Correct Use

#### ●Mounting

This product does not have a waterproof or drip-proof construction. Ensure that water does not enter the interior of the Switch.

In particular, do not use the Switch in locations where water may be spilt or flow over the Switch. Doing so may result in deterioration of the insulation.

#### ●Operating Stroke

In order to ensure stable contact force for NO contacts, set the total stroke at least 5 mm.

#### ●Wiring

Do not use the Switch with Connector mounted and weight load applied to the Connector and lead wire, otherwise it may rattle or may result in connection failure.

#### ●Using Micro Loads

Even when using the Switch within the operating range, if there are inrush currents or surges, it may decrease the durability of the Switch. If necessary, insert a contact protection circuit.

## Connector

- The terminals connect to JST's HL Connector.  
Contact: SSF-21T-P1.4  
Housing: HLP-03V
- OMRON does not sell the HL Connector.
- Contact JST Mfg. for more information on the connectors.

**J.S.T. Manufacturing Co.,Ltd.**

[http://www.jst-mfg.com/index\\_e.php](http://www.jst-mfg.com/index_e.php)

Please check each region's Terms & Conditions by region website.

## OMRON Corporation

Electronic and Mechanical Components Company

### Regional Contact

#### Americas

<https://www.components.omron.com/>

#### Asia-Pacific

<https://ecb.omron.com.sg/>

#### Korea

<https://www.omron-ecb.co.kr/>

#### Europe

<http://components.omron.eu/>

#### China

<https://www.ecb.omron.com.cn/>

#### Japan

<https://www.omron.co.jp/ecb/>

© OMRON Corporation 2007-2020 All Rights Reserved.

In the interest of product improvement, specifications are subject to change without notice.

Cat. No. B107-E1-05  
1020(0207)(O)