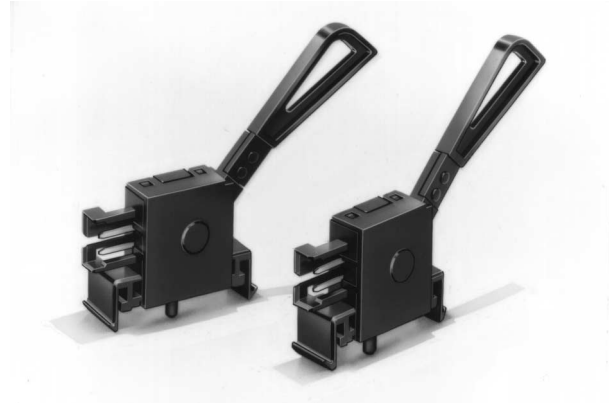


Connector Termination Switch

D3K

Detection Switch Requiring Only Minimal Operating Force

- Detects insertion of cards or passage of paper sheets with a 0.03-N {3-gf} operating force.
- Capable of snap-fitting onto 0.8, 1.0, or 1.2-mm-thick mounting objects.
- Easy wiring ensured through quick-connect terminals.
- Long, 45-degree stroke angle makes it easier to design a wide range of mechanisms.



Ordering Information

| Model | Minimum order |
|-------|---------------|
| D3K-B | 100 |

Note: Only orders in multiples of 100 are accepted.

Specifications

■ Ratings

| | |
|--------|------------------------|
| 12 VDC | 10 mA (resistive load) |
|--------|------------------------|

■ Characteristics

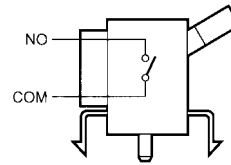
| | |
|---|--|
| Operating speed | 0.1 to 100 mm/s |
| Operating frequency | Mechanical: 30 operations/min Electrical: 30 operations/min |
| Insulation resistance | 100 MΩ min. (at 250 VDC) |
| Contact resistance | 200 mΩ max. (initial value) |
| Dielectric strength | 250 VAC, 50/60 Hz for 1 min between terminals of same polarity 250 VAC, 50/60 Hz for 1 min between current-carrying metal part and ground |
| Vibration resistance | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude (at a contact separation time of 1 ms max.) (see note) |
| Shock resistance | Malfunction: 300 m/s ² {30G} (at a contact separation time of 1 ms max.) (see note) |
| Life expectancy (see note) | Mechanical: 2,000,000 operations min. Electrical: 2,000,000 operations min. |
| Degree of protection | IP00 |
| Degree of protection against electric shock | Class III |
| Proof tracking index (PTI) | 175 |
| Ambient temperature | Operating: -10°C to 70°C (at ambient humidity of 60% max.) (with no icing or condensation) |
| Ambient humidity | Operating: 35% to 85% (for 5°C to 35°C) |
| Weight | Approx. 1 g |

Note: These values are possible on condition that the actuator of the D3K is operated up to the total travel position (TTP).

■ Contact Specifications

| | | |
|-------------------------|---------------|---------------|
| Contact | Specification | Slide |
| | Material | Silver plated |
| Minimum applicable load | | 1 mA at 5 VDC |

■ Contact Form



Dimensions

■ Mounting Holes

Note: 1. All units are in millimeters unless otherwise indicated.

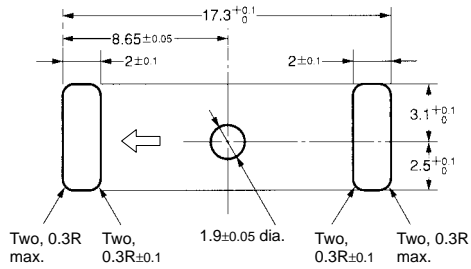
2. The switch lever is set in the direction indicated by an arrow in the above illustrations.

Refer to the following mounting hole dimensions and be sure that the burred side is opposite to the Switch mounting side.

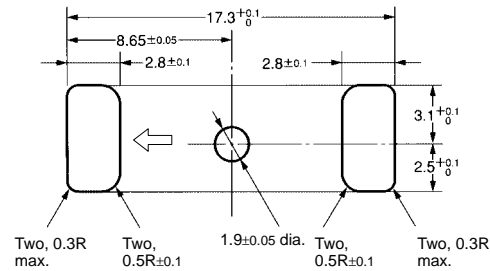
If further mounting security is required for the prevention of rattling, contact your OMRON representative.

By changing the 1.9±0.05-dia. hole to a 1.7 to 1.8-dia. hole, the pin on the Switch side will need to be pressed in. This will reduce the clattering of the pin.

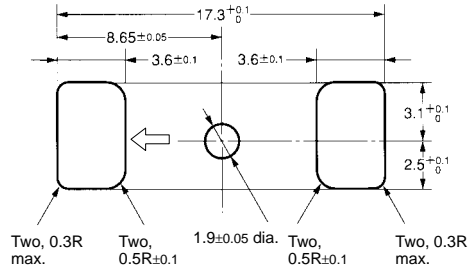
• Plate thickness t=0.8



• Plate thickness t=1.0



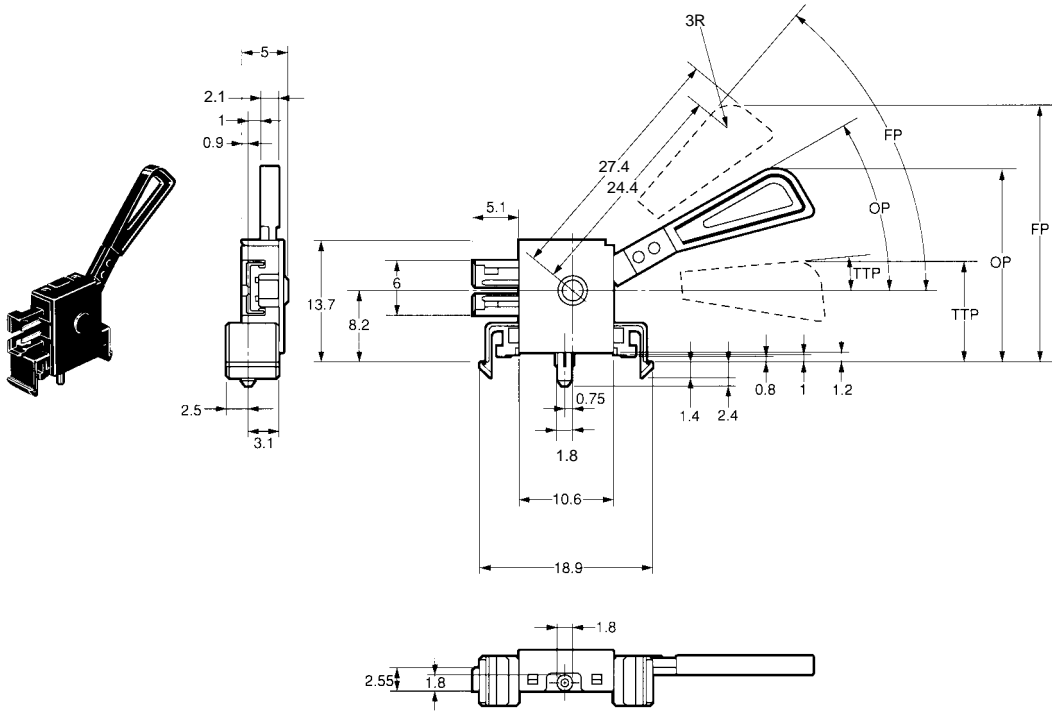
• Plate thickness t=1.2



■ Dimensions and Operating Characteristics

- Note:** 1. All units are in millimeters unless otherwise indicated.
 2. Unless specified, a tolerance of ±0.4 mm applies to all dimensions.

D3K



| | |
|-----------------|-------------------|
| OF max. | 0.03 N {3 gf} |
| TTF max. | 0.05 N {5 gf} |
| FP max. | 28.7 mm {50°} |
| OP | 21.6±2 mm {30±5°} |
| TTP max. | 11.4 mm {5°} |

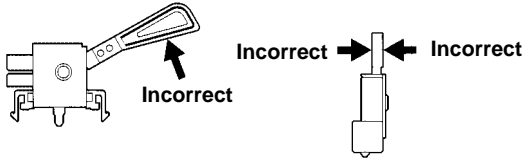
Precautions

Refer to pages 26 to 33 for common precautions.

■ Correct Use

Application of Operation Force to the Lever

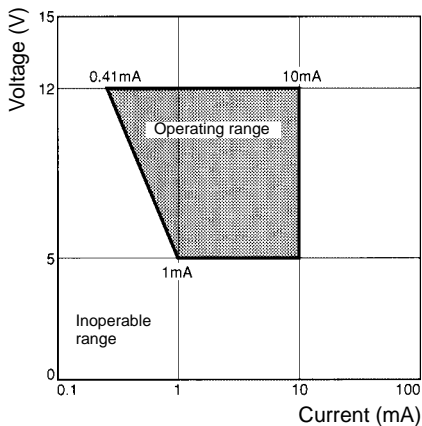
Apply operation forces to the lever in its operating direction. Applying operation force to the lever in any other directions will damage the Switch or cause malfunction.



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%.



■ Connector

Use the following type CT connectors of Tyco Electronics AMP for wiring the D3K:

- Press-fit connector: 173977-2
- Crimp-style connector housing: 179228-2
- Crimp-style connector contact: 179227-1

The above connectors are not sold by OMRON. Contact the following offices for these connectors:

Toyo Electronics/AMP

- Japan
Phone: 81-44-844-8111
- U.S.A.
Phone: 1-800-522-6752
- Great Britain
Phone: 44-208-954-2356
- Hong Kong
Phone: 852-2735-1628

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. B099-E1-01A

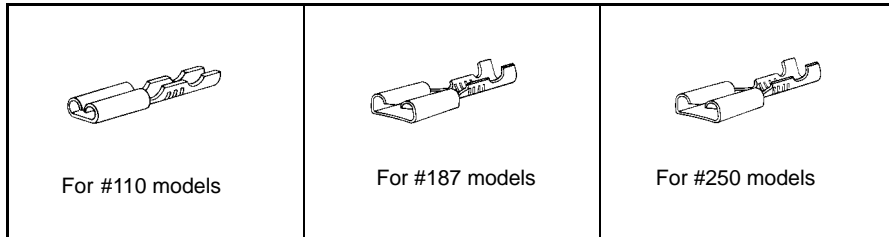
Connectors

Microswitches for tab-terminals listed in this catalog are compatible with other companies' products. The following AMP-made Connectors are also available. For more details about AMP Connectors, contact one of the addresses listed below.

Toyo Electronics/AMP

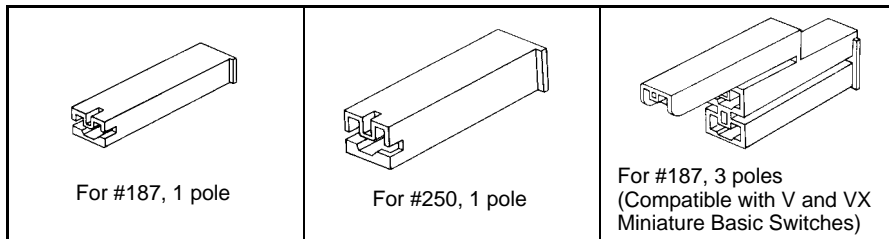
- Japan
Phone: 81-44-844-8111
- U.S.A.
Phone: 1-800-522-6752
- Great Britain
Phone: 44-208-954-2356
- Hong Kong
Phone: 852-2735-1628

Receptacles for Quick-connect Terminals



Positive Lock Connectors

(Connectors with an easy-to-insert, secure lock mechanism.)



Note: Other companies' products are listed in this catalog as general user information. We assume no responsibility for the quality or price of other companies' products.