## Panasonic ideas for life



## FEATURES

1. Superior anti-weld properties
achieved through forced open contact
construction. construction.
2. Stable contact achieved through use of AgZnO alloy crossbar contact. 3. Letter display on handle of ON-OFF type
3. Different handles available for different applications.

## CONSTRUCTION

## RoHS compliant



## PRECAUTIONS WHEN USING CADMIUM-FREE CONTACT TYPE

Models with cadmium-free contacts have been introduced in order to reduce environmentally harmful substances. ("F" is affixed to the end of the part number.) We ask customers who are currently using products with cadmium-containing contacts (no "F" at the end of the part number) to please make the switch to models with cadmium-free contacts. When switching, operating life may differ depending on the load. Please be sure to verify this by conducting an evaluation using actual equipment.

## PRODUCT TYPES

## 1. Tumbler switch

1) Solder terminal

| Type | Kind of operation | Solder terminal |
| :---: | :---: | :---: |
|  |  | Part No. |
| 1-pole, single throw | ON-OFF | WD2001F |
| 1-pole, single throw (coupled) | ON-OFF | WD2003F |
| 1-pole, double throw | ON-ON | WD2101F |
| 1-pole, double throw (coupled) | ON-ON | WD2103F |
| 2-pole, single throw | ON-OFF | WD2201F |
| 2-pole, double throw | ON-ON | WD2301F |

2) Wire lead type

| Type | Kind of operation | Wire leads |
| :---: | :---: | :---: |
|  |  | Part No. |
| 1-pole, single throw | ON-OFF | WD2002F |
| 1-pole, single throw (coupled) | ON-OFF | WD2004F |
| 1-pole, double throw | ON-ON | WD2102F |
| 1-pole, double throw (coupled) | ON-ON | WD2104F |
| 2-pole, single throw | ON-OFF | WD2202F |
| 2-pole, double throw | ON-ON | WD2302F |

Remarks: 1. For UL/C-UL certified products, please add a " 9 " before the " $F$ " at the end of the part number when ordering.
2. Handle display is as shown in the figure below.
3. Please inquire regarding cadmium free models.

## 2. Rocker switch

1) Solder terminal, 2-color handle and solder terminal

| Type | Kind of operation | Solder terminal | 2-color handle and solder terminal |
| :---: | :---: | :---: | :---: |
|  |  | Part No. | Part No. |
| 1-pole, single throw | ON-OFF | WD3001F | WD3021F |
| 1-pole, single throw (coupled) | ON-OFF | WD3003F | WD3023F |
| 1-pole, double throw | ON-ON | WD3101F | WD3121F |
| 1-pole, double throw (coupled) | ON-ON | WD3103F | WD3123F |
| 2-pole, single throw | ON-OFF | WD3201F | WD3221F |
| 2-pole, double throw | ON-ON | WD3301F | WD3321F |

2) Wire lead type

| Type | Kind of operation | Wire leads |
| :---: | :---: | :---: |
|  |  | Part No. |
| 1-pole, single throw | ON-OFF | WD3002F |
| 1-pole, single throw (coupled) | ON-OFF | WD3004F |
| 1-pole, double throw | ON-ON | WD3102F |
| 1-pole, double throw (coupled) | ON-ON | WD3104F |
| 2-pole, single throw | ON-OFF | WD3202F |
| 2-pole, double throw | ON-ON | WD3302F |

Remarks: 1. For UL/C-UL certified products, please add a " 9 " before the " $F$ " at the end of the part number when ordering.
2. Please inquire regarding cadmium free models.

## SPECIFICATIONS

## 1. Contact rating

| Kind of load | AC | DC |
| :--- | :---: | :---: |
| Resistive load | $10 \mathrm{~A} \mathrm{250V}$ | 6 A |
| Inductive load | 10 A 250 V (Power factor: 0.6) | 125V,0.4A 250V |
| Lamp load (incandescent) | 300 W | $100 \mathrm{~V}, 500 \mathrm{~W}$ 200V, Inrush current: Max. 30 A |
| Motor load | 200 W 125V,300W 250V | - |

## 2. Characteristics

| Mechanical expected life |  |  |
| :--- | :--- | :--- |
| Electrical <br> expected life | AC load | Min. $5 \times 10^{4}$ |
|  | AC motor load | MC lamp load |
|  | DC load | Min. $10^{4}(20 \mathrm{cpm})$ at rated load |
|  | Overload | Min. $10^{4}(10 \mathrm{cpm})$ at rated load |
| Insulation resistance | Min. $10^{4}(12 \mathrm{cpm})$ at rated load |  |
| Breakdown voltage | Min. $50(5 \mathrm{cpm})($ Rated load $\times 1.5)$ |  |
| Vibration resistance | Min. $100 \mathrm{M} \Omega($ at 500 V DC measured by insulation resistive meter) |  |
| Contact resistance | $1500 \mathrm{Vrms} \mathrm{(at} \mathrm{detection} \mathrm{current:} 10 \mathrm{~mA})$ |  |
| Ambient temperature | 10 to 55 Hz at double amplitude of 1.5 mm (contact opening: Max. 1 ms$)$ |  |
| Contact material | Initial, Max. $10 \mathrm{~m} \Omega$ (By voltage drop at $1 \mathrm{~A}, 2$ to 4 V DC) |  |

DIMENSIONS (mm) (General tolerance: $\pm 0.5$ )

## 1. Tumbler switch




1-pole $\quad 1$-pole (coupled)
2-pole


Remarks: 1. ON-OFF type does not have a terminal No. 2 in the middle.
2. ON-OFF type has an ON-OFF display on the handle.
3. M2.5 screws for Philips screwdriver used for installation.

## 2. Rocker switch



2-pole


Remarks: 1. ON-OFF type does not have a terminal No. 2 in the middle.
2. ON-OFF type has an ON-OFF display on the handle.
3. M2.5 screws for Philips screwdriver used for installation.

## MOUNTING DIMENSIONS

| Type | 1-pole and 2-pole | 1-pole (coupled) |
| :---: | :---: | :---: |
| Panel cutout (mm) |  |  |
| Tumbler switch: Max. 2.5 mm , Rocker switch: Max. 3.2 mm |  |  |

## ELECTRICAL CIRCUIT DIAGRAM

|  | 1-pole | 2-pole | 1-pole (coupled) |
| :---: | :---: | :---: | :---: |
| ON-OFF |  |  | $\begin{array}{\|l\|l\|} \hline 1 & 1 \\ \hline 0 & 0 \\ 1 & 1 \\ 1 & 1 \\ \hline & 1 \\ \hline 1 & (3) \end{array}$ |
| ON-ON |  |  |  |

Remarks: 1. The numbers on the electrical circuit diagrams indicate terminal numbers.
2. The filled bars indicate mechanical coupling by the handle action and that each pole is operating simultaneously.

## NOTES

## Soldering

When using solder to wire this switch, be careful not to allow solder or flux to enter the inside of the switch from the small openings around the terminals as this can lead to faulty contacting. Bear this in mind, in particular, for the terminal No. 2 on the double throw type.

