

TUMBLER/ROCKER SWITCHES

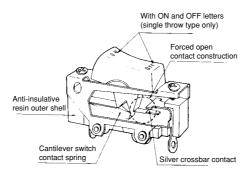
TUMBLER/ROCKER SWITCHES (WD2/WD3)



FEATURES

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

CONSTRUCTION



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.

RoHS compliant

PRODUCT TYPES

1. Tumbler switch

1) Solder terminal

T	Kind of operation	Solder terminal	
Туре		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

Туре	Kind of appretion	Wire leads	
	Kind of operation	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

Туре	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

Tupo	Kind of appretion	Wire leads	
Туре	Kind of operation	Part No.	
1-pole, single throw	ON-OFF	WD3002F	
1-pole, single throw (coupled)	row (coupled) ON-OFF WD3004F		
1-pole, double throw	-pole, double throw ON-ON WD3102F		
1-pole, double throw (coupled)	ON-ON	WD3104F	
2-pole, single throw ON-OFF WD3202F		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.

SPECIFICATIONS

1. Contact rating

Kind of load	AC	DC
Resistive load	10A 250V	6A 30V,0.8A 125V,0.4A 250V
Inductive load	10A 250V (Power factor: 0.6)	4A 30V,0.4A 125V,0.2A 250V (Time constant: 7 ms)
Lamp load (incandescent)	300W 100V,500W 200V, Inrush current: Max. 30 A	_
Motor load	200W 125V,300W 250V	_

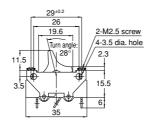
2. Characteristics

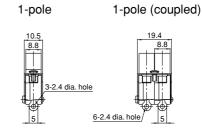
Mechanical exped	cted life	Min. 5×10 ⁴	
Electrical expected life	AC load	Min. 3×10 ⁴ (20 cpm) at rated load	
	AC motor load	Min. 10 ⁴ (20 cpm) at rated load	
	AC lamp load	Min. 10 ⁴ (10 cpm) at rated load	
	DC load	Min. 10 ⁴ (12 cpm) at rated load	
	Overload	Min. 50 (5 cpm) (Rated load×1.5)	
Insulation resistar	nce	Min. 100 M Ω (at 500 V DC measured by insulation resistive meter)	
Breakdown voltag	ge	1500 Vrms (at detection current: 10mA)	
Vibration resistan	ce	10 to 55 Hz at double amplitude of 1.5 mm (contact opening: Max. 1 ms)	
Contact resistance		Initial, Max. 10 mΩ (By voltage drop at 1 A, 2 to 4 V DC)	
Ambient temperature		−25°C to +50°C (Not freezing below 0°C)	
Contact material		AgZnO alloy	

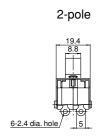
$\textbf{DIMENSIONS} \text{ (mm) (General tolerance: } \pm 0.5)$

1. Tumbler switch









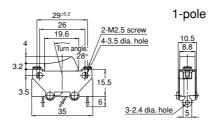
Remarks: 1. ON-OFF type does not have a terminal No.2 in the middle.

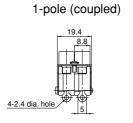
- 2. ON-OFF type has an ON-OFF display on the handle.
 3. M2.5 screws for Philips screwdriver used for installation.

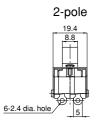
^{2.} Please inquire regarding cadmium free models.

2. Rocker switch









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

Туре	1-pole and 2-pole	1-pole (coupled)	
Panel cutout (mm)	3 dia.	3 dia.	
Panel thickness	Tumbler switch: Max. 2.5 mm, Rocker switch: Max. 3.2 mm		

ELECTRICAL CIRCUIT DIAGRAM

	1-pole	2-pole	1-pole (coupled)
ON-OFF	① • •	① ① ① ② ③ ③	① ① ① ③ ③ ③
ON-ON	① 1 1 ② ③	0 0	0 0

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.