



MICRO CAM-OPERATED SWITCH

UL TYPE



Small-size, high-performance contact with cam-operated switch structure

The 4-element high-brightness LED enables 2-color illumination.

The connector can connect wires of up to 2 mm².

The back terminal structure enables high-density mounting.

With a built-in limit resistor, the LED can be directly turned on with a 110 V DC power supply.

The face size is approx. 30 mm square.

* Approx. 50% size reduction from conventional models (our BHL type)

SPECIFICATIONS (RATINGS, PERFORMANCE)

Specification	Type	UL TYPE			
Rated insulation voltage (Ui)		250V AC / DC			
Rated current-carrying capacity (Ith)		1A			
Instantaneous operating current		20 A / second			
Max. wire size		0.5 to 2.0 mm ²			
Withstand voltage	Between live parts and ground	2,000 V AC for one minute	Between individual live parts	1,000 V AC for one minute	
Rated impulse withstand voltage	Between live parts and ground	±7,000 V, 3 times for each pole (1.2 / 50 μs)	Between individual live parts	±3,000 V, 3 times for each pole (1.2 / 50 μs)	
Contact resistance (Initial)		50m Ω max.			
Mechanical life		100,000 operations or more (1200 operations / hour)			
Electrical life		100,000 operations or more (0.5 A / 110 V DC, L/R = 40 ms)			
Shock resistance		500m/s ² or more			
Vibration resistance		20 m/s ² (10 to 150 Hz)			
Min. applicable load		24 V, 10 mA (in suitable operating environments)			
Operating temperature		-25 to 50°C			
Storing temperature		-40 to 70°C			
Altitude		2,000 m max.			

Breaking performance

		Resistance load		Inductive load	
		10,000 operations	100,000 operations	10,000 operations	100,000 operations
AC	110 V AC	10 A	5 A	10 A	3 A
	220 V AC	7 A	3 A	5 A	2 A
DC	5 V DC	10 A	10 A	10 A	7 A
	12 V DC	10 A	6 A	10 A	4 A
	24 V DC	10 A	3 A	10 A	2 A
	48 V DC	10 A	2 A	7 A	1 A
	110 V DC	7 A	0.7 A	5 A	0.5 A
	125 V DC	5 A	0.5 A	4 A	0.3 A

* Inductive load AC: power factor 0.6 to 0.7
DC: Time constant 40 ±6 ms

⚠ Precautions on use

The breaking current values listed above indicate performance values of the micro cam-operated switch. To operate the micro cam-operated switch, make sure that the rated operating current and instantaneous operation current do not exceed 1 A and 20 A / second respectively.



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PRODUCT CODING

UL-SP 2001-235 A C Y

Basic type Operation method Contact arrangement

Handle color

Code	Color
C	Transparent
W	Milk white

Handle code

Code	Operation mechanism
A	Manual return / Automatic return
B	Pull operation

Code LED circuit

	No common
N	N common
P	P common

Indication color

Code	Color
1	W
5	R, G
8	Y, B

Flange shape

Code	Shape
Y	Square
Z	Round

Flange color: Black (N1.5)

Code	Notch	Operation method
SP		Push the switch in the center position → Manually turn right or left by 45° → Automatic return to the center position → Automatic return to the position that disables the push operation
S		Manually turn right or left by 45° → Automatic return to the center position
HP		Push the switch in the left position → Manually turn right by 90° → Manually turn left → Automatic return to the position that disables the push operation
H		Manually turn right or left by 90° → Stop at each position
SB		Pull the switch at the center position → Manually turn right or left by 45° → Automatic return to the center position → Automatic return to the position that disables the pull operation

Indication circuit

Code	Circuit
1	1 lamp
2	2 lamps

Voltage on indication part

Code	Voltage
1	24 V DC
2	48 V DC
3	100 / 110 V DC
4	125 V DC
5	220 V DC

■ Contact arrangement diagram

Code	2001	2002	2003	2004	2005
Contact arrangement					
Code	2006				
Contact arrangement					

■ LED circuit diagram

Standard		N common		P common	
Connector No.	R or Y or W	Connector No.	R or Y or W	Connector No.	R or Y or W
4A		4A		4A	
3A		3A		3A	



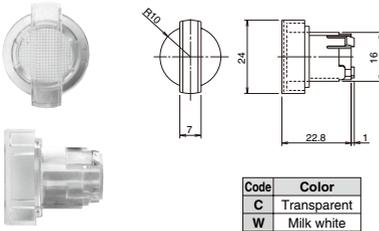
MICRO CAM-OPERATED SWITCH

UL TYPE

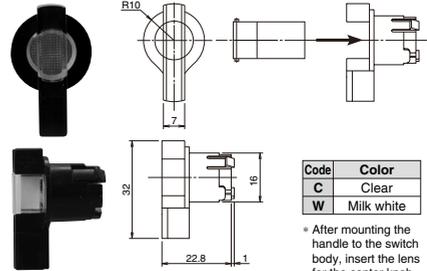
ACCESSORIES

Handle

●UL-A-Color



●UL-B-Color (for pull-operation only)

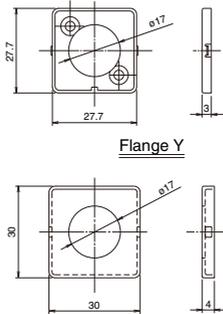


Flange set

●UL-Y (Square type)



Supplied screws:
M8 x 3 pan head screw (2 screws)
(included in the product)

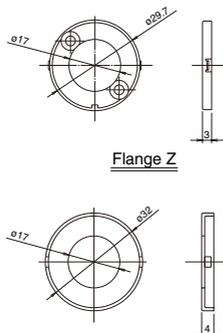


Flange cover Y

●UL-Z (Round type)



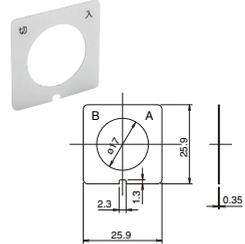
Supplied screws:
M8 x 3 pan head screw (2 screws)
(included in the product)



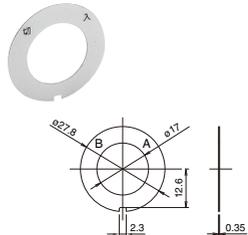
Flange cover Z

Nameplate

●UL-NP-Y



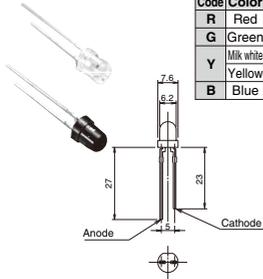
●UL-NP-Z



ACCESSORIES

LED

●UL-LED-Color



LED removal tool

●UL-LN



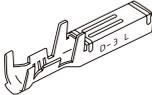
Crimping tool

●937315-1
(Manufactured by TYCO AMP)



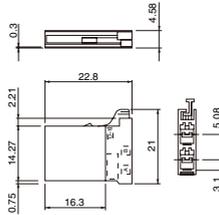
Contact

●353717-2
(Manufactured by TYCO AMP)

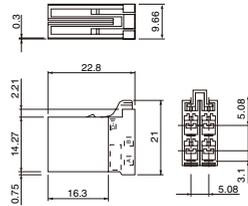


Connector

●175362-1
(Manufactured by TYCO AMP)
(For 2 poles)



●175363-1
(Manufactured by TYCO AMP)
(For 4 poles)

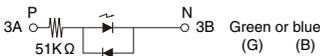
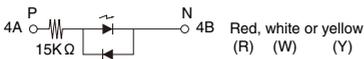


TECHNICAL REFERENCE

●About LED replacement

To replace the built-in LED, use an LED of the same color as the original.

If the LED color is changed, the built-in resistance is also changed. To change the LED color, contact us or refer to the following circuit diagram.



The LED is extremely vulnerable to static electricity. When handling the LED, be careful not to touch the lead wire directly with your hand, and do not apply voltage directly to the LED.