

# SPECIFICATIONS

No. : ISA3980C (1/3)

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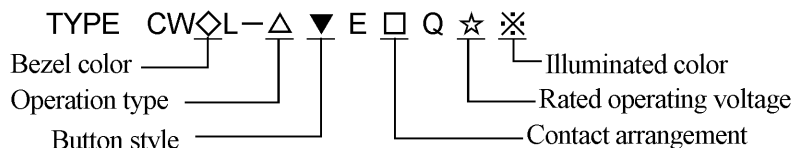
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## FLUSH SILHOUETTE SWITCHES

## CW SERIES ILLUMINATED PUSHBUTTONS



1. Applicable standard

- JIS C8201-5-1
- IEC60947-5-1
- EN60947-5-1
- UL508 (UL Listing )
- CSA C22.2 NO.14 (c-UL Listing)
- GB/T14048.5 (CCC Certified)

2. Operating conditions

- (1) Ambient temperature -25 to +55°C (no freezing)
- (2) Relative humidity 45 to 85% (no condensation)
- (3) Storage temperature -40 to +80°C (no freezing)
- (4) Pollution degree 3

3. Ratings

- (1) Rated insulation voltage 300V
- (2) Rated thermal current 10A
- (3) Rated operating voltage and rated operating current

<Specifications 1 >

Rated operating voltage		24V	120V	240V
Rated operating current	AC	Resistive load (AC-12)	10A	6A
		Inductive load (AC-15)	10A	3A
	DC	Resistive load (DC-12)	8A	1.1A
		Inductive load (DC-15)	4A	0.55A

<Specifications 2 >

Rated operating voltage		24V	120V	240V
Rated operating current	AC	Resistive load (AC-12)	5A	3A
		Inductive load (AC-15)	5A	1.5A
	DC	Resistive load (DC-12)	4A	0.55A
		Inductive load (DC-15)	2A	0.27A

Note 1) AC inductive load : PF=0.6 to 0.7, DC inductive load : L/R=7msec maximum

- (4) Minimum applicable load
- (5) Rated operating voltage — (☆)
- (6) Current draw

3V AC/DC • 5mA (reference value)

Rated operating voltage (☆)	Current draw
6V AC/DC±10%(2)	22mA
12V AC/DC±10%(3)	13mA
24V AC/DC±10%(4)	12mA
100/120V AC±10% 50/60Hz • sine wave(H)	2mA
200/220V AC±10% 50/60Hz • sine wave(M)	2mA
230/240V AC±10% 50/60Hz • sine wave(M4)	2mA

- (7) LED life (reference value)

30,000 hour  
(When, under 25 degrees environment, brightness reduces to 50% of initial values by the rating voltage, a rating electric current)

## 4. Constructions

(1) Outside view and contact operation	See attached sheet
(2) Bezel style	Round flush
(3) Operation type— (◇)	Momentary(M), Alternate(A)
(4) Degree of protection	IP65 (panel front), IP20 (terminal)
(5) Contact material	Silver
(6) Contact arrangement— (□)	1a (10), 1b (01), 1a-1b (11), 2a (20), 2b (02), 2a-2b (22)
(7) Bezel color— (△)	Black (1), Metallic (4)
(8) Button type— (▲)	Flat (1), Extended (2)
(9) Illumination color— (※)	
Colored lens type	Red (R), Green (G), Yellow(Y), Amber (A), Blue (S), Pure White (PW)
(a) White lens type	Red (WR), Green (WG), Amber (WA), Blue (WS) Note) Yellow(Y) used by Pure White(PW) unit
(10) Terminal style	Screw terminal (M3.5 Slotted -Phillips screw)
(11) Applicable wire	2 mm <sup>2</sup> maximum (solid wire $\phi$ 1.6 maximum), up to 2 wires
(12) Panel thickness	0.8 to 3.2 mm
(13) Panel cut-out	$\phi$ 22.3 <sup>+0.4</sup> mm
(14) Weight	46g (2C contact)

## 5. Characteristics

(1) Contact resistance	50m $\Omega$ maximum (initial value)
(2) Insulation resistance	100M $\Omega$ minimum (500V DC megger)
(3) Overvoltage category	II
(4) Impulse withstand voltage	2.5kV
(5) Dielectric strength	
(a) Between live part and ground	2,000V AC, 1minute
(b) Between terminals of different poles	2,000V AC, 1minute
(c) Between terminals of the same poles	2,000V AC, 1minute
(d) Between live part and metal ground	2,000V AC, 1minute
(6) Vibration resistance	
(a) Operating extremes	Frequency 5 to 55Hz, Amplitude 0.5mm
(b) Damage limits	Frequency 30Hz, Amplitude 1.5mm
(7) Shock resistance	
(a) Operating extremes	100 m/s <sup>2</sup>
(b) Damage limits	1,000 m/s <sup>2</sup>
(8) Mounting nut torque tightening	1.2 N·m
(9) Terminal strength	
(a) Recommended tightening torque	1.0 to 1.3 N·m

## 6. Life

## ( 1 ) Mechanical life

2,000,000 operations minimum (momentary, single contact)

1,000,000 operations minimum (momentary, double contact)

250,000 operations minimum (alternate, single contact)

100,000 operations minimum (alternate, double contact)

## ( 2 ) Electrical life (rated load)

50,000 operations minimum (rated operating voltage: specifications1)

100,000 operations minimum (rated operating voltage: specifications2)

Switching frequency: 1,800 operations/hour (momentary, single contact)

Switching frequency: 900 operations/hour (alternate, single contact)

25,000 operations minimum (rated operating voltage: specifications1)

50,000 operations minimum (rated operating voltage: specifications2)

Switching frequency: 1,800 operations/hour (momentary, double contact)

Switching frequency: 900 operations/hour (alternate, double contact)