

ø22 Flush Mount CW Switches & Pilot Devices

Flush bezel projects only 2.5mm from front of panel and as little as 39.9mm behind the panel!

Key features:

- ø22.3mm mounting hole compliant with IEC 60947-5-1
- 3.5-mm operator travel for pushbuttons ensures comfortable and reliable operation
- Up to 6 contacts per switch are possible with use of dual contact blocks
- Black and metallic bezels available
- Illuminated pushbuttons, pushbuttons, pilot lights, selector switches and key selector switches are available
- Direct opening NC contact
- Seven different keys can be chosen for key selector switches
- 10A contact rating; up to three contact blocks for non-illuminated and two contact blocks for illuminated models can be connected
- Contact blocks can be removed by locking lever
- IP20 finger-safe screw terminals
- UL Type 4X rating

Applicable Standards	Mark	File No. or Organization
UL508 CSA C22.2 No.14		UL/c-UL File No. E68961
EN60947-5-1		TÜV SÜD
		EC Low Voltage Directive



Specifications

Operating Temperature	Non-illuminated: -25 to +60°C (no freezing) LED illuminated: -25 to +55°C (no freezing)
Operating Humidity	45 to 85% RH (no condensation)
Storage Temperature	-40 to +80°C
Contact Resistance	50 mΩ maximum (initial value)
Insulation Resistance	100 MΩ minimum (500V DC megger)
Overvoltage Category	II (IEC 60664-1)
Impulse Withstand Voltage	2.5 kV (IEC60664-1/60947-5-1)
Pollution Degree	3 (IEC60947-5-1)
Vibration Resistance	Operating extremes: 5 to 55Hz, amplitude 0.5mm
Shock Resistance	Operating extremes: 100m/s ² Damage limits: 1000m/s ²
Mechanical Life (minimum operations)	Pushbutton, illuminated pushbutton: 2,000,000 Selector switch: 250,000 Key selector switch: 250,000
Electrical Life (minimum operations)	50,000 (see Contact Ratings) 100,000 (see Contact Ratings) (switching frequency 1800 operations/h)
Degree of Protection (IEC60529)	Panel front: IP65 Terminals: IP20
Short-circuit Protection	250V/10A fuse, (Type aM IEC60269-1, IEC602069-2)
Electrical Shock Protection	Class II (IEC61140)
Terminal Style	Screw terminal (M3.5 slotted Phillips screw)
Bezel Material	Polyamide
Applicable Wire Size	Up to 2 wires of 2mm ² (solid wire ø1.6) maximum (AWG14 to 16) (Ring terminal cannot be used)
Recommended Tightening Torque	Terminal: 1.0 to 1.3N·m Locking ring: 1.2N·m

Contact Ratings

Rated Insulation Voltage (Ui)				300V		
Rated Thermal Current (Ith)				10A		
Rated Operating Voltage (Ue)				24V	120V	240V
Rated Operating Current (Ie)	Electrical Life 50,000 operations	AC 50/60Hz	Resistive Load (AC-12)	10A	10A	6A
			Inductive Load (AC-15)	10A	6A	3A
		DC	Resistive Load (DC-12)	8A	2.2A	1.1A
	Electrical Life 100,000 operations	AC 50/60Hz	Inductive Load (DC-13)	4A	1.1A	0.55A
			Resistive Load (AC-12)	5A	5A	3A
		DC	Inductive Load (AC-15)	5A	3A	1.5A
			Resistive Load (DC-12)	4A	1.1A	0.55A
		DC	Inductive Load (DC-13)	2A	0.55A	0.27A
			Contact Material	Silver		

 1. Minimum applicable load (reference value): 3V AC/DC, 5mA (Applicable range is subject to the operating conditions and load.)
2. The operational current represents the classification by making and breaking currents (IEC 60947-5-1).
3. UL, c-UL rating: A300

Direct Opening of Key Selector Switch

	2-position (3NC)	3-position (2NC)
Operator Angle for Direct Opening Action	90°	45°
Minimum Operator Torque for Direct Opening Action	0.2N·m	0.3N·m
Maximum Operator Angle	90°	45°

Weights

Illuminated Pushbutton	46g (CW1L-M1E02QH, 2 contacts) 62g (CW1L-M1E22QH, 4 contacts)
Pushbutton	45g (CW1B-M1E03, 3 contacts) 52g (CW1B-M1E22, 4 contacts)
Pilot Light	27g (CW1P-1EQH)
Selector Switch	48g (CW1S-2E03, 3 contacts) 55g (CW1S-2E22, 4 contacts)
Key Selector Switch	61g (CW1K-2AE03, 3 contacts) 68g (CW1K-2AE22, 4 contacts)

LED Module

Rated Insulation Voltage (Ui)	250V				
Rated Operating Voltage (Ue)	6V AC/DC	12V AC/DC	24V AC/DC	100/120V AC	230/240V AC
Operating Voltage Range	6V AC/DC±10%	12V AC/DC±10%	24V AC/DC±10%	100/120V AC±10%	230/240V AC±10%
Illumination Color Code ②	A (amber), G (green), PW (white), R (red), S (blue)				
LED Module Part Number	CW-EAQ2②	CW-EAQ3②	CW-EAQ4②	CW-EAQH②	CW-EAQM4②
Current Draw	15mA	15mA	16.5mA	18mA	18mA
Life (reference value)	Approx. 30,000 hours				
Internal Circuit					

1. Specify an illumination color code in place of ② in the part number.
2. Use the white (PW) LED module for yellow illumination.

Contact Blocks

Contact Block	Single Contact Block		Double Contact Block		
Contact	1NO	1NC	2NO	2NC	1NO-1NC
Part No.	YW-E10R	YW-E01	YW-EW2R0	YW-EW02	YW-EW1R1
Shape					
Housing Color	Blue/Black	Reddish Purple	Blue/Black	Reddish Purple	Reddish Purple/Blue
Push Rod Color	Black	Red	Black	Red	Gray
Terminal No.	3-4	1-2	1st tier: 13-14 2nd tier: 23-24	1st tier: 11-12 2nd tier: 21-22	1st tier: (NO) 13-14 2nd tier: (NC) 21-22
Weight (approx.)	11g		19g		

Degree of Protection

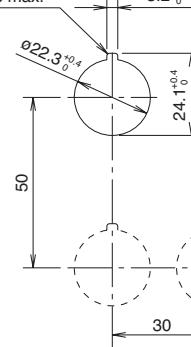
Rating	IP65	IP66	IP67	UL Type 4X
Illuminated Pushbutton	Yes	Yes *	Yes *	Yes *
Pilot Light	Yes	Yes	No	Yes
Pushbutton	Yes	Yes *	Yes *	Yes *
Selector Switch	Yes	Yes	Yes	Yes
Key Selector Switch	Yes	Yes	No	Yes

*When used with rubber boot (CW9Z-D11, -D12)

Mounting Hole Layout

IEC 60947-5-1 compliant

R0.8 max.



Note: Determine mounting centers to ensure proper spacing.