

INSTRUCTION SHEET

Emergency Stop Switch

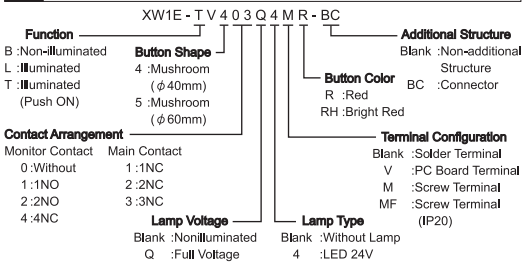
XW1E Series

Thank you for selecting IDEC product. Please confirm that the delivered product is what you have ordered.

SAFETY NOTE

- Read this instruction sheet and the catalog for the XW1E series emergency stop switches to make sure of correct operation before starting installation, wiring, operation, maintenance, and inspection. Make sure that the instruction sheet is kept by the end user.
- Turn off the power to the XW1E before starting installation, wiring, maintenance and inspection of the XW1E. Failure to turn power off may cause electric shock or fire hazard.
- Use wires of a proper size to meet voltage and current requirements. Tighten the M3 terminal screws to a tightening torque of 0.6 to 1.0 N·m. Improper wires and loose terminals during operation will cause overheating and fire hazard. Provide a proper protection against electrical shocks.

1 Type No. Development



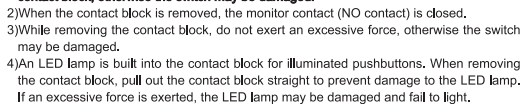
Solder terminal type	
PC board terminal type	
Screw terminal type	
Connector type	

2 Removing/Installing Contact Block and Panel Mounting

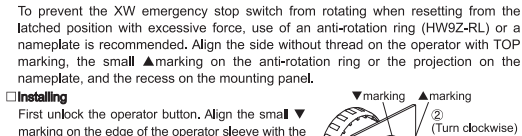
Removing
 First unlock the operator button. Squeeze the latch lever on the yellow bayonet ring and pull back the bayonet ring with force until the latch pin clicks (2), then turn the contact block counter-clockwise and pull out (3).

Notes for removing the contact block
 1) With the button in the locked position, do not remove the contact block, otherwise the switch may be damaged.
 2) When the contact block is removed, the monitor contact (NO contact) is closed.
 3) While removing the contact block, do not exert an excessive force, otherwise the switch may be damaged.
 4) An LED lamp is built into the contact block for illuminated pushbuttons. When removing the contact block, pull out the contact block straight to prevent damage to the LED lamp. If an excessive force is exerted, the LED lamp may be damaged and fail to light.

Panel Mounting
 Remove the locking ring from the operator and check that the rubber gasket is in place. Insert the operator from panel front into the panel hole. Face the side without thread on the operator with TOP marking upward, and tighten the locking ring using ring wrench MW9Z-T1 to a torque of 2.0 N·m.
 - About anti-rotation
 To prevent the XW emergency stop switch from rotating when resetting from the latched position with excessive force, use of an anti-rotation ring (HW9Z-RL) or a nameplate is recommended. Align the side without thread on the operator with TOP marking, the small ▲ marking on the anti-rotation ring or the projection on the nameplate, and the recess on the mounting panel.



Installing
 First unlock the operator button. Align the small ▼ marking on the edge of the operator sleeve with the small ▲ marking on the yellow bayonet ring. Hold the contact block, not the bayonet ring. Press the contact block onto the operator and turn the contact block clockwise until the bayonet ring clicks.
Notes for installing the contact block
 Make sure that the bayonet ring is secured in the locked position.



3 Installing and Removing the Terminal Cover

Terminal Cover XA9Z-VL2
 To install the terminal cover, align the TOP marking on the terminal cover with TOP marking on the contact block, and press the terminal cover toward the contact block.

Notes for installing the XA9Z-VL2
 For wiring, insert the wires into the holes in the terminal cover before soldering.

Terminal Cover XW9Z-VL2M
 To install the terminal cover, align the TOP marking on the terminal cover with the TOP marking on the contact block. Place the two projections on the bottom side of the contact block into the slots in the terminal cover. Press the terminal cover toward the contact block.

To remove the terminal cover, pull out the two latches on the top side of the terminal cover. Do not exert an excessive force to the latches, otherwise the latches may break.

Finger-safe Terminal Cover XW9Z-VL2MF
 To install the terminal cover, align the TOP marking on the terminal cover with the TOP marking on the contact block, and press the terminal cover toward the contact block.

Notes for using the XW9Z-VL2MF
 1) Once installed, the XW9Z-VL2MF cannot be removed.
 2) With the XW9Z-VL2MF installed, crimping terminals cannot be used. Use solid wires.
 3) The XW9Z-VL2MF cannot be installed after wiring.
 4) Make sure that the XW9Z-VL2MF is securely installed. IP20 cannot be achieved when installed loosely, and electric shocks may occur.

4 Notes for Operation

When using the plug actuator for safety-related equipment in a control system, refer to the safety standards and regulations in each country and region depending on the application purpose of the actual machines and installations to make sure of correct operation. Before using the plug actuator, perform risk assessment to make sure of safety.

Wiring
 Tighten the terminal screws to a torque of 0.6 to 1.0 N·m.

Contact Bouncing
 When the button is reset by pulling or turning, the NC main contacts cause bouncing. When pressing the button, the NO monitor contacts cause bouncing. When designing a control circuit, take the bouncing into consideration (reference value: 20 ms).

LED Illuminated Switches
 The LED lamp is built into the contact block and cannot be replaced.

Connector Type
 To prepare correct receptacles for the connector type, read the instruction sheet and catalog of Tyco Electronics AMP K.K., and understand the installation and wiring method.
 Fasten the cable so that the connector is not pulled. Otherwise the switch may be deformed and damaged, causing malfunction or operation failure.

Handling
 Do not expose the switch to excessive shocks and vibrations, otherwise the switch may be deformed or damaged, causing malfunction or operation failure.

5 Contact Ratings [Main Contact (NC) and Monitor Contact (NO)]

Rated Insulation Voltage (Ui)	Solder terminal type	300V				
	PC board terminal type	250V				
Conventional Free Air Thermal Current (Ith)	Solder terminal type	125V				
	PC board terminal type	5V				
Rated Operational Voltage (Ue)	Solder terminal type	30V				
	PC board terminal type	125V				
Rated Operational Current	Main Contact	AC 50/60Hz	Resistive Load (AC-12)	-	5A ⁽²⁾	3A
		DC	Resistive Load (DC-12)	2A	0.4A	0.2A
	Monitor Contact	AC 50/60Hz	Inductive Load (AC-13)	1A	0.22A	0.1A
		DC	Resistive Load (DC-14)	2A	0.4A	0.2A
			Inductive Load (DC-13)	1A	0.22A	0.1A

*1) Rated operational voltage for connector type : Without 250V
 *2) Solder Terminal/PC Board Terminal type : 3A
 Connector type : 2.5A
 *3) Solder Terminal/PC Board Terminal/Connector type : 1.5A

6 Built-in LED Ratings

Rated Voltage	Operating Voltage	Operating Current
24V AC/DC	24V AC/DC ±10%	15 mA

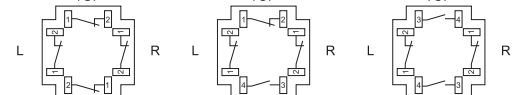
7 Specifications

Applicable Standard	IEC60947-5-1, EN60947-5-1 IEC60947-5-5*4, EN60947-5-5*4 JIS C8201-5-1, UL508, UL991, NFPA79 CSA C22.2 No.14, GB14048-5
Standard Operating Conditions	Operating temperature Non Illuminated : -25 to +60 °C (no freezing) LED Illuminated : -25 to +55 °C (no freezing) Relative humidity : 45 to 85 % RH (no condensation) Storage temperature : -45 to +80 °C (no freezing)
Minimum Direct Opening Force	80 N
Minimum Direct Opening Travel	4.0 mm
Maximum Travel	4.5 mm
Contact Resistance	Solder/PC Board/Screw Terminal type: 50 mΩ maximum (initial value) Connector type : 300 mΩ maximum (initial value after connecting the switch using an applicable connector with 0.3mm ² (AWG22) -1m wire)
Insulation Resistance	100 MΩ minimum (500V DC megger)
Over voltage Category	II
Impulse Withstand Voltage	Solder/PC Board/Screw Terminal type : 2.5 kV Connector type : 1.5 kV
Pollution Degree	Solder/PC Board/Screw Terminal type : 3 Connector type : 2
Operating Frequency	900 operations/hour
Mechanical Life	250,000 operations minimum
Electrical Life	100,000 operations minimum 250,000 operations minimum (24V AC/DC, 100mA)
Shock Resistance	Operating extremes : 150 m/s ² Damage limits : 1,000 m/s ²
Vibration Resistance	Operating extremes : 10 to 500 Hz, amplitude 0.35 mm, acceleration 50 m/s ² Damage limits : 10 to 500 Hz, amplitude 0.35 mm, acceleration 50 m/s ²
Degree of Protection	IP65 (panel front)
Terminal Protection	IP20 (Screw Terminal type when installing XW9Z-VL2MF)
Short-circuit Protective Device	250V/10A fuse (Type aM IEC60269 1/IEC60269 2)
Conditional Short-circuit Current	1,000 A
Applicable Tightening Torque	0.6 to 1.0 N·m (Screw Terminal type)
Recommended Tightening Torque of Locking Ring	2.0 N·m
Applicable Wire	Solder/PC Board Terminal type: 1.25 mm ² maximum (AWG16 maximum) Screw Terminal type : 0.75 to 1.25 mm ² (AWG18 to 16) Connector type : 0.3 to 0.85 mm ² (AWG22 to 18)
Soldering Condition	310 ~ 350 °C/3 seconds (Solder/PC board terminal type)
Connector Configuration	D2100D series (made by Tyco Electronics AMP K.K.)(Connector type) 1376009-1 (Tab Header of Board-Mounting Horizontal Type)
Applicable Connector	D2100D series (made by Tyco Electronics AMP K.K.)(Connector type) 1-1318119-4 (Receptacle Housing) 1318107-1 (Receptacle Contact)

*4) only for using emergency stop switches (Button color: Red, Bright red)

8 Contact Arrangements (Bottom View)

Solder Terminal/PC Board Terminal Type
XW1E-BV (Non-Illuminated)



1NC: Terminals on R
 2NC: Terminals on R and L
 3NC: Terminals on R, L, and TOP

XW1E-LV (Illuminated)



1NC: Terminals on R
 2NC: Terminals on R and L
 3NC: Terminals on R, L, and TOP

9 Applicable Wire (Screw terminal type)

Screw Terminal Type
XW1E-BV (Non-Illuminated)



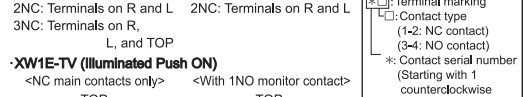
1NC: Terminals on R
 2NC: Terminals on R and L
 3NC: Terminals on R, L, and TOP

XW1E-LV (Illuminated)

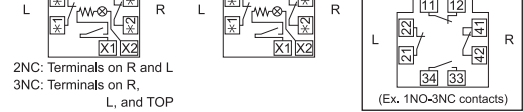


1NC: Terminals on R
 2NC: Terminals on R and L
 3NC: Terminals on R, L, and TOP

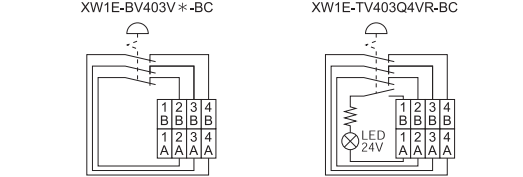
XW1E-TV (Illuminated Push ON)



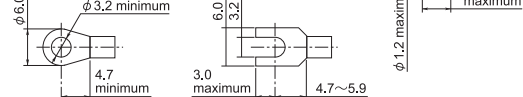
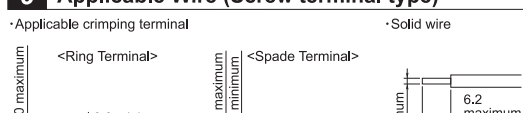
2NC: Terminals on R and L
 3NC: Terminals on R, L, and TOP



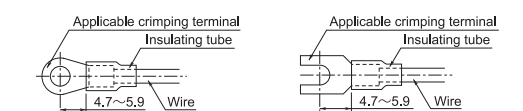
10 Mounting Hole Dimensions



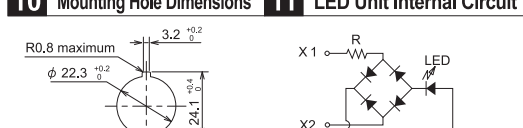
11 LED Unit Internal Circuit



*Note: Be sure to install an insulating tube on the crimping terminal.



12 Terminal Marking



13 Connector Type

