



INSTRUCTION SHEET
Original Instructions

XW1E-BS Series
Emergency Stop Switch with operation assist function

Confirm that the delivered product is what you have ordered.

Safety Precautions

- Be sure to read this instruction sheet and the catalog carefully before performing installation, wiring, or maintenance work. Keep this instruction sheet where it can be accessed by the end user.
- In this instruction sheet, safety precautions are categorized in order of importance from Warning and Caution:

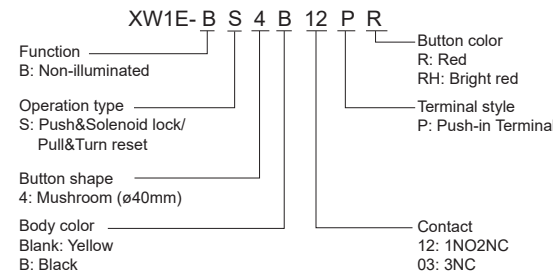
WARNING

Warning notices are used to emphasize that improper operation may cause severe personal injury or death.

CAUTION

Caution notices are used where inattention might cause personal injury or damage to equipment.

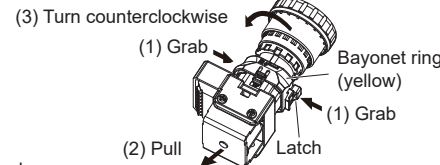
1 Part No. configuration



2 Removing/Installing Contact block and Panel mounting

Removing

First unlock the operator button. (3) Turn counterclockwise. Grab the bayonet ring (1) and pull back the bayonet ring until the latch pin clicks (2), then turn the contact block counterclockwise and pull out (3).

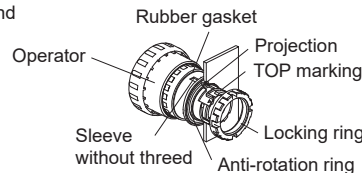


- Notes for removing the contact block

 - Do not attempt to remove the contact block while the operator is latched, otherwise the switch may be damaged.
 - When the contact block is removed, the monitor contact (NO contact) is closed.
 - While removing the contact block, do not use excessive force, otherwise the switch may be damaged.

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 the locking ring wrench MW9Z-T1, tighten the locking ring to the torque of 2.0N-m.



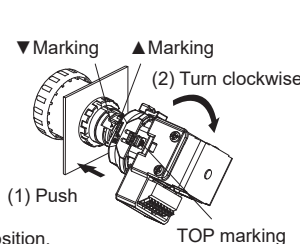
About anti-rotation

To prevent the XW1E-BS 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 the contact block

First unlock the operator button.

Align the small ▼ marking on the edge of the operator 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 in the locked position.

3 Instructions

When using the emergency stop switch actuator in the safety-related part of the system, make sure of proper operation while observing the safety standards and regulations of the relevant country or region where the actual machine/system is used. Before using the emergency stop switch, perform risk assessment to make sure of safety.

Contact bounce

Contact chatter/bounce may occur when the main contact (NC contact) is reset by pulling or turning or when the monitor contact (NO contact) is pressed. Take countermeasures to prevent chatter/bounce. (Reference value: 20ms) Also, do not apply external shock to the switch as chatter may occur.

Handling

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

WARNING

- Turn off the power to the product before starting installation, removal, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shock or fire.
- Use wires of the proper size to meet the voltage and current requirements.
- Do not disassemble or modify the product, otherwise a breakdown or an accident may occur.
- Do not use this product in an environment where corrosive gases or other substances are present. Otherwise, malfunction or damage may occur.

4 Contact ratings

Rated insulation voltage (Ui)		250V				
Conventional free air thermal current (Ith)		2.5A				
Rated operating voltage (Ue)		30V	125V	250V		
Rated Operational current	Main contact	50/60Hz AC	Resistive load (AC-12)	-	2.5A	2.5A
		DC	Resistive load (DC-12)	2A	0.4A	0.2A
	Monitor contact	50/60Hz AC	Resistive load (AC-12)	-	1.2A	0.6A
		DC	Resistive load (DC-12)	2A	0.4A	0.2A
			Inductive load (AC-15)	-	1.5A	1.5A
			Inductive load (DC-13)	1A	0.22A	0.1A
			Inductive load (DC-13)	1A	0.22A	0.1A

TÜV approved rating: AC-15:250V, 1.5A
DC-13: 30V, 1A

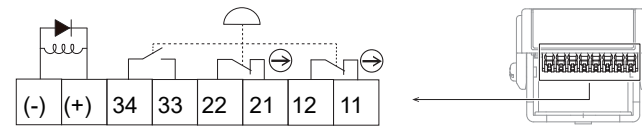
5 Specifications

Applicable standards	IEC60947-5-1, EN60947-5-1, JIS C 8201-5-1, IEC60947-5-5 (Note1), EN60947-5-5 (Note1), JIS C 8201-5-5 (Note1),		
Standard operating conditions	Operating temperature	-25 to +50°C (no freezing)	
	Operating humidity	30 to 85%RH (no condensation)	
	Storage temperature	-45 to +80°C (no freezing)	
Minimum direct opening force	80N		
Minimum direct opening travel	4.0mm		
Maximum travel	4.5mm		
Contact resistance	100mΩ maximum		
Insulation resistance	100MΩ minimum (500V DC megger)		
Overvoltage category	II		
Impulse withstand voltage	2.5kV, 0.5kV (Solenoid circuit)		
Pollution degree	Panel front: 3 Inside panel: 2		
Operation frequency	900 operations/hour		
Mechanical durability	250,000 operations minimum		
Electrical durability	100,000 operations minimum		
	250,000 operations minimum (24V AC/DC 100mA)		
Shock resistance	Operating extremes: 150mm/s ²		
	Damage limits: 500m/s ²		
Vibration resistance	Operating extremes: 10 to 500Hz, amplitude 0.35mm, acceleration 50m/s ²		
	Damage limits: 10 to 500Hz, amplitude 0.35mm, acceleration 50m/s ²		
Contact block protection	Panel front: IP65 (IEC60529)		
Terminal protection	IP20		
Short-circuit protective device	250V/10A fuse (Type aM IEC60269-1/IEC60269-2)		
Conditional short-circuit current	1,000A		
Recommended tightening torque of locking ring	2.0N-m		
Connectable wire	0.2 to 1.5mm ² (AWG28 to 14)		

Note1: Except operation assist function.

6 Terminal arrangement

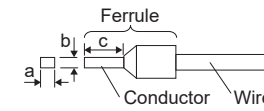
Contact arrangement : 12 (1a1b)



7 Applicable wire

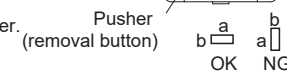
- Applicable push in terminal: 28 AWG to 14 AWG (0.2 to 1.5mm²)
- Ferrules: When using stranded wire, insulated ferrule should be used. Use below insulated ferrule. Insulated ferrule: 24 AWG to 18 AWG (0.2 to 0.75mm²)
Crimp Width a: 1.7mm max. Height b: 1.5mm max. Conductor length c: 8 to 9mm
Crimping Tool : PZ6 Roto L

Part No.	Applicable wire
S3TL-H025-12WJ	0.25mm ²
S3TL-H034-12WT	0.34mm ²
S3TL-H05-14WA	0.5mm ²
S3TL-H075-14WW	0.75mm ²



Notes on wiring

- Connecting wires: Insert the wire to the back of the wire port. When using a stranded wire, insert the wire while pressing the pusher with a flathead screwdriver.
- Removing wires: Remove the wire straight out by pressing the pusher.



CAUTION

- After wiring, tug lightly to make sure that the wire is properly connected.
- Turn off the power supply before wiring.
- Operate the pusher with a force of 20N. Do not press by a force of 40N and over.
- Do not pull the wire out without depressing the pusher. When pulling the wire, be sure to pull in a straight direction. Otherwise, the socket may be damaged.
- Cut the wire carefully to get a flat end.
- Make sure that ferrule sleeve is completely filled by the conductor. Depending on the cross section, the conductor should protrude approx. 0 to 1mm from the ferrule sleeve.

8 Operation assist function

This function is a function that assists pushing button using the driving force of the solenoid by supplying power to the solenoid. Depressed button is locked regardless of whether power is applied to the solenoid and remain in that state until manual reset operation is performed.

Operation overview

- Pushing the button using the operation assist function is not emergency stop operation based on international safety standards.
- The locked state after pushing the button by the operation assist function is locked state based on international safety standards.
- Perform the reset operation by hand from the locked state.
- If you do not use this function and operate it directly by hand, XW1E-BS functions as the normal emergency stop switch.

WARNING

- Do not use the operation assist function as safety function. Perform the risk assessment on the assumption that XW1E-BS is pushed by hands.
- When operating button using the operation assist function, be sure to confirm that the button on this product is operated and in the locked state. If the button is not pushed and is not in the locked state, immediately push the button on the product directly by hands.
- Be sure to perform operation test in advance to confirm the functionality and performance of this product.
- Provide education and training to workers on the correct use of this product, continually.
- Do not install this product in a location where the workers cannot push the button quickly by hands.
- Solenoid has polarity. Be sure to wire correctly as reverse connection will cause damage.
- Do not apply voltage that exceed the rated voltage of solenoid, otherwise the solenoid will be burnt out.

CAUTION

- While power is applied to the solenoid, the button cannot be reset. Be sure to disconnect power to the solenoid before resetting the button.

Specification and ratings of solenoid

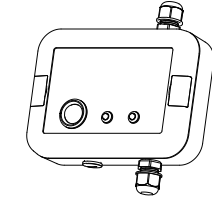
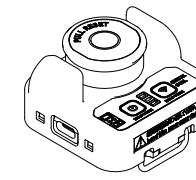
Rated operating voltage	Pickup voltage	Maximum applicable voltage	Rated current
24V DC	Rated voltage × 85% maximum (at 25°C)	Rated voltage × 110%	258mA (initial value)

- Wireless switch transmitter/receiver (sold separately)
By using a wireless switch transmitter (HX1T-AB1) and wireless switch receiver (HX1R-AB1) in combination, the operation assist function of this product can be operated via Bluetooth communication.

* For wireless switch transmitters/receivers, be sure to read the dedicated instruction manual (B-2414) and use them correctly.

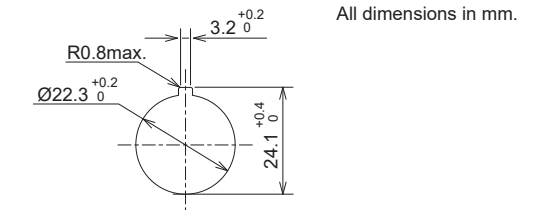
- Wireless switch transmitter (Part No.: HX1T-AB1)

- Wireless switch receiver (Part No.: HX1R-AB1)



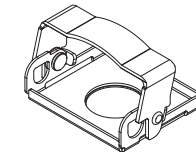
- Nameplate (attached parts)
When using the operation assist function by setting groups on the wireless switch transmitter and wireless switch receiver, the groups (1 to 8) set can be displayed.

9 Mounting hole dimensions

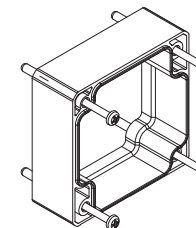


10 Accessories

- Padlock cover for XW1E-BS series Emergency Stop Switch with operation assist function Part No.: XW9Z-PCE
* When using this accessory, be sure to read the dedicated instruction manual (B-2445) and use them correctly.



- FB1 series deep-box adapter Part No.: FB9Z-DS1
* When using this accessory and XW1E-BS series, be sure to use together with FB1W-11Y control box.
* When using this accessory, be sure to read the dedicated instruction manual (B-2409) and use them correctly.



11 Precaution for disposal

- Dispose of this product as an industrial waste.

IDEC CORPORATION

<http://www.idec.com>

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EU Authorized Representative: APEM SAS
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EU DECLARATION OF CONFORMITY
We IDEC CORPORATION declare under our sole responsibility that the product:
Description: Emergency Stop Switches
Model No. XW1E-BS Series

Applied Union harmonized legislation and references to the relevant harmonization standards used or references the other technical specifications in relation to which conformity is declared.
Applicable EU Directive: Low Voltage Directive (2014/35/EU)
Machinery Directive (2006/42/EC)
RoHS Directive (2011/65/EU and (EU) 2015/863)
Applicable Standard(s): EN IEC 63000, EN 60947-5-5