ø30 mm, 4-contact Emergency Stop Switch. Padlockable and flush bezel are available.

- Padlockable, flush bezel, ø60mm jumbo mushroom, illuminated, LED push-on are available.
- IDEC's original "Safe break action" and reverse energy structure ensure the highest level of safety.
- Safety lock mechanism (IEC 60947-5-5, 6.2)
- Direct opening action mechanism (IEC 60947-5-5, 5.2, IEC60947-5-1, Annex K)
- Short depth behind the panel only 47.7 mm for 4-contact, illuminated (flush bezel: 60.4 mm, padlockable: 61.4 mm)
- Padlockable can be locked using padlocks when latched (main contact: OFF). The rugged aluminum diecast shroud allows for installing a maximum of 20 padlocks using a hasp (total weight: 1500g maximum).
- Gold-plated silver contacts.
- Red (Munsell 5R4/12) or bright red (Munsell 7.5R4.5/14) colors are available.



Standards

Applicable Standards	Mark	File No. or Organization
UL508 CSA C22.2 No. 14	CUL)US	UL/c-UL File No. E68961
IEC60947-5-5 UL991 NFPA79	EMERGENCY STOP DEVICE	UL Listing File No. E305148
EN60947-5-5	TUV	TÜV SÜD
EN60947-5-5	CE	EU Low Voltage Directive
GB14048.5	@	CCC No. 2008010305290010

Contact Ratings

NC main contacts/NO monitor contacts

Ra	ted Insulat	ion Voltage	250V			
Ra	ted Therma	al Current (5A			
Ra	ted Operat	ing Voltage	(Ue)	30V	125V	250V
		AC 50/60	Resistive Load (AC-12)	ı	5A	ЗА
_	Main	Hz	Inductive Load (AC-15)	ı	ЗА	1.5A
Rated Operating Current	Contacts	DC	Resistive Load (DC-12)	2A	0.4A	0.2A
ating C		ВС	Inductive Load (DC-13)	1A	0.22A	0.1A
Opera		tacts	Resistive Load (AC-12)	ı	1.2A	0.6A
Rated	Monitor		Inductive Load (AC-14)	-	0.6A	0.3A
_	Contacts		Resistive Load (DC-12)	2A	0.4A	0.2A
		DC	Inductive Load (DC-13)	1A	0.22A	0.1A
Со	ntact Mate	rial		Gold	d-plated S	ilver

- Minimum applicable load: 5V AC/DC, 1 mA (reference value) (May vary depending on the operating conditions and load types.)
- The rated operating currents are measured at resistive/inductive load types specified in IEC 60947-5-1.

Illumination Ratings (LED)

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

Specifications

Specifications	
Applicable Standards	IEC60947-5-1, EN60947-5-1 IEC60947-5-5, EN60947-5-5 JIS C8201-5-1, UL508, UL991, NFPA79 CSA C22.2 No. 14, GB14048.5
Operating Temperature	Non-illuminated: -25 to +60°C (no freezing) Illuminated: -25 to +55°C (no freezing)
Storage Temperature	-45 to +80°C
Operating Humidity	45 to 85% RH (no condensation)
Minimum Force Required for Direct Opening Action	80N
Minimum Operator Stroke Required for Direct Opening Action	4.0 mm
Maximum Operator Stroke	4.5 mm
Contact Resistance	50 mΩ maximum (initial value)
Insulation Resistance	100 MΩ minimum (500V DC megger)
Overvoltage Category	II
Impulse Withstand Voltage	2.5 kV
Pollution Degree	3
Operating Frequency	900 operations/hour
Shock Resistance	Operating extremes: 150 m/s² Damage limits: 1000 m/s²
Vibration Resistance	Operating extremes: 10 to 500 Hz, amplitude 0.35 mm, acceleration 50 m/s² Damage limits: 10 to 500 Hz, amplitude 0.35 mm, acceleration 50 m/s²
Durability (at 900 operations/h, on-duration 40%)	Mechanical: 250,000 operations minimum Electrical: 100,000 operations minimum 250,000 operations minimum (24V AC/DC, 100 mA)
Degree of Protection	Operator: IP65 (IEC60529) Terminal: IP20 (when XW9Z-VL2MF is installed)
Short-circuit Protection	250V/10A fuse (Type aM, IEC60269-1/IEC60269-2)
Conditional Short-circuit Current	1000A
Terminal Style	M3 screw terminal
Recommended Tightening Torque for Terminal Screw	0.6 to 1.0 N·m
Recommended Tightening Torque for Locking Ring	2.5 N·m
Applicable Wire Size	0.75 to 1.25 mm ² (AWG18 to 16)
Total Weight of a Hasp and Padlocks	1500g maximum (padlockable)
Reinforced Insulation (IEC 60664-1)	Between live part and metal bezel (flush bezel, padlockable)
Weight	83g (XN1E-LV404Q4MR) 93g (XN1E-BV504MR) 89g (XN5E-LV404Q4MR) 120g (XN4E-LL404Q4MR)

Plastic Bezel

Non-illuminated Pushlock Pull/Turn Reset (Solder Terminal)

Snano		NO Monitor	Part	No.	①Operator
Shape	Contact	Contact	IP20 Fingersafe Terminal	w/Terminal Cover	Color Code
ø40mm Mushroom	1NC	_	XN1E-BV401MF①	XN1E-BV401M①	
	2NC	_	XN1E-BV402MF①	XN1E-BV402M①	
	3NC	_	XN1E-BV403MF①	XN1E-BV403M①	
	4NC	_	XN1E-BV404MF①	XN1E-BV404M①	
	1NC	1NO	XN1E-BV411MF①	XN1E-BV411M①	
CUL US EMERGENCY STOP DEVICE	2NC	1NO	XN1E-BV412MF①	XN1E-BV412M①	
	3NC	1NO	XN1E-BV413MF①	XN1E-BV413M①	
	2NC	2NO	XN1E-BV422MF①	XN1E-BV422M①	R: Red
ø60mm Jumbo Mushroom	1NC	_	XN1E-BV501MF①	XN1E-BV501M①	RH: Bright red
	2NC	_	XN1E-BV502MF①	XN1E-BV502M①	
	3NC	_	XN1E-BV503MF①	XN1E-BV503M①	
	4NC	_	XN1E-BV504MF①	XN1E-BV504M①	
	1NC	1NO	XN1E-BV511MF①	XN1E-BV511M①	
CUL) US UL EMERGENCY STOP	2NC	1NO	XN1E-BV512MF①	XN1E-BV512M①	
LISTED LISTED DEVICE	3NC	1NO	XN1E-BV513MF①	XN1E-BV513M①	
	2NC	2NO	XN1E-BV522MF①	XN1E-BV522M①	

- Specify a color code in place of ① in the Part No.
- Only solid wires can be used on the IP20 fingersafe terminal switches.

Illuminated Pushlock Pull/Turn Reset (Solder Terminal)

		Rated	NC Main	NO Monitor	Part	Onorotor	
Shape	Illumination	Voltage	NC Main Contact		IP20 Fingersafe Terminal	w/Terminal Cover	Operator Color
ø40mm Mushroom			1NC	_	XN1E-LV401Q4MFR	XN1E-LV401Q4MR	
			2NC	_	XN1E-LV402Q4MFR	XN1E-LV402Q4MR	
		24V	3NC	_	XN1E-LV403Q4MFR	XN1E-LV403Q4MR	
	LED		4NC	_	XN1E-LV404Q4MFR	XN1E-LV404Q4MR	Dod only
	LED	AC/DC	1NC	1NO	XN1E-LV411Q4MFR	XN1E-LV411Q4MR	Red only
EMPLE OF STORY		2NC	1NO	XN1E-LV412Q4MFR	XN1E-LV412Q4MR		
CUL US EMERGENCY STOP DEVICE			3NC	1NO	XN1E-LV413Q4MFR	XN1E-LV413Q4MR	
(@⊕			2NC	2NO	XN1E-LV422Q4MFR	XN1E-LV422Q4MR	

[•] Only solid wires can be used on the IP20 fingersafe terminal switches.

Illuminated Push-ON Pushlock Pull/Turn Reset (Solder Terminal)

	Shape		Rated	NC Main	NO Monitor	Part	Operator	
		Illumination	Voltage Contact		Contact	IP20 Fingersafe Terminal	w/Terminal Cover	Color
	ø40mm Mushroom							
	LED			2NC	_	XN1E-TV402Q4MFR	XN1E-TV402Q4MR	
		24V AC/DC	3NC	_	XN1E-TV403Q4MFR	XN1E-TV403Q4MR	Red only	
	CUL US OUL SEMERGENCY LISTED DEVICE C C C C C C C C C C C C C C C C C C			2NC	1NO	XN1E-TV412Q4MFR	XN1E-TV412Q4MR	

- Push-ON is illuminated when the operator is latched, and turns off when reset.
- Only solid wires can be used on the IP20 fingersafe terminal switches.

Flush Bezel

Non-illuminated Pushlock Pull/Turn Reset (Solder Terminal)

Shape	NC Main	NO Monitor	Part	No.	Operator
Contact Contact		Contact	IP20 Fingersafe Terminal	w/Terminal Cover	Color Code
ø40mm Mushroom	1NC	_	XN5E-BV401MF①	XN5E-BV401M①	
	2NC	_	XN5E-BV402MF①	XN5E-BV402M①	
	3NC	_	XN5E-BV403MF①	XN5E-BV403M①	
	4NC	_	XN5E-BV404MF①	XN5E-BV404M1)	R: Red
	1NC	1NO	XN5E-BV411MF①	XN5E-BV411M①	RH: Bright red
CUL US EMERGENCY STOP DEVICE	2NC	1NO	XN5E-BV412MF①	XN5E-BV412M①	
	3NC	1NO	XN5E-BV413MF①	XN5E-BV413M①	
⊕ (€@⊕	2NC	2NO	XN5E-BV422MF①	XN5E-BV422M①	

- Specify a color code in place of 1 in the Part No. Only solid wires can be used on the IP20 fingersafe terminal switches.

Illuminated Pushlock Pull/Turn Reset (Solder Terminal)

		Rated	NC Main	NO Monitor	Part	Operator			
Shape	Illumination	Voltage	Contact		IP20 Fingersafe Terminal	w/Terminal Cover	Color		
ø40mm Mushroom			1NC	_	XN5E-LV401Q4MFR	XN5E-LV401Q4MR			
			2NC	_	XN5E-LV402Q4MFR	XN5E-LV402Q4MR			
			3NC	_	XN5E-LV403Q4MFR	XN5E-LV403Q4MR			
	LED	24V	4NC	_	XN5E-LV404Q4MFR	XN5E-LV404Q4MR	Dod only		
	LED	AC/DC	1NC	1NO	XN5E-LV411Q4MFR	XN5E-LV411Q4MR	Red only		
e (U) us (U) EMERGENCY		2NC	1NO	XN5E-LV412Q4MFR	XN5E-LV412Q4MR				
CUL US ULISTED EMERGENCY STOP DEVICE			3NC	1NO	XN5E-LV413Q4MFR	XN5E-LV413Q4MR			
(@(€ @(⊕)			2NC	2NO	XN5E-LV422Q4MFR	XN5E-LV422Q4MR			

• Only solid wires can be used on the IP20 fingersafe terminal switches.

Illuminated Push-ON Pushlock Pull/Turn Reset (Solder Terminal)

		Rated	NC Main	n NO Monitor	Part No.		Operator Color
Shape Illumin	Illumination	mination Voltage		Contact	IP20 Fingersafe Terminal	w/Terminal Cover	
ø40mm Mushroom							
			2NC	_	XN5E-TV402Q4MFR	XN5E-TV402Q4MR	
		24V AC/DC	3NC	_	XN5E-TV403Q4MFR	XN5E-TV403Q4MR	Red only
CUI US UI EMERGENCY LISTED DEVICE C C C C C			2NC	1NO	XN5E-TV412Q4MFR	XN5E-TV412Q4MR	

- Push-ON is illuminated when the operator is latched, and turns off when reset.
- Only solid wires can be used on the IP20 fingersafe terminal switches.

Padlockable

Non-illuminated Pushlock Turn Reset (Padlockable)

Shape	NC Main	NO Monitor	Part	No.	Operator	
Contact		Contact	IP20 Fingersafe Terminal	w/Terminal Cover	Color	
ø44mm Mushroom	1NC	_	XN4E-BL401MFRH	XN4E-BL401MRH		
	2NC	_	XN4E-BL402MFRH	XN4E-BL402MRH		
	3NC	_	XN4E-BL403MFRH	XN4E-BL403MRH		
	4NC	_	XN4E-BL404MFRH	XN4E-BL404MRH	Bright red	
	1NC	1NO	XN4E-BL411MFRH	XN4E-BL411MRH	only	
CUL US EMERGENCY STOP DEVICE	2NC	1NO	XN4E-BL412MFRH	XN4E-BL412MRH		
LISTED LISTED DEVICE	3NC	1NO	XN4E-BL413MFRH	XN4E-BL413MRH		
⊕ (€@⊕	2NC	2NO	XN4E-BL422MFRH	XN4E-BL422MRH		

- Only solid wires can be used on the IP20 fingersafe terminal switches.
- Padlocks and hasps are not supplied with the emergency stop switches and must be ordered separately. See page 53.

Illuminated Pushlock Turn Reset (Padlockable)

Shape		Rated	NC Main	NO Monitor	Part	No.	Operator
	Illumination	Voltage	Contact		IP20 Fingersafe Terminal	w/Terminal Cover	Color
ø44mm Mushroom			1NC	_	XN4E-LL401Q4MFR	XN4E-LL401Q4MR	
			2NC	_	XN4E-LL402Q4MFR	XN4E-LL402Q4MR	
			3NC	_	XN4E-LL403Q4MFR	XN4E-LL403Q4MR	
	LED	24V	4NC	_	XN4E-LL404Q4MFR	XN4E-LL404Q4MR	Dod only
	LED	AC/DC	1NC	1NO	XN4E-LL411Q4MFR	XN4E-LL411Q4MR	Red only
CUL US EMERGENCY STOP		2NC	1NO	XN4E-LL412Q4MFR	XN4E-LL412Q4MR		
			3NC	1NO	XN4E-LL413Q4MFR	XN4E-LL413Q4MR	
			2NC	2NO	XN4E-LL422Q4MFR	XN4E-LL422Q4MR	

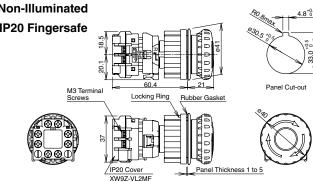
- Only solid wires can be used on the IP20 fingersafe terminal switches.
- Padlocks and hasps are not supplied with the emergency stop switches and must be ordered separately. See page 53.

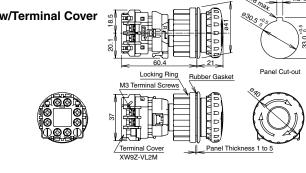
LED Push-ON Pushlock Turn Reset (Padlockable)

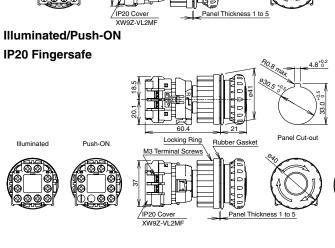
		Datad	tod NO Main NO Manitar		Part	0	
Shape	Illumination	Rated Voltage		NO Monitor Contact	IP20 Fingersafe Terminal	w/Terminal Cover	Operator Color
ø44mm Mushroom							
EMERGENCY STOP DEVICE CULISTED DEVICE COMMAND COMMAN			2NC	_	XN4E-TL402Q4MFR	XN4E-TL402Q4MR	
	LED	24V AC/DC	3NC	_	XN4E-TL403Q4MFR	XN4E-TL403Q4MR	Red only
			2NC	1NO	XN4E-TL412Q4MFR	XN4E-TL412Q4MR	

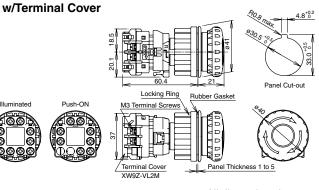
- Push-ON is illuminated when the operator is latched, and turns off when reset.
- Only solid wires can be used on the IP20 fingersafe terminal switches.
- Padlocks and hasps are not supplied with the emergency stop switches and must be ordered separately. See page 53.

Dimensions Plastic Bezel Non-illuminated **IP20 Fingersafe** w/Terminal Cover Panel Cut-out Locking Ring Rubber Gasket Panel Thickness 1 to 5 ø60 mm Jumbo Mushroom Illuminated/Push-ON F10.8 max. **IP20 Fingersafe** w/Terminal Cover Locking Ring Locking Ring Push-ON M3 Terminal Push-ON Panel Thickness 1 to 5 Flush Bezel Non-Illuminated **IP20 Fingersafe** w/Terminal Cover





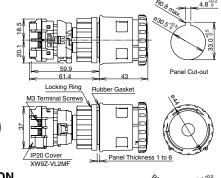


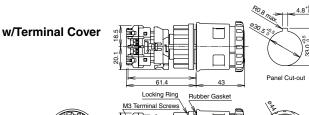


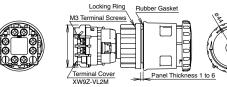
All dimensions in mm.

Dimensions

Padlockable Non-illuminated **IP20 Fingersafe**

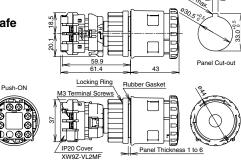




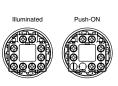


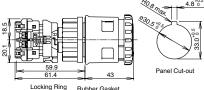


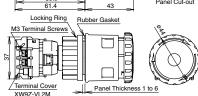




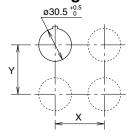
w/Terminal Cover







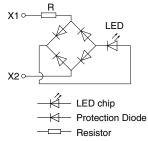
Mounting Hole Layout



	Х	Y
Plastic Bezel	70 mm minimum	
Flush Bezel		

- · The values shown above are the minimum dimensions for mounting with other ø30 mm pushbuttons. For other control units of different sizes and styles, determine the values according to the dimensions, operation, and wiring convenience.
- For padlockable, determine the values according to the size and number of padlocks and hasp.

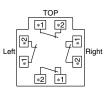
LED Unit Internal Circuit



Terminal Arrangement (Bottom View)

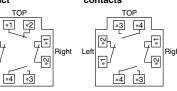
Non-illuminated

NC main contacts only



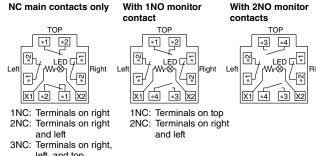
- 1NC: Terminals on right 2NC: Terminals on right and left
- 3NC: Terminals on right, left, and top

With 1NO monitor With 2NO monitor contact contacts



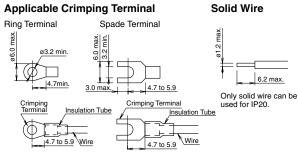
- 1NC: Terminals on top 2NC: Terminals on right
- and left

Illuminated





left, and top

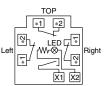


· Be sure to install an insulating tube on the crimping terminal.

All dimensions in mm.

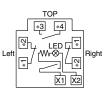
Push-ON

NC main contacts only



2NC: Terminals on right and left

3NC: Terminals on right, left, and top



With 1NO monitor

of TOP side, in a counter-clockwise direction. TOP 11 12 4 Right 744 33 34 (Example: 1NO-3NC contact)

Contact

1-2: NC main contact (black) 3-4: NO monitor contact (blue)

Contact Number (1-4) Starting with the contact

Accessories and Replacement Parts

Accessories and neplacement raits						
Name & Shape	Material	Part No.	Ordering No.	Package Quantity	Remarks	
Terminal Cover	PPE	XW9Z-VL2M	XW9Z-VL2MPN02	2	Black Used for screw terminals. Attached to IP20 protection cover units.	
IP20 Fingersafe Terminal Cover	Polyamide	XW9Z-VL2MF	XW9Z-VL2MFPN02	2	Black Used to change terminal cover to IP20 fingersafe terminal. Only solid wires can be used. Once installed, IP20 terminal cover cannot be removed.	
Ring Wrench	Brass	XN9Z-T1	XN9Z-T1	1	Used to tighten the locking ring when installing the XN emergency stop switch onto a panel. 90	
Ring Wrench	Steel Trivalent chromate plating	TWST-T1	TWST-T1	1	Used to tighten the locking ring when installing the XN emergency stop switch onto a panel. Section 23.7 77 Section 23.7 Sectio	

- The XN series emergency stop switches are supplied with either terminal cover or IP20 fingersafe terminal cover.
- Padlocks and hasps are not supplied and must be ordered separately.

Nameplates (for ø30 Emergency Stop Switches)

Description & Shape	Legend	Part No.	Package Quantity	Dimensions (mm)	
WIERGENCL	(blank) HNAV-0 Polyamide Mounting p XN4E-□L4 XN□E-□V		Polyamide Mounting panel thickness XN4E-□L4: 1.0 to 4.5 mm XN□E-□V4: 1.0 to 3.5 mm		
S 7 0 P	EMERGENCY STOP	HNAV-27	1	1	\$70P Q90 1.5 1.0

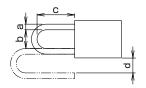
Plate color: Yellow (Munsell 2.5Y 8/10 or equivalent), Legend: Black

Padlock and Hasp

Padlocks and hasps of the following specifications can be used with padlockable emergency stop switches.

i adiock Size			
a b		С	d
7 mm maximum 19 mm minimum		39 mm minimum	15 mm minimum (Note)

Note: When the padlock is installed from the side of the bezel, dimension d requires a minimum of 6 mm. When the padlock is installed from the front of the button, dimension d requires a minimum of 15 mm.



Docommonded Hoon

Recommended Hasp					
	Maker	Part No.			
	PANDUIT CORP.	PSL-HD3 PSL-1A			
	Master Lock® Company LLC	420, 421			

Use only padlocks or hasps that satisfy the specifications shown on the left. The maximum total weight for padlocks and hasps is 1500g.

Make sure that the total weight does not exceed 1500g, otherwise the XN emergency stop switch may be damaged. Make sure that locking and unlocking of the padlock and hasp do not interfere with other devices.

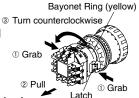
Padlocks and hasps are available from the following manufacturers.

Manufacturer	URL		
PANDUIT CORP.	http://www.panduit.com/		
Master Lock® Company LLC	http://www.masterlock.com/		

Operating Instructions

Removing the Contact Block

First unlock the operator button. Grab the yellow 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.

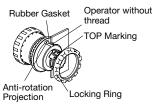


Notes for removing the contact block

- 1. Do not attempt to remove the contact block while the operator is latched, 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 use 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 the contact block straight to prevent damage to the LED lamp. If excessive force is used, 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 XN9Z-T1 or TWST-T1 to a torque of 2.5 N·m maximum.

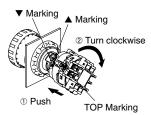
When using a nameplate

When using a nameplate HNAV-□, break the projection from the nameplate using pliers.



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.

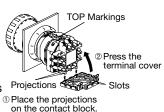


Notes for installing the contact block

- 1. Do not attempt to install the contact block when the operator is latched, otherwise the switch may be
- 2. Make sure that the bayonet ring is in the locked position.

Installing & Removing Terminal Covers XW9Z-VL2M

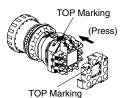
To install the terminal cover, align the TOP marking on the terminal cover with the TOP marking on the contact block. Place the two projections on the bottom side of the contact block into the slots in the terminal cover. Press the terminal cover toward the contact block.



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

IP20 Fingersafe Terminal Cover XW9Z-VL2MF

To install the IP20 fingersafe terminal cover, align the TOP marking on the cover with the TOP marking on the contact block, and press the cover toward the contact block.



TOP Marking

(Pull)

TOP Marking

Projections

- 1. Once installed, the XW97-VI 2MF 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.

Notes for Operation

When using the XN emergency stop switches in safetyrelated part of a control system, observe safety standards and regulations of the relevant country or region. Also be sure to perform a risk assessment before operation.

Tighten the M3 terminal screws to a torque of 0.6 to 1.0 N⋅m.

Contact Bounce

When the button is reset by pulling or turning, the NC main contacts will bounce. When pressing the button, the NO monitor contacts will bounce.

When designing a control circuit, take the contact bounce time into consideration (reference value: 20 ms).

LED Illuminated Switches

An LED lamp is built into the contact block and cannot be replaced.

Handling

Do not expose the switch to excessive shocks and vibrations, for example by operating the switch with tools. Otherwise the switch may be deformed or damaged, causing malfunction or operation failure.

