





INSTRUCTION SHEET (ORIGINAL)

\$\phi\$ 30 Emergency Stop Switch **XN Series** 

Terminal Configuration

M :Screw Terminal

MF :Screw Terminal

(IP20)

Blank:Without Lamp

Blank: Non-illuminated

Q :Full Voltage

4 :LED 24V

(Turn counter-

(2)(Pull)

clockwise)

Latch level

Bayonet ring

①(Squeeze)

4 1 FD 24V

Lamp Type

Lamp Voltage

**Padlock Emergency Stop Switch XN4E Series** 

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

### **↑** SAFETY NOTE

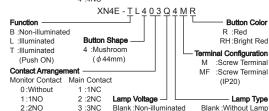
- •Read this instruction sheet and the catalog for the XN4E series emergency stop switches to make sure of correct operation before starting installation, wiring, operation, maintenance, and inspection. Make sure that the instruction sheet is kept by the end user
- •Turn off the power to the XN4E before starting installation, wiring, maintenance and inspection of the XN4E. Failure to turn power off may cause
- ·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 electric shocks.

#### Type No. Development XN1E - T V 4 0 3 Q 4 M R Bezel Shape **Button Color** 1 · Round Plastic Type R ·Red 5: Round, Metal Type (Flush Bezel) RH:Bright Red

- Function B :Non-illuminated 1 :Illuminated T :Illuminated (Push ON)
- **Button Shape** 4 :Mushroom (φ40mm) 5 :Jumbo Mushroom (φ60mm)

Contact Arrangement Monitor Contact Main Contact 0:Without 1:1NC

1 ·1NO 2 ·2NC 2:2NO 3:3NC 4:4NC



### Q :Full Voltage Removing/Installing Contact Block and Panel Mounting

### □ Removing

First unlock the operator button. Squeeze the latch lever on the yellow bayonet ring ① and pull back the (Squeeze) bayonet ring with force until the latch pin clicks 2, then turn the contact block counter-clockwise and pull out 3.

4 ·4NC

- 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. Align the anti-rotation projection on the bezel with the recess in the panel, insert the operator from panel front into the panel hole.

and tighten the locking ring using ring wrench XN9Z-T1 or TWST-T1 to a torque of 2.5 N·m.

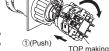
### When using the emergency stop nameplate

Before installing the emergency stop nameplate (Type No.: HNAV-\*), break the projection on the nameplate using pliers.

#### □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
- 1) With the button in the locked position, do not install the contact block, otherwise the switch may be damaged.



Anti-rotation

projection

Projection

▲ making

②(Turn

TOP making

clockwise)

▼ making

Rubber gasket Recess

TOP

Locking ring

2) Make sure that the bayonet ring is secured in the locked position

# 3 Installing and Removing the Terminal Cover

#### ☐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 null 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-L2MF cannot
- be removed. 2) With the XW9Z-VL2MF installed, crimping
- terminals cannot be used. Use solid wires.
- Install the XW97-VL2MF before wiring. It 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 emergency stop switch 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 emergency stop switch, 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 Chatter/Bounce

When the button is reset by pulling or turning, the NC main contacts will chatter When pressing the button, the NO monitor contacts will chatter. When designing a conctrol circuit, take the contact chatter time into consideration (reference value: 20 ms) Do not expose the switch to external shocks, otherwise the contacts will bounce

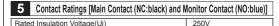
#### □LED Illuminated Switches

The LED lamp is built into the contact block and cannot be replaced. □Handling

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

#### □ Padlock Emergency Stop

The padlockable emergency stop switches can be reset by turning only, and cannot be pulled to reset. Do not attempt to pull to reset, otherwise damage or malfunction may result.



Conv	Conventional Free Air Thermal Current (Ith)				5A		
Rate	Rated Operational Voltage (Ue)			30V	125V	250V	
	Main Contact	AC	Resistive Load (AC-12)	-	5A	3A	
la la		50/60Hz	Inductive Load (AC-15)	-	3A	1.5A	
ational		DC	Resistive Load (DC-12)	2A	0.4A	0.2A	
era			Inductive Load (DC-13)	1A	0.22A	0.1A	
ΙďΞ	Monitor Contact	AC	Resistive Load (AC-12)	-	1.2A	0.6A	
Rated		50/60Hz	Inductive Load (AC-14)	-	0.6A	0.3A	
Ra	No.	DC	Resistive Load (DC-12)	2A	0.4A	0.2A	
	20		Inductive Load (DC-13)	1A	0.22A	0.1A	

# 6 Built-in LED Ratings

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

### 7 Specifications

		IEC60947-5-1, EN60947-5-1, JIS C8201-5-1		
	Applicable Standard	IEC60947-5-5 <sup>*1</sup> ), EN60947-5-5 <sup>*1</sup> ), JIS C8201-5-5 <sup>*1</sup> )		
17. F	7,7,1	UL508, UL991, NFPA79		
		CSA C22.2 No.14, GB14048.5		
TOP making		Operating temperature		
ion. Standard Operating		Non illuminated : -25 to +60 °C (no freezing)		
	Conditions	LED illuminated : -25 to +55 °C (no freezing)		
I Cover	Conditions	Relative humidity : 45 to 85% RH (no condensation)		
TOP making		Storage temperature : -45 to +80 °C (no freezing)		
TOF Illaking	Minimum Direct Opening Force	80 N		
_/	Minimum Direct Opening Travel	4.0 mm		
O (Down)	Maximum Travel	4.5 mm		
②(Press)	Contact Resistance	50 mΩ maximum (initial value)		
	Insulation Resistance	100 MΩ minimum (500V DC megger)		
	Overvoltage Category	П		
Slots	Impulse Withstand Voltage	2.5 kV		
	Pollution Degree	3		
TOP making	Operating Frequency	900 operations/hour		
/	Mechanical Life	250,000 operations minimum		
(Pull out)	Electrical Life	100,000 operations minimum		
		250,000 operations minimum (24V AC/DC, 100mA)		
Latches	Shock Resistance	Operating extremes:150 m/s <sup>2</sup>		
		Damage limits :1,000 m/s <sup>2</sup>		
TOP making		Operating extremes:10 to 500 Hz, amplitude 0.35		
OP making	=	mm, acceleration 50 m/s <sup>2</sup>		
/	Vibration Resistance	Damage limits :10 to 500 Hz, amplitude 0.35		
(Press)		mm, acceleration 50 m/s <sup>2</sup>		
	Degree of Protection	IP65 (panel front:IEC 60529)		
		IP20		
	Terminal Protection	(Screw Terminal type when installing XW9Z-VL2MF)		
ng Tools	Short-circuit Protective Device	250V/10A fuse (Type aM IEC60269-1/IEC60269-2)		
annot be	Conditional Short-			
ır.	circuit Current	1,000 A		
	Recommended Tightening Torque	0.6 to 1.0 N·m (Screw Terminal type)		
	Recommended Tightening	•		
ment in a control	Torque of Locking Ring	2.5 N·m		
untry and region	Applicable Wire	0.75 to 1.25 mm <sup>2</sup> (AWG18 to 16)		
d installations to switch, perform	Total Weight of Padlock	1500g maximum		
5 SWILCH, PEHOLIN	and Hasp (Padlock type only)			
	Reinforced Insulation	D / 10 1		
	(IEC60664-1)	Between live parts and Bezel		
	*1) only for using emergenc	y stop switches(Button color: Red and bright red)		

# 8 Terminal Arrangement (Bottom View)

### ☐Screw Terminal Type

#### ·XN E-BV, XN4E-BL (Non-illuminated)

L, and TOP

<NC main contacts only> <With 1NO monitor contact> <With 2NO monitor contacts> TOP



1NC: Terminals on R

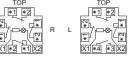




2NC: Terminals on R and L 2NC: Terminals on R and L 3NC: Terminals on R.

·XNDE-LV. XN4E-LL (Illuminated)

<NC main contacts only> <With 1NO monitor contact> <With 2NO monitor contacts> TOP TOP

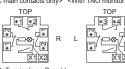


1NC: Terminals on R 1NC: Terminals on TOP 2NC: Terminals on R and L 2NC: Terminals on R and L

3NC: Terminals on R

### L, and TOP ·XNDE-TV, XN4E-TL (Illuminated Push ON)

<NC main contacts only> <With 1NO monitor contact>



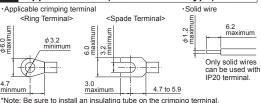
2NC: Terminals on R and L 3NC: Terminals on R. L, and TOP

(1-2: NC contact) (3-4: NO contact) : Contact serial nur (Starting with 1 counterclockwise from TOP) TOP 11 12 4 44 34 33 (Ex. 1NO-3NC contacts)

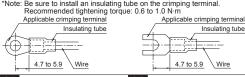
⁺⊸∞

□ : Terminal marking

# 9 Applicable Wire (Screw terminal type)



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



# 10 Mounting Hole Dimensions 11 LED unit internal circuit





Note: The operator part has an anti-rotation projection. Prepare the panel cut-out to the size shown in the figure.

# 12 Padlock and Hasp

Applicable padlock and hasp are shown below.

Padlock size

	а	b	С	d				
	7 mm maximum	19 mm minimum	39 mm minimum	15 mm minimum*2				
	*O\ Discounting of it Common control of the binary and the binary of the control							

2) Dimension d is 6 mm or more when attaching a padlock from the side of a Recommended Hasp Manufacture Type



SHH002 PSL-HD3 PANDUIT PSL-1A 420 Master Lock 421

Since various from and sizes are available, make sure of applicability using the actual padlock and hasp before use.

The total witght of the padlock and hasp can be a maximum of 1500g. When the total wiight exceeds this limit, the switch may malfunction or fail

DECLARATION OF CONFORMITY We IDEC CORPORATION 7-31 Nishimiyahara 1-chome Yodogawa-ku. Osaka 532-8550 Japan declare under

our sole responsibility that the product

to which this declaration relates is in conformity with the EC Directive on the following standard(s) or other normative document(s). In case of alteration of the product, not agreed upon by us, this declaration will lose its

Applicable EC Directive: Low Voltage Directive (2006/95/EC) Machinery Directive (2006/42/EC) Applicable Standard(s): EN 60947-5-5

Manufacturer : IDEC CORP 1-7-31 Nishimiyahara Yorlonawa-Ku Osaka 532-8550 Janan