## 630 XN Series Emergency Stop Switches

$ø 30 \mathrm{~mm}$, 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: 1500 g maximum).
- Gold-plated silver contacts.
- Red (Munsell 5R4/12) or bright red (Munsell 7.5R4.5/14) colors are available.


## Standards

| Applicable <br> Standards | Mark |  |
| :--- | :--- | :--- | File No. or Organization

## Contact Ratings

NC main contacts/NO monitor contacts

| Rated Insulation Voltage (Ui) |  |  |  | 250 V |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated Thermal Current (Ith) |  |  |  | 5A |  |  |
| Rated Operating Voltage (Ue) |  |  |  | 30V | 125 V | 250 V |
|  | Main Contacts | $\begin{aligned} & \text { AC } \\ & 50 / 60 \\ & \mathrm{~Hz} \end{aligned}$ | Resistive Load (AC-12) | - | 5A | 3A |
|  |  |  | Inductive Load (AC-15) | - | 3A | 1.5A |
|  |  | DC | Resistive Load (DC-12) | 2A | 0.4A | 0.2A |
|  |  |  | Inductive Load (DC-13) | 1A | 0.22A | 0.1A |
|  | Monitor Contacts | $\begin{aligned} & \mathrm{AC} \\ & 50 / 60 \\ & \mathrm{~Hz} \end{aligned}$ | Resistive Load (AC-12) | - | 1.2A | 0.6A |
|  |  |  | $\begin{array}{\|l\|} \hline \text { Inductive Load } \\ \text { (AC-14) } \\ \hline \end{array}$ | - | 0.6A | 0.3A |
|  |  | DC | Resistive Load (DC-12) | 2A | 0.4A | 0.2A |
|  |  |  | Inductive Load (DC-13) | 1A | 0.22A | 0.1A |
| Contact Material |  |  |  | Gold-plated Silver |  |  |

- 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 |
| :---: | :---: | :---: |
| $24 \mathrm{~V} \mathrm{AC} / \mathrm{DC}$ | $24 \mathrm{~V} \mathrm{AC} / \mathrm{DC} \pm 10 \%$ | 15 mA |



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 $+60^{\circ} \mathrm{C}$ (no freezing) Illuminated: $\quad-25$ to $+55^{\circ} \mathrm{C}$ (no freezing) |
| Storage Temperature | -45 to $+80^{\circ} \mathrm{C}$ |
| 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 | $50 \mathrm{~m} \Omega$ maximum (initial value) |
| Insulation Resistance | $100 \mathrm{M} \Omega$ 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:$150 \mathrm{~m} / \mathrm{s}^{2}$ <br> Damage limits: <br>  $000 \mathrm{~m} / \mathrm{s}^{2}$ |
| Vibration Resistance | Operating extremes: <br> 10 to 500 Hz , amplitude 0.35 mm , acceleration $50 \mathrm{~m} / \mathrm{s}^{2}$ Damage limits: <br> 10 to 500 Hz , amplitude 0.35 mm , acceleration $50 \mathrm{~m} / \mathrm{s}^{2}$ |
| Durability (at 900 operations $/ \mathrm{h}$, on-duration 40\%) | Mechanical: 250,000 operations minimum Electrical: 100,000 operations minimum 250,000 operations minimum ( 24 V AC/DC, 100 mA ) |
| Degree of Protection | Operator: IP65 (IEC60529) <br> 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 $1.0 \mathrm{~N} \cdot \mathrm{~m}$ |
| Recommended Tightening Torque for Locking Ring | 2.5 N.m |
| Applicable Wire Size | 0.75 to $1.25 \mathrm{~mm}^{2}$ (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) <br> 93g (XN1E-BV504MR) <br> 89g (XN5E-LV404Q4MR) <br> 120g (XN4E-LL404Q4MR) |

## Plastic Bezel

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

| Shape | NC Main Contact | NO Monitor Contact | Part No. |  | (1)Operator Color Code |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
|  | 1NC | - | XN1E-BV401MF ${ }^{1}$ | XN1E-BV401M ${ }^{\text {(1) }}$ | R: Red RH: Bright red |
|  | 2NC | - | XN1E-BV402MF ${ }^{1}$ | XN1E-BV402M ${ }^{1}$ |  |
|  | 3NC | - | XN1E-BV403MF ${ }^{(1)}$ | XN1E-BV403M ${ }^{1}$ |  |
|  | 4NC | - | XN1E-BV404MF ${ }^{1}$ | XN1E-BV404M ${ }^{1}$ |  |
|  | 1NC | 1NO | XN1E-BV411MF ${ }^{1}$ | XN1E-BV411M ${ }^{(1)}$ |  |
|  | 2NC | 1NO | XN1E-BV412MF ${ }^{1}$ | XN1E-BV412M ${ }^{\text {(1) }}$ |  |
|  | 3NC | 1 NO | XN1E-BV413MF ${ }^{1}$ | XN1E-BV413M ${ }^{\text {(1) }}$ |  |
|  | 2NC | 2NO | XN1E-BV422MF(1) | XN1E-BV422M ${ }^{(1)}$ |  |
| ø60mm Jumbo Mushroom | 1NC | - | XN1E-BV501MF(1) | XN1E-BV501M ${ }^{(1)}$ |  |
|  | 2NC | - | XN1E-BV502MF ${ }^{1}$ | XN1E-BV502M ${ }^{(1)}$ |  |
|  | 3NC | - | XN1E-BV503MF ${ }^{1}$ | XN1E-BV503M ${ }^{1}$ |  |
|  | 4NC | - | XN1E-BV504MF ${ }^{(1)}$ | XN1E-BV504M ${ }^{1}$ |  |
|  | 1NC | 1NO | XN1E-BV511MF ${ }^{1}$ | XN1E-BV511M ${ }^{(1)}$ |  |
|  | 2NC | 1NO | XN1E-BV512MF ${ }^{1}$ | XN1E-BV512M ${ }^{(1)}$ |  |
|  | 3NC | 1NO | XN1E-BV513MF ${ }^{1}$ | XN1E-BV513M ${ }^{(1)}$ |  |
|  | 2NC | 2NO | XN1E-BV522MF(1) | XN1E-BV522M ${ }^{(1)}$ |  |

- 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)

| Shape | Illumination | Rated Voltage | NC Main Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| (emem Mushroom | LED | $\begin{gathered} 24 \mathrm{~V} \\ \mathrm{AC} / \mathrm{DC} \end{gathered}$ | 1NC | - | XN1E-LV401Q4MFR | XN1E-LV401Q4MR | Red only |
|  |  |  | 2NC | - | XN1E-LV402Q4MFR | XN1E-LV402Q4MR |  |
|  |  |  | 3NC | - | XN1E-LV403Q4MFR | XN1E-LV403Q4MR |  |
|  |  |  | 4NC | - | XN1E-LV404Q4MFR | XN1E-LV404Q4MR |  |
|  |  |  | 1NC | 1NO | XN1E-LV411Q4MFR | XN1E-LV411Q4MR |  |
|  |  |  | 2NC | 1NO | XN1E-LV412Q4MFR | XN1E-LV412Q4MR |  |
|  |  |  | 3NC | 1 NO | 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 | Illumination | Rated Voltage | NC Main Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| ø40mm Mushroom | LED | $\begin{gathered} 24 \mathrm{~V} \\ \text { AC/DC } \end{gathered}$ | 2NC | - | XN1E-TV402Q4MFR | XN1E-TV402Q4MR | Red only |
|  |  |  | 3NC | - | XN1E-TV403Q4MFR | XN1E-TV403Q4MR |  |
|  |  |  | 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 Contact | NO Monitor Contact | Part No. |  | Operator Color Code |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| ø40mm Mushroom | 1NC | - | XN5E-BV401MF ${ }^{1}$ | XN5E-BV401M ${ }^{(1)}$ | R: Red RH: Bright red |
|  | 2NC | - | XN5E-BV402MF ${ }^{1}$ | XN5E-BV402M ${ }^{1}$ |  |
|  | 3NC | - | XN5E-BV403MF ${ }^{1}$ | XN5E-BV403M ${ }^{(1)}$ |  |
|  | 4NC | - | XN5E-BV404MF ${ }^{\text {(1) }}$ | XN5E-BV404M ${ }^{\text {(1) }}$ |  |
|  | 1NC | 1NO | XN5E-BV411MF(1) | XN5E-BV411M ${ }^{1}$ |  |
|  | 2NC | 1NO | XN5E-BV412MF ${ }^{1}$ | XN5E-BV412M ${ }^{(1)}$ |  |
|  | 3NC | 1NO | XN5E-BV413MF ${ }^{1}$ | XN5E-BV413M ${ }^{1}$ |  |
|  | 2NC | 2NO | XN5E-BV422MF(1) | XN5E-BV422M ${ }^{\text {( }}$ |  |

- 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)

| Shape | Illumination | Rated Voltage | NC Main Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| (emmem Mushroom | LED | $\begin{gathered} 24 \mathrm{~V} \\ \mathrm{AC} / \mathrm{DC} \end{gathered}$ | 1NC | - | XN5E-LV401Q4MFR | XN5E-LV401Q4MR | Red only |
|  |  |  | 2NC | - | XN5E-LV402Q4MFR | XN5E-LV402Q4MR |  |
|  |  |  | 3NC | - | XN5E-LV403Q4MFR | XN5E-LV403Q4MR |  |
|  |  |  | 4NC | - | XN5E-LV404Q4MFR | XN5E-LV404Q4MR |  |
|  |  |  | 1NC | 1NO | XN5E-LV411Q4MFR | XN5E-LV411Q4MR |  |
|  |  |  | 2NC | 1NO | XN5E-LV412Q4MFR | XN5E-LV412Q4MR |  |
|  |  |  | 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)

| Shape | Illumination | Rated Voltage | NC Main Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| ø40mm Mushroom | LED | $\begin{gathered} 24 \mathrm{~V} \\ \mathrm{AC} / \mathrm{DC} \end{gathered}$ | 2NC | - | XN5E-TV402Q4MFR | XN5E-TV402Q4MR | Red only |
|  |  |  | 3NC | - | XN5E-TV403Q4MFR | XN5E-TV403Q4MR |  |
|  |  |  | 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 Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| ø44mm Mushroom | 1NC | - | XN4E-BL401MFRH | XN4E-BL401MRH | Bright red only |
|  | 2NC | - | XN4E-BL402MFRH | XN4E-BL402MRH |  |
|  | 3NC | - | XN4E-BL403MFRH | XN4E-BL403MRH |  |
|  | 4NC | - | XN4E-BL404MFRH | XN4E-BL404MRH |  |
|  | 1NC | 1NO | XN4E-BL411MFRH | XN4E-BL411MRH |  |
|  | 2NC | 1NO | XN4E-BL412MFRH | XN4E-BL412MRH |  |
| LISED LISTED DEVICE | 3NC | 1NO | XN4E-BL413MFRH | XN4E-BL413MRH |  |
| $\rightarrow$ c) | 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 | Illumination | Rated Voltage | NC Main Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| ø44mm Mushroo | LED | $\begin{gathered} 24 \mathrm{~V} \\ \mathrm{AC} / \mathrm{DC} \end{gathered}$ | 1NC | - | XN4E-LL401Q4MFR | XN4E-LL401Q4MR | Red only |
|  |  |  | 2NC | - | XN4E-LL402Q4MFR | XN4E-LL402Q4MR |  |
|  |  |  | 3NC | - | XN4E-LL403Q4MFR | XN4E-LL403Q4MR |  |
|  |  |  | 4NC | - | XN4E-LL404Q4MFR | XN4E-LL404Q4MR |  |
|  |  |  | 1NC | 1NO | XN4E-LL411Q4MFR | XN4E-LL411Q4MR |  |
| -(1) us (1/) |  |  | 2NC | 1NO | XN4E-LL412Q4MFR | XN4E-LL412Q4MR |  |
|  |  |  | 3NC | 1NO | XN4E-LL413Q4MFR | XN4E-LL413Q4MR |  |
| Bracc $\rightarrow$ |  |  | 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)

| Shape | Illumination | Rated Voltage | NC Main Contact | NO Monitor Contact | Part No. |  | Operator Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | IP20 Fingersafe Terminal | w/Terminal Cover |  |
| ø44mm Mushroom | LED | $\begin{gathered} 24 \mathrm{~V} \\ \mathrm{AC} / \mathrm{DC} \end{gathered}$ | 2NC | - | XN4E-TL402Q4MFR | XN4E-TL402Q4MR | Red only |
|  |  |  | 3NC | - | XN4E-TL403Q4MFR | XN4E-TL403Q4MR |  |
| $\stackrel{\text { LISTED }}{-(\text { USTED DEVICE }} \rightarrow$ |  |  | 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


Illuminated/Push-ON IP20 Fingersafe


Flush Bezel


Illuminated/Push-ON

w/Terminal Cover


## Dimensions

## Padlockable

Non-illuminated
IP20 Fingersafe


Illuminated/Push-ON
IP20 Fingersafe

w/Terminal Cover


Panel Cut-out


## Mounting Hole Layout



- The values shown above are the minimum dimensions for mounting with other $\varnothing 30 \mathrm{~mm}$ 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 <br> With 2NO monitor

 contactcontacts

## Illuminated

## NC main contacts only



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

Applicable Crimping Terminal
Ring Terminal Spade Terminal


(Example: 1NO-3NC contact)
$\stackrel{*}{\underline{\square} \square} \quad$ Contact 3-4: NO monitor contact (blu Starting with the contact of TOP side, in a counterclockwise direction.



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


## With 1NO monitor

 contactcontact

With 2NO monitor contacts

Push-ON
NC main contacts only


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


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

With 1NO monitor contact
orine


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


Solid Wire
Solid


Only solid wire can be used for IP20.

Accessories and Replacement Parts

| Name \& Shape | Material | Part No. | Ordering No. | Package Quantity | Remarks |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Terminal Cover | PPE | XW9Z-VL2M | XW9Z-VL2MPN02 | 2 | - Black <br> - Used for screw terminals. <br> - Attached to IP20 protection cover units. |
| IP20 Fingersafe Terminal Cover | Polyamide | XW9Z-VL2MF | XW9Z-VL2MFPN02 | 2 | - Black <br> - Used to change terminal cover to IP20 fingersafe terminal. <br> - 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. |
| Ring Wrench | Steel <br> Trivalent chromate plating | TWST-T1 | TWST-T1 | 1 | - Used to tighten the locking ring when installing the XN emergency stop switch onto a panel. |

- 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) |
| :---: | :---: | :---: | :---: | :---: |
|  | (blank) <br> EMERGENCY STOP | HNAV-0 HNAV-27 | 1 | Polyamide <br> Mounting panel thickness XN4E-口L4: 1.0 to 4.5 mm XNDE-पV4: 1.0 to 3.5 mm |

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.

## Padlock Size

| a | b | c | d |
| :---: | :---: | :---: | :---: |
| 7 mm maximum | 19 mm minimum | 39 mm minimum | 15 mm minimum <br> (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 .
Recommended Hasp

| Maker | Part No. |
| :--- | :--- |
| PANDUIT CORP. | PSL-HD3 <br> PSL-1A |
| Master Lock® <br> 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 1500 g .
Make sure that the total weight does not exceed 1500 g , 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/ |

## $\varnothing 30$ XN Series Emergency Stop Switches

## 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 $2.5 \mathrm{~N} \cdot \mathrm{~m}$ maximum.

## When using a nameplate

When using a nameplate HNAV- $\square$, break the projection from the nameplate using pliers.

## Installing the Contact Block

First unlock the operator button. Align the small $\mathbf{\nabla}$ marking on the edge of the operator with the small $\mathbf{A}$ 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 damaged.
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 <br> 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.
Notes:

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.

## 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.

## Wiring

Tighten the M3 terminal screws to a torque of 0.6 to $1.0 \mathrm{~N} \cdot \mathrm{~m}$.

## 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.

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