



**NEW  
30mm**

# 16, 22 & 30mm X Series E-Stop Switches

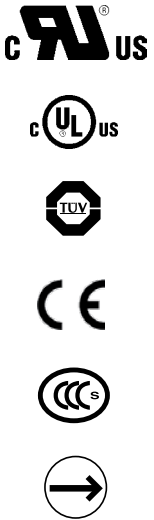
- Features**
- Plastic bezel, metallic padlock and flush bezel available (XN series)
  - Install up to 20 padlocks (XN4E)
  - ø29, ø40, ø44 or ø60mm Mushroom heads available
  - IDEC's original "safe break action" ensures that the contacts stay open when the contact block is detached from the operator.
  - Safety-lock mechanism (IEC60947-5-5, 6.2)
  - 2-in-1: Push-to-lock, Pull/Turn-to-Reset
  - Push-ON LED model allows E-Stops to be illuminated only when latched
  - Direct Opening Action mechanism (IEC60947-5-5, 5.2, IEC60947-5-1, Annex K)
  - Very short panel depth (see chart on next page)
  - Degree of protection IP65 (IEC60529)
  - RoHS compliant (EU directive 2002/95/EC). Contains no lead, cadmium, mercury, hexavalent chromium, PBB or PBDE.
  - XN4E series complies with OSHA and ISO 12100-2:2003 standards



## Specifications

**New**

	ø16mm - XA	ø22mm - XW	ø30mm - XN	
<b>Applicable Standards</b>	IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5			
	UL508, CSA C22.2 No. 14		UL508, UL991, CSA C22.2 No. 14	
<b>Operating Temperature</b>	Non-illuminated: -25 to +60°C (no freezing), Illuminated: -25 to +55°C (no freezing)			
<b>Operating Humidity</b>	45 to 85% RH (no condensation)			
<b>Storage Temperature</b>	-45 to +80°C			
<b>Operating Force</b>	Push-to-lock: 10.5N Pull-to-reset: 10N Turn-to-reset: 0.16N·m	Push-to-lock: 32N Pull-to-reset: 21N Turn-to-reset: 0.27 N·m	XN1E, XN5E Push-to-lock: 32N Pull-to-reset: 21N Turn-to-reset: 0.27 N·m	XN4E Push-to-lock: 32N Pull-to-reset: N/A Turn-to-reset: 0.4 N·m
<b>Minimum Force Required for Direct Opening Action</b>	60N	80N		
<b>Min Operator Stroke Required for Direct Opening Action</b>	4mm			
<b>Maximum Operator Stroke</b>	4.5mm			
<b>Contact Resistance</b>	50mΩ maximum (initial value)			
<b>Contact Material</b>	Gold plated silver			
<b>Insulation Resistance</b>	100MΩ minimum (500V DC megger)			
<b>Impulse Withstand Voltage</b>	2.5kV			
<b>Pollution Degree</b>	3 (inside LED unit: 2)	3		
<b>Operation Frequency</b>	900 operations/hour			
<b>Shock Resistance</b>	Operating extremes: 150m/s <sup>2</sup> (15G), Damage limits: 1000m/s <sup>2</sup> (100G)			
<b>Vibration Resistance</b>	Operating extremes: 10 to 500Hz, amplitude 0.35mm acceleration 50m/s <sup>2</sup> Damage limits: 10 to 500Hz, amplitude 0.35mm acceleration 50m/s <sup>2</sup>			
<b>Mechanical Life</b>	250,000 operations minimum			
<b>Electrical Life</b>	100,000 operations minimum, 250,000 operations minimum (24V AC/DC, 100mA)			
<b>Degree of Protection</b>	IP65 (IEC60529)	Operator: IP65 (IEC60529) Terminal: IP20 (when XW9Z-VL2MF is installed)		
<b>Conditional Short-circuit Current</b>	1000A			
<b>Terminal Style</b>	Solder terminal, PC board terminal	M3.0 screw terminal		
<b>Recommended Tightening Torque for Locking Ring</b>	0.88N·m	2.0 N·m	2.5 N·m	
<b>Connectable Wire</b>	1.25mm <sup>2</sup> maximum (16 AWG max)		0.75 to 1.25mm <sup>2</sup> (16 AWG max)	
<b>Soldering Conditions</b>	310 to 350°C, 3 seconds maximum			
<b>Weight</b>	ø29mm: 23g ø40mm: 28g	ø40mm: 72g ø60mm: 81g	Plastic bezel: 83g (ø40 mm), 93g (ø60 mm) Flush bezel: 89g Padlock type: 20g	



## Contact Ratings

<b>Rated Insulation Voltage (Ui)</b>		XA	300V (illuminated part: 60V)				
		XW, XN	250V				
<b>Rated Current (Ith)</b>		XA, XW, XN	5A				
<b>Rated Operating Voltage (Ue)</b>			30V	125V	250V		
<b>Rated Operating Current</b>	<b>Main Contacts (NC)</b>	AC 50/60 Hz	Resistive Load (AC-12)	XA	–	3A	3A
				XW, XN	–	5A	3A
		DC	Inductive Load (AC-15)	XA	–	1.5A	1.5A
				XW, XN		3A	1.5A
	<b>Monitor Contacts (NO)</b>	AC 50/60 Hz	Resistive Load (DC-12)		2A	0.4A	0.2A
			Inductive Load (DC-13)		1A	0.22A	0.1A
				XA, XW, XN	–	1.2A	0.6A
		DC	Resistive Load (AC-12)		–	0.6A	0.3A
			Inductive Load (AC-14)		–	0.6A	0.3A
			Resistive Load (DC-12)		2A	0.4A	0.2A
	Inductive Load (DC-13)		1A	0.22A	0.1A		

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

## Part Numbers

### XA1E - L V 3 11 Q4 V- R

**Illumination**  
B: Non-Illuminated  
L: Illuminated

**Mushroom Size**  
3: ø29mm  
4: ø40mm

**Contact Configuration\***  
11: 1NO - 1NC  
02: 2NC  
13: 1NO - 3NC  
04: 4NC

**Terminal**  
blank: solder tab  
V: PCB

**Voltage Code**  
blank: Non-Illuminated  
Q4: Illuminated 24V AC/DC

### XW1E - L V 4 11 Q4M - R

**Illumination**  
B: Non-Illuminated  
L: Illuminated LED  
T: Illuminated  
Push-ON LED

**Mushroom Size**  
4: ø40mm  
5: ø60mm  
(non-illuminated only)

**Contact Configuration\***  
11: 1NO - 1NC  
02: 2NC  
13: 1NO - 3NC  
04: 4NC  
22: 2NO-2NC  
12: 1NO-2NC (Push-ON LED only)

**Voltage Code**  
blank: Non-Illuminated  
Q4: Illuminated 24V AC/DC

### XN1E - L V 4 02 Q4 MR

**Bezel**  
1: Plastic Bezel  
4: Padlock  
5: Flush Bezel

**Illumination**  
XN1E, XN5E  
BV: Non-Illuminated  
LV: Illuminated LED  
TV: Illuminated  
Push-ON LED

XN4E  
BL: Non-Illuminated  
LL: Illuminated LED  
TL: Illuminated  
Push-ON LED

**Mushroom Size**  
4: ø40mm: XN1E, XN5E  
ø44mm: XN4E  
5: ø60mm  
(XN1E non-illuminated only)

**Contact Configuration\***  
11: 1NO - 1NC  
02: 2NC  
13: 1NO - 3NC  
22: 2NO - 2NC  
04: 4NC  
12: 1NO-2NC (Push-ON LED only)

**Voltage Code**  
blank: Non-Illuminated  
Q4: 24V AC/DC (Illuminated & Push-ON LED type)

\*Contact IDEC for additional contact configurations.

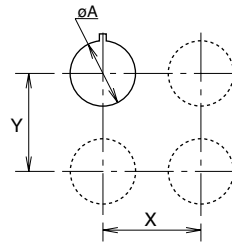
## Illuminated Unit LED Ratings

Model	Rated Voltage	Operating Voltage	Rated Current
16mm XA	24V AC/DC	24V AC/DC ±10%	11mA
22mm XW			15mA
30mm XN			15mA

## Depth Behind the Panel

Model	Depth (mm)	Description
16mm XA	27.9	1 - 4 contacts, both illuminated & non-illuminated
22mm XW	48.7	1 - 4 contacts, both illuminated & non-illuminated
30mm XN	47.7	1 - 4 contacts, plastic bezel
	60.4	1 - 4 contacts, flush bezel
	61.4	1 - 4 contacts, padlock

## Mounting Hole Layout



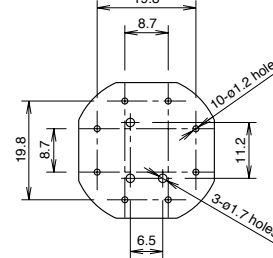
Measurements

Size	Model	øA	X & Y
16mm XA	ø29mm	16.2 <sup>+0.2</sup>	40mm min
	ø40mm		50mm min
22mm XW		22.3 <sup>+0.4</sup>	70mm min
30mm XN1E, XN5E		30.5 <sup>+0.5</sup>	70mm min

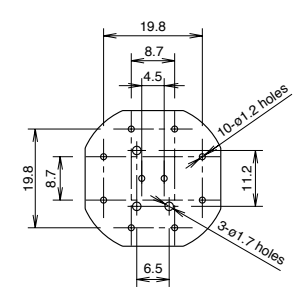
Note: For XN4E, determine the values according to the size and number of padlocks and hasp.

## PC Board Layout - Bottom View (for 16mm XA only)

Non-Illuminated



Illuminated

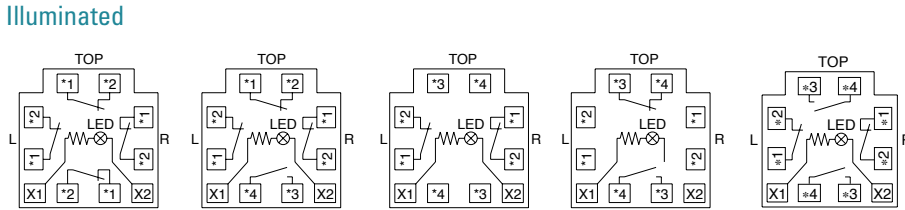
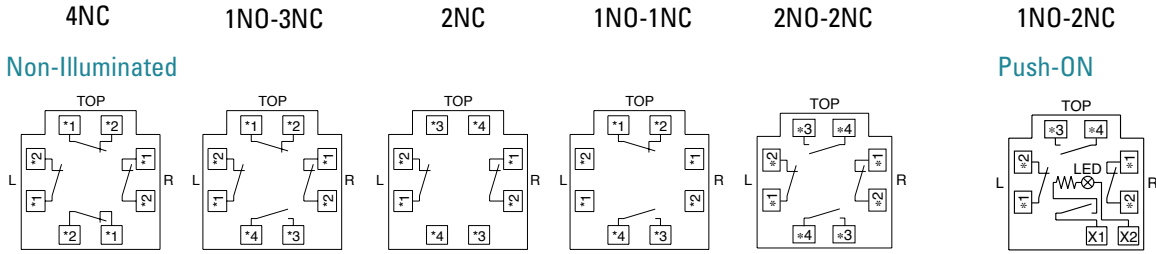


XN5E-BV411MR

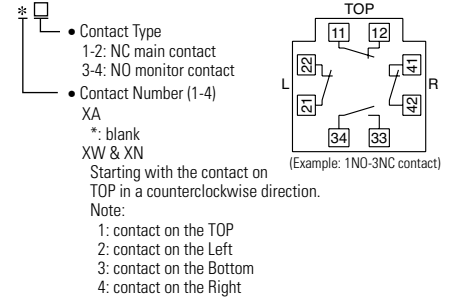


XN4E-LL411MR

## Terminal Arrangements (Bottom View)

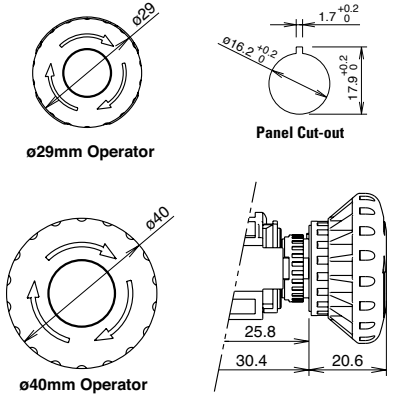


## Terminal Marking Description

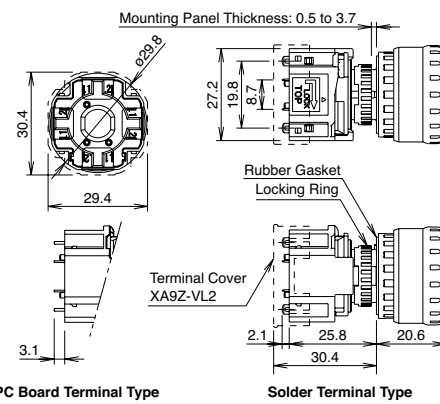


## Dimensions (mm)

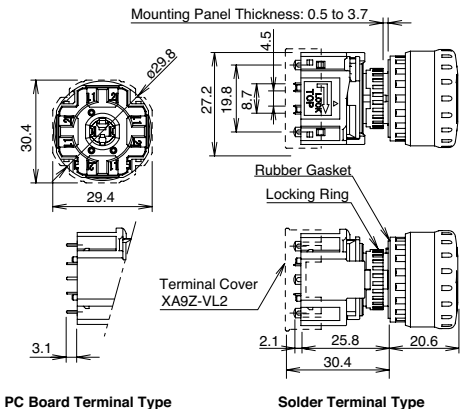
### 16mm XA



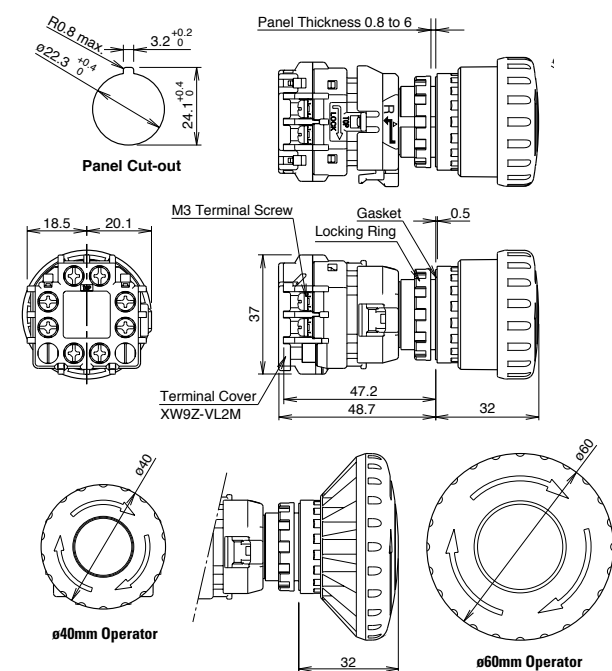
### 16mm XA Non-Illuminated



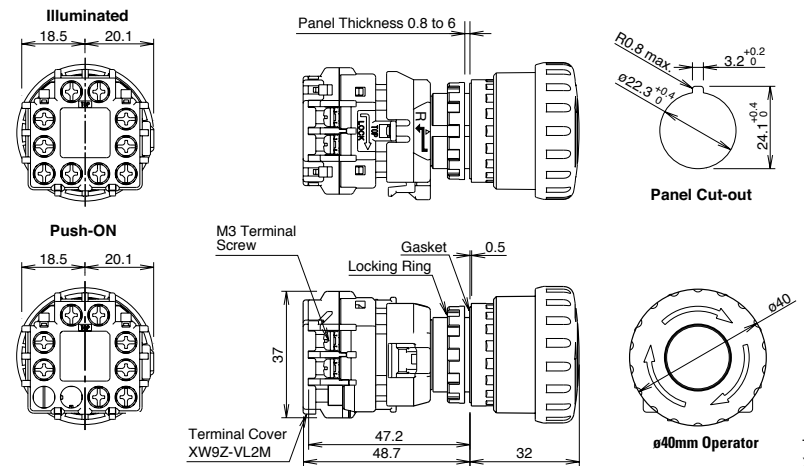
### 16mm XA Illuminated



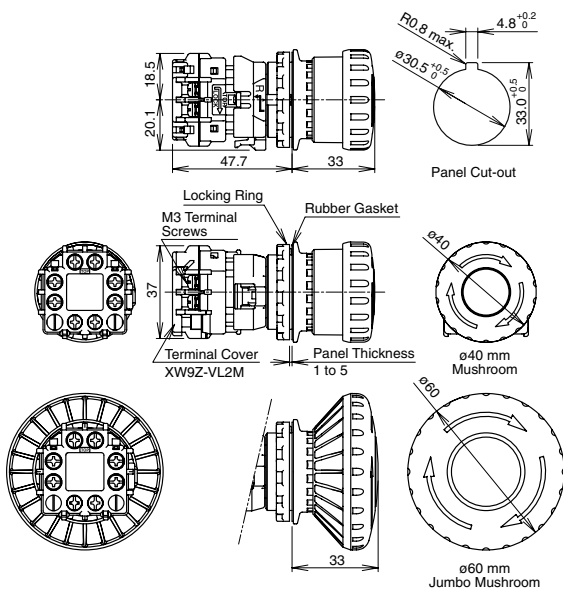
### 22mm XW Non-Illuminated (with terminal cover)



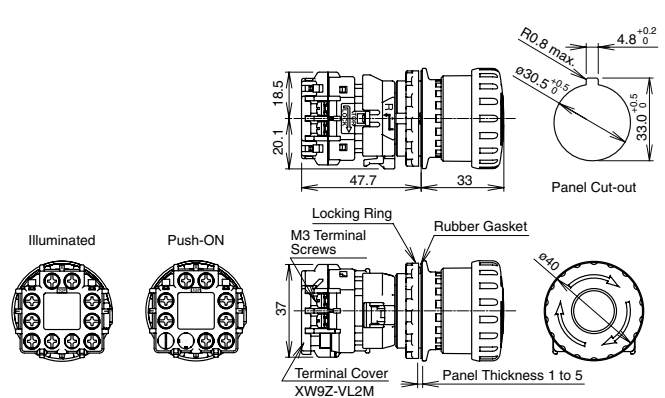
### 22mm XW LED Illuminated/ Push-ON (with terminal cover)



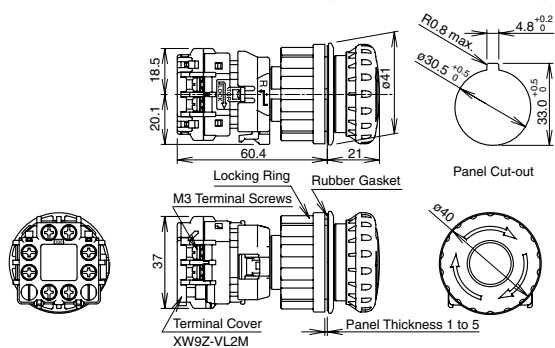
### 30mm XN1E Non-Illuminated (with terminal cover)



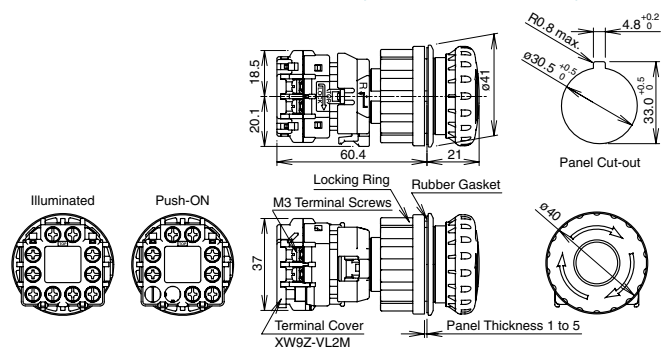
### 30mm XN1E Illuminated/Push-ON (with terminal cover)



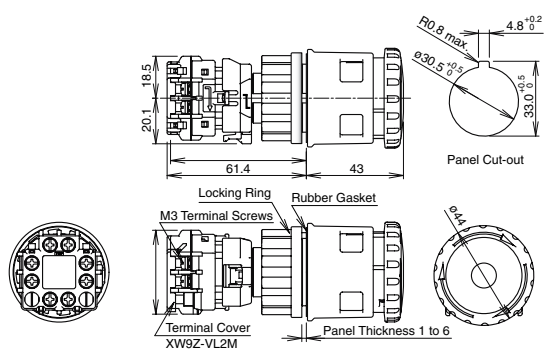
### 30mm XN5E Non-Illuminated (with terminal cover)



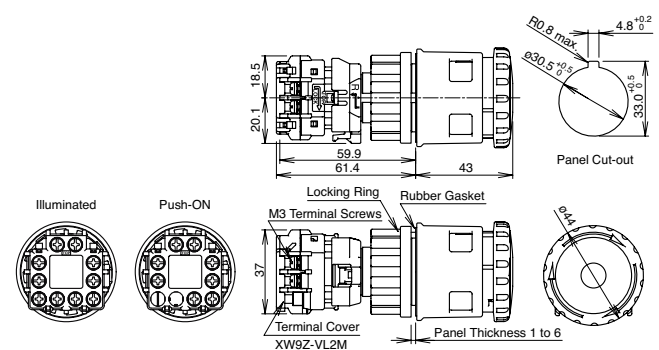
### 30mm XN5E Illuminated/Push-ON (with terminal cover)



### 30mm XN4E Non-Illuminated (with terminal cover)



### 30mm XN4E Illuminated/Push-ON (with terminal cover)



## Accessories

Model	Description	Part Number
XA	Replacement LED Unit: Solder Terminal	XA9Z-LED2R
	Replacement LED Unit: PCB Terminal	XA9Z-LED2VR
	Terminal Cover for contact block	XA9Z-VL2
XW and XN	Terminal Cover for contact block	XW9Z-VL2M
	IP20 Fingersafe Cover	XW9Z-VL2MF
XN	Locking Ring Wrench	XN9Z-T1
	Locking Ring Twist Wrench	TWST-T1
	Lockout Hasp	XN9Z-HASP421

For more information on the these and other IDEC E-Stops, visit:

[www.IDEC.com/usa/estop](http://www.IDEC.com/usa/estop)

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