

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)
- $\varnothing 29$, $\varnothing 40$, $\varnothing 44$ or $\varnothing 60$ mm 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

	$\varnothing 16$ mm - XA	$\varnothing 22$ mm - XW	$\varnothing 30$ mm - XN	
Applicable Standards	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	
Operating Temperature	Non-illuminated: -25 to +60°C (no freezing), Illuminated: -25 to +55°C (no freezing)			
Operating Humidity	45 to 85% RH (no condensation)			
Storage Temperature	-45 to +80°C			
Operating Force	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
Minimum Force Required for Direct Opening Action	60N	80N		
Min Operator Stroke Required for Direct Opening Action	4mm			
Maximum Operator Stroke	4.5mm			
Contact Resistance	50m Ω maximum (initial value)			
Contact Material	Gold plated silver			
Insulation Resistance	100M Ω minimum (500V DC megger)			
Impulse Withstand Voltage	2.5kV			
Pollution Degree	3 (inside LED unit: 2)	3		
Operation Frequency	900 operations/hour			
Shock Resistance	Operating extremes: 150m/s ² (15G), Damage limits: 1000m/s ² (100G)			
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			
Mechanical Life	250,000 operations minimum			
Electrical Life	100,000 operations minimum, 250,000 operations minimum (24V AC/DC, 100mA)			
Degree of Protection	IP65 (IEC60529)	Operator: IP65 (IEC60529) Terminal: IP20 (when XW9Z-VL2MF is installed)		
Conditional Short-circuit Current	1000A			
Terminal Style	Solder terminal, PC board terminal	M3.0 screw terminal		
Recommended Tightening Torque for Locking Ring	0.88N·m	2.0 N·m	2.5 N·m	
Connectable Wire	1.25mm ² maximum (16 AWG max)	0.75 to 1.25mm ² (16 AWG max)		
Soldering Conditions	310 to 350°C, 3 seconds maximum	-		
Weight	$\varnothing 29$ mm: 23g $\varnothing 40$ mm: 28g	$\varnothing 40$ mm: 72g $\varnothing 60$ mm: 81g	Plastic bezel: 83g ($\varnothing 40$ mm), 93g ($\varnothing 60$ mm) Flush bezel: 89g Padlock type: 20g	



Contact Ratings

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

New

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)

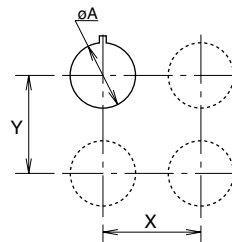
Illuminated Unit LED Ratings

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



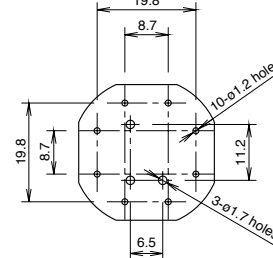
Measurements

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

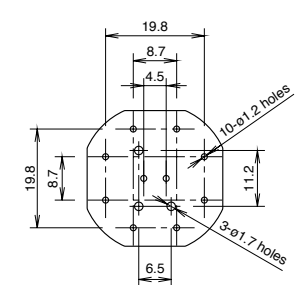
Note: For XN4E, determine the values according to the size and number of padlocks and hasp.

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

Non-Illuminated



Illuminated

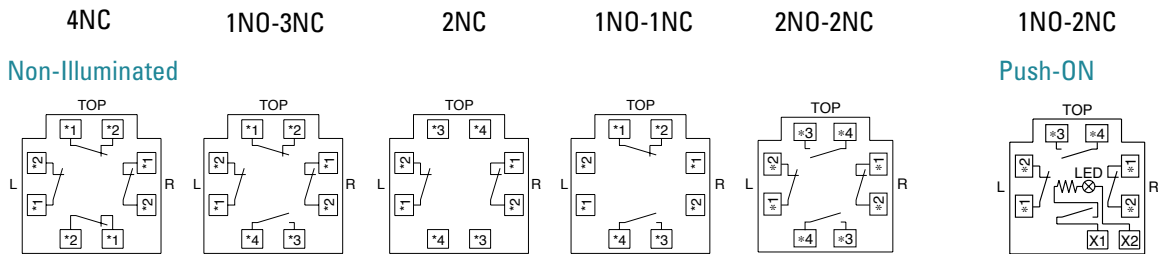


XN5E-BV411MR

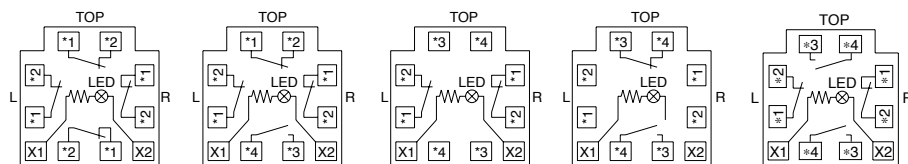


XN4E-LL411MR

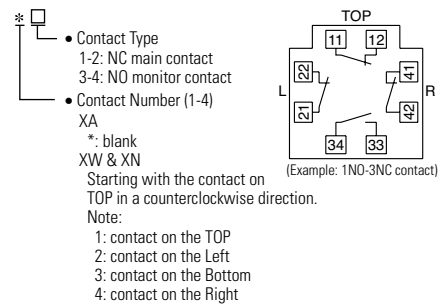
Terminal Arrangements (Bottom View)



Illuminated

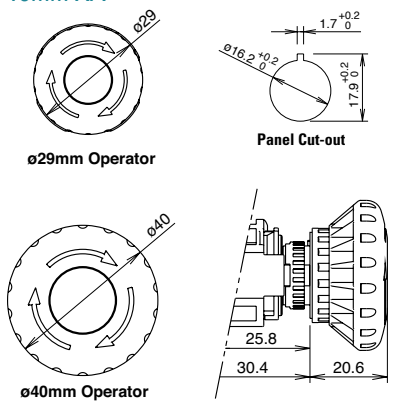


Terminal Marking Description

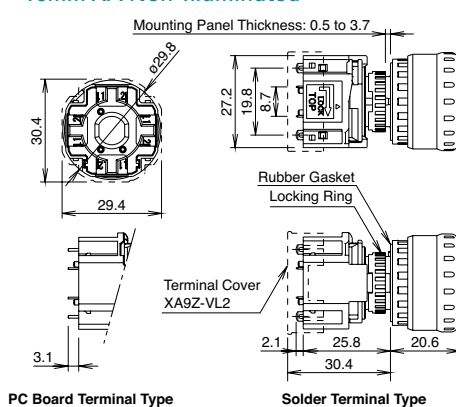


Dimensions (mm)

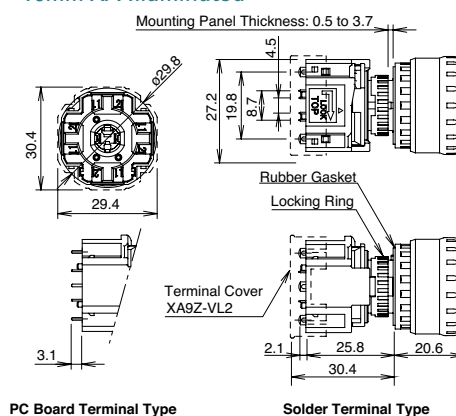
16mm XA



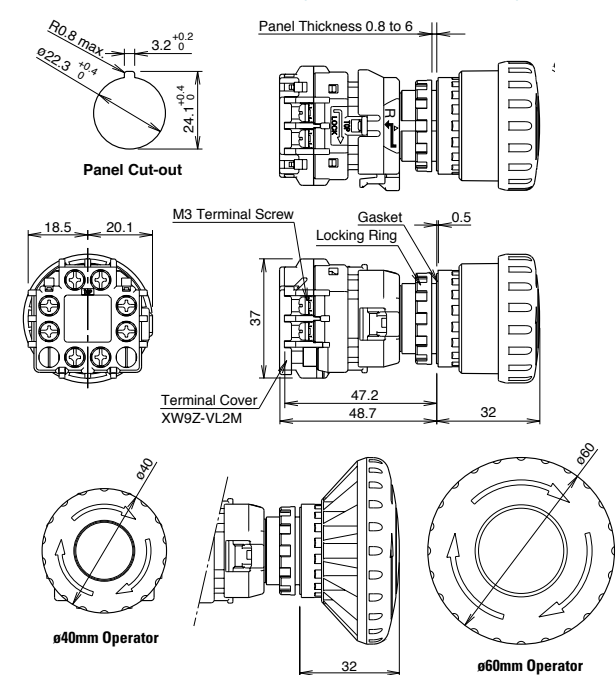
16mm XA Non-Illuminated



16mm XA Illuminated



22mm XW Non-Illuminated (with terminal cover)



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

