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

	ø16mm - XA	ø22mm - XW	ø30mm - XN (New)	
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	50mΩ maximum (initial value)			
Contact Material	Gold plated silver			
Insulation Resistance	100MΩ 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	ø29mm: 23g ø40mm: 28g	ø40mm: 72g ø60mm: 81g	Plastic bezel: 83g (ø40 mm), 93g (ø60 mm) Flush bezel: 89g Padlock type: 20g	

Specifications con't on following page

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)	XA, XW, XN	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)		–	1.2A	0.6A
			Inductive Load (AC-14)		–	0.6A	0.3A
		DC	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.

Illuminated Unit LED Ratings

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

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

New

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

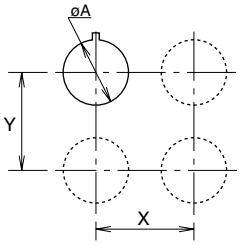
Mushroom Size
4: ø40mm: XN1E, XN5E
ø44mm: XN4E
5: ø60mm (XN1E non-illuminated only)

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.

Mounting Hole Layout



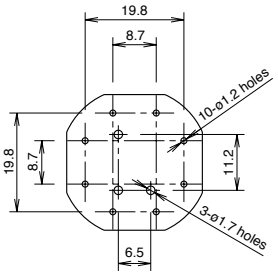
Measurements

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

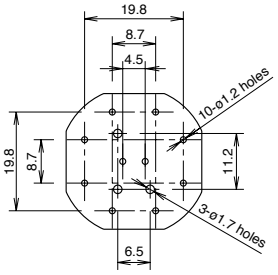
Note: For XN4E, determine the values according to the size and number of padlocks and hasp.

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

Non-Illuminated



Illuminated



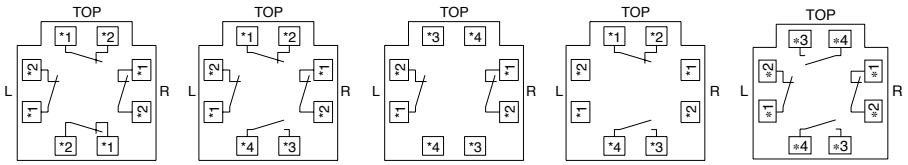
XN4E-LL411MR

XN5E-BV411MR

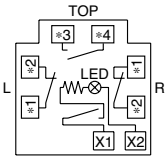
Terminal Arrangements (Bottom View)

4NC 1NO-3NC 2NC 1NO-1NC 2NO-2NC 1NO-2NC

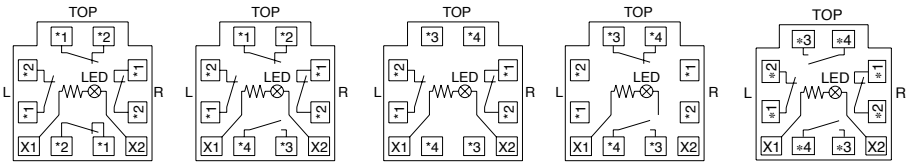
Non-Illuminated



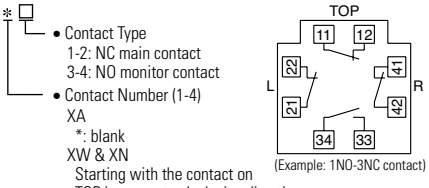
Push-ON



Illuminated

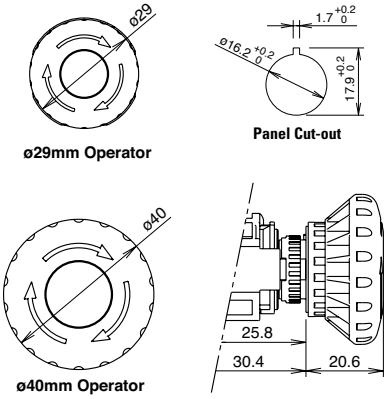


Terminal Marking Description

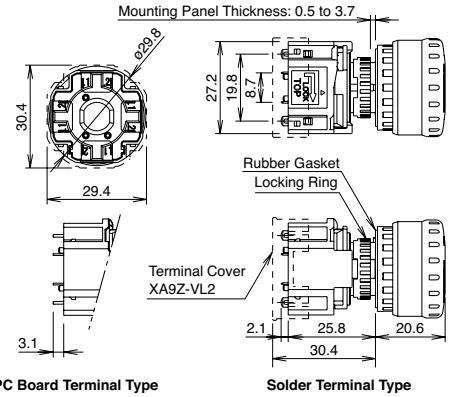


Dimensions (mm)

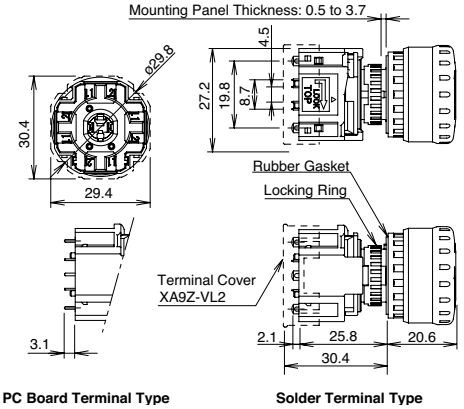
16mm XA



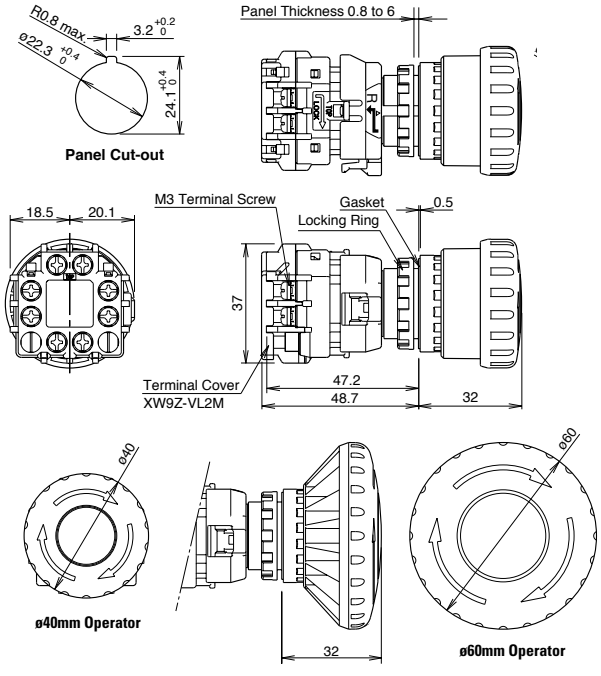
16mm XA Non-Illuminated



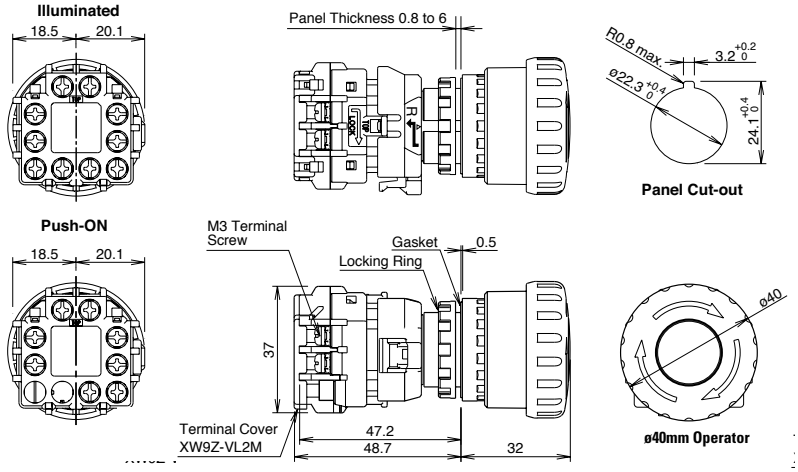
16mm XA Illuminated



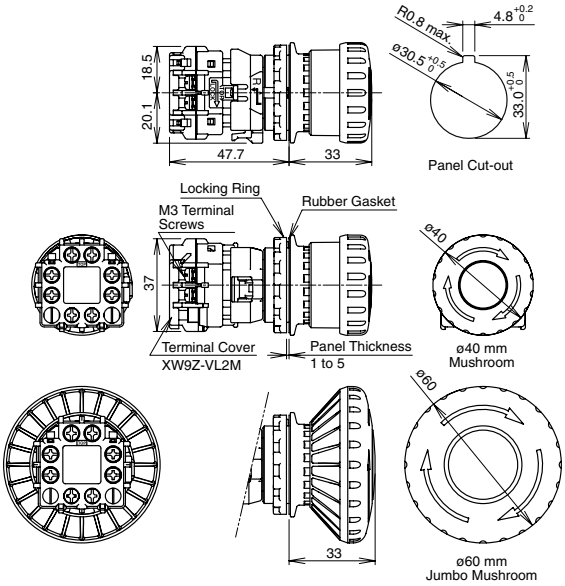
22mm XW Non-Illuminated (with terminal cover)



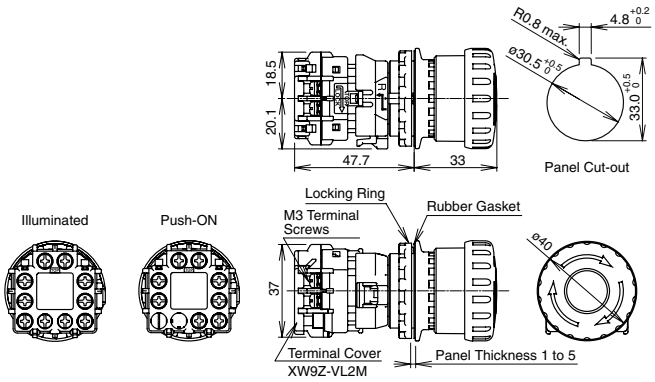
22mm XW LED Illuminated/Push-ON (with terminal cover)



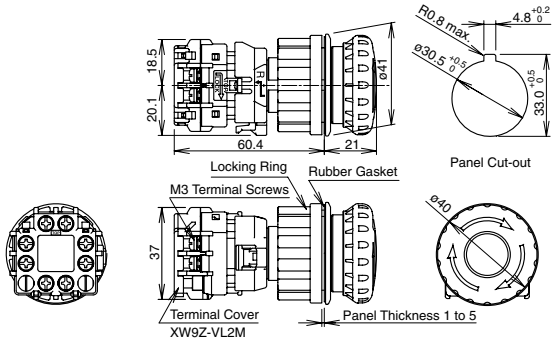
30mm XN1E Non-Illuminated (with terminal cover)



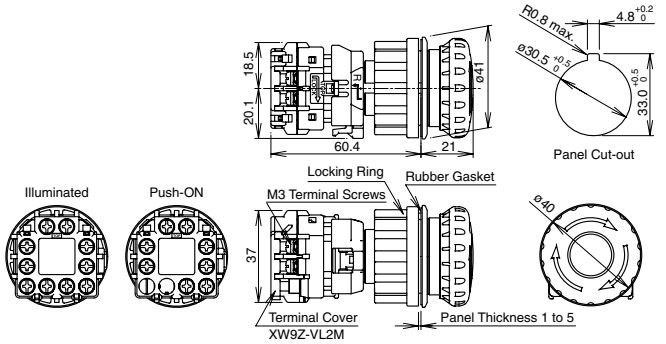
30mm XN1E Illuminated/Push-ON (with terminal cover)



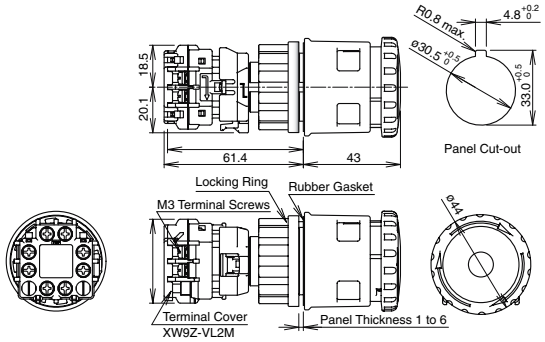
30mm XN5E Non-Illuminated (with terminal cover)



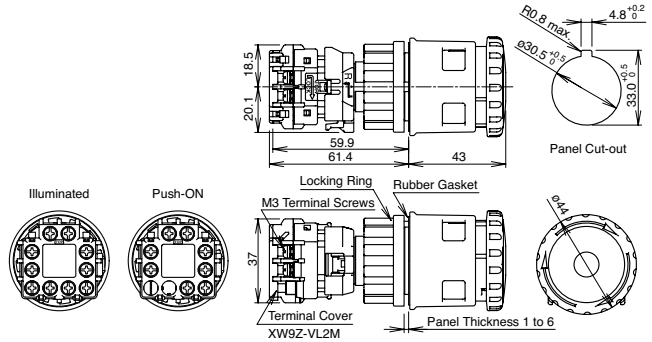
30mm XN5E Illuminated/Push-ON (with terminal cover)



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

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