22mm XW E-Stops

Key features:
- The depth behind the panel is only 48.7 mm for 1 to 4 contacts (with terminal cover) for illuminated and non-illuminated units.
- IDEC's original "Safe break action" ensures that the NC contacts open when the contact block is detached from the operator.
- 1 to 4NC main contacts and 1 or 2NO monitor contacts
- Push-to-lock, Pull or Turn-to-reset operator
- Safety lock mechanism (IEC60947-5-5, 6.2)
- Degree of protection IP65 (IEC60529)
- Fingersafe (IP20) terminals
- Two button sizes: ø40 and ø60 mm
- Push-ON illumination type available (40mm mushroom head)
- Direct opening action mechanism (IEC60947-5-5, 5.2, IEC60947-5-1, Annex K)
- RoHS compliant (EU directive 2002/95/EC).
- UL c-UL listed. EN compliant
- UL NISD category emergency stop device (File# E305148)

UL File #E68961

CCC No. 2005010305150897

Specifications

Applicable Standards	IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, 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: 32N Pull-to-reset: 21N Turn-to-reset: 0.27N·m
Minimum Force Required for Direct Opening Action	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
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	Operator: IP65 (IEC60529) Terminal: IP20 (when XW9Z-VL2MF is installed)
Terminal Style	M3.0 screw terminal
Recommended Tightening Torque for Locking Ring	2.0N·m
Wire Size	16 AWG max
Weight	ø40mm: 72g ø60mm: 81g

Overview

XW Series E-Stops

Interlock Switches

Enabling Switches

Safety Control

Light Curtains

AS-Interface Safety at Work

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Part Numbers

Style	Operator Type	Monitor Contact	Main Contact	Part Number
Non-Illuminated	40mm Mushroom	1NO	1NC	XW1E-BV411M-R
		–	2NC	XW1E-BV402M-R
		2NO	2NC	XW1E-BV422M-R
		1NO	3NC	XW1E-BV413M-R
		–	4NC	XW1E-BV404M-R
	60mm Mushroom	1NO	1NC	XW1E-BV511M-R
		–	2NC	XW1E-BV502M-R
		2NO	2NC	XW1E-BV522M-R
		1NO	3NC	XW1E-BV513M-R
		–	4NC	XW1E-BV504M-R
Illuminated [1]	40mm Mushroom LED with built-in 24V AC/DC LED	1NO	1NC	XW1E-LV411Q4M-R
		–	2NC	XW1E-LV402Q4M-R
		2NO	2NC	XW1E-LV422Q4M-R
		1NO	3NC	XW1E-LV413Q4M-R
		–	4NC	XW1E-LV404Q4M-R
	40mm Mushroom Push-ON LED [2]	1NO	2NC	XW1E-TV412Q4M-R

1. The light is independent of the position of the switch, except for push-on LED type.
2. The light only operates when the switch is pressed as it is internally wired.

XW Series EMO Switches

Style	NC Main Contact	NO Monitor Contact	Part Number
40mm Mushroom	1NC	-	XW1E-BV401M-RH-EMO
	2NC	-	XW1E-BV402M-RH-EMO
	3NC	-	XW1E-BV403M-RH-EMO
	4NC	-	XW1E-BV404M-RH-EMO
	1NC	1NO	XW1E-BV411M-RH-EMO
	2NC	1NO	XW1E-BV412M-RH-EMO
	3NC	1NO	XW1E-BV413M-RH-EMO
	2NC	2NO	XW1E-BV422M-RH-EMO

FB Enclosures with XW E-Stops

Style	Style	NC Contact	NO Contact	Part Number
	40mm Push-lock Turn/Pull Reset Non-Illuminated	2NC	–	FB1W-XW1E-BV402MR
		1NC	1NO	FB1W-XW1E-BV411MR
		2NC	2NO	FB1W-XW1E-BV422MR
		3NC	1NO	FB1W-XW1E-BV413MR
		4NC	–	FB1W-XW1E-BV404MR
	40mm Push-lock Turn/Pull Reset Illuminated*	2NC	–	FB1W-XW1E-LV402MR
		1NC	1NO	FB1W-XW1E-LV411MR
		2NC	2NO	FB1W-XW1E-LV422MR
		3NC	1NO	FB1W-XW1E-LV413MR
		4NC	–	FB1W-XW1E-LV404MR
	60mm Push-lock Turn/Pull Reset Non-Illuminated	2NC	–	FB1W-XW1E-BV502MR
		1NC	1NO	FB1W-XW1E-BV511MR
		2NC	2NO	FB1W-XW1E-BV522MR
		3NC	1NO	FB1W-XW1E-BV513MR
		4NC	–	FB1W-XW4E-BV504MR

For added safety, Switch Guards and Nameplates can be used with E-Stop Enclosures

*LED illumination voltage: 24V AC/DC

Contact Ratings

Rated Insulation Voltage (Ui)			250V		
Rated Current (Ith)			5A		
Rated Operating Voltage (Ue)			30V	125V	250V
Rated Operating Current	Main Contacts (NC)	AC 50/60Hz	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 (NO)	AC 50/60Hz	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

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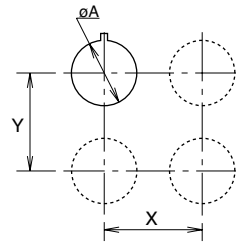The rated operating currents are measured at resistive/inductive load types specified in IEC 60947-5-1.

Illuminated Unit LED Ratings

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

Depth Behind the Panel

Depth (mm)	Description
48.7	1 - 4 contacts, both illuminated and non-illuminated

Mounting Hole Layout

Measurements

| Size	øA	X & Y
40mm	22.3$^{+0.4}$	70mm min

Panel Cutout
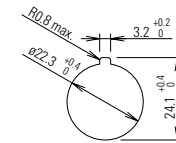
Part Number Key

XW1E - L V 4 11 Q4M - R

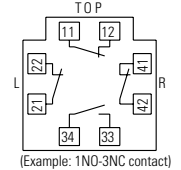**Illumination**
B: Non-Illuminated
L: Illuminated LED
T: Illuminated Push-ON LED

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)
01: 1NC (EMO switch only)
03: 3NC (EMO switch only)

Color
R: red
RH-EMO: red with EMO engraving

Voltage Code
Blank: Non-illuminated
Q4: Illuminated 24V AC/DC

Terminal Arrangements (Bottom View)

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

Non-Illuminated

Illuminated

Push-ON
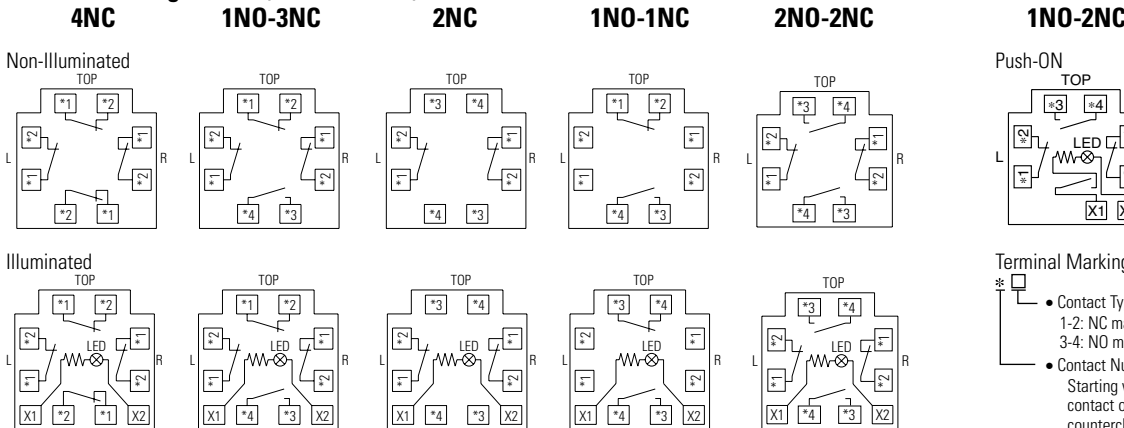
Terminal Marking Description

*▢
• Contact Type
  1-2: NC main contact
  3-4: NO monitor contact
• Contact Number (1-4)
  Starting with the contact on TOP in a counterclockwise direction.
  Note:
  1: contact on the TOP
  2: contact on the Left
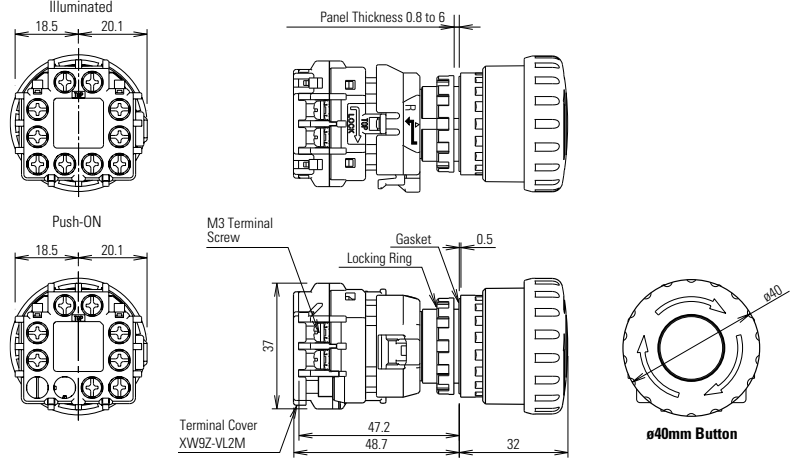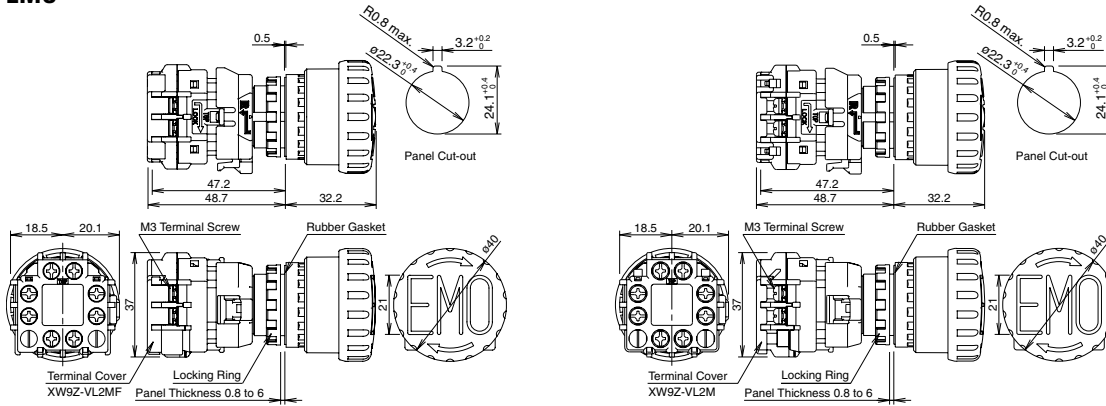 3: contact on the Bottom
  4: contact on the Right

(Example: 1NO-3NC contact)

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Dimensions (mm)

XW Non-Illuminated (with terminal cover)

Panel Thickness 0.8 to 6

18.5 20.1

M3 Terminal Screw Gasket 0.5
Locking Ring

37

47.2
48.7 32

Terminal Cover
XW9Z-VL2M

ø40

ø40mm Button

ø40

32

ø40mm Button

ø60

ø60mm Button
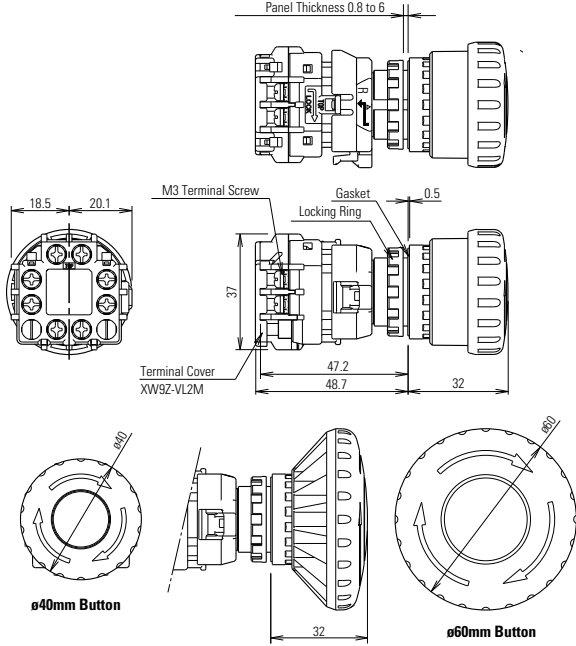
XW LED Illuminated/Push-ON (with terminal cover)

Illuminated

18.5 20.1

Panel Thickness 0.8 to 6

Push-ON

18.5 20.1

M3 Terminal
Screw Gasket 0.5
Locking Ring

37

47.2
48.7 32

Terminal Cover
XW9Z-VL2M

ø40

ø40mm Button

EMO

0.5 R0.8 max. $3.2^{+0.2}_{0}$
$ø22.3^{+0.4}_{0}$
$24.1^{+0.4}_{0}$

Panel Cut-out

47.2
48.7 32.2

18.5 20.1 M3 Terminal Screw Rubber Gasket

37 21 ø40

Terminal Cover Locking Ring
XW9Z-VL2MF Panel Thickness 0.8 to 6

0.5 R0.8 max. $3.2^{+0.2}_{0}$
$ø22.3^{+0.4}_{0}$
$24.1^{+0.4}_{0}$

Panel Cut-out

47.2
48.7 32.2

18.5 20.1 M3 Terminal Screw Rubber Gasket

37 21 ø40

Terminal Cover Locking Ring
XW9Z-VL2M Panel Thickness 0.8 to 6

Accessories: Terminal Covers

Appearance	Description	Part Numbers
	Terminal Cover for contact block	XW9Z-VL2M
	IP20 Fingersafe Cover	XW9Z-VL2MF

Accessories: Nameplates

Appearance	Legend	Part Number	Inner Ø	Outer Ø
	(blank)	HWAV-0	22mm	60mm
	"Emergency Stop"	HWAV-27	22mm	60mm
	(blank)	HWAV5-0	22mm	80mm
	"Emergency Stop"	HWAV5-27	22mm	80mm

ℹ️ Use 60mm nameplates for 40mm mushroom buttons and 80mm nameplates for 60mm mushroom buttons.

Accessories: Shrouds

Appearance	Part Numbers	E-Stop Types	Applicable Standards
	HW9Z-KG1	40mm Mushroom Head	SEMI S2-0703, 12.5.1 Compliant
	HW9Z-KG2	40mm, and 60mm Mushroom Head	SEMI S2-0703, 12.5.1 & SEMATECH Compliant
	HW9Z-KG3	40mm Mushroom Head	SEMI S2 Compliant (Approved by TUV)
	HW9Z-KG4	40mm Mushroom Head	SEMI S2 Compliant (Approved by TUV) & SEMATECH