APEM

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XW XN SEMI

# Ø16 XA Series Emergency Stop Switches (w/Removable Contact Block)

## Compact size - only 27.9 mm deep behind the panel. Reliable "Safe break action."

- The depth behind the panel is only 27.9 mm for 1 to 4 contacts, both on illuminated and non-illuminated.
- IDEC's original "Safe break action" ensures that the contacts open when the contact block is detached from the operator.
- 1 to 4NC main contacts and 1NO monitor contact
- Push-to-lock, Pull or Turn-to-reset operator
- Direct opening action mechanism (IEC 60947-5-5, 5.2, IEC60947-5-1, Annex K)
- Safety lock mechanism (IEC 60947-5-5, 6.2)
- Degree of protection IP65 (IEC 60529)
- Gold plated silver contacts.
- Two operator sizes: ø29 and ø40 mm
- Dark red (Munsell 5R4/12) or bright red (Munsell 7.5R4.5/14) colors are available for the operator of non-illuminated emergency stop switches.



## **Standards and Specifications**

# **Contact Ratings**

NC main contacts (black) /NO monitor contact (blue)

| Rate                    | Rated Insulation Voltage (Ui) |                   | 300V (illuminated part: 60V) |                    |       |      |
|-------------------------|-------------------------------|-------------------|------------------------------|--------------------|-------|------|
| Rate                    | Rated Thermal Current (Ith)   |                   |                              | 5A                 |       |      |
| Rate                    | Rated Operating Voltage (Ue)  |                   |                              | 30V                | 125V  | 250V |
|                         | Main<br>Contacts              | AC<br>50/60<br>Hz | Resistive Load<br>(AC-12)    | _                  | 3A    | 3A   |
|                         |                               |                   | Inductive Load<br>(AC-15)    | -                  | 1.5A  | 1.5A |
| ırrent                  |                               | DC                | Resistive Load<br>(DC-12)    | 2A                 | 0.4A  | 0.2A |
| Rated Operating Current |                               |                   | Inductive Load<br>(DC-13)    | 1A                 | 0.22A | 0.1A |
| d Opera                 | Monitor<br>Contacts           | AC<br>50/60<br>Hz | Resistive Load<br>(AC-12)    | ı                  | 1.2A  | 0.6A |
| Rate                    |                               |                   | Inductive Load<br>(AC-14)    | ı                  | 0.6A  | 0.3A |
|                         |                               | DC                | Resistive Load<br>(DC-12)    | 2A                 | 0.4A  | 0.2A |
|                         |                               |                   | Inductive Load<br>(DC-13)    | 1A                 | 0.22A | 0.1A |
| Con                     | Contact Material              |                   |                              | Gold plated silver |       |      |

- Minimum applicable load: 5V AC/DC, 1 mA (reference value) (Operating area may vary according to 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**

| Rated Voltage | Operating Voltage | Rated Current |
|---------------|-------------------|---------------|
| 24V AC/DC     | 24V AC/DC ±10%    | 11 mA         |

## **Specifications**

| Applicable Standards   | IEC60947-5-1, EN60947-5-1<br>IEC60947-5-5, EN60947-5-5, JIS C8201-5-1, UL991,<br>NFPA79, UL508, CSA C22.2 No.14, GB14048.5  |  |  |
|--|---|--|--|
| Operating<br>Temperature   | -25 to +60°C (no freezing)<br>Illuminated: -25 to +55°C (no freezing)   |  |  |
| Storage Temperature  | -45 to +80°C  |  |  |
| Operating Humidity   | 45 to 85% RH (no condensation)  |  |  |
| Operating Force  | Push to lock: 10.5N<br>Pull to reset: 10N<br>Turn to reset: 0.16 N·m  |  |  |
| Minimum Force<br>Required for Direct<br>Opening Action           | 60N   |  |  |
| Minimum Operator<br>Stroke Required for<br>Direct Opening Action | 4.0 mm  |  |  |
| Maximum Operator<br>Stroke                                       | 4.5 mm  |  |  |
| Contact Resistance   | 50 m $Ω$ maximum (initial value)  |  |  |
| Insulation Resistance  | 100 MΩ minimum (500V DC megger)   |  |  |
| Overvoltage Category   | II  |  |  |
| Impulse Withstand<br>Voltage                                     | 2.5 kV  |  |  |
| Pollution Degree   | 3 (inside LED unit: 2)  |  |  |
| Operation Frequency  | 900 operations/hour   |  |  |
| Shock Resistance   | Operating extremes: 150 m/s <sup>2</sup> Damage limits: 1000 m/s <sup>2</sup>   |  |  |
| Vibration Resistance   | Operating extremes: 10 to 500 Hz,<br>amplitude 0.35 mm acceleration 50 m/s <sup>2</sup><br>Damage limits: 10 to 500 Hz,<br>amplitude 0.35 mm acceleration 50 m/s <sup>2</sup> |  |  |
| Mechanical Life  | 250,000 operations minimum  |  |  |
| Electrical Life  | 100,000 operations min<br>250,000 operations min (24V AC/DC, 100 mA)  |  |  |
| Degree of Protection   | IP65 (IEC60529)   |  |  |
| Short-circuit<br>Protection                                      | 250V/10A fuse<br>(Type aM, IEC60269-1/IEC60269-2)   |  |  |
| Conditional<br>Short-circuit Current                             | 1000A   |  |  |
| Terminal Style   | Solder terminal, PC board terminal  |  |  |
| Recommended<br>Tightening Torque<br>for Locking Ring             | 0.88 N·m  |  |  |
| Connectable Wire   | 1.25 mm² maximum (AWG16 maximum)  |  |  |
| Soldering Conditions   | 310 to 350°C, 3 seconds maximum   |  |  |
| Weight   | ø29 mm: 23g, ø40 mm: 28g  |  |  |

For more information, visit http://eu.idec.com

APEM Switches & Pilot Lights

## Pushlock Pull/Turn Reset (Solder Terminal/PC Board Terminal)

#### Non-illuminated

| Chana          | NC Main | NO Monitor<br>Contact | Part No.        |                   | Operator                         |
|----------------|---------|-----------------------|-----------------|-------------------|----------------------------------|
| Shape          | Contact |                       | Solder Terminal | PC Board Terminal | Color Code                       |
| ø29mm Mushroom | 1NC     | _                     | XA1E-BV301①     | XA1E-BV301V①      | R: Dark red<br>RH: Bright<br>red |
|                | 2NC     | _                     | XA1E-BV302①     | XA1E-BV302V①      |                                  |
|                | 3NC     | _                     | XA1E-BV303①     | XA1E-BV303V①      |                                  |
|                | 4NC     | _                     | XA1E-BV304①     | XA1E-BV304V①      |                                  |
|                | 1NC     | 1NO                   | XA1E-BV311①     | XA1E-BV311V①      |                                  |
|                | 2NC     | 1NO                   | XA1E-BV312①     | XA1E-BV312V①      |                                  |
|                | 3NC     | 1NO                   | XA1E-BV313①     | XA1E-BV313V①      |                                  |
| ø40mm Mushroom | 1NC     | _                     | XA1E-BV401①     | XA1E-BV401V①      |                                  |
|                | 2NC     | _                     | XA1E-BV402①     | XA1E-BV402V①      |                                  |
|                | 3NC     | _                     | XA1E-BV403①     | XA1E-BV403V①      |                                  |
|                | 4NC     | _                     | XA1E-BV404①     | XA1E-BV404V①      |                                  |
|                | 1NC     | 1NO                   | XA1E-BV411①     | XA1E-BV411V①      |                                  |
|                | 2NC     | 1NO                   | XA1E-BV412①     | XA1E-BV412V①      |                                  |
|                | 3NC     | 1NO                   | XA1E-BV413①     | XA1E-BV413V①      |                                  |

- Specify a color code in place of ① in the Part No.
- Pushlock pull/turn reset switches are locked when pressed, and reset when pulled or turned clockwise.
- Terminal cover (XA9Z-VL2) is ordered separately.
- For EMO Switches, see D-052.

#### Illuminated

| Chana          | NC Main | NO Monitor | Part No.        |                   | Operator      |
|----------------|---------|------------|-----------------|-------------------|---------------|
| Shape          | Contact | Contact    | Solder Terminal | PC Board Terminal | Color         |
| ø29mm Mushroom | 1NC     | _          | XA1E-LV301Q4R   | XA1E-LV301Q4VR    | Dark red only |
|                | 2NC     | _          | XA1E-LV302Q4R   | XA1E-LV302Q4VR    |               |
|                | 3NC     | _          | XA1E-LV303Q4R   | XA1E-LV303Q4VR    |               |
|                | 4NC     | _          | XA1E-LV304Q4R   | XA1E-LV304Q4VR    |               |
|                | 1NC     | 1NO        | XA1E-LV311Q4R   | XA1E-LV311Q4VR    |               |
|                | 2NC     | 1NO        | XA1E-LV312Q4R   | XA1E-LV312Q4VR    |               |
|                | 3NC     | 1NO        | XA1E-LV313Q4R   | XA1E-LV313Q4VR    |               |
| ø40mm Mushroom | 1NC     | _          | XA1E-LV401Q4R   | XA1E-LV401Q4VR    |               |
|                | 2NC     | _          | XA1E-LV402Q4R   | XA1E-LV402Q4VR    |               |
|                | 3NC     | _          | XA1E-LV403Q4R   | XA1E-LV403Q4VR    |               |
|                | 4NC     | _          | XA1E-LV404Q4R   | XA1E-LV404Q4VR    |               |
|                | 1NC     | 1NO        | XA1E-LV411Q4R   | XA1E-LV411Q4VR    |               |
|                | 2NC     | 1NO        | XA1E-LV412Q4R   | XA1E-LV412Q4VR    |               |
|                | 3NC     | 1NO        | XA1E-LV413Q4R   | XA1E-LV413Q4VR    |               |

- Pushlock pull/turn reset switches are locked when pressed, and reset when pulled or turned clockwise.
- Terminal cover (XA9Z-VL2) is ordered separately.

Control Boxes Enabling Switches Safety Products **Explosion Proof** Terminal Blocks Relays & Sockets Circuit Protectors Power Supplies LED Illumination Controllers Operator Sensors AUTO-ID Х6

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