

## Emergency Stop Switch

**A165E***Mounting Aperture of 16 mm*

- Modular construction, easy installation
- Direct opening mechanism with minimum contact separation of 3 mm in accordance with EN60947-5-1, ⊖. (only for NC contacts)
- Conforms to EN418, EN60947-5-1.
- Includes a safety lock to prevent misuse.
- Features separate construction that allows the Switch to be separated for easier wiring and one-piece-like construction that allows easier handling.
- High reliability, IP65
- Short mounting depth, less than 28.5 mm below panel
- Quick and easy assembly, snap-in Switch.
- A165E is identifiable, clearly visible and will stop a dangerous process, without creating additional hazards.

**Model Number Structure****Model Number Legend**

**A165E-**□□-□□-□□  
 1 2 3 4

**1. Lighted/Non-lighted**

None: Non-lighted  
 L: Lighted

**2. Head Size**

S: 30 mm dia.  
 M: 40 mm dia.

**3. Illumination (Operation Voltage/Rated Voltage)**

None: Non-lighted  
 24D: LED (24 VDC)

**4. Contacts**

01: SPST (NC)  
 02: DPST (NC)  
 03U: TPST (NC)  
 One-body, non-lighted models only




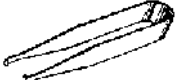
Ordering Information

List of Models

| Illumination | Rated voltage | Pushbutton color | Pushbutton size | Terminal        | Contact | Standard load<br>(125 VAC at 5 A,<br>250 VAC at 3 A,<br>30 VDC at 3 A) |
|--------------|---------------|------------------|-----------------|-----------------|---------|--|
| LED          | 24 VDC        | Red              | 30 dia.         | Solder terminal | SPST-NC | A165E-LS-24D-01  |
| None         | ---           |                  |                 |                 | DPST-NC | A165E-LS-24D-02  |
|              |               |                  |                 |                 | SPST-NC | A165E-S-01   |
|              |               |                  |                 |                 | DPST-NC | A165E-S-02   |
|              |               |                  |                 |                 | TPST-NC | A165E-S-03U  |
| LED          | 24 VDC        |                  |                 |                 | 40 dia. | SPST-NC  |
| None         | ---           |                  | DPST-NC         |                 |         | A165E-LM-24D-02  |
|              |               |                  | SPST-NC         |                 |         | A165E-M-01   |
|              |               |                  | DPST-NC         |                 |         | A165E-M-02   |
|              |               |                  | TPST-NC         |                 |         | A165E-M-03U  |

**Note:** The above models have a surface indication of "RESET." Models with "STOP" indication are also available. For further information, contact your OMRON representative.

Accessories (Order Separately)

| Item            | Appearance  | Type            | Model      | Precautions  |
|-----------------|---|-----------------|------------|--|
| Yellow Plate    |    | Yellow, 45 dia. | A16Z-5070  | Use this as an emergency stop nameplate.                               |
| Panel Plug      |   | Rectangular     | A16ZJ-3003 | Used for covering the panel cutouts for future panel expansion.        |
|                 |   | Square          | A16ZA-3003 |  |
|                 |   | Round           | A16ZT-3003 |  |
| Tightening Tool |  | ---             | A16Z-3004  | Useful for repetitive mounting. Be careful not to tighten excessively. |
| Extractor       |  | ---             | A16Z-5080  | Convenient for extracting the Switch and Lamp.                         |

Specifications

Approved Standards

| Recognized Organization | Standards   | File No. |
|-------------------------|-------------|----------|
| UL, cUL (see note)      | UL508       | E41515   |
| AZCO                    | EN60947-5-1 | C9805501 |

**Note:** UL: UL508, cUL: CSA C22 No. 14

Approved Standard Ratings

UL, cUL

| Rated voltage | Rated current     |                     |
|---------------|-------------------|---------------------|
|               | A165E series      | A165E-U series      |
| 125 VAC       | 5 A (General use) | 1 A (General use)   |
| 250 VAC       | 3 A (General use) | 0.5 A (General use) |
| 30 VDC        | 3 A (Resistive)   | 1 A (Resistive)     |

## Ratings

### Switch Ratings

| Rated voltage           | Resistive load  |                 |
|-------------------------|-----------------|-----------------|
|                         | A165E series    | A165E□-U series |
| 125 VAC                 | 5 A             | 1 A             |
| 250 VAC                 | 3 A             | 0.5 A           |
| 30 VDC                  | 3 A             | 1 A             |
| Minimum applicable load | 150 mA at 5 VDC | 1 mA at 5 VDC   |

## Characteristics

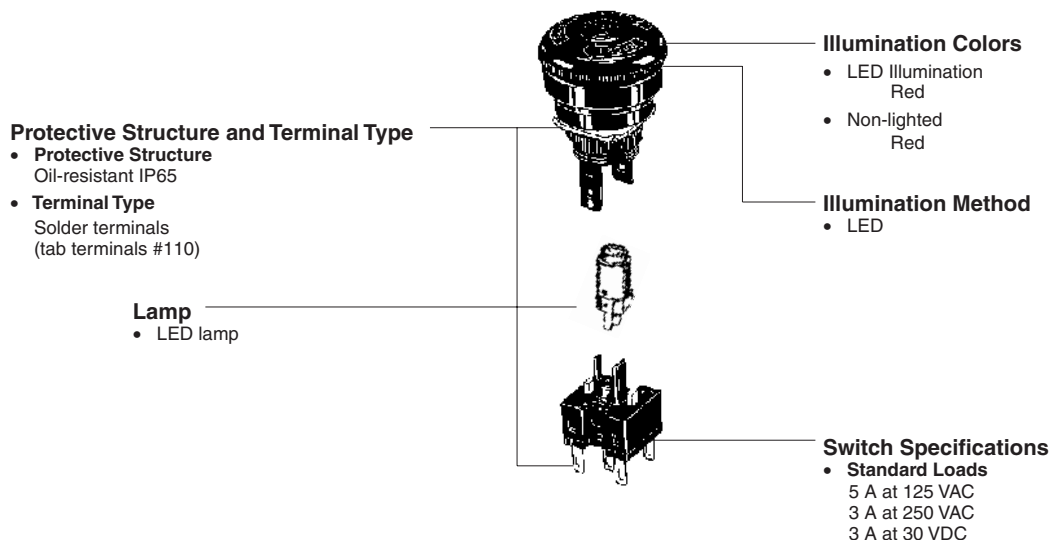
| Item                            |             | Emergency Stop Switch  |
|---------------------------------|-------------|--|
| Allowable operating frequency   | Mechanical  | 20 operations/minute max.  |
|                                 | Electrical  | 10 operations/minute max.  |
| Insulation resistance           |             | 100 MΩ min. (at 500 VDC)   |
| Dielectric strength             |             | 1,000 VAC, 50/60 Hz for 1 min between terminals of same polarity<br>2,000 VAC, 50/60 Hz for 1 min between terminals of different polarity and also between each terminal and ground<br>1,000 VAC, 50/60 Hz for 1 min between lamp terminals (see note) |
| Vibration resistance            | Malfunction | 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)   |
| Shock resistance                | Destruction | 500 m/s <sup>2</sup>   |
|                                 | Malfunction | 300 m/s <sup>2</sup> max. (malfunction within 1 ms),<br>150 m/s <sup>2</sup> max. In case of A165E□U series  |
| Durability                      | Mechanical  | 100,000 operations min.  |
|                                 | Electrical  | 100,000 operations min.  |
| Ambient temperature             |             | Operating:-10°C to 55°C (with no icing or condensation)<br>Storage:-25°C to 65°C (with no icing or condensation)   |
| Ambient humidity                |             | Operating:35% to 85%   |
| Electric shock protection class |             | Class II   |
| PTI (tracking characteristic)   |             | 175  |
| Degree of contamination         |             | 3  |
| Weight                          |             | Approx. 16 g (in case of DPDT Switches)  |

**Note:** LED not mounted. Test them with the LED removed.

## Operating Characteristics

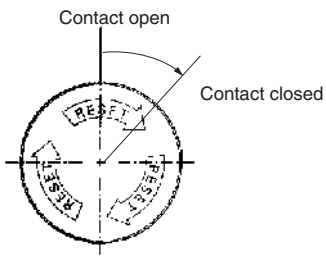
| Features                  | Characteristics                                 |
|---------------------------|---|
| Operating force (OF) max. | 14.7 N  |
| Releasing force (RF) min. | 0.1 N·m   |
| Pretravel (PT)            | 3.5±0.5 mm (3±0.5 mm In case of A165E□U series) |

Nomenclature



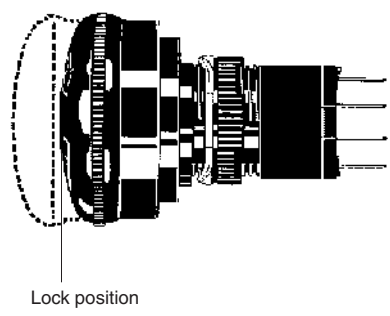
**Note:** A165E Emergency Stop Switch must be ordered as a set.  
No LED is installed for the non-lighted model.

Push-lock, Turn-reset System Prevents Misuse



Safety Lock Prevents Misuse

Even if an object or person touches the pushbutton by mistake, the contact will not be released unless the pushbutton reaches the lock position.



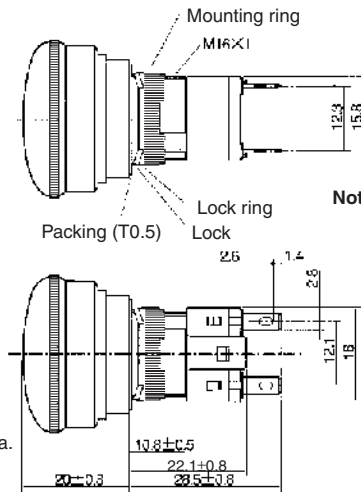
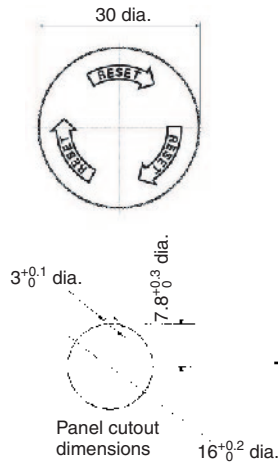
A165E

Dimensions

Note: All units are in millimeters unless otherwise indicated.

**A165E**

Non-lighted models  
30 mm diameter

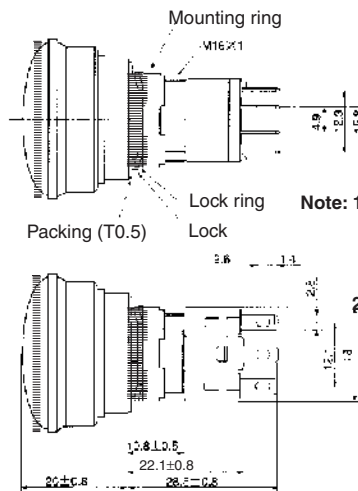
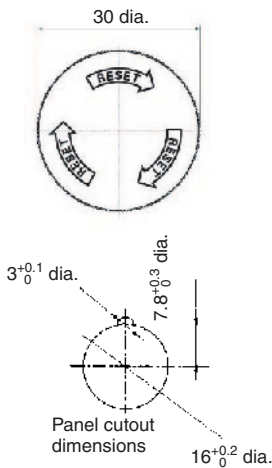


Note: 1. When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

2. Recommended panel thickness: 0.5 to 3.2 mm.

**A165E**

Lighted models  
30 mm diameter

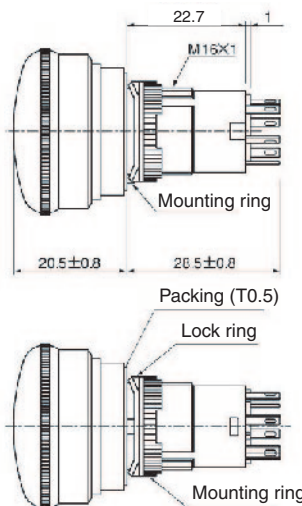
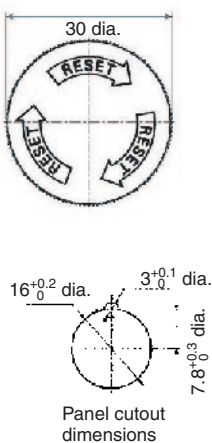
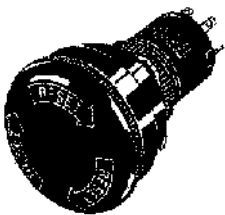


Note: 1. When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

2. Recommended panel thickness: 0.5 to 3.2 mm.

**A165E□U**

One-body models  
30 mm diameter

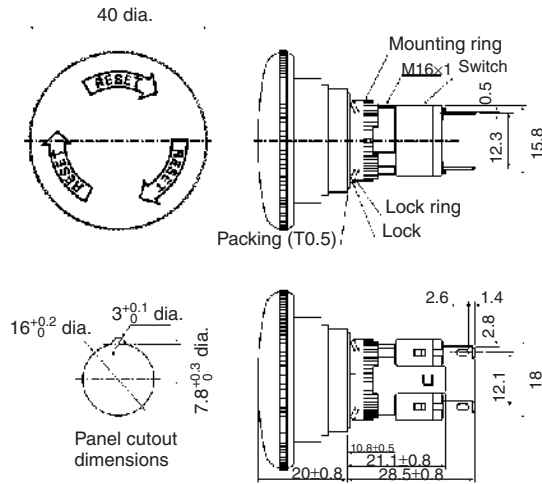
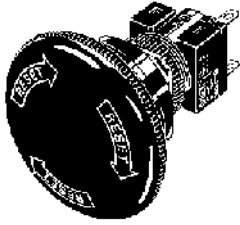


Note: 1. When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

2. Recommended panel thickness: 0.5 to 3.2 mm.

**A165E**

Non-lighted models  
40 mm diameter

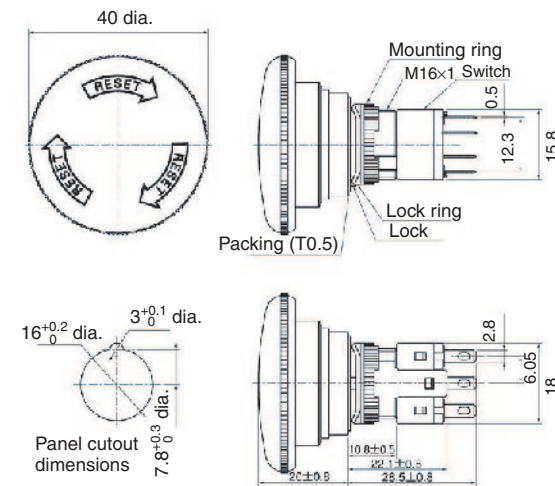
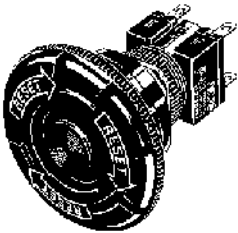


**Note: 1.** When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

**2.** Recommended panel thickness: 0.5 to 3.2 mm.

**A165E**

Lighted models  
40 mm diameter

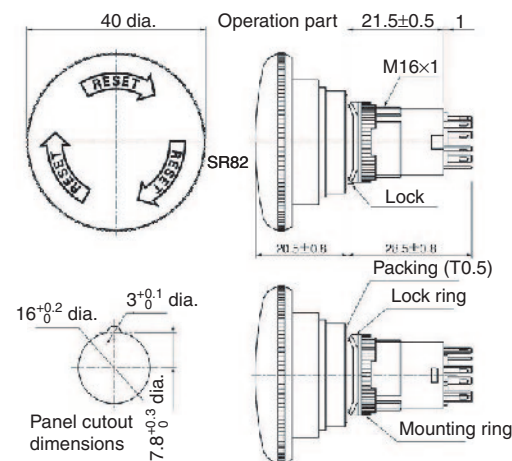


**Note: 1.** When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

**2.** Recommended panel thickness: 0.5 to 3.2 mm.

**A165E□U**

Non-lighted,  
one-body models  
40 mm diameter



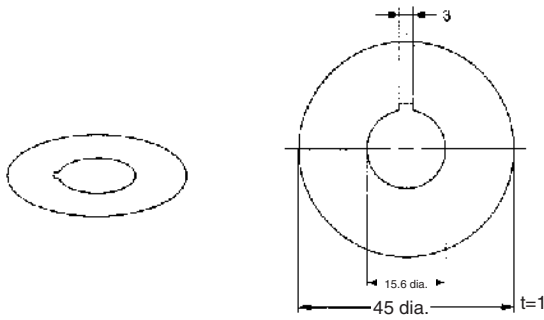
**Note: 1.** When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

**2.** Recommended panel thickness: 0.5 to 3.2 mm.

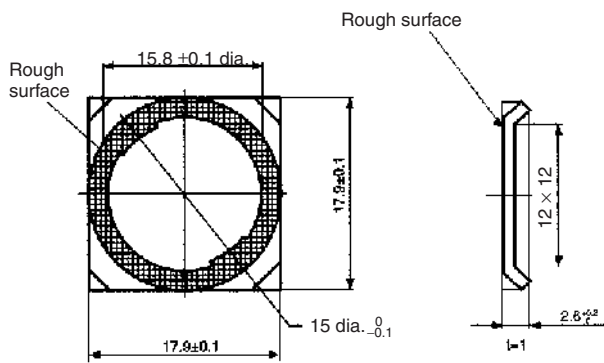
Accessories

Yellow Plate (Vinyl Chloride)

A16Z-5070

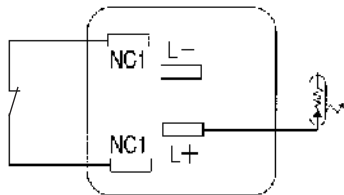


Lock Ring

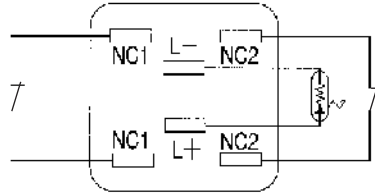


Terminal Arrangement

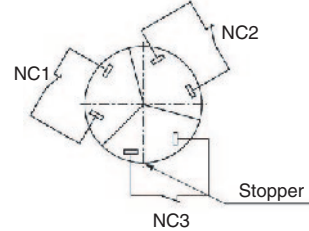
SPST Switches



DPST Switches



TPST Switches



**Note:** The L+ and L- terminals are not available with the non-lighted models.

Panel Plugs

Select an appropriate Panel Plug according to the panel design and mount from the front side of the panel. Panel cutout dimensions are the same as those for the Switch.

| Rectangular | Square | Round |
|-------------|--------|-------|
|             |        |       |

Screw Fitting

A16Z-3004

