

# Emergency Stop Switch A165E

Safety Interlock  
Switches

A165E

## Separate Construction with Smallest Class of Depth in the World

- Direct opening mechanism to open contacts in emergencies, such as when they are fused.
- Conforms to EN418.
- 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.
- Models available with 3 contacts built into a single block (A165E-U).

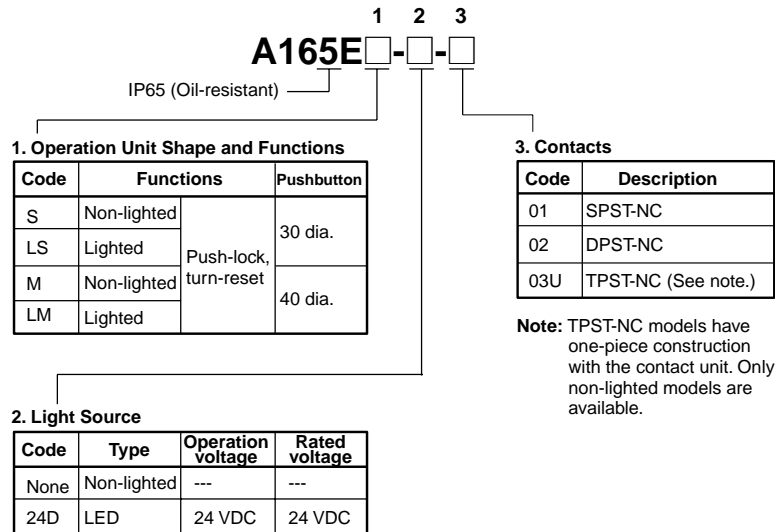


## Model Number Structure

### Model Number Legend

#### Completely Assembled

Shipped as a set that includes the Operation Unit and light source.



**Note:** Models with separate construction (SPST-NC and DPST-NC) are for normal loads only. One-piece models (TPST-NC) are for either normal loads or microloads.

# Ordering Information



## List of Models

Illumination	Rated voltage	Pushbutton color	Pushbutton size	Terminal	Contact	Model		
LED	24 VDC	Red	30 dia.	Solder terminal	SPST-NC	A165E-LS-24D-01		
Non-lighted	---				DPST-NC	A165E-LS-24D-02		
					SPST-NC	A165E-S-01		
LED	24 VDC				DPST-NC	A165E-S-02		
			SPST-NC		A165E-LM-24D-01			
Non-lighted	---		DPST-NC		A165E-LM-24D-02			
			SPST-NC		A165E-M-01			
			DPST-NC		A165E-M-02			
			TPST-NC		A165E-M-03U			
					40 dia.			A165E-S-03U
					30 dia.			
					40 dia.			


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

## Individual Parts (for Switches with Separate Construction)


### Operation Units

Appearance	Illumination	Model
30 dia. 	Non-lighted	A165E-S
	Lighted	A165E-LS
40 dia. 	Non-lighted	A165E-M
	Lighted	A165E-LM


### Sockets

Appearance	Illumination	Contact form	Model
	Non-lighted	SPST-NC	A165E-01
		DPST-NC	A165E-02
	Lighted	SPST-NC	A165E-01L
		DPST-NC	A165E-02L

### Socket Units





Appearance	Illumination	Contact form	Model
	Lighted	SPST-NC	A165E-R-24D-01
		DPST-NC	A165E-R-24D-02

### Lamps

LED color 	Rated voltage	Standard			Bright		
		5 VDC	12 VDC	24 VDC	5 VDC	12 VDC	24 VDC
Red		A16-5DR	A16-12DR	A16-24DR	A16-5DSR	A16-12DSR	A16-24DSR

Safety Interlock Switches  
A165E


## ■ 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. Degree of protection: IP40 Color: Black
		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

Recognizing Organization	Standards	File No.
UL, cUL (See note.)	UL508, CSA C22.2 No.14	E41515
TÜV Product Service	EN60947-5-1	Inquire
CQC (CCC)	GB14048.5	2003010303070678

**Note:** Approval for CSA C22.2 No. 14 is indicated by the  mark.

### ■ Approved Standard Ratings

UL508, CSA C22.2 No.14,  
CCC(GB14048.5)

#### Models with Separate Construction

Rated voltage	Resistive load
125 VAC	5 A
250 VAC	3 A
30 VDC	3 A

#### Models with One-piece Construction

Rated voltage	Resistive load
125 VAC	1 A
250 VAC	0.5 A
30 VDC	1 A

#### TÜV(EN60947-5-1)

#### Models with Separate Construction

Rated voltage	Resistive load
250 VAC	3 A
30 VDC	3 A

#### Models with One-piece Construction

Rated voltage	Resistive load
250 VAC	0.5 A
30 VDC	1 A

## ■ Ratings

### Switch Ratings

Rated voltage	Resistive load	
	Models with Separate Construction	Models with One-piece Construction
	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

### LED Ratings

(only for Models with LEDs)

Rated voltage	Rated current	Operation voltage
24 VDC	10 mA	24 VDC±5%

## ■ Characteristics

Item		Emergency Stop Switch		
		Non-lighted A165E-S/A-165E-M	Lighted A165E-LS/A165-LM	Non-lighted, One-piece construction A165E-U
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 2,000 VAC, 50/60 Hz for 1 min between terminals of different polarity and also between each terminal and ground		
		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)	150 m/s <sup>2</sup> max. (malfunction within 1 ms)	
Durability	Mechanical	100,000 operations min.		
	Electrical	100,000 operations min.		
Ambient temperature		Operating: -10°C to 55°C (with no icing or condensation) Storage: -25°C to 65°C (with no icing or condensation)		
Ambient humidity		Operating: 35% to 85%		
Degree of protection		IP65 Oil-resistant	IP65	IP65 Oil-resistant
Electric shock protection class		Class II		
PTI (tracking characteristic)		175		
Degree of contamination		3 (EN60947-5-1)		
Weight		Approx. 16 g (in case of DPST-NC Switches)		

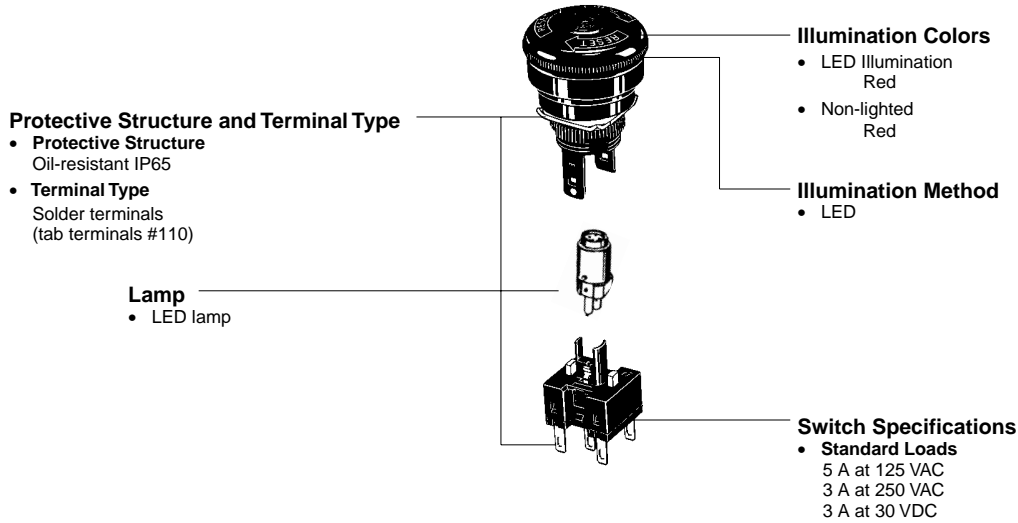
Note: LED not mounted. Test them with the LED removed.

## ■ 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)

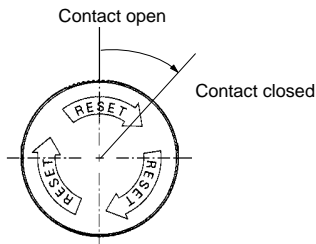
# Nomenclature (Models with Separate Construction)

Safety Interlock Switches  
A165E



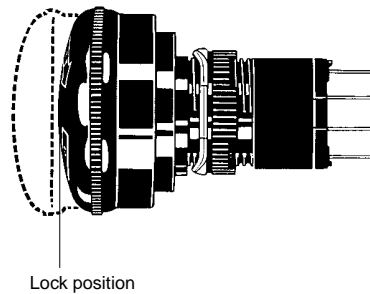
**Note:** A165E Emergency Stop Switch must be ordered as a set.  
No LED is installed for the non-lighted models.

## Push-lock, Turn-reset System Prevents Misuse



## Safety Lock Prevents Misuse

Enables emergency stops only when the pushbutton is pressed intentionally and firmly. Even if an object or person touches the pushbutton by mistake, the contact will not be released unless the pushbutton reaches the lock position.

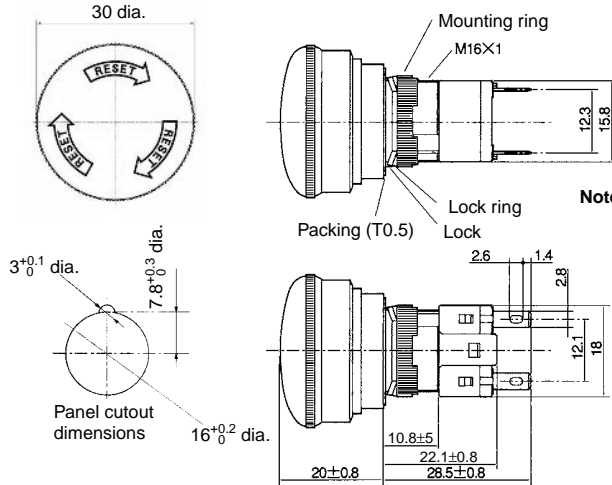
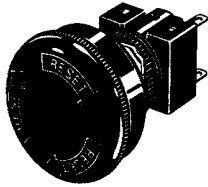


# Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

## A165E-S

Non-lighted models  
30 mm diameter

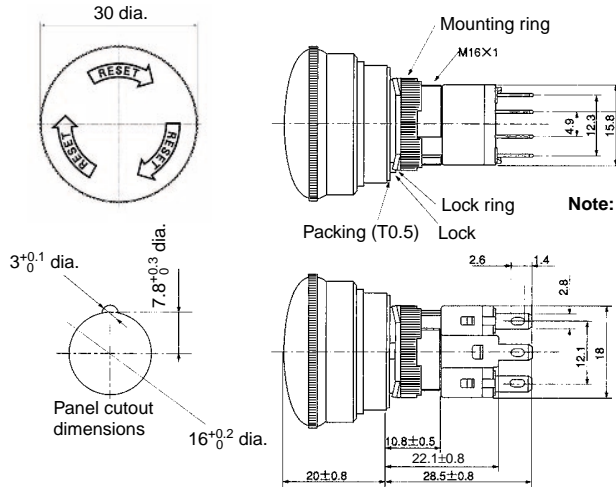
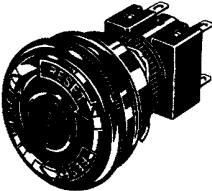


**Note:** 1. When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

2. Recommended panel thickness: 0.5 to 3.2 mm.

## A165E-LS

Lighted models  
30 mm diameter

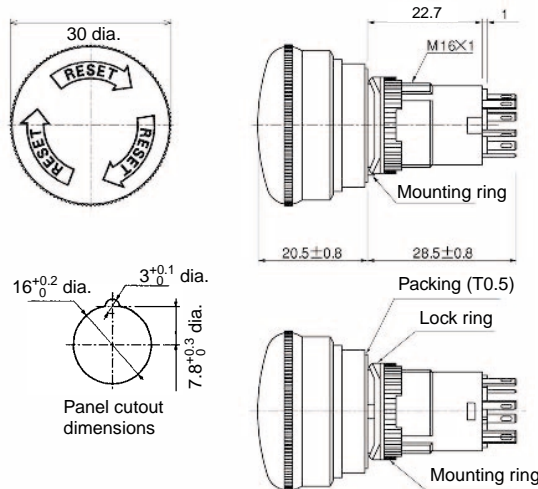


**Note:** 1. When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.

2. Recommended panel thickness: 0.5 to 3.2 mm.

## A165E-S-03U

Non-lighted,  
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.