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Rev. 4.13

Emergency Stop Switch (16 mm diameter)

- Separate construction with one of the smallest class of depths in the world
- Direct opening mechanism to open contacts in emergencies, such as when they are welded.
- 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)
- A Rapid Delivery Product: Select models are available for shipment today or within 3 to 5 days



Specifications

Certified Standards

Certification body	Standard	File No.
UL *1	UL 508, CSA C22.2 No.14	E41515
TÜV SÜD	EN 60947-5-1, EN 60947-5-5	Consult your representative for details.
CQC (CCC)	GB14048.5	2003010303070678

*Certification for CSA C22.2 No. 14 is authorized by the mark.

Certified 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 (EN 60947-5-1)

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

Switch Ratings

Models with Separate Construction

Rated Voltage	Resistive Load
125 VAC	5 A
250 VAC	3 A
30 VDC	3 A

Note: Minimum applicable load: 5 VDC, 150 mA

Models with One-piece Construction

Rated Voltage	Resistive Load
125 VAC	1 A
250 VAC	0.5 A
30 VDC	1 A

Note: Minimum applicable load: 5 VDC, 1 mA

LED Ratings (Only for models with LEDs)

Rated Voltage	Rated Current	Operation Voltage
24 VAC/VDC	8 mA	24 VAC/DC ±5%

 Select models are available for Rapid Delivery.

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Specifications (continued)

Characteristics

Item		Emergency Stop Switch		
		Non-lighted A165E-S/A165E-M	Lighted A165E-LS/A165E-LM	Non-lighted, One-piece construction A165E-U
Allowable operating frequency	Mechanical	20 operations/minute max.		
	Electrical	10 operations/minute max.		
Insulation resistance		100 M Ω min. (at 500 VDC)		
Dielectric strength	Between terminals of same polarity	1,000 VAC, 50/60 Hz for 1 min.		
	Between terminals of different polarity	2,000 VAC, 50/60 Hz for 1 min.		
	Between each terminal and ground	2,000 VAC, 50/60 Hz for 1 min.		
	Between lamp terminals	1,000 VAC, 50/60 Hz for 1 min. *1		—
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)		
Shock resistance	Destruction	500 m/s ²		
	Malfunction	300 m/s ² max. (malfunction within 1 ms)		150 m/s ² max. (malfunction within 1 ms)
Durability	Mechanical	100,000 operations min.		
	Electrical	100,000 operations min.		
Degree of protection		IP65 Oil-resistant *2	IP65 *2	IP65 Oil-resistant *2
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)		
Ambient operating temperature		-10 to +55°C (with no icing or condensation)		
Ambient operating humidity		35% to 85%RH		
Ambient storage temperature		-25 to +65°C (with no icing or condensation)		

*1. LED not mounted. (Test them with the LED removed.)

*2. Degree of protection from the front of the panel.

Operating Characteristics

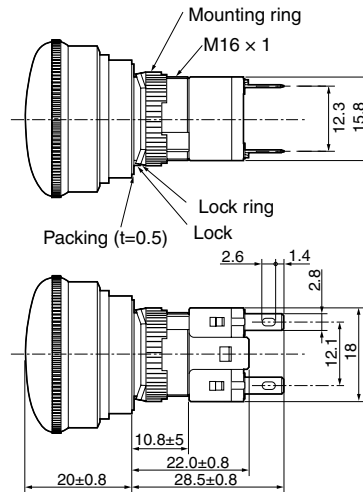
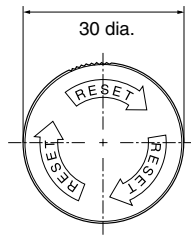
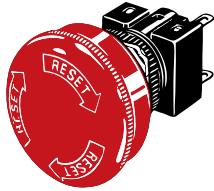
Item		Characteristics of models with separate construction	Characteristics of models with one-piece construction
Operating force	OF max.	14.7 N	14.7 N
Releasing force	RF min.	0.1 N-m	0.1 N-m
Pretravel	PT	3.5±0.5 mm	3.5±0.5 mm

(mm)

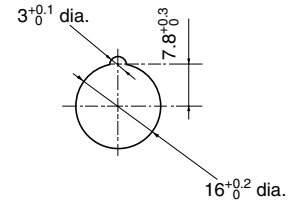
Dimensions

A165E-S

Non-lighted models
30 mm diameter



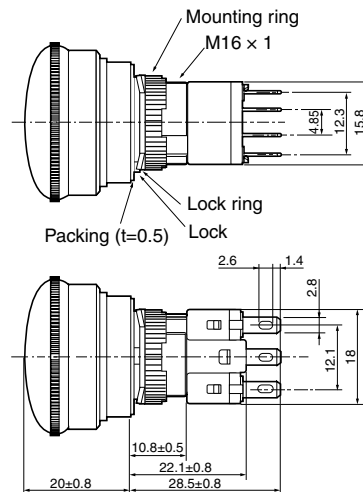
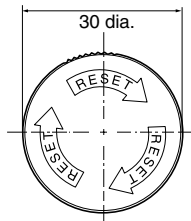
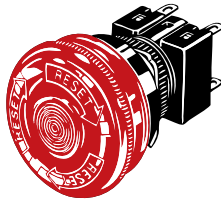
Panel cutout
dimensions



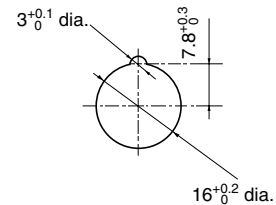
- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

A165E-LS

Lighted models
30 mm diameter



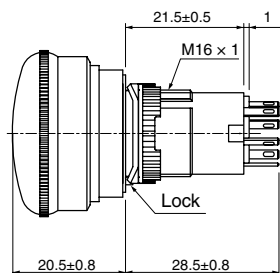
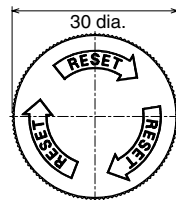
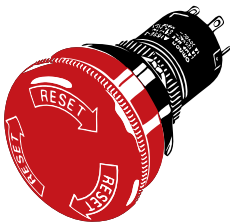
Panel cutout
dimensions



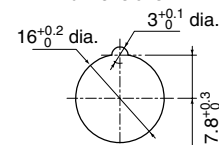
- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

A165E-S-03U

Non-lighted,
One-piece construction models
30 mm diameter



Panel cutout
dimensions



- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

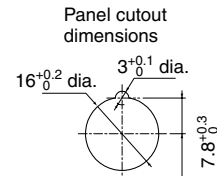
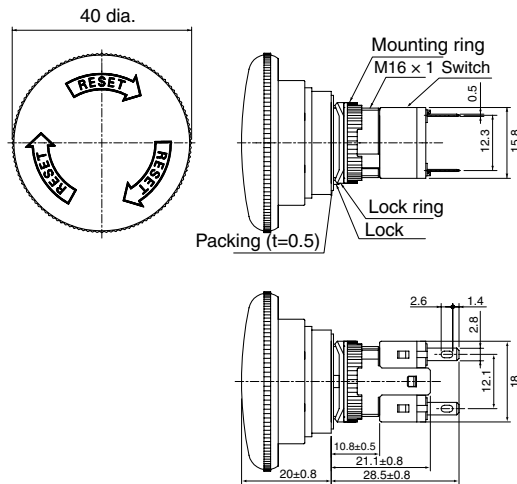
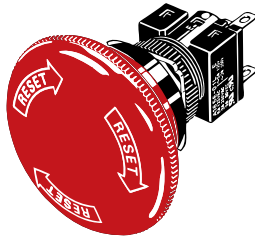
Select models are available for Rapid Delivery.

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Dimensions (continued)

A165E-M

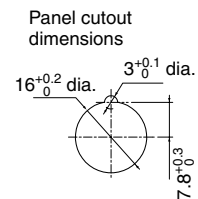
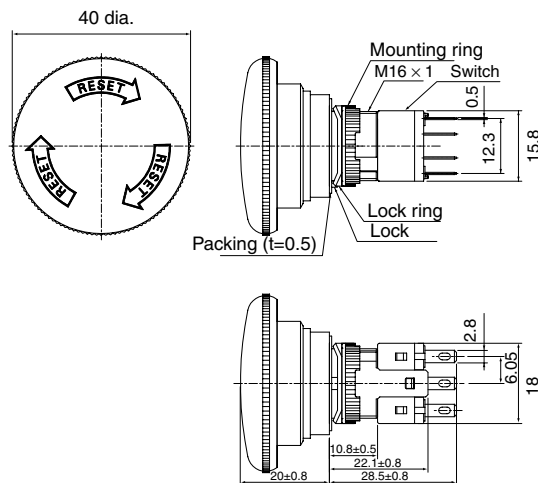
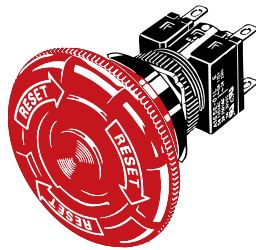
Non-lighted models
40 mm diameter



- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

A165E-LM

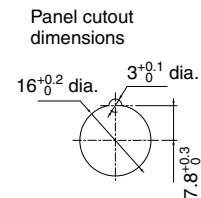
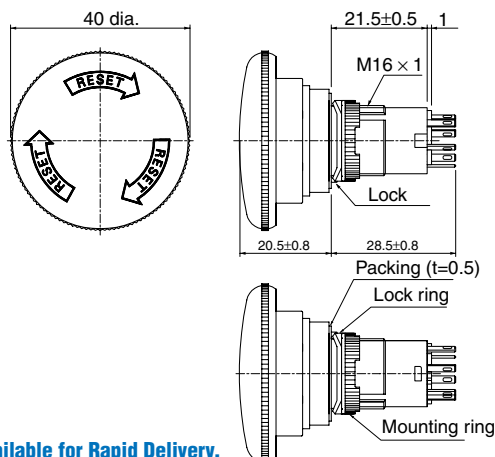
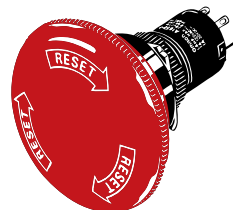
Lighted models
40 mm diameter



- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

A165E-M-03U

One-piece construction models
40 mm diameter



- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.



Select models are available for Rapid Delivery.

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Ordering

Model Number Structure (Completely Assembled)

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

A165E – □ – □ – □

① ② ③

① Operation Unit Shape and Function

S: Non-lighted, push-lock, turn-reset, 30 dia. pushbutton

LS: Lighted, push-lock, turn-reset, 30 dia. pushbutton

M: Non-lighted, push-lock, turn-reset, 40 dia. pushbutton

LM: Lighted, push-lock, turn-reset, 40 dia. pushbutton

② Light Source

None: Non-lighted

24D: LED, 24 VAC/VDC $\pm 5\%$ operation voltage, 24 VAC/VDC rated voltage

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.

③ Contacts



01: SPST-NC

02: DPST-NC

03U: TPST-NC*

*TPST-NC models have once-piece construction with the contact unit. Only non-lighted models are available.

List of Models

Diameter of Operation Unit	Function	Model	Shape
30-mm models 40-mm models	Push-Lock, turn-reset	A165E	Separate construction  (30-mm model)
		A165E-□-03U	One-piece construction  (30-mm model)

List of Sets

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





Select models are available for Rapid Delivery.

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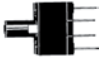
Ordering (continued)

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


Switches

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

Lamps





Appearance	LED color		Rated voltage	Model
	Red	Bright	5 VDC	A16-5DSR
			12 VAC/VDC	A16-12DSR
			24 VAC/VDC	A16-24DSR

Switch Units

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

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Accessories (Order separately)

Item	Appearance	Type	Model	Precautions
Yellow Plate		Yellow, 45 dia.	A16Z-5070	Use this as an emergency stop nameplate.
Panel Plug		Round	A16ZT-3003	Used for covering the panel cutouts for future panel expansion. Degree of protection: IP40 Color: Black
Tightening Tool		---	A16Z-3004	Useful for repetitive mounting. Be careful not to tighten excessively.
Extractor			A16Z-5080	Convenient for extracting the Switch and Lamp.



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