

Machine & Process Safeguarding

Solution Selection Guide

2015-2016

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- » Mats and Edges
- » Door Switches
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Emergency Stop Devices

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Selection Guide

Selecting the Proper Emergency Stop Device for Your Application

Selecting the Correct Emergency Stop Device is Easy

Our selection guide will help you with the selection process. Most applications require the use of an Emergency Stop device. On equipment where the operator is within easy reach of a single point, a pushbutton switch is used. When an operator needs access over a larger area, such as on a conveyor, a Trip Cord or Rope Pull switch is typically used.

The following questions will guide you to the appropriate models. Contact OMRON Automation and Safety for assistance.

1

Do you need
a Trip Cord/
Rope Pull Switch?

no

F

or

H

Safety Door Switches

See Section F of this catalog for guardlocking, non-contact, hinged door, and explosion-proof switches.

Safety Switches and Operator Controls

See Section H of this catalog for safety limit switches, safety selector switches, enabling switches and two-hand control.

yes

2

Does it need
to operate in
an explosive
atmosphere?

no

E-Stop

- A165E
(16 mm panel mount, optional light)
- A22E
(22 mm panel mount, optional light)

yes

Trip Cord (Rope Pull)

- XER6022
(to 80 m)
- XER6022-SS
(to 100 m)
- XER1022
(to 125 m)
- XER1032
(to 200 m)

Trip Cord (Rope Pull; to 40 m)

- ER5018
(with E-stop button)

Trip Cord (Rope Pull; over 40 m)

- ER6022
(to 80 m, optional LED indicator)
- ER1022
(to 125 m, with LED indicator)
- ER1032
(to 200 m, with LED indicator)
- ER6022-SS
(to 100 m, optional LED indicator)



Compact Rope Pull Emergency Stop Switch

- Compact size allows this switch to be used on smaller machines with a mounting width of 40 mm (1.57 in.) and covering rope spans up to 40 m (131 ft.)
- Tension indicator makes system setup and rope tension maintenance easy
- Contact arrangements of 2 N/C + 1 N/O or 3 N/C
- IP67 (NEMA 6) enclosure enables the ER5018 switch to withstand water washdown cleaning
- Heavy-duty housing—the die-cast housing and stainless steel eye nut makes the ER5018 suitable for demanding industrial applications
- Integral E-Stop—the optional E-stop provides emergency stopping at the extreme end of the installation
- Reset button—the blue reset button must be pushed in order to return to “machine run” condition following switch actuation by a pulled or slacked rope
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications



Conforms to IEC947-5-1, IEC947-5-5,
EN418, UL508, BS5304
UL and C-UL listed, TUV certified

Specifications

Electrical	All Models
Contact Configurations:	2 N/C + 1 N/O, 3 N/C
Safety Contacts:	2 N/C, 3 N/C
Switching Ability	AC: 120 V–6 A, 240 V–3 A, Inductive DC: 24 V–2.5 A, Inductive
Auxiliary Contacts:	1 N/O
Max Switching Current/Volt/Amp:	240 V/720 VA
Minimum Current:	5 V 5 mA DC
Electrical Life:	1 x 10 ⁶ minimum
Mechanical	
Mounting:	Any position
Mounting Hardware:	2 x M5 screws
Max Rope Span:	40 m (131 ft.)
Operation Force:	< 125 N (28 lb.)
Tensioning Force to Run Position:	130 N (23 lb.) typical
Case Material:	Die-cast aluminum alloy
Eye Nut Material:	Stainless Steel
Stainless Accessory Items:	304 Stainless Steel
Wiring Entry:	3 x M20 or 3 x 0.5 in. NPT
Weight:	675 g (23.8 oz.)
Color:	Yellow
Mechanical Life:	1 x 10 ⁶ minimum
Environmental	
Protection:	IP67 (NEMA 6)
Operating Temperature:	-25 to 80 °C (-13 to 176 °F)
Cleaning:	Water washdown
Compliance	
Standards:	IEC947-5-1, IEC947-5-5, EN418, UL508, BS5304
Approvals/Listings:	CE marked for all applicable directives, UL and C-UL, TUV

Specifications are subject to change without notice.

Note: The safety contacts of the STI switches are described as normally closed (N/C)—i.e., with the rope properly tensioned and the machine able to be started.

Operation



Blue Reset Knob

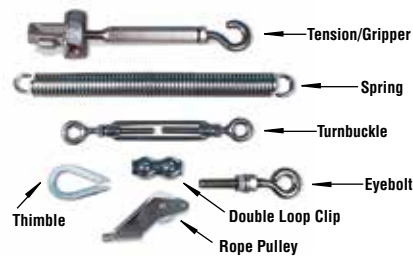
A blue reset button is provided to easily return the unit back to its machine-run position after actuation.



Emergency Push Button

The emergency push button may be installed or repositioned in the field. The ER5018 has two possible mounting positions for the emergency stop button.

Installation Hardware Available



Installation Hardware

Individual hardware items may be purchased for specific installation requirements.



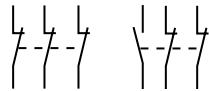
RK Rope Tension Kit

The RK Rope Tension Kit comes with all of the required hardware for most installations. A spring is required as shown in the installation example below.

For up to 50 m rope span, one rope end is terminated with a thimble, permanent clamp, and quick link attached.

For over 50 m rope span, 2 Tension/Gripper assemblies are supplied (no quick link.)

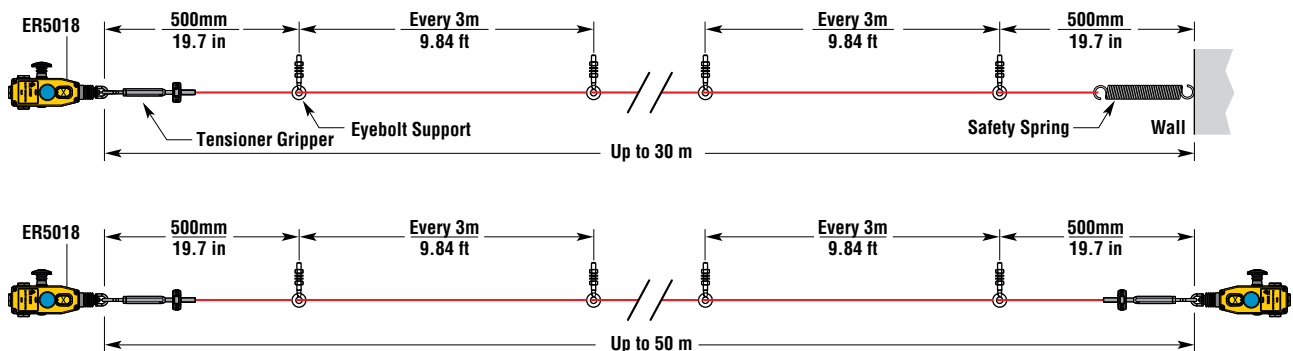
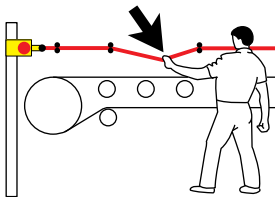
Contact Arrangements



	0 mm 0 in	3.5 0.14	14.5 0.57	17.0 0.67
2NC + 1NO Versions	Rope Slack	Tension Range	Rope Pulled	
11/12				
21/22				
33/34				
3NC Versions	Rope Slack	Tension Range	Rope Pulled	
11/12				
21/22				
31/32				

☐ Contact Open ☒ Contact Closed

Mounting Specification



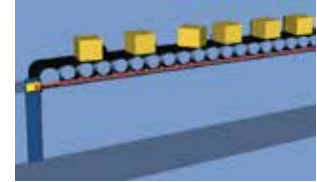
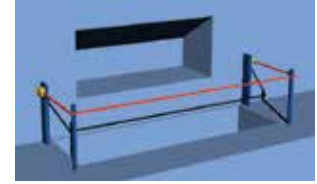
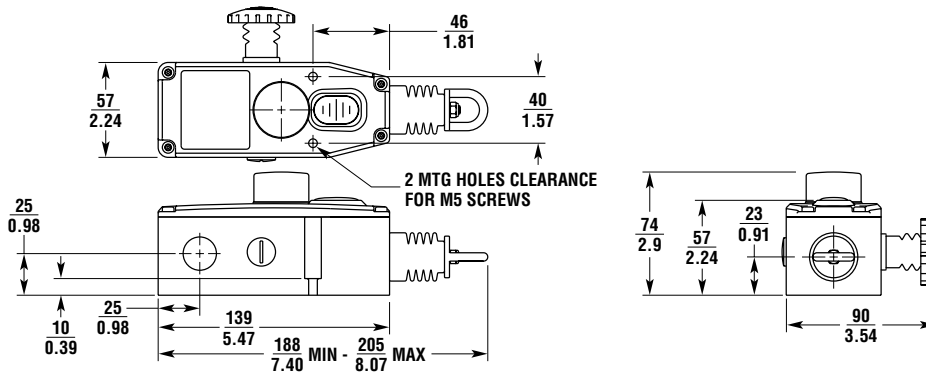
For a guide to installing, see "Proper Installation of Rope or Wire Pull Emergency Stop Devices" in the Expert Area Section of this catalog on page A-74.

Dimensions

(mm/in.)

Applications

Typical applications are on conveyor systems and across rotating machinery, and around hazardous areas.



Ordering

Model	E-Stop	Contacts	Wiring Entry	Part No.
ER5018-021M	Not included	2 N/C + 1 N/O	3 x M20	44506-4010
ER5018-021N	Not included	2 N/C + 1 N/O	3 x 1/2 in. NPT	44506-4020
ER5018-030M	Not included	3 N/C	3 x M20	44506-4030
ER5018-030N	Not included	3 N/C	3 x 1/2 in. NPT	44506-4040
ER5018-021ME	Included	2 N/C + 1 N/O	3 x M20	44506-4110
ER5018-021NE	Included	2 N/C + 1 N/O	3 x 1/2 in. NPT	44506-4120
ER5018-030ME	Included	3 N/C	3 x M20	44506-4130
ER5018-030NE	Included	3 N/C	3 x 1/2 in. NPT	44506-4140

Accessories					Part No.
Stainless Steel Rope Kits	Quick Link	Eye-bolts	Tension/Gripper Assembly	Allen Wrench	
RK5, 5 m Kit	Yes	3	1	1	44506-2705
RK10, 10 m Kit	Yes	5	1	1	44506-2710
RK15, 15 m Kit	Yes	7	1	1	44506-2715
RK20, 20 m Kit	Yes	9	1	1	44506-2720
RK30, 30 m Kit	Yes	12	1	1	44506-2730
RK50, 50 m Kit	Yes	20	1	1	44506-2750
RK80, 80 m Kit	No	30	2	2	44506-2780
RK100, 100 m Kit	No	37	2	2	44506-2711
RK126, 126 m Kit	No	45	2	2	44505-2726
Rope Only					
R5M, 5 m Rope Only					44506-3705
R10M, 10 m Rope Only					44506-3710
R20M, 20 m Rope Only					44506-3720
R30M, 30 m Rope Only					44506-3730
R50M, 50 m Rope Only					44506-3750
R80M, 80 m Rope Only					44506-3780
R100M, 100 m Rope Only					44506-3711
R126M, 126 m Rope Only					44506-3726

Accessories	Part No.
SM06-SL400, Replacement Lid	44506-3700
SM06-TK00, Tensioner Kit (Turnbuckle, 8 Rope Grips & 4 Thimbles)	44506-0700
SM06-TG00, Tensioner Gripper, Stainless Steel	44506-4700
SM06-EB10, Eye Bolt, Stainless Steel, 8 per pack	44506-4710
SM06-EB20, Eye Bolt, Galvanized	44506-0720
SM06-DL20, Double Loop Clip, Stainless Steel, 4 per pack	44506-4720
SM06-DL21, Double Loop Clip, Galvanized, 4 per pack	44506-4721
SM06-THSS, Thimble, Stainless Steel, 4 per pack	44506-4770
SM06-THGV, Thimble, Galvanized, 4 per pack	44506-4771
SM06-TB30, Turnbuckle, Stainless Steel	44506-4730
SM06-TB31, Turnbuckle, Galvanized	44506-4731
SM06-SP30, Spring, Galvanized	44506-0730
SM06-SP50, Spring, Stainless Steel	44506-4750
SM06-RPSS, Rope Pulley, Stainless Steel	44506-4780
SM06-ES60, E-Stop Mechanism	44506-4760

Rope Pull Emergency Stop Switch

- Rope spans up to 80 m (262 ft.) means fewer number of switches required per application
- Tension indicator makes system setup and rope tension maintenance easy
- Contact arrangements of 2 N/C + 1 N/O, 3 N/C + 1 N/O or 2 N/C + 2 N/O
- IP67 (NEMA 6) enclosure enables the ER6022 switch to withstand water washdown cleaning
- Reset button—the blue reset button must be pushed in order to return to “machine run” condition following switch actuation by a pulled or slacked rope
- Indicator beacon—the optional dual indicator beacon, available in 24 VDC or 120 VAC, can be wired to flash red to indicate a tripped switch or glow a constant green to indicate a properly reset switch
- E-stop button—the ER6022 has two mounting positions where the optional E-stop button may be installed; the E-stop button may be added or replaced in the field
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications



Conforms to IEC947-5-1, IEC947-5-5,
EN418, UL508, BS5304
UL and C-UL listed, TUV certified

Specifications

Electrical	All Models
Contact Configurations:	2 N/C + 1 N/O, 3 N/C + 1 N/O, 2 N/C + 2 N/O
Safety Contacts:	2 N/C, 3 N/C
Switching Ability	AC: 240 V–3 A, 120 V–6 A, Inductive, DC: 24 V–2.5 A, Inductive
Auxiliary Contacts:	1 N/O, 2 N/O
Max Switching Current/Volt/Amp:	240 V/720 VA
Minimum Current:	5 V 5 mA DC
Electrical Life:	1 x 10 ⁶ minimum
Mechanical	
LED Indicator Beacon:	24 VDC, 120 VAC
Mechanical	1 million minimum
Mounting:	Any position
Mounting Hardware:	4 x M5 screws
Max Rope Span:	80 m (262 ft.)
Operation Force:	< 125 N (28 lb.)
Tensioning Force to Run Position:	130 N (23 lb.) typical
Case Material:	Die-cast aluminum alloy
Eye Nut Material:	Stainless Steel
Stainless Accessory Items:	304 Stainless Steel
Wiring Entry:	3 x M20 or 3 x 0.5 in. NPT
Weight:	880 g (31 oz.)
Color:	Yellow
Mechanical Life:	1 x 10 ⁶ minimum
Environmental	
Protection:	IP67 (NEMA 6)
Operating Temperature:	-25 to 80°C (-13 to 176°F)
Cleaning:	Water washdown
Compliance	
Standards:	IEC947-5-1, IEC947-5-5, EN418, UL508, BS5304
Approvals/Listings:	CE marked for all applicable directives, UL and C-UL, TUV

Specifications are subject to change without notice.

Note: The safety contacts of the STI switches are described as normally closed (N/C)—i.e., with the rope properly tensioned and the machine able to be started.

Operation



Blue Reset Knob

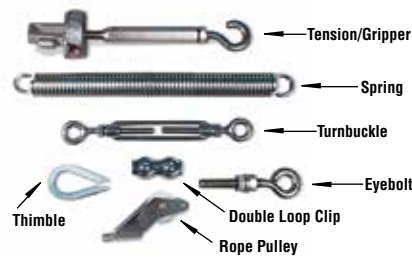
A blue reset button is provided to easily return the unit back to its machine-run position after actuation.



Emergency Push Button

The emergency push button may be installed or repositioned in the field. The ER6022 has two possible mounting positions for the emergency stop button.

Installation Hardware Available



Installation Hardware

Individual hardware items may be purchased for specific installation requirements.



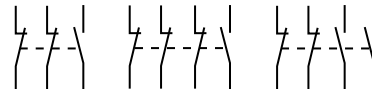
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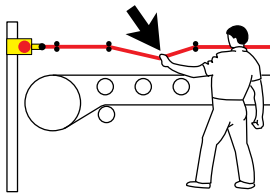
Contact Arrangements



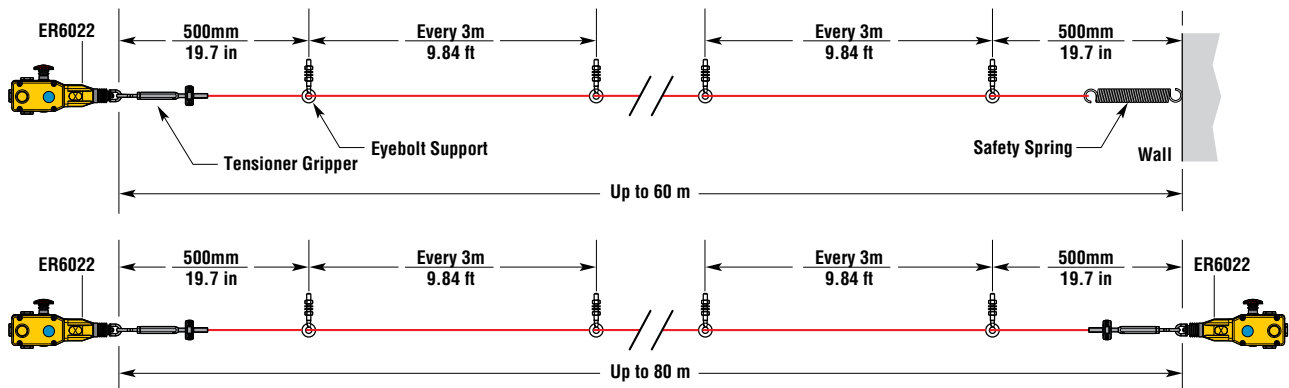
	0 mm 0 in	3.5 0.14	14.5 0.57	17.0 0.67
2NC + 1NO Versions	Rope Slack	Tension Range		Rope Pulled
11/12				
21/22				
33/34				
3NC + 1NO Versions	Rope Slack	Tension Range		Rope Pulled
11/12				
21/22				
33/34				
43/44				
2NC + 2NO Versions	Rope Slack	Tension Range		Rope Pulled
11/12				
21/22				
33/34				
43/44				

☐ Contact Open ☒ Contact Closed

Mounting Specification



For a guide to installing, see "Proper Installation of Rope or Wire Pull Emergency Stop Devices" in the Expert Area Section of this catalog on page A-74

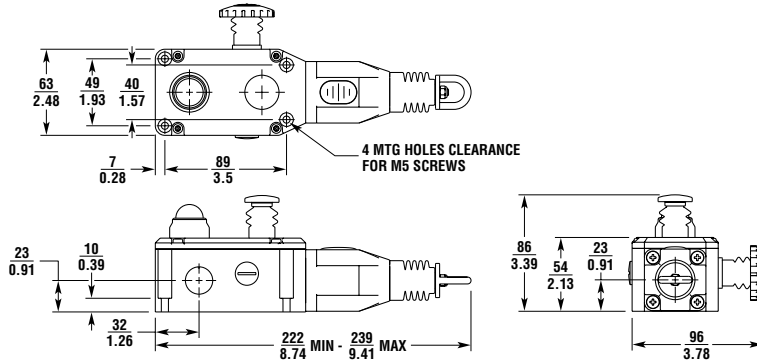
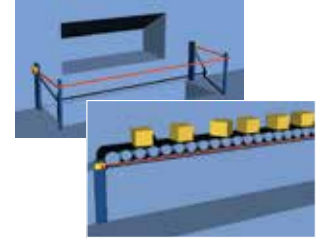


Dimensions

(mm/in.)

Applications

Typical applications are on conveyor systems and across rotating machinery, and around hazardous areas.



Ordering

Model	E-stop	Indicator Beacon	Contacts	Wiring Entry	Part No.
ER Switches with 3 pole contact blocks					
ER6022-021M	Not included	Not included	2 N/C + 1 N/O	3 x M20	44506-5010
ER6022-021N	Not included	Not included	2 N/C + 1 N/O	3 x 1/2 in. NPT	44506-5020
ER6022-021ME	Included	Not included	2 N/C + 1 N/O	3 x M20	44506-5210
ER6022-021NE	Included	Not included	2 N/C + 1 N/O	3 x 1/2 in. NPT	44506-5220
ER6022-021MEL	Included	Included	2 N/C + 1 N/O	3 x M20	44506-5410
ER6022-021NEL	Included	Included	2 N/C + 1 N/O	3 x 1/2 in. NPT	44506-5420
ER6022-021NELAC	Included	Included, 120 VAC	2 N/C + 1 N/O	1/2" NPT	44506-5423
ER Switches with 4 pole contact blocks					
ER6022-031M	Not included	Not included	3 N/C + 1 N/O	M20	44506-5050
ER6022-031N	Not included	Not included	3 N/C + 1 N/O	1/2 in. NPT	44506-5060
ER6022-022M	Not included	Not included	2 N/C + 2 N/O	M20	44506-5070
ER6022-022N	Not included	Not included	2 N/C + 2 N/O	1/2 in. NPT	44506-5080
ER6022-031ML	Not included	Included, 24 VDC	3 N/C + 1 N/O	M20	44506-5150
ER6022-031NL	Not included	Included, 24 VDC	3 N/C + 1 N/O	1/2 in. NPT	44506-5160
ER6022-022ML	Not included	Included, 24 VDC	2 N/C + 2 N/O	M20	44506-5170
ER6022-022NL	Not included	Included, 24 VDC	2 N/C + 2 N/O	1/2 in. NPT	44506-5180
ER6022-031ME	Included	Not included	3 N/C + 1 N/O	M20	44506-5250
ER6022-031NE	Included	Not included	3 N/C + 1 N/O	1/2 in. NPT	44506-5260
ER6022-022ME	Included	Not included	2 N/C + 2 N/O	M20	44506-5270
ER6022-022NE	Included	Not included	2 N/C + 2 N/O	1/2 in. NPT	44506-5280
ER6022-031MEL	Included	Included, 24 VDC	3 N/C + 1 N/O	M20	44506-5450
ER6022-031NEL	Included	Included, 24 VDC	3 N/C + 1 N/O	1/2 in. NPT	44506-5460
ER6022-022MEL	Included	Included, 24 VDC	2 N/C + 2 N/O	M20	44506-5470
ER6022-022NEL	Included	Included, 24 VDC	2 N/C + 2 N/O	1/2 in. NPT	44506-5480
ER6022-031NELAC	Included	Included, 120 VAC	3 N/C + 1 N/O	1/2 in. NPT	44506-5463
ER6022-022NELAC	Included	Included, 120 VAC	2 N/C + 2 N/O	1/2 in. NPT	44506-5483

Accessories					Part No.
Stainless Steel Rope Kits	Quick Link	Eye-bolts	Tension/Gripper Assembly	Allen Wrench	
RK5, 5 m Kit	Yes	3	1	1	44506-2705
RK10, 10 m Kit	Yes	5	1	1	44506-2710
RK15, 15 m Kit	Yes	7	1	1	44506-2715
RK20, 20 m Kit	Yes	9	1	1	44506-2720
RK30, 30 m Kit	Yes	12	1	1	44506-2730
RK50, 50 m Kit	Yes	20	1	1	44506-2750
RK80, 80 m Kit	No	30	2	2	44506-2780
RK100, 100 m Kit	No	37	2	2	44506-2711
RK126, 126 m Kit	No	45	2	2	44505-2726
Rope Only					
R5M, 5 m Rope Only					44506-3705
R10M, 10 m Rope Only					44506-3710
R20M, 20 m Rope Only					44506-3720
R30M, 30 m Rope Only					44506-3730
R50M, 50 m Rope Only					44506-3750
R80M, 80 m Rope Only					44506-3780
R100M, 100 m Rope Only					44506-3711
R126M, 126 m Rope Only					44506-3726

Accessories	Part No.
SM06-SL500, Replacement Lid 24 VDC	44506-5700
SM06-SL510, Replacement Lid/LED 24 VDC	44506-5710
SM06-SL510AC, Replacement Lid/LED 120 VAC (consult factory for complete switch with 120 VAC beacon)	44506-5711
SM06-TK00, Tensioner Kit (Turnbuckle, 8 Rope Grips & 4 Thimbles)	44506-0700
SM06-TG00, Tensioner Gripper, Stainless Steel	44506-4700
SM06-EB10, Eye Bolt, Stainless Steel, 8 per pack	44506-4710
SM06-EB20, Eye Bolt, Galvanized	44506-0720
SM06-DL20, Double Loop Clip, Stainless Steel, 4 per pack	44506-4720
SM06-DL21, Double Loop Clip, Galvanized, 4 per pack	44506-4721
SM06-THSS, Thimble, Stainless Steel, 4 per pack	44506-4770
SM06-THGV, Thimble, Galvanized, 4 per pack	44506-4771
SM06-QLSS, Quick Link, Stainless Steel	44506-4772
SM06-TB30, Turnbuckle, Stainless Steel	44506-4730
SM06-TB31, Turnbuckle, Galvanized	44506-4731
SM06-SP30, Spring, Galvanized	44506-0730
SM06-SP50, Spring, Stainless Steel	44506-4750
SM06-RPSS, Rope Pulley, Stainless Steel	44506-4780
SM06-ES60, E-Stop Mechanism	44506-4760
SM06-LF40, Replacement LED Indicator Beacon, 24 VDC	44506-4740
SM06-LF41, Replacement LED Indicator Beacon, 120 VAC	44506-4741

Stainless Steel Rope Pull Emergency Stop Switch

- Rope spans up to 100 m (328 ft.) means fewer number of switches required per application
- Tension indicator maintains the proper rope tension
- Contact arrangements of 3 N/C + 1 N/O or 2 N/C + 2 N/O
- IP67 (NEMA 6) enclosure withstands water washdown cleaning
- 316 stainless steel cast housing and stainless steel hardware
- Reset button—the blue reset button must be pushed in order to return to “machine run” condition following switch actuation by a pulled or slacked rope
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Indicator beacon—the dual indicator beacon is optional on the ER6022-SS; the indicator beacon can be wired to flash red to indicate a tripped switch or glow a constant green to indicate a properly reset switch
- Optional E-stop button—may be added or replaced in the field
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications
- Extreme Cold Version—for applications down to -40°C



ER1022

Quick Link

S422

omron247.com

Rope Pull Emergency Stop Switch

- Rope spans up to 125 m (410 ft.) makes this switch ideal for applications where long rope spans are required
- IP67 (NEMA 6) enclosure enables the ER1022 switch to withstand water washdown cleaning
- Integral E-stop—the E-stop button provides emergency stopping capability at the extreme end of the installation and is field serviceable
- Tension indicator makes system setup and rope tension maintenance easy
- 4 N/C safety contacts and 2 N/O auxiliary contacts satisfy the most demanding applications
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Indicator beacon—the indicator beacon, available in 24 VDC or 120 VAC, can be wired to flash red to indicate a tripped switch or glow a constant green to indicate a properly reset switch
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications



ER1032

Quick Link

S423

omron247.com

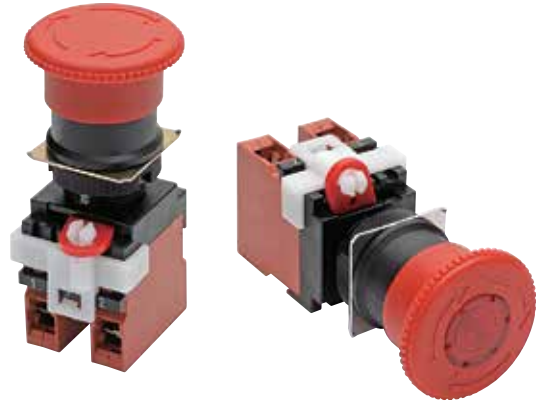
Rope Pull Emergency Stop Switch

- Rope spans up to 200 m (656 ft.) makes this switch ideal for applications where long rope spans are required
- IP67 (NEMA 6) enclosure enables the ER1032 switch to withstand water washdown cleaning
- Integral E-stop—the E-stop button provides emergency stopping capability at the extreme end of the installation and is field serviceable
- Tension indicator makes system setup and rope tension maintenance easy
- 4 N/C safety contacts and 2 N/O auxiliary contacts satisfy the most demanding applications
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Indicator beacon—the indicator beacon, available in 24 VDC or 120 VAC can be wired to flash red to indicate a tripped switch or glow a constant green to indicate a properly reset switch
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications



Emergency Stop Switch (22 mm or 25 mm diameter)

- Install in 22-dia. or 25-dia. panel cutout
- Direct opening mechanism to open the circuit when the contact welds (→).
- Safety lock mechanism prevents operating errors.
- Easy mounting and removal of Switch Blocks using a lever.
- Mount three Switch Units in series to improve wiring efficiency (with non-lighted Switch Units, three Units can be mounted for multiple contacts).
- Finger protection mechanism on Switch Unit provided as a standard feature.
- Install using either round, or forked crimp terminals.
- Oil-resistant to IP65 (non-lighted models)/IP65 (lighted models)
- A lock plate is provided as a standard feature to ensure that the control box and switch are not easily separated.



Specifications

Certified Standard Ratings

- UL, cUL (File No.E41515)
6 A at 220 VAC, 10 A at 110 VAC
- TÜV (EN60947-5-1) (Low Voltage Directive)
3 A at 220 VAC
- CCC (GB14048.5)
3 A at 240 VAC, 1.5 A at 24 VDC

Certified Standards

Certification body	Standard	File No.
UL *1	UL 508, CSA C22.2 No.14	E41515
TÜV SÜD	EN60947-5-1, EN60947-5-5 (certified direct opening)	Consult your representative for details.
CQC (CCC)	GB14048.5	2003010303070635
KOSHA *2	EN60947-5-1	2004-220, 2007-27

Note: Only models with NC contacts have a direct opening mechanism.

*1. UL-certification for CSA C22.2 No. 14 has been obtained. Certification has been obtained for the Switch Unit and the Lamp Socket.

*2. Some models have been certified.

Ratings

Contacts (Standard Load)

Rated carry current (A)	Rated voltage (V)	Rated current (A)			
		AC15 (inductive load)	AC12 (resistive load)	DC13 (inductive load)	DC12 (resistive load)
10	24 VAC	10	10	—	—
	110 VAC	5	10		
	220 VAC	3	6		
	380 VAC	2	3		
	440 VAC	1	2		
	24 VDC	—	—	1.5	10
	110 VDC			0.5	2
	220 VDC			0.2	0.6
	380 VDC			0.1	0.2

Note:

- Rated current values are determined according to the testing conditions. The above ratings were obtained by conducting tests under the following conditions.
 - Ambient temperature: 20°±2°C
 - Ambient humidity: 65±5%
 - Operating frequency: 20 operations/minute
- Minimum applicable load: 10 mA at 5 VDC

LED Indicators without Voltage Reduction Unit

Rated voltage	Rated current	Operating voltage
6 VAC/VDC	8 mA	6 VAC/VDC±5%
12 VAC/VDC		12 VAC/VDC±5%
24 VAC/VDC		24 VAC/VDC±5%

Specifications (continued)

Characteristics

Item		Emergency Stop Switch	
		Non-lighted model: A22E	Lighted Model: A22EL
Allowable operating frequency	Mechanical	30 operations/minute max. *3	
	Electrical	30 operations/minute max. *3	
Insulation resistance		100 MΩ min. (at 500 VDC)	
Dielectric strength	Between terminals of same polarity	2,500 VAC, 50/60 Hz for 1 min.	
	Between each terminal and ground	2,500 VAC, 50/60 Hz for 1 min.	
Vibration resistance *2		10 to 55 Hz, 1.5 mm double amplitude (within 1 ms)	
Shock resistance	Destruction	1,000 m/s ²	
	Malfunction *2	250 m/s ² max.	
Durability	Mechanical	300,000 operations min. *3	
	Electrical	300,000 operations min. *3	
Ambient operating temperature *1		-20 to 70°C	-20 to 55°C
Ambient operating humidity		35% to 85%	
Ambient storage temperature		-40 to 70°C	
Degree of protection		IP65 Oil-resistant *4	IP65 *4
Electric shock protection class		Class II	
PTI (tracking characteristic)		175	
Degree of contamination		3 (EN60947-5-1)	

*1. With no icing or condensation.

*2. Malfunction within 1 ms.

*3. Setting and resetting once is counted as one operation.

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

Structure and Nomenclature



Operation Unit

Color: Red

Non-lighted
Lighted

Note: The operation Unit of A22E except models with EMO/EMS indication is red. (The engraved mark is not white.)



Lamp

Light Source

• LED Lamp
• Incandescent Lamp



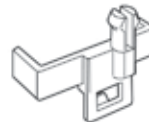
Switch

Contact Ratings

10 A at 110 VAC (resistive load)
10 A at 24 VDC (resistive load)

Lighting Method

Non-lighted
Lighted (without Voltage Reduction Unit)
Lighted (with Voltage Reduction Unit)



Lock Plate

(Attached with the Operation Unit)

(Refer to the Installation Manual)

(The above figures are examples of the lighted model)

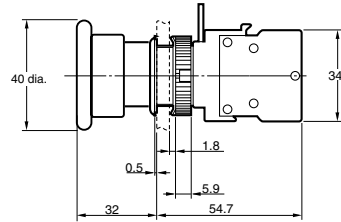
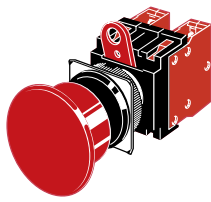
Dimensions

(mm)

Non-lighted Models

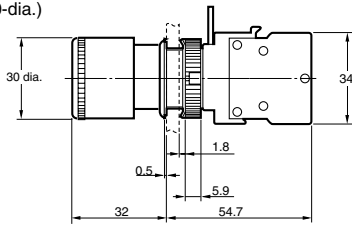
A22E-MP

Medium Push-pull (40-dia.)



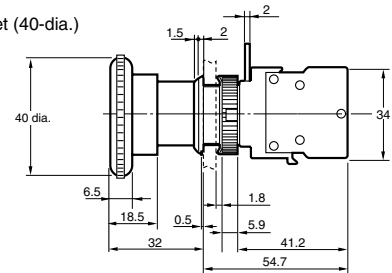
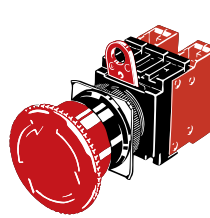
A22E-S

Small Push-lock, Turn-reset (30-dia.)



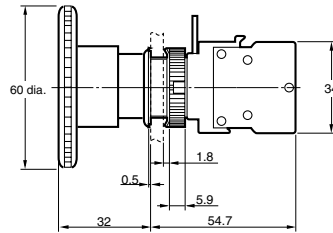
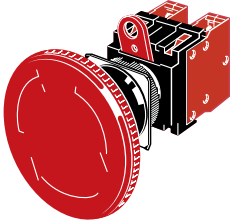
A22E-M

Medium Push-lock, Turn-reset (40-dia.)



A22E-L

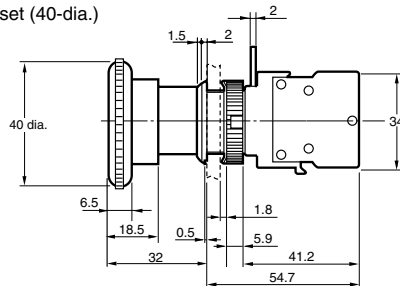
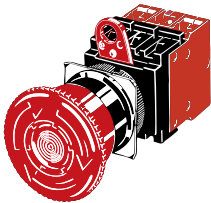
Large Push-lock, Turn-reset (60-dia.)



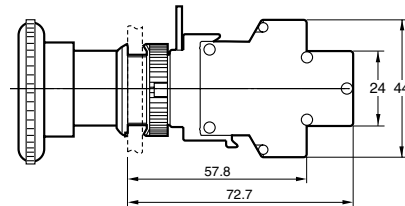
Lighted Models

A22EL-M

Medium Push-lock, Turn-reset (40-dia.)



Switch dimensions when mounted to a DPST-NO (or 2NC (1NC + 1 NC)) one-piece Switch Block.



Note: The operation unit is an example for the A22E-M.

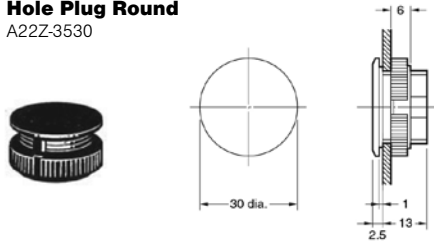
Note: The Operation Unit of A22E except models with EMO/EMS indication is red. (The engraved mark is not white.)

Dimensions (continued)

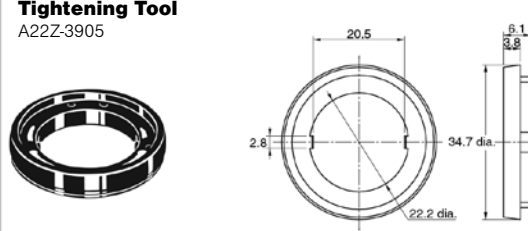
(mm)

Dimensions for Accessories

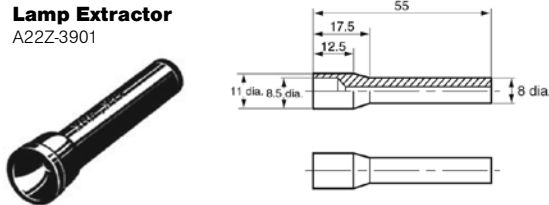
Hole Plug Round
A22Z-3530



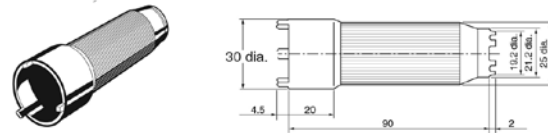
Tightening Tool
A22Z-3905



Lamp Extractor
A22Z-3901



30-Dia. Resin Attachment
A22Z-A30

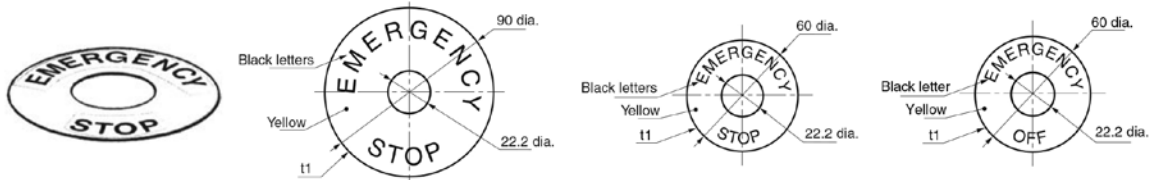


Legend Plates for Emergency Stop

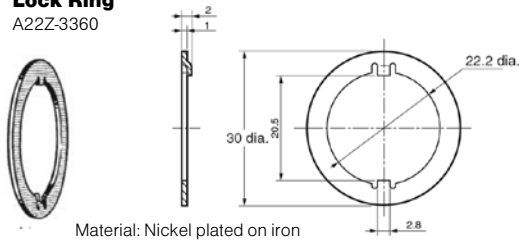
A22Z-3476-1 (90 dia.)

A22Z-3466-1 (60 dia.)

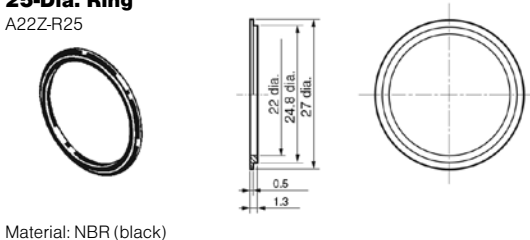
A22Z-3466-2 (60 dia.)



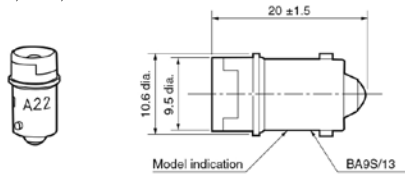
Lock Ring
A22Z-3360



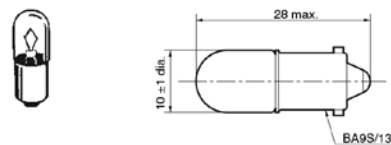
25-Dia. Ring
A22Z-R25



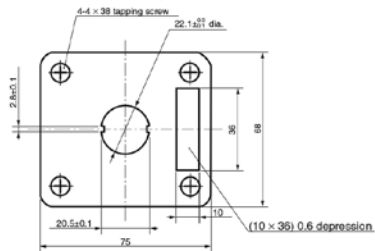
LED Lamp
A22-6□, 12□, 24□



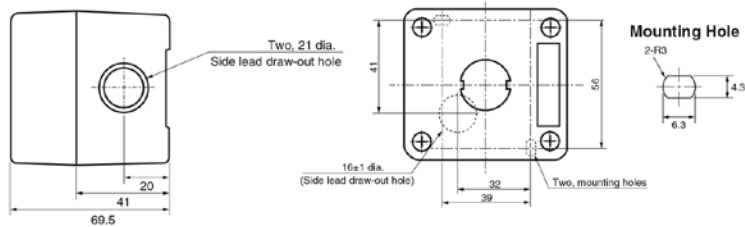
Incandescent Lamp
A22-5, 12, 24, H1



Control Box
A22Z-B101Y (1 hole)



Cable Draw-Out Hole (Top View)



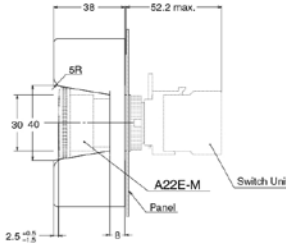
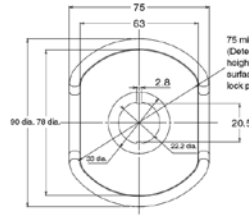
Dimensions (continued)

(mm)

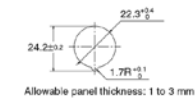
Dimensions for Accessories (continued)

E-stop Shroud

A22Z-EG1, A22Z-EG1-W, A22Z-EG10, A22Z-EG10-W



Panel Cutout Dimensions

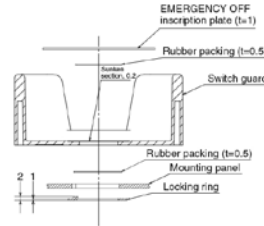


Notes:

1. The dimensions of the Shroud conform to the specifications of the SEMATECH Application Guide for SEMI S2-93.
2. The Shroud is not provided with the Switch.

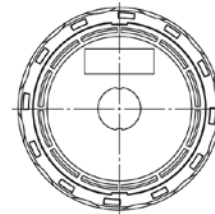
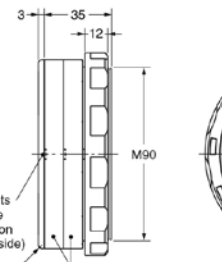
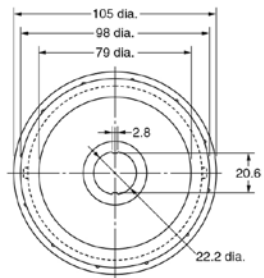
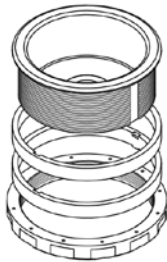


"EMERGENCY STOP" is indicated on A22Z-EG1-W. Legend plate is not provided with A22Z-EG10 and A22Z-EG10-W.



E-stop Shroud

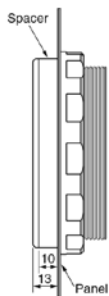
A22Z-EGs, A22Z-EG21, A22Z-EG22



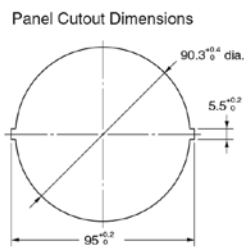
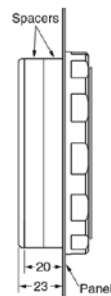
The number of spacers depends on the model
A22Z-EG2 : No Spacer
A22Z-EG21 : 1 Spacer
A22Z-EG22 : 2 Spacers

Mounting with Spacers

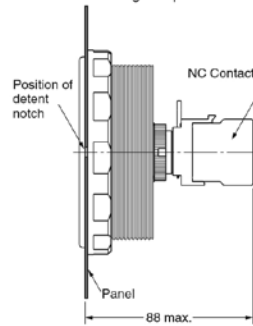
With 1 Spacer



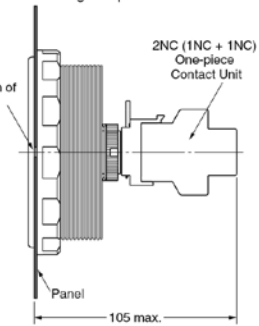
With 2 Spacers



Mounting a 1-pole Switch Unit *



Mounting a 2-pole Switch Unit *



Notes:

1. The dimensions of the Shroud conform to the specifications of the SEMATECH Application Guide for SEMI S2-93.
2. The Shroud is not provided with the Switch.
3. Tighten to a torque of 1.96 to 2.94 N·m.
4. The allowable panel thicknesses are as follows:
Without Spacers: $t=1.3$ to 22.5 mm
With 1 Spacer: $t=1.3$ to 12.5 mm
With 2 Spacers: $t=1.3$ to 2.5 mm

* These are the dimension from the front of the panel when the Switch Unit is attached.

Dimensions (continued)

(mm)

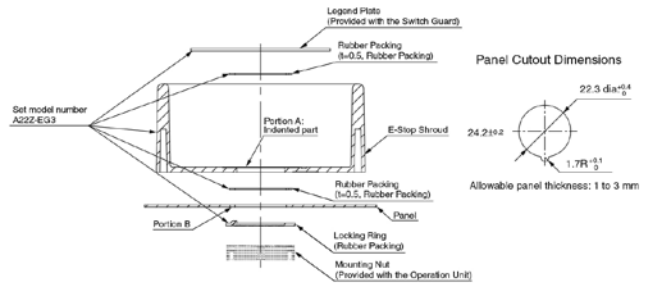
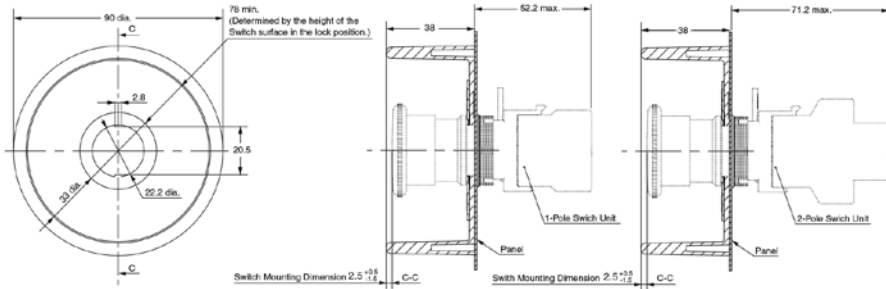
Dimensions for Accessories (continued)

E-stop Shroud A22Z-EG3



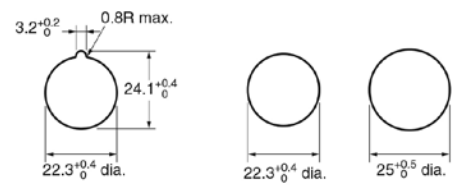
Notes:

1. The dimensions of the Shroud conform to the specifications of the SEMATECH Application Guide for SEMI S2-93.
2. The Shroud is not provided with the Switch.



Wiring

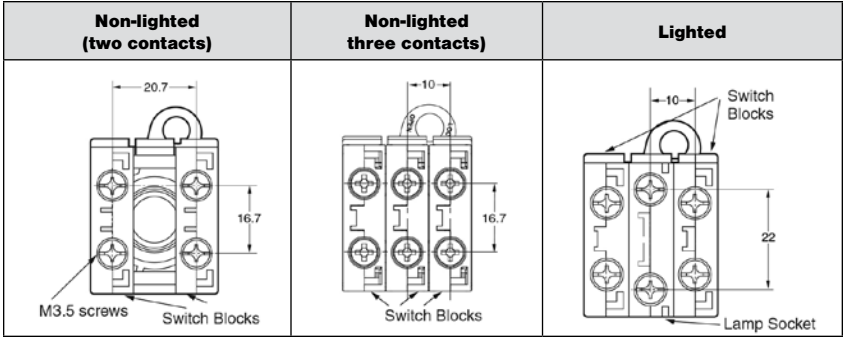
Panel Cutouts



With Lock Fitting Without Lock Fitting

- A Lock Ring is provided as a standard feature.**
- When painting or coating the panel, make sure that the specified panel dimensions apply to the panel after painting or coating.
 - Use an A22Z-R25 Ring when mounting to a panel with a 25-mm diameter hole.

Terminal Arrangement (Bottom View)



Terminal Connection

Type	Terminal connection (BOTTOM VIEW)			
	1NO+1NC	2NC (1NC+1NC)	1NO+2NC (1NC+1NC)	3NC (1NC+1NC+1NC)
Non-lighted				
Lighted without Voltage Reduction Unit				
Lighted with Voltage Reduction unit				

Note: The above terminal connection diagrams are examples for 1NO + 1NC and 2NC (1NC + 1NC).

Ordering

Model Number Structure (Completely Assembled)

Shipped as a set that includes the Operation Unit, Lamp (lighted models only), and Switch.

A22E - □ - □ - □ - □ - □

① ② ③ ④ ⑤

- | | | |
|--|---|---|
| <p>① Lighted/Non-lighted
(none): Non-lighted
L: Lighted
*Lighted emergency stop switches are available only for the medium (M) push-lock turn-reset models</p> <p>② Head Size
MP: Medium 40 dia., push-pull
S: Small, 30 dia., push-lock turn-reset
M: Medium, 40 dia., push-lock turn-reset
L: Large, 60 dia., push-lock turn-reset</p> | <p>③ Light Source Without Voltage Reduction Unit
Without Voltage Reduction Unit –
(none): Non-lighted
6A: LED, 6 VAC/VDC
12A: LED, 12 VAC/VDC
24A: LED, 24 VAC, VDC
With Voltage Reduction Unit –
T1: LED, 100 VAC
T2: LED, 200 VAC
Equipped with 24 VAC/DC LED.</p> | <p>④ Contacts
01: 1NC
11: 1NO+1NC
02: 2NC (1NC+1NC)
12: 1NO+2NC (1NC+1NC)
03: 3NC (1NC+1NC+1NC)</p> <p>⑤ Configuration
(none): Switch only
B Switch with integrated control box</p> |
|--|---|---|

List of Models (Completely Assembled)

Non-lighted Models

Operating		Set Model	Color of cap
Appearance	Contact Configuration		
40-dia. head Medium Push-pull A22E-MP 	1NC	A22E-MP-01	Red
	1NO+1NC	A22E-MP-11	
	2NC (1NC+1NC)	A22E-MP-02	
30-dia. head Small Push-lock Turn-reset A22E-S 	1NC	A22E-S-01 *	
	1NO+1NC	A22E-S-11 *	
	2NC (1NC+1NC)	A22E-S-02 *	
	1NO+2NC (1NC+1NC)	A22E-S-12 *	
40-dia. head Medium Push-lock Turn-reset A22E-M 	3NC (1NC+1NC+1NC)	A22E-S-03 *	
	1NC	A22E-M-01 *	
	1NO+1NC	A22E-M-11 *	
	2NC (1NC+1NC)	A22E-M-02 *	
60-dia. head Large Push-lock Turn-reset A22E-L 	1NO+2NC (1NC+1NC)	A22E-M-12 *	
	3NC (1NC+1NC+1NC)	A22E-M-03 *	
	1NC	A22E-L-01 *	
	1NO+1NC	A22E-L-11 *	
	2NC (1NC+1NC)	A22E-L-02 *	

*Models with Korean S-mark certification.

Notes:

- Yellow cap models are also available (not for emergency stop use). Contact your representative.
- The Operation Unit of A22E except models with EMO/EMS indication is red. (The engraved mark is not white.)

Ordering (continued)

List of Models (Completely Assembled) (continued)

Lighted Models

Appearance	Operating			Push-lock turn-reset system	Color of cap
	Contact configuration	Lighting	Rated voltage	Set Model	
40-dia. head Push-lock Turn-reset without Voltage Reduction Unit A22E 	1NC	LED	6 VAC/6VDC	A22EL-M-6A-01 *	Red
			12 VAC/VDC	A22EL-M-12A-01 *	
			24 VAC/VDC	A22EL-M-24A-01 *	
	1NO+1NC		6 VAC/6VDC	A22EL-M-6A-11 *	
			12 VAC/VDC	A22EL-M-12A-11 *	
			24 VAC/VDC	A22EL-M-24A-11 *	
	2NC (1NC+1NC)		6 VAC/VDC	A22EL-M-6A-02 *	
			12 VAC/VDC	A22EL-M-12A-02 *	
			24 VAC/VDC	A22EL-M-24A-02 *	
40-dia. head Push-lock Turn-reset with Voltage Reduction Unit A22E 	1NC	100 VAC	A22EL-M-T1-01		
	1NO+1NC	200 VAC	A22EL-M-T2-01		
		100 VAC	A22EL-M-T1-11		
	2NC (1NC+1NC)	200 VAC	A22EL-M-T2-11		
		100 VAC	A22EL-M-T1-02		
		200 VAC	A22EL-M-T2-02		

*Models with Korean S-mark certification.

Note: The Operation Unit of A22E except models with EMO/EMS indication is red. (The engraved mark is not white.)

With EMO/EMS Indication

Operating		Set Model	Color of cap
Appearance	Contact Configuration		
40-dia. head Medium Push-lock Turn reset With EMO Indication 	1NC	A22E-M-01-EMO*	Red
	1NO+1NC	A22E-M-11-EMO*	
	2NC (1NC+1NC)	A22E-M-02-EMO*	
	1NO+2NC (1NC+1NC)	A22E-M-12-EMO*	
	3NC (1NC+1NC+1NC)	A22E-M-03-EMO*	
40-dia. head Medium Push-lock Turn reset With EMS Indication 	1NC	A22E-M-01-EMS*	Red
	1NO+1NC	A22E-M-11-EMS*	
	2NC (1NC+1NC)	A22E-M-02-EMS*	
	1NO+2NC (1NC+1NC)	A22E-M-12-EMS*	
	3NC (1NC+1NC+1NC)	A22E-M-03-EMS*	

*Models with Korean S-mark certification.

Note: The colors of switch blocks are the followings:

- 1NO: black
- 1NC: red

The above illustration shows the 2NC (1NC + 1NC) classification.

Switch with Integrated Control Box

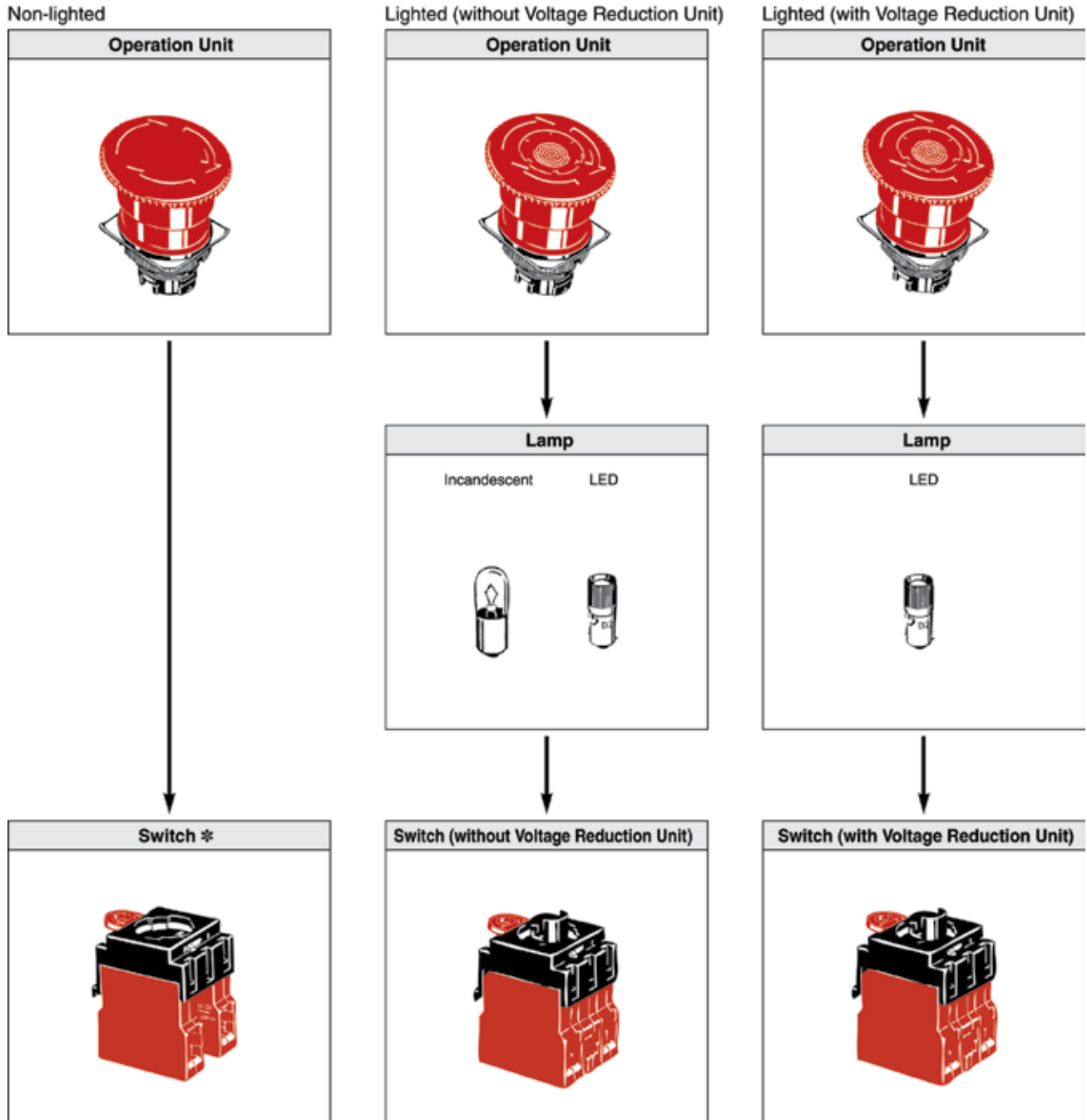
Appearance	Contact configuration	Model
	1NC	A22E-M-01B *
	1NO+1NC	A22E-M-11B *
	2NC (1NC+1NC)	A22E-M-02B *

*Models with Korean S-mark certification.

Ordering (continued)

Subassembled

The Operation Unit, Lamp, or Switch can be ordered separately. Use them in combination for models that are not available as assembled units. These can also be used as inventory for maintenance parts.



*Note:

- Up to three Switch Units can be mounted for multiple contacts.
- The Operation Unit of A22E except models with EMO/EMS indication is red. (The engraved mark is not white.)

Ordering (continued)

Operation Units

Non-lighted

Sealing capability		IP65 oil-resistant models		
Function	Size	Small (30 dia.)	Medium (40 dia.)	Large (60 dia.)
Push-pull		—	A22E-MP 	—
Push-lock, turn-reset		A22E-S 	A22E-M 	A22E-L 

The Operation Unit of A22E except models with EMO/EMS indication is red. (The engraved mark is not white.)

Lighted

Sealing capability		IP65
Function	Size	Medium (40 dia.)
Push-lock, turn-reset		A22EL-M 

Switch (Standard Load)

Without Voltage Reduction Unit

Classification		Non-lighted	Lighted
Appearance			
Switch Action		Momentary	Momentary
Contacts		Model	Model
For standard loads	1NC	A22-01M	A22L-01M
	1NO+1NC	A22-11M	A22L-11M
	2NC (1NC+1NC)	A22-02M	A22L-02M

With Voltage Reduction Unit

Classification		Lighted (110 VAC)	Lighted (220 VAC)
Appearance			
Switch Action		Momentary	Momentary
Contacts		Model	Model
For standard loads	1NC	A22L-01M-T1	A22L-01M-T2
	1NO+1NC	A22L-11M-T1	A22L-11M-T2
	2NC (1NC+1NC)	A22L-02M-T1	A22L-02M-T2

Note: When using with a Voltage Reduction Unit, use the A22-24AR.

Ordering (continued)

Lamp

LED

Appearance	LED light		Rated voltage	Model
	Red	Standard	6 VAC/VDC	A22-6AR
			12 VAC/VDC	A22-12AR
			24 VAC/VDC	A22-24AR

Note: For voltage-reduction lighting, use the A22-24AR.

Incandescent

Appearance	Rated voltage	Model
	6 VDC	A22-5
	14 VAC	A22-12
	28 VAC	A22-24
	130 VAC	A22-H1

Accessories (Order Separately)

Item	Appearance	Classification		Model	Remarks
Switch Blocks		1NO	Standard load	A22-10	Provide as standard. Order switch blocks only when adding or replacing them.
			Microload	A22-10S	
		1NC	Standard load	A22-01	
			Microload	A22-01S	
		2NO (1NO+1NO), one piece	Standard load	A22-20	Order switch blocks only when adding or replacing them.
		2NC (1NC+1NC), one piece	Standard load	A22-02	
Lamp Sockets		Direct lighting		A22-TN	Use when changing the lighting method.
		Voltage reduction lighting	100 VAC	A22-T1	
			200 VAC	A22-T2	
Mounting Latches		—		A22-3200	Provide as standard. Order mounting latches only when mounting switch blocks or lamp sockets that are purchased individually.
Legend Plates for Emergency Stop		60-dia. black letters on yellow back-ground		A22Z-3466-1	"EMERGENCY STOP" is indicated on the plate.*2
		90-dia. black letters on yellow back-ground		A22Z-3476-1	
		60-dia. black letters on yellow back-ground		A22Z-3466-2	"EMERGENCY OFF" is indicated on the plate.
Hole Plug		Round		A22Z-3530	Can be plugged into pre-cut panel holes for future expansion. The color is black.
Connectors		Applicable cable diameter	7 to 9 dia.	A22Z-3500-1	Plastic connector used to extend a cable from the switch box.
			9 to 11 dia.	A22Z-3500-2	
25-dia. Ring		—		A22Z-R25	Can be fit into a 25-dia. hole in the panel. Since this is not attached to the main body, order separately.
30-dia. Resin Attachment		—		A22Z-A30	Can be fit into a 30-dia. hole in the panel.
Lock Plate		—		A22Z-3380	Use to fix the lever on the Switch.

Ordering (continued)

Accessories (continued)

Item	Appearance	Classification	Model	Remarks
Control Boxes (Enclosures)		One hole, yellow box (for emergency stop)	A22Z-B101Y	Material: Polycarbonate resin*2
Operation Keys		—	A22K-K	Two keys are provided.
Lock Ring		Round shape	A22Z-3360	The body is equipped with a lock fitting. This lock fitting is used when a more secure lock feature is required.
Lamp Extractor		—	A22Z-3901	Rubber tool used to replace lamps easily.
E-stop Shroud for EMO, Yellow		—	A22Z-3905	Tool used to tighten rings from the back of the panel and to attach caps to lighted models.
E-stop Shroud for EMO, Yellow		Legend plate for EMERGENCY OFF is not included	A22Z-EG1	Provides SEMI-S2/SEMATECH Application Guide for SEMI-S2 compatibility. The SEMI-S2-compatible Shroud and legend plate for EMERGENCY OFF come as a set. Use with an A22E Emergency Stop Switch. (for emergency stop) *1*2
E-stop Shroud for EMO, Yellow		Legend plate for EMERGENCY OFF is not included	A22Z-EG10	Provides SEMI-S2/SEMATECH Application Guide for SEMI-S2 compatibility. The SEMI-S2-compatible Use with an A22E with EMO indication (for emergency off) *2
E-stop Shroud for EMS, White		—	A22Z-EG1-W	Provides SEMI-S2/SEMATECH Application Guide for SEMI-S2 compatibility. The SEMI-S2-compatible Shroud and legend plate for EMERGENCY STOP come as a set. Use with an A22E Emergency Stop Switch. (for emergency stop) *1*2
E-stop Shroud for EMS, White		Legend plate for EMERGENCY STOP is not included	A22Z-EG10-W	Provides SEMI-S2/SEMATECH Application Guide for SEMI-S2 compatibility. The SEMI-S2-compatible Use with an A22E with EMS indication (for emergency off) *2
E-stop Shroud, Yellow		Spacer Unit is not included.	A22Z-EG2	SEMI-S2/SEMATECH Application Guide for SEMI S2-compatible Shroud. (for emergency shutoff). Use together with an A22E Emergency Stop Switch. *1*2
		One Space Unit is included.	A22Z-EG21	
		Two Spacer Units are included.	A22Z-EG3	
E-stop Shroud for EMO, Yellow		—	A22Z-EG3	Provides SEMI-S2/SEMATECH Application Guide for SEMI-S2 compatibility. The SEMI-S2-compatible Shroud and legend plate for EMERGENCY OFF come as a set. Use with an A22E Emergency Stop Switch. (for emergency stop) *1*2

*1. These Shrouds are for use with the equipment only that conforms to SEMI standards. Do not use them for any other applications (e.g. emergency stop switches for machines or devices such as Machine tools, Printing presses, Industrial machinery, etc).

*2. The A22-B101Y cannot be used in combination with the A22Z-3476-1 and the A22Z-EG□.

Note:

- Accessories for A22Z-EG1: one "EMERGENCY OFF" label, two rubber washers, and one lock ring
- Accessories for A22Z-EG10: one rubber washer and one lock ring (without label)

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)



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.

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

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

LED Ratings (Only for models with LEDs)

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

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 MΩ 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

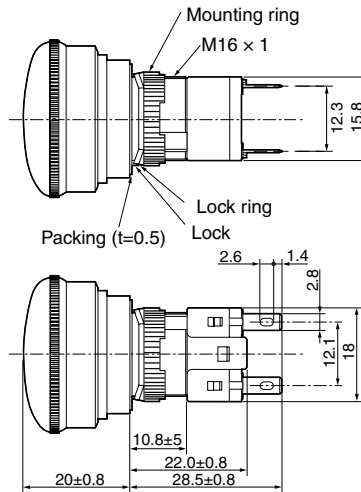
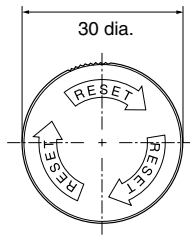
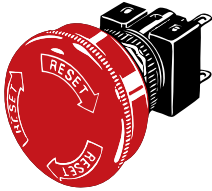
Item		Characteristics of models with separate construction	Characteristics of models with one-piece construction
Operating force	OF max.	14.7 N	14.7 N
Releasing force	RF min.	0.1 N-m	0.1 N-m
Pretravel	PT	3.5±0.5 mm	3.5±0.5 mm

Dimensions

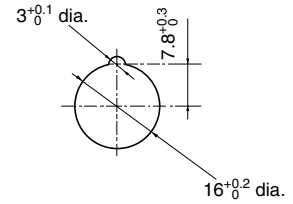
(mm)

A165E-S

Non-lighted models
30 mm diameter



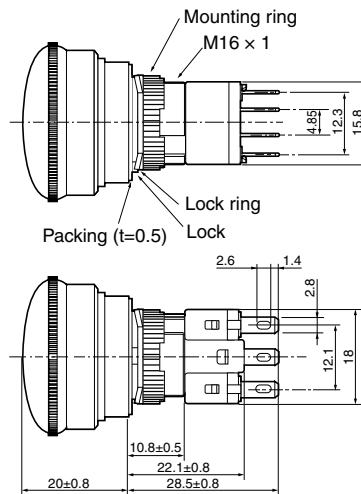
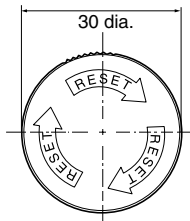
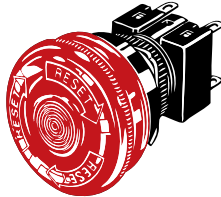
Panel cutout
dimensions



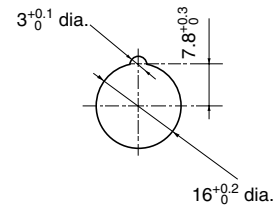
- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

A165E-LS

Lighted models
30 mm diameter



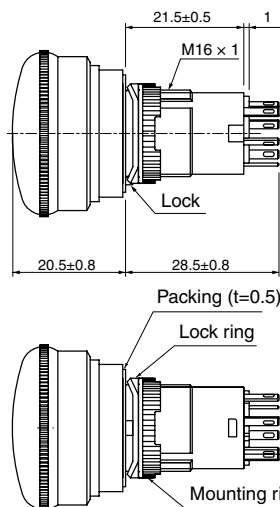
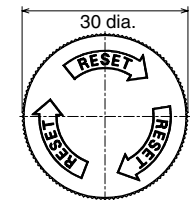
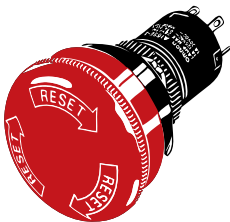
Panel cutout
dimensions



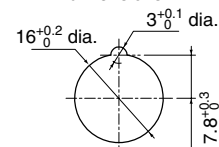
- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

A165E-S-03U

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



Panel cutout
dimensions



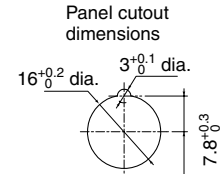
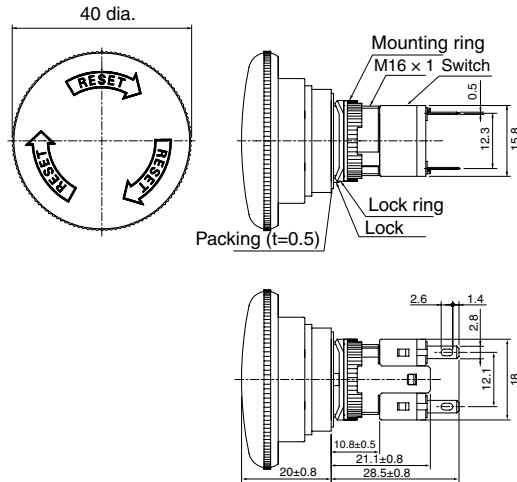
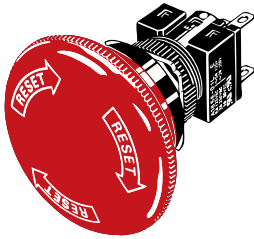
- When applying a coating such as paint to the panel, dimensions after the coating must satisfy the specified dimensions.
- Recommended panel thickness: 0.5 to 3.2 mm.

Dimensions (continued)

(mm)

A165E-M

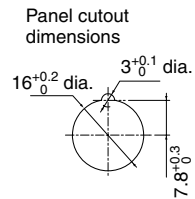
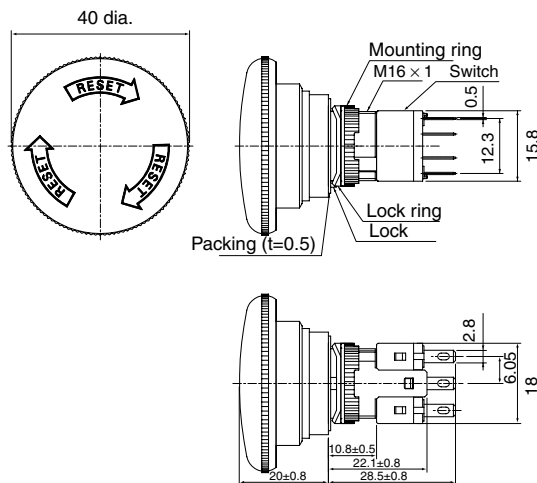
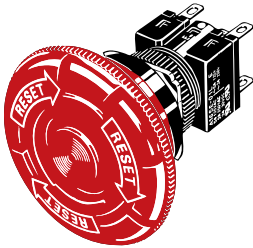
Non-lighted models
40 mm diameter



- 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

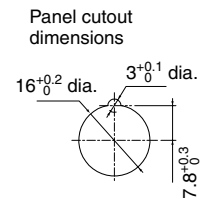
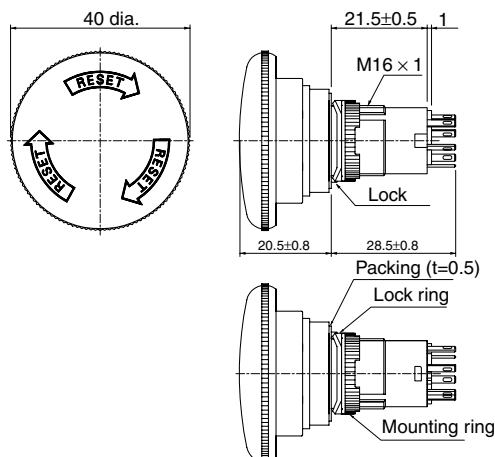
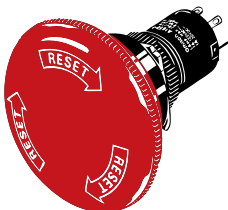
Lighted models
40 mm diameter



- 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.

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 ±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

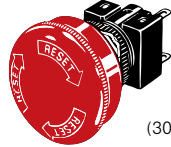
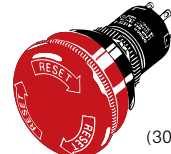
01: SPST-NC

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

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
			12 VAC/VDC
			24 VAC/VDC
			A16-5DSR
			A16-12DSR
			A16-24DSR

Switch Units

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

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.

XER1022

Quick Link

S428

omron247.com

Rope Pull Emergency Stop Switch

- Rope spans up to 125 m (410 ft.) makes this switch ideal for applications where long rope spans are required
- Heavy-duty housing—the die-cast housing and stainless steel eye nut make the XER1022 suitable for demanding industrial applications
- IP67 (NEMA 6) enclosure enables the XER1022 switch to withstand water washdown cleaning
- Integral E-stop—the optional E-stop button provides emergency stopping capability at the extreme end of the installation and is field serviceable
- Tension indicator makes system setup and rope tension maintenance easy
- Contact arrangement of 1 N/C + 1 N/O
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Long life—the XER1022 switch is designed for a minimum of one million actuations
- Reset button—the blue reset button must be pushed in order to return to “machine run” condition following switch actuation by a pulled or slacked rope
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications



XER1032

Quick Link

S429

omron247.com

Rope Pull Emergency Stop Switch

- Rope spans up to 200 m (656 ft.) makes this switch ideal for applications where long rope spans are required
- Heavy-duty housing—the die-cast housing and stainless steel eye nut make the XER1032 suitable for demanding industrial applications
- IP67 (NEMA 6) enclosure enables the XER1032 switch to withstand water washdown cleaning
- Integral E-stop—the optional E-stop button provides emergency stopping capability at the extreme end of the installation and is field serviceable
- Tension indicator makes system setup and rope tension maintenance easy
- Contact arrangement of 1 N/C + 1 N/O
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Long life—the XER1032 switch is designed for a minimum of one million actuations
- Reset button—the blue reset button must be pushed in order to return to “machine run” condition following switch actuation by a pulled or slacked rope
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications



XER6022 & XER6022-SS

Quick Link

S432

omron247.com

Explosion-Proof Rope Pull Emergency Stop Switch

- Long Rope spans mean fewer number of switches required per application (80 m spans for XER6022; 100 m spans for XER6022-SS)
- Tension indicator makes system setup and rope tension maintenance easy
- Contact arrangements of 1 N/C + 1 N/O for XER6022
Contact arrangements of 2 N/C or 1 N/C + 1 N/O for XER6022-SS
- IP67 (NEMA 6) enclosure withstands water washdown cleaning
- Heavy-duty housing is suitable for demanding industrial applications
- Reset button—the blue reset button must be pushed in order to return to “machine run” condition following switch actuation by a pulled or slacked rope
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Optional E-stop button—may be added or replaced in the field
- Rubber bellows contain UV inhibitor making the switches suitable for outdoor applications
- Long life—designed for a minimum of one million actuations



XER6022-SS

Quick Link

S433

omron247.com

G

