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New Product

OMRON

Emergency Stop Pushbutton Switches (22-dia. or 25-dia.)
A22E/A22NE-P

Install in 22-dia. or 25-dia. Panel Cutout (When Using a Ring)

- Direct opening mechanism to open the circuit when the contact welds.
- Safety lock mechanism prevents operating errors.
- Lever for easily mounting and removing the Switch Blocks.
- Finger protection mechanism on Switch Unit provided as a standard feature.
- Use 25-dia. ring to install in 25-dia. panel cutouts.

NEW

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

⚠ Be sure to read the "*Safety Precautions*" on pages 15, 28, and 37.

Types of Emergency Stop Pushbutton Switches

Common Items

Emergency Stop Pushbutton Switches (22-dia. or 25-dia.) Screw Terminal Block types

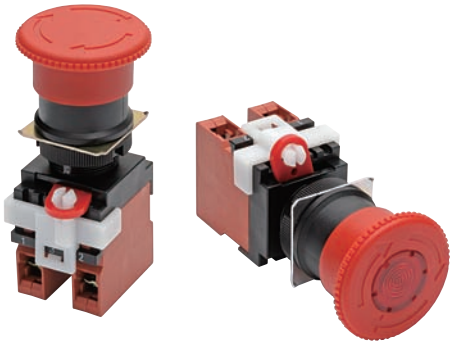
A22E

Install in 22-dia. or 25-dia. Panel Cutout

(When Using a Ring)

- Increase wiring efficiency with three-row mounting of Switch Units. (with non-lighted Switch Blocks, three Units can be mounted for multiple contacts).
- Mounted using either open-type (fork-type) or closed-type (round-type) 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.

⚠ Be sure to read the "*Safety Precautions*" on pages 15 and 37.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

Model Number Legend (Completely Assembled)

.....Shipped as a set which includes the Operation Unit, LED Lamp (lighted model only), Mounting Latches, Switch Block, and Lock Plate

A22E 1 - 2 - 3 - 4 - 5 - 6 **(Example: A22EL-M-24A-01)**

1. Lighted/Non-lighted

Code	Description
None	Non-lighted
L	Lighted ✻

✻ Lighted Emergency Stop Switches are available only for the medium (M). turn-reset models.

2. Operation Unit size (diameter)/Reset function

Code	Size	Description
MP	40 dia.	Pull-reset
S	30 dia.	Turn-reset
M	40 dia.	
L	60 dia.	

3. LED Lamp voltage

Lighting unit (Direct lighting)

Code	Description	Operating Voltage
None	Non-lighted	---
6 A	Lighted (LED) ✻	6 VAC/DC
12 A		12 VAC/DC
24 A		24 VAC/DC

Lighting unit (Voltage-reduction lighting)

Code	Description	Operating Voltage
T1	Lighted (LED) ✻	100 VAC
T2		200 VAC

✻ Equipped with 24-VAC/DC LED.

4. Contacts

Code	Number of Switch Blocks		Unit position					
			Non-lighted			Lighted		
	NO	NC	1	2	3	1	2	3
01	0	1	---	---	NC	---	Lighting unit	NC
11	1	1	NO	---	NC	NO	Lighting unit	NC
02	0	2	NC	---	NC	NC	Lighting unit	NC
12	1	2	NO	NC	NC	---		
03	0	3	NC	NC	NC			

Note 1. NO: 1a-contact NC: 1b-contact
2. For details on the unit position, refer to the figure below.

5. Configuration

Code	Configuration
None	Switch only
B	Switch with Integrated Control Box

6. Configuration

Code	Configuration
None	Neither “EMO” nor “EMS” printed, arrows engraved in red.
EMO	“EMO” and arrows printed in white.
EMO-RD	“EMO” printed in white, arrows engraved in red.
EMS	“EMS” and arrows printed in white.
EMS-RD	“EMS” printed in white, arrows engraved in red.

Ordering Information

List of Models (Completely Assembled)

Non-lighted Models (Without EMO/EMS Indication)

Appearance	Operation	Degree of Protection	Contact configuration ✻1	Set Model	Color of cap
	40-dia. head Medium Pull-reset A22E-MP	IP65 oil-resistant models	1NC (1)	**A22E-MP-01**	Red
			1NC, 1NO (2)	**A22E-MP-11**	
			2NC (2)	**A22E-MP-02**	
	30-dia. head Small Turn-reset A22E-S		1NC (1)	**A22E-S-01** ✻2	
			1NC, 1NO (2)	**A22E-S-11** ✻2	
			2NC (2)	**A22E-S-02** ✻2	
			2NC, 1NO (3)	**A22E-S-12** ✻2	
			3NC (3)	**A22E-S-03** ✻2	
	40-dia. head Medium Turn-reset A22E-M		1NC (1)	**A22E-M-01** ✻2	
			1NC, 1NO (2)	**A22E-M-11** ✻2	
			2NC (2)	**A22E-M-02** ✻2	
			2NC, 1NO (3)	**A22E-M-12** ✻2	
			3NC (3)	**A22E-M-03** ✻2	
	60-dia. Large Turn-reset A22E-L		1NC (1)	**A22E-L-01** ✻2	
			1NC, 1NO (2)	**A22E-L-11** ✻2	
			2NC (2)	**A22E-L-02** ✻2	

✻1. The number in parentheses ( ) indicates the number of switch units.
✻2. Models with Korean S-mark certification
Note: Yellow cap models are also available (not for emergency stop use). Contact your OMRON representative.

Non-lighted Models (With EMO/EMS Indication)

Appearance	Operation	Degree of Protection	Contact configuration ✻1	Set Model	Color of cap
	40-dia. head Medium Turn-reset With EMO Indication	IP65 oil-resistant models	1NC (1)	**A22E-M-01-EMO** ✻2	Red
				A22E-M-01-EMO-RD	
			1NC, 1NO (2)	**A22E-M-11-EMO** ✻2	
				A22E-M-11-EMO-RD	
			2NC (2)	**A22E-M-02-EMO** ✻2	
				A22E-M-02-EMO-RD	
			2NC, 1NO (3)	**A22E-M-12-EMO** ✻2	
				A22E-M-12-EMO-RD	
			3NC (3)	**A22E-M-03-EMO** ✻2	
				A22E-M-03-EMO-RD	
	40-dia. head Medium Turn-reset With EMS Indication		1NC (1)	**A22E-M-01-EMS** ✻2	
				A22E-M-01-EMS-RD	
			1NC, 1NO (2)	**A22E-M-11-EMS** ✻2	
				A22E-M-11-EMS-RD	
			2NC (2)	**A22E-M-02-EMS** ✻2	
				A22E-M-02-EMS-RD	
			2NC, 1NO (3)	**A22E-M-12-EMS** ✻2	
				A22E-M-12-EMS-RD	
			3NC (3)	**A22E-M-03-EMS** ✻2	
				A22E-M-03-EMS-RD	

✻1. The number in parentheses ( ) indicates the number of switch units.
✻2. Models with Korean S-mark certification
Note: The colors of switch blocks are as follows:
NO (a-contact): Black
NC (b-contact): Red
The above illustration shows the 2NC (2b-contact) configuration.

Lighted Models

Appearance	Operation	Degree of Protection	Contact configuration ✻1	LED Lamp voltage	Set Model	Color of cap
	40-dia. head Push-lock Turn-reset Lighting unit (Direct lighting) A22E	IP65	1NC (1)	6 VAC/VDC	**A22EL-M-6A-01 ✻2**	Red
				12 VAC/VDC	**A22EL-M-12A-01 ✻2**	
				24 VAC/VDC	**A22EL-M-24A-01 ✻2**	
			1NC, 1NO (2)	6 VAC/VDC	**A22EL-M-6A-11 ✻2**	
				12 VAC/VDC	**A22EL-M-12A-11 ✻2**	
				24 VAC/VDC	**A22EL-M-24A-11 ✻2**	
			2NC (2)	6 VAC/VDC	**A22EL-M-6A-02 ✻2**	
				12 VAC/VDC	**A22EL-M-12A-02 ✻2**	
				24 VAC/VDC	**A22EL-M-24A-02 ✻2**	
	40-dia. head Push-lock Turn-reset Lighting unit (Voltage-reduction lighting) A22E		1NC (1)	100 VAC	**A22EL-M-T1-01**	
				200 VAC	**A22EL-M-T2-01**	
			1NC, 1NO (2)	100 VAC	**A22EL-M-T1-11**	
				200 VAC	**A22EL-M-T2-11**	
			2NC (2)	100 VAC	**A22EL-M-T1-02**	
				200 VAC	**A22EL-M-T2-02**	

✻1. The number in parentheses ( ) indicates the number of switch units.
✻2. Models with Korean S-mark certification

Switch with Integrated Control Box

Appearance	Contact configuration (Number of switch blocks)	Model
	1NC (1)	**A22E-M-01B ✻**
	1NC, 1NO (2)	**A22E-M-11B ✻**
	2NC (2)	**A22E-M-02B ✻**

Note: The A22Z-B101Y Control Box is used.
✻ Models with Korean S-mark certification

Subassembled.... The Operation Unit, LED Lamp, Mounting Latches, and Switch Blocks 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.

Non-lighted

Operation Unit

Mounting Latches

Switch Blocks ✻

Screw Terminal Block

Lock Plate

Lighted

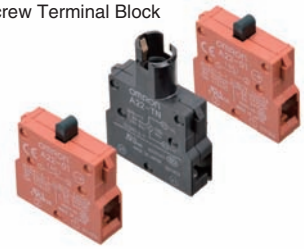
Operation Unit

LED Lamp

LED

Switch Blocks + Lighting unit

Screw Terminal Block



Lock Plate

✻ Up to three Switch Blocks can be mounted for multiple contacts.

Operation Unit
Non-lighted

Function	Sealing capability	Size: Small (30 dia.)	Medium (40 dia.)	Large (60 dia.)
		Single item order model		
Pull-reset	IP65 oil-resistant models	---	A22E-MP 	---
Turn-reset	IP65 oil-resistant models	A22E-S 	A22E-M  A22E-M-EMO A22E-M-EMO-RD  A22E-M-EMS A22E-M-EMS-RD 	A22E-L 

Lighted

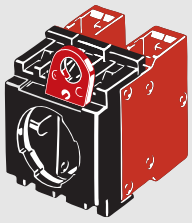
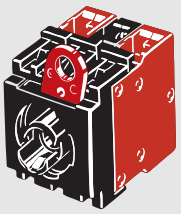
Function	Sealing capability	Size: Medium (40 dia.)
		Single item order model
Turn-reset	IP65	A22EL-M 

LED lamp

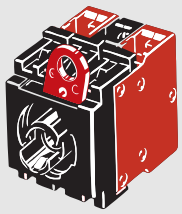
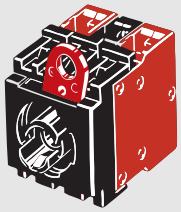
Appearance	LED light		Rated voltage	Model
	Red	Standard	6 VAC/VDC	**A22-6AR**
			12 VAC/VDC	**A22-12AR**
			24 VAC/VDC	**A22-24AR**

Note: For a model with a Lighting unit (Voltage-reduction lighting), use the A22-24AR.

Switch
Non-lighted / Direct lighting

Classification		Non-lighted	Direct lighting
Appearance			
Contact specifications/ Configuration (Number of switch blocks)		Model	Model
For Standard loads	1NC (1)	A22-01M	A22L-01M
	1NC, 1NO (2)	A22-11M	A22L-11M
	2NC (2)	A22-02M	A22L-02M

Voltage-reduction lighting (100 VAC, 200 VAC)

Classification		100 VAC, Lighted	200 VAC, Lighted
Appearance			
Contact specifications/ Configuration (Number of switch blocks)		Model	Model
For Standard loads	1NC (1)	A22L-01M-T1	A22L-01M-T2
	1NC, 1NO (2)	A22L-11M-T1	A22L-11M-T2
	2NC (2)	A22L-02M-T1	A22L-02M-T2

Note: For a model with a Lighting unit (Voltage-reduction lighting), use the A22-24AR.

Accessories (Order Separately)

Item	Appearance	Contact specifications		Model	Remarks
Switch Blocks (one contact)		1NO (Black)	Standard load	**A22-10**	Provided as standard. Order Switch Blocks only when adding or replacing them.
			Microload	**A22-10S**	
		1NC (Red)	Standard load	**A22-01**	
			Microload	**A22-01S**	
Switch Blocks (two contacts)		2NO (Black)	Standard load	**A22-20**	Order Switch Blocks only when adding or replacing them.
			Microload	**A22-20S**	
		2NC (Red)	Standard load	**A22-02**	
			Microload	**A22-02S**	
		1NC + 1NO Contact (Black/ Red)	Standard load	**A22-11**	
			Microload	**A22-11S**	
Lighting unit		Direct lighting		**A22-TN**	Used when changing the lighting method.
		Voltage-reduction lighting	100 VAC	**A22-T1**	
			200 VAC	**A22-T2**	
Mounting Latches		---		**A22-3200**	Provided as standard. Order Mounting Latches only when mounting Switch Blocks or Lighting Units that are purchased individually.
Lock Plate		---		**A22Z-3380**	Use to fix the lever on the Switch.
Control Boxes (Enclosures)		One hole, yellow box		**A22Z-B101Y**	Material: Polycarbonate resin. The A22Z-B101Y does not support 2NO, 2NC, or 1NC + 1NO two-contacts Switch Blocks.
				A22Z-B201Y	

Note: For details on the accessories common to the screw terminal block types and push-in plus terminal block types, refer to *"Common Accessories and Tools (Order Separately)"* on page 32.

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	Standards	File No.
UL ✻1	UL508, C22.2 No.14	E41515
TÜV SÜD	EN60947-5-1 (Certified direct opening), EN60947-5-5	Consult your OMRON representative for details.
CQC (CCC)	GB14048.5	2003010303070635
KOSHA ✻2	EN60947-5-1	Consult your OMRON representative for details.

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 individual Switch Blocks and Lighting Units.
✻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: 1. Rated current values are determined according to the testing conditions. The above ratings were obtained by conducting tests under the following conditions.
(1) Ambient temperature: 20°±2°C
(2) Ambient humidity: 65±5%
(3) Operating frequency: 20 operations/minute
2. Minimum applicable load: 10 mA at 5 VDC

LED Lamp

Rated voltage	Operating voltage	Current value
6 VAC/VDC	6 VAC/VDC ± 5%	Approx. 8 mA
12 VAC/VDC	12 VAC/VDC ± 5%	
24 VAC/VDC	24 VAC/VDC ± 5%	

Voltage-reduction lighting

Rated voltage	Operating voltage	Rated current	Applicable lamp (BA9S/Base: 13)
110 VAC	100 VAC (95 to 115 V)	Approx. 8 mA	LED lamp A22-24A□
220 VAC	200 VAC (190 to 230 V)		

Characteristics

Item	Type	Turn-reset		Pull-reset
		Non-lighted model	Lighted model	Non-lighted model
Allowable operating frequency	Mechanical	30 operations/minute (One operation consists of set and reset operations.)		
	Electrical	30 operations/minute (One operation consists of set and reset operations.)		
Insulation resistance		100 MΩ min. (at 500 VDC)		
Contact resistance		100 mΩ max. (initial value)		
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		10 to 55 Hz, 1.5-mm double amplitude (contact separation within 1 ms)		
Shock resistance	Destruction	1000 m/s^2		
	Malfunction	250 m/s^2 max. (contact separation within 1 ms)		
Durability	Mechanical	300,000 operations min. (One operation consists of set and reset operations.)		
	Electrical	300,000 operations min. (One operation consists of set and reset operations.)		
Ambient operating temperature ✻1		-20 to +70°C	-20 to +55°C	-20 to +70°C
Ambient operating humidity		35 to 85% RH		
Ambient storage temperature		-40 to +70°C		
Degree of protection		IP65 (oil-resistant) ✻2 ✻3	IP65 ✻2	IP65 (oil-resistant) ✻2 ✻3
Electric shock protection class		Class II		
PTI (tracking characteristic)		175		
Degree of contamination		3 (EN60947-5-1)		
Minimum direct opening stroke		11 mm		
Minimum direct opening force		45 N		
Conditional short-circuit current		100 A (EN 60947-5-1)		
Weight (for a 40-dia. head 1NC/1NO Operation Unit)		Approx. 65 g	Approx. 80 g	Approx. 100 g

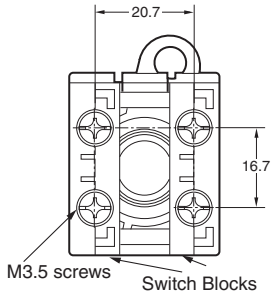
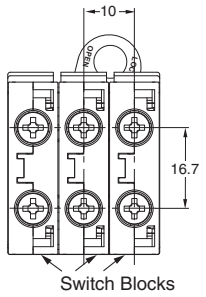
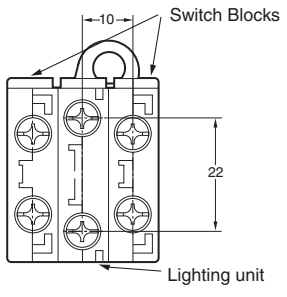
✻1. With no icing or condensation.
✻2. The degree of protection from the front of the panel.
✻3. The degree of protection is IP65 even with an integrated control box, but the system is not oil resistant.

Operating Characteristics

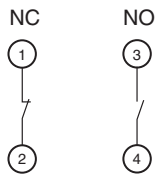
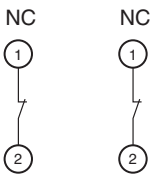
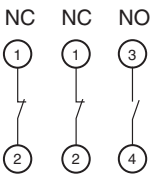
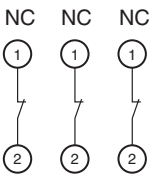
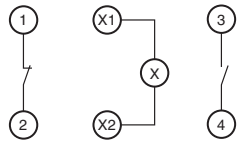
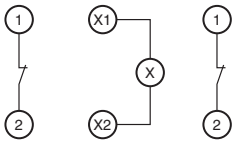
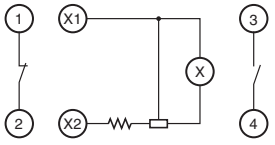
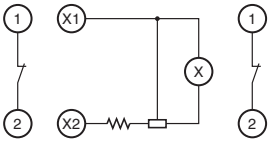
Item	Turn-reset	Pull-reset
Total travel force (TTF)	44.1 N max.	58.8 N max.
Return force (RF)	0.25 N·m ✻ max.	58.8 N max.
Total travel (TT)	10 ±1 mm	5.5 ±1 mm

✻ Rotation torque value.

Terminal Arrangement (BOTTOM VIEW)

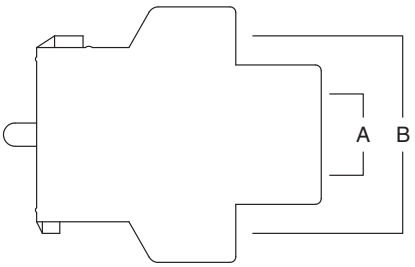
Non-lighted (two contacts)	Non-lighted (three contacts)	Lighted (two contacts)
		

Terminal connection

Type	Terminal Connection (BOTTOM VIEW)			
	1NC, 1NO (two contacts)	2NC (two contacts)	2NC, 1NO (three contacts)	3NC (three contacts)
Non-lighted				
Lighted with Direct lighting				
Lighted with Voltage-reduction lighting				

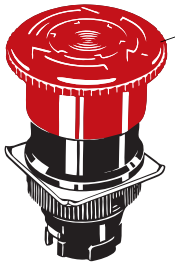
Note: The above terminal connection diagrams are examples of the number of contacts.

Terminal wiring drawings of two-contact Switch Units



Type	Terminal Connection (BOTTOM VIEW)		
	2NC (two contacts)	2NO (two contacts)	1NC, 1NO (two contacts)
A			
B			

Structure and Nomenclature



Operation Unit

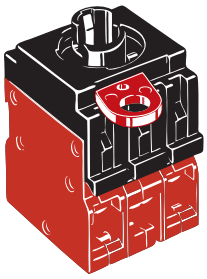
Color: Red

Non-lighted
LED lighting

Lamp

Light source

- LED Lamp



Switch

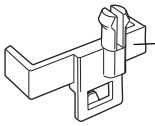
Mounting Latches
Switch Blocks
Lighting unit

Contact Ratings

10 A at 100 VAC (resistive load)
10 A at 24 VDC (resistive load)

Lighting Method

Non-lighted
Lighted (Direct lighting)
Lighted (Voltage-reduction lighting)



Lock Plate (Attached with the Operation Unit)

(Refer to the *"Mounting the Lock Plate"* on page 15 for use.)

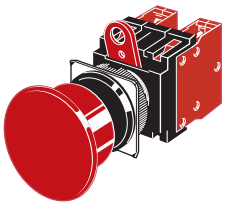
Dimensions

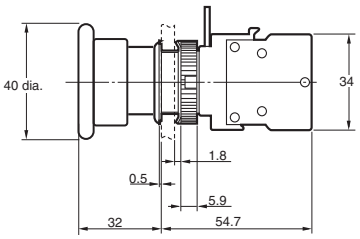
(Unit: mm)

Non-lighted Models

A22E-MP

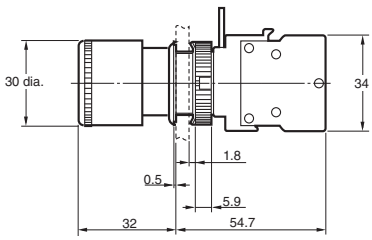
Medium Push-pull (40-dia.)





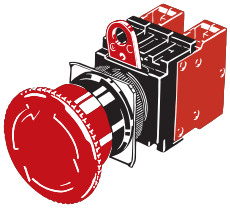
A22E-S

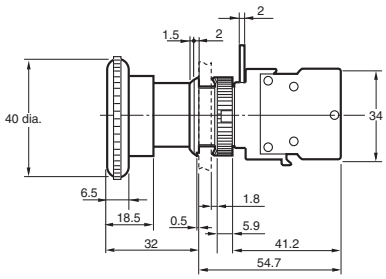
Small Turn-reset (30-dia.)



A22E-M

Medium Turn-reset (40-dia.)

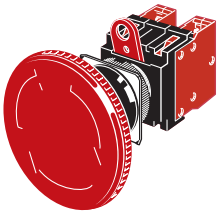


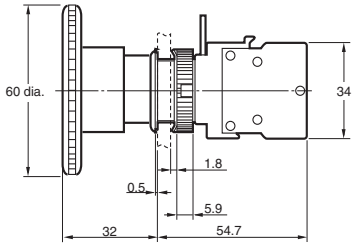


Note: The dimensions are the same as for EMO/EMS indication models.

A22E-L

Large Turn-reset (60-dia.)

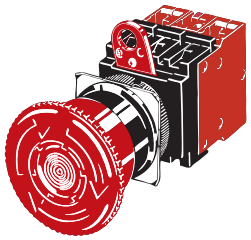


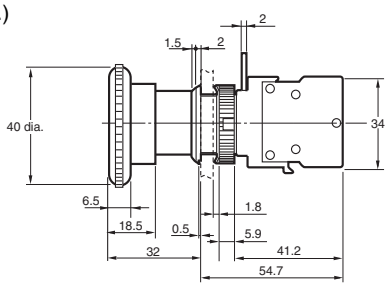


Note: Unless otherwise specified, a tolerance of ±0.8mm applies to all dimensions.

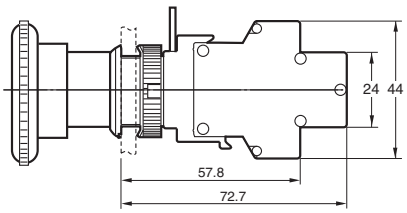
Lighted Model

A22EL-M
Medium Turn-reset (40-dia.)





Switch dimensions when mounted to a 2NO (2NC) one-piece switch block

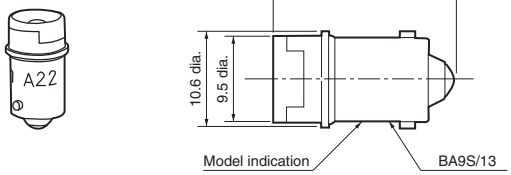


Note: The operation unit is an example for the A22E-M.

Note: Unless otherwise specified, a tolerance of ±0.8mm applies to all dimensions.

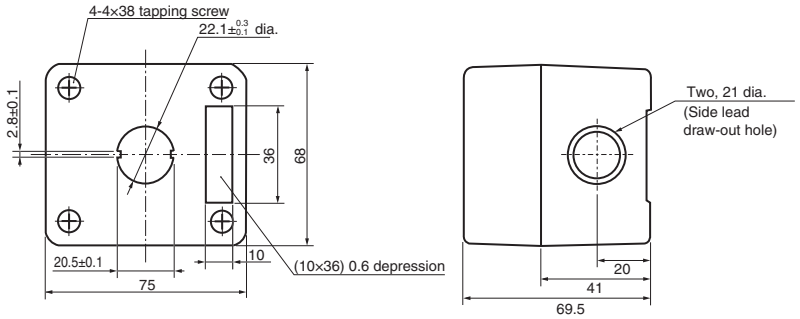
Accessories (Order Separately)

LED Lamp
A22-6□, 12□, 24□

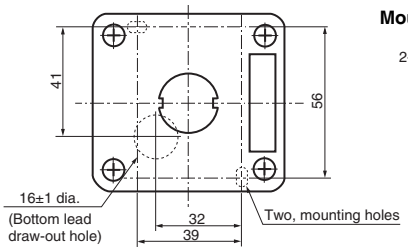


Control Box

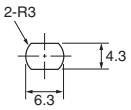
A22Z-B101Y (1-hole)



Cable Draw-out Hole (Top View)

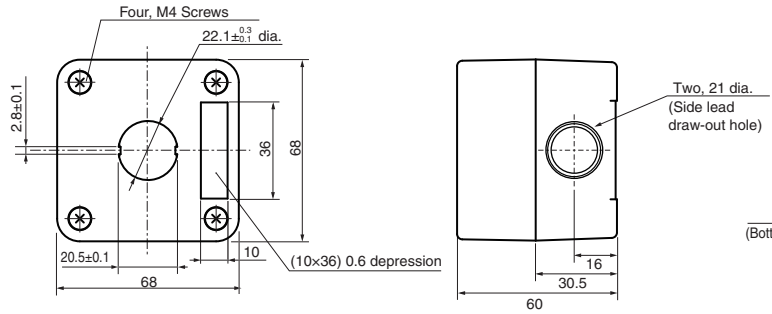


Mounting Hole

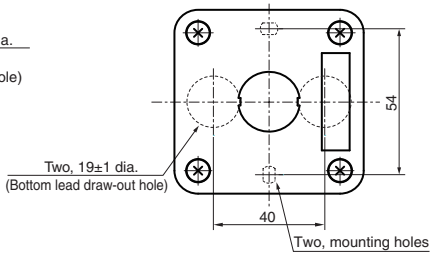


Control Box

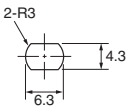
A22Z-B201Y (1-hole)



Cable Draw-out Hole (Top View)



Mounting Hole



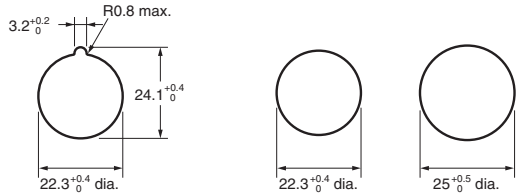
Note: For details on the accessories common to the screw terminal block types and push-in plus terminal block types, refer to *"Common Accessories and Tools (Order Separately)"* on page 32.

Installation

Mounting to the Panel

(1) Preparing the Panel

- The panel dimensions are shown below.
- The panel thickness must be 1 to 5 mm.

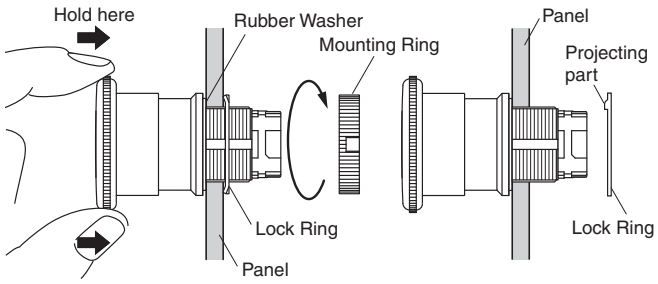


With Lock Ring **Without Lock Ring**

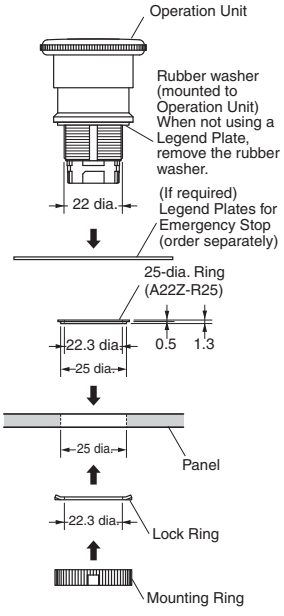
- Always use a 25-mm-dia. A22Z-R25 Lock Ring for a 25-mm-dia. hole. IP65 degree of protection will be lost if the 25-mm-dia. Lock Ring is not used because of the larger size of a 25-mm-dia. hole.
- When painting or coating the panel, make sure that the specified panel dimensions apply to the panel after painting or coating.

(2) Mounting the Operation Unit on the Panel

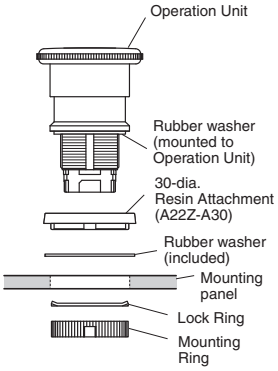
- Insert the Operation Unit from the front surface of the panel, insert the Lock Ring and the mounting Ring from the terminal side, then tighten the Ring. Before tightening, check that the rubber washer is present between the Operation Unit and the panel.
- Align the Lock Ring with the groove in the casing, then insert the Lock Ring so that its edge is located on the panel side.
- Tighten the mounting nut at a torque of 0.98 to 1.96 N·m.
- When using a Lock Ring, replace with the supplied Lock Ring, insert the projecting part into the lock slot, and then tighten the mounting Ring.



1. When the panel cutout dimension is 25 dia., remove the supplied rubber washer and mount the 25-dia. Ring as shown below. (Since the A22Z-R25 is not attached to the main body, order separately.) When using a Legend Plate (Order Separately), do not remove the rubber washer.

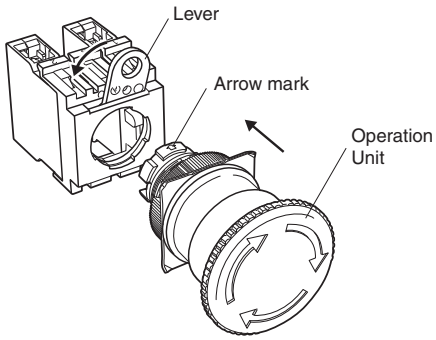


2. When the panel cutout dimension is 30 dia., use resin attachment A22Z-A30. Since it is not attached to the main body, order separately.



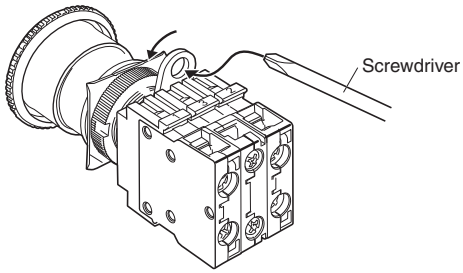
(3) Mounting the Switch on the Operation Unit

- Insert the Operation Unit into the Switch Unit, aligning the arrow mark inscribed on the Case with the lever on the Switch Blocks, then move the lever in the direction indicated by the arrow in the following figure.



(4) Removing the Switch

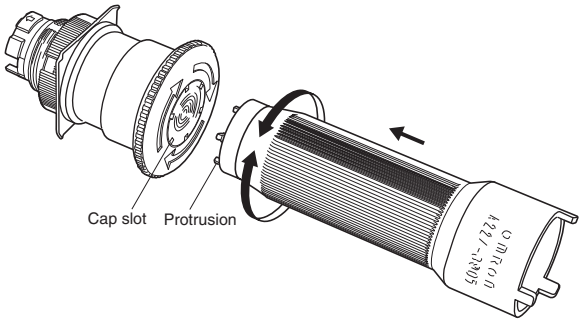
- Move the lever in the direction indicated by the arrow in the following figure, then pull the Operation Unit or the Switch Blocks.
  Since the lever has a hole with an inside diameter of 6.5 mm, the lever can be moved in the specified direction by inserting a screwdriver into the hole and then moving the screwdriver.



Assembling the Cap

Emergency Stop Switch

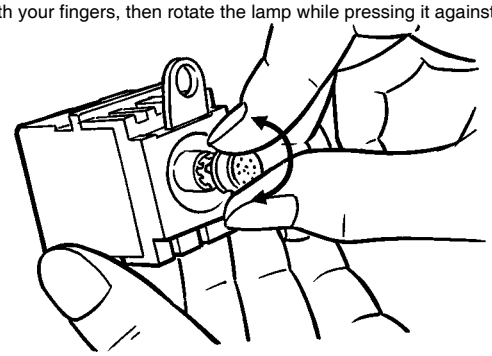
- Insert the protrusion of the Tightening Wrench (A22Z-3905) into the Cap slot and then turn to remove the Cap.



Installing/Replacing the LED Lamp

Installing/Replacing on the Switch

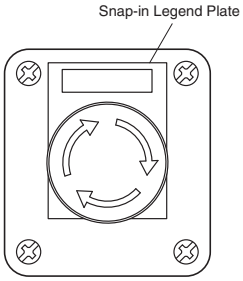
• Grip the lamp with your fingers, then rotate the lamp while pressing it against the Switch.



Control Box (Enclosure)

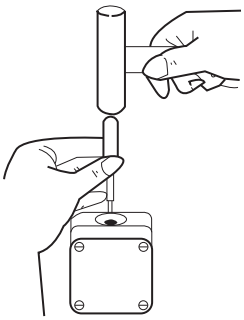
(1) Mounting the Switch

The Standard-size Legend Plate Frame can be mounted.
Mount the Frame as shown in the following diagram. Mount the Switch in the same way as for an ordinary panel.



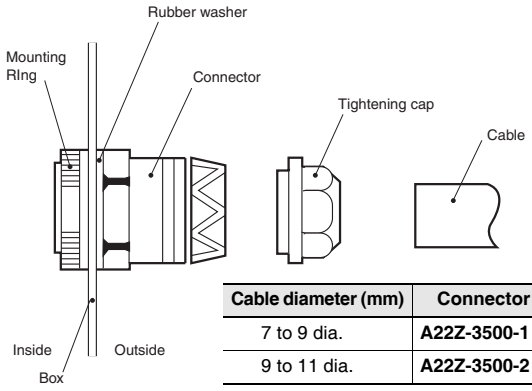
(2) Creating a Cable Port Hole

Place the tip of a screwdriver on the surface where the cable port hole is to be created with the cover attached and strike the screwdriver to punch a hole.
Attempts to punch a hole on the other side of the case will damage the Box.



(3) Securing the Connector Cable

1. Insert the connector into the cable port hole in the Box and secure with the Mounting Ring inside the box.
2. Pass the tightening cap through the cable, insert the cable into the connector, and tighten the tightening cap to secure the cable.

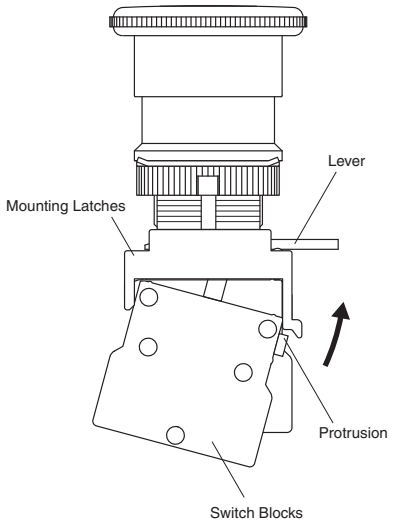


Cable diameter (mm)	Connector
7 to 9 dia.	**A22Z-3500-1**
9 to 11 dia.	**A22Z-3500-2**

Installing/Removing the Switch Blocks

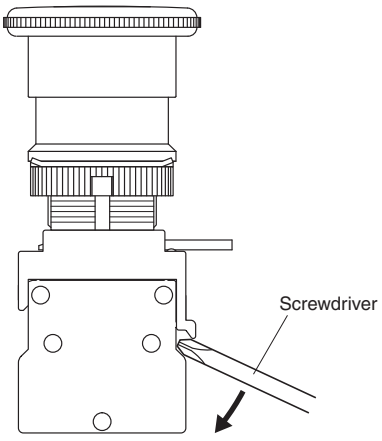
(1) Installing the Switch Blocks

• Hook the small protrusion on the Mounting Latch into the groove on the other side of the lever, then push up the Switch Block in the direction indicated by the arrow in the figure below.



(2) Removing the Switch Blocks

• Insert a screwdriver between the Mounting Latch and the Switch Block, then push down the screwdriver in the direction indicated by the arrow in the following figure.



Use either of the following screwdrivers.

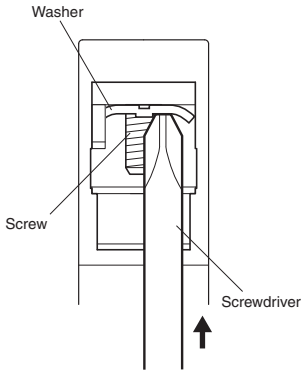
⊖ Flat-head screwdriver 3 to 6 mm

⊕ Phillips screwdriver 3 to 6 mm dia.

Wiring

Wiring Round Crimp Terminals

• Loosen the terminal screw from the Switch Unit until it completely comes off the groove, insert a screwdriver as shown in the following figure, then push up the washer in the direction indicated by the arrow to temporarily secure it.
Now, a round crimp terminal can be connected. After inserting the terminal, tighten the screws to complete wiring.



Safety Precautions

Be sure to read the precautions **for All PushButton Switches** in the website at:http://www.ia.omron.com/.

Indication and Meaning for Safe Use

⚠ CAUTION	**Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.**
Precautions for Safe Use	**Supplementary comments on what to do or avoid doing, to use the product safely.**

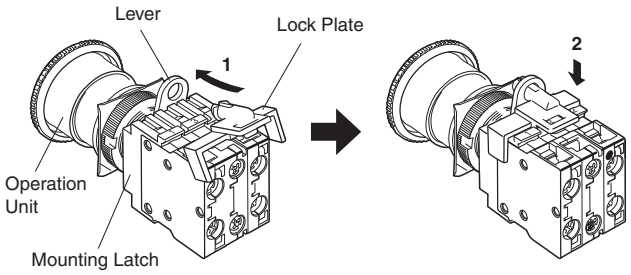
⚠ Caution

If the Operation Unit is separated from the Socket Unit, the equipment will not stop, creating a hazardous condition. Secure the lever on the Socket Unit by using the A22Z-3380 Lock Plate so that the Operation Unit cannot be easily separated from the Socket Unit.
(Refer to "*Mounting the Lock Plate*" at the below.)

Precautions for Correct Use

Mounting the Lock Plate

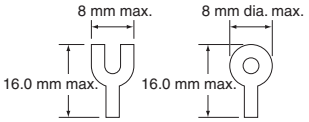
1. Confirm that the lever on the Mounting Latch is on the side where the Operation Unit is secured and then insert the protrusion on the Lock Plate into the hole in the lever on the Mounting Latch.
2. Press the hole on the Lock Plate onto the protrusion on the Mounting Latch until it clicks into place.



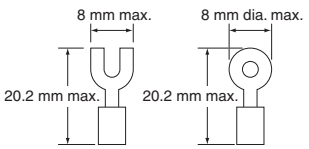
Wiring

- Terminal screws must be Phillips or slotted M3.5 screws with a square washer.
- The tightening torque is 1.08 to 1.27 N·m.
- Single wires, stranded wires, and crimp terminals can be connected to the Switch.
- Applicable Wiring Materials:
  Twisted strands: 2 mm² max.
  Solid wire: 1.6 mm dia. max.

Naked Crimp Terminals



Crimp Terminals with Insulating Sheaths

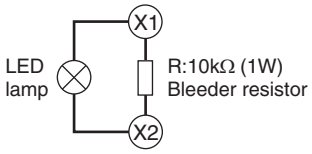


- After wiring the Switch, maintain an appropriate clearance and creepage distance.

LED Lamps

- The LED current-limiting resistor is built-in, so internal resistance is not required.
- If commercially available LEDs are used, select the ones that meet the following conditions:
  Base: BA9S/13
  Overall length: 26 mm max.
  Power consumption: 2.6 W max.
  When DC-specific LEDs are used, wire the Switch so that the X1 terminal is positive.
- Mis-lighting of the LED
  The LED lights with approx. 0.1 mA or less of micro-current. Take a countermeasure like adding a resistor to prevent mis-lighting in parallel to the LED.
  The micro-current varies with the machine (leak current or stray capacity between cables, etc.). Select resistance value and allowable power consumption that meet the actual current.

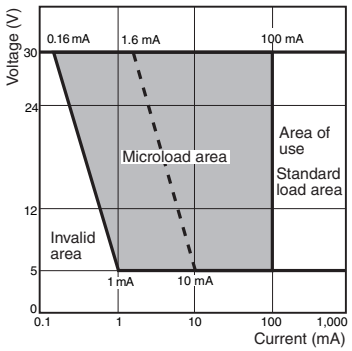
(Circuit example)
In case of using 24 VAC/VDC, Direct lighting



- Do not use a lamp that does not satisfy the rating.

Using the Microload

Contact failure may occur if a Switch designed for a standard load is used to switch a microload. Use Switches within the application ranges shown in the following graph. Even within the application range, insert a contact protection circuit, if necessary, to prevent the reduction of life expectancy due to extreme wear on the contacts caused by loads where inrush current occurs when the contact is opened and closed.
The minimum applicable load is the N-level reference value. This value indicates the malfunction reference level for the reliability level of 60% (λ_{60}) (conforming to JIS C5003).
The equation, $\lambda_{60} = 0.5 \times 10^{-6}$/time indicates that the estimated malfunction rate is less than 1/2,000,000 with a reliability level of 60%.



Be sure to read the *"Safety Precautions"* on page 37.

Emergency Stop Pushbutton Switches (22-dia. or 25-dia.) with Push-In Plus technology

A22NE-P

Install in 22-dia. or 25-dia. Panel Cutout

(When Using a Ring)

- The small size of the control panel is realized by conserving space and changing the direction of the wiring.
- Since there is no looseness in the wiring, there is a reduction in the maintenance efforts.
- A lock lever mechanism that can be easily operated is adopted.
- A maximum of up to six contact points can be combined together in the contact-point configuration.
- Oil-resistant to IP65 (non-lighted models) / IP65 (lighted models) / Supports IP69K high-temperature, high-pressure cleaning (push-pull models).

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

⚠ Be sure to read the "*Safety Precautions*" on pages 28 and 37.

Model Number Structure

Model Number Legend (Completely Assembled)

.....Shipped as a set which includes the Operation Unit, LED Lamp (lighted model only), Mounting Latches, Lighting Units (lighted model only), and Switch Block.

A22NE- 1 2 - 3 4 - 5 - 6 **(Example: A22NE-M-P102-N)**

1. Operation Unit size (diameter)

Code	Description
S	30 dia.
M	40 dia.
L	60 dia.

2. Reset function

Code	Description
None	Turn-reset
P	Pull-reset ✻

✻ The pull-reset type is only available on the 40 dia. Operation Unit, non-lighted type. Not available on lighted types.

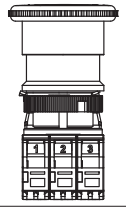
3. Contact specification/Terminal specification

Code	Description
P	Standard load/Push-in plus terminal block

4. Contacts

Code	Number of Switch Blocks		Unit position					
			Non-lighted			Lighted		
	NO	NC	1	2	3	1	2	3
002	0	1	---	---	NC	---	Lighting unit	NC
102	1	1	NO	---	NC	NO	Lighting unit	NC
202	0	2	NC	---	NC	NC	Lighting unit	NC
212	1	2	NC	NO	NC	---		
222	0	3	NC	NC	NC			

Note 1. NO: 1a-contact NC: 1b-contact
2. For details on the unit position, refer to the figure below.



5. LED lamp voltage

Code	Description	LED Lamp Voltage
N	Non-lighted	---
A	Lighted (LED) ✻	6 VAC/DC
B		12 VAC/DC
C		24 VAC/DC
D		100/110/120 VAC
E		200/220/230/240 VAC

✻ Lighting color is red.

6. Others (Degree of Protection/Control box)

Code	Configuration
None	IP65
69K	IP69K
B ✻	Built-in control box

✻ One-contact unit type.

Ordering Information

List of Models (Completely Assembled)

Non-lighted Models

Appearance	Operation	Degree of Protection	Contact configuration ✻	Set Model	Color of cap
	40-dia. head Medium Pull-reset A22NE-MP-P□□2-N	IP65 oil-resistant models	1NC (1)	**A22NE-MP-P002-N**	Red
			1NC, 1NO (2)	**A22NE-MP-P102-N**	
			2NC (2)	**A22NE-MP-P202-N**	
			2NC, 1NO (3)	**A22NE-MP-P212-N**	
			3NC (3)	**A22NE-MP-P222-N**	
	40-dia. head Medium Pull-reset A22NE-MP-P□□2-N-69K	IP69K	1NC (1)	**A22NE-MP-P002-N-69K**	
			1NC, 1NO (2)	**A22NE-MP-P102-N-69K**	
			2NC (2)	**A22NE-MP-P202-N-69K**	
			2NC, 1NO (3)	**A22NE-MP-P212-N-69K**	
			3NC (3)	**A22NE-MP-P222-N-69K**	
	30-dia. head Small Turn-reset A22NE-S-P□□2-N	IP65 oil-resistant models	1NC (1)	**A22NE-S-P002-N**	
			1NC, 1NO (2)	**A22NE-S-P102-N**	
			2NC (2)	**A22NE-S-P202-N**	
			2NC, 1NO (3)	**A22NE-S-P212-N**	
			3NC (3)	**A22NE-S-P222-N**	
	40-dia. head Medium Turn-reset A22NE-M-P□□2-N		1NC (1)	**A22NE-M-P002-N**	
			1NC, 1NO (2)	**A22NE-M-P102-N**	
			2NC (2)	**A22NE-M-P202-N**	
			2NC, 1NO (3)	**A22NE-M-P212-N**	
			3NC (3)	**A22NE-M-P222-N**	
	60-dia. Large Turn-reset A22NE-L-P□□2-N		1NC (1)	**A22NE-L-P002-N**	
			1NC, 1NO (2)	**A22NE-L-P102-N**	
			2NC (2)	**A22NE-L-P202-N**	
			2NC, 1NO (3)	**A22NE-L-P212-N**	
			3NC (3)	**A22NE-L-P222-N**	

✻The number in parentheses ( ) indicates the number of switch units.

Lighted Model

Appearance	Operation	Degree of Protection	Contact configuration ✻	LED lamp voltage	Set Model	Color of cap
	40-dia. head Medium Turn-reset A22NE-M-P□□2-A	IP65	1NC (1)	6 VAC/VDC	**A22NE-M-P002-A**	Red
			1NC, 1NO (2)		**A22NE-M-P102-A**	
			2NC (2)		**A22NE-M-P202-A**	
	40-dia. head Medium Turn-reset A22NE-M-P□□2-B		1NC (1)	12 VAC/VDC	**A22NE-M-P002-B**	
			1NC, 1NO (2)		**A22NE-M-P102-B**	
			2NC (2)		**A22NE-M-P202-B**	
	40-dia. head Medium Turn-reset A22NE-M-P□□2-C		1NC (1)	24 VAC/VDC	**A22NE-M-P002-C**	
			1NC, 1NO (2)		**A22NE-M-P102-C**	
			2NC (2)		**A22NE-M-P202-C**	
	40-dia. head Medium Turn-reset A22NE-M-P□□2-D		1NC (1)	100, 110, 120 VAC	**A22NE-M-P002-D**	
			1NC, 1NO (2)		**A22NE-M-P102-D**	
			2NC (2)		**A22NE-M-P202-D**	
	40-dia. head Medium Turn-reset A22NE-M-P□□2-E		1NC (1)	220, 230, 240 VAC	**A22NE-M-P002-E**	
			1NC, 1NO (2)		**A22NE-M-P102-E**	
			2NC (2)		**A22NE-M-P202-E**	

✻The number in parentheses ( ) indicates the number of switch units.

Switch with Integrated Control Box

Appearance	Contact configuration (Number of switch blocks)	Model
	1NC (1)	**A22NE-M-P002-N-B**
	1NC, 1NO (2)	**A22NE-M-P102-N-B**
	2NC (2)	**A22NE-M-P202-N-B**

Subassembled .....The Operation Unit, LED Lamp, Mounting Latches, Switch Blocks, and Lighting Unit 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.

Non-lighted

Operation Unit

Lighted

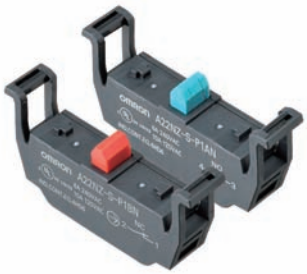
Operation Unit

Mounting Latches

LED Lamp

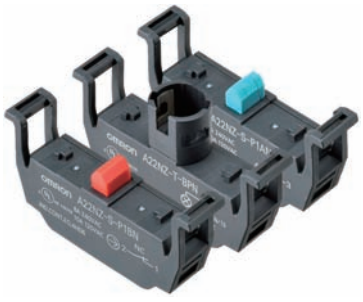
Switch Blocks ✻

Push-in Plus Terminal Block



Switch Blocks + Lighting Unit

Push-in Plus Terminal Block



✻ Up to three Switch Blocks can be mounted for multiple contacts.

Operation Unit

Non-lighted

Function	Sealing capability	Size: Small (30 dia.)	Medium (40 dia.)	Large (60-dia.)
		Single item order model		
Pull-reset	IP65 oil-resistant models	---	A22NE-MP-N 	---
	IP69K	---	A22NE-MP-N-69K 	---
Turn-reset	IP65 oil-resistant models	A22NE-S-N 	A22NE-M-N 	A22NE-L-N 
			A22NE-MRO-N A22NE-MRO-N-RD 	
			A22NE-MRS-N A22NE-MRS-N-RD 	

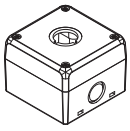
Lighted

Function	Sealing capability	Size: Medium (40 dia.)
		Single item order model
Turn-reset	IP65	A22NE-M-L 

LED lamp

Appearance	LED light	Rated voltage	Model	Remarks
	Red	6 VAC/VDC	A22NZ-L-RA	These LED lamps are for exclusive use with the A22N and the A22NE-P. These are provided with the completely assembled set of lighted models. Order LED lamps only when replacing them.
		12 VAC/VDC	A22NZ-L-RB	
		24 VAC/VDC	A22NZ-L-RC	
		100, 110, 120 VAC	A22NZ-L-RD	
		200, 220, 230, 240 VAC	A22NZ-L-RE	

Accessories (Order Separately)

Item	Appearance	Contact specifications		Model	Remarks
Switch Blocks (one contact)		1NO (Blue)	Standard load	**A22NZ-S-P1AN**	Provided as standard. Order Switch Blocks only when adding or replacing them.
		1NC (Red)	Standard load	**A22NZ-S-P1BN**	
Switch Blocks (two contacts)		2NC (Red)	Standard load	**A22NZ-S-P2BN**	Order Switch Blocks only when adding or replacing them.
		1NO/1NC (White)	Standard load	**A22NZ-S-P2CN**	
Lighting unit		6 VAC/VDC		**A22NZ-T-APN**	These are provided with the completely assembled set of lighted models. Order Lighting Units only when replacing them.
		12 VAC/VDC		**A22NZ-T-BPN**	
		24 VAC/VDC		**A22NZ-T-CPN**	
		100, 110, 120 VAC		**A22NZ-T-DPN**	
		200, 220, 230, 240 VAC		**A22NZ-T-EPN**	
Mounting Latches		---		**A22NZ-H-02**	This Mounting Latch is for exclusive use with the A22NE-P. It is provided with the completely assembled set. Order Mounting Latches only when mounting Switch Blocks or Lighting Units that are purchased individually.
Control Boxes (Enclosures)		One hole, yellow box		**A22NZ-A-B01Y**	Material: Polycarbonate resin. Can be combined with 1-contact Switch Blocks. (Cannot be combined with 2-contact Switch Blocks.) ✻

Note: For details on the accessories common to the screw terminal block types and push-in plus terminal block types, refer to *"Common Accessories and Tools (Order Separately)"* on page 32.

✻ The A22NZ-A-B01Y Control Box cannot be used in combination with the A22Z-3476-1 90-dia. Legend Plates for Emergency Stop or the A22Z-EG□ E-stop Shrouds.

Specifications

Certified Standard Ratings

- UL508 (File No. E76675), CSA C22.2 No.14
  6 A at 240 VAC, 10 A at 120 VAC
- TÜV (EN60947-5-1) - Certified direct opening - (EN60947-5-5)
  AC-15 3 A at 240 VAC
  DC-13 4 A at 24 VDC
- CCC (GB14048.5)
  AC-15 3 A at 240 VAC
  DC-13 4 A at 24 VDC

Applicable Standards

UL1059, UL486E (Push-in Plus Terminal Block Types)

Note: Use a 10 A fuse type gI or gG that conforms to IEC60269 as a short-circuit protection device. This fuse is not provided in the main unit.

Certified Standards

Certification body	Standards	File No.
UL ✻	UL508, C22.2 No.14	E76675
TÜV SÜD	EN60947-5-1 (Certified direct opening), EN60947-5-5	Consult your OMRON representative for details.
CQC (CCC)	GB14048.5	2017010305959182

Note: Only models with NC contacts have a direct opening mechanism.
✻ UL-certification for CSA C22.2 No. 14 has been obtained.

Ratings

Contacts (Standard Load)

Rated insulation voltage (V)	Rated carry current (A)	Rated voltage (V)	Rated current (A)			
			AC15 (Inductive load)	AC12 (Resistive load)	DC13 (Inductive load)	DC12 (Resistive load)
600	10	24 VAC	10	10	---	---
		120 VAC	6	10		
		240 VAC	3	6		
		380 VAC	1.9	2		
		440 VAC	1.6	2		
		24 VDC	---	---	4	8
		120 VDC			1.1	2.2
		240 VDC			0.55	1.1

Note: 1. The above ratings were obtained by conducting tests under the following conditions.
(1) Ambient temperature: 20°±2°C
(2) Ambient humidity: 65±5%
(3) Operating frequency: 30 operations/minute

2. Minimum applicable load: 10 mA at 5 VDC (Resistive load)
The operating range may vary depending on the usage conditions and type of load.

LED Lamp

Rated voltage	Operating voltage	Current value
6 VAC/VDC	6 VAC/VDC ± 10%	Approx. 11 mA
12 VAC/VDC	12 VAC/VDC ± 10%	Approx. 12 mA
24 VAC/VDC	24 VAC/VDC ± 10%	Approx. 12 mA
100 VAC	100 VAC ± 10%	Approx. 12 mA
110 VAC	110 VAC ± 10%	
120 VAC	100 VAC to 130 VAC	
200 VAC	200 VAC ± 10%	Approx. 12 mA
220 VAC	220 VAC ± 10%	
230 VAC	230 VAC ± 10%	
240 VAC	220 VAC to 250 VAC	

Characteristics

Item	Operation	Turn-reset		Pull-reset	
		Non-lighted model	Lighted Model	Non-lighted model	
		A22NE-□-P□□□-N	A22NE-M-P□□□-□	A22NE-MP-P□□□-N	A22NE-MP-P□□□-N-69K
Allowable operating frequency	Mechanical	30 operations/minute or less (One operation consists of set and reset operations.)			
	Electrical	30 operations/minute or less (One operation consists of set and reset operations.)			
Insulation resistance ∗1		100 MΩ min. (at 500 VDC)			
Contact resistance		100 mΩ max. (initial value)			
Dielectric strength	Between terminals of same polarity*1	2,500 VAC, 50/60 Hz 1 minute (initial value)			
	Between each terminal and ground	2,500 VAC, 50/60 Hz 1 minute (initial value)			
Vibration resistance	Malfunction	10 to 55 Hz, 1.5 mm double amplitude (contact separation within 1 ms)			
Shock resistance	Malfunction	250 m/s^2 max. (contact separation within 1 ms)			
Durability	Mechanical	300,000 operations min. (One operation consists of set and reset operations.)			100,000 operations min. (One operation consists of set and reset operations.)
	Electrical	300,000 operations min. (One operation consists of set and reset operations.)			100,000 operations min. (One operation consists of set and reset operations.)
Ambient operating temperature ∗2		-20 to +70°C	-20 to +55°C	-20 to +70°C	
Ambient operating humidity		35 to 85% RH			
Ambient storage temperature ∗2		-40 to +70°C			
Degree of protection∗3		IP65 (oil-resistant) ∗4	IP65	IP65 (oil-resistant) ∗4	IP69K
Electric shock protection class		Class II			
PTI (tracking characteristic)		175			
Degree of contamination		3 (EN 60947-5-1)			
Minimum direct opening stroke		11 mm			
Minimum direct opening force		45 N			
Conditional short-circuit current		100 A (EN 60947-5-1)			
Wight (for a 40-dia. head 1NC/1NO Operation Unit)		Approx. 55g	Approx. 60g	Approx. 85 g	Approx. 115 g

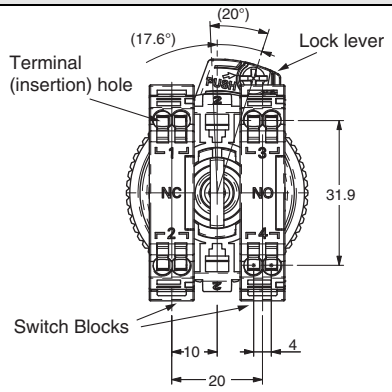
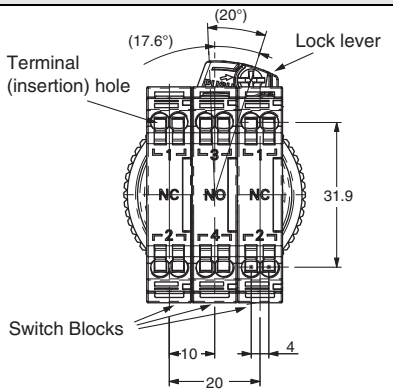
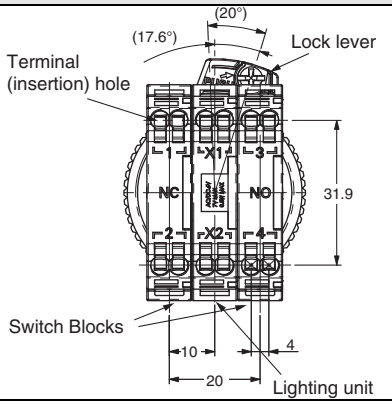
∗1. State when an LED is not added between terminals of the same polarity on a lighting unit. Does not apply to lighted-type 100 to 200 V lighting units.
∗2. With no icing or condensation.
∗3. The degree of protection from the front of the panel.
∗4. The degree of protection is IP65 even with an integrated control box, but the system is not oil resistant.

Operating Characteristics

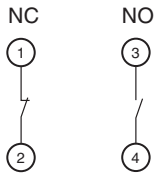
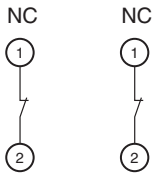
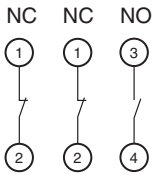
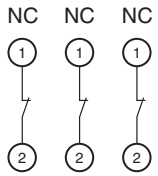
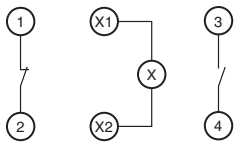
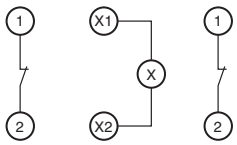
Item	Turn-reset	Pull-reset	
	IP65/IP65 oil-resistant models	IP65 oil-resistant models	IP69K
Total travel force (TTF)	45 N max.	60 N max.	70 N max.
Return force (RF)	0.25N·m ✻ max.	60 N max.	70 N max.
Total travel (TT)	10 ±1 mm	5.5 ±1 mm	5.5 ±1 mm

✻ Rotation torque value.

Terminal Arrangement (BOTTOM VIEW)

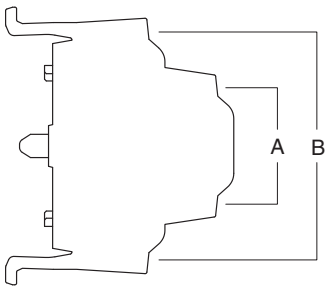
Non-lighted (two contacts)	Non-lighted (three contacts)	Lighted (two contacts)
		

Terminal connection

Type	Terminal Connection (BOTTOM VIEW)			
	1NC, 1NO (two contacts)	2NC (two contacts)	2NC, 1NO (three contacts)	3NC (three contacts)
Non-lighted				
Lighted				

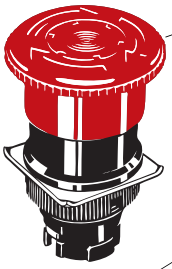
Note: The above terminal connection diagrams are examples for 1NO, 1NC (two contacts), or 2NC (two contacts).

Terminal wiring drawings of two-contact Switch Units



Type	Terminal Connection (BOTTOM VIEW)	
	2NC (two contacts)	1NC, 1NO (two contacts)
A		
B		

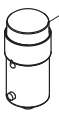
Structure and Nomenclature



Operation Unit

Color: Red

Non-lighted
LED lighting



Lamp

Light source

- LED Lamp

Switch

Mounting Latches
Switch Blocks
Lighting unit

Contact Ratings

6 A at 240 VAC
10 A at 120 VAC

Lighting Method

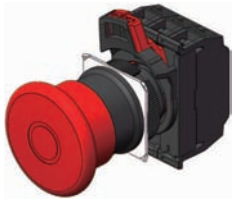
Non-lighted
Lighted (LED)

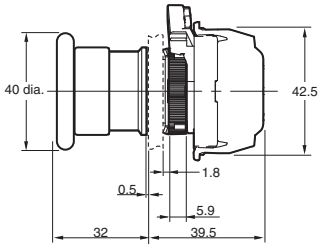
Dimensions

(Unit: mm)

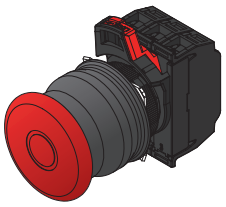
Non-lighted Models

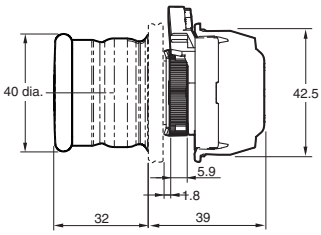
A22NE-MP-P□□2-N
Pull-reset (40-dia.) Degree of Protection: IP65



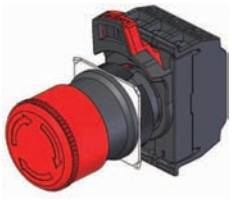


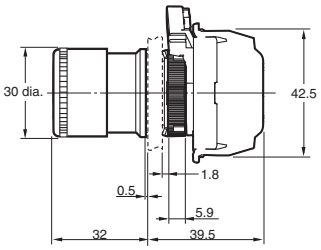
A22NE-MP-P□□2-N-69K
Pull-reset (40-dia.) Degree of Protection: IP69K



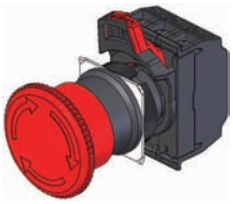


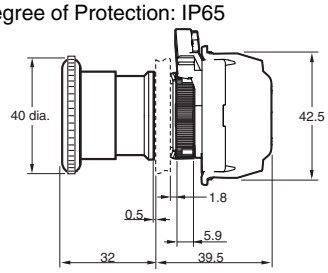
A22NE-S-P□□2-N
Small Turn-reset (30-dia.) Degree of Protection: IP65





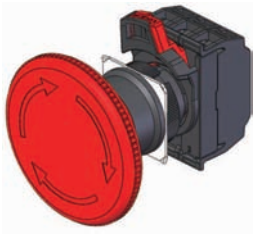
A22NE-M-P□□2-N
Medium Turn-reset (40-dia.) Degree of Protection: IP65

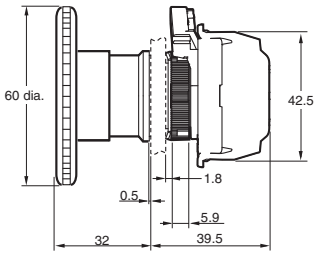




Note: The dimensions the same even if the Operation Unit is replaced with the A22NE-MR□-N or the A22NE-MR□-N-RD.

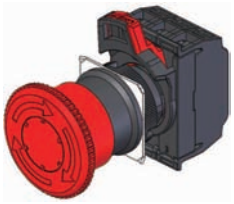
A22NE-L-P□□2-N
Large Turn-reset (60-dia.) Degree of Protection: IP65

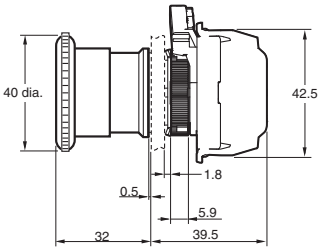




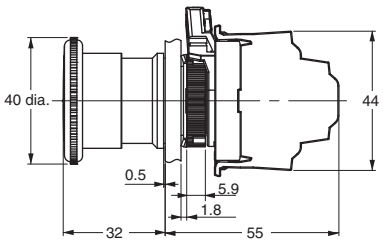
Lighted Model

A22NE-M-P□□2-□
Medium Turn-reset (40-dia.) Degree of Protection: IP65





Dimensions when a two-contact Switch Block is attached

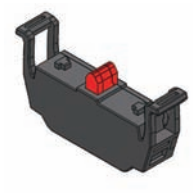


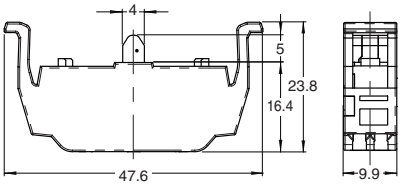
Note: Unless otherwise specified, a tolerance of ±0.8mm applies to all dimensions.

Accessories (Order Separately)

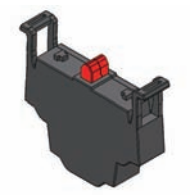
Switch Block with Push-In Plus technology

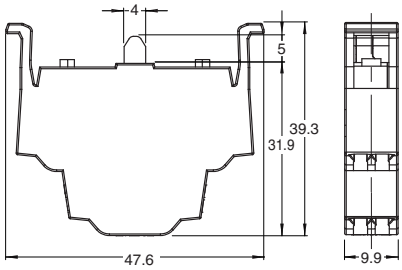
Switch Block (one contact)
A22NZ-S-P1□N



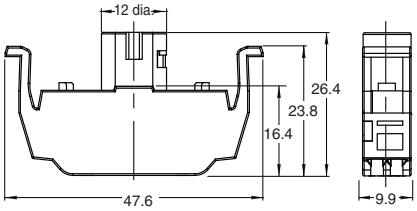


Switch Block (two contacts)
A22NZ-S-P2□N

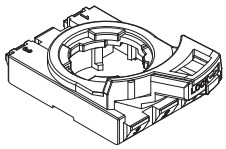


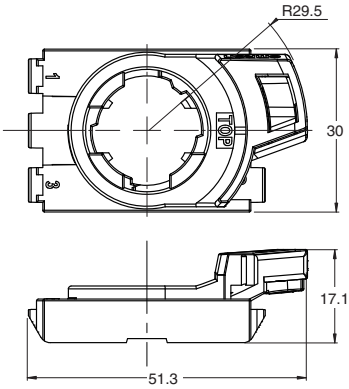


Lighting unit
A22NZ-T-□PN

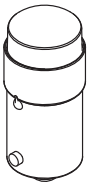


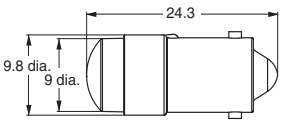
Mounting Latches
A22NZ-H-02



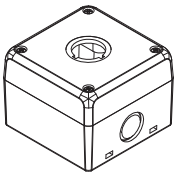


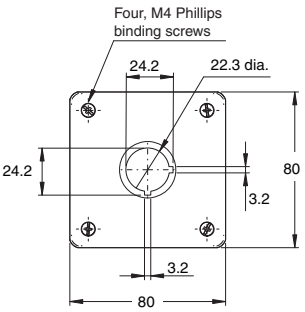
LED Lamp
A22NZ-L-□□

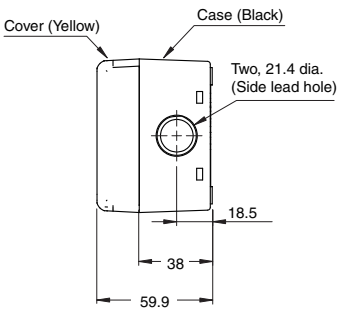


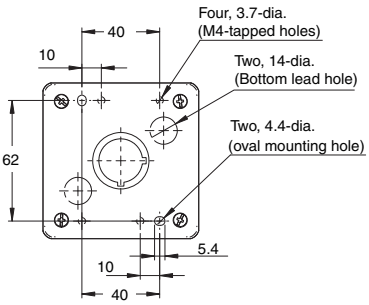


Control Box
A22NZ-A-B01Y









Note: For details on the accessories common to the screw terminal block types and push-in plus terminal block types, refer to *"Common Accessories and Tools (Order Separately)"* on page 32.