

Emergency Stop Switch

A22E

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

- Positive opening mechanism with minimum contact separation of 3 mm in accordance with EN60947-5-1, (→). (only for NC contacts)
- Safety lock mechanism prevents misuse. (No tampering – in accordance with EN 418)
- Easy mounting and removal of Switch Blocks using an incorporated lever.
- Finger protection mechanism on Switch Unit provided as a standard feature.
- Install using either round, forked crimp terminals, or ferrules.



For additional installation of emergency-stop switches.



A22Z-3466-1



A22E-□-□

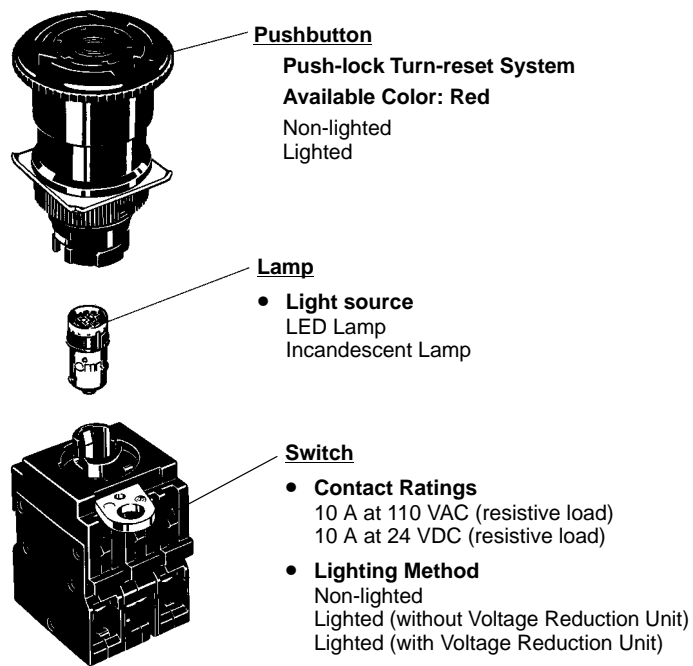
Emergency-stop switches can be installed easily far from machines.



A22Z-B101Y
Control Box

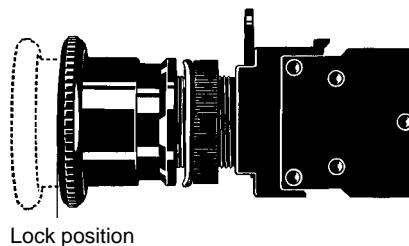
Ordering Information

■ Construction



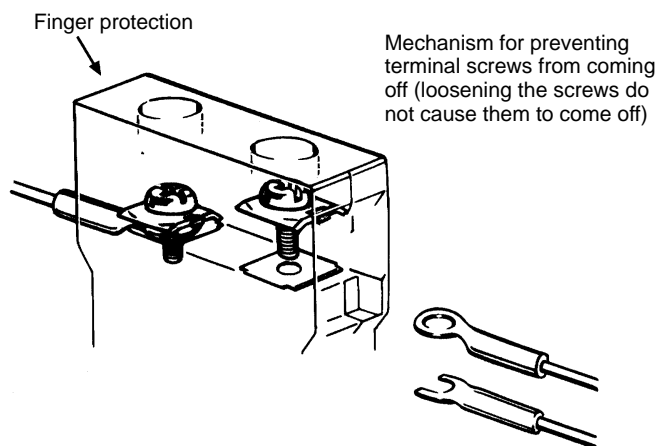
(The above figures are examples of the lighted model.)

Safety Lock Mechanism to Prevent Misuse



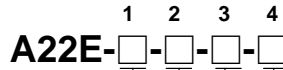
This Switch can be intentionally used to stop equipment in an emergency. Even if an object or person touches the Pushbutton by mistake, the contact will not be released unless the Pushbutton reaches the lock position.

This Switch uses a finger protection mechanism to prevent electrical shocks. Moreover, it is provided with a mechanism to prevent terminal screws from coming off and also allows connection to either round or forked crimp terminals.



■ Model Number Legend (Completely Assembled)

Shipped as a set which includes the Pushbutton, Lamp (lighted models only), and Switch.



1 Lighted/Non-lighted

Code	Description
None	Non-lighted
L	Lighted (see note)

Note: Lighted Emergency Stop Switches are available only for the 40-dia. push-lock turn-reset models.

2 Head Size

Code	Description	
MP	40 dia.	Push-pull
LP	60 dia.	
S	30 dia.	Push-lock, turn-reset
M	40 dia.	
L	60 dia.	
SK	30 dia.	
MK	40 dia.	Push-lock key reset

3 Light Source

Without Voltage Reduction Unit		
Code	Operating Voltage	
None	Non-lighted	
6D	LED	6 VDC
6A		6 VAC
12A		12 VAC/VDC
24A		24 VAC/VDC
With Voltage Reduction Unit		
None	Non-lighted	
T1	LED	110 VAC*1
T2		220 VAC*2

Note: The LED lamp (24 VAC/VDC) can be lit by directly applying 110 VAC/VDC (220 VAC/VDC) to the lamp terminal. LED incorporates the 24-VAC/VDC models.



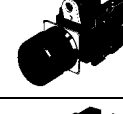
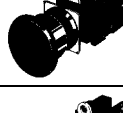



*1) Operational voltage: 95 to 110 VAC
 *2) Operational voltage: 190 to 230 VAC

4 Contacts



Code	Description
01	SPST-NC
11	SPST-NO + SPST-NC
02	DPST-NC

■ Emergency Stop Switch (Completely Assembled)

Non-lighted Models

Appearance	Output	Push-lock turn-reset system	Color of cap
40-dia. head Push-pull  A22E-MP	SPST-NC	A22E-MP-01	Red
	SPST-NO/SPST-NC	A22E-MP-11	
	DPST-NC	A22E-MP-02	
60-dia. head Push-pull  A22E-LP	SPST-NC	A22E-LP-01	
	SPST-NO/SPST-NC	A22E-LP-11	
	DPST-NC	A22E-LP-02	
30-dia. head Push-lock Turn-reset  A22E-S	SPST-NC	A22E-S-01	
	SPST-NO/SPST-NC	A22E-S-11	
	DPST-NC	A22E-S-02	
40-dia. head Push-lock Turn-reset  A22E-M	SPST-NC	A22E-M-01	
	SPST-NO/SPST-NC	A22E-M-11	
	DPST-NC	A22E-M-02	
60-dia. head Push-lock Turn-reset  A22E-L	SPST-NC	A22E-L-01	
	SPST-NO/SPST-NC	A22E-L-11	
	DPST-NC	A22E-L-02	
30-dia. head Push-lock Key-reset  A22E-SK	SPST-NC	A22E-SK-01	
	SPST-NO/SPST-NC	A22E-SK-11	
	DPST-NC	A22E-SK-02	
40-dia. head Push-lock Key-reset  A22E-MK	SPST-NC	A22E-MK-01	
	SPST-NO/SPST-NC	A22E-MK-11	
	DPST-NC	A22E-MK-02	

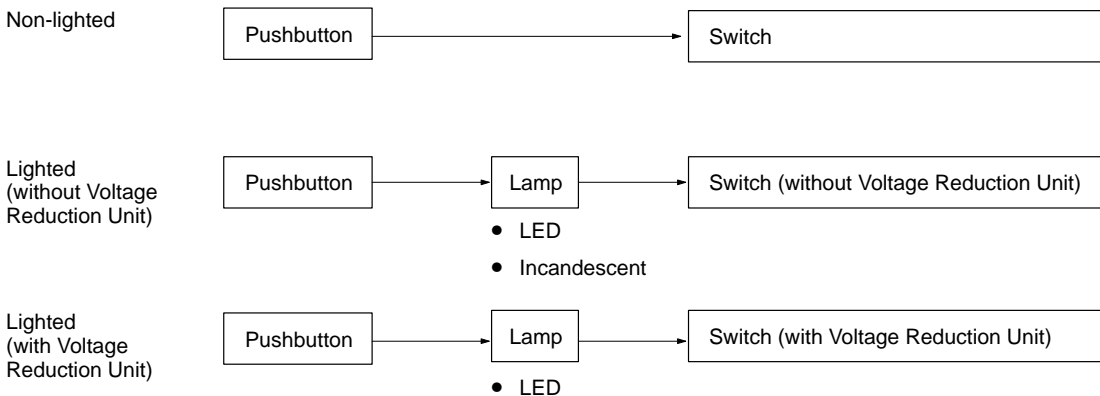
Lighted Models

Appearance	Output	Lighting	Rated voltage	Push-lock turn-reset system	Color of cap
40-dia. head Push-lock Turn-reset 	SPST-NC	LED	6 VDC	A22EL-M-6D-01	Red
			6 VAC	A22EL-M-6A-01	
			12 VAC/VDC	A22EL-M-12A-01	
			24 VAC/VDC	A22EL-M-24A-01	
	SPST-NO/SPST-NC		6 VDC	A22EL-M-6D-11	
			6 VAC	A22EL-M-6A-11	
			12 VAC/VDC	A22EL-M-12A-11	
			24 VAC/VDC	A22EL-M-24A-11	
	DPST-NC		6 VDC	A22EL-M-6D-02	
			6 VAC	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 	SPST-NC	110 VAC	A22EL-M-T1-01		
	SPST-NO/SPST-NC	220 VAC	A22EL-M-T2-01		
		110 VAC	A22EL-M-T1-11		
	DPST-NC	220 VAC	A22EL-M-T2-11		
		110 VAC	A22EL-M-T1-02		
		220 VAC	A22EL-M-T2-02		

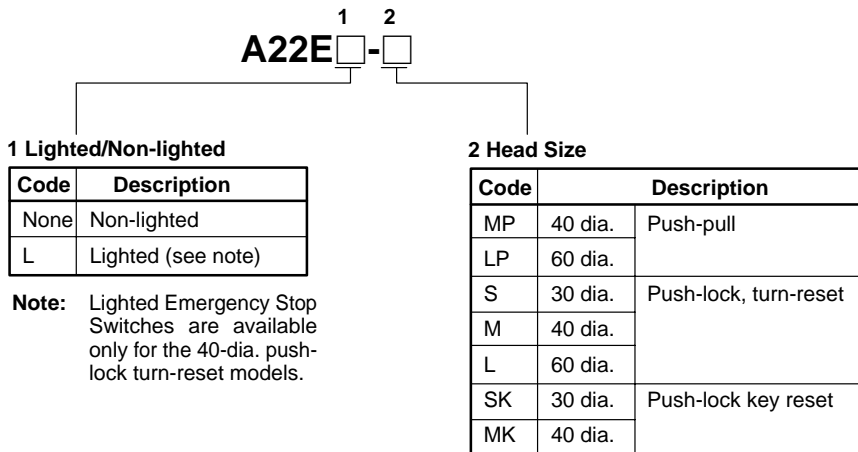
■ Model Number Legend (Subassembly)

The Pushbutton, 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.

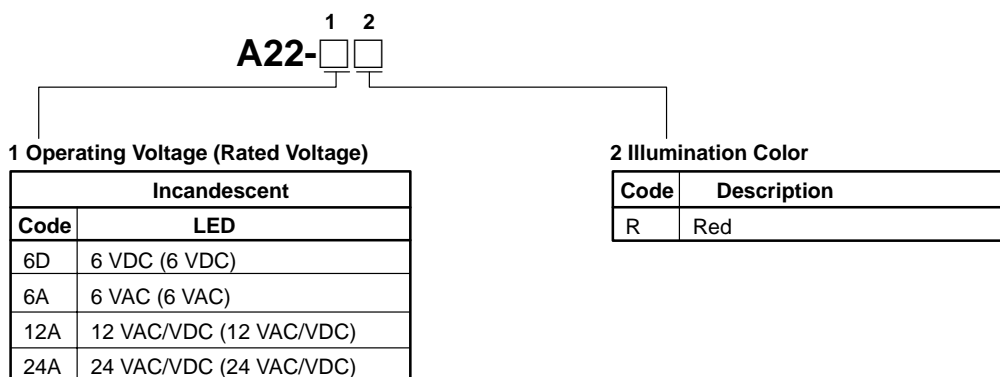
Unit Combinations



1. Pushbutton Lighted/Non-lighted

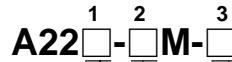


2. Lamp



3. Switch

Lighted/Non-lighted



1 Lighted/Non-lighted

Code	Description
None	Non-lighted
L	Lighted

2 Contacts

Code	Description
01	SPST-NC
11	SPST-NO + SPST-NC
02	DPST-NC

3 Voltage Reduction Unit (Lighted Models Only)

Code	Description
None	Without Voltage Reduction Unit
T1	110 VAC* ¹
T2	220 VAC* ²




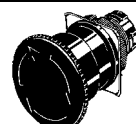

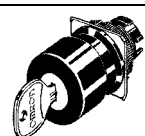
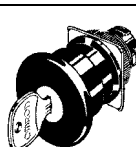
*1) Operational voltage: 95 to 110 VAC

*2) Operational voltage: 190 to 230 VAC

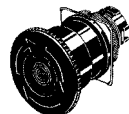
■ Emergency Stop Switch (Subassembly)

Pushbuttons

Non-lighted


Sealing capability and size	IP65 oil-resistant models		
	Small (30 dia.)	Medium (40 dia.)	Large (60 dia.)
Push-pull	---	A22E-MP 	A22E-LP 
Push-lock, Turn-reset	A22E-S 	A22E-M 	A22E-L 
Push-lock, key-reset	A22E-SK 	A22E-MK 	---

Lighted

Sealing capability and size	IP65
	Medium (40 dia.)
Push-lock, Turn-reset	A22EL-M 


■ Lamp

LED

Rated voltage	6 VDC	6 VAC	12 VAC/VDC	24 VAC/VDC	Super-bright 24 VAC/VDC
LED light 					
Red	A22-6DR	A22-6AR	A22-12AR	A22-24AR	A22-24ASR

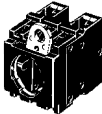
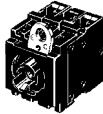
Note: For voltage-reduction lighting, use the A22-24AR.

Incandescent

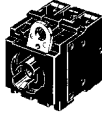
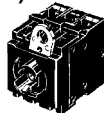
Rated voltage	6 VAC	14 VAC	28 VAC	130 VAC
	A22-5	A22-12	A22-24	A22-H1

Switch (Standard Load)

Without Voltage Reduction Unit












		Classification	Non-lighted	Lighted
		Appearance		
		Switch Action	Model	Model
Contacts				
For standard loads	SPST-NO		A22-10M	A22L-10M
	SPST-NC		A22-01M	A22L-01M
	SPST-NO + SPST-NC		A22-11M	A22L-11M
	DPST-NO		A22-20M	A22L-20M
	DPST-NC		A22-02M	A22L-02M

With Voltage Reduction Unit

		Classification	Lighted (110 VAC)	Lighted (220 VAC)
		Appearance		
		Switch Action	Model	Model
Contacts				
For standard loads	SPST-NO		A22L-10M-T1	A22L-10M-T2
	SPST-NC		A22L-01M-T1	A22L-01M-T2
	SPST-NO + SPST-NC		A22L-11M-T1	A22L-11M-T2
	DPST-NO		A22L-20M-T1	A22L-20M-T2
	DPST-NC		A22L-02M-T1	A22L-02M-T2

- Note:**
1. The above illustrations are for the DPST-NO contact.
 2. When using with a Voltage Reduction Unit, use the A22-24AR.

Accessories

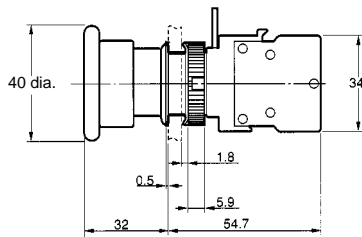
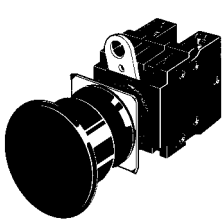
Item	Appearance	Classification	Model	Remarks	
Switch Blocks		SPST-NO	A22-10	Provided as standard. Order Switch Blocks only when adding or replacing them.	
		SPST-NC	A22-01		
Lamp Sockets		Direct lighting	A22-TN	Used when changing the lighting method.	
		Voltage-reduction lighting	110 VAC		A22-T1
			220 VAC		A22-T2
Mounting Latches		For momentary-action models	A22-3200	Provided as standard. Order Mounting Latches only when mounting Switch Blocks or Lamp Sockets that are purchased individually.	
		For alternate-action models	A22-3210		
Lock Ring		Rounded shape	A22Z-3360	The body is equipped with a Lock Fitting. This Lock Fitting is used when a more secure lock feature is required.	
Hole Plug		Round	A22Z-3530	Can be plugged into pre-cut panel holes for future expansion. The color is black.	
Control Boxes (Enclosures)		One hole	A22Z-B101	Material: Polycarbonate resin	
		One hole, yellow box (for emergency stop)	A22Z-B101Y		
		Two holes	A22Z-B102		
		Three holes	A22Z-B103		
Connectors		Applicable cable diameter (mm)	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.	
Legend Plates for Emergency Stop		60-dia. black letters on yellow back-ground	A22Z-3466-1	"EMERGENCY STOP" is indicated on the plate.	
		90-dia. black letters on yellow back-ground	A22Z-3476-1		
Lamp Extractor		—	A22Z-3901	Rubber tool used to replace Lamps easily	
Tightening Tool		—	A22Z-3905	Tool used to tighten nuts from the back of the panel	

Dimensions

Note: All units are in millimeters unless otherwise indicated.

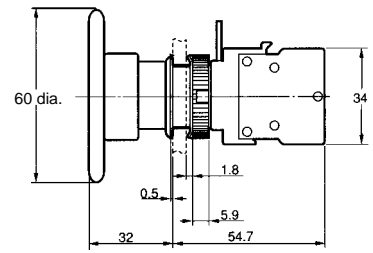
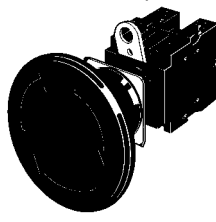
A22E-MP

Non-lighted models
40-dia. Push-pull



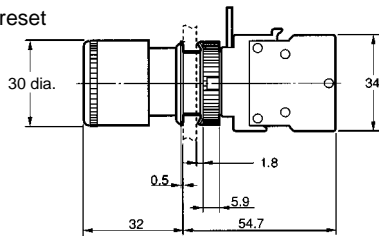
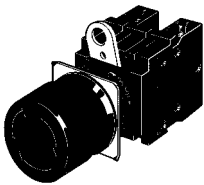
A22E-LP

Non-lighted models
60-dia. Push-pull



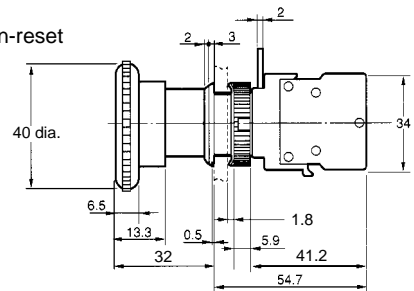
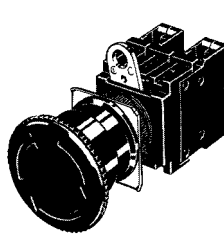
A22E-S

Non-lighted models
30-dia. Push-lock, Turn-reset



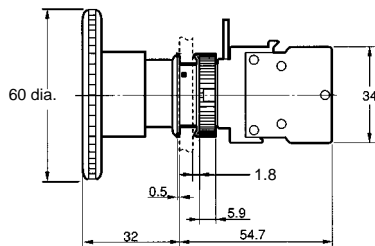
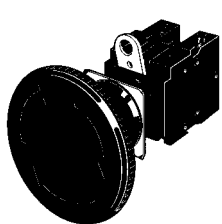
A22E-M

Non-lighted models
40-dia. Push-lock, Turn-reset



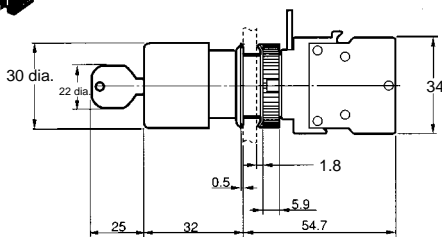
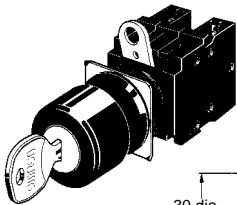
A22E-L

Non-lighted models
60-dia. Push-lock, Turn-reset



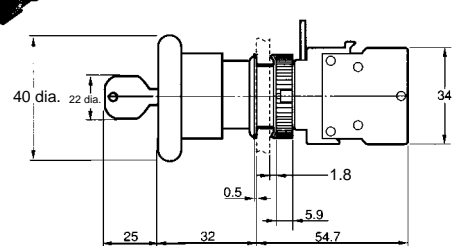
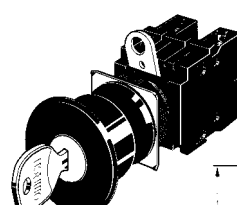
A22E-SK

Non-lighted models
30-dia. Push-lock, Key-reset



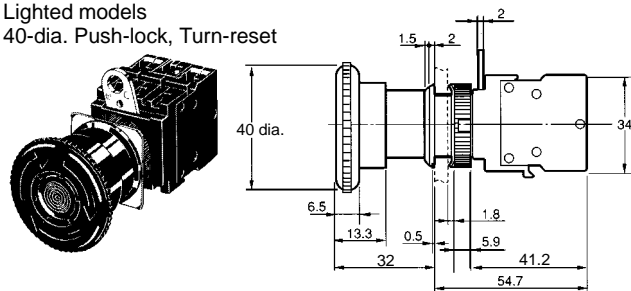
A22E-MK

Non-lighted models
40-dia. Push-lock, Key-reset



A22EL-M

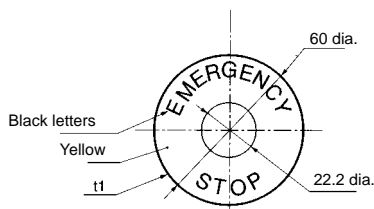
Lighted models
40-dia. Push-lock, Turn-reset



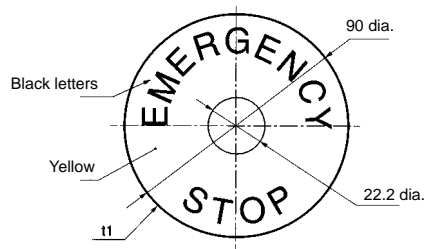
■ Dimensions for Accessories

Legend Plates For Emergency-stop

A22Z-3466-1

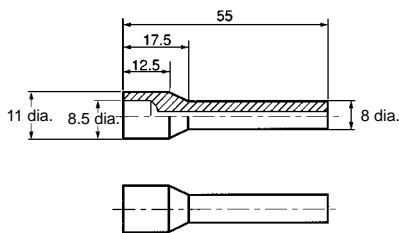


A22Z-3476-1



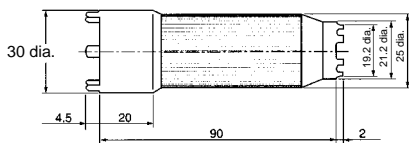
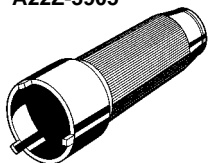
Lamp Extractor

A22Z-3901



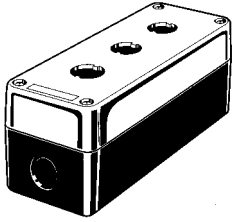
Tightening Wrench

A22Z-3905

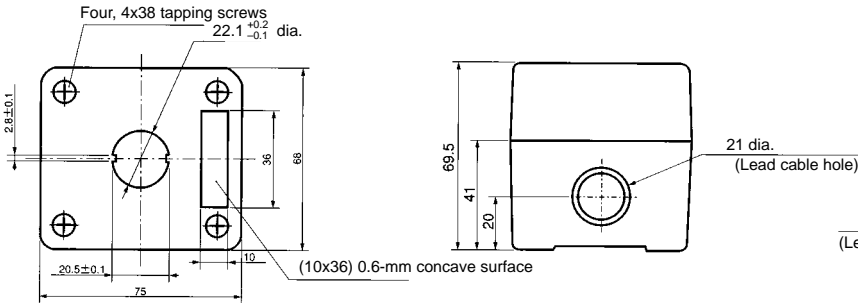


Control Box (Enclosure)

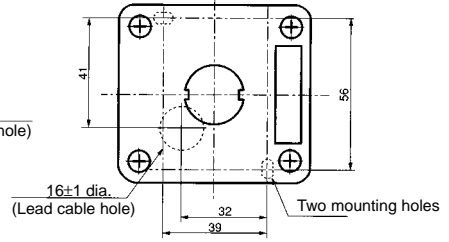
A22Z-B10□



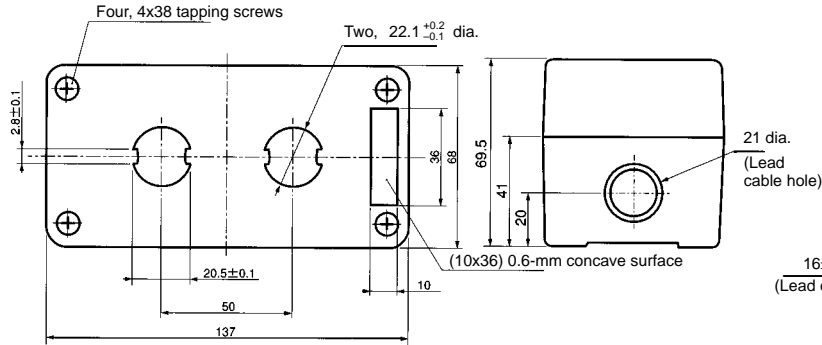
A22Z-B101 (One Hole)
A22Z-B101Y



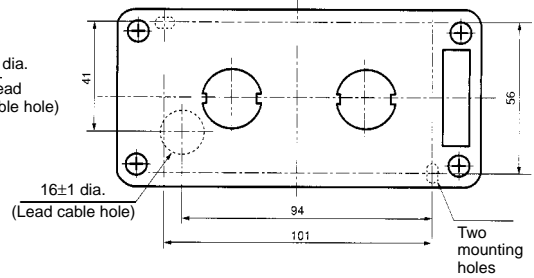
Cable Port Hole (Top View)



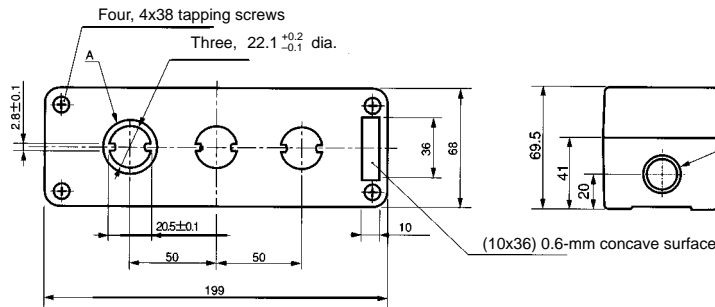
A22Z-B102 (Two Holes)



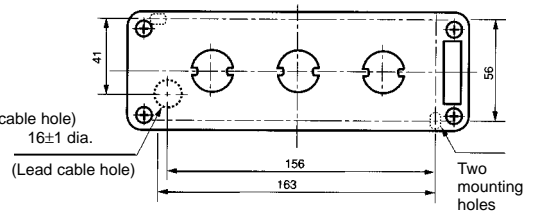
Cable Port Hole (Top View)



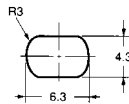
A22Z-B103 (Three Holes)



Cable Port Hole (Top View)

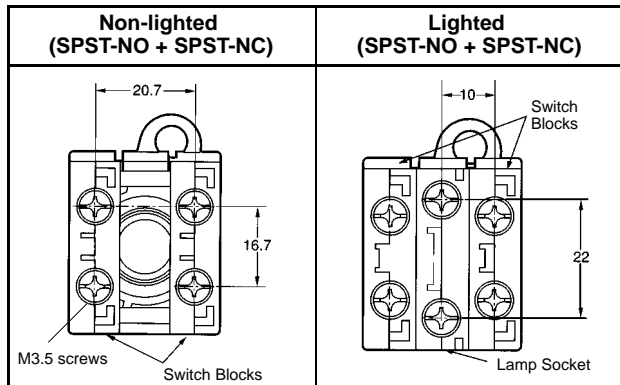


Panel Mounting Hole

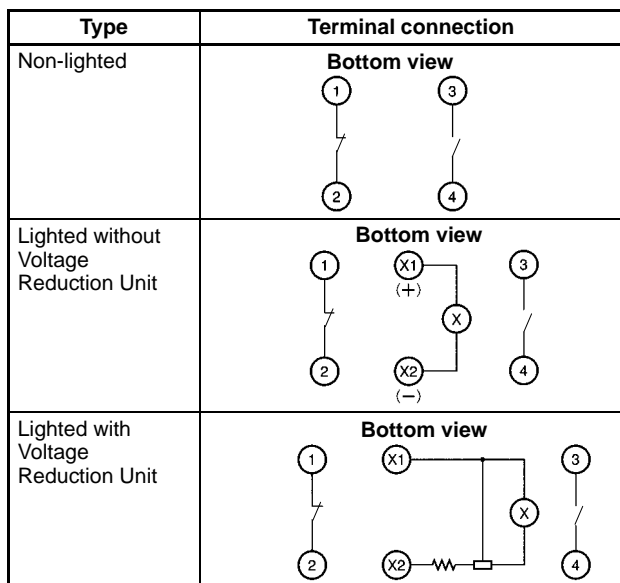


■ Terminal Arrangement

Terminal Arrangement (Bottom View)

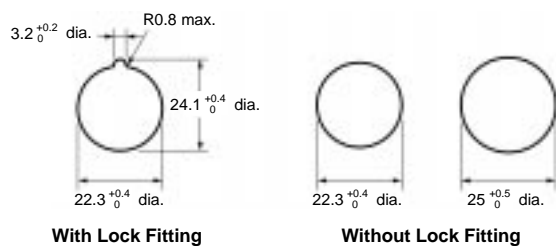


Terminal Connection



Note: The above terminal connection diagrams are examples for SPST-NO + SPST-NC.

Panel Cutout Dimensions



- Note:**
1. When applying coating such as paint to the panel, the dimensions should be those after the application of coating.
 2. Recommended panel thickness: 1 to 5 mm.
 3. Use an A22Z-R25 Ring when mounting to a panel with 25-mm holes.

Precautions

■ Correct Use

Mounting

Always make sure that the power is turned OFF before mounting, removing, or wiring the Switch, or performing maintenance.

Do not tighten the mounting ring more than necessary using tools such as pointed-nose pliers. Doing so will damage the mounting ring. The tightening torque is 0.98 to 1.96 N • m.

Recommended panel thickness: 1 to 5 mm.

Wiring

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

When DC-specific LEDs are used, wire the Switch so that the X1 terminal is positive.

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.

Operating Environment

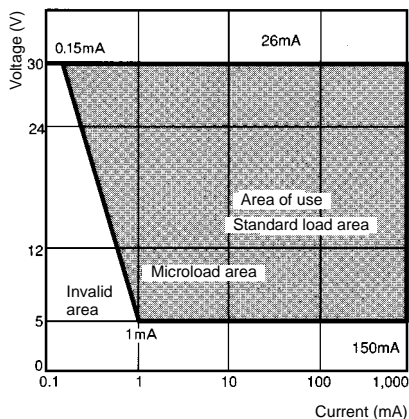
The IP65 model is designed with a protective structure so that it will not sustain damage if it is subjected to water from any direction to the front of the panel.

Using the Microload

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% ($\lambda 60$) (conforming to JIS C5003).

The equation, $\lambda 60 = 0.5 \times 10^{-4}/\text{time}$ indicates that the estimated malfunction rate is less than 1/2,000,000 with a reliability level of 60%.



LEDs

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.

Others

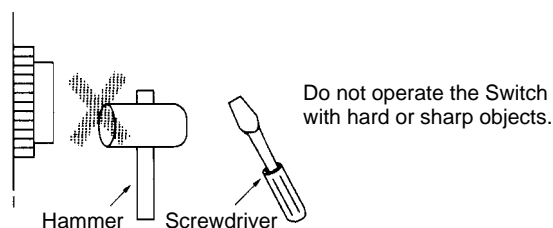
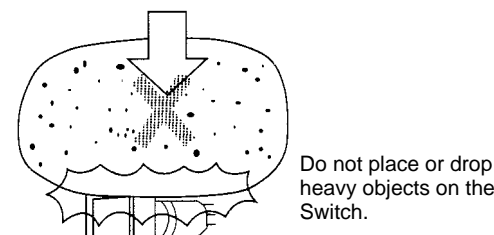
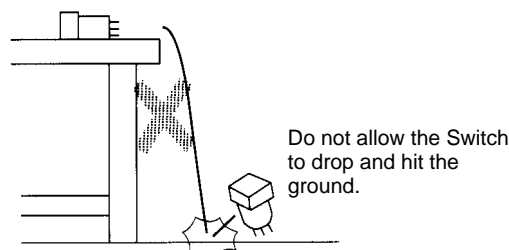
The oil-resistant IP65 uses NBR rubber and is resistant to general cutting oil and cooling oil. Some particular oils cannot be used with the oil-resistant IP65, however, so contact your OMRON representative for details.

If the panel is to be finished with coating, etc., make sure that the panel meets the specified dimensions after the coating.

Do not subject the Switch to extreme shock or vibration. Doing so will cause malfunctions and damage to the Switch.

Do not let sharp objects come into contact with the Switches that are made of resin. Doing so will damage the Switches, causing scratches on the outside of the Pushbuttons, and malfunction.

When handling the Switches, do not throw or drop them.



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.