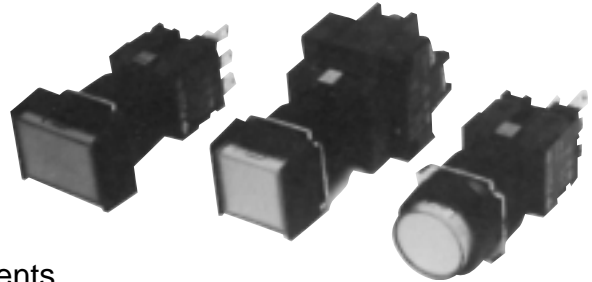


### Control Units Assembled Lighted Pushbutton Switches and Separate-Unit Type 16-mm Cylindrical Series



- Lighted and non-lighted/convex versions
- Pushbutton/Indicator Types available
- Oil-resistant: complies with IP65 seal requirements
- Accommodates panel thicknesses of .5 to 5 mm
- Available with screw/#110 tab solder terminals
- Snap-in, snap-out switch units simplify wiring and maintenance



## Ordering Information

### ■ ASSEMBLED TYPES

#### Lighted

Operator	Circuit	Color	Part Number		
			Round	Rectangular	Square
Pushbutton	Momentary	Red	A3GT-99C1-H1ND	A3GJ-99C1-H1ND	A3GA-99C1-H1ND
		Green	A3GT-99C1-H1NG	A3GJ-99C1-H1NG	A3GA-99C1-H1NG
		White	A3GT-99C1-H1NW	A3GJ-99C1-H1NW	A3GA-99C1-H1NW
	Maintained	Red	A3GT-99D1-H1ND	A3GJ-99D1-H1ND	A3GA-99D1-H1ND
		Green	A3GT-99D1-H1NG	A3GJ-99D1-H1NG	A3GA-99D1-H1NG
		White	A3GT-99D1-H1NW	A3GJ-99D1-H1NW	A3GA-99D1-H1NW
Indicator	Red	M2GT-99A1-H1ND	M2GJ-99A1-H1ND	M2GA-99A1-H1ND	
	Green	M2GT-99A1-H1NG	M2GJ-99A1-H1NG	M2GA-99A1-H1NG	
	White	M2GT-99A1-H1NW	M2GJ-99A1-H1NW	M2GA-99A1-H1NW	

Note: Above switches offer double pole, double throw NO/NC contacts with screw terminals; lighted type pushbuttons offer neon lamps at 110 VAC; and all are fully assembled.

## ■ ASSEMBLED TYPES continued

### Non-lighted/Convex

Operator	Circuit	Color	Part Number		
			Round	Rectangular	Square
Pushbutton	Momentary	Red	A3GT-99C0-R	A3GJ-99C0-R	A3GA-99C0-R
		Yellow	A3GT-99C0-Y	A3GJ-99C0-Y	A3GA-99C0-Y
		Green	A3GT-99C0-G	A3GJ-99C0-G	A3GA-99C0-G
		Black	A3GT-99C0-B	A3GJ-99C0-B	A3GA-99C0-B
	Maintained	Red	A3GT-99D0-R	A3GJ-99D0-R	A3GA-99D0-R
		Yellow	A3GT-99D0-Y	A3GJ-99D0-Y	A3GA-99D0-Y
		Green	A3GT-99D0-G	A3GJ-99D0-G	A3GA-99D0-G
		Black	A3GT-99D0-B	A3GJ-99D0-B	A3GA-99D0-B
Mushroom Cap	Momentary	Red	A3GT-99C2-R	A3GJ-99C2-R	A3GA-99C2-R
	Maintained	Red	A3GT-99D2-R	A3GJ-99D2-R	A3GA-99D2-R

Note: Above switches offer double pole, double throw NO/NC contacts with screw terminals; lighted type pushbuttons offer neon lamps at 110 VAC; and all are fully assembled.

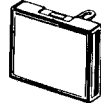
## ■ SEPARATE TYPE PUSHBUTTON UNITS

### Lighted Switches

Round



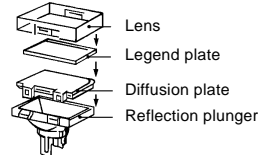
Rectangular



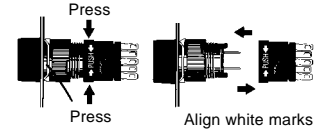
Square



#### Structure of pushbutton



Note: The legend plate and reflective plunger are bonded together on the IP65 Oil-resistant type only.



Snap-in switch unit greatly improves wiring efficiency. Simply insert the switch unit for complete connection.

Press the part indicated PUSH on the switch unit and pull to remove.

Align white marks to insert.

Switch Type	Degree of Sealing	Color	Part Number		
			Round	Rectangular	Square
LED	Dust Proof IP40	Red	A3BT-500R	A3BJ-500R	A3BA-500R
		Yellow	A3BT-500Y	A3BJ-500Y	A3BA-500Y
		Green*	A3BT-500GY	A3BJ-500GY	A3BA-500GY
		White	A3BT-500W	A3BJ-500W	A3BA-500W
	Oil-resistant IP65	Red	A3BT-510R	A3BJ-510R	A3BA-510R
		Yellow	A3BT-510Y	A3BJ-510Y	A3BA-510Y
		Green*	A3BT-510GY	A3BJ-510GY	A3BA-510GY
		White	A3BT-510W	A3BJ-510W	A3BA-510W
Incandescent Lamps	IP40	Green*	A3BT-500G	A3BJ-500G	A3BA-500G
		Blue	A3BT-500A	A3BJ-500A	A3BA-500A
	Oil-tight IP65	Green*	A3BT-510G	A3BJ-510G	A3BA-510G
		Blue	A3BT-510A	A3BJ-510A	A3BA-510A
Neon Lamps	Dust Proof IP40	Orange	A3GT-500D	A3GJ-500D	A3GA-500D
		Green	A3GT-500GN	A3GJ-500GN	A3GA-500GN
		White	A3GT-500WN	A3GJ-500WN	A3GA-500WN
	Oil-resistant IP65	Orange	A3GT-510D	A3GJ-510D	A3GA-510D
		Green	A3GT-510GN	A3GJ-510GN	A3GA-510GN
		White	A3GT-510WN	A3GJ-510WN	A3GA-510WN

Note: 1. Pushbutton units, lamps (lighted type only), case, and socket must be ordered separately.

Example: Pushbutton unit A3BJ-500R, Case A3GJ-6011-1, Socket A3G-4011.

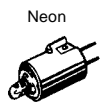
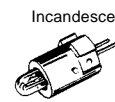
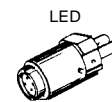
2. Illumination: red, yellow, and white use either LED or incandescent lamps.

3. With the exception of green, all pushbutton units can be used with either LED or incandescent lamps. To avoid an undesirable hue change with green pushbutton units, use a green LED lamp with a green LED pushbutton and an incandescent lamp with a green incandescent pushbutton.



### Non-lighted/Convex Switches

Switch Type	Degree of Sealing	Color	Part Number		
			Round	Rectangular	Square
Convex	Dust Proof IP40	Red	A3BT-502R	A3BJ-502R	A3BA-502R
		Yellow	A3BT-502Y	A3BJ-502Y	A3BA-502Y
		Green	A3BT-502G	A3BJ-502G	A3BA-502G
		White	A3BT-502W	A3BJ-502W	A3BA-502W
		Blue	A3BT-502A	A3BJ-502A	A3BA-502A
		Black	A3BT-502B	A3BJ-502B	A3BA-502B
	Oil-resistant IP65	Red	A3BT-512R	A3BJ-512R	A3BA-512R
		Yellow	A3BT-512Y	A3BJ-512Y	A3BA-512Y
		Green	A3BT-512G	A3BJ-512G	A3BA-512G
		White	A3BT-512W	A3BJ-512W	A3BA-512W
		Blue	A3BT-512A	A3BJ-512A	A3BA-512A
		Black	A3BT-512B	A3BJ-512B	A3BA-512B



### Lamps

Type	Color	Part Number		
		5 VDC	12 VDC	24 VDC
LED Light	Red	A3B-005R	A3B-012R	A3B-024R
	Yellow	A3B-005Y	A3B-012Y	A3B-024Y
	Green	A3B-005G	A3B-012G	A3B-024G
	White	A3B-005W	A3B-012W	A3B-024W
Incandescent Lamp		14 V	28 V	
		A3B-014	A3B-028	
Neon Lamp	Pushbutton Color	Lamp Color	110 V	220 V
	White or Orange	Orange	A3B-H1ND	A3B-H2ND
	Green	Green	A3B-H1NG	A3B-H2NG

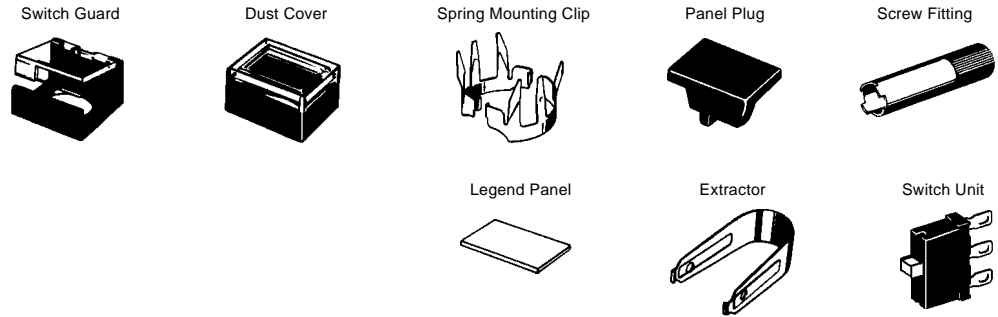
### Cases

Type	Switch Action	Part Number		
		Round	Rectangular	Square
Dust Proof IP40	Momentary	A3GT-6011-1	A3GJ-6011-1	A3GA-6011-1
	Alternating	A3GT-6021-1	A3GJ-6021-1	A3GA-6021-1
	Indicator	M2GT-7001-1	M2GJ-7001-1	M2GA-7001-1
Oil-resistant IP65	Momentary	A3GT-6011-3	A3GJ-6011-3	A3GA-6011-3
	Alternating	A3GT-6021-3	A3GJ-6021-3	A3GA-6021-3
	Indicator	M2GT-7001-3	M2GJ-7001-3	M2GA-7001-3

### Sockets

Contact Ratings	Terminal Type	Part Number	
		SPDT	DPDT
General Purpose Loads	Solder	A3G-4011	A3G-4021
	Solder	A3G-4111	A3G-4121
	Screw	A3G-4024	A3G-4124
Microloads	Solder	A3G-4111	A3G-4121
	Solder	A3G-4111	A3G-4121
Indicator	Solder	M2G-4901	M2G-4904
	Screw	M2G-4901	M2G-4904

- Note: 1. Pushbutton units, lamps (lighted type only), case, and socket must be ordered separately.  
 Example: Pushbutton unit A3BJ-500R, Case A3GJ-6011-1, Socket A3G-4011.  
 2. Illumination: red, yellow, and white use either LED or incandescent lamps.



## Accessories

Description	Remarks	Part Number		
		Round	Rectangular	Square
Switch Guard	Cannot be used with dust cover.	<b>A3BT-5050</b>	<b>A3BJ-5050</b>	<b>A3BA-5050</b>
Dust Cover	Cannot be used with switch cover.	<b>A3BT-5060</b>	<b>A3BJ-5060</b>	<b>A3BA-5060</b>
Spring Mounting Clip for snap-in mounting	Cannot be used with mounting nut. Recommended panel thickness is 0.5 to 3.5 mm	<b>A3B-3001</b>		
Panel Plug	Can be plugged into pre-cut panel holes for future expansion.	<b>A3BT-3003</b>	<b>A3BJ-3003</b>	<b>A3BA-3003</b>
Screw Fitting	Convenient for ganged installation. Do not overtighten.	<b>A3B-3004</b>		
Extractor	Convenient for extracting pushbutton switches.	<b>A3PJ-5080</b>		

Description	Remarks	Type	Opacity	Part Number		
				Round	Rectangular	Square
Legend Panel	A single legend panel (transparent) is included with standard products.	Dust Proof IP40	Milky	<b>A3BT-5201</b>	<b>A3BJ-5201</b>	<b>A3BA-5201</b>
			Transparent	<b>A3BT-5202</b>	<b>A3BJ-5202</b>	<b>A3BA-5202</b>
		Oil-resistant IP65	—	<b>A3BT-5203</b>	<b>A3BJ-5203</b>	<b>A3BA-5203</b>

Description	Remarks	Classification	Terminal Type	Part Number
Switch Unit	Replacement part.	General purpose loads	Solder	<b>A3G-3011</b>
		Microloads	Solder	<b>A3G-3111</b>
		Dummy	—	<b>A3G-3000</b>

## Specifications

### ■ SEPARATE TYPE

#### Contact Ratings

Type	AC Resistant Load	DC Resistant Load
General purpose load	250 VAC 3 A	30 VDC 3 A
	125 VAC 5 A	—
Microload*	125 VAC 0.1 A	30 VDC 0.1 A

\* Minimum applicable load is 1 mA at 5 VDC.

#### LED Ratings

Rated Voltage	Rated Current	Operating Voltage
5 VDC	30 mA	5 VDC $\pm$ 5%
12 VDC	15 mA	12 VDC $\pm$ 5%
24 VDC	10 mA	24 VDC $\pm$ 5%

#### Incandescent Lamp Ratings

Rated Voltage	Rated Current	Operating Voltage
14 V	40 mA	12 V
28 V	24 mA	24 V

#### Neon Lamp Ratings

Rated Voltage	Rated Current	Operating Voltage
110 VAC	1.5 mA	100 VAC $\pm$ 10%
220 VAC	1.5 mA	200 VAC $\pm$ 10%

Operating Temperature	Operating Humidity	Storage Temperature
-10° to 55° C (with no icing)	35 to 85% RH	-25° to 65° C

Note: All switch models have a built-in current-limiting resistor (for use with LED).

### ■ ASSEMBLED SWITCHES

#### Construction Data

Termination	PC board terminals
Mounting style	Nut mounting; snap-in panel mounting (Pushbutton)
Packaging method	Carton

## Characteristic Data

### ■ ASSEMBLED SWITCHES

Pushbutton unit color	LED - Lighted		Red, Yellow, Green, White
	Incandescent lamp - Lighted		Red, Yellow, Green, White, Blue
	Neon lamp - Lighted		Red, Green, White
	Non-lighted/Convex		Red, Yellow, Green, White, Blue, Black
Switch unit color			Black
Contact form	Pushbutton, Key, Selector		SPDT or DPDT
Resistive load	Pushbutton, Key, Selector		3 A, 250 VAC/5 A, 125 VAC; 3 A, 30 VDC
Service life - Pushbutton	Mechanical	Momentary action	1,000 x 10 <sup>3</sup> operations min.
		Alternating action	200 x 10 <sup>3</sup> operations min.
	Electrical		100 x 10 <sup>3</sup> operations min.
Service life - Key	Mechanical		200 x 10 <sup>3</sup> operations min. Key insertion/removal: 10 x 10 <sup>3</sup> times min
	Electrical		100 x 10 <sup>3</sup> operations min.
Service life - Selector	Mechanical		200 x 10 <sup>3</sup> operations min.
	Electrical		100 x 10 <sup>3</sup> operations min.
Accessories - Pushbutton			Switch guard, dust cover, spring mounting clip, panel plug, screw fitting, legend plate, extractor
Accessories - Key			Panel plug, screw fitting
Accessories - Selector			Panel plug, screw fitting
Series product			Microload version, socket terminal

Note: Data shown are of initial value.

### ■ NON-LIGHTED/CONVEX PUSHBUTTON SWITCHES

Allowable operating frequency	Mechanical	Momentary action	120 operations / min. max.
		Alternating action	60 operations / min. max.
	Electrical		20 operations / min. max.
Insulation resistance			100 M Ω min. (at 500 VDC)
Dielectric strength			1,000 VAC, 50/60 Hz for 1 minute between terminals of same polarity 2,000 VAC, 50/60 Hz for 1 minute between terminals of different polarity and also between each terminal and ground*
Vibration	Malfunction		10 to 55 Hz, 1.5 mm double amplitude
Shock	Durability		Approx. 500 m/s <sup>2</sup> (50 G)
	Malfunction		Approx. 150 m/s <sup>2</sup> (15 G)
Service life	Mechanical	Momentary operation	2,000,000 operations min.
		Alternating operation	200,000 operations min.
	Electrical		100,000 operations min.
Degree of protection (IEC)			IP40/IP65 (Oil-resistant)
Weight			Approx. 13 g (for lighted type 2-contact switches with solder terminals)

\* With LED and incandescent lamp not mounted.

### ■ OPERATING CHARACTERISTICS

Features	Non-lighted/Convex Pushbutton Switches			
	Dust Proof IP40		Oil-resistant IP65	
	SPDT	DPDT	SPDT	DPDT
Operating force (OF) max.	250 G	450 G	300 G	500 G
Releasing force (RF) min.	30 G	–	–	–
Total Travel (TT)	Approx. 3 mm	–	–	–
Pretravel (PT) max.	2.5 mm	–	–	–
Lock stroke (LTA) min.*	0.5 mm	–	–	–
Set position (SP)	–	–	–	–

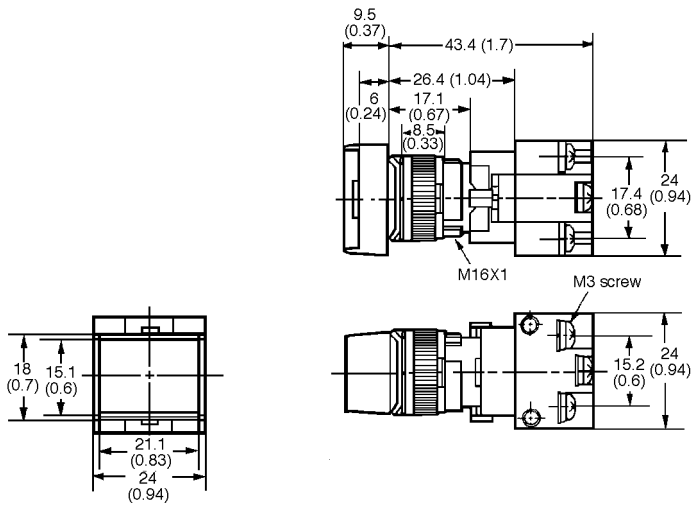
\* Lock stroke is only for alternating operation.

# Dimensions

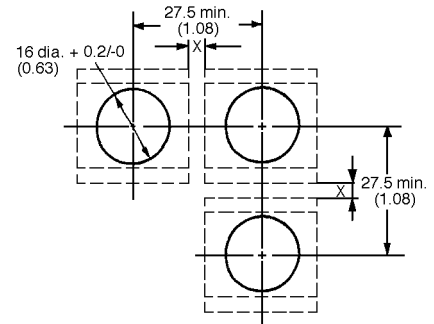
Unit: mm (inch)

## ■ ASSEMBLED SWITCH

Square with screw terminals



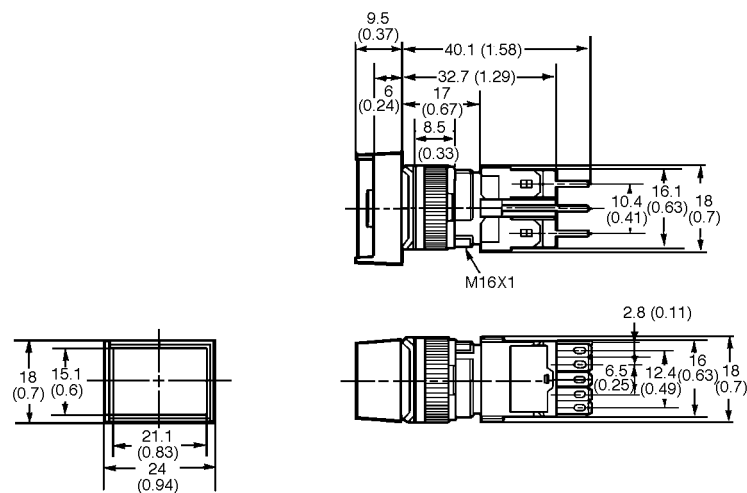
### Panel cutout (top view)



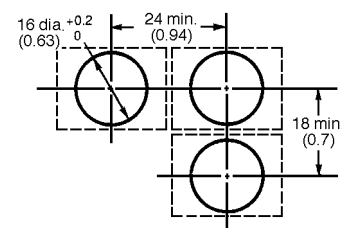
Note: The above panel cutout diagram applies when the X dimension (the space between terminals of different polarity) is maintained at 3.5 mm. When the X dimension is not required, switches may be mounted at 24.5 mm for the general-purpose pushbutton type, or at 26 mm for the rectangular concave type.

## ■ LIGHTED TYPE PUSHBUTTON SWITCHES

Rectangular (A3GJ)  
with solder terminals



### Panel cutout (top view)

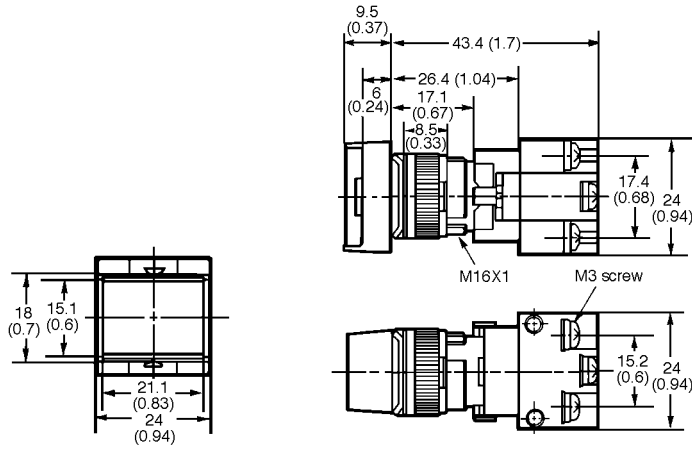


Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes 16.2<sup>+0.3</sup><sub>0</sub> mm in diameter.

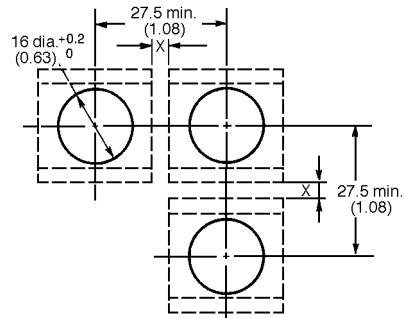
Unit: mm (inch)

■ LIGHTED TYPE PUSHBUTTON SWITCHES continued

Rectangular (A3GJ)  
with screw terminals

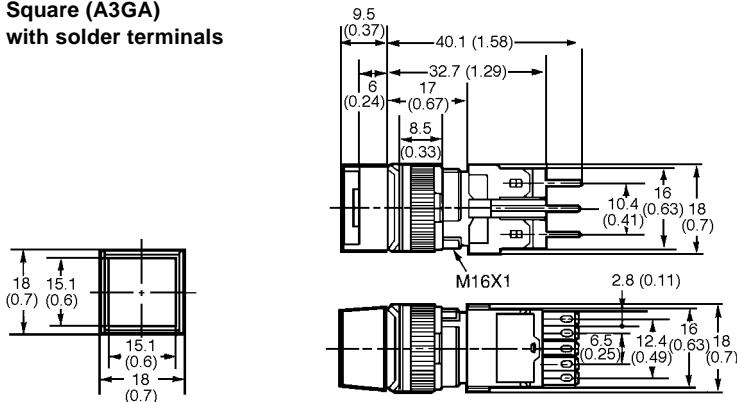


Panel cutout  
(top view)

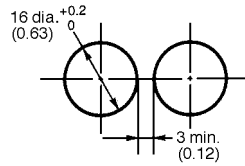


Note: The above panel cutout diagram applies when the X dimension (the space between terminals of different polarity) is maintained at 3.5 mm. When the X dimension is not required, switches may be mounted at 24.5 mm for the general-purpose pushbutton type, or at 26 mm for the rectangular concave type.

Square (A3GA)  
with solder terminals



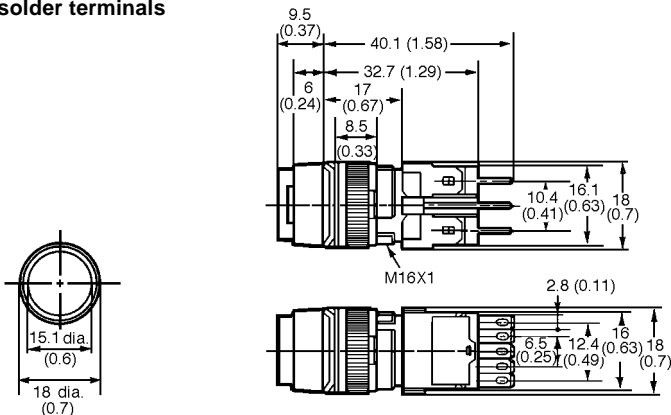
Panel cutout  
(top view)



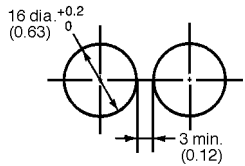
Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes 16.2<sup>+0.3</sup> mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

Dimensions for models with screw terminals have been omitted. Refer to the dimensions for the rectangular type.

Round (A3GT)  
with solder terminals



Panel cutout  
(top view)



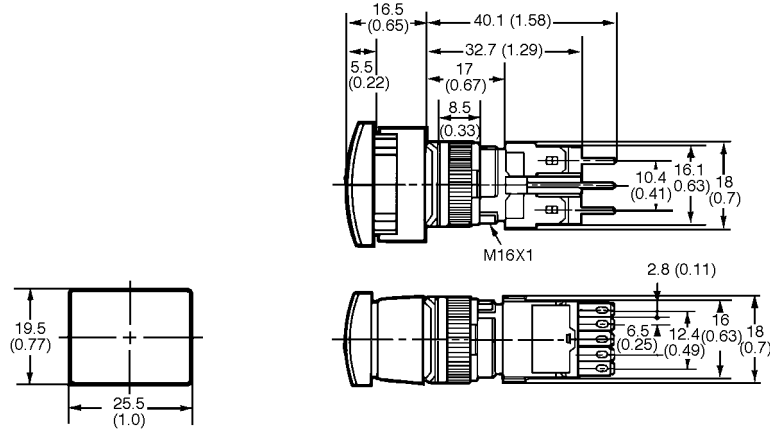
Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes 16.2<sup>+0.3</sup> mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

Dimensions for models with screw terminals have been omitted. Refer to the dimensions for the rectangular type.

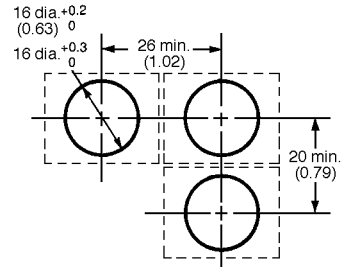


■ CONVEX TYPE PUSHBUTTON SWITCH

Rectangular (A3GJ)  
with solder terminals

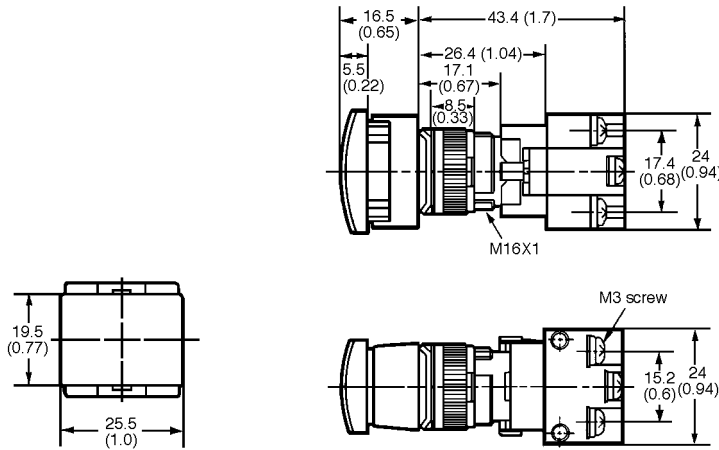


Panel cutout  
(top view)

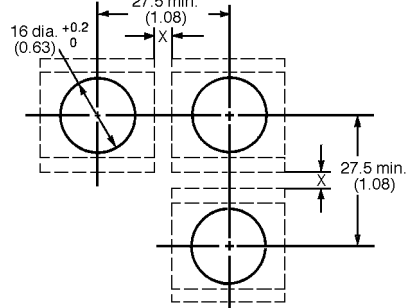


- Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes 16.2 +0.3 mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

Rectangular (A3GJ)  
with screw terminals

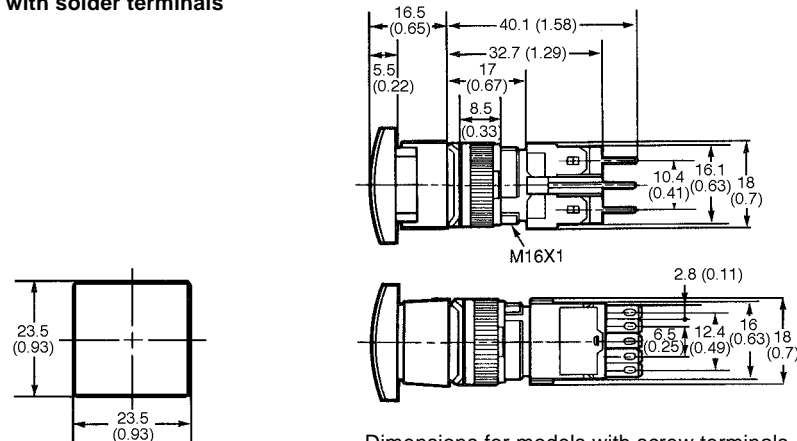


Panel cutout  
(top view)

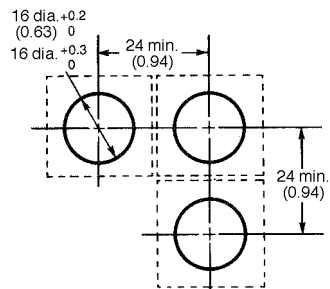


- Note: The above panel cutout diagram applies when the X dimension (the space between terminals of different polarity) is maintained at 3.5 mm. When the X dimension is not required, switches may be mounted at 24.5 mm for the general-purpose pushbutton type, or at 26 mm for the rectangular concave type. The pitch should be as large as possible to maintain space to extend the lead wire and make it easier to wire.

Square (A3GA)  
with solder terminals



Panel cutout  
(top view)



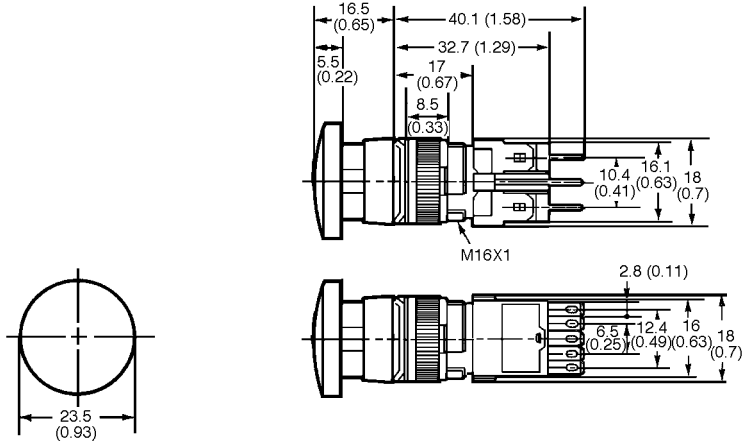
- Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes 16.2 +0.3 mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

Dimensions for models with screw terminals have been omitted. Refer to the dimensions for the rectangular type.

Unit: mm (inch)

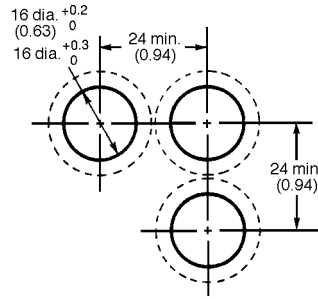
■ CONVEX TYPE PUSHBUTTON SWITCHES continued

Round (A3GT)  
with solder terminals



Dimensions for models with screw terminals have been omitted. Refer to the dimensions for the rectangular type.

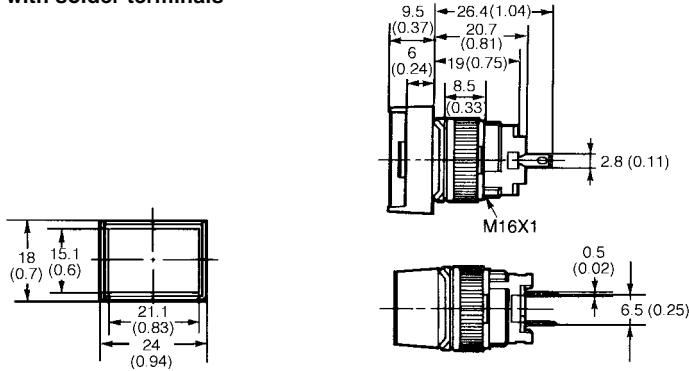
Panel cutout  
(top view)



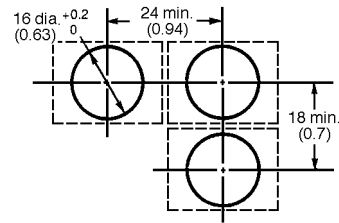
- Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes  $16.2^{+0.3}_0$  mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

■ INDICATORS

Rectangular indicator (M2GJ)  
with solder terminals

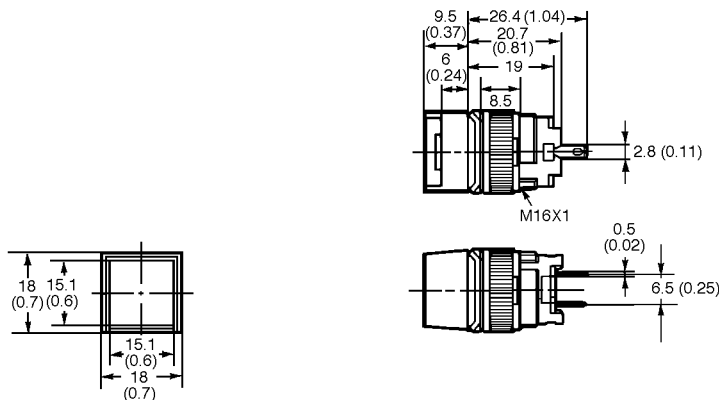


Panel cutout  
(top view)

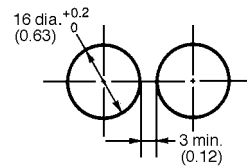


- Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes  $16.2^{+0.3}_0$  mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

Square indicator (M2GA)  
with solder terminals

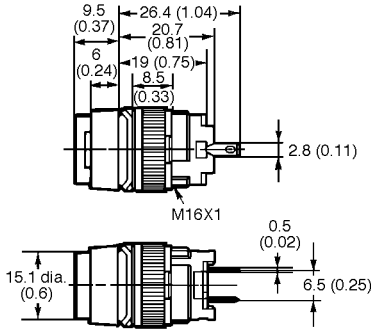
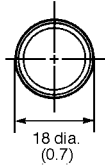


Panel cutout  
(top view)

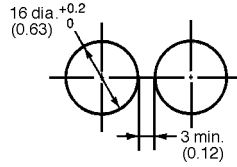


- Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes  $16.2^{+0.3}_0$  mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

**Round indicator (M2GT)  
with solder terminals**



**Panel cutout  
(top view)**



- Note: 1. Recommended panel thickness is 0.5 to 5 mm.  
2. When using the spring mounting clip for snap-in mounting, the panel cutout becomes  $16.2^{+0.3}_0$  mm in diameter, and recommended panel thickness is 0.5 to 3.5 mm.

**■ CASES**

**Rectangular**

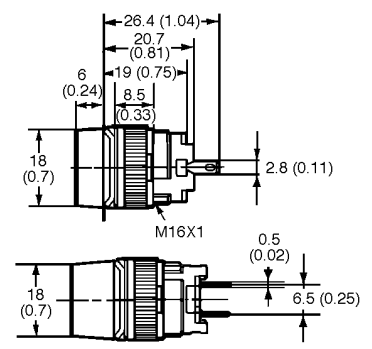
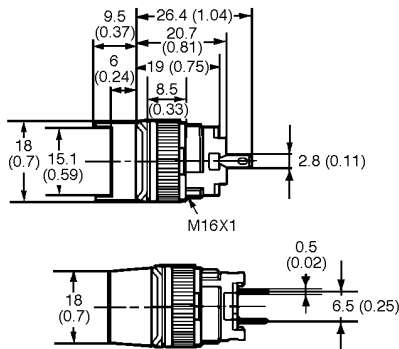
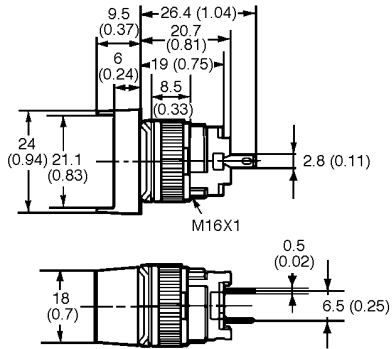
A3GJ-6011-1    A3GJ-6011-3  
A3GJ-6021-1    A3GJ-6021-3

**Square**

A3GA-6011-1    A3GA-6011-3  
A3GA-6021-1    A3GA-6021-3

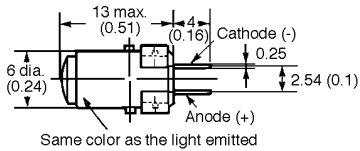
**Round**

A3GT-6011-1    A3GT-6011-3  
A3GT-6021-1    A3GT-6021-3

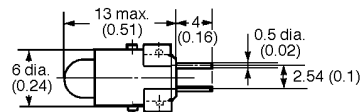


**■ LAMPS**

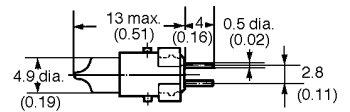
**LED**



**Incandescent Lamp**



**Neon Lamp**

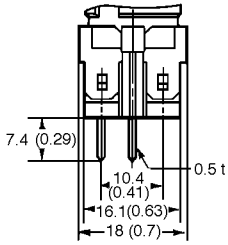


Unit: mm (inch)

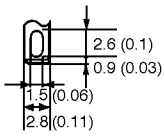
■ SOLDER TERMINALS

**SPDT switch**

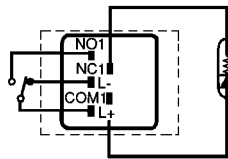
Lighted type



Dimensions of terminal holes

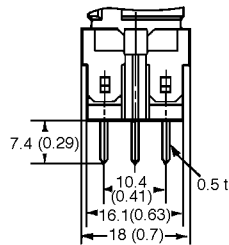


Terminal arrangement (bottom view)

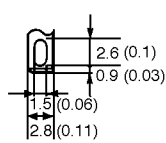


**DPDT switch**

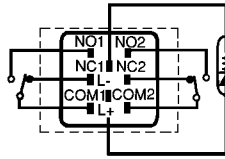
Lighted type



Dimensions of terminal holes

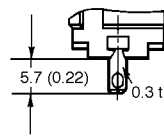


Terminal arrangement (bottom view)

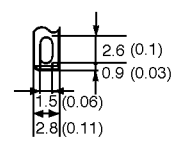


**Indicator**

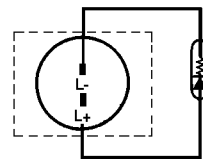
Display lamp



Dimensions of terminal holes

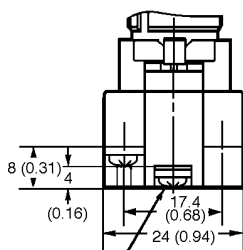


Terminal arrangement (bottom view)



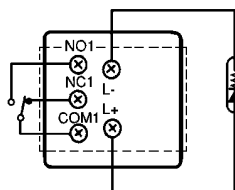
■ SCREW TERMINALS

**SPDT switch**

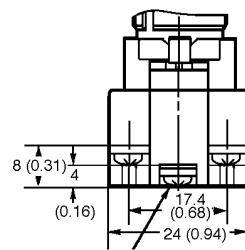


Five, M3 x 6 Phillips screws with washers

Terminal arrangement (bottom view)

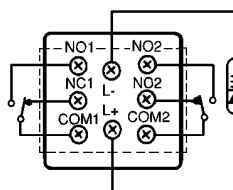


**DPDT switch**

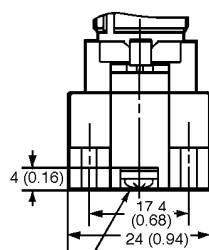


Eight, M3 x 6 Phillips screws with washers

Terminal arrangement (bottom view)

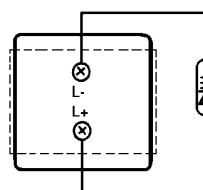


**Indicator**



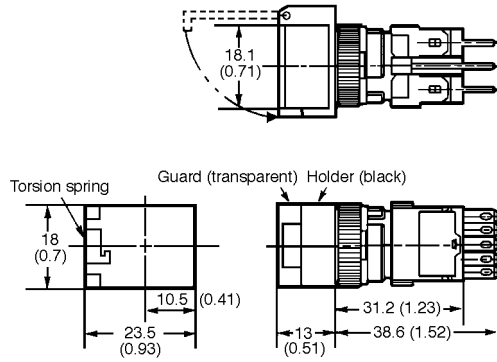
Two, M3 x 6 Phillips screws with washers

Terminal arrangement (bottom view)

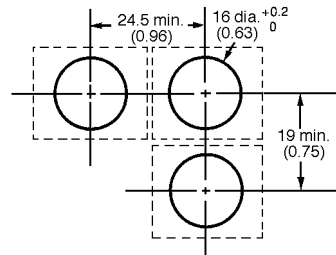


■ WITH INSTALLED SWITCH GUARD

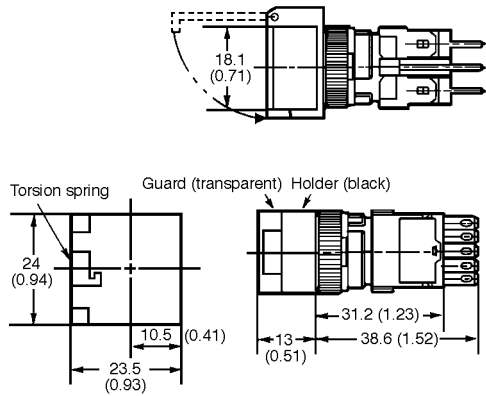
Rectangular types



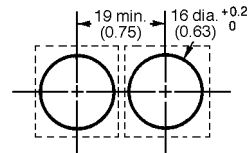
Panel cutout (top view)



Square and Round types

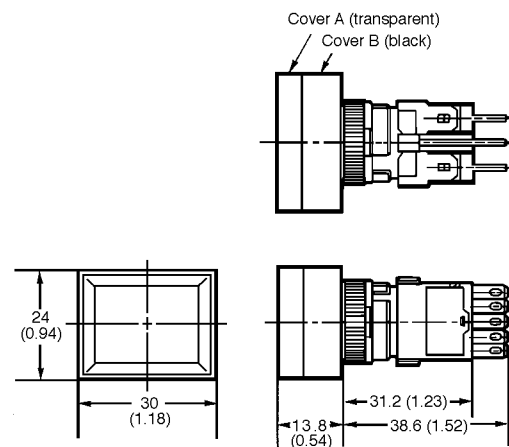


Panel cutout (top view)

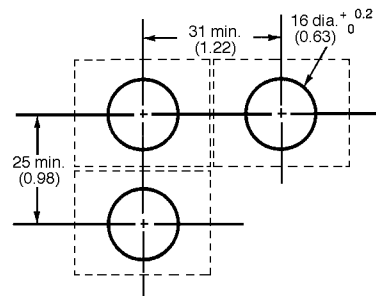


■ WITH MOUNTED DUST COVER

Rectangular types



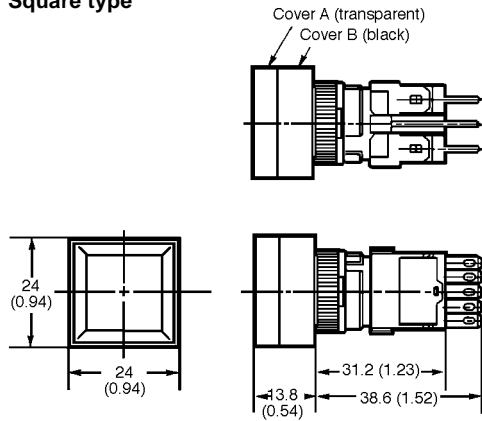
Panel cutout (top view)



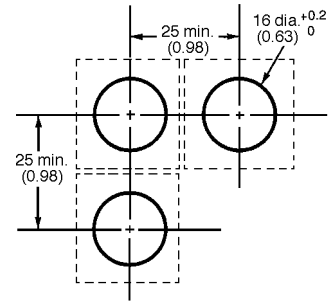
Unit: mm (inch)

■ WITH MOUNTED DUST COVER continued

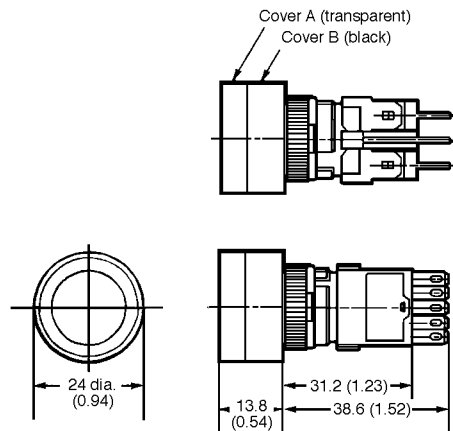
Square type



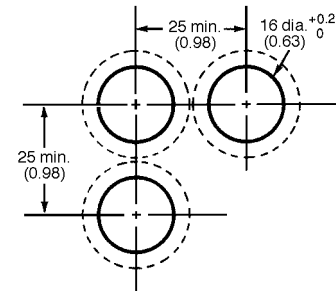
Panel cutout (top view)



Round type

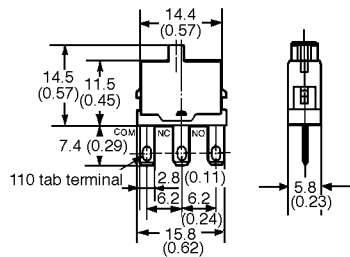


Panel cutout (top view)

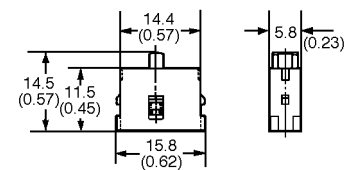


■ SWITCH UNIT

A3G-3□□□

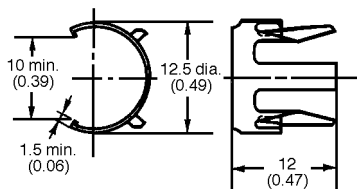


Dummy A3G-3000

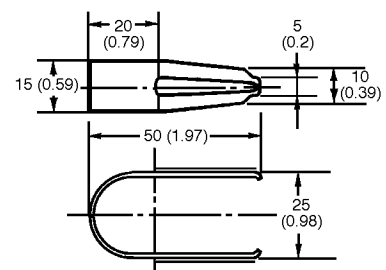


■ MOUNTING CLIP

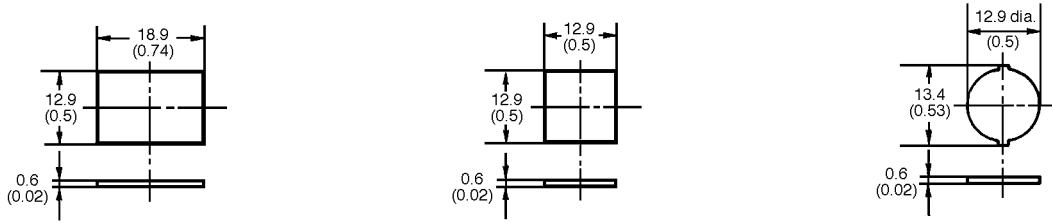
Spring mounting clip for snap-in mounting A3B-3001



Extractor



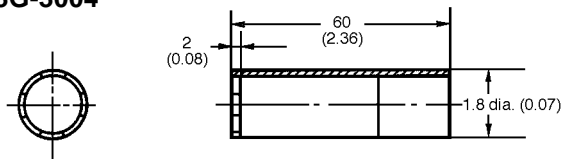
■ LEGEND PLATES



Note: The plate is 0.6 mm thick and made of polycarbonate resin (IP40) or polyacrylate (IP65).

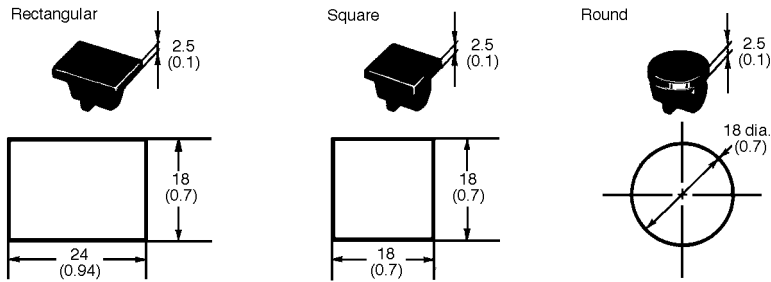
■ SCREW FITTING

A3G-3004



■ PANEL PLUG

Select the plug that fits the panel design and mount from the front of the panel. Panel cutouts are the same as those for switches.



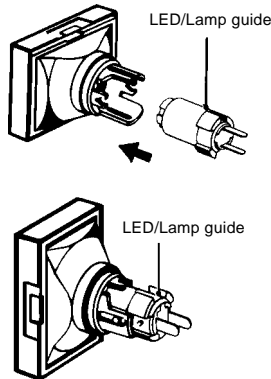
## Assembly/Disassembly

### ■ MOUNTING AND REPLACING THE OPERATING SECTION

#### Mounting directions of the LED/lamp for the pushbutton unit

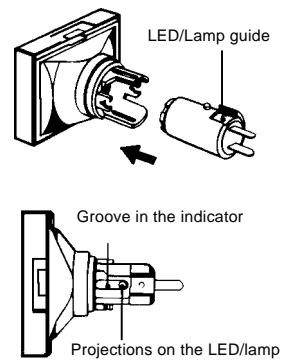
(1) For the lighted type switch:

Fit the LED/lamp so that its guide projection is inserted into the wider opening in the receptacle of the pushbutton unit.



(2) For the indicator:

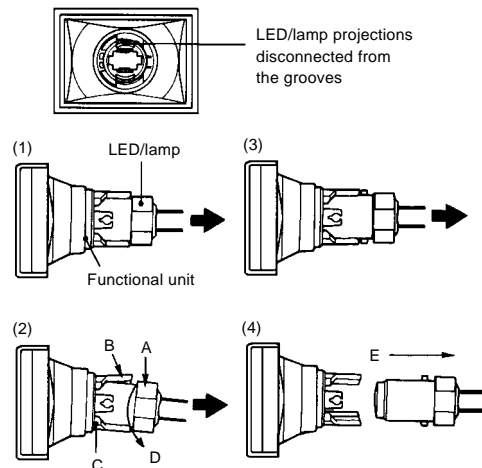
Insert the LED/lamp guide into the narrower opening in the indicator's receptacle.



Note: Push the LED/lamp projections into the base groove. The LED/lamp is flexibly mounted when used for illumination and is rigidly mounted when used for indicators.

#### Removing lamp from the pushbutton unit

Position the functional unit as shown in (1). Press down on the LED/lamp angling it in the direction indicated by A. Side B of the LED/lamp disconnects and side C angles away from the pushbutton unit so that it looks like (2). Turn the LED/lamp in the direction indicated by D. The LED/lamp projections (2 locations) will disconnect from the LED/lamp groove so that it looks like (3). Pull in the E direction and remove the LED/lamp.

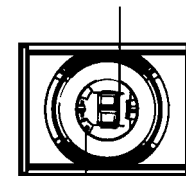


#### Mounting directions for the pushbutton unit and the switch unit

Insert the LED/lamp unit into the aperture of the switch unit with the LED/lamp unit's guide facing the side of the aperture mouth that does not have the two projections. The pressure applied during insertion should be 2.5 kg min.

Note: Since the mounting directions of the pushbutton unit are the opposite for the lighted type switch and the indicator application, pay special attention to the direction of the legend plate.

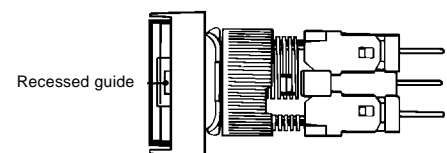
Projections of the switch unit



Face the guide of the LED/lamp unit toward the side without the projections

#### Removing the pushbutton unit

Pull the cap of the functional unit while holding the recessed guide on both sides.



Note: Do not use radio pliers to remove the cap as they may cause damage.

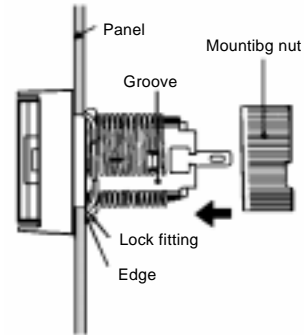


## Mounting

After installing the main unit, mount the socket unit on the panel surface.

### ■ NUT MOUNTING

Insert the switch unit from the front of the panel. Place the lock fitting and mounting nut on the terminal side and tighten the mounting nut. For the IP65 type, use the rubber seal. Align the anti-turn piece with the grooves and insert it so that the edge section faces the panel. Tighten the mounting to a torque of 10 kg-cm or less.

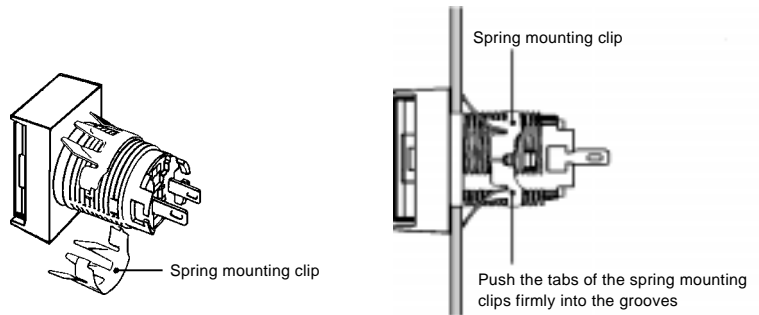


### ■ SNAP-IN MOUNTING

Fit the spring mounting clip for snap-in mounting to the switch unit. Insert the tab of the spring mounting clip into the two grooves on the threaded part of the switch unit.

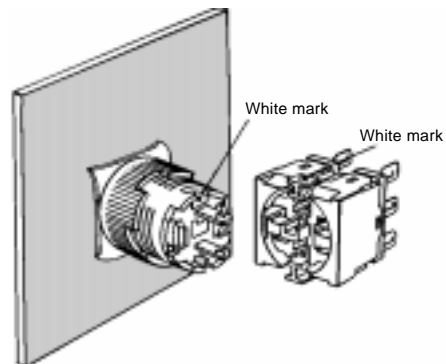
Note: Be sure to use two spring mounting clips and see that each is firmly inserted into the grooves. Do not use for IP65-type switches.

Insert the switch unit from the front of the panel and secure it.



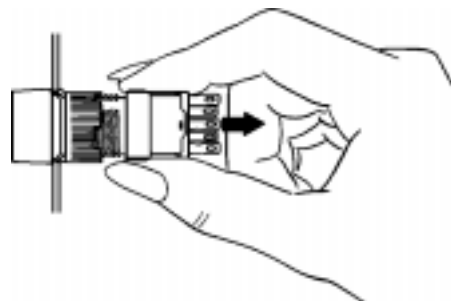
### ■ SOCKET MOUNTING

Mount the socket to the switch unit. As the socket mounts to the switch unit in only one direction, the white mark on the switch unit and that on the socket must be aligned for mounting.



### ■ REMOVING SOCKET

Press the Lock button on the socket and pull to remove. Pull straight off when removing the socket.



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4/98

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Printed in the U.S.A.