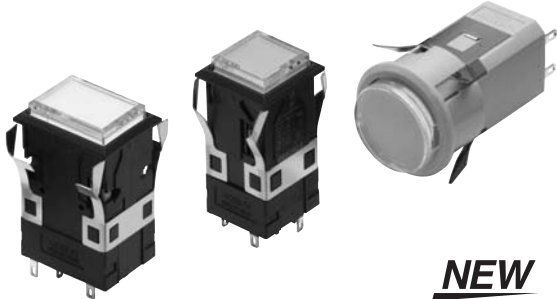



# Lighted Pushbutton Switch (Square) Ultra Bright LED Type A3P

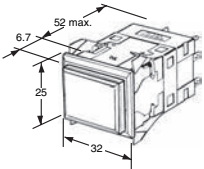
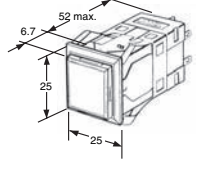
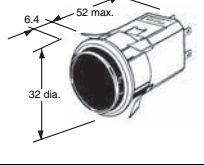
## Large Square-bodied Lighted Pushbutton Switches New models added with Ultra LEDs.

- New models with ultra bright LEDs added to single-screen models.
- Previous models not changed.  
Line up of models in seven colors (the previous red, orange, green, and white models, and the new yellow, blue, and pure white models).
- Popular maintenance lock added.



 Refer to *Safety Precautions for All Pushbutton Switches/Indicators* and *Safety Precautions* in the A3P datasheet.

### List of Models

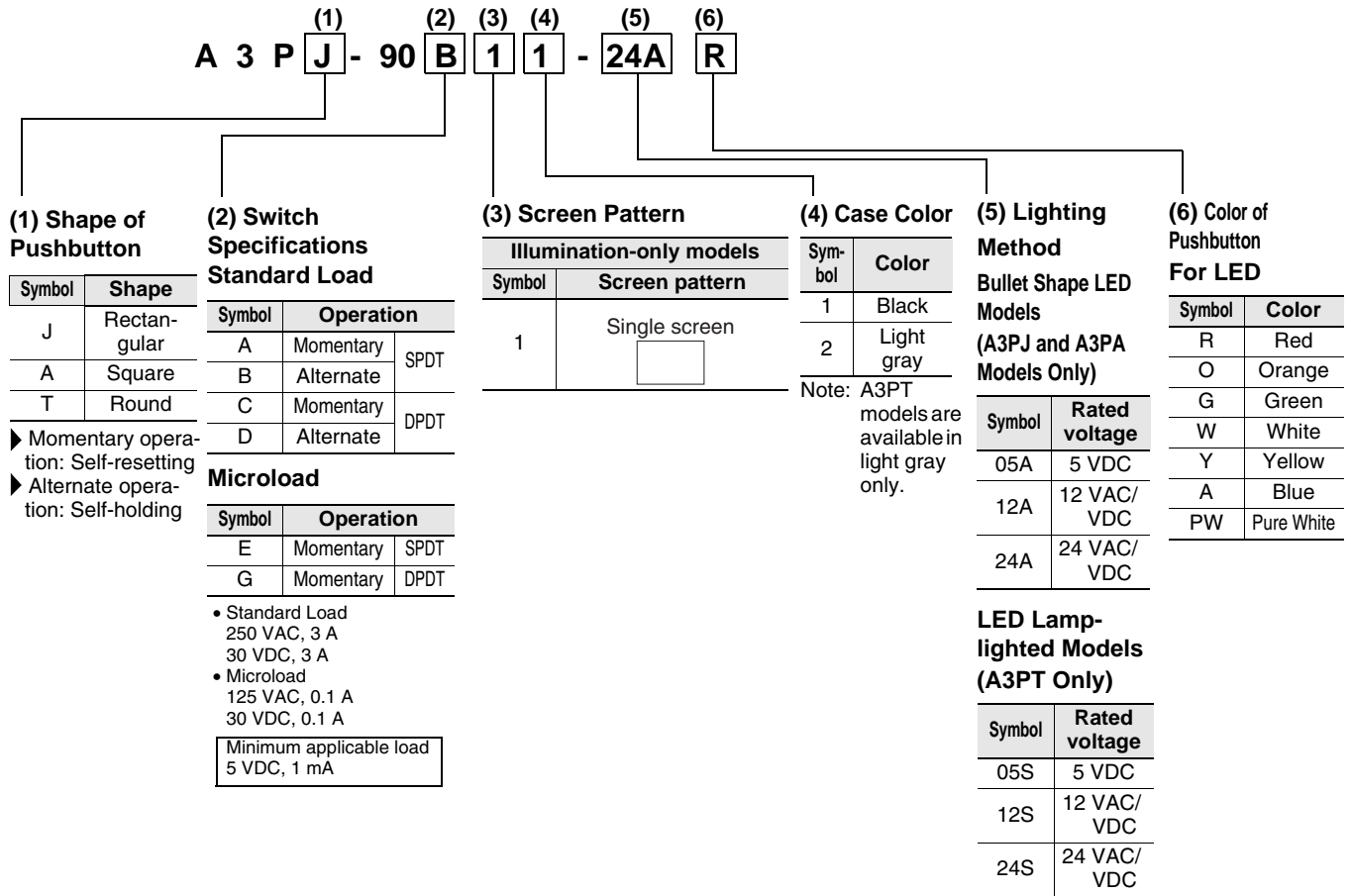
Model	Appearance
A3PJ (Rectangular)	
A3PA (Square)	
A3PT (Round)	

# A3P

## Model Number Structure

**Model Number Legend** ..... The model numbers used to order sets of Units are illustrated below. One set comprises the Pushbutton, Lamp, and Switch.

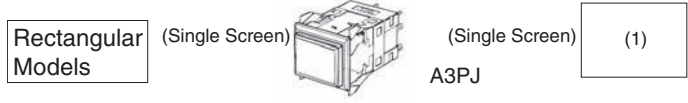
For information on combinations, refer to *Ordering Information* on pages page 3 and 4.



Color of screen	Symbol	R	Y	G	W	O	A	PW
	Color	Red	Yellow	Green	White	Orange	Blue	Pure White
<b>Color of Plate</b>		Red	Yellow	Green	White	Orange	Blue	White
<b>LED</b>		Red	Pure Yellow	Green	Amber	Orange	Blue	Pure White

# Ordering Information

**Ordering as a Set** ..... The model numbers used to order sets of Units are given in the following tables. One set comprises the Pushbutton, Lamp, and Switch.  
 (Not all combinations are possible. Ask your OMRON representative for details.)



Contact type	No. of outputs	Lighting method Pushbutton color symbol	Operation Case color	Momentary operation (Self-resetting)		Alternate operation (Self-holding)	
				Black	Light gray	Black	Light gray
Standard Loads	SPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PJ-90A11-05A(1)	A3PJ-90A12-05A(1)	A3PJ-90B11-05A(1)	A3PJ-90B12-05A(1)
			12 VAC/DC	A3PJ-90A11-12A(1)	A3PJ-90A12-12A(1)	A3PJ-90B11-12A(1)	A3PJ-90B12-12A(1)
			24 VAC/DC	A3PJ-90A11-24A(1)	A3PJ-90A12-24A(1)	A3PJ-90B11-24A(1)	A3PJ-90B12-24A(1)
	DPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PJ-90C11-05A(1)	A3PJ-90C12-05A(1)	A3PJ-90D11-05A(1)	A3PJ-90D12-05A(1)
			12 VAC/DC	A3PJ-90C11-12A(1)	A3PJ-90C12-12A(1)	A3PJ-90D11-12A(1)	A3PJ-90D12-12A(1)
			24 VAC/DC	A3PJ-90C11-24A(1)	A3PJ-90C12-24A(1)	A3PJ-90D11-24A(1)	A3PJ-90D12-24A(1)
Microloads	SPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PJ-90E11-05A(1)	A3PJ-90E12-05A(1)	-	-
			12 VAC/DC	A3PJ-90E11-12A(1)	A3PJ-90E12-12A(1)	-	-
			24 VAC/DC	A3PJ-90E11-24A(1)	A3PJ-90E12-24A(1)	-	-
	DPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PJ-90G11-05A(1)	A3PJ-90G12-05A(1)	-	-
			12 VAC/DC	A3PJ-90G11-12A(1)	A3PJ-90G12-12A(1)	-	-
			24 VAC/DC	A3PJ-90G11-24A(1)	A3PJ-90G12-24A(1)	-	-

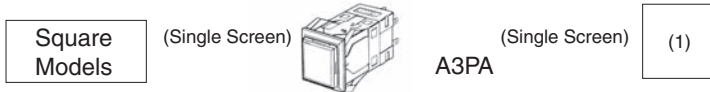
Note: Enter the desired color symbol for the Pushbutton in (1). (R) = Red, (O) = Orange, (G) = Green, (W) = White, (Y) = Yellow, (A) = Blue, (PW) = Pure White.

Example: Red A3PJ-90A11-24AR

# A3P

## Ordering Information

**Ordering as a Set** ..... The model numbers used to order sets of Units are given in the following tables. One set comprises the Pushbutton, Lamp, and Switch.



Contact type	No. of outputs	Lighting method Pushbutton color symbol	Operation Case color	Momentary operation (Self-resetting)		Alternate operation (Self-holding)	
				Black	Light gray	Black	Light gray
Standard Loads	SPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PA-90A11-05A(1)	A3PA-90A12-05A(1)	A3PA-90B11-05A(1)	A3PA-90B12-05A(1)
			12 VAC/DC	A3PA-90A11-12A(1)	A3PA-90A12-12A(1)	A3PA-90B11-12A(1)	A3PA-90B12-12A(1)
			24 VAC/DC	A3PA-90A11-24A(1)	A3PA-90A12-24A(1)	A3PA-90B11-24A(1)	A3PA-90B12-24A(1)
	DPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PA-90C11-05A(1)	A3PA-90C12-05A(1)	A3PA-90D11-05A(1)	A3PA-90D12-05A(1)
			12 VAC/DC	A3PA-90C11-12A(1)	A3PA-90C12-12A(1)	A3PA-90D11-12A(1)	A3PA-90D12-12A(1)
			24 VAC/DC	A3PA-90C11-24A(1)	A3PA-90C12-24A(1)	A3PA-90D11-24A(1)	A3PA-90D12-24A(1)
Microloads	SPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PA-90E11-05A(1)	A3PA-90E12-05A(1)	-	-
			12 VAC/DC	A3PA-90E11-12A(1)	A3PA-90E12-12A(1)	-	-
			24 VAC/DC	A3PA-90E11-24A(1)	A3PA-90E12-24A(1)	-	-
	DPDT	Bullet Shape LEDs R, O, G, W, Y, A or PW	5 VDC	A3PA-90G11-05A(1)	A3PA-90G12-05A(1)	-	-
			12 VAC/DC	A3PA-90G11-12A(1)	A3PA-90G12-12A(1)	-	-
			24 VAC/DC	A3PA-90G11-24A(1)	A3PA-90G12-24A(1)	-	-

Note: Enter the desired color symbol for the Pushbutton in (1). (R) = Red, (O) = Orange, (G) = Green, (W) = White, (Y) = Yellow, (A) = Blue, (PW) = Pure White.

Example: Red A3PA-90A11-24AR



Contact type	No. of outputs	Lighting method	Operation Case color	Momentary operation (Self-resetting)	Alternate operation (Self-holding)	Pushbutton color symbol
				Light gray	Light gray	
Standard Loads	SPDT	LED lamp	5 VDC	A3PT-90A12-05S(1)	A3PT-90B12-05S(1)	R O G W Y A PW
			12 VAC/DC	A3PT-90A12-12S(1)	A3PT-90B12-12S(1)	
			24 VAC/DC	A3PT-90A12-24S(1)	A3PT-90B12-24S(1)	
	DPDT		5 VDC	A3PT-90C12-05S(1)	A3PT-90D12-05S(1)	
			12 VAC/DC	A3PT-90C12-12S(1)	A3PT-90D12-12S(1)	
			24 VAC/DC	A3PT-90C12-24S(1)	A3PT-90D12-24S(1)	
Microloads	SPDT	5 VDC	A3PT-90E12-05S(1)	-		
		12 VAC/DC	A3PT-90E12-12S(1)	-		
		24 VAC/DC	A3PT-90E12-24S(1)	-		
	DPDT	5 VDC	A3PT-90G12-05S(1)	-		
		12 VAC/DC	A3PT-90G12-12S(1)	-		
		24 VAC/DC	A3PT-90G12-24S(1)	-		

Note: Enter the desired color symbols for the Pushbutton in (1). (R) = Red, (O) = Orange, (G) = Green, (W) = White, (Y) = Yellow, (A) = Blue, (PW) = Pure White.

Example: Red A3PT-90A12-24SR

## Accessories and Tools

Accessories, Tools, and most of the replacement parts are the same as those for the A3P. Refer to the A3P datasheet.

## Specifications

### Approved Standard Ratings

UL (File No. E41515), CSA (File No. LR45258)

Standard Load:	5 A at 125 VAC 3 A at 250 VAC
Microload:	0.1 A at 125 VAC 0.1 A at 30 VDC

**Note:** Certification has been obtained for the Switch Unit.  
For detailed information on individual products that have received certification, consult your supplier.

### CCC (GB14048.5)

Standard Load:	3 A at 250 VAC 4 A at 30 VDC
Microload:	0.1 A at 125 VAC 0.1 A at 30 VDC

## Ratings

### Contact Ratings

#### Silver Alloy Contacts (for Standard Loads)

Rated voltage (V)	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	5		0.7		3		1.3	
250 VAC	3		0.5		2		0.8	
8 VDC	5		2		4		3	
14 VDC	5		2		4		3	
30 VDC	4		2		3		3	
125 VDC	0.4		0.05		0.4		0.05	
250 VDC	0.2		0.03		0.2		0.03	

**Note:** 1. The above values are for steady-state currents.  
2. Inductive load: Power factor = 0.4; time constant = 7 ms.  
3. The lamp load has an inrush current of 10 times the steady-state current.  
4. The motor load has an inrush current of 6 times the steady-state current.

Standard testing condition

- (1) Ambient temperature:  $20 \pm 2^\circ\text{C}$
- (2) Ambient humidity:  $65 \pm 5\%\text{RH}$
- (3) Operating frequency: 20 times/min.

#### Gold Alloy Contacts (for Microloads)

Rated voltage (V)	0.1 A at 30 VDC (resistive load); 0.1 A at 125 VAC (resistive load)
Minimum applicable load	1 mA at 5 VDC

## Bullet Shape LED and LED Lamp Ratings

### Bullet Shape LEDs

Model		A3PJ/M2PJ	A3PA/M2PA
Applied voltage	Rated voltage	Rated current	Rated current
		Single screen	Single screen
5 VDC $\pm 5\%$	5 VDC	40 mA	20 mA
12 VDC $\pm 5\%$	12 VDC	20 mA	10 mA
24 VDC $\pm 5\%$	24 VDC	10 mA	

### LED Lamps

Applied voltage	Rated voltage	Rated current
5 VDC $\pm 5\%$	5 VDC	8 mA
12 VAC/VDC $\pm 5\%$	12 VDC	
24 VAC/VDC $\pm 5\%$	24 VDC	

## Characteristics

Operating frequency	Mechanical	120 operations/minute max. *1
	Electrical	30 operations/minute max.
Insulation resistance		100 M $\Omega$ min. (at 500 VDC)
Contact resistance	Standard load	40 m $\Omega$ max. (initial value)
	Microload	100 m $\Omega$ max. (initial value)
Dielectric strength	Between terminals of same polarity	1,000 VAC, 50/60 Hz for 1 minute *2
	Between terminals of different polarity	2,000 VAC, 50/60 Hz for 1 minute
	Between current-carrying metal part and ground	2,000 VAC, 50/60 Hz for 1 minute
	Between each terminal and non-current-carrying metal part	2,000 VAC, 50/60 Hz for 1 minute
Between lamp terminals		1,000 VAC, 50/60 Hz for 1 minute *3
Vibration resistance	Malfunction	10 to 55 Hz, 1.5 mm double amplitude (1 ms max.)
Shock resistance	Destruction	500 m/s <sup>2</sup> max.
	Malfunction	200 m/s <sup>2</sup> max. (1 ms max.)
Life expectancy	Mechanical	Momentary operation models: 1,000,000 operations min. Alternate operation models: 200,000 operations min. (One operation consists of set and reset operations.)
	Electrical	100,000 operations min.
Weight		Approx. 30 g
Inrush current	NC	Silver contact: 10 A max.
	NO	Silver contact: 10 A max.
Ambient operating temperature		Bullet Shape LEDs: $-10^\circ\text{C}$ to $40^\circ\text{C}$ (with no icing or condensation) LED Lamps: $-10^\circ\text{C}$ to $50^\circ\text{C}$ (with no icing or condensation)
Ambient operating humidity		35% to 85%RH
Ambient storage temperature		$-25^\circ\text{C}$ to $65^\circ\text{C}$
Degree of protection		IP40
Electric shock protection class		Class II
PTI (proof tracking index)		175
Pollution degree		3 (IEC947-5-1)

\*1. With alternate operation models, 60 operations/minute max. One operation cycle consists of set and reset operations.

\*2. 600 VAC for microloads.

\*3. With no incandescent lamp or LED lamp mounted.

# A3P




## Specifications

### Operating Characteristics

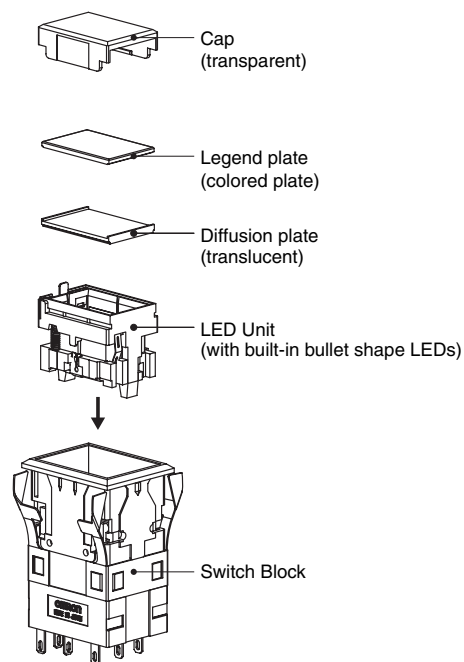
Operating Characteristics	Model	A3PJ series		A3PA series		A3PT series	
		Momentary operation models	Alternate operation models	Momentary operation models	Alternate operation models	Momentary operation models	Alternate operation models
Operating force	OF max.	5.88 N	6.86 N	5.88 N	6.86 N	3.92 N	4.90 N
Releasing force	RF min.	0.39 N	0.29 N	0.39 N	0.29 N	0.39 N	0.29 N
Total travel	TT	Approx. 3.5 mm	Approx. 3.5 mm	Approx. 3.5 mm	Approx. 3.5 mm	Approx. 3.5 mm	Approx. 3.5 mm
Pretravel	PT max.	3 mm	3 mm	3 mm	3 mm	3 mm	3 mm
Lock travel alternate	LTA min.	---	0.5 mm	---	0.5 mm	---	0.5 mm

## Nomenclature

### Model Structure

Lighting method	Bullet Shape LED Models (LED is built-in.)		LED Lamp-lighted Models (LED lamp is not built-in.)
	A3PJ	A3PA	A3PT
Models			
Screen patterns	Single screen 	Single screen 	Single screen 

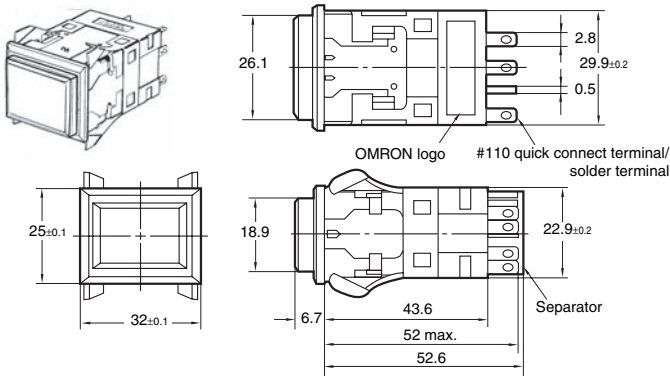
Example: A3PJ with Bullet Shape LED Lighting



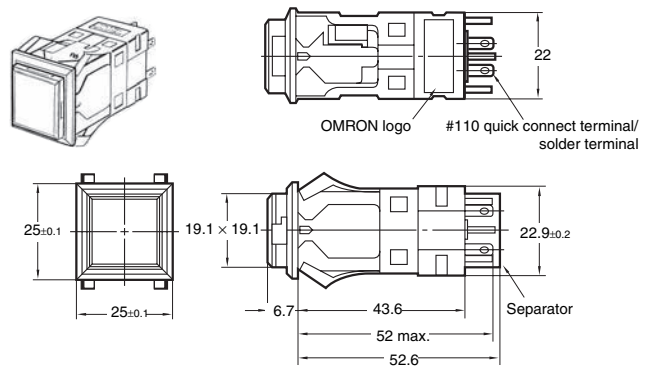
**Dimensions** The Dimension shows 2-switch outputs.

(Unit: mm)

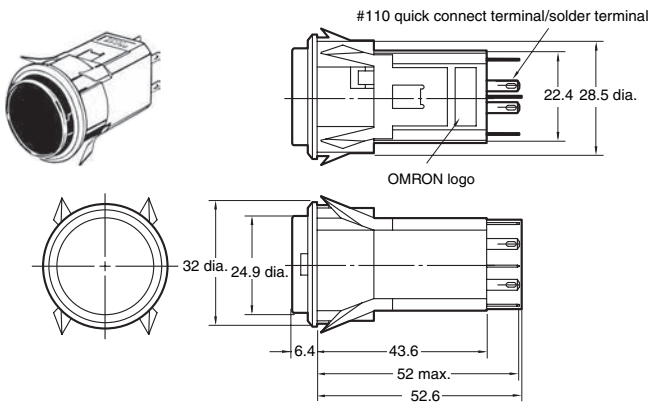
**A3PJ (Rectangular) Models**



**A3PA (Square) Models**



**A3PT (Round) Models**



**Note:** The thickness of tab terminals #110 and solder terminals is 0.5 mm.

**Terminal Connections**


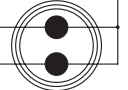
**Bullet Shape LED Models**

(The terminal arrangement diagram shows a 1-switch output. Connections to terminals from the lighting block are the same for 2 outputs.)

Rated voltage		5 VDC		12 VDC		24 VDC	
Model	Screen pattern	Bottom view	Top view	Bottom view	Top view	Bottom view	Top view
A3PJ	Single screen						
	Single screen						

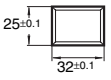
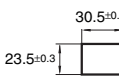
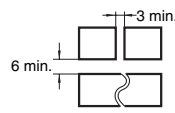
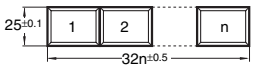
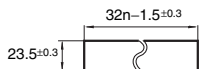
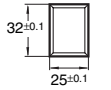
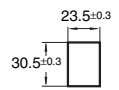
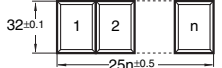
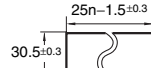
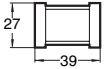
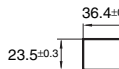
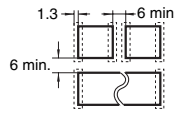
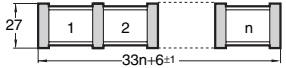
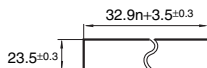
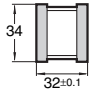
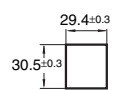
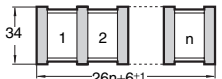
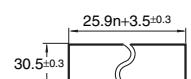
### LED Lamp-lighted Models

(All are shown with the OMRON logo facing down. The terminal arrangements are the same as for the LED-lighted models.)

Output	Model	Round A3PT models
SPDT	Bottom view	Top view
		
		Terminal arrangement
		Lighting block

**Panel Cutout** (If you use a Switch Guard or Seal Cover, refer to *Switch and Guard Mounting Dimensions* or *Seal Cover Mounting Dimensions* in the A3P datasheet.)

### A3PJ (Rectangular) Models

Classification	Mounting design	Panel cutout	Remarks	
Flange mount models	Individual mounting (Horizontal)			Panel cutout spacing between rows of Units: 
	Multiple mounting (Horizontal)			
	Individual mounting (Vertical)			
	Multiple mounting (Vertical)			
Barrier mount models	Individual mounting (Horizontal)			For barrier mount models, refer to <i>Accessories</i> in the A3P datasheet. Panel cutout spacing between rows of Units: (Dotted line indicates the position of each mounting barrier.) 
	Multiple mounting (Horizontal)			
	Individual mounting (Horizontal)			
	Multiple mounting (Vertical)			

**Note:** 1. n: Number of Units

2. Recommended panel thickness: 1 to 5 mm

3. Mount the panel before mounting the Switch Guard.


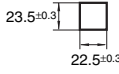
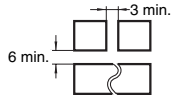
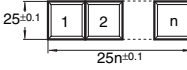
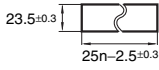


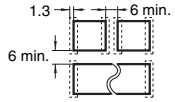
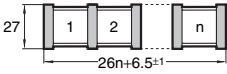
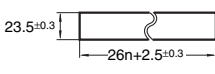
4. If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating.



# Dimensions

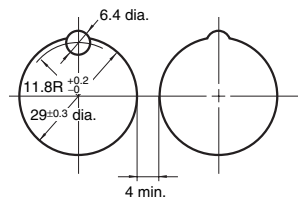
(Unit: mm)

## A3PA (Square) Models

Classification		Mounting design	Panel cutout	Remarks
Flange mount models	Individual mounting			Panel cutout spacing between rows of Units: 
	Multiple mounting			
Barrier mount models	Individual mounting			Panel cutout spacing between rows of Units: (Dotted line indicates the position of each mounting barrier.) 
	Multiple mounting			

- Note:**
1. n: Number of Units
  2. Recommended panel thickness: 1 to 5 mm
  3. Mount the panel before mounting the Switch Guard.
  4. If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating.

## A3PT (Round) Models



- Note:**
1. Recommended panel thickness: 1 to 5 mm
  2. If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating.

## A3P

### Safety Precautions

---

Refer to *Safety Precautions for all Pushbutton Switches/Indicators* for common precautions.

Read the *Safety Precautions* in the A3P datasheet.

For technical information and FAQs, refer to Technical Support on the OMRON Industrial Automation website (<http://www.ia.omron.com>).

# Terms and Conditions Agreement

## Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

## Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

## Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

## Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

## Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

## Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

## Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

**OMRON Corporation Industrial Automation Company**

Tokyo, JAPAN

Contact: [www.ia.omron.com](http://www.ia.omron.com)

**Regional Headquarters**

**OMRON EUROPE B.V.**

Wegalaan 67-69-2132 JD Hoofddorp  
The Netherlands

Tel: (31)2356-81-300/Fax: (31)2356-81-388

**OMRON ELECTRONICS LLC**

One Commerce Drive Schaumburg,  
IL 60173-5302 U.S.A.

Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

**OMRON ASIA PACIFIC PTE. LTD.**

No. 438A Alexandra Road # 05-05/08 (Lobby 2),  
Alexandra Technopark,  
Singapore 119967

Tel: (65) 6835-3011/Fax: (65) 6835-2711

**OMRON (CHINA) CO., LTD.**

Room 2211, Bank of China Tower,  
200 Yin Cheng Zhong Road,  
PuDong New Area, Shanghai, 200120, China

Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

**Authorized Distributor:**

© OMRON Corporation 2013 All Rights Reserved.  
In the interest of product improvement,  
specifications are subject to change without notice.

CSM\_3\_1\_0315  
Cat. No. **A229-E1-01**

Printed in Japan  
0913 (0913)