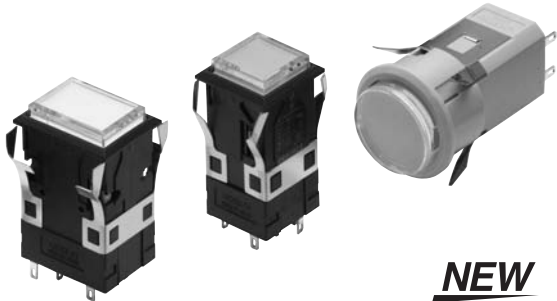



# Lighted Pushbutton Switch (Square) Ultra Bright LED Type A3P

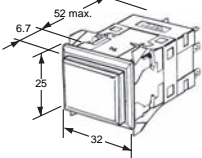
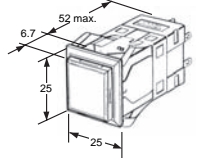
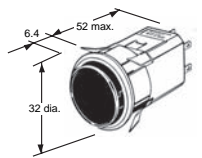
## Large Square-bodied Lighted Pushbutton Switches New models added with Ultra LEDs.

- 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)	

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.

**(1) Shape of Pushbutton**

Symbol	Shape
J	Rectangular
A	Square
T	Round

► Momentary operation: Self-resetting  
► Alternate operation: Self-holding

**(2) Switch Specifications**

**Standard Load**

Symbol	Operation
A	Momentary
B	Alternate
C	Momentary
D	Alternate

**Microload**

Symbol	Operation
E	Momentary
G	Momentary

- Standard Load  
250 VAC, 3 A  
30 VDC, 3 A
- Microload  
125 VAC, 0.1 A  
30 VDC, 0.1 A

Minimum applicable load  
5 VDC, 1 mA

**(3) Screen Pattern**

Illumination-only models	
Symbol	Screen pattern
1	Single screen

**(4) Case Color**

Symbol	Color
1	Black
2	Light gray

Note: A3PT models are available in light gray only.

**(5) Lighting Method**

**Bullet Shape LED Models (A3PJ and A3PA Models Only)**

Symbol	Rated voltage
05A	5 VDC
12A	12 VAC/VDC
24A	24 VAC/VDC

**LED Lamp-lighted Models (A3PT Only)**

Symbol	Rated voltage
05S	5 VDC
12S	12 VAC/VDC
24S	24 VAC/VDC

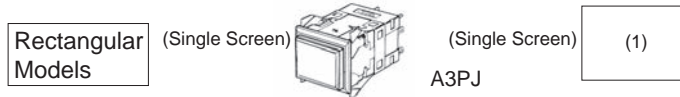
**(6) Color of Pushbutton For LED**

Symbol	Color
R	Red
O	Orange
G	Green
W	White
Y	Yellow
A	Blue
PW	Pure White

Color of screen	Symbol Color	R	Y	G	W	O	A	PW
		Red	Yellow	Green	White	Orange	Blue	Pure White
Color of Plate		Red	Yellow	Green	White	Orange	Blue	White
LED		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-90A12-05A(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-90A12-05A(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-90A11-24A(R)



			Operation	Momentary operation (Self-resetting)	Alternate operation (Self-holding)	Pushbutton color symbol
Contact type	No. of outputs	Lighting method	Case color	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-90A12-24S(R)

## Accessories and Tools

The accessories and tools 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 MΩ min. (at 500 VDC)
Contact resistance	Standard load		40 mΩ max. (initial value)
	Microload		100 mΩ 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°C to 40°C (with no icing or condensation) LED Lamps: -10°C to 50°C (with no icing or condensation)
Ambient operating humidity			35% to 85%RH
Ambient storage temperature			-25°C to 65°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

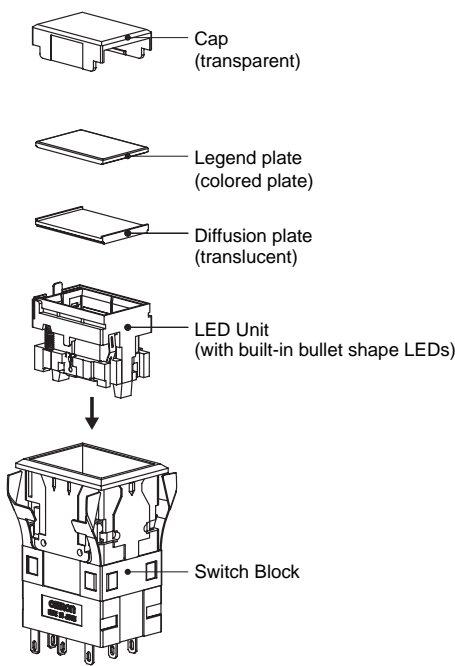
Model		A3PJ series		A3PA series		A3PT series	
		Momentary operation models	Alternate operation models	Momentary operation models	Alternate operation models	Momentary operation models	Alternate operation models
Operating force	OF max.	5.88 N	6.86 N	5.88 N	6.86 N	3.92 N	4.90 N
Releasing force	RF min.	0.39 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.)
Models	A3PJ	A3PA	A3PT
Screen patterns	Single screen 	Single screen 	Single screen 

Example: A3PJ with Bullet Shape LED Lighting

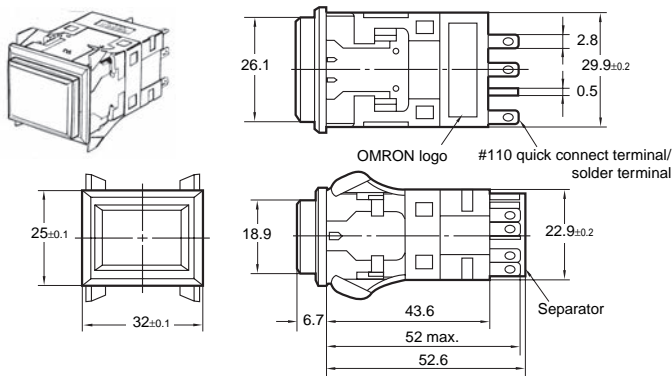


# Dimensions

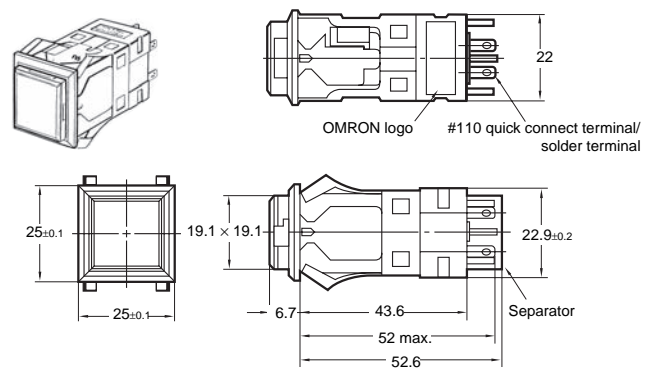
The Dimension shows 2-switch outputs.

(Unit: mm)

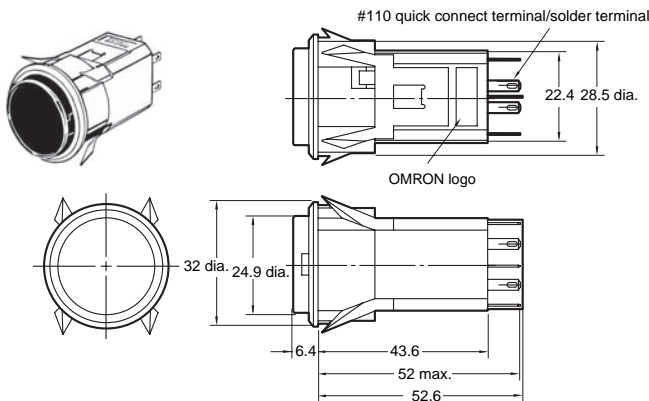
## A3PJ (Rectangular) Models



## 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 Screen pattern		5 VDC	12 VDC	24 VDC
Model				
A3PJ	Single screen	Bottom view Top view Terminal arrangement Lighting block	Bottom view Top view Terminal arrangement Lighting block	Bottom view Top view Terminal arrangement Lighting block
A3PA	Single screen	Bottom view Top view Terminal arrangement Lighting block	Bottom view Top view Terminal arrangement Lighting block	

## 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

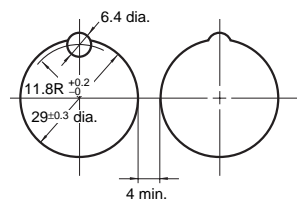
(Unit: mm)

### 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.

### Safety Precautions

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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>).

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