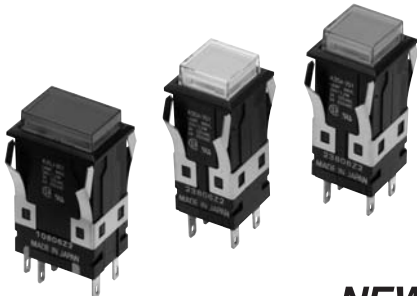



Lighted Pushbutton Switch (Square) Ultra Bright LED Type A3S

Pushbutton Switch Series with Square 40-mm Body. 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).

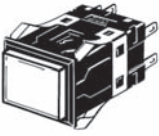
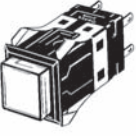


NEW

 Refer to *Safety Precautions for All Pushbutton Switches/Indicators* and *Safety Precautions* in the A3S datasheet.

List of Models

Lighted Pushbutton Switches

Appearance	Mode
Rectangular 	A3SJ
Square 	A3SA

Model Number Structure

Model Number Legend The model numbers used to order sets are illustrated below. One set comprises the Operation Unit, Lamp, and Socket Unit. For information on combinations, refer to Ordering Information on page 3.

(1)

A 3 S J - 9 0 A 1 - 2 4 S R

(2)

(3)

(4)

(5)

(1) Shape of Operation Unit

Symbol	Shape
J	Rectangular
A	Square

(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, 2 A

125 VDC, 0.4 A

• Microload

125 VAC, 0.1 A

30 VDC, 0.1 A

Minimum applicable load

5 VDC, 1 mA

► Momentary operation

...Self-resetting

► Alternate operation

...Self-holding

(3) Screen Pattern

Illumination-only models

Symbol	Screen pattern
1	Single screen

(4) Lighting Method

LED-lighted Models

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

(5) Operation Unit Color

For LED

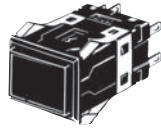
Symbol	Color
R	Red
Y	Yellow
G	Green
W	White
O	Orange
A	Blue
PW	Pure White

Color of screen	Symbol	R	Y	G	W	O	A	PW
	Color	Red	Yellow	Green	White	Orange	Blue	Pure White
Color of plate		Red	Yellow	Green	White	Orange	Blue	White
LED		Red	Pure White	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 Operation Unit, Lamp, and Socket Unit.

Rectangular Models



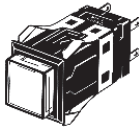
A3SJ

Contact type	No. of outputs	Lighting method	Operation Case color	Momentary operation (Self-resetting)	Alternate operation (Self-holding)	Pushbutton color symbol
Standard Loads	SPDT	LED lamp	5 VDC	A3SJ-90A1-05S(1)	A3SJ-90B1-05S(1)	R, O, G, W, Y, A, or PW
			12 VAC/DC	A3SJ-90A1-12S(1)	A3SJ-90B1-12S(1)	
			24 VAC/DC	A3SJ-90A1-24S(1)	A3SJ-90B1-24S(1)	
	DPDT		5 VDC	A3SJ-90C1-05S(1)	A3SJ-90D1-05S(1)	
			12 VAC/DC	A3SJ-90C1-12S(1)	A3SJ-90D1-12S(1)	
			24 VAC/DC	A3SJ-90C1-24S(1)	A3SJ-90D1-24S(1)	
Microloads	SPDT		5 VDC	A3SJ-90E1-05S(1) —		
			12 VAC/DC	A3SJ-90E1-12S(1) —		
			24 VAC/DC	A3SJ-90E1-24S(1) —		
	DPDT		5 VDC	A3SJ-90G1-05S(1) —		
			12 VAC/DC	A3SJ-90G1-12S(1) —		
			24 VAC/DC	A3SJ-90G1-24S(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 A3SJ-90A1-24S(R)

Square Models



A3SA

Contact type	No. of outputs	Lighting method	Operation Case color	Momentary operation (Self-resetting)	Alternate operation (Self-holding)	Pushbutton color symbol
Standard Loads	SPDT	LED lamp	5 VDC	A3SA-90A1-05S(1)	A3SA-90B1-05S(1)	R, O, G, W, Y, A, or PW
			12 VAC/DC	A3SA-90A1-12S(1)	A3SA-90B1-12S(1)	
			24 VAC/DC	A3SA-90A1-24S(1)	A3SA-90B1-24S(1)	
	DPDT		5 VDC	A3SA-90C1-05S(1)	A3SA-90D1-05S(1)	
			12 VAC/DC	A3SA-90C1-12S(1)	A3SA-90D1-12S(1)	
			24 VAC/DC	A3SA-90C1-24S(1)	A3SA-90D1-24S(1)	
Microloads	SPDT		5 VDC	A3SA-90E1-05S(1) —		
			12 VAC/DC	A3SA-90E1-12S(1) —		
			24 VAC/DC	A3SA-90E1-24S(1) —		
	DPDT		5 VDC	A3SA-90G1-05S(1) —		
			12 VAC/DC	A3SA-90G1-12S(1) —		
			24 VAC/DC	A3SA-90G1-24S(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 A3SA-90A1-24S(R)

Accessories and Tools

The accessories and tools are the same as those for the A3S. Refer to the A3S datasheet.

Specifications

Approved Standard Ratings

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

Standard Load: 3 A at 125 VAC

2 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.

Ratings

For Standard Loads

Rated voltage	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	3		1	0.7	2		1.5	1
250 VAC	2		0.7	0.5	1.5		1	0.7
8 VDC	3		1		2		1.5	
14 VDC	3		1		1.5		1.5	
30 VDC	2		1		1.5		1	
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.

The rated values are for testing conducted under the following conditions.

- (1) Ambient temperature: 20±2°C
- (2) Ambient humidity: 65% ±5%RH
- (3) Operating frequency: 20 times/min

For Microloads

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

LED Lamp

Applied voltage	Rated voltage	Rated current
5 VDC±5%	5 VDC	8 mA
12 VAC/VDC±5%	12 VAC/VDC	
24 VAC/VDC±5%	24 VAC/VDC	

Characteristics

Operating frequency	Mechanical	Momentary operation models: 120 operations/min max. *1
	Electrical	20 operations/min max.
Insulation resistance		100 MΩ min. (at 500 VDC)
Contact resistance	Standard load	50 mΩ max. (initial value)
	Microload	50 mΩ max. (initial value)
Dielectric strength	Between terminals of same polarity	1,000 VAC, 50/60 Hz for 1 minute
	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 *2
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude *3
Shock resistance	Destruction	500 m/s ² max.
	Malfunction	200 m/s ² max. *3
Life expectancy	Mechanical	Momentary operation models: 1,000,000 operations min. Alternate operation models: 100,000 operations min. (One operation consists of set and reset operations.)
	Electrical	100,000 operations min. (rated load)
Weight		Approx. 10 g
Inrush current	NC	Standard load: 10 A max.
	NO	Standard load: 10 A max.
Ambient operating temperature		-10 to 50°C (with no icing or condensation)
Ambient operating humidity		35% to 85% RH
Ambient storage temperature		-25 to 65°C (with no icing or condensation)
Degree of protection		IP00
Electric shock protection class		Class II
PTI (proof tracking index)		175
Pollution degree		3 (IEC 60947-5-1)

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

*2. With no incandescent lamp or LED lamp mounted.

*3. Malfunction : 1 ms max.

Operating Characteristics

Operation		Momentary operation models	Alternate operation models
Operating characteristics			
Operating force	OF max.	3.92 N	4.90 N
Releasing force	RF min.	0.49 N	0.294 N
Total travel	TT	Approx. 3 mm	Approx. 3 mm
Pretravel	PT max.	2.2 mm	2.2 mm
Lock travel alternate	LTA min.	—	0.5 mm

Contact Form

Name	Contact Form
Double-throw contacts	

Nomenclature

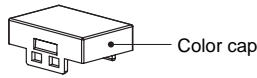
Model Structure

Rectangular
A3SJ

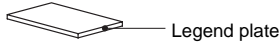
Square
A3SA

Single
screen

Single
screen



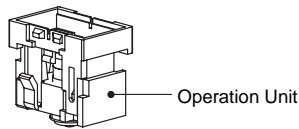
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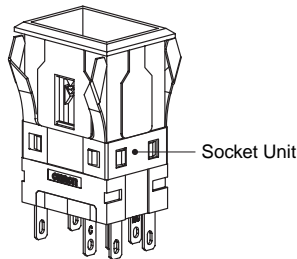
Legend plate



Diffusion plate



Operation Unit



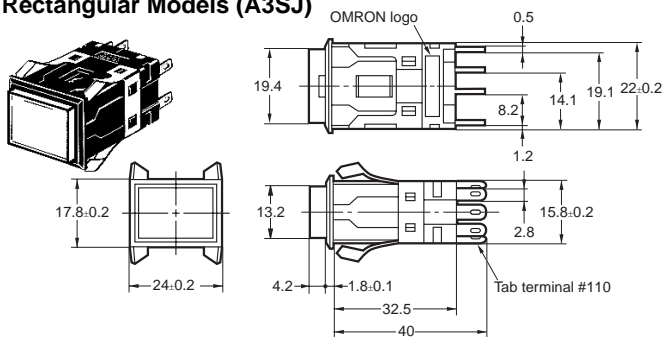
Socket Unit

Dimensions

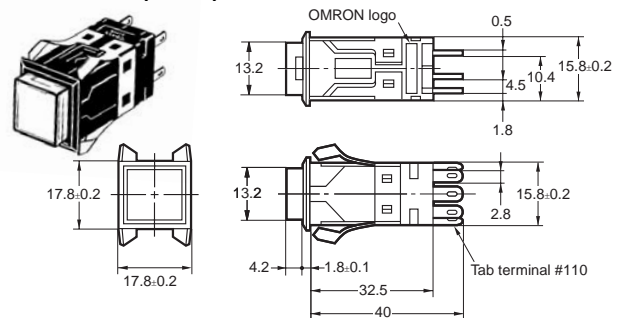
The Dimension shows 2-switch outputs.

(Unit: mm)

Rectangular Models (A3SJ)



Square Models (A3SA)



Note: Unless specified, a tolerance of ± 0.4 mm applies for all dimensions. Use a mounting panel thickness of 1 to 4 mm.

Contact Type

Lamp-lighted Models


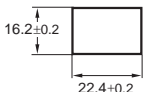
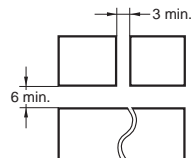
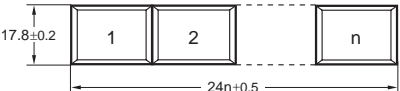
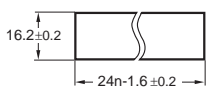
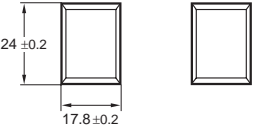
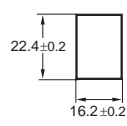
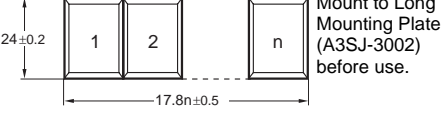
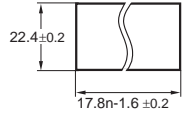
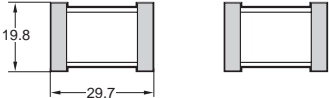
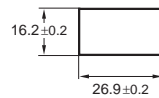
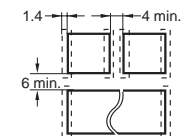
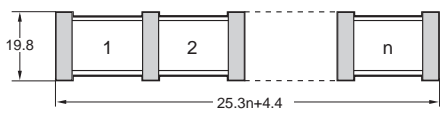
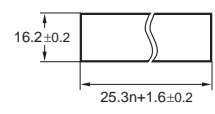
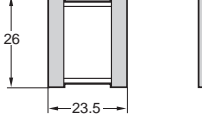
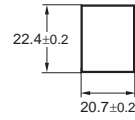
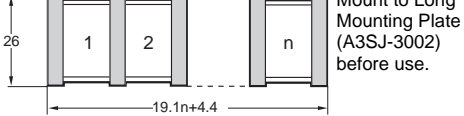
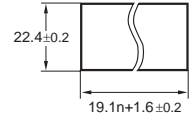
Type	Model	Rectangular Models (A3SJ)	Square Models (A3SA)
SPDT	Bottom view		
	Top view		

Dimensions

(Unit: mm)

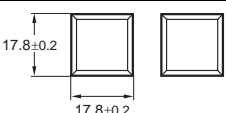
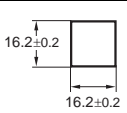
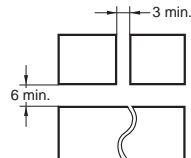
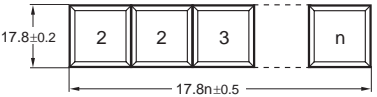
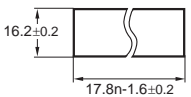
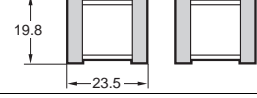
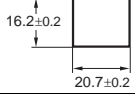
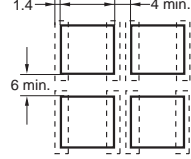
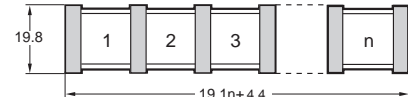
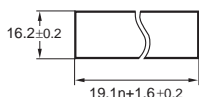
Panel Cutout (If you use a Switch Guard or Seal Cover, refer to *Switch and Guard Mounting Dimensions* or *Seal Cover Mounting Dimensions* in the A3S datasheet.)

Rectangular Models (A3SJ)

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 		Panel cutout spacing between rows of Units: 
	Multiple mounting, horizontal 		
	Individual mounting, vertical 		
	Multiple mounting, vertical 		

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

Square Models (A3SA)

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: 
	Multiple mounting 		

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

Safety Precautions

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

Read the *Safety Precautions* in the A3S 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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