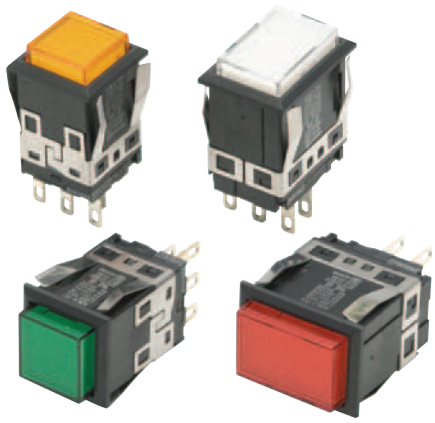
A3K

CSM_A3K_DS_E_4_1

Sense of Touch and Protection Ability Improved over OMRON's Previous Models. Miniature Design Achieved with Body Length of 23 mm.

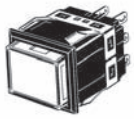


- Combines miniature design with distinct but soft sense of operation.
- Five colors (red, yellow, green, white, and blue) with LEDs. (A green LED is used for blue.)
- Improved sense of touch with built-in Basic Switch.
- Built-in Basic Switch improves protection over OMRON's previous models.
- Chip LED produces even surface brightness.
- Easy panel mounting from the front.

⚠ Refer to *Safety Precautions for All Pushbutton Switches/ Indicators* and *Safety Precautions* on page 15.

List of Models

Lighted Pushbutton Switches

Appearance	Model
Rectangular 	A3KJ
Square 	A3KA

■ Specifications: Refer to page 10.
■ Dimensions: Refer to page 12.
■ Accessories: Refer to pages 8 to 9.

Model Number Structure

Model Number Legend .....The model numbers used to order sets of Units are illustrated below. One set comprises the Operation Unit (LED built in) and Socket Unit.
For information on combinations, refer to *Ordering Information* on page 3.

(3) (4) (5)

1 - 24E R ..... Single screen

(1) (2) Upper Lower

A3K J - 90 A 2 - 24E RW ..... Horizontal 2-split screen

R (Red)	Upper
W (White)	Lower

(1) Shape of Operation Unit

Symbol	Shape
J	Rectangular
A	Square

(2) Switch Specifications

Standard Load

Symbol	Operation	Contacts
A	Momentary	SPDT
B	Alternate	
C	Momentary	DPDT
D	Alternate	

Microload

Symbol	Operation	Contacts
E	Momentary	SPDT
F	Alternate	
G	Momentary	DPDT
H	Alternate	

- 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

▶ **Momentary operation: Self-resetting**
▶ **Alternate operation: Self-holding**

(3) Screen Pattern

Illumination-only models

Symbol	Screen pattern
1	Single screen 
2	Horizontal 2-split screen  (rectangular models only)

The screen patterns listed below can be ordered individually. Refer to page 6 for details.

Vertical 2-split screen 
(rectangular models only)

(4) Lighting Method

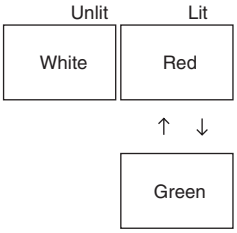
Symbol	Operating voltage
05E	5 VDC
12E	12 VDC
24E	24 VDC

- Only for LED models.

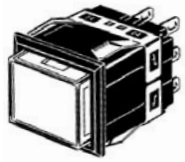
(5) Color of Display

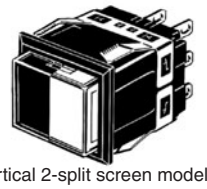
Symbol	Color
R	Red
Y	Yellow
G	Green
W	White
A	Blue
K	Red/green 2-color lighting (rectangular models only)

▶ **Red/green 2-color lighting:**



Type


Single-screen models
(rectangular and square models)


Vertical 2-split screen models
(See note 1.)
(rectangular models only)


Horizontal 2-split screen models
(rectangular models only)

Note: 1. Vertical 2-split screen models can be ordered only individually. Refer to page 6.
2. A legend plate and LED (with current-limiting resistor) are built into a standard Display.
3. Split-screen color configurations are given with the OMRON mark on the Switch facing down.
4. The following table lists the colors of the built-in legend plate.

Single screen

Operation Unit color / Legend plate	White	Red	Green	Blue	Yellow	Two-color lighting (red/green)
Milk-white	O			O		O
Transparent		O	O		O	

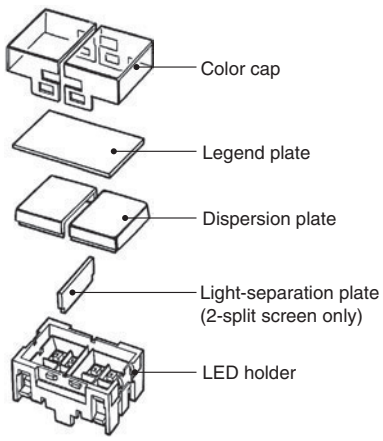
2-split screen

Color combination	White	Red	Green	Blue	Yellow
White	Milk-white	Milk-white	Milk-white	Milk-white	Milk-white
Red	Milk-white	Transparent	Transparent	Milk-white	Transparent
Green	Milk-white	Transparent	Transparent	Milk-white	Transparent
Blue	Milk-white	Milk-white	Milk-white	Milk-white	Milk-white
Yellow	Milk-white	Transparent	Milk-white	Milk-white	Transparent

Examples:
White/red split colors:
One milk-white legend plate
Green/red split colors:
One transparent legend plate

Structure of Split-screen Operation Unit

(Example: Vertical 2-split screen)



Ordering Information

Sets.....Sets include an Operation Unit (LED built in) and a Switch.

Standard Loads

Rectangular Models

A3KJ

Standard Loads

Screen pattern	Output	Contact type Operation	Standard load (250 VAC, 3 A; 30 VDC, 3 A)		Operation Unit color symbol
			Momentary operation (Self-resetting)	Alternate operation (Self-holding)	
Single screen	SPDT	5 VDC	A3KJ-90A1-05EΔ	A3KJ-90B1-05EΔ	Insert a color symbol in Δ at the end of the model number. R (red), W (white) * Y (yellow), A (blue) * G (green), K (red/green)
		12 VDC	A3KJ-90A1-12EΔ	A3KJ-90B1-12EΔ	
		24 VDC	A3KJ-90A1-24EΔ	A3KJ-90B1-24EΔ	
	DPDT	5 VDC	A3KJ-90C1-05EΔ	A3KJ-90D1-05EΔ	
		12 VDC	A3KJ-90C1-12EΔ	A3KJ-90D1-12EΔ	
		24 VDC	A3KJ-90C1-24EΔ	A3KJ-90D1-24EΔ	
Horizontal 2-split screen	SPDT	24 VDC	A3KJ-90A2-24EΔ□	A3KJ-90B2-24EΔ□	Δ □ Insert color symbols in Δ and □ at the end of the model number. R (red), W (white) * Y (yellow), A (blue) * Green *
	DPDT	24 VDC	A3KJ-90C2-24EΔ□	A3KJ-90D2-24EΔ□	

* Yellow and green LEDs are used.

Microloads

Screen pattern	Output	Contact type Operation	Microload (125 VAC, 0.1 A; 30 VDC, 0.1 A)	Operation Unit color symbol
			Momentary operation (Self-resetting)	
Single screen	SPDT	5 VDC	A3KJ-90E1-05EΔ	Insert a color symbol in the Δ at the end of the model number. R (red), W (white) * Y (yellow), A (blue) * G (green), K (red/green)
		12 VDC	A3KJ-90E1-12EΔ	
		24 VDC	A3KJ-90E1-24EΔ	
	DPDT	5 VDC	A3KJ-90G1-05EΔ	
		12 VDC	A3KJ-90G1-12EΔ	
		24 VDC	A3KJ-90G1-24EΔ	
Horizontal 2-split screen	SPDT	24 VDC	A3KJ-90E2-24EΔ□	Δ □ Insert color symbols in Δ and □ at the end of the model number. R (red), W (white) * Y (yellow), A (blue) * G (green)
	DPDT	24 VDC	A3KJ-90G2-24EΔ□	

Note: Alternate operation models are also available. Refer to page 7 for model numbers.
* Yellow and green LEDs are used.

Individual models: Refer to pages 5 to 7.
(The Pushbutton and Switch can be ordered separately.)

■ Specifications: Refer to page 10. ■ Dimensions: Refer to page 12.
■ Accessories: Refer to pages 8 to 9.

Ordering Information

Sets ..... Sets include an Operation Unit (LED built in) and a Socket Unit.

Square Models

A3KA

Standard Loads

Screen pattern	Output	Contact type: Operation	Standard load (250 VAC, 3 A; 30 VDC, 3 A): Momentary operation (Self-resetting)	Standard load (250 VAC, 3 A; 30 VDC, 3 A): Alternate operation (Self-holding)	Operation Unit color symbol
Single screen	SPDT	5 VDC	A3KA-90A1-05EΔ	A3KA-90B1-05EΔ	Insert a color symbol in Δ at the end of the model number. R (red), Y (yellow) G (green), W (white) * A (blue) *
		12 VDC	A3KA-90A1-12EΔ	A3KA-90B1-12EΔ	
		24 VDC	A3KA-90A1-24EΔ	A3KA-90B1-24EΔ	
	DPDT	5 VDC	A3KA-90C1-05EΔ	A3KA-90D1-05EΔ	
		12 VDC	A3KA-90C1-12EΔ	A3KA-90D1-12EΔ	
		24 VDC	A3KA-90C1-24EΔ	A3KA-90D1-24EΔ	

* Yellow and green LEDs are used.

Microloads

Screen pattern	Output	Contact type: Operation	Microload (125 VAC, 0.1 A; 30 VDC, 0.1 A): Momentary operation (Self-resetting)	Operation Unit color symbol
Single screen	SPDT	5 VDC	A3KA-90E1-05EΔ	Insert a color symbol in Δ at the end of the model number. R (red), Y (yellow) G (green), W (white) * A (blue) *
		12 VDC	A3KA-90E1-12EΔ	
		24 VDC	A3KA-90E1-24EΔ	
	DPDT	5 VDC	A3KA-90G1-05EΔ	
		12 VDC	A3KA-90G1-12EΔ	
		24 VDC	A3KA-90G1-24EΔ	

Note: Alternate operation models are also available. Refer to page 7 for model numbers.
* Yellow and green LEDs are used.

Individual models: Refer to pages 5 to 7.
(The Pushbutton and Switch can be ordered separately.)

■ Specifications: Refer to page 10. ■ Dimensions: Refer to page 12.
■ Accessories: Refer to pages 8 to 9.

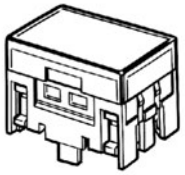
Ordering Information

Ordering Individually ..... Operation Units (LED built in) and Socket Units can be ordered separately. Combinations that are not available as sets can be created using individual Units. Parts can also stored as spares for maintenance and repairs.

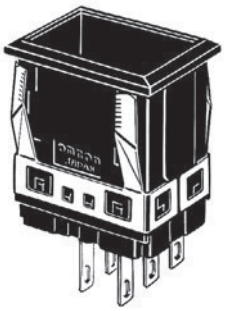
Ordering .....Specify a model number from the following page.

Operation Unit

An LED is built in.



Socket Unit



Ordering set combinations: Refer to pages 3 to 4.

■ Specifications: Refer to page 10. ■ Dimensions: Refer to page 12.
■ Accessories: Refer to pages 8 to 9.

Ordering Information

Operation Units
LED-lighted Models (LED chip built in)

Appearance	Screen pattern	Color	White (W)	Red (R)	Green (G)	Blue (A)	Yellow (Y)	Selection precautions
Rectangular Models (A3KJ) 	Single screen		**A3KJ-51W -□□E**	**A3KJ-51R -□□E**	**A3KJ-51G -□□E**	**A3KJ-51A -□□E**	**A3KJ-51Y -□□E**	• Enter the voltage to be used in the □□ at the end of the model number. Examples of voltages used: 5V=05E 12V=12E 24V=24E Two-split screen models are available only for 24 V. • For the color of the shaded part, select the model according to the colors given at the top of the table.
	Horizontal 2-split screen	White	**A3KJ-52WW -□□E**	**A3KJ-52WR -□□E**	**A3KJ-52WG -□□E**	**A3KJ-52WA -□□E**	**A3KJ-52WY -□□E**	
		Red	**A3KJ-52RW -□□E**	**A3KJ-52RR -□□E**	**A3KJ-52RG -□□E**	**A3KJ-52RA -□□E**	**A3KJ-52RY -□□E**	
		Green	**A3KJ-52GW -□□E**	**A3KJ-52GR -□□E**	**A3KJ-52GG -□□E**	**A3KJ-52GA -□□E**	**A3KJ-52GY -□□E**	
		Blue	**A3KJ-52AW -□□E**	**A3KJ-52AR -□□E**	**A3KJ-52AG -□□E**	**A3KJ-52AA -□□E**	**A3KJ-52AY -□□E**	
		Yellow	**A3KJ-52YW -□□E**	**A3KJ-52YR -□□E**	**A3KJ-52YG -□□E**	**A3KJ-52YA -□□E**	**A3KJ-52YY -□□E**	
	Vertical 2-split screen	White	**A3KJ-53WW -□□E**	**A3KJ-53WR -□□E**	**A3KJ-53WG -□□E**	**A3KJ-53WA -□□E**	**A3KJ-53WY -□□E**	
		Red	**A3KJ-53RW -□□E**	**A3KJ-53RR -□□E**	**A3KJ-53RG -□□E**	**A3KJ-53RA -□□E**	**A3KJ-53RY -□□E**	
		Green	**A3KJ-53GW -□□E**	**A3KJ-53GR -□□E**	**A3KJ-53GG -□□E**	**A3KJ-53GA -□□E**	**A3KJ-53GY -□□E**	
		Blue	**A3KJ-53AW -□□E**	**A3KJ-53AR -□□E**	**A3KJ-53AG -□□E**	**A3KJ-53AA -□□E**	**A3KJ-53AY -□□E**	
		Yellow	**A3KJ-53YW -□□E**	**A3KJ-53YR -□□E**	**A3KJ-53YG -□□E**	**A3KJ-53YA -□□E**	**A3KJ-53YY -□□E**	
	Two-color full illumination (red/green)	Red / Green	**A3KJ-57K -□□E**					
Square Models (A3KA) 	Single screen		**A3KA-51W -□□E**	**A3KA-51R -□□E**	**A3KA-51G -□□E**	**A3KA-51A -□□E**	**A3KA-51Y -□□E**	

Note: 1. A legend plate and LED (with current-limiting resistor) are built into a standard Display.
2. Split-screen color configurations are given with the OMRON mark on the Switch facing down.
3. The following list gives the colors of the built-in legend plate.

Single Screen

Operation Unit color / Legend plate	White	Red	Green	Blue	Yellow	Two-color full illumination (red/green)
Milk-white	O			O		O
Transparent		O	O		O	

2-split screen

Color combination	White	Red	Green	Blue	Yellow
White	Milk-white	Milk-white	Milk-white	Milk-white	Milk-white
Red	Milk-white	Trans-parent	Trans-parent	Milk-white	Trans-parent
Green	Milk-white	Trans-parent	Trans-parent	Milk-white	Trans-parent
Blue	Milk-white	Milk-white	Milk-white	Milk-white	Milk-white
Yellow	Milk-white	Trans-parent	Milk-white	Milk-white	Trans-parent

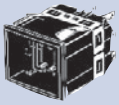
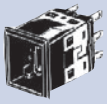
Examples:
White/red split colors: One milk-white legend plate
Green/red split colors: One transparent legend plate

Ordering set combinations: Refer to pages 3 to 4.

■ Specifications: Refer to page 10. ■ Dimensions: Refer to page 12.
■ Accessories: Refer to pages 8 to 9.

Ordering Information

Socket Units

Contact type		Number of Switch outputs	Operation	Rectangular models  Model	Square models  Model	Selection precautions
Standard load	Silver alloy contacts	1	Momentary operation	A3KJ-7010	A3KA-7010	• Use the Socket Unit in combination with the same shape Operation Unit (rectangular or square). Example: For A3KJ-51W-24E Rectangular Operation Unit, select the A3KJ-7□□0 Socket Unit. • Momentary operation is self-resetting, and alternate operation is self-holding (i.e., push-on, push-off).
			Alternate operation	A3KJ-7020	A3KA-7020	
		2	Momentary operation	A3KJ-7030	A3KA-7030	
			Alternate operation	A3KJ-7040	A3KA-7040	
Microload	Gold alloy contacts	1	Momentary operation	A3KJ-7050	A3KA-7050	
			Alternate operation	A3KJ-7060	A3KA-7060	
		2	Momentary operation	A3KJ-7070	A3KA-7070	
			Alternate operation	A3KJ-7080	A3KA-7080	

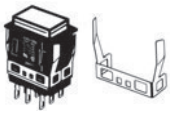
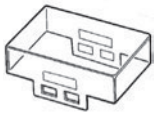
Ordering set combinations: Refer to pages 3 to 4.

■ Specifications: Refer to page 10. ■ Dimensions: Refer to page 12.
■ Accessories: Refer to pages 8 to 9.

Ordering Information

Accessories, Replacements, and Tools (Order Separately)

Accessories for Rectangular Models

Name	Appearance	Classification	Model	Application Precautions
Barrier		Short Edge Barriers (1 pair)	**A3SA-4001**	The purpose of a Barrier is to prevent malfunctioning and to improve design image of the mounting panel. There is one Intermediate Barrier and one pair of Edge Barriers (i.e., two Barriers). Mount Short Barriers horizontally. Mount Long Barriers vertically.
		Short Intermediate Barrier	**A3SA-4002**	
		Long Edge Barriers (1 pair)	**A3SJ-4003**	
		Long Intermediate Barrier	**A3SJ-4004**	
Switch Guard		—	**A3SJ-5050**	Cannot be used with Barriers or Seal Cover.
Seal Cover		—	**A3SJ-5060**	• Cannot be used with Barriers or Switch Guard. • Cap material: Vinyl chloride
Long Mounting Plate		—	**A3KJ-3002**	Use when vertically mounting individual (with Barrier) or multiple Switches (in standard mounting style and with Barriers). A Short Mounting Plate is attached to the Switch, so replace it with a long one.
Color cap		Transparent	**A3SJ-5600**	• The color cap is normally mounted. Contact your OMRON representative for color changes or inscribing. • If LED colors are to be used, use a color cap that matches the LED color.
		White	**A3SJ-5601**	
		Red	**A3SJ-5602**	
		Green	**A3SJ-5603**	
		Blue	**A3SJ-5604**	
		Yellow	**A3SJ-5605**	

Accessories for Square Models

Name	Appearance	Classification	Model	Application Precautions
Barrier		Short Edge Barriers (1 pair)	**A3SA-4001**	The purpose of a Barrier is to prevent malfunctioning and to improve design image of the mounting panel.
		Short Intermediate Barrier	**A3SA-4002**	
Switch Guard		—	**A3SA-5050**	Cannot be used with Barriers or Seal Cover.
Seal Cover		—	**A3SA-5060**	• Cannot be used with Barriers or Switch Guard. • Cap material: Vinyl chloride
Color cap		Transparent	**A3SA-5600**	• The color cap is normally mounted. Contact your OMRON representative for color changes or inscribing. • If LED colors are to be used, use a color cap that matches the LED color.
		White	**A3SA-5601**	
		Red	**A3SA-5602**	
		Green	**A3SA-5603**	
		Blue	**A3SA-5604**	
		Yellow	**A3SA-5605**	

■ Specifications: Refer to page 10.
■ Dimensions: Refer to page 12.
■ Accessory mounting: Refer to page 16.

Ordering Information

Tools for Rectangular Models

Name	Appearance	Classification	Model	Application precautions
Extractor		—	**A3PJ-5080**	Convenient for extracting the Operation Unit.

Replacements for Rectangular Models

Name	Appearance	Classification		Model	Application precautions
Legend plate		Transparent	LED	**A3SJ-4204**	For models with a red, green, or yellow Display, a transparent legend plate is built in. For models with a white or blue Display, a milk-white legend plate is built in.
		Milk-white		**A3SJ-4203**	

Replacements for Square Models

Name	Appearance	Classification		Model	Application precautions
Legend plate		Transparent	LED	**A3SA-4204**	For models with a red, green, or yellow Display, a transparent legend plate is built in. For models with a white or blue Display, a milk-white legend plate is built in.
		Milk-white		**A3SA-4203**	

■ Specifications: Refer to page 10.
■ Dimensions: Refer to page 12.
■ Accessory mounting: Refer to page 16.

Specifications

Approved Standard Ratings

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

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

Ratings

Standard Load

AC resistive load	DC resistive load
3 A at 250 VAC 5 A at 125 VAC	3 A at 30 VDC

Note: The above ratings are from testing under the following conditions:
1) Ambient temperature: 20 ± 2°C
2) Ambient humidity: 65% ± 5%RH
3) Operation frequency: 20 operations/min

Microload

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

LED-lighted Models

Rectangular Models (A3KJ)

Operating voltage	Rated voltage	Rated current
5 VDC ± 5%	5 VDC	44 mA
12 VDC ± 5%	12 VDC	22 mA
24 VDC ± 5%	24 VDC	11 mA

Square Models (A3KA)

Operating voltage	Rated voltage	Rated current
5 VDC ± 5%	5 VDC	27 mA
12 VDC ± 5%	12 VDC	18 mA
24 VDC ± 5%	24 VDC	9 mA

Characteristics

Operating frequency	**Mechanical**	Momentary-action 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/s² max.
	Malfunction	200 m/s² max. *3
Durability	**Mechanical**	Momentary operation models: 2,000,000 operations min. Alternate operation models: 200,000 operations min. One operation cycle consists of set and reset operations.
	Electrical	100,000 operations min. (rated load)
Weight		Approx. 10 g
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)

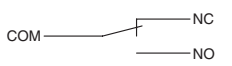
*1. Alternate-action models: 60 operations/min max.
(One operation cycle consists of set and reset operations.)
*2. The figure is for when no LED is mounted.
*3. Malfunction: 1 ms max.

Operating Characteristics

Operation / Operating Characteristics	Momentary operation	Alternate operation
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.	2.5 mm	2.5 mm
Lock travel alternate (LTA) min. *	—	0.5 mm

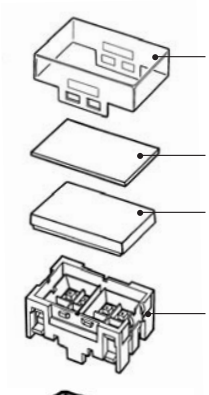
* Alternate operation models only.

Contact Form

Contact name	Contact form
Double-throw contacts	

Nomenclature

Model Structure



Operation Unit (LED built in)

●Operation Unit Structure

Rectangular Models (A3KJ)

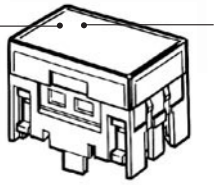
Square Models (A3KA)

Single screen

Horizontal 2-split screen

Vertical 2-split screen

Note: Only rectangular models have split screens.



●Operation Unit color

· LED Lighting
White, Red, Green, Yellow, Blue, Red/Green (2-color)
Only for rectangular models (A3KJ).

Socket Unit

●Socket Unit Specifications

· Standard load
3 A at 250 V
5 A at 125 V
3 A at 30 VDC

· Microload
0.1 A, 125 VAC
0.1 A, 30 VDC
Minimum applicable load
1 mA at 5 VDC

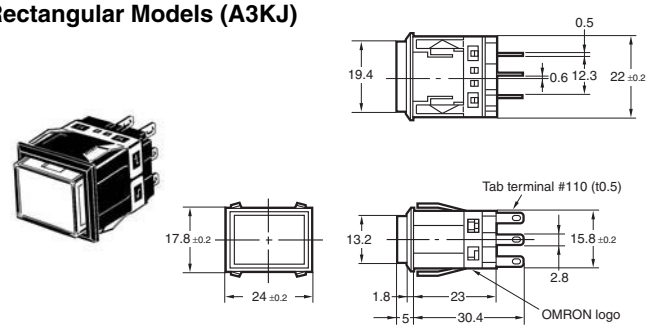
Note: The A3KJ is shown here as an example.

Dimensions

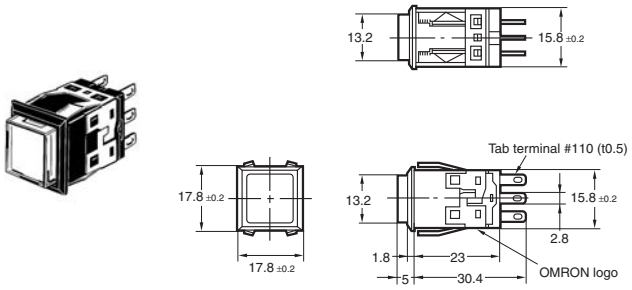
The Dimension shows 2-switch outputs.

(Unit: mm)

Rectangular Models (A3KJ)



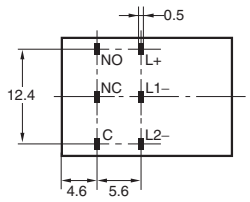
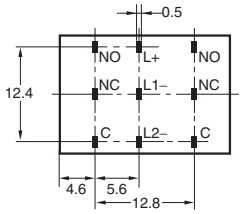
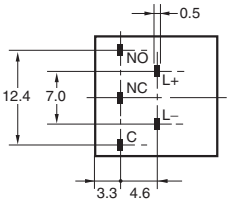
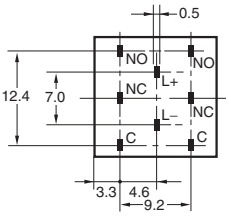
Square Models (A3KA)



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

Terminal Arrangement

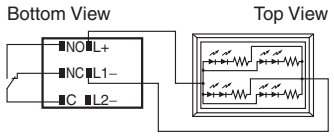
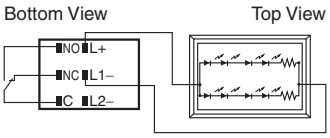
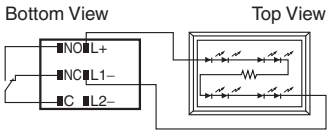
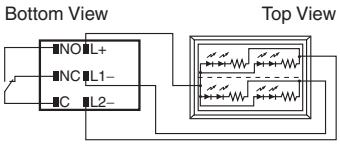
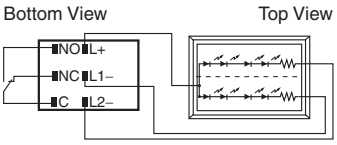
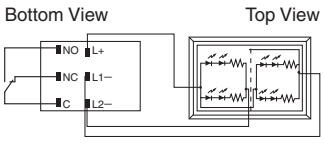
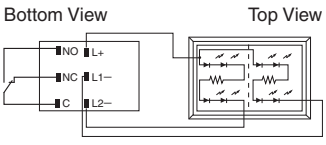
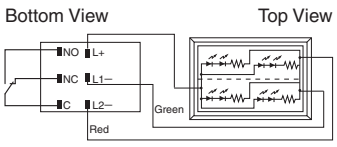
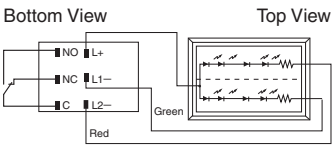
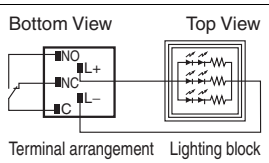
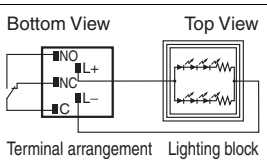
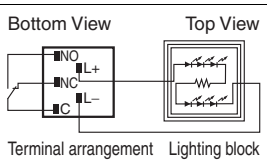
Bottom View (All OMRON logos face down.)

Rectangular Models (A3KJ)		Square Models (A3KA)	
SPDT	**DPDT**	**SPDT**	**DPDT**
			

Terminal Connections

LED-lighted Models

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

Model	Rated voltage / Screen pattern	5 VDC	12 VDC	24 VDC
A3KJ	Single screen			
	Horizontal 2-split screen			
	Vertical 2-split screen			
	Two-color lighting (red/green)			
A3KA	Single screen			

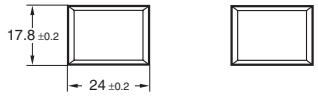
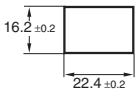
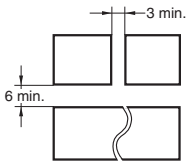
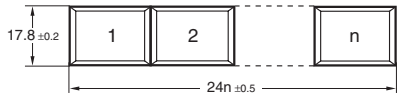
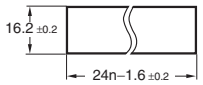
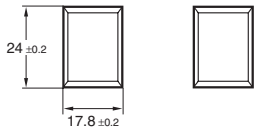
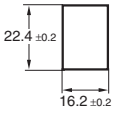
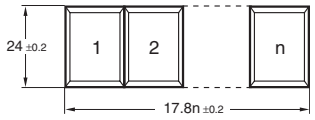
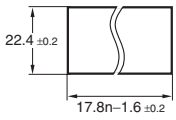
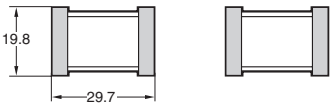
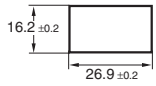
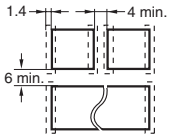
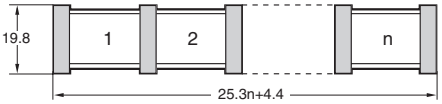
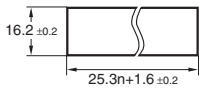
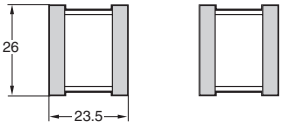
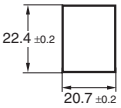
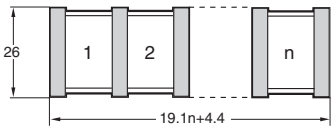
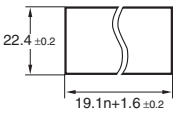
Dimensions

(Unit: mm)

Panel Cutouts (If a Switch Guard or Seal Cover is to be used, refer to the panel cutout diagrams on the following page.)

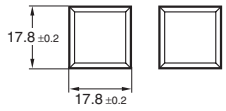
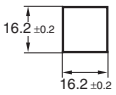
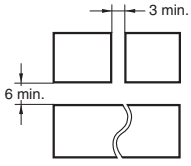
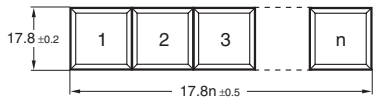
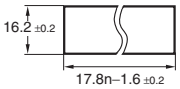
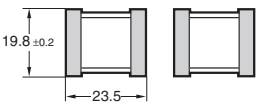
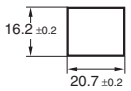
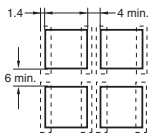
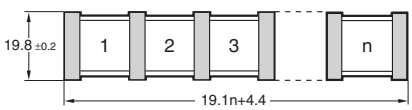
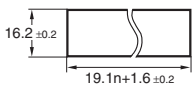
Rectangular Models (A3KJ)

Note: Use a mounting panel thickness of 1 to 4 mm.

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	 Mount to Long Mounting Plate (A3KJ-3002) before use.		
	Multiple mounting, vertical	 Mount to Long Mounting Plate (A3KJ-3002) before use.		
Barrier mount models	Individual mounting, horizontal			Panel cutout spacing between rows of Units:  (Dotted line indicates the position of each mounting Barrier.)
	Multiple mounting, horizontal			
	Individual mounting, vertical	 Mount to Long Mounting Plate (A3KJ-3002) before use.		
	Multiple mounting, vertical	 Mount to Long Mounting Plate (A3KJ-3002) before use.		

Square Models (A3KA)

Note: Use a mounting panel thickness of 1 to 4 mm.

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			

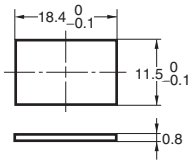
Dimensions

(Unit: mm)

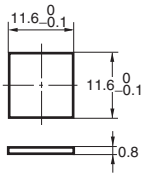
Accessories Dimensions When Mounted

Legend Plate

Rectangular Models
A3SJ-4203, A3SJ-4204

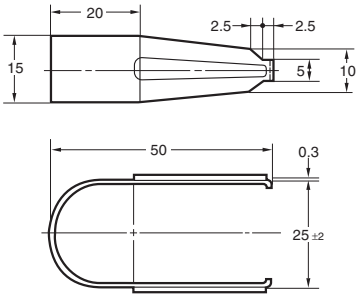


Square Models
A3SA-4203, A3SA-4204



Extractor

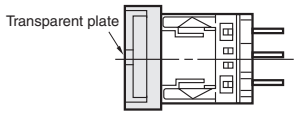
A3PJ-5080

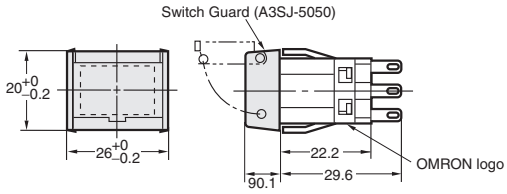


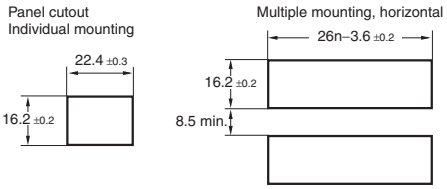
Note: The material is stainless steel.

Switch Guard Dimensions When Mounted

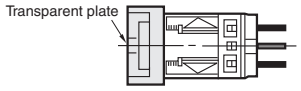
Rectangular Models
A3SJ-5050

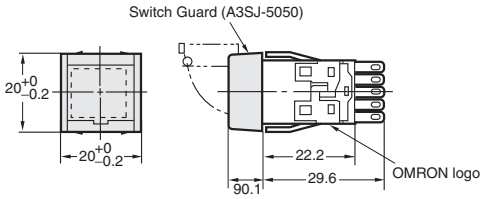


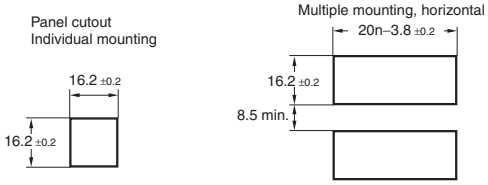




Square Models
A3SA-5050

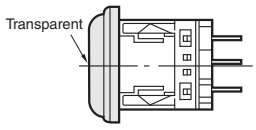


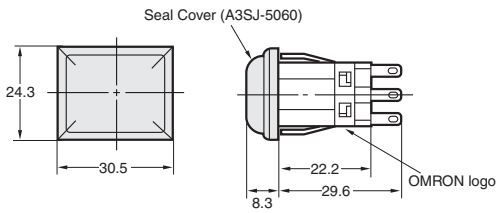


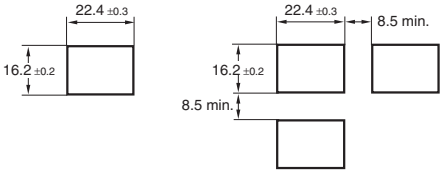


Seal Cover Dimensions When Mounted

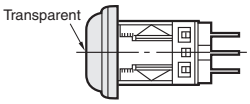
Rectangular Models
A3SJ-5060

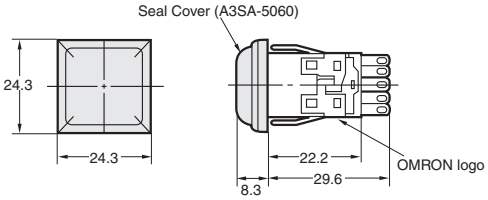


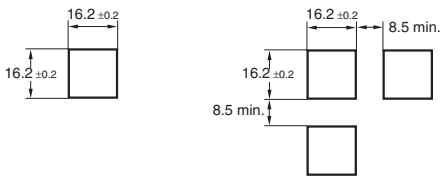




Square Models
A3SA-5060







Note: 1. Use a mounting panel thickness of t = 1 to 3.3 mm.
2. Unless specified, a tolerance of ±0.4 mm applies for all dimensions.

Safety Precautions

Refer to *Safety Precautions for All Pushbutton Switches/Indicators*.

Precautions for Correct Use

Mounting

- Always make sure that the power is turned OFF before mounting, removing, or wiring the Switch, or performing maintenance. Electric shock or fire may occur.

Wiring

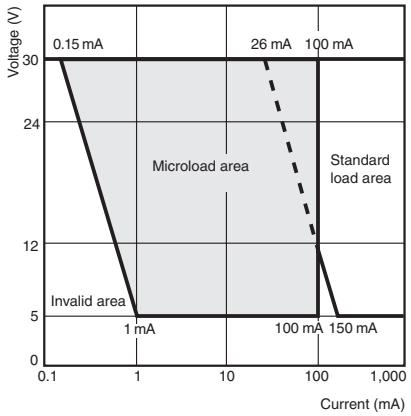
- For wiring, use a wire size that is appropriate for the applied voltage and the supplied current.
  Be sure to perform soldering according to the following conditions. Using the Switch with incomplete soldering may result in errors and heat, which may cause fire.
  1. Manual soldering: Use a soldering iron with a tip temperature of 350°C maximum and complete soldering within 3 seconds.
  2. Dip soldering: Solder at 350°C for 3 s or less.
     Wait for one minute after soldering before exerting any external force on the solder.
- Use non-corrosive liquid rosin as the flux.
- Make sure that the insulating sheath of the wires does not come in contact with the Unit. If wiring is performed with the insulating sheath of the wires in contact with the Unit, use wire with a minimum heat resistance of 100°C.
- After wiring the Switch, make sure that there is a suitable isolation distance.

Operating Environment

- Do not use in locations that are subject to dust, oil, or metal filings, because these may penetrate the interior of the Switch and cause malfunction.

Using Microloads

- Using a standard load switch when a microload circuit is opened or closed may cause wear on the contacts. Use the switch within the operating range. (Refer to the diagram below.) Even when using microload models within the operating range shown below, if inrush current occurs when the contacts are opened or closed, it may cause the contact surface to become rough, and so decrease life expectancy. Therefore, insert a contact protection circuit where necessary. The minimum applicable load is the N-level reference value. This value indicates the malfunction reference level for the reliability level of 60% (λ60) (conforming to JIS C5003).
  The equation $\lambda 60 = 0.5 \times 10^{-6}$/time indicates that the estimated malfunction rate is less than 1/2,000,000 with a reliability level of 60%.



Character Film

- If the character film is to be specially prepared, use heat-resistant film with a maximum thickness of 0.2 mm.

LEDs

- A current-limiting resistor for the LED is built in, so no external resistor is required.
- Do not apply more than the rated current to the LED. Doing so may damage the LED.

Two-color Lighting

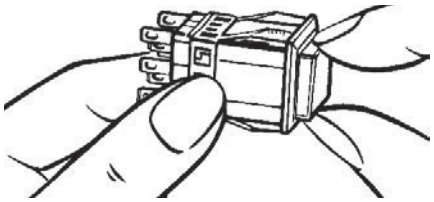
- With two-color lighting, changing the terminal connections enables two-color (red/green) full-surface colored illumination. (Only for models with the Display color symbol K.)
- To light two colors at the same time, connect an external resistors as described in the following table.

Connection / Voltage	Green: L1	Red: L2
5 V	9 Ω (1/2 W)	70 Ω (1/2 W)
12 V	40 Ω (1/2 W)	200 Ω (1/2 W)
24 V	200 Ω (1/2 W)	1.2K Ω (1/2 W)

Application

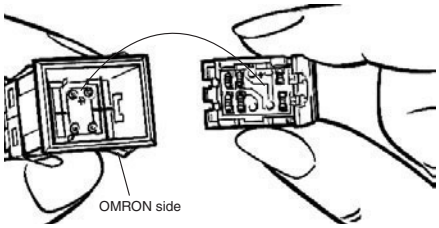
Removing the Operation Unit

- Grasp the groove on the cap surface, and pull it firmly toward you to remove the Unit.
- An Extractor (A3PJ-5080) is available to conveniently remove the Display.



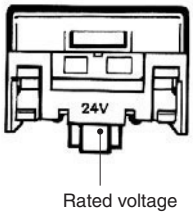
Inserting the Operation Unit into the Socket Unit

- Insert the Operation Unit in the proper direction.
  Insert the Operation Unit so that the "+" indication on the back (PCB) is lined up with the "O+" indication inside the Socket Unit.



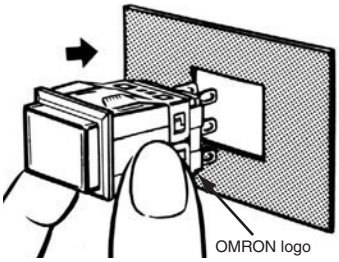
LED Rating

- The LED voltage rating is indicated on the side of the Operation Unit. Use within a range of ± 5%.



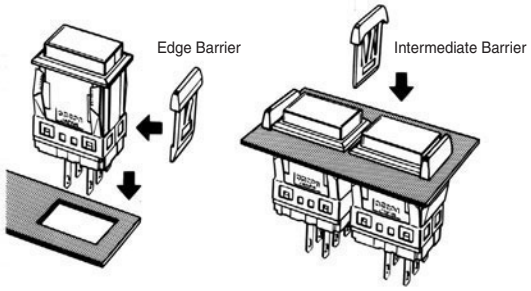
Mounting to the Switch Panel

- Mount the Socket Unit to the panel by inserting it from the front of the panel.
- Mount the Socket Unit so that the OMRON logo is at the bottom.



Barrier Mounting

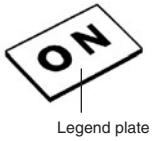
- Place the Edge Barriers on the side of the Socket Unit, and then insert the Socket Unit into the panel.
- Insert the Intermediate Barrier between the Switches after inserting the Socket Units into the panel.



Inscribing Legend Plate Characters

Inscribing

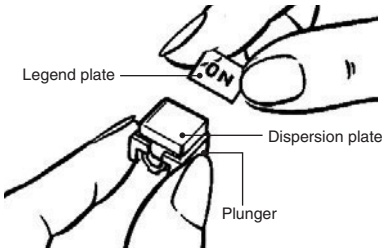
- Inscription depth: 0.5 mm max.
- The legend plate is made of polycarbonate, so apply an alcohol-based paint coating, such as melamine, phthalate, or acrylic resin paint when marking the legend.



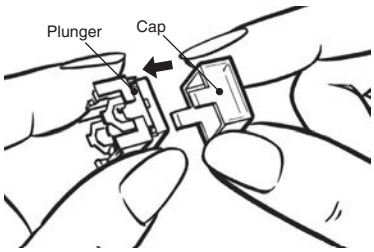
Assembling the Legend Plate (Plunger)

A3KA/M2KA

1. Assemble the dispersion plate to the plunger, and then assemble the legend plate on top.



2. Assemble the color cap.



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