

Key-type Selector Switches A22NK

22-mm dia. Key-type Selector Switches
Control panel miniaturization through a more compact design and modified wiring direction.
Addition of Push-In Plus terminal blocks for easy wiring.



Easy to Use

- You can connect up to three Contact Blocks in one stage for multistage expansion.
- Screw terminal structure is compatible with round crimp terminals. (Screw terminal block type)
- The terminals can be secured even when a contact block is mounted. (Screw terminal block type)
- Contact Blocks can be attached in any direction for easy assembly.

Miniaturization


- No need for extra lateral space because of the modified wiring direction. (Push-In Plus terminal block type)
- Compact design.

Safety





- Easy-to-operate lock lever for secure locking.
- Easy-mounting Contact Blocks provide finger protection.
- No loose connections of wiring means maintenance-free use. (Push-In Plus terminal block type)

Product Lineup

- Meet global safety standards.
- Can be installed in two types of panel hole dimensions: 22.3 and 25.5 dia.
- The buttons and bezels come in a wide variety of colors, shapes, and materials.
- Compliant with IEC IP66, Certified for UL508 Type 13.

 Refer to *Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions* on page 85.

List of Models

Screw Terminal Blocks/Push-In Plus Terminal Blocks		Screw Terminal Blocks/Push-In Plus Terminal Blocks	
Plastic bezels		Brushed metal bezels	
A22NK-□B		A22NK-□M	
Two Positions	Three Positions	Two Positions	Three Positions
			

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Model Number Structure

Model Number Legend

----- Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.
For information on combinations, refer to *Ordering Information* on page 36.

Model Numbers for Sets

A 2 2 N ⁽¹⁾ **K** - ⁽²⁾ **2B** ⁽³⁾ **M** - ⁽⁴⁾ **01** ⁽⁵⁾ **A** ⁽⁶⁾ **A** - ⁽⁷⁾ **G** ⁽⁸⁾ **100**

(1) Type

Code	Type
K	Key-type Selector Switch

(4) Key Number

Code	No.
01	No.1

(7) Contacts and Terminals Specifications

Code	Specification
G	General/Screw Terminal Block
P	General/Push-In Plus Terminal Block

(2) Number of Positions and Bezel Material

Code	No. of positions	Bezel material
2B	2	Plastic
2M	2	Brushed metal
3B	3	Plastic
3M	3	Brushed metal

(5) Key Release Position *

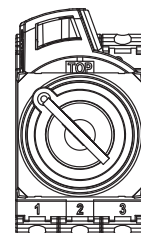
Code	Release position	Two positions	Three positions
A	All positions		
B	Left		
C	Right		
D	Center	---	
G	Left and right	---	

○: Release position ●: Locked position
* The key can only be removed when in the free position for automatic reset models.

(8) Contact Configuration

Code	Contact Blocks		Unit position			Two positions	Three positions
	NO	NC	1	2	3		
100	1	0	NO	---	---	Yes	---
002	0	1	---	---	NC	Yes	---
101	2	0	NO	---	NO	Yes	Yes
102	1	1	NO	---	NC	Yes	Yes
201	1	1	NC	---	NO	---	Yes
202	0	2	NC	---	NC	Yes	Yes
110	2	0	NO	NO	---	---	Yes
111	3	0	NO	NO	NO	Yes	Yes
112	2	1	NO	NO	NC	Yes	Yes
210	1	1	NC	NO	---	---	Yes
211	2	1	NC	NO	NO	---	Yes
212	1	2	NC	NO	NC	---	Yes
011	2	0	---	NO	NO	---	Yes
012	1	1	---	NO	NC	---	Yes
120	1	1	NO	NC	---	---	Yes
121	2	1	NO	NC	NO	---	Yes
122	1	2	NO	NC	NC	Yes	Yes
220	0	2	NC	NC	---	---	Yes
221	1	2	NC	NC	NO	---	Yes
222	0	3	NC	NC	NC	Yes	Yes
021	1	1	---	NC	NO	---	Yes
022	0	2	---	NC	NC	---	Yes

Note: 1. NO (blue): Normally open, NC (orange): Normally closed.
2. Refer to the following figure for Unit positions.



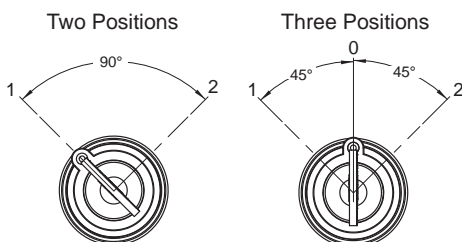
(3) Reset Method

Code	Reset method		
M	Manual	Two-positions manual	
		Three-positions manual	
L	Automatic reset on left	Two-positions automatic	
		Three-positions left automatic	
R	Automatic reset on right	Three-positions right automatic	
B	Automatic reset on left and right	Three-positions left or right automatic	

(6) Degree of Protection

Code	Protection
A	Compliant with IEC IP66, Certified for UL508 Type 13

Operation Angle



- Specifications: Refer to page 12.
- Dimensions: Refer to page 41.

- Characteristics: Refer to page 40.
- Precautions for correct use: Refer to pages 85 to 96.

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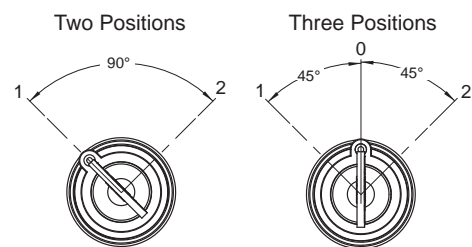
Structure

Contact Configuration Table

Two Positions

No. of outputs	Code	Contact configuration	Unit position	Contacts	Position	
					1	2
1	100	SPST-NO	1	NO		ON
			2	---	---	---
			3	---	---	---
1	002	SPST-NC	1	---	---	---
			2	---	---	---
			3	NC	ON	
2	102	SPST-NO/ SPST-NC	1	NO		ON
			2	---	---	---
			3	NC	ON	
2	101	DPST-NO	1	NO		ON
			2	---	---	---
			3	NO		ON
2	202	DPST-NC	1	NC	ON	
			2	---	---	---
			3	NC	ON	
3	111	3PST-NO	1	NO		ON
			2	NO		ON
			3	NO		ON
3	222	3PST-NC	1	NC	ON	
			2	NC	ON	
			3	NC	ON	
3	122	SPST-NO/ DPST-NC	1	NO		ON
			2	NC	ON	
			3	NC	ON	
3	112	DPST-NO/ SPST-NC	1	NO		ON
			2	NO		ON
			3	NC	ON	

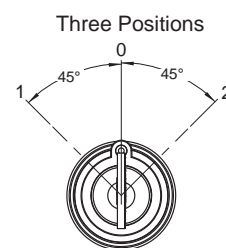
Operation Angle



Three Positions

No. of outputs	Code	Contact configuration	Unit position	Contacts	Position		
					1	0	2
2	110	DPST-NO	1	NO	ON		
			2	NO	ON		ON
			3	---	---	---	---
2	011	DPST-NO	1	---	---	---	---
			2	NO	ON		ON
			3	NO			ON
2	101	DPST-NO	1	NO	ON		
			2	---	---	---	---
			3	NO			ON
2	220	DPST-NC	1	NC		ON	ON
			2	NC		ON	
			3	---	---	---	---
2	022	DPST-NC	1	---	---	---	---
			2	NC		ON	
			3	NC	ON	ON	

Operation Angle



No. of outputs	Code	Contact configuration	Unit position	Contacts	Position		
					1	0	2
2	202	DPST-NC	1	NC		ON	ON
			2	---	---	---	---
			3	NC	ON	ON	
2	120	SPST-NO/ SPST-NC	1	NO	ON		
			2	NC		ON	
			3	---	---	---	---
2	102	SPST-NO/ SPST-NC	1	NO	ON		
			2	---	---	---	---
			3	NC	ON	ON	
2	210	SPST-NO/ SPST-NC	1	NC		ON	ON
			2	NO	ON		ON
			3	---	---	---	---
2	201	SPST-NO/ SPST-NC	1	NC		ON	ON
			2	---	---	---	---
			3	NO			ON
2	012	SPST-NO/ SPST-NC	1	---	---	---	---
			2	NO	ON		ON
			3	NC	ON	ON	
2	021	SPST-NO/ SPST-NC	1	---	---	---	---
			2	NC		ON	
			3	NO			ON
3	111	3PST-NO	1	NO	ON		
			2	NO	ON		ON
			3	NO			ON
3	222	3PST-NC	1	NC		ON	ON
			2	NC		ON	
			3	NC	ON	ON	
3	122	SPST-NO/ DPST-NC	1	NO	ON		
			2	NC		ON	
			3	NC	ON	ON	
3	212	SPST-NO/ DPST-NC	1	NC		ON	ON
			2	NO	ON		ON
			3	NC	ON	ON	
3	221	SPST-NO/ DPST-NC	1	NC		ON	ON
			2	NC		ON	
			3	NO			ON
3	211	DPST-NO/ SPST-NC	1	NC		ON	ON
			2	NO	ON		ON
			3	NO			ON
3	121	DPST-NO/ SPST-NC	1	NO	ON		
			2	NC		ON	
			3	NO			ON
3	112	DPST-NO/ SPST-NC	1	NO	ON		
			2	NO	ON		ON
			3	NC	ON	ON	

Pushbutton Switches
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Selector Switches
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Key-Type Selector Switches
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Pushbutton Switches
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Subassemblies
(Common)

Accessories
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Safety
Precautions



■ Specifications: Refer to page 12. ■ Characteristics: Refer to page 40.
 ■ Dimensions: Refer to page 41. ■ Precautions for correct use: Refer to pages 85 to 96.

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Ordering Information

Model Numbers for Sets - - - Shipped as a set that includes the Operation Unit, Mounting Collar, and Contact Block.

Two-position, Key-type Selector Switches

Appearance	Bezel material	No. of outputs	Model	(3) Reset method	(5) Key release positions	(8)(8)(8) Contact configuration
	2B	1	A22NK-2B(3)-01(5)A-G(8)(8)(8)	M: Manual L: Automatic reset on left	A: All positions B: Left C: Right	100
			A22NK-2B(3)-01(5)A-P(8)(8)(8)			002
		2	A22NK-2B(3)-01(5)A-G(8)(8)(8)			102
			A22NK-2B(3)-01(5)A-P(8)(8)(8)			101 202
		3	A22NK-2B(3)-01(5)A-G(8)(8)(8)			111
			A22NK-2B(3)-01(5)A-P(8)(8)(8)			222 122 112
	2M	1	A22NK-2M(3)-01(5)A-G(8)(8)(8)	M: Manual L: Automatic reset on left	A: All positions B: Left C: Right	100
			A22NK-2M(3)-01(5)A-P(8)(8)(8)			002
		2	A22NK-2M(3)-01(5)A-G(8)(8)(8)			102
			A22NK-2M(3)-01(5)A-P(8)(8)(8)			101 202
		3	A22NK-2M(3)-01(5)A-G(8)(8)(8)			111
			A22NK-2M(3)-01(5)A-P(8)(8)(8)			222 122 112

Three-position, Key-type Selector Switches

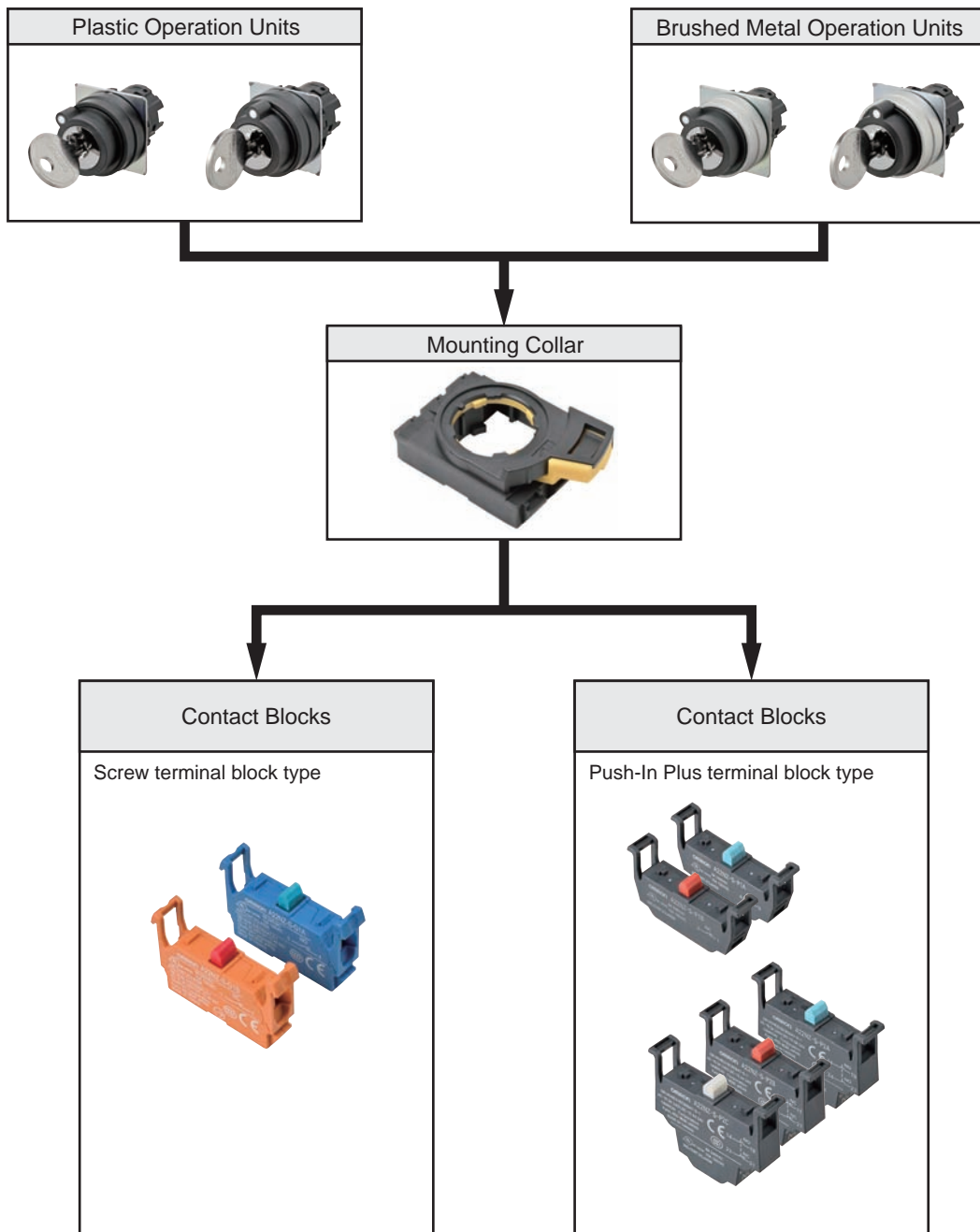
Appearance	Bezel material	No. of outputs	Model	(3) Reset method	(5) Key release positions	(8)(8)(8) Contact configuration				
	3B	2	A22NK-3B(3)-01(5)A-G(8)(8)(8)	M: Manual L: Automatic reset on left R: Automatic reset on right B: Automatic reset on left and right	A: All positions B: Left C: Right D: Center G: Left and right	110				
			A22NK-3B(3)-01(5)A-P(8)(8)(8)			011 101 220 022 202 120 102 210 201 012 021				
		3	A22NK-3B(3)-01(5)A-G(8)(8)(8)			111				
			A22NK-3B(3)-01(5)A-P(8)(8)(8)			222 122 212 221 211 121 112				
			3M			2	A22NK-3M(3)-01(5)A-G(8)(8)(8)	M: Manual L: Automatic reset on left R: Automatic reset on right B: Automatic reset on left and right	A: All positions B: Left C: Right D: Center G: Left and right	110
							A22NK-3M(3)-01(5)A-P(8)(8)(8)			011 101 220 022 202 120 102 210 201 012 021
3	A22NK-3M(3)-01(5)A-G(8)(8)(8)			111						
	A22NK-3M(3)-01(5)A-P(8)(8)(8)			222 122 212 221 211 121 112						

■ Subassemblies: Refer to pages 37 to 38 and 82.
 (You can order Operation Units, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 13 ■ Characteristics: Refer to page 40.
 ■ Dimensions: Refer to page 41.
 ■ Accessories and tools: Refer to pages 84 to 85.

Ordering Information

Subassemblies - - - - You can order Operation Units, Mounting Collars, and Contact Blocks individually. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.



- Model numbers of sets: Refer to page 36.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 40.

- Dimensions: Refer to page 41.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

Pushbutton Switches
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Selector Switches
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Subassemblies (Common)

Accessories and Tools

Safety Precautions

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Ordering Information

Subassemblies

-----You can order Operation Units, Mounting Collars, and Contact Blocks individually. Use them in combination for models that are not available as assembled Switches. They can also be used as inventory for maintenance parts.

Operation Units

No. of positions	Reset method	Plastic	Brushed metal	(1) Key release positions
		Model	Model	
2	Manual	A22NZ-2BM-01(1)A	A22NZ-2MM-01(1)A	A: All positions B: Left C: Right
	Automatic reset on left	A22NZ-2BL-01(1)A	A22NZ-2ML-01(1)A	
3	Manual	A22NZ-3BM-01(1)A	A22NZ-3MM-01(1)A	A: All positions B: Left C: Right D: Center G: Left and right
	Automatic reset on left	A22NZ-3BL-01(1)A	A22NZ-3ML-01(1)A	
	Automatic reset on right	A22NZ-3BR-01(1)A	A22NZ-3MR-01(1)A	
	Automatic reset on left and right	A22NZ-3BB-01(1)A	A22NZ-3MB-01(1)A	

- Model numbers of sets: Refer to page 36.
- Specifications: Refer to page 12.
- Characteristics: Refer to page 40.

- Dimensions: Refer to page 41.
- Subassemblies (Common): Refer to page 78.
- Accessories and tools: Refer to pages 80 to 81.

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Specifications

Certified Safety Standard Ratings

UL508 Type 13 (File No. E76675), CSA C22.2 No.14

6 A 240 VAC, 10 A 120 VAC

TÜV (EN60947-5-1)

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

CCC (GB/T14048.5)

AC-15 3 A 240 VAC

DC-13 4 A 24 VDC

Application Standards

UL1059 and UL486E (Push-In Plus terminal block type)

Ratings

Contacts (Standard Load)

Rated insulation voltage		600 V				
Rated carry current		10 A				
Rated voltage		24 V	120 V	240 V	380 V	440 V
AC at 50/60 Hz	Resistive load (AC-12)	10 A	10 A	6 A	2A	2 A
	Inductive load (AC-15)	10 A	6 A	3 A	1.9 A	1.6 A
DC	Resistive load (DC-12)	8 A	2.2 A	1.1 A	---	---
	Inductive load (DC-13)	4 A	1.1 A	0.55 A	---	---

Note: 1. The above ratings were obtained by conducting tests under the following conditions.

(1) Ambient temperature: 20 ±2°C

(2) Ambient humidity: 65% ±5% RH

(3) Operating frequency: 30 operations/minute

2. Minimum applicable load: 10 mA at 5 VDC.

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Specifications

Characteristics

Item	Type	Key-type Selector Switches
	Allowable operating frequency	Mechanical
Electrical		30 operations/minute max.
Insulation resistance		100 MΩ min. (at 500 VDC)
Contact resistance		100 mΩ max. (initial value)
Dielectric strength	Between terminals of same polarity	2,500 VAC at 50/60 Hz for 1 min. (initial value)
	Between each terminal and ground	2,500 VAC at 50/60 Hz for 1 min. (initial value)
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)
Shock resistance	Malfunction	1,000 m/s ² max. (malfunction within 1 ms)
Durability	Mechanical	500,000 operations min. (Switches with 3 positions: 300,000 operations min.)
	Electrical	500,000 operations min. (Switches with 3 positions: 300,000 operations min.) (250 VAC, 3 A, with an inductive load having power factor cos θ = 0.4)
Ambient operating temperature*1		-25 to 70°C
Ambient operating humidity		35% to 85% RH
Ambient storage temperature*1		-40 to 80°C
Degree of protection*2		Compliant with IEC IP66, Certified for UL508 Type 13
Electric shock protection class		Class II
PTI (tracking characteristic)		175
Degree of contamination (application environment)		3 (EN 60947-5-1)
Weight		Approx. 65 g (for 1NC/1NO)

*1. With no icing or condensation.

*2. Degree of protection from the front of the panel.

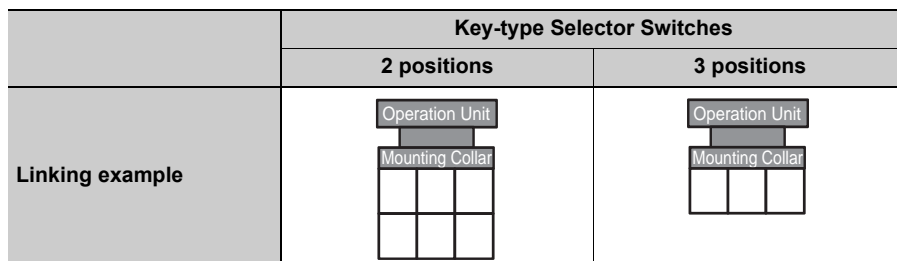
Operating Characteristics (for SPST-NO/SPST-NC)

Item	Type	Key-type Selector Switches	
		Manual reset	Automatic reset
Total travel force (torque) (maximum TTF)		0.6 N·m	0.6 N·m
Total travel (TT)		2 positions: Approx. 90°, 3 positions: Approx. 45°	
Resetting force (torque) (RF)		0.5 N·m max.	---

Examples of Linked Contact Blocks

(Screw terminal block type)

 Contact Blocks



Note: If you increase the number of Contact Blocks, evaluate the Switch under actual working conditions before permanent installation and use the Switch within a number of switching operations that will not adversely affect the Switch's performance.

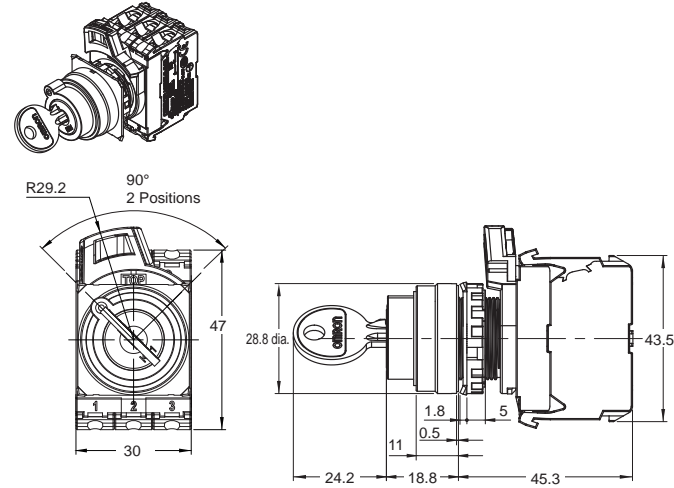
Dimensions

(Unit: mm)

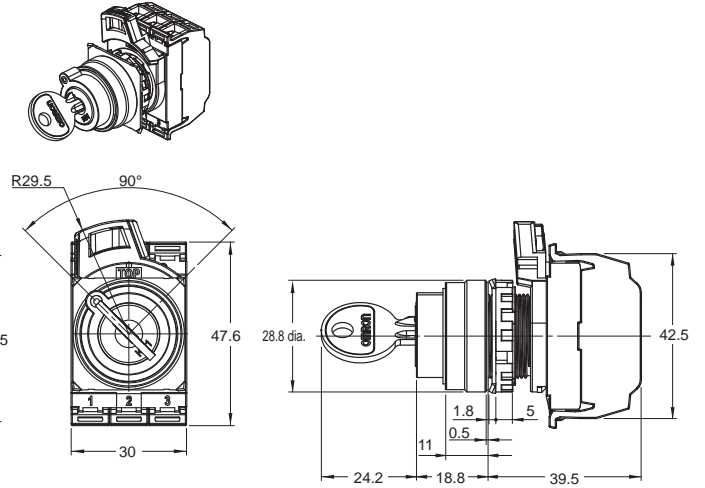
Lighted and Non-lighted Key-type Selection Switches

Two-position Switches with Plastic Bezels

A22NK-2B□-01□A-G

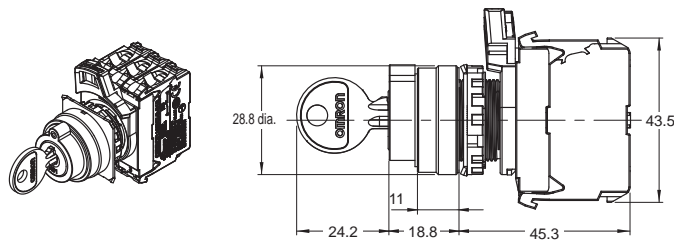


A22NK-2B□-01□A-P

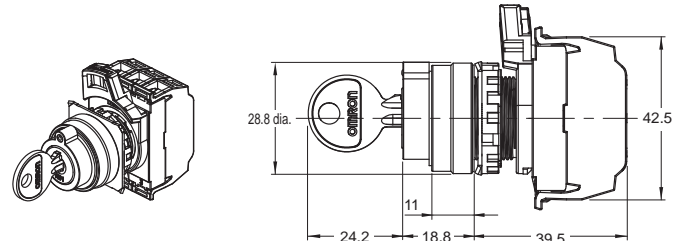


Three-position Switches with Plastic Bezels

A22NK-3B□-01□A-G

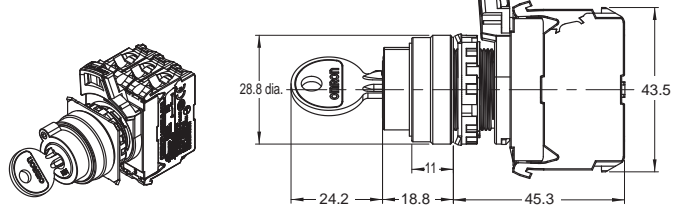


A22NK-3B□-01□A-P

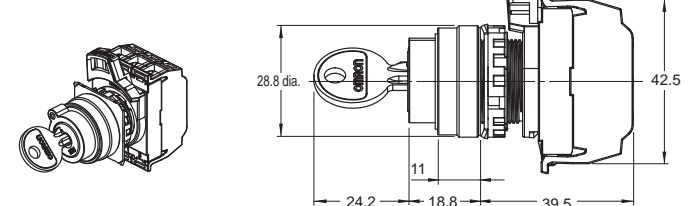


Two-position Switches with Brushed Metal Bezels

A22NK-2M□-01□A-G

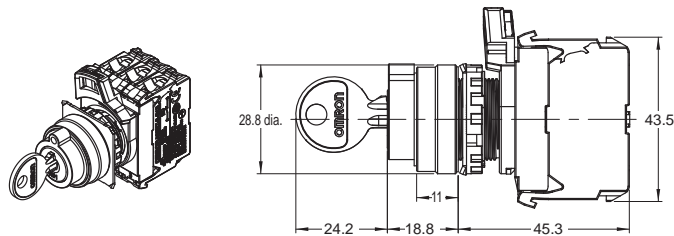


A22NK-2M□-01□A-P

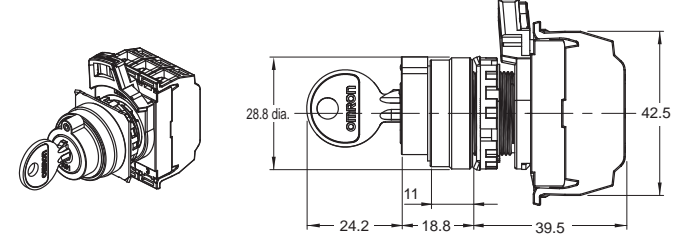


Three-position Switches with Brushed Metal Bezels

A22NK-3M□-01□A-G

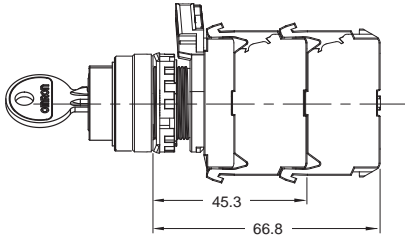


A22NK-3M□-01□A-P

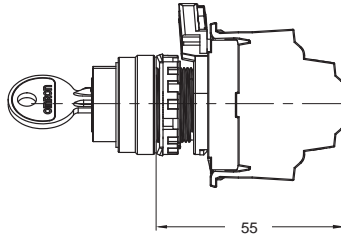


A22NK

Depth with Linked Units (Screw terminal block type)



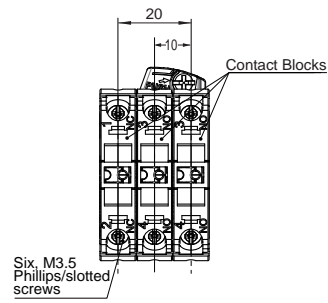
Depth when a double-contact unit is mounted (Push-In Plus terminal block type)



Terminal Arrangement

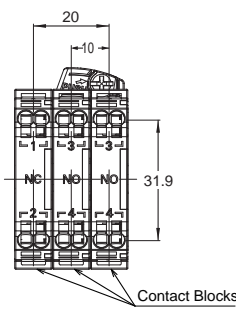
BOTTOM VIEW (Screw terminal block type)

2NO/1NC
Contact configuration code:112

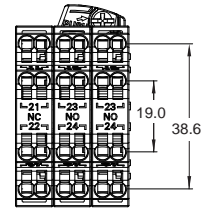


BOTTOM VIEW (Push-in Plus terminal block type)

2NO/1NC
Contact configuration code:112



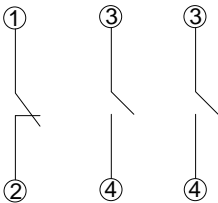
**Double-contact unit
(2NO/2NO/2NC)**



Terminal Connection Diagrams

2NO/1NC
Contact configuration code:112

Bottom View



Note: The above shows a terminal connection diagram for a screw terminal block type.

Pushbutton Switches
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