

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.
- Standard-feature degree of protection: IP66 and NEMA 13.

Refer to *Safety Precautions for All Pushbutton Switches/Indicators* and *Safety Precautions* on page 88.

List of Models

Screw Terminal Blocks/Push-In Plus Terminal Blocks	
Plastic bezels	
A22NK-□B	
Two Positions	Three Positions
Screw Terminal Blocks/Push-In Plus Terminal Blocks	
Metal bezels	
A22NK-□R	
Two Positions	Three Positions

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

A22NK

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 pages 39 to 40.

Model Numbers for Sets

A 2 2 N ⁽¹⁾ K - ⁽²⁾ 2 ⁽³⁾ B ⁽⁴⁾ M - ⁽⁵⁾ 0 1 ⁽⁶⁾ A ⁽⁷⁾ A - ⁽⁸⁾ G 1 0 0

(1) Type

Code	Type
K	Key-type Selector Switch

(4) Key Number

Code	No.
01	No.1

(2) Number of Positions and Bezel Material

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

(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	
		Three-positions left or right automatic	
B	Automatic reset on left and right	Three-positions left or right automatic	

(6) Degree of Protection

Code	Protection
A	Conforming to IP66, NEMA13

(7) Contacts and Terminals Specifications

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

(8) Contact Configuration

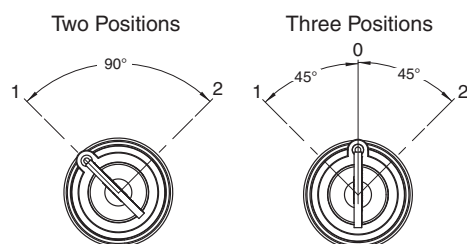
Code	Contact Blocks		Unit position			Two positions	Three positions
	NO	NC	1	2	3		
100	1	0	NO	---	---	Yes	---
002	0	1	---	---	NC	Yes	---
101	2	0	NO	---	NO	Yes	Yes
102	1	1	NO	---	NC	Yes	Yes
201	1	1	NC	---	NO	---	Yes
202	0	2	NC	---	NC	Yes	Yes
110	2	0	NO	NO	---	---	Yes
111	3	0	NO	NO	NO	Yes	Yes
112	2	1	NO	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.



Operation Angle



- Specifications: Refer to page 13.
- Dimensions: Refer to page 45.

- Characteristics: Refer to page 44.
- Precautions for correct use: Refer to pages 88 to 99.

Structure

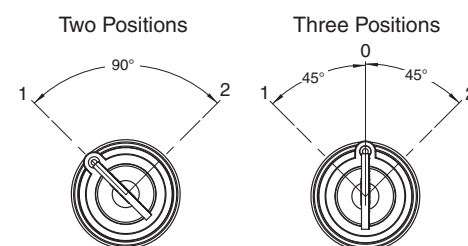
Contact Configuration Table Two Positions

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	

Three Positions

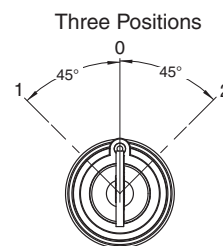
No. of outputs	Code	Contact configuration	Unit position	Contacts	Position		
					1	0	2
2	110	DPST-NO	1	NO	ON		
			2	NO	ON		ON
			3	---	---	---	---
2	011	DPST-NO	1	---	---	---	---
			2	NO	ON		ON
			3	NO			ON
2	101	DPST-NO	1	NO	ON		
			2	---	---	---	---
			3	NO			ON
2	220	DPST-NC	1	NC		ON	ON
			2	NC		ON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

Operation Angle

Pushbutton Switches
A22NSelector Switches
A22NKey-type Selector Switches
A22NIndicators
M22NPushbutton Switches
A30NSelector Switches
A30NKey-type Selector Switches
A30NSubassemblies
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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		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	

■ Specifications: Refer to page 13.
■ Dimensions: Refer to page 45.

■ Characteristics: Refer to page 44.
■ Precautions for correct use: Refer to pages 88 to 99.

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
Plastic bezels 	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	100 002
			A22NK-2B(3)-01(5)A-P(8)(8)(8)			
		2	A22NK-2B(3)-01(5)A-G(8)(8)(8)			102 101 202
			A22NK-2B(3)-01(5)A-P(8)(8)(8)			
		3	A22NK-2B(3)-01(5)A-G(8)(8)(8)			111 222 122 112
			A22NK-2B(3)-01(5)A-P(8)(8)(8)			
Brushed metal bezels 	2M	1	A22NK-2M(3)-01(5)A-G(8)(8)(8)			100 002
			A22NK-2M(3)-01(5)A-P(8)(8)(8)			
		2	A22NK-2M(3)-01(5)A-G(8)(8)(8)			102 101 202
			A22NK-2M(3)-01(5)A-P(8)(8)(8)			
		3	A22NK-2M(3)-01(5)A-G(8)(8)(8)			111 222 122 112
			A22NK-2M(3)-01(5)A-P(8)(8)(8)			
Metal bezels 	2R	1	A22NK-2R(3)-01(5)A-G(8)(8)(8)			100 002
			A22NK-2R(3)-01(5)A-P(8)(8)(8)			
		2	A22NK-2R(3)-01(5)A-G(8)(8)(8)			102 101 202
			A22NK-2R(3)-01(5)A-P(8)(8)(8)			
		3	A22NK-2R(3)-01(5)A-G(8)(8)(8)			111 222 122 112
			A22NK-2R(3)-01(5)A-P(8)(8)(8)			

Pushbutton Switches
A22NSelector Switches
A22NKey-type Selector Switches
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Three-position, Key-type Selector Switches

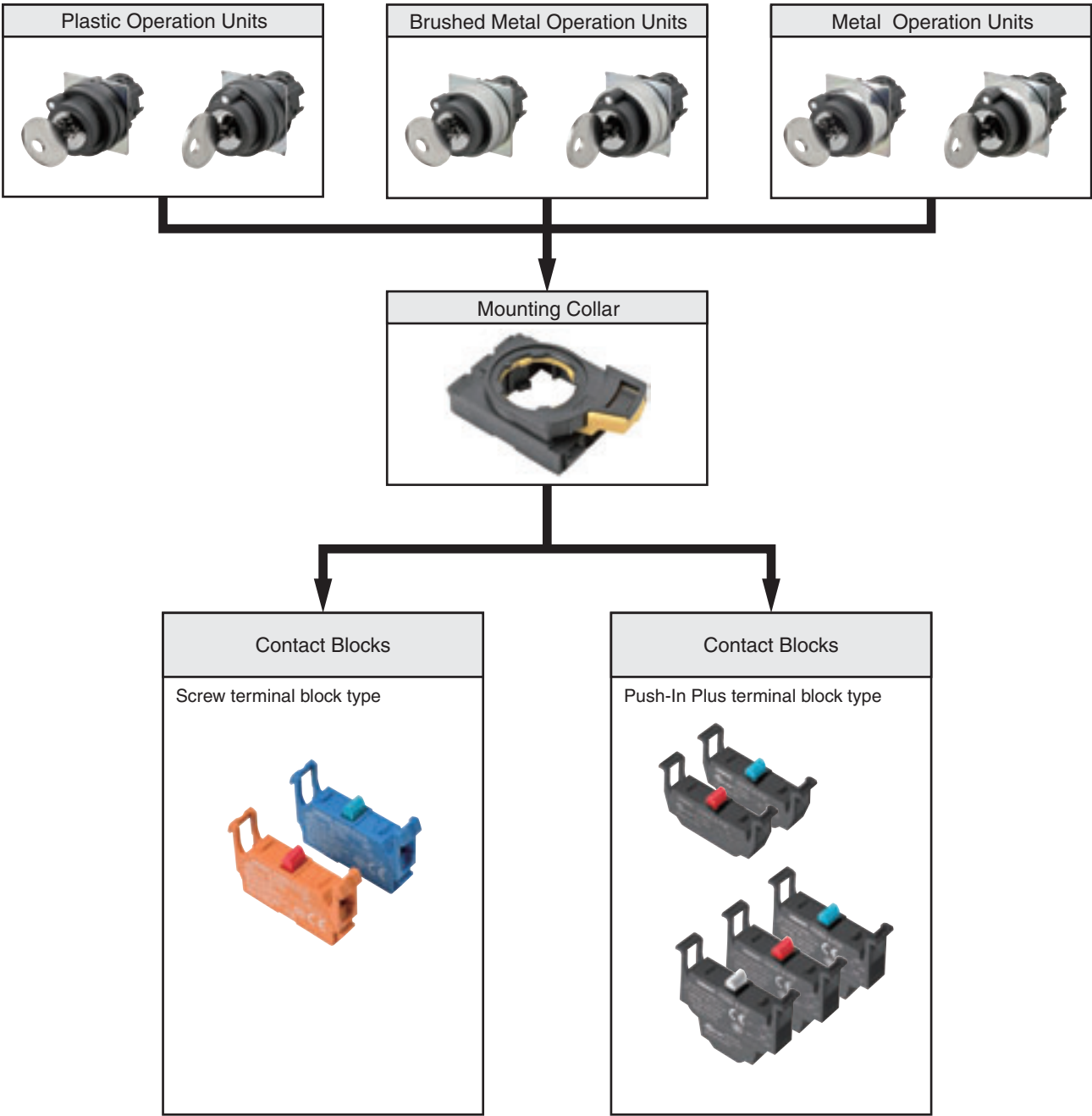
Appearance	Bezel material	No. of outputs	Model	(3) Reset method	(5) Key release positions	(8)(8)(8) Contact configuration				
Plastic bezels 	3B	2	A22NK-3B(3)-01(5)A-G(8)(8)	M: Manual L: Automatic reset on left R: Automatic reset on right B: Automatic reset on left and right	A: All positions B: Left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

■ Subassemblies: Refer to pages 41 to 42 and 82.
 (You can order Operation Units, Mounting Collars, and Contact Blocks individually.)

■ Specifications: Refer to page 13 ■ Characteristics: Refer to page 44.
 ■ Dimensions: Refer to page 45.
 ■ 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 pages 39 to 40.
■ Specifications: Refer to page 13.
■ Characteristics: Refer to page 44.

■ Dimensions: Refer to page 45.
■ Subassemblies (Common): Refer to page 82.
■ Accessories and tools: Refer to pages 84 to 85.

Pushbutton Switches A22N
Selector Switches A22N
Key-type Selector Switches A22N
Indicators M22N
Pushbutton Switches A30N
Selector Switches A30N
Key-type Selector Switches A30N
Subassemblies (Common)
Accessories and Tools
Safety Precautions

A22NK

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

Bezel material and shape		Plastic	Brushed metal	Metal	(1) Key release positions
No. of positions	Reset method	Model	Model	Model	
2	Manual	A22NZ-2BM-01(1)A	A22NZ-2MM-01(1)A	A22NZ-2RM-01(1)A	A: All positions B: Left C: Right
	Automatic reset on left	A22NZ-2BL-01(1)A	A22NZ-2ML-01(1)A	A22NZ-2RL-01(1)A	
3	Manual	A22NZ-3BM-01(1)A	A22NZ-3MM-01(1)A	A22NZ-3RM-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	A22NZ-3RL-01(1)A	
	Automatic reset on right	A22NZ-3BR-01(1)A	A22NZ-3MR-01(1)A	A22NZ-3RR-01(1)A	
	Automatic reset on left and right	A22NZ-3BB-01(1)A	A22NZ-3MB-01(1)A	A22NZ-3RB-01(1)A	

■ Model numbers of sets: Refer to pages 39 to 40.
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■ Dimensions: Refer to page 45.
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Specifications

Certified Safety Standard Ratings

UL 508 (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 (GB14048.5)

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.

Pushbutton Switches A22N
Selector Switches A22N
Key-type Selector Switches A22N
Indicators M22N
Pushbutton Switches A30N
Selector Switches A30N
Key-type Selector Switches A30N
Subassemblies (Common)
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A22NK

Specifications

Characteristics

Type		Key-type Selector Switches
Item		
Allowable operating frequency	Mechanical	30 operations/minute max.
	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 ^{*1}	2,500 VAC at 50/60 Hz for 1 min
	Between each terminal and ground	2,500 VAC at 50/60 Hz for 1 min
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 ^{*2}		−25 to 70°C
Ambient operating humidity		35% to 85% RH
Ambient storage temperature ^{*2}		−40 to 80°C
Degree of protection ^{*3}		Conforming to IP66, NEMA13
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)

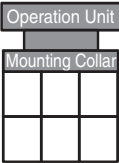
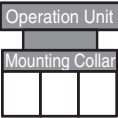
*1. Push-In Plus terminal block type: 1,000 VAC at 50/60 Hz for 1 min.
*2. With no icing or condensation.
*3. Degree of protection from the front of the panel.

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

Type	Key-type Selector Switches	
	Manual reset	Automatic reset
Item		
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

	Key-type Selector Switches	
	2 positions	3 positions
Linking example		

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.

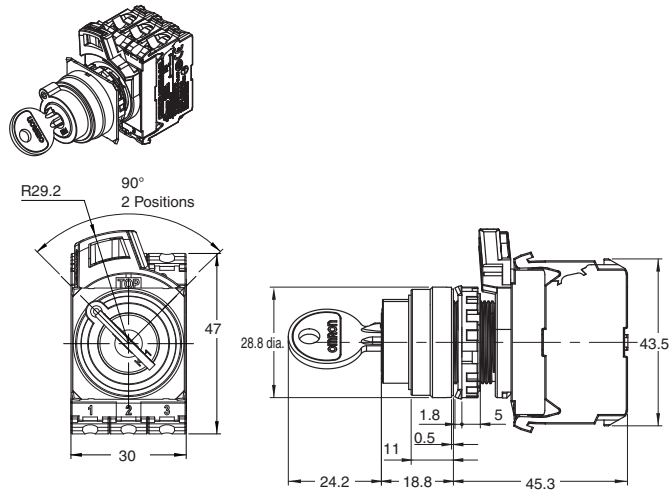
(Unit: mm)

Dimensions

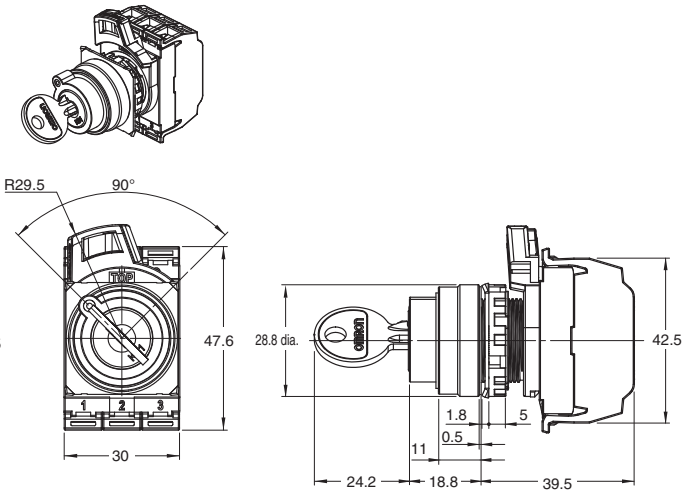
Lighted and Non-lighted Key-type Selection Switches

Two-position Switches with Plastic Bezels

A22NK-2B□-01□A-G

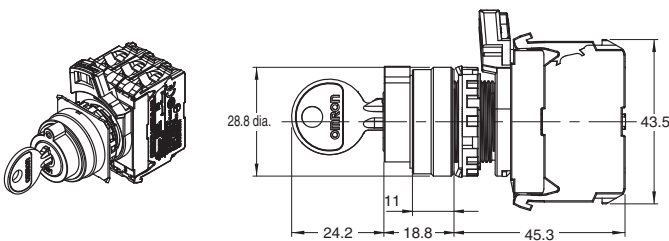


A22NK-2B□-01□A-P

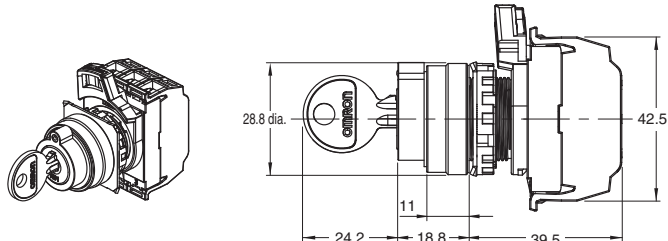


Three-position Switches with Plastic Bezels

A22NK-3B□-01□A-G

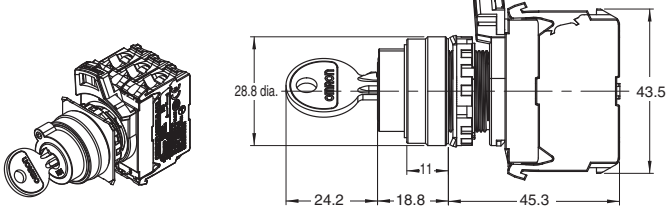


A22NK-3B□-01□A-P

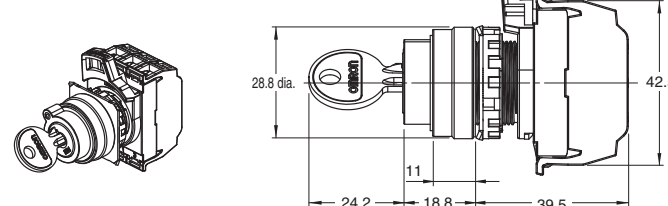


Two-position Switches with Brushed Metal Bezels

A22NK-2M□-01□A-G

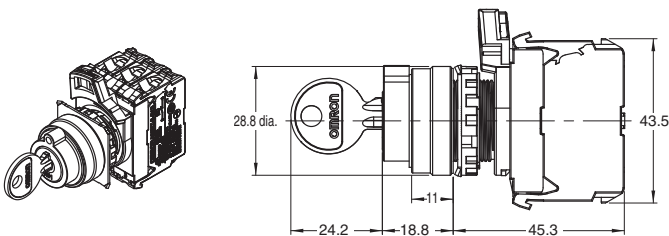


A22NK-2M□-01□A-P

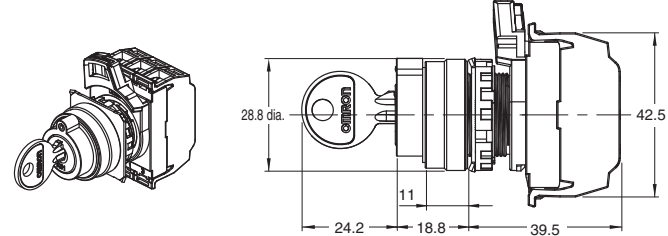


Three-position Switches with Brushed Metal Bezels

A22NK-3M□-01□A-G



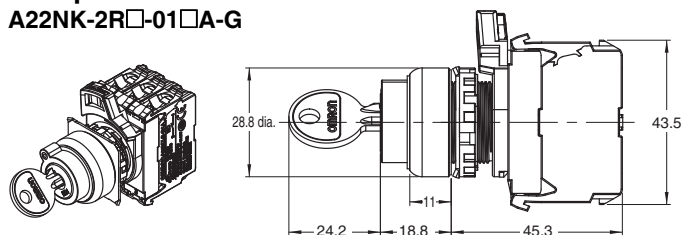
A22NK-3M□-01□A-P



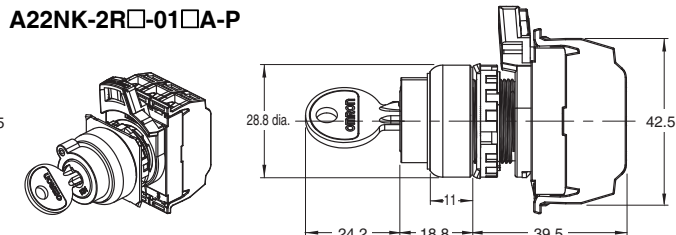
A22NK

Two-position Switches with Metal Bezels

A22NK-2R□-01□A-G

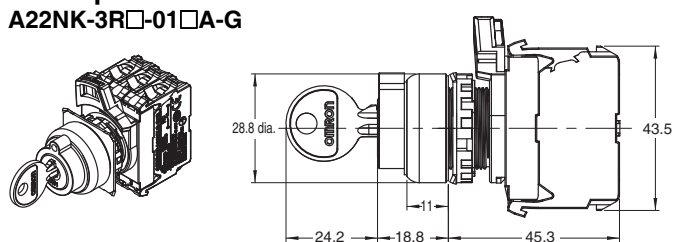


A22NK-2R□-01□A-P

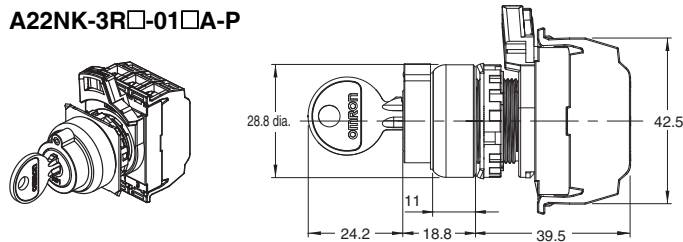


Three-position Switches with Metal Bezels

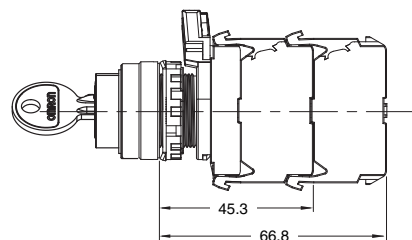
A22NK-3R□-01□A-G



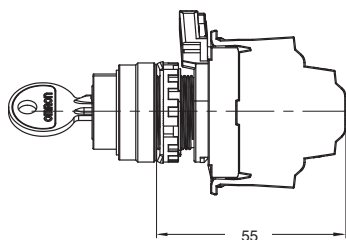
A22NK-3R□-01□A-P



Depth with Linked Units (Screw terminal block type)



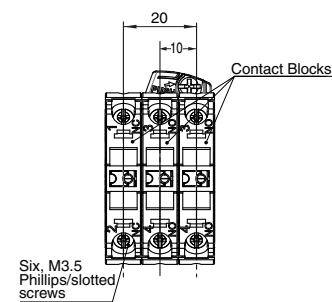
Depth when a double-contact unit is mounted (Push-In Plus terminal block type)



Terminal Arrangement

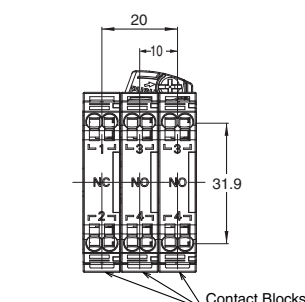
BOTTOM VIEW
(Screw terminal block type)

2NO/1NC
Contact configuration code:112

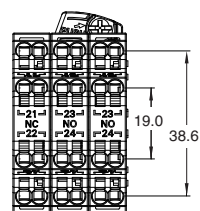


BOTTOM VIEW
(Push-in Plus terminal block type)

2NO/1NC
Contact configuration code:112



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



Terminal Connection Diagrams

2NO/1NC
Contact configuration code:112

Bottom View

