

AR series

Control switch

Features

For the AR series controlling switch, it is possible to apply 2 types (Ø22 / Ø25) panel cutout dimension and in case of using the guide bracket, it is even possible to use it with the Ø30 hole. Various functions and designs have made the selection choice wider and attachment and detachment of the actuator/switch part became very simple.



Specification

Allowable operating frequency		30 times / min (mechanically / electrically)
Rated voltage (Ue)		500 V a.c 50/60 Hz
Rated current (Ie)		5 A 250 V 50/60 Hz
Applying categories		AC-12, AC-13, AC-14, AC-15
Insulation resistance		100 MΩ min
Dielectric strength		2,000 V a.c for 1 min (between the same polarities)
Vibration	Malfunction	10 ~ 55 Hz double amplitude 3 mm (within 1 ms)
Shock	Durability	Min 500 ٪
	Malfunction	Min 100 ٪
Life expectancy	Mechanically	500,000
	Electrically	100,000
Ambient temperature		-25 °C ~ 40 °C
Ambient humidity		45 ~ 85 % R.H
Storage temperature		-40 °C ~ 70 °C

Incandescent lamp and LED specification

Classification	Power supply voltage (1st)	Incandescent lamp and LED capacity		Base
Incandescent lamp	220 V a.c (Trans dropping)	6.3 V	150 mA	BA9S (pin type)
	Without voltage dropping	12 V	80 mA	
		24 V	40 mA	
LED	220 V a.c (Trans dropping)	6 V	72 mA	BA9S (pin type)
	Without voltage dropping	12 V	36 mA	
		24 V	18 mA	

Control switch
Combination display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch



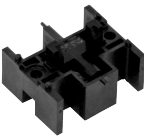






Sign tower
Signal light

Buzzer
Terminal block
Fuse holder


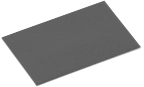


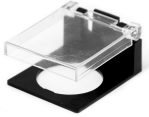



Control box
Cable connector

Discontinued Products

●● Accessories

Types	Appearance	Model	Reference
Switch unit		AR-10a (1a Contact)	Replaced or added by using a bolt
		AR-20b (1b Contact)	
Alternate operation unit		AR-50	Used when changing from a momentary operation to an alternate operation.
Name plate		AR-62	Attaching a name plate prevents the spinning and looks more organized.
		AR-63	
Spin prevention ring		AR-65	Prevents the spinning and looks more organized
		AR-66	Prevents the spinning
Guide bracket		AR-67	Used when attaching onto Ø30 hole panel
Square spinning prevention plate		AR-68	Prevents the spinning

AR series

Types		Appearance	Model	Reference
Name plates	Standard		AR-71	Attached to the standard type name plate and used
	Large		AR-72	Attached to the large type name plate and used
Water proof cap			AR-73, 74	Water proof silicon transparency rubber cap AR-73 : For ARF-F AR-74 : For ARX-G
			AR-75, 76	Water proof silicon transparency rubber cap AR-75 : For ARE-5B AR-76 : For ARE-7B
Protective cover			AR-77	Used in order to prevent the switch to cause malfunction. But it only can be used with the flush type
Nut tightening tool			QR-82	Used to tightening the fixed nut at the back side of panel
Puller			AR-83	Used when replacing the light operation button.
Lamp extractor			UR-81	It is made of rubber and used when replacing the light bulb.

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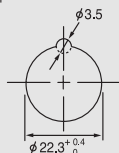
Discontinued Products

How to use

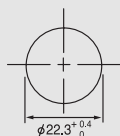
When installing to the panel

① Panel cutout dimension (in case of $22.3^{+0.4}_0$)

- Select the panel cutout just like an image below when necessary. The thickness of mounting panel is 1mm to 8mm.

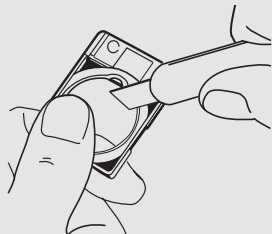


When needs to stop spinning



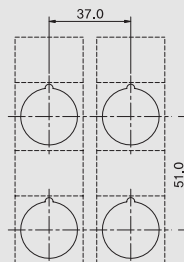
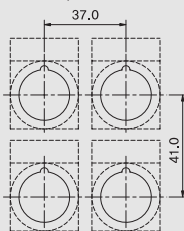
When does not need to stop spinning

- To prevent its spinning, please use a name plate or a spin prevention ring
- When using a name plate that does not require spinning to stop, please cut the stopping area on the back side



② Pattern mounting

- (1) Processing method for mounting the independent switch and standard type name plate. (2) Processing method for mounting the large name plate.



- Process the spinning prevention work in the direction of where Engravings plate is in present.

Note1) above cutout dimension is the minimum mounting size but excluded the large push button switch and long lever selector switch.

Note2) for the long lever switch, use 40x41 (standard name plate) or 40x51 (large name plate)

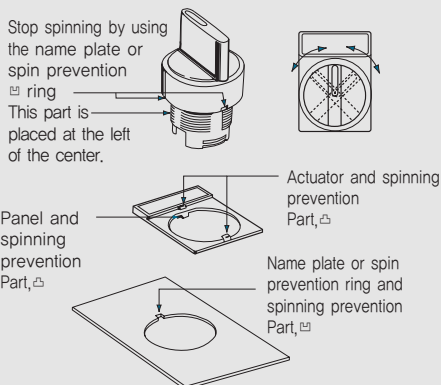
③ Panel cutout dimension (in case of $25^{+0.5}_0$)

- Must use the name plate or spin prevention ring
- Cut the stopping area in the name plate or spin prevention ring

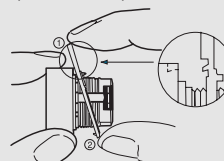
About the replacement

① Mounting method

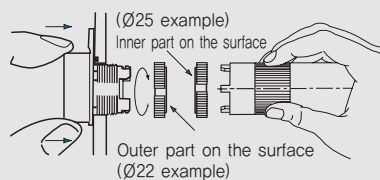
- When using the selector switch and key selector switch, please install the stopper by using the name plate or spin prevention ring



- When using the name plate or spin prevention ring, firstly insert in the 2 wings (on the surface) to the actuator in consecutive order (example: ① and ②) and then push in the panel actuator.

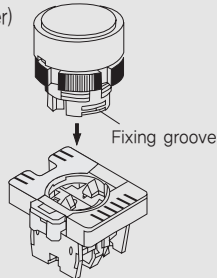


- Actuator is fixed to the panel by pushing in and able to mount by tightening from the backside.



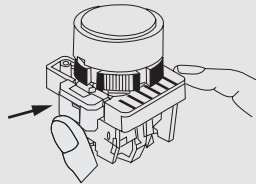
② Mounting method of switch part and actuator

- Assemble it by pushing the switch part until it clicks (push to the direction where stopper of actuator and switch part become parallel to each other)



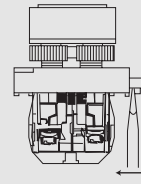
③ Separating method of switch and actuator

- Dismount the switch part by pushing the lever to the arrow direction.



※ Dismounting by hand

- Dismount the switch part by inserting the flat (-) screwdriver near the lever and push it to the arrow direction. Use the flat (-) screwdriver below 5mm.

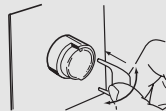


※ Dismounting by using the flat screwdriver

■ Replacing the color cap

① half guard type

- Push the cap puller at near the part of color cap ▢ and rotate it.



② extended type, full guard type, indicator and etc

- Rotate the color cap by using hand (finger)



■ Cap assembling method

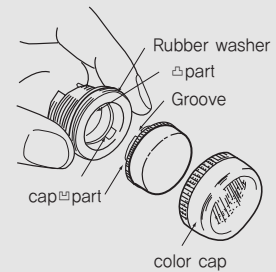
① Illuminated push button switch

- Mount the color cap so that the protrusions ▽ inside the cap fit into the grooves in the pushbutton unit



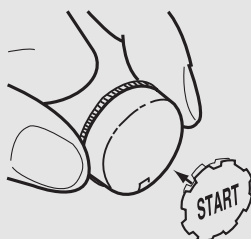
② Indicator

- Mount the color cap so that the protrusions inside the pushbutton unit fit into the grooves in the cap. Please make sure that grooves stay still



■ Affixing Character Film

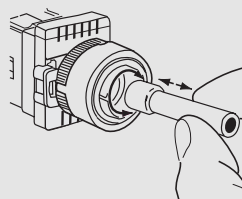
- Make sure that the protruding portions ▽ of the cap engage the cutout portions ▢ of the film.



■ Replacing the lamp

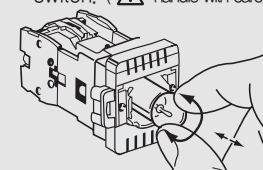
① From the panel surface

- Insert the lamp extractor into the lamp, and then rotate the extractor while pressing it



② On the switch

- Grip the lamp with fingertips and then rotate the lamp while pressing it against the switch. (⚠ handle with care)



(Note) Use 6.3 V incandescent lamp when using voltage dropping transformer (trans dropping)

Control switch
Combination display light

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Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light



Buzzer
Terminal block
Fuse holder

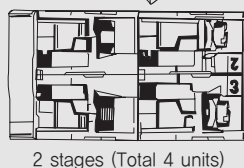
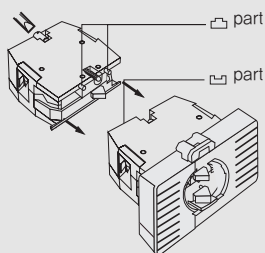
Control box
Cable connector

Discontinued Products

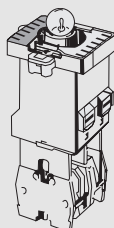
■ About the mounting method

- ① Switch unit mounting method and position ② Unit mounting method and position ③ Ø30 bracket mounting method

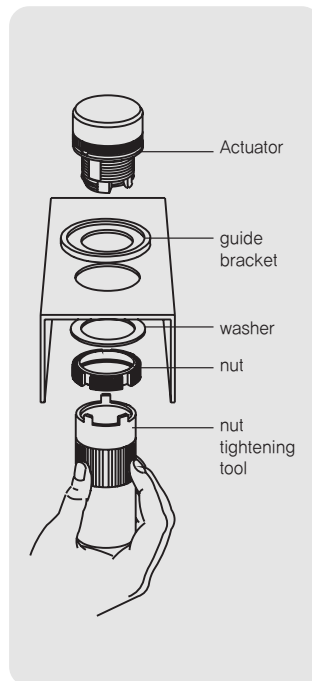
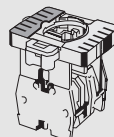
- For the connection of switch unit, insert the part of mounting unit  to the  part and tighten it by the flat screwdriver. Connection of the mounting switch unit is possible up to 2 stages.



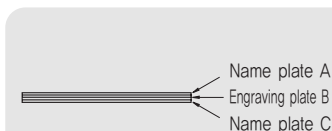
- When changing the momentary operation switch part to the alternative operation, please remove the switch unit, insert the alternative operation unit and lastly insert the switch unit.



- Mounting position of alternative operation unit is the front side of switch unit.



■ About the Engraving plate

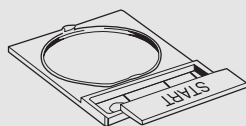


A	B	C
black	white	red

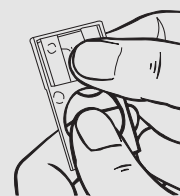
0.6 mm	0.4 mm	Name plate A
		Engraving plate B
		Name plate C

■ Mounting and dismounting Engraving plate

- Press name plate unit from the upper side.
- In case of selector switch or key selector switch, the direction of the characters will be changed by the mounting direction of the control panel.



- The name plate is easily removed by pressing engraving plate from the back.



☉ Correct usage

■ Mounting

- The tightening torque of mounting nuts is less than 1.96 N.m
- The tightening torque of mounting bolts of each unit is less than 0.49 N.m
- The thickness of panel is 1 ~ 8 mm

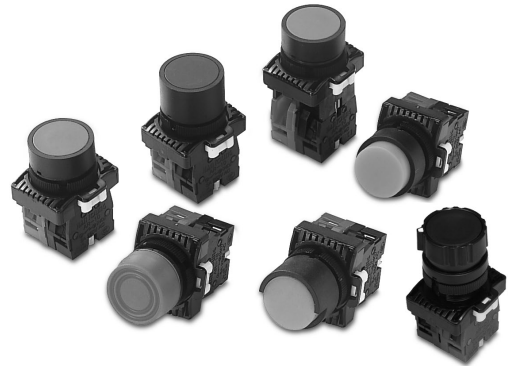
■ Wiring

- Do not get confused with the wires of lamp terminal and switch terminal
- Terminal bolt uses M3,5 and square washer
- The tightening torque of terminal bolt is less than 0.78 N.m
- Single wires, stranded wires and crimp terminal can be connected to the switch
- The width of crimp terminal is less than 7 mm

AR series

Push button switch

- Ø22 and Ø25 hole installation applicable due to the direction of inserting panel fixing nut
- Simple mounting and dismounting between the actuator and contact
- Consecutive installation possible due to the 37 mm x 41 mm installation space



Suffix code

Model	Code	Description
ARF-	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Push button switch
Actuator type	F	Flush
	B	Rubber cover
	P	Extended
	G	Full guard
	H	Half guard
	S	Push button selectors
Operation function	1	Momentary
	2	Alternate
Contact composition	10	1a Contact
	20	1b Contact
	12	1a1b Contact
	11	2a Contact
	22	2b Contact
Color of actuator	R	RED
	G	GREEN
	Y	YELLOW
	A	BLUE
	B	BLACK

* ARF-S (Push button selectors) is only available Black color.

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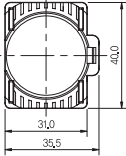
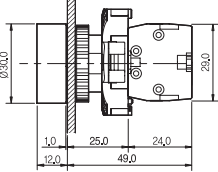

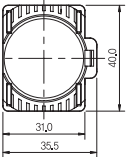
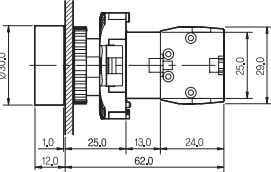

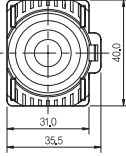
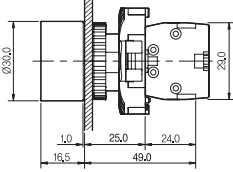

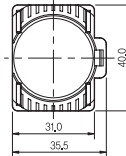
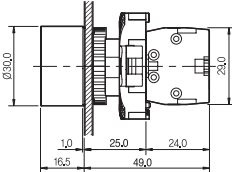

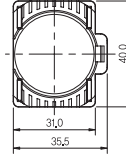
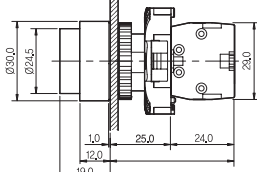

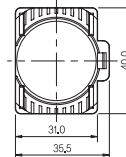
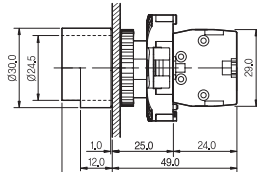

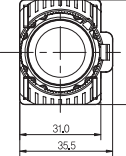
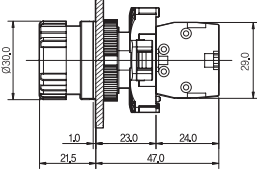
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Discontinued Products

Dimension (unit : mm)

Model	Appearance	Dimension	
ARF-F1 (Momentary operation)			
ARF-F2 (Alternative operation)			
ARF-B1 (Momentary operation)			
ARF-G1 (Momentary operation)			
ARF-P1 (Momentary operation)			
ARF-H1 (Momentary operation)			
ARF-S (Momentary operation)			

※ Please refer the dimension of an alternative-operation switch to "ARF-F2"