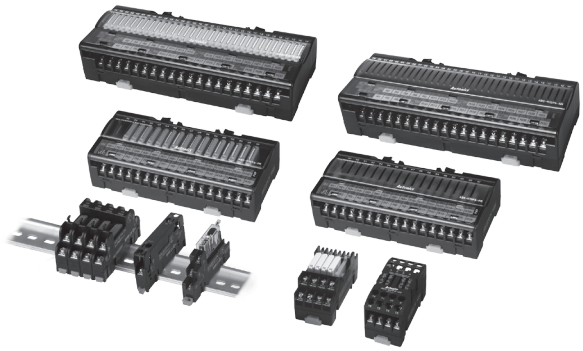
Relay Terminal Block

▣ Features

- For driving various loads using PLC output signals
- Easily check operation status and high luminance LED turns on with input signals
- Choose various relays depending on each load voltage or current
  - Easily replace relays using the relay removal lever (1-point relay terminal block)
- 2 mounting methods (DIN rail, screw mount)
- Tight installation and expansion possible with interlocking design (1-point relay terminal block)

※ Autonics I/O cable CJ Series is recommended.
Please refer to page C-52.



Please read "Caution for your safety" in operation manual before using.

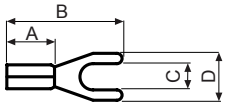
▣ Ordering Information

AB S – H 16 PA 5 – N N

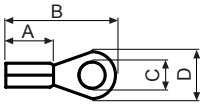
Varistor installation	N	Not installed
Input logic	C	COM None※1
	N	NPN (COM+)
	P	PNP (COM-)
Voltage of relay coil	No-mark	24VDC
	5	200/220VAC
	6	100/110VAC
Relay type	TN	**T**AKAMISAWA (Fujitsu) **N**YP
	PA	MATSUSHITA (Panasonic) **PA**
	PQ	MATSUSHITA (Panasonic) **PQ**
	R6	OM**R**ON G**6**B
	PH	MATSUSHITA (**P**anasonic) A**H**N
	R2	OM**R**ON G**2**R
Number of relay points	01	01 EA
	04	04 EA
	16	16 EA
	32	32 EA
Connector type	S	Screw
	H	Hirose connector
Terminal type	S	Screw
Item	AB	Relay terminal block

※1: It is only for 1-point and 4-point models.
※This ordering information is only for reference. When selecting the model, refer to the specifications of each model.

▣ Terminal Specifications



<Spade terminal>



<Ring terminal>

◎ Rated load current 2/3A

(unit: mm)

	A	B	C	D	Applicable wire
Spade terminal	Min. 4.1	Min. 16.0	Min. 3.0	Max. 5.9	AWG 22-16 (0.30 to 1.25mm^2)
Ring terminal	Min. 4.1	Min. 16.0	Min. 3.0	Max. 5.9	

◎ Rated load current 5A, 10A

	A	B	C	D	Applicable wire	
					Rated load current 5A	Rated load current 10A
Spade terminal	Min. 4.1	Min. 16.0	Min. 3.0	Max. 7.0	AWG 19-14 (0.65 to 2.0mm^2)	AWG 17-14 (1.0 to 2.0mm^2)
Ring terminal	Min. 4.1	Min. 16.0	Min. 3.0	Max. 7.0		

※ Please use UL certified terminals.

▣ Specifications

◎ Rated load current 2/3A

Model		ABS-S01PA-CN ABS-S01TN-CN	ABS-S04PA-CN ABS-S04TN-CN	ABS-H16PA-NN (PN) ABS-H16TN-NN (PN)	ABS-H32PA-NN (PN) ABS-H32TN-NN (PN)
Power supply		24VDC ±10%			
Rated load voltage & current※1		250VAC 3A, 30VDC 3A			250VAC 2A, 30VDC 2A (2A/1-point, 8A/1COM)
Current consumption	PA type	Max. 10.5mA ※2		Max. 10.5mA※2/Max. 15.5mA※3	
	TN type	Max. 8.5mA※2		Max. 8.5mA※2/Max. 13.5mA※3	
Output type		1a contact relay output			
Applicable relay		PA: PA1a-24V [MATSUSHITA (Panasonic)], TN: NYP24W-K [TAKAMISAWA (Fujitsu)]			
No. of relay points		1-point	4-point	16-point	32-point (8-point/1COM)
No. of connector pins		—		20-pin	40-pin
Applicable wire		AWG 22-16 (0.30 to 1.25mm^2)			
Insulation resistance		Min. 1,000MΩ (at 500VDC megger)			
Dielectric strength	Between coil-contact	2,000VAC 50/60Hz for 1 min.			
	Between same contacts	1,000VAC 50/60Hz for 1 min.※4			
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each X, Y, Z direction for 2 hours			
	Malfunction	0.75mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each of X, Y, Z directions for 10 min.			
Shock	Mechanical	500m/s^2 (approx. 50G) in each X, Y, Z direction for 3 times			
	Malfunction	147m/s^2 (approx. 15G) in each X, Y, Z direction for 3 times			
Environment	Ambient temperature	-15 to 55℃, storage: -25 to 65℃			
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH			
Material		CASE & BASE: PA6, TERMINAL PIN: Brass	CASE & BASE: MPPO, TERMINAL PIN: Brass	CASE: MPPO, BASE: PA66 (G25%) TERMINAL PIN: Brass	
Tightening torque		5.1 to 6.1kgf·cm (0.5 to 0.6 N·m)			
Accessories※5		—	Jumper bar: 2 EA (Model:JB-7.62-04)	Jumper bar: 2 EA (Model:JB-7.62-08)	—
Approval		CE UL LISTED※6	CE UL LISTED	CE UL LISTED※6	
Weight※7	PA type	Approx. 314.5g (approx. 21.5g)※8	Approx. 104g (approx. 68g)	Approx. 307g (approx. 224g)	Approx. 438g (approx. 345g)
	TN type	Approx. 324.5g (approx. 22.2g)※8	Approx. 107g (approx. 71g)	Approx. 318g (approx. 235g)	Approx. 463g (approx. 370g)

◎ Rated load current 5A, 10A

Model		ABS-S01PQ-CN ABS-S01R6-CN	ABS-S01PH-CN	ABS-S01PH6-CN	ABS-S01PH5-CN	ABS-S01R2-CN	ABS-S01R26-CN	ABS-S01R25-CN
Power supply		24VDC ±10%	24VDC	100/110VAC	200/220VAC	24VDC	100/110VAC	200/220VAC
Rated load voltage & current※1		250VAC 5A, 30VDC 5A	250VAC 10A, 30VDC 10A※1					
Current consumption※2	PQ/R6 type	Max. 20mA	—					
	PH/R2 type	—	Max. 25mA	Max. 15mA	Max. 10mA	Max. 25mA	Max. 15mA	Max. 10mA
Output type		1a contact relay output	1c contact relay output					
Applicable relay		PQ: PQ1a-24V [MATSUSHITA (Panasonic)] R6: G6B-1174P-FD-US [OMRON]	AHN12024 [MATSUSHITA (Panasonic)]	AHN111X0 [MATSUSHITA (Panasonic)]	AHN111Y0 [MATSUSHITA (Panasonic)]	G2R-1-S24VDC [OMRON]	G2R-1-S100/ (110) VAC [OMRON]	G2R-1-S200/ (220) VAC [OMRON]
No. of relay points		1-point						
Applicable wire		AWG 19 to 14 (0.65 to 2.0mm^2)	AWG 17 to 14 (1.0 to 2.0mm^2)					
Insulation resistance		Min. 1,000MΩ (at 500VDC megger)						
Dielectric strength	Between coil-contact	4,000 VAC 50/60Hz for 1 min.※4	5,000VAC 50/60Hz for 1 min.					
	Between same contacts	1,000VAC 50/60Hz for 1 min.※4	1,000VAC 50/60Hz for 1 min.					
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each X, Y, Z direction for 2 hours	1.5mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each X, Y, Z direction for 2 hours					
	Malfunction	0.75mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each of X, Y, Z directions for 10 min.	1.5mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each of X, Y, Z directions for 10 min.					
Shock	Mechanical	1,000m/s^2 (approx. 100G) in each X, Y, Z direction for 3 times						
	Malfunction	100m/s^2 (approx. 10G) in each X, Y, Z direction for 3 times						
Environment	Ambient temperature	-15 to 55℃, storage: -25 to 65℃						
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH						
Material		CASE & BASE: PA6, TERMINAL PIN: Brass	CASE, BASE: PBT, TERMINAL PIN: Brass, Phosphor bronze					
Tightening torque		7.14 to 8.16kgf·cm (0.7 to 0.8N·m)						
Approval		CE UL LISTED※6						
Weight※8		PQ: Approx. 430g (approx. 31g), R6: Approx. 416g (approx. 30g)	Approx. 720g (approx. 53g)	Approx. 711g (approx. 52g)	Approx. 715g (approx. 52g)	Approx. 719g (approx. 53g)	Approx. 711g (approx. 52g)	Approx. 712g (approx. 52g)

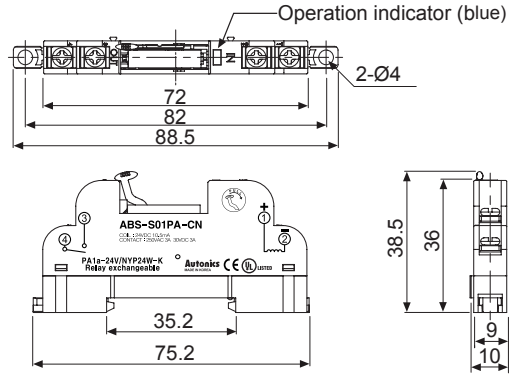
※1: Relay contact capacity for resistive load.
※2: The current consumption including LED current by one relay.
※3:'The current consumption including power LED at '※1'.
※4: **R6 type (OMRON relay) is 3,000VAC.**
TN type (Fujitsu relay) is 750VAC.
※5: ABS-H32□□-NN (PN)does not supply jumper bars.
※6: Except 30VDC of rated load voltage for UL LISTED.
※7: The weight includes packaging. The weight in parentheses is for unit only.
※8: The weight of 1-point relays is per 10EA with packing and the weight of parenthesis is per 1EA.
※Environment resistance is rated at no freezing or condensation.

▣ Dimensions

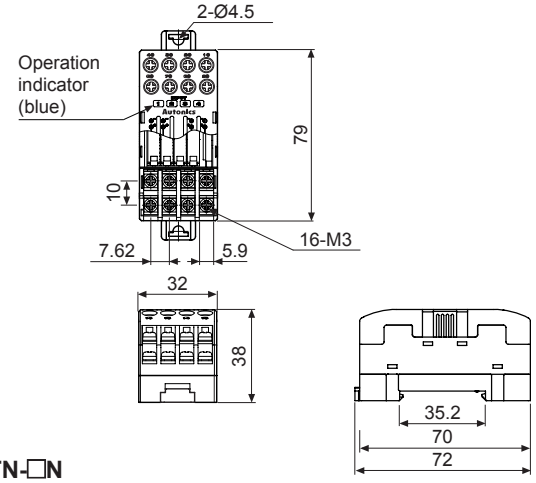
(unit: mm)

◎ Rated load current 2/3A

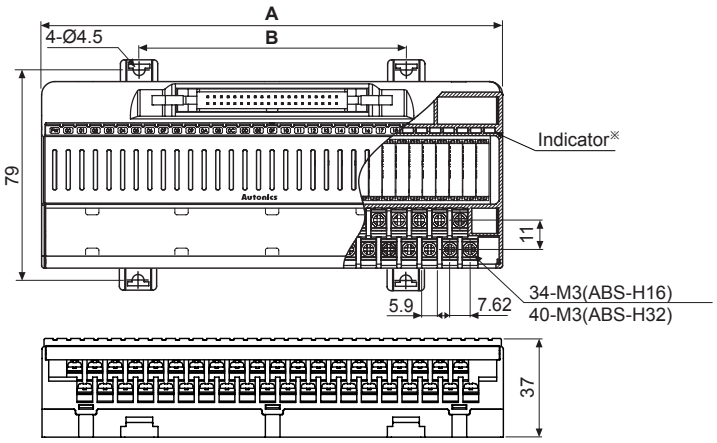
• ABS-S01PA-CN / ABS-S01TN-CN



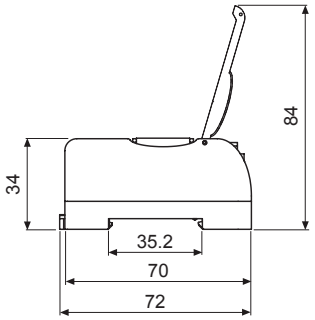
●ABS-S04PA-CN / ABS-S04TN-CN



• ABS-H16PA-□N / ABS-H16TN-□N ●ABS-H32PA-□N / ABS-H32TN-□N

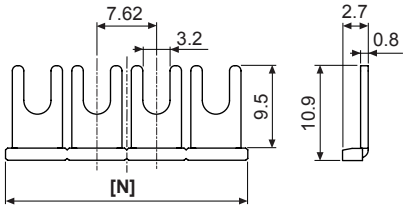


	ABS-H16	ABS-H32
A	140	173
B	70	100



※Indicator (PW: red LED, operation and disconnection: blue LED)

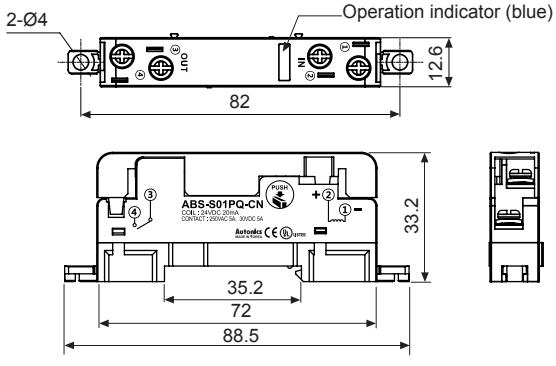
• Jumper bar (sold separately)



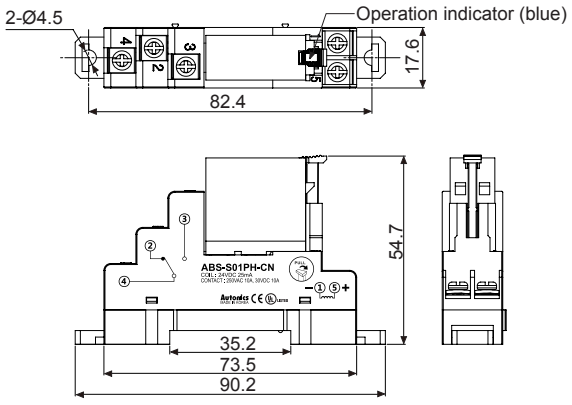
Model	JB-7.62-04	JB-7.62-08
No. of jumper bar pins	4 EA	8 EA
[**N**] size	29.5	60.0

◎ Rated load current 5A, 10A

• ABS-S01PQ-CN / ABS-S01R6-CN



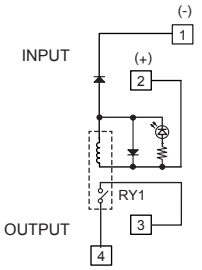
• ABS-S01PH□-CN / ABS-S01R2□-CN



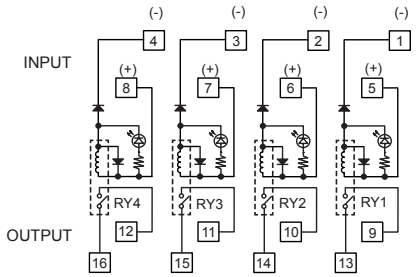
▣ Connections

◎ Rated load current 2/3A

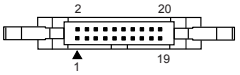
- **ABS-S01PA-CN / ABS-S01TN-CN**



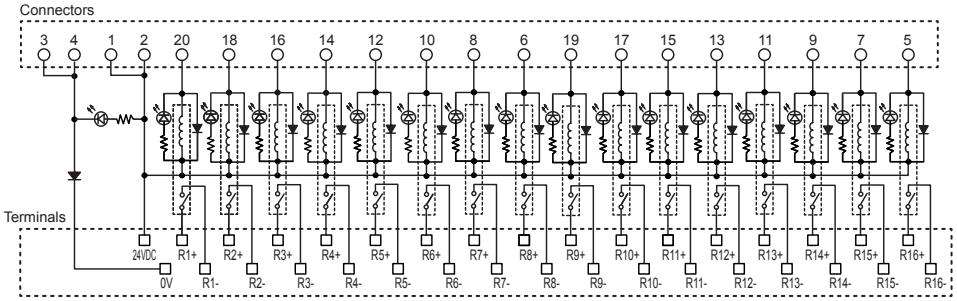
- **ABS-S04PA-CN / ABS-S04TN-CN**



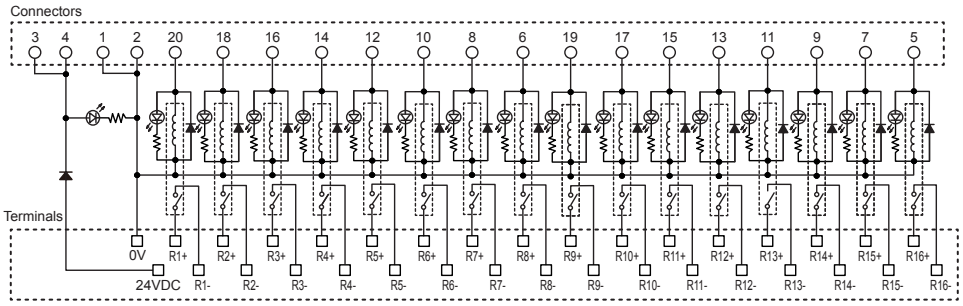
- **ABS-H16□-NN**



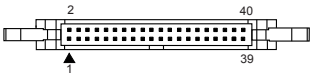
※Hirose connector socket : HIF3BA-20PA-2.54DSA



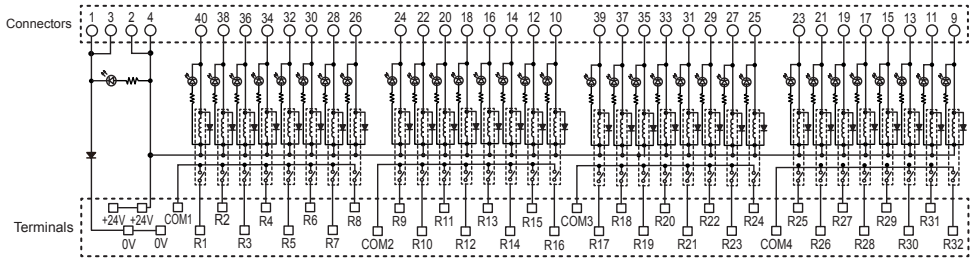
- **ABS-H16□-PN**



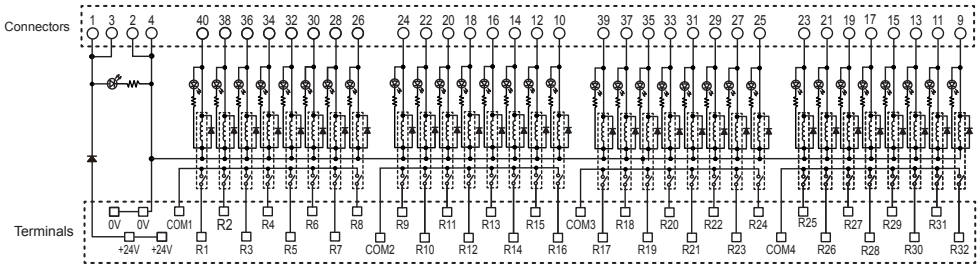
- **ABS-H32□-NN**



※Hirose connector socket : HIF3BA-40PA-2.54DSA



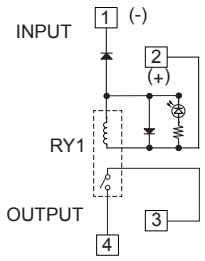
- **ABS-H32□-PN**



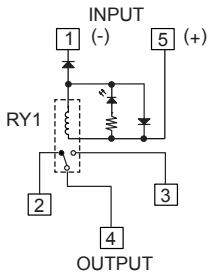
▣ Connections

◎ Rated load current 5A, 10A

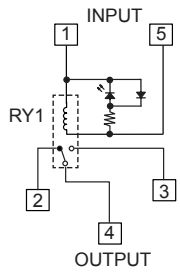
- **ABS-S01PQ-CN**
  ABS-S01R6-CN



- **ABS-S01PH-CN**
  ABS-S01R2-CN



- **ABS-S01PH6-CN**
  ABS-S01PH5-CN
  ABS-S01R26-CN
  ABS-S01R25-CN



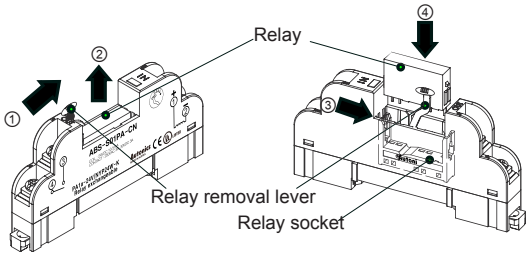
▣ Replacing Relays

◎ Rated load current 2/3A

- **ABS-S01PA-CN / ABS-S01TN-CN**

1) Pull the relay removal lever towards direction ① and the relay will pop up in direction ②.
2) Remove the relay and return the relay removal lever to its original position.
3) Check the socket position and insert the relay into the socket.

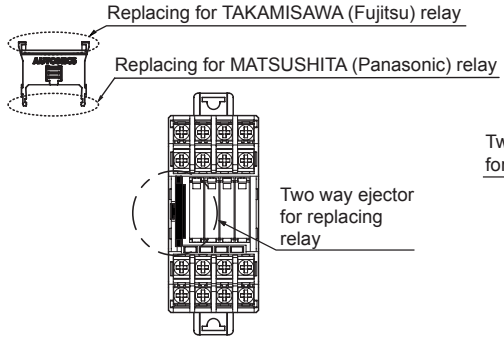
※If pulling the relay removal lever to left or right, the lever may be broken.



- **ABS-S04PA-CN / ABS-S04TN-CN**
- **ABS-H16PA-□N / ABS-H16TN-□N**
- **ABS-H32PA-□N / ABS-H32TN-□N**

• Two way ejector position for relay replacement

< Two way ejector >



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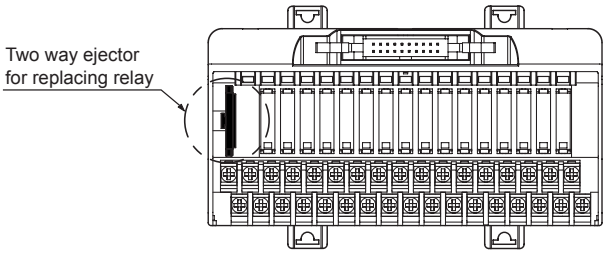
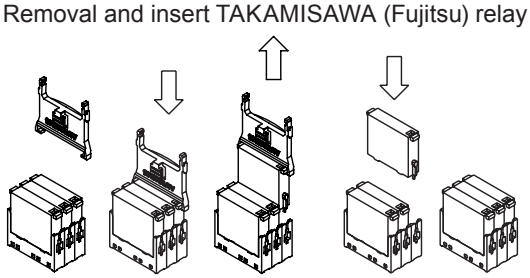


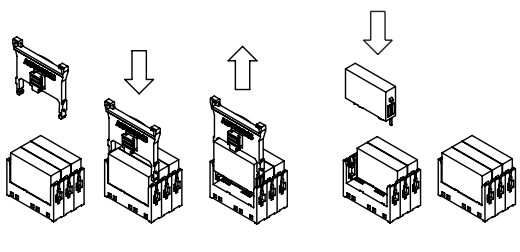
< ABS-H16 / ABS-H32 >

• Removal and insert TAKAMISAWA (Fujitsu) relay



< Removal > < Insert >

• Removal and insert MATSUSHITA (Panasonic) relay



< Removal > < Insert >

※Relay sockets are compatible with both TAKAMISAWA (Fujitsu) relay, NYP24W-K, and MATSUSHITA (Panasonic) relay, PA1a-24V.

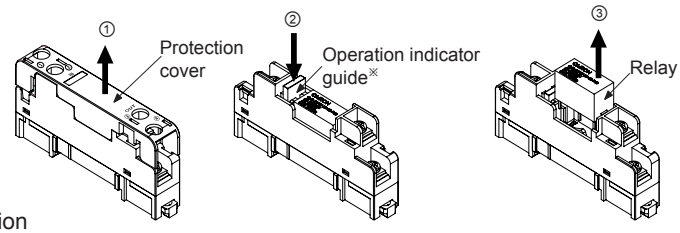
▣ Replacing Relays

◎ Rated load current 5A, 10A

- **ABS-S01PQ-CN / ABS-S01R6-CN**

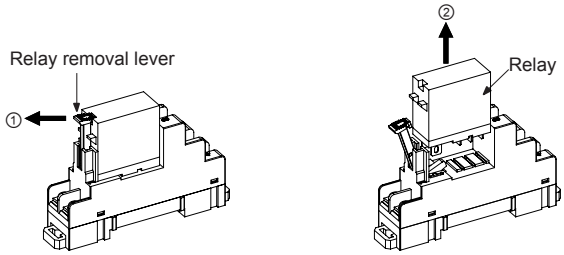
1) Pull the protection cover towards direction ①.
2)Press the operation indicator guide in direction ② and remove the relay towards direction ③.
3) Insert a new relay into position.

※Operation indicator guide is used for displaying operation status and removing relays



- **ABS-S01PH□-CN / ABS-S01R2□-CN**

1) Pull the relay removal lever towards direction ①. Remove the relay towards direction ②.
2) Insert a new relay into position.



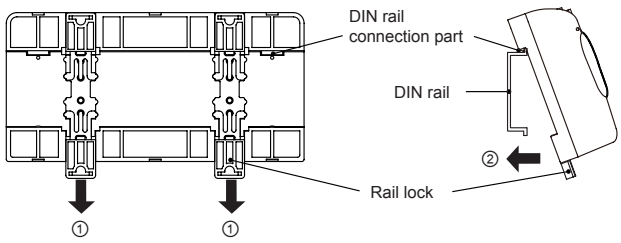
▣ Installation

※Each model appearance is different by no. of relay points.

◎ Mounting and Removal at DIN rail

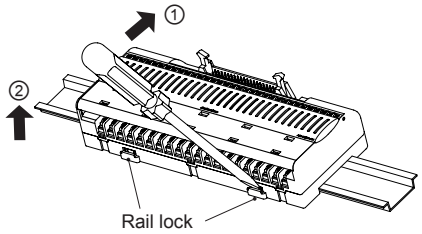
- Mounting

1)Pull the rail lock towards direction ①.
2)Attach the DIN rail connection hook onto the DIN rail.
3)Push the unit towards direction ②, then push the rail lock in to lock into position.



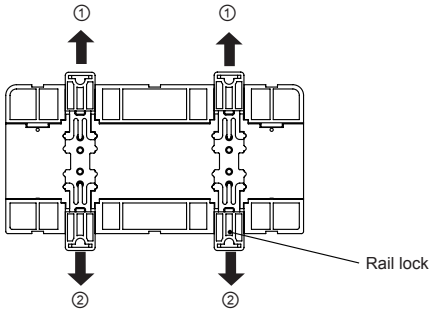
- Removal

1)Insert a screwdriver into the rail lock hole and pull it towards direction ①.
2)Remove the unit by pulling the unit towards direction ②.



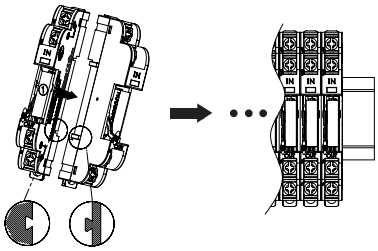
◎ Mounting with screws

1)The unit can be mounted on panels using the rear rail locks.
2)Pull the rail locks towards directions ① and ②.
3)M4 x 15mm spring washer screws are recommended for installation. When using flat washers, use Ø6mm diameter washers. The tightening torque should be between 7.14 and 10.2kgf·cm (0.7 to 1.0N·m).

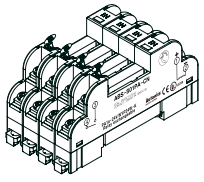


◎ Connecting multiple units (1-point relay terminal block)

Connect multiple units by locking the socket (凹) and peg (凸) together in direction ①.

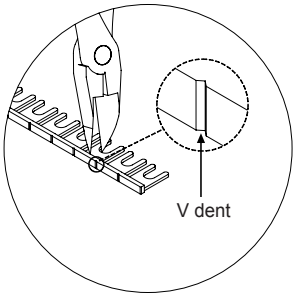


※E.g.

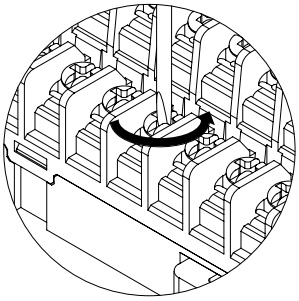


▣ Installing Jumper Bars (4, 16, 32-point relay terminal block)

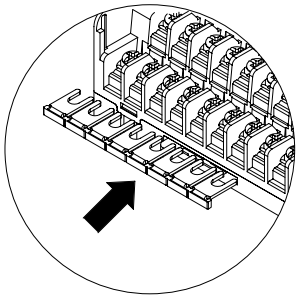
1)Cut the jumper bar to the user's desired length by cutting at the V dent using a nipper.



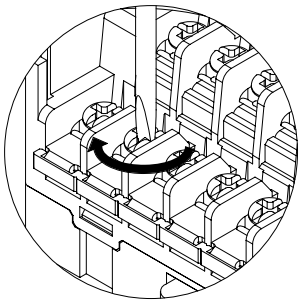
2)Unfasten all the screws of the terminals you wish to commonize.



3)Insert the jumper bar below the unfastened screws.



4)Tighten all the screws above the jumper bar.



▣ Caution During Use

1. Do not use the product outside of rated temperature and humidity.
2. Check to make sure that voltage fluctuation in the power supply is within the rated range.
3. When connecting PLC or other controllers, check the polarity of power and COMMON before wiring.
4. Please use power wires listed in the specifications and use appropriate crimp connection for the terminals.
   2, 3A: AWG 22-16 (0.30 to 1.25mm^2), 5A: AWG19-14 (0.65 to 2.0mm^2), 10A: AWG17-14 (1.0 to 2.0mm^2)
5. Turn OFF the power supply before wiring or removing connectors.
6. Do not touch the unit immediately after the load power is supplied or cut. It may cause burn by high temperature.
7. Do not touch the unit when screw is released. It may cause malfunction or burnout.
8. Turn OFF the power supply before replacing relays.
9. Do not apply the excessive force to the removal lever when removing a relay.
10. In case of 24VDC signal input, isolated and limited voltage/current or Class 2 source should be provided for power supply. (except rated load current 3A 1-point, 5A 1-point)
11. Do not use the unit in the following environments.
    ① Environments with high vibration or shock.
    ② Environments where strong alkalis or acids are used.
    ③ Environments with exposure to direct sunlight.
    ④ Near machinery which produce strong magnetic force or electric noise
12. This unit may be used in the following environments.
    ① It shall be used indoor.
    ② Altitude up to 2,000m
    ③ Pollution degree 2
    ④ Installation category II