Relay Terminal Block (screw type)

▣ 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)

※Please refer to 'I/O cable' in the I/O terminal block catalogue.

⚠ Please read "Safety Considerations" in instruction manual before using.

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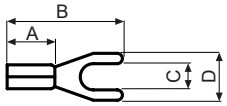
▣ Ordering Information

AB S – H 16 PA 5 – N N

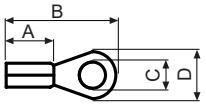
Varistor installation	N	Not installed
Input logic	C	COM None※1
	N	NPN (COM+)
	P	PNP (COM-)
Voltage of relay coil	No-mark	24VDC
	5	200/220VAC or 220VAC
	6	100/110VAC
Relay type	TN	**T**AKAMISAWA (Fujitsu) **N**YP
	PA	MATSUSHITA (Panasonic) **PA**
	PQ	MATSUSHITA (Panasonic) **PQ**
	R6	OM**R**ON G**6**B
	PH	MATSUSHITA (**P**anasonic) A**H**N
	R2	OM**R**ON G**2**R
Number of relay points	01	1
	04	4
	16	16
	32	32
Controller	S	Screw
	H	Hirose connector
Terminal block	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 crimp terminal	≥4.1	≤16.0	≥3.0	≤5.9	AWG 22-16 (0.30 to 1.25mm²)
Ring crimp terminal	≥4.1	≤16.0	≥3.0	≤5.9	

◎ Rated load current 5A, 10A

	A	B	C	D	Applicable wire	
					Rated load current 5A	Rated load current 10A
Spade crimp terminal	≥4.1	≤16.0	≥3.0	≤7.0	AWG 19-14 (0.65 to 2.0mm²)	AWG 17-14 (1.0 to 2.0mm²)
Ring crimp terminal	≥4.1	≤16.0	≥3.0	≤7.0		

※Please use UL certified crimp terminals.

■ Specifications

◎ Rated load current 2A, 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	≤8mA※2		≤8mA※2/≤13mA※3	
	TN type	≤8.5mA※2		≤8.5mA※2/≤13.5mA※3	
Output type		1a contact relay output			
Applicable relay		PA: APAN3124 [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
Indicator		Operation indicator: Blue LED		Power indicator: Red LED, Operation and disconnection indicator: Blue LED	
Applicable wire		AWG22-16 (0.30 to 1.25mm^2)			
Insulation resistance		≥1,000MΩ (at 500VDC megger)			
Dielectric strength	Between coil-contact	3,000VAC 50/60Hz for 1 minute			
	Between same contacts	1,000VAC 50/60Hz for 1 minute※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 X, Y, Z direction for 10 minute			
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: Polyamide 6, TERMINAL PIN: Brass	CASE & BASE: Modified Polyphenylene Oxide, TERMINAL PIN: Brass	CASE: MPPO, BASE: Polyamide 66 (G25%) TERMINAL PIN: Brass	
Tightening torque		0.5 to 0.6 N·m			
Accessories※5		—	Jumper bar: 2 (Model: JB-7.62-04)	Jumper bar: 2 (Model: JB-7.62-08)	—
Approval		CE cULus※6	CE cULus	CE cULus※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~	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	≤20mA	—					
	PH/R2 type	—	≤25mA	≤15mA	≤9mA	≤25mA	≤15mA	≤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)]	AHN110X0 [MATSUSHITA (Panasonic)]	AHN110Y2 [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		≥1,000MΩ (at 500VDC megger)						
Dielectric strength	Between coil-contact	4,000 VAC 50/60Hz for 1 minute※4	5,000VAC 50/60Hz for 1 minute					
	Between same contacts	1,000VAC 50/60Hz for 1 minute※4	1,000VAC 50/60Hz for 1 minute					
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 X, Y, Z direction for 10 minute	1.5mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minute					
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		0.7 to 0.8N·m						
Approval		CE cULus※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)

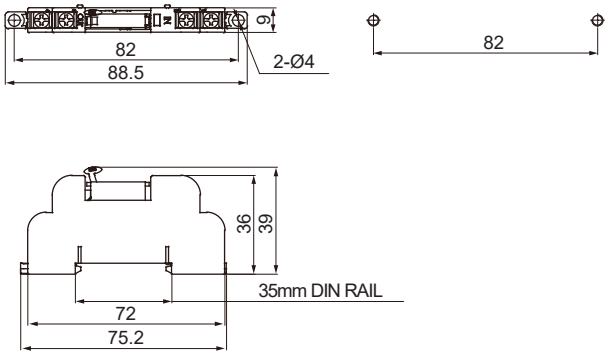
※1: Relay contact capacity for resistive load.
※2: The current consumption including LED current by one relay.
※3:'The current consumption including power LED at '※1'.
※4: R6 type (OMRON relay) is 3,000VAC.
TN type (Fujitsu relay) is 750VAC.
※5: ABS-H32□□-NN(PN) does not supply jumper bars.
※6: Except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

▣ Dimensions

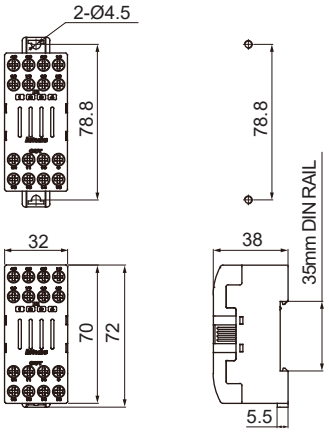
(unit: mm)

◎ Rated load current 2/3A

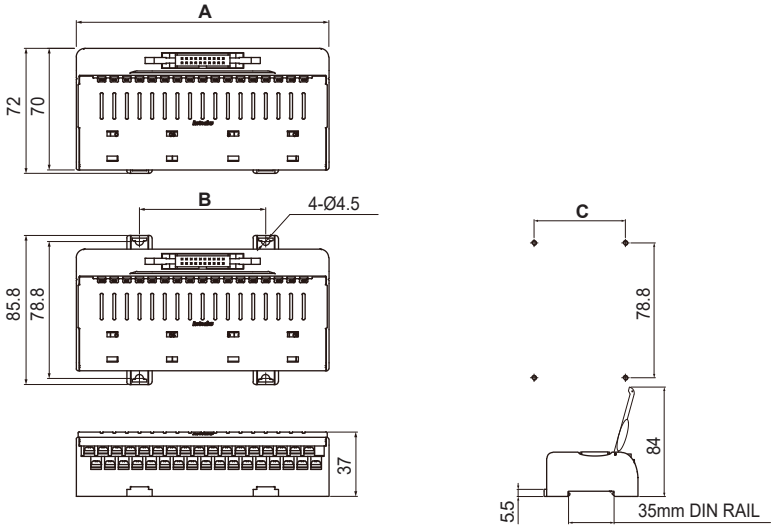
• ABS-S01PA-CN / ABS-S01TN-CN



●ABS-S04PA-CN / ABS-S04TN-CN

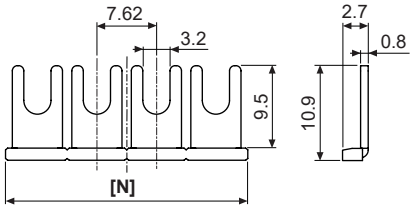


• ABS-H16PA-□N / ABS-H16TN-□N ●ABS-H32PA-□N / ABS-H32TN-□N



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

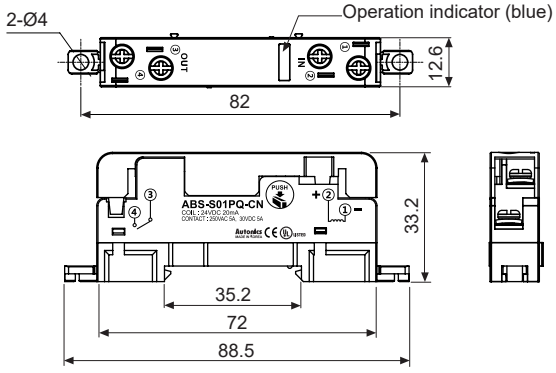
• Jumper bar (sold separately)



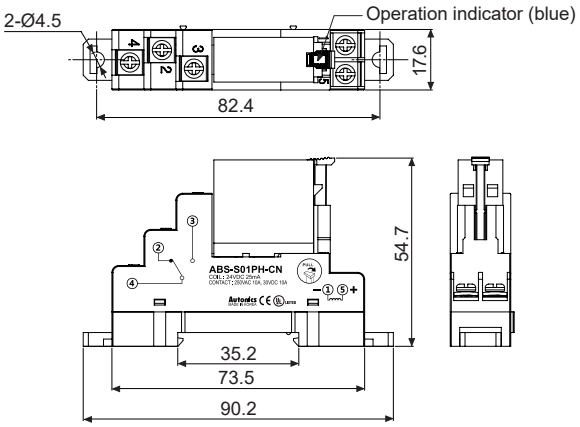
Model	JB-7.62-04	JB-7.62-08
No. of jumper bar pins	4	8
[**N**] size	29.5	60.0

◎ Rated load current 5A, 10A

• ABS-S01PQ-CN / ABS-S01R6-CN



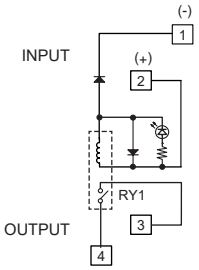
• ABS-S01PH□-CN / ABS-S01R2□-CN



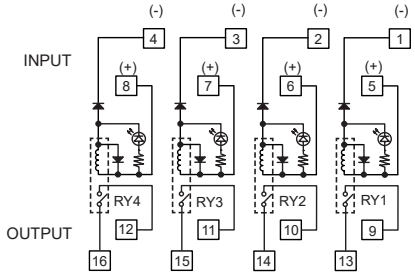
▣ Connections

◎ Rated load current 2/3A

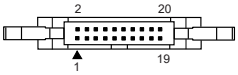
- **ABS-S01PA-CN / ABS-S01TN-CN**



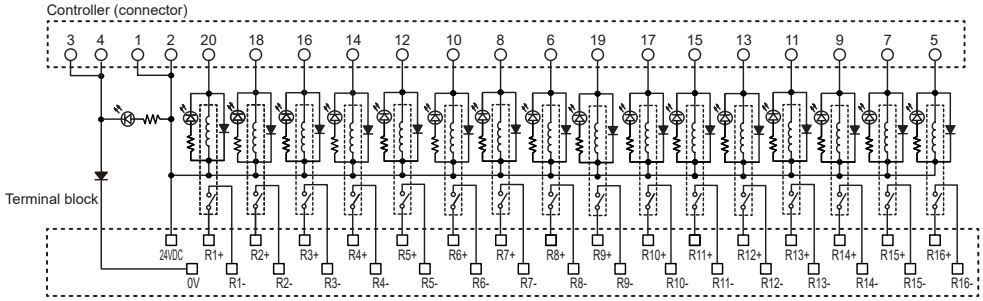
- **ABS-S04PA-CN / ABS-S04TN-CN**



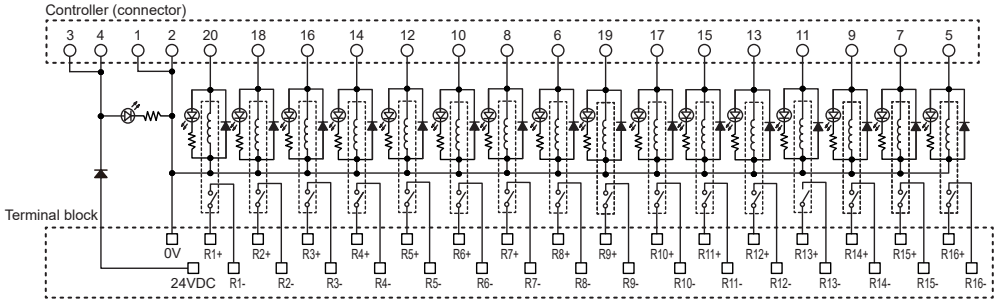
- **ABS-H16□-NN**



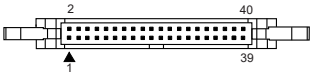
※Hirose connector socket : HIF3BA-20PA-2.54DSA



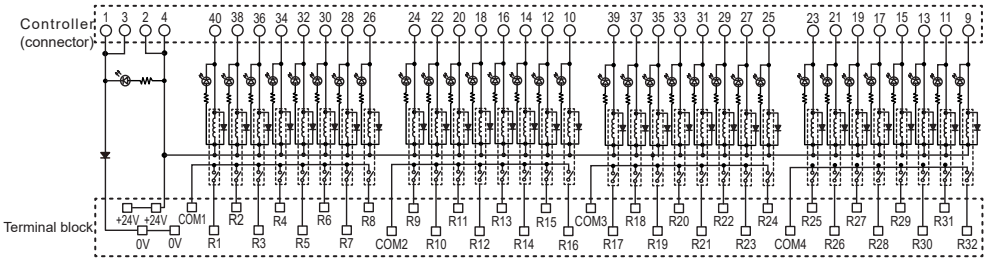
- **ABS-H16□-PN**



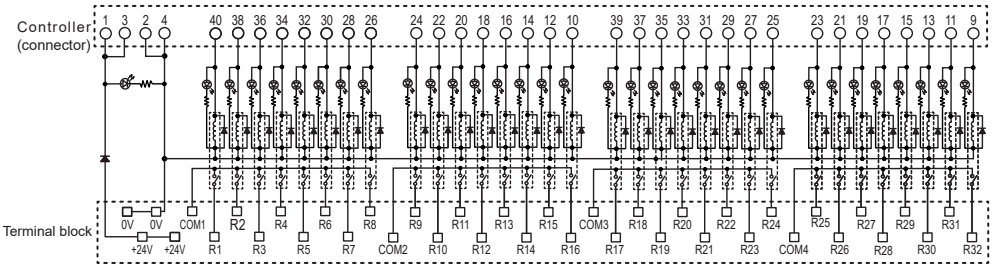
- **ABS-H32□-NN**



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



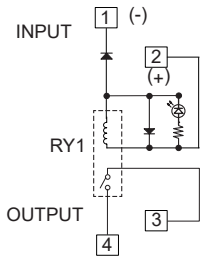
- **ABS-H32□-PN**



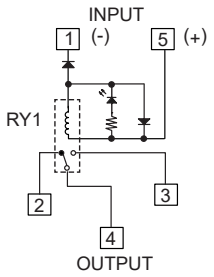
▣ Connections

◎ Rated load current 5A, 10A

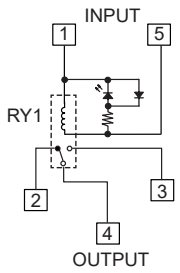
- **ABS-S01PQ-CN**
  ABS-S01R6-CN



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



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



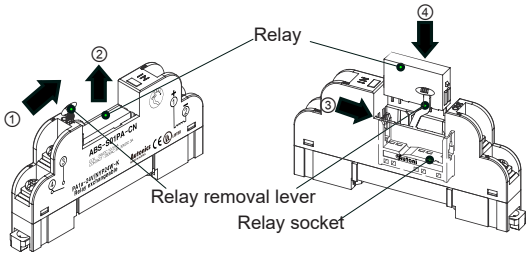
▣ Replacing Relays

◎ 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.

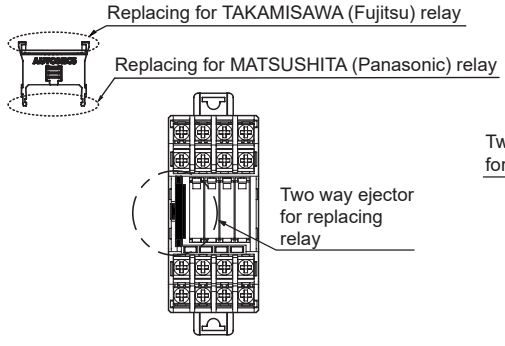
※If pulling the relay removal lever to left or right, the lever may be broken.



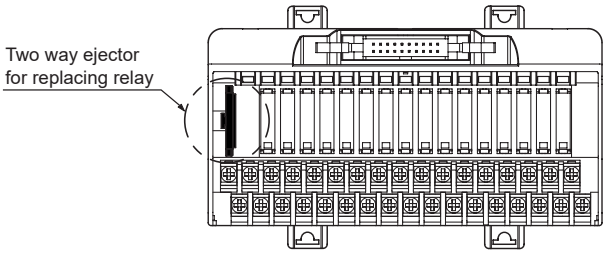
- **ABS-S04PA-CN / ABS-S04TN-CN**
- **ABS-H16PA-☐N / ABS-H16TN-☐N**
- **ABS-H32PA-☐N / ABS-H32TN-☐N**

• Two way ejector position for relay replacement

< Two way ejector >

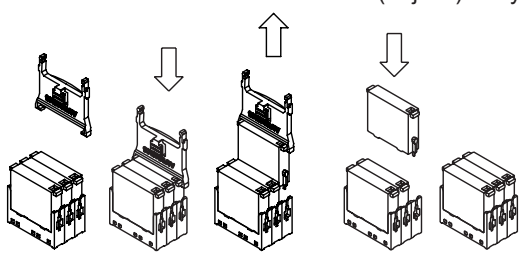


< ABS-S04 >



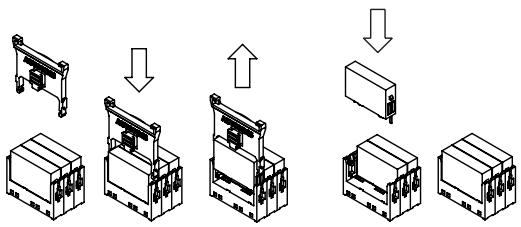
< ABS-H16 / ABS-H32 >

• 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, APAN3124.

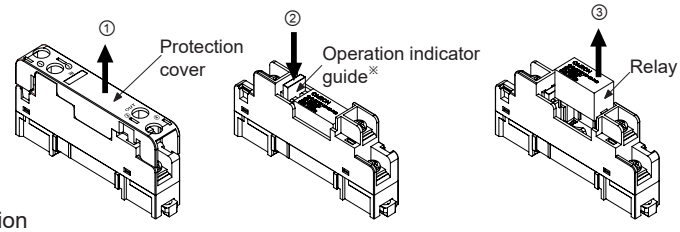
▣ Replacing Relays

◎ Rated load current 5A

- **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.

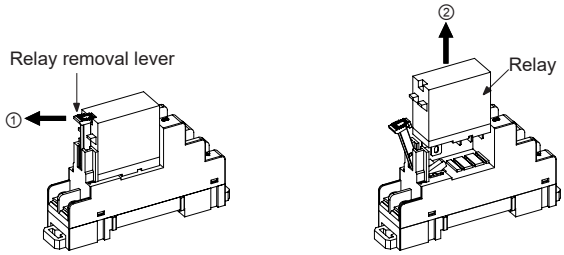
※Operation indicator guide is used for displaying operation status and removing relays



◎ Rated load current 10A

- **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.



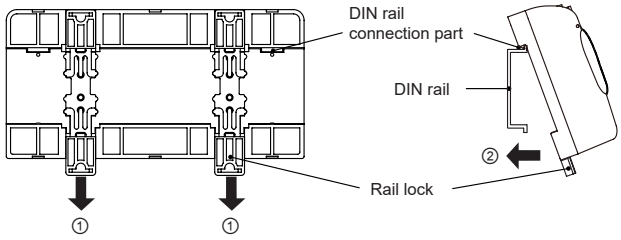
▣ Installation

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

◎ Mounting and Removal at DIN rail

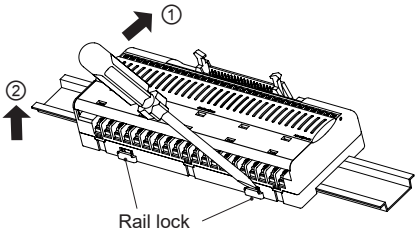
- Mounting

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.



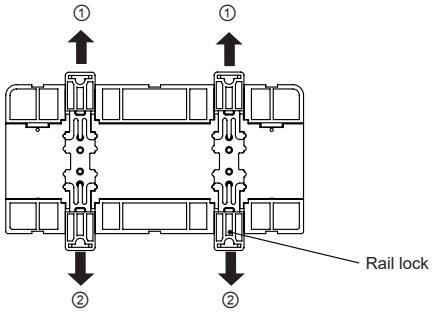
- Removal

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.



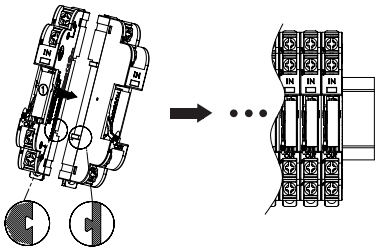
◎ Mounting with screws

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).

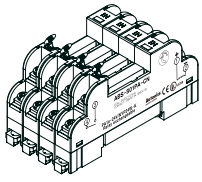


◎ Connecting multiple units (1-point relay terminal block)

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

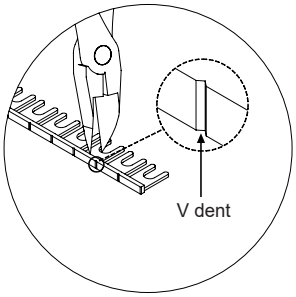


※E.g.

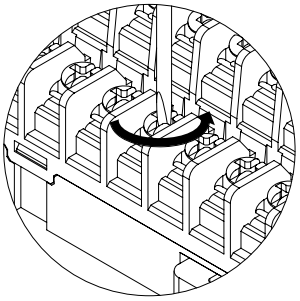


▣ Installing Jumper Bars (4, 16, 32-point relay terminal block)

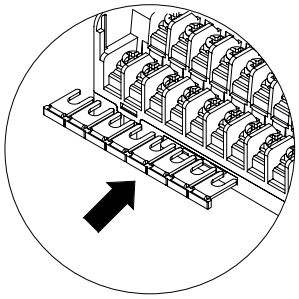
1)Cut the jumper bar to the user's desired length by cutting at the V dent using a nipper.



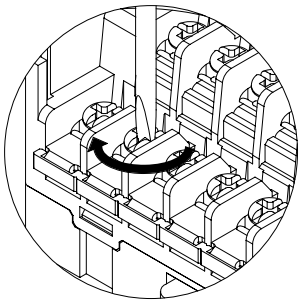
2)Unfasten all the screws of the terminals you wish to commonize.



3)Insert the jumper bar below the unfastened screws.



4)Tighten all the screws above the jumper bar.



▣ Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. Check the polarity of power or COMMON before connecting PLC or other controllers.
3. Do not touch the unit immediately after the load power is supplied or cut.
   It may cause burn by high temperature.
4. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
5. Wire as short as possible and keep away from high voltage lines or power lines, to prevent surge and inductive noise.
   Do not use near the equipment which generates strong magnetic force or high frequency noise (transceiver, etc.).
   In case installing the product near the equipment which generates strong surge (motor, welding machine, etc.), use diode or varistor to remove surge.
6. This unit may be used in the following environments.
   ① Indoors(in the environment condition rated in 'Specifications')
   ② Altitude max. 2,000m
   ③ Pollution degree 2
   ④ Installation category II