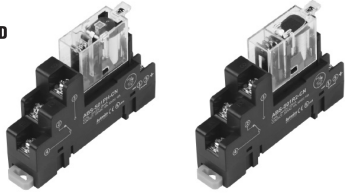


Autonics

1 POINT RELAY TERMINAL BLOCK (10A)

ABS Series

INSTRUCTION MANUAL



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

■ Safety Considerations

※Please observe all safety considerations for safe and proper product operation to avoid hazards.

※Safety considerations are categorized as follows.

⚠ **Warning** Failure to follow these instructions may result in serious injury or death.

⚠ **Caution** Failure to follow these instructions may result in personal injury or product damage.

※The symbols used on the product and instruction manual represent the following

⚠ Symbol represents caution due to special circumstances in which hazards may occur.

⚠ Warning

1. **Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow this instruction may result in personal injury, fire, or economic loss.
2. **Do not repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in fire or electric shock.
3. **Do not use the unit where flammable or explosive gas, humidity, direct sunlight, radiant heat, vibration, or impact may be present.**
Failure to follow this instruction may result in fire or explosion.

4. **Do not disassemble or modify the unit. Please contact us if necessary.**

Failure to follow this instruction may result in electric shock, fire, or product damage.

⚠ Caution

1. **Do not use the unit outdoors.**

Failure to follow this instruction may result in shortening the life cycle of the unit, or electric shock.

2. **Use the unit within the rated specifications.**

Failure to follow this instruction may result in shortening the life cycle of the unit, or fire.

3. **Do not use water or oil-based detergent when cleaning the unit. Use dry cloth to clean the unit.**

Failure to follow this instruction may result in electric shock or product damage.

4. **Keep dust and wire residue from flowing into the unit.**

Failure to follow this instruction may result in fire or product damage.

■ Précautions pour la sécurité

※Après avoir lu ce guide, s'il vous plaît, placez-le dans un lieu où vous pouvez récemment le trouver.

※S'il vous plaît suivre les conseils suivants pour la sécurité.

⚠ **Avertissement** L'inaccomplissement des instructions peut provoquer des blessures graves.

⚠ **Précaution** Le produit peut être endommagé ou de provoquer des blessures si les consignes ne sont pas respectées.

※La signification des icônes utilisées dans le produit et le manuel sont les suivants:

⚠ **Précaution:** Blessure ou danger peuvent se produire dans des conditions particulières.

⚠ Avertissement

1. **Utilisez le produit seulement après avoir relié un double dispositif de sécurité pour les instruments qui ont un grand effet pour le corps humain et la propriété, comme sont les dispositifs d'énergie atomique, mets en oeuvre Médecine, de véhicules, Rails, aéronaves, Brûleurs ou produits de sécurité. L'inaccomplissement peut causer des incendies, lésions personnelles ou dommages à la propriété.**
L'inaccomplissement peut causer des incendies, lésions personnelles ou dommages à la propriété.

2. **Ne pas réparer ou vérifier le produit tout alimenté.**
L'inaccomplissement peut provoquer un incendie ou des décharges électriques.

3. **Utilisez le produit avec l'environnement comme il est décrit dans le manuel. Évitez le lieu d'émission de gaz corrosifs, gaz inflammables, incorporation température, haute humidité, vibrations, choc, etc.**
L'inaccomplissement peut provoquer un incendie ou une explosion.

4. **Ne pas démonter et modifier cet appareil. S'il vous plaît nous contacter si cela est nécessaire.**

L'inaccomplissement pourrait causer des décharges électriques, incendies, lésions personnelles ou dommages à la propriété.

⚠ Précaution

1. **Cette unité ne doit pas être utilisé à l'extérieur.**

Peut raccourcir le cycle de vie du produit ou causer un choc électrique.

2. **S'il vous plaît respecter les spécifications nominales.**

L'inaccomplissement peut raccourcir le cycle de vie du produit et provoquer un incendie.

3. **Dans nettoyer l'appareil, n'utilisez pas d'eau ou de solvants organiques. Et utiliser un chiffon sec.**

L'inaccomplissement peut donner lieu des décharges électriques ou des dommages au produit.

4. **Ne pas laisser de poussière pénétrer l'unité.**

Cela pourrait provoquer un incendie ou un dysfonctionnement.

※The above specifications are subject to change and some models may be discontinued without notice.

■ Ordering Information

AB	S	S	01	PH	5	C	N	Varistor installation	N	Not installed
								Input logic	C	COM None
								Relay coil voltage	No-mark	24VDC
								Relay type	5	200/220VAC
								Number of relay points	6	100/110VAC
								Connector type	PH	MATSUSHITA (Panasonic) AHN
								Terminal type	R2	OMRON G2R
								Item	01	1
									S	Screw
									S	Screw
									AB	Relay Terminal block

■ Crimp Terminal Specifications

										(unit: mm)
	A	B	C	D	Applicable wires					
	Spade crimp terminal		Min. 4.1	Max. 16.0	Min. 3.3	Max. 7.0	AWG17-14 (1.0 to 2.0 mm ²)			
	Ring crimp terminal		Min. 4.1	Max. 16.0	Min. 3.3	Max. 7.0				

※Please use UL certified crimp terminals.

■ Specifications

Model	ABS-S01PH-CN	ABS-S01PH6-CN	ABS-S01PH5-CN	ABS-S01R2-CN	ABS-S01R26-CN	ABS-S01R25-CN
Power supply	24VDC	100/110VAC	200/220VAC	24VDC	100/110VAC	200/220VAC
Rated load voltage & current ¹⁾	250VAC 10A, 30VDC 10A					
Current consumption ²⁾	Max. 25mA	Max. 15mA	Max. 10mA	Max. 25mA	Max. 15mA	Max. 10mA
Output type	1c contact relay output					
Applicable relay	AHN12024 [MATSUSHITA (Panasonic)]	AHN110X0 [MATSUSHITA (Panasonic)]	AHN110Y0 [MATSUSHITA (Panasonic)]	G2R-1-S24VDC [OMRON]	G2R-1-S100/110VAC [OMRON]	G2R-1-S200/220VAC [OMRON]
No. of relay points	1-point					
Indicator	Operation indicator: Blue LED					
Applicable wire	AWG17-14 (1.0 to 2.0mm ²)					
Insulation resistance	Min. 1,000MΩ (at 500VDC megger)					
Dielectric strength	Between coil-contact					
	5,000VAC 50/60Hz for 1 minute					
Vibration	Between same contacts					
	1,000VAC 50/60Hz for 1 minute					
Shock	Mechanical					
	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours					
Environment	Malfunction					
	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minute					
Material	Mechanical					
	1000ms ² (approx. 100G) in each of X, Y, Z direction for 3 times					
Approval	Malfunction					
	100ms ² (approx. 10G) in each of X, Y, Z direction for 3 times					
Weight ^{3,4)}	Ambient temp.					
	-15 to 55°C, Storage: -25 to 65°C					
Approval	Ambient humi.					
	35 to 85%RH, Storage: 35 to 85%RH					
Approval	CASE, BASE: Polybutylene terephthalate, TERMINAL PIN: Brass, Phosphor bronze					
	Lightening torque 7.14 to 8.16kgf/cm (0.7 to 0.8Nm)					

※1: Relay contact capacity for resistive load. ※2: The power consumption including LED current by one relay.

※3: Except 30VDC of rated load voltage for ①mm.

※4: 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.

1) Coil specifications

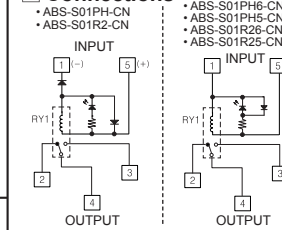
Model	Rated voltage	Must operate voltage	Must release voltage	Rated current	Power consumption	
AHN12024	24VDC	Min. 70% of rated voltage	Max. 15% of rated voltage	22mA	0.53W	
AHN111X0	100/110VAC	Min. 80% of rated voltage	Max. 30% of rated voltage	50Hz	60Hz	
				11/13mA	9/10.6mA	1.1 to 1.4VA
AHN111Y0	200/220VAC	Min. 80% of rated voltage	Max. 30% of rated voltage	50Hz	60Hz	
				5.5/5.6mA	4.5/5.3mA	1.1 to 1.4VA
G2R-1-S 24VDC	24VDC	Min. 70% of rated voltage	Max. 15% of rated voltage	21.8mA	0.53W	
				50Hz	60Hz	
G2R-1-S 100/110VAC	100/110VAC	Min. 80% of rated voltage	Max. 30% of rated voltage	11mA	9/10.6mA	0.9VA
				50Hz	60Hz	
G2R-1-S 200/220VAC	200/220VAC	Min. 80% of rated voltage	Max. 30% of rated voltage	5.5/4mA	4.5/5.3mA	0.9VA
				50Hz	60Hz	

2) Contact specifications

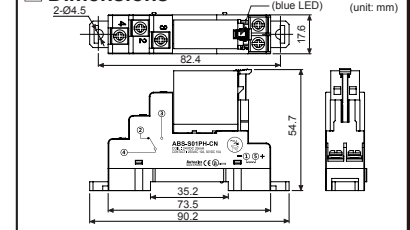
Model	MATSUSHITA (Panasonic)	OMRON	
	AHN12024	AHN111X0	
	AHN111Y0	G2R-1-S 24VDC	
	G2R-1-S 100/110VAC	G2R-1-S 200/220VAC	
Contact	Arrangement	1 Form C	
	Material	AgSnO ₂ type	
Rating	Resistance (initial)	Max. 100mΩ (6VDC 1A)	
	Rated load (resistive)	10A 250VAC, 10A 30VDC	
Electrical characteristics	Max. switching capacity (resistive)	4,000VA, 300W	
	Max. switching voltage	250VAC, 30VDC	
Mechanical characteristics	Max. switching current	16A (AC load), 10A (DC load)	
	Insulation resistance	Min. 1,000MΩ (at 500VDC megger)	
Expected life	Dielectric strength	5,000VAC 50/60Hz for 1 minute	
	Open contacts	1,000VAC 50/60Hz for 1 minute	
Environment	Operate time	Max. 15ms	
	Release time	Max. 5ms	
Unit weight	Vibration	Mechanical	
	Malfunction	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 1 hour	
Unit weight	Shock	Mechanical	
	Malfunction	1000ms ² (approx. 100G) in each X, Y, Z direction for 3 times	
Unit weight	Mechanical	Min. 20,000,000 operations (at 300 times/min)	Min. 20,000,000 operations (at 18,000 times/hour)
	Electrical	Min. 100,000 operations (at 20 times/min)	Min. 100,000 operations (at 18,000 times/hour)
Unit weight	Ambient temperature	-40 to 70°C	
	Ambient humidity	5 to 85%RH	
Unit weight	Approx. 19g	Approx. 20g	

※Environment resistance is rated at no freezing or condensation.

■ Connections



■ Dimensions



■ Installation

1. Mounting and Removal at DIN rail.

- Mounting
 - 1) Push 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 ③.

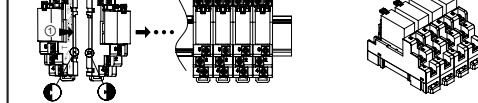
2. Mounting with screws

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

3. Connecting multiple units

Connect multiple units by locking the socket (□) and peg (△) together in direction ④.

※Example of connection



■ Replacing Relay

- 1) Pull the relay removal lever to the direction ①.
- Remove this relay and lift up to the direction ②.
- Insert a new relay to the case.



■ Caution During Use

1. Use the unit within the rated environment of specification.
2. Supply power within the rated allowable voltage range.
3. Check the polarity of power or COMMON before connecting PLC or other controllers.
4. When connecting the power input, use AWG17-14 (1.0 to 2.0 mm²). For using crimp terminals, refer to "Crimp Terminal Specifications".
5. Do not connect wire, or replace relays while connected to a power source.
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 use the unit when screws are released. It may cause malfunction or burnout.
8. Do not apply the excessive force to the removal lever when removing a relay.
9. In case of 24VDC signal input, isolated and limited voltage/current or Class 2 source should be provided for power supply.
10. Do not use the unit at below places.
 - 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
11. This unit may be used in the following environments.
 - ① It shall be used indoor
 - ② Altitude Max. 2,000m
 - ③ Pollution Degree 2
 - ④ Installation Category II

※Failure to follow these instructions may result in product damage.

■ Major Products

- Photoelectric sensors
- Fiber optic sensors
- Door sensors
- Door side sensors
- Area sensors
- Proximity sensors
- Pressure sensors
- Rotary encoders
- Connectors/Sockets
- Switching mode power supplies
- Control switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper motors/drivers/motion controllers
- Graphic/Logic panels
- Field network devices
- Laser marking system(Fiber, CO₂, Nd:YAG)
- Laser welding/cutting system
- Temperature controllers
- Temperature/Humidity transducers
- SSRs/Power controllers
- Counters
- Timers
- Panel meters
- Tachometer/Pulse(Rate)meters
- Display units
- Sensor controllers

Autonics Corporation

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Trusted Partner In Industrial Automation

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