

Screwless SSR Terminal Block
(Common type , 16/32-point)

ASL Series

INSTRUCTION MANUAL

TCD220013AC

Autonics

Thank you for choosing our Autonics product.

Read and understand the instruction manual and manual thoroughly before using the product.

For your safety, read and follow the below safety considerations before using.

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

Keep this instruction manual in a place where you can find easily.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Follow Autonics website for the latest information.

Safety Considerations

- Observe all ‘Safety Considerations’ for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

- ⚠ Warning

Failure to follow instructions may result in serious injury or death.
01. 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, economic loss or fire.
02. Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.

Failure to follow this instruction may result in explosion or fire.
03. Do not connect, repair, or inspect the unit, remove connector, or change SSR while connected to a power source.

Failure to follow this instruction may result in fire or electric shock.
04. Do not disassemble or modify the unit.

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

⚠ Caution

Failure to follow instructions may result in injury or product damage.

01. Use the unit within the rated specifications.

Failure to follow this instruction may result in fire or product damage.
02. Use a dry cloth to clean the unit, and do not use water or organic solvent.

Failure to follow this instruction may result in fire or electric shock.
03. Keep the product away from metal chip, dust, and wire residue which flow into the unit.

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

Cautions during Use

- Follow instructions in ‘Cautions during Use’. Otherwise, it may cause unexpected accidents.
- Check the polarity of power or COMMON before connecting PLC or other controllers.
- Do not touch the unit immediately after the load power is supplied or cut. It may cause burn by high temperature.
- 24VDC≐ power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- 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.
- This unit may be used in the following environments.
 - Indoors (in the environment condition rated in ‘Specifications’)
 - Altitude max. 2,000 m
 - Pollution degree 2
 - Installation category II





Product Components

- Product
- Instruction manual
- Ejector

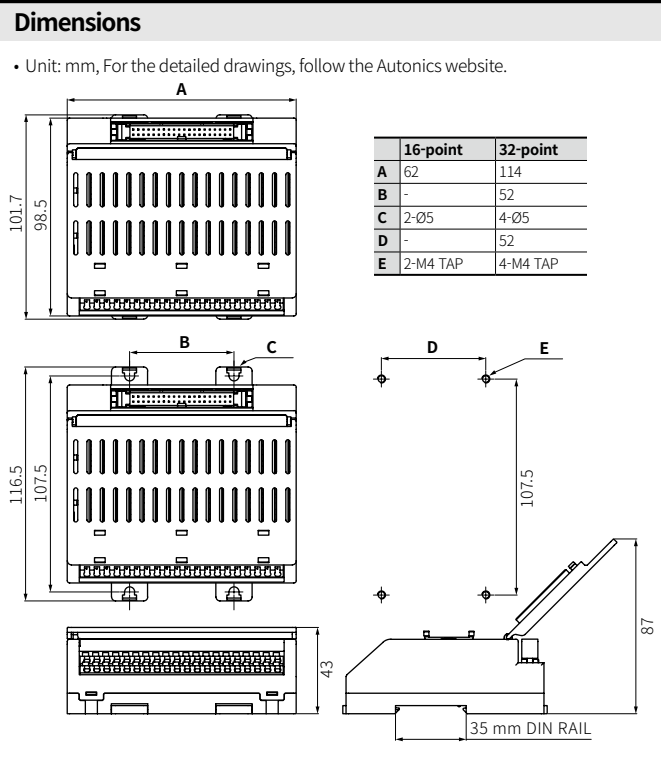
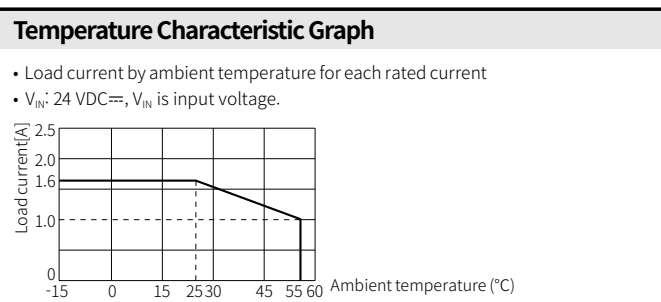
Sold Separately

- I/O cable CH/CO Series

Ordering Information						
This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.						
ASL	-	①	②	③	④	- ⑤ ⑥
① Connector type		④ SSR type		⑥ Varistor		
H: Hirose connector		MP0: AQZ202D [Panasonic]		N: None		
② Wire connection		⑤ Input logic				
C: Common		N: NPN (+COM)				
		P: PNP (-COM)				
③ Number of SSR						
16: 16-point						
32: 32-point						

Specifications		
Model	ASL-HC16□-□N	ASL-HC32□-□N
Applied SSR ⁰¹⁾	AQZ202D [Panasonic]	
Output method	1a	1a
Power supply	≤ 24 VDC≐ ±10 %	≤ 24 VDC≐ ±10 %
Current consumption	≤ 10.4 mA ⁰²⁾ or ≤ 13.1 mA ⁰³⁾	≤ 10.4 mA ⁰²⁾ or ≤ 13.1 mA ⁰³⁾
SSR output rated spec.	24 VAC ~ 50/60 Hz 1.6A, VDC≐ 1.6A (1.6 A / 1-point, 8 A / 1COM)	24 VAC ~ 50/60 Hz 1.6A, VDC≐ 1.6A (1.6 A / 1-point, 8 A / 1COM)
No. of connector pins	20	40
Connector for controller side	20-pin Omron (XG4A-2031)	40-pin Omron (XG4A-4031)
No. of SSR points	16	32
Output connection	8-point/1COM	8-point/1COM
Terminal type	Screwless	Screwless
Terminal pitch	≥ 5 mm	≥ 5 mm
Indicator	Power indicator: red, operating indicator: blue	Power indicator: red, operating indicator: blue
Varistor	None	None
Input logic	NPN / PNP model	NPN / PNP model
Material	CASE, BASE, COVER: PC, terminal pin: copper+PA66	CASE, BASE, COVER: PC, terminal pin: copper+PA66
Approval	CE  	CE  
Unit weight (packaged)	≈ 185 g (≈ 232 g)	≈ 370 g (≈ 463 g)
<div>01) For the detailed information about each SSR, please refer to 'SSR' or data sheet from the manufacturer.</div> <div>02) It is current consumption per a SSR including LED current.</div> <div>03) It is current consumption including LED current for power part to 02).</div>		
Insulation resistance	≥ 1,000 MΩ (500 VDC≐ megger)	
Dielectric strength (coil-contact)	2,500 VAC ~ 50/60 Hz for 1 minute	
Dielectric strength (same polarity contact)	1,000 VAC ~ 50/60 Hz for 1 minute	
Vibration	0.75mm amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 2 hours	
Vibration (malfunction)	0.75mm amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 10 min	
Shock	300 m/s ² (≈ 30 G) in each X, Y, Z direction for 3 times	
Shock (malfunction)	150 m/s ² (≈ 15 G) in each X, Y, Z direction for 3 times	
Ambient temperature	-15 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	
Applicable wire- solid ⁰¹⁾	Ø 0.6 to 1.25 mm	
Applicable wire- stranded ^{01) 02)}	AWG 22-18 (0.30 to 0.80 mm ²)	
Stripped length	8 to 10 mm	
<div>01) Use the cable of copper conductor in 60 °C temperature class.</div> <div>02) When using the stranded wire, use End Sleeve (wire ferrule).</div>		

Wire Ferrule Specifications	
Unit: mm, Use the UL approved wire ferrule.	
Wiring	
Connecting Insert the wire ferrule into the terminal hole.	
Removing 1. Put the (-) screwdriver at the groove on the clamp lever and press it. 2. Pull the cable to disassemble.	



- Installation

DIN Rail

- Mounting

1. Pull the Rail lock on the rear of the product to the direction ①.

2. Hang DIN rail hook on the rear of the product onto DIN rail.

3. Push the product to the direction ②, and push the Rail lock to the direction ③ to fix onto the DIN rail.

Removing

1. Insert a tool such as screwdriver into the hole of Rail lock.

2. Push the tool to the direction ① and pull the Rail lock.

3. Lift bottom of the product to the direction ② and remove the product from DIN rail.
- Example

- When two or more terminal blocks are installed
 - Use a stopper (sold separately) to make space between devices.
- Replacing SSR

1. Disassemble a SSR by using Two Way Ejector for SSR replacement inside the product.

[Ejector]

For Panasonic SSR

Ejector location

2. After checking the location of the SSR socket, insert the SSR to be replaced.

[Disassembling SSR using Ejector]

[Inserting SSR]

Wire Connection

■ Wire connection

- 16-point NPN

Controller side (connector)

Terminal side

- 16-point PNP

Controller side (connector)

Terminal side

A	Pin	20	18	16	14	12	10	8	6	19	17	15	13	11	9	7	5
COM	COM	COM1								COM2							
B	Upper terminal	-	01	-	03	-	05	-	07	08	-	0A	-	0C	-	0E	-
	Low terminal	00	-	02	-	04	-	06	-	09	-	0B	-	0D	-	0F	-
C		R1	-	R3	-	R5	-	R7	-	R10	-	R12	-	R14	-	R16	-

- 32-point NPN

Controller side (connector)

Terminal side

- 32-point PNP

Controller side (connector)

Terminal side

A	Pin	40	38	36	34	32	30	28	26	24	22	20	18	16	14	12	10
COM	COM	COM1								COM2							
B	Upper terminal	-	01	-	03	-	05	-	07	08	-	0A	-	0C	-	0E	-
	Low terminal	00	-	02	-	04	-	06	-	09	-	0B	-	0D	-	0F	-
C		R1	-	R3	-	R5	-	R7	-	R10	-	R12	-	R14	-	R16	-

- Hirose connetnor pin arrangement

- 20-pin connector
Omron (XG4A-2031)

- 40-pin connector
Omron (XG4A-4031)

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