

Screwless Common Terminal Block



ACL Series PRODUCT MANUAL

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

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

Features

- Screwless push-in type connection for simple and easy connection
- Common wiring on PCB, jumper bar not required
- Space-saving design with 5 mm terminal pitch and 2-line arrangement
- DIN rail mount and screw mount installation

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, or remove connector 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 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.
- Keep away from high voltage lines or power lines to prevent inductive noise.
In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.
Do not use near the equipment which generates strong magnetic force or high frequency noise.
- 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

Ordering Information

This is only for reference, the actual product does not support all combinations.
For selecting the specified model, follow the Autonics website.

ACL - ① ② ③

① Terminal block arrangement

No-mark: Single line

B: Double line

② Number of terminal

20: 20-point

40: 40-point

50: 50-point

③ Common type

L: Left + COM, Right - COM

T: Top + COM, Bottom - COM

Specifications

Model	ACL-20□	ACL-40□	ACL-B40□	ACL-50□
No. of terminals	20	40	40	50
Terminal type	Screwless	Screwless	Screwless	Screwless
Terminal block arrangement	Single line	Single line	Double line	Single line
Terminal pitch	5.0 mm	5.0 mm	5.0 mm	5.0 mm
Material	Case, Base: PC	Case, Base: PC	Case, Base: PC	Case, Base: PC
Approval	CE UK RoHS ENEC EAC	CE UK RoHS ENEC EAC	CE UK RoHS ENEC EAC	CE UK RoHS ENEC EAC
Unit weight (packaged)	≈ 42 g (≈ 71 g)	≈ 79 g (≈ 146 g)	≈ 67 g (≈ 96 g)	≈ 97 g (≈ 164 g)

Rated voltage	≤ 250 VDC $\overline{\text{=}}$, 250 VAC \sim 50/60 Hz
Rated current	≤ 10 A
Insulation resistance	≥ 1,000 M Ω (500 VDC $\overline{\text{=}}$ megger)
Dielectric strength	3,000 VAC \sim 50/60 Hz for 1 minute
Vibration	0.75 mm amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 2 hours
Vibration (malfunction)	0.75 mm amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 10 minutes
Shock	150 m/s ² (≈ 15 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s ² (≈ 10 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)
Protection structure	IP20 (IEC standard)

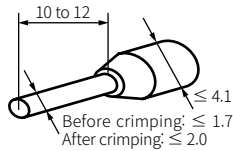
Applicable wire - solid ⁰¹⁾	Ø 0.6 to 1.25 mm
Applicable wire - stranded ^{01) 02)}	AWG 22-18 (0.30 to 0.80 mm ²)
Wire ferrule connection tensile strength	≥ 30 N
Stripped length	8 to 10 mm

01) Use the cable of copper conductor in 60 °C temperature class.

02) When using the stranded wire, use End Sleeve (wire ferrule).

Wire Ferrule Specifications

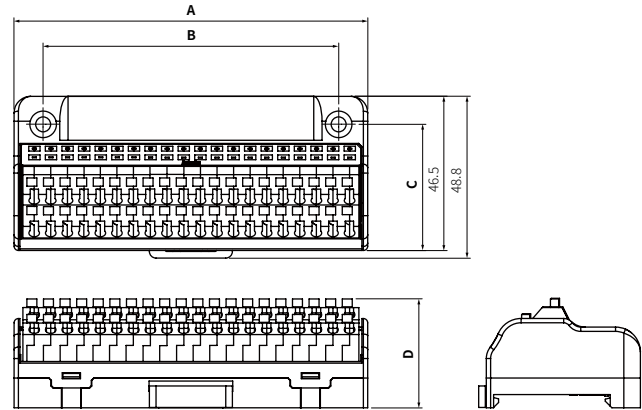
- Unit: mm, Use the UL approved wire ferrule.



Dimensions

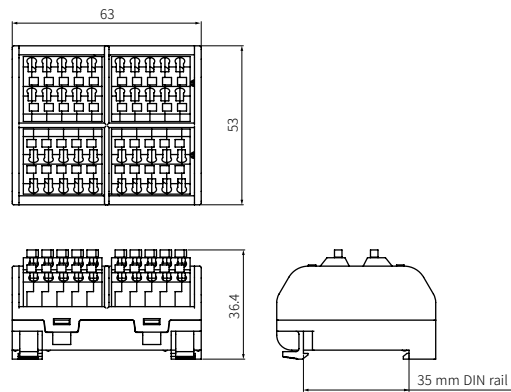
- Unit: mm, For the detailed dimensions of the product, follow the Autonics web site.

Single line



	A	B	C	D
20-point	57.5	53	38	33.1
40-point	106.5	89	38.1	32.9
50-point	131.5	102	38.1	32.9

Double line

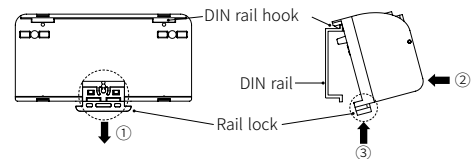


Installation

DIN RAIL

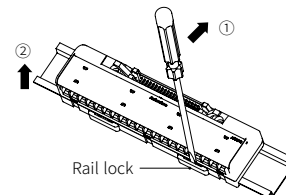
- Mounting

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.



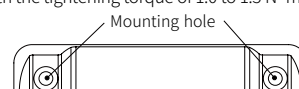
- Removing

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.



Panel

Product with the mounting hole can be installed on panel with screw.
It is recommended to use M4 × 25 mm of spring washer screws.
If you use flat washer, its diameter should be Ø 8 mm.
Tighten the screw with the tightening torque of 1.0 to 1.5 N·m.



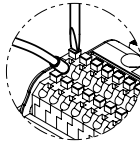
Wiring

- Connecting

Insert the wire ferrule into the terminal hole.

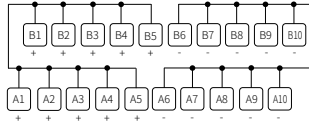
- Removing

1. Put the (-) screwdriver at the groove on the clamp lever and press it.
2. Pull the cable to disassemble.

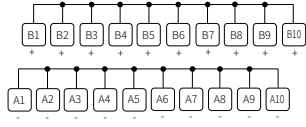


Wire Connection

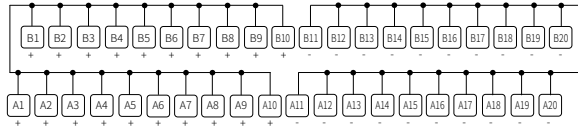
■ ACL-20L



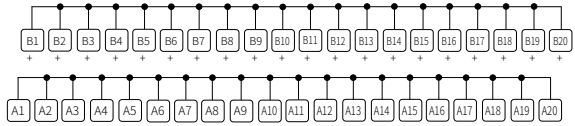
■ ACL-20T



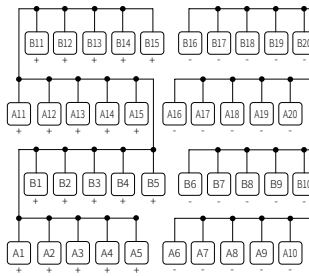
■ ACL-40L



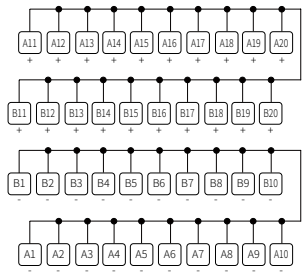
- ACL-40T



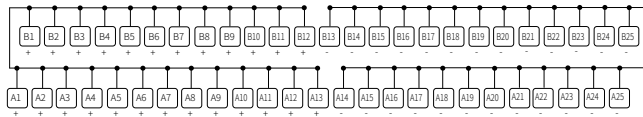
■ ACL-B40L



■ ACL-B40T



■ ACL-50L



■ ACL-50T

