

Interface Terminal Block



AFS 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

- Screw type connection for stable and reliable connection
 - Ideal for PLCs and motion device I/O
 - Compact, space-saving design
 - Excellent environment resistance against dust and debris by hinged cover
 - DIN rail mount and screw mount installation
- ※ Autonics CH/CO series I/O terminal block cables are recommended for best performance.

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.
- 04. Do not use the product when a screw of terminal is loosened.**
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

Ordering Information

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

AFS - ① ② ③

① Connector type

H: Hirose connector

② Terminal block arrangement

No-mark: Single line

B: Double line

③ Number of connector

20: 20-pin

26: 26-pin

40: 40-pin

50: 50-pin

Product Components

• Product

• Instruction manual

Sold Separately

- 7 mm jumper bar (4-pin: JB-7-04, 10-pin: JB-7-10)
- I/O cable CH/CO Series

Specifications

Model	AFS-H20	AFS-H26	AFS-H40	AFS-HB40	AFS-H50
No. of connector pins	20	26	40	40	50
No. of terminal points	20	26	40	40	50
Terminal type	Screw	Screw	Screw	Screw	Screw
Terminal block arrangement	Single line	Single line	Single line	Double line	Single line
Terminal pitch	7.0 mm	7.1 mm	7.0 mm	7.2 mm	7.0 mm
Connector for controller side	20-pin Hirose (HIF3BA-20PA-2.54DSA)	26-pin Omron (XG4A-2631)	40-pin Hirose (HIF3BA-40PA-2.54DSA)	40-pin Omron (XG4A-4031)	50-pin Hirose (HIF3BA-50PA-2.54DSA)
Material	Case, Base: MPPO, terminal: brass	Case, Base: PC, terminal: brass	Case, Base: MPPO, terminal: brass	Case, Base: PC, terminal: brass	Case, Base: MPPO, terminal: brass
Approval	CE UK CA ENEC ETL	CE UK CA ENEC ETL	CE UK CA ENEC ETL	CE UK CA ENEC ETL	CE UK CA ENEC ETL
Unit weight (packaged)	≈ 71 g (≈ 103 g)	≈ 93 g (≈ 133 g)	≈ 133 g (≈ 175 g)	≈ 142 g (≈ 194 g)	≈ 163 g (≈ 211 g)

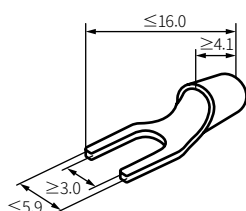
Rated voltage ⁰¹⁾	≤ 125 VDC=, 125 VAC~ 50/60 Hz
Rated current	≤ 1 A
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Dielectric strength	2,700 VAC~ 50/60 Hz for 1 minute
Vibration	0.75 mm amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 2 hours
Vibration (malfunction)	0.75 mm amplitude 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)

01) When connecting loads to output pin, connect loads of same power type. Connecting loads of different power type may cause safety issues.

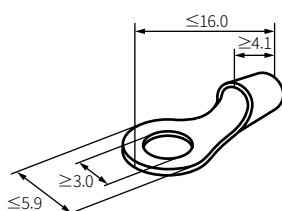
Applicable wire - solid	Ø 0.3 to 1.2 mm
Applicable wire - stranded	AWG 22-16 (0.30 to 1.25 mm ²)
Crimp terminal connection tensile strength	≥ 30 N
Tightening torque	0.5 to 0.6 N·m

Crimp Terminal Specifications

- Unit: mm, Use the UL approved crimp terminal.



Fork crimp terminal

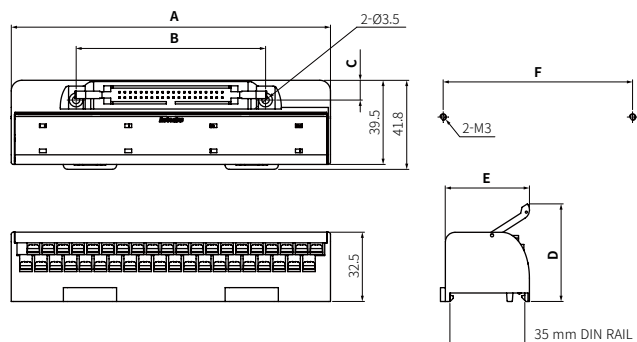


Round crimp terminal

Dimensions

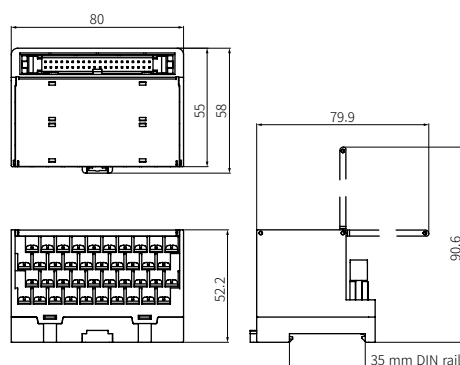
- Unit: mm, For the detailed dimensions of the product, follow the Autonics web site.

Single line



	A	B	C	D	E	F
20-pin	80	62.5	9.3	45.8	39.6	62.5
26-pin	102	81	9.3	52.8	29.7	81
40-pin	150	89	9.3	45.8	39.7	89
50-pin	184	104	8.8	45.8	39.7	104

Double line

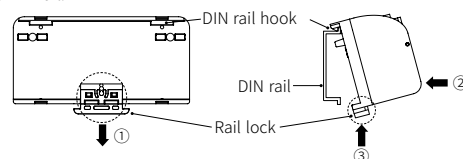


Installation

DIN RAIL

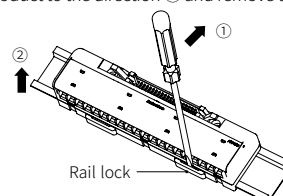
- Mounting

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.



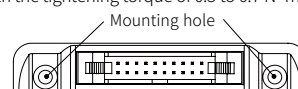
Panel

Product with the mounting hole can be installed on panel with screw.

It is recommended to use M3 × 30 mm of spring washer screws.

If you use flat washer, its diameter should be Ø 6 mm.

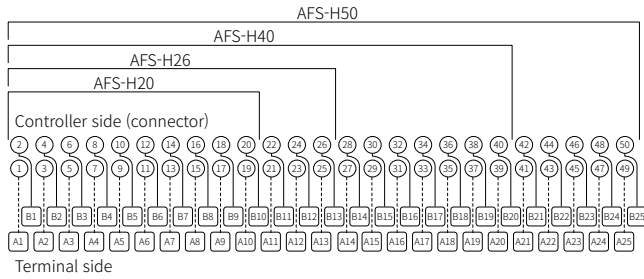
Tighten the screw with the tightening torque of 0.5 to 0.7 N·m.



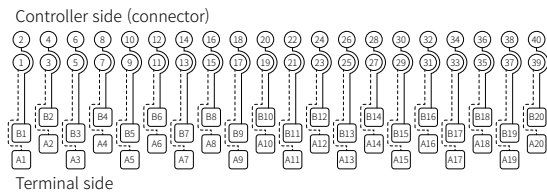
Wire Connection

■ Wire connection

- Single line



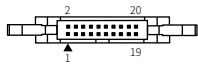
- Double line



■ Hirose connector pin arrangement

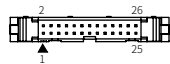
- 20-pin connector

Hirose (HIF3BA-20PA-2.54DSA)



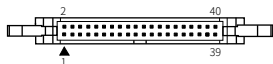
- 26-pin connector

Omron (XG4A-2631)

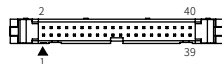


- 40-pin connector

Hirose (HIF3BA-40PA-2.54DSA)

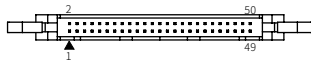


Omron (XG4A-4031)



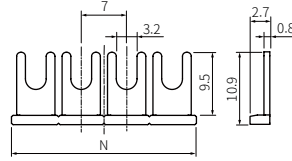
- 50-pin connector

Hirose (HIF3BA-50PA-2.54DSA)



Sold Separately: 7 mm Pitch Jumper Bar

1. Using a nipper, cut the notches on the jumper bar as much as you need.
2. Loosen the screws which are needed to be common.
3. Insert the jumper bar under the loosen screws.
4. Tighten the screws.



Model	Number of jumper pins	N
JB-7-04	4	27.5
JB-7-10	10	69.5

7.2 mm pitch jumper bar is not sold from Autonics. If it is needed, purchase jumper bar of 7.2 mm pitch from other manufacturer.