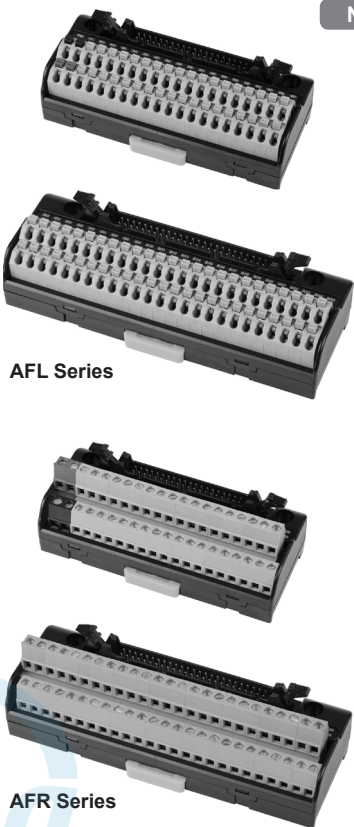## Interface Terminal Block

▣ Features

- Slim, space-saving design
- Simple connection method reduces wiring work and increases user convenience
  - -AFL: One-touch screwless spring type for high durability and vibration resistance. Also, maintains constant connection strength regardless of wiring experience.
  - -AFR: Rising clamp type for easy wiring
- Compact interface terminal blocks with 5mm terminal pitch
- Optimized for connector type PLCs and input/output of dedicated controllers
- 2 mounting methods (DIN rail, screw mount)

※ Autonics I/O cable CJ Series is recommended.
Please refer to page C-52.

> ⚠ **Please read "Caution for your safety" in operation manual before using.**

CE   UL LISTED

NEW

AFL Series

AFR Series

▣ Ordering Information

AF | R | – | H | 40 | | | L | N

Input logic	**No-mark**	None
	N	NPN
	P	PNP
Operation indicator	**No-mark**	None
	L	LED indicator
Connector	**No-mark**	HIF3BA
	B	HIF3BB
No. of connector pins	**40**	40-pin
	50	50-pin
Connector type	**H**	Hirose
Terminal type	**L**	Screwless
	R	Rising Clamp
Item	**AF**	Interface terminal block

▣ Terminal Specifications

(unit: mm)

End Sleeve (Ferrule Terminal) crim terminal		A	B	C	Applicable wire
End Sleeve (Ferrule Terminal) crimp terminal	AFL	10 to 12.0	Max. 2.0	Max. 4.1	AWG22-16 (0.30 to 1.25mm^2)
	AFR	6.0 to 8.0			

※ Please use UL certified crimp terminals.

▣ Specifications

Model	AFL-H40	AFL-H50	AFL-H50B	AFL-H40-LN AFL-H40-LP	AFR-H40	AFR-H50	AFR-H50B	AFR-H40-LN AFR-H40-LP
Power supply	Max. 125VDC, 125VAC 50/60Hz			24VDC±10%	Max. 125VDC, 125VAC 50/60Hz			24VDC±10%
Rated current	Max. 1A							
Terminal type	Screwless				Rising Clamp			
No. of terminals	40 EA	50 EA		32 EA[※1]	40 EA	50 EA		32 EA[※1]
Terminal pitch	5.0mm							
Connector type	HIF3BA		HIF3BB	HIF3BA			HIF3BB	HIF3BA
Operation indicator	—			Blue LED	—			Blue LED
Applicable wire — Solid wire	Ø0.3 to Ø1.2mm							
Applicable wire — Stranded wire[※2]	AWG 22-16 (0.30 to 1.25mm²)							
Stripped wire length	8 to 10mm				6 to 8mm			
Insulation resistance	Min. 1,000MΩ (at 500VDC megger)							
Dielectric strength	600VAC 50/60Hz for 1 min.							
Vibration	0.75mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each X, Y, Z direction for 2 hours							
Shock	150m/s² (approx. 15G)in each X, Y, Z direction for 3 times							
Environment — Ambient temperature	-15 to 55℃, storage: -25 to 65℃							
Environment — Ambient humidity	35 to 85%RH, storage: 35 to 85%RH							
Material	CASE: PC, BASE: PC							
Tightening torque	—				5.1 to 6.1 kgf·cm (0.5 to 0.6 N·m)			
Protection structure	IP20							
Approval	CE (UL)LISTED							
Weight[※3]	Approx. 156g (approx. 89g)	Approx. 177g (approx. 110g)		Approx. 158g (approx. 91g)	Approx. 183g (approx. 116g)	Approx. 210g (approx. 143g)		Approx. 185g (approx. 118g)

※1: Among 40 terminals, 32 terminals are available for I/O and 8 terminals are LED power and N.C (Not Connect) terminals.
※2: When using stranded wire, use end sleeve (ferrule terminal) crimp terminals.
※3: The weight includes packaging. The weight in parentheses is for unit only.
※Environment resistance is rated at no freezing or condensation.
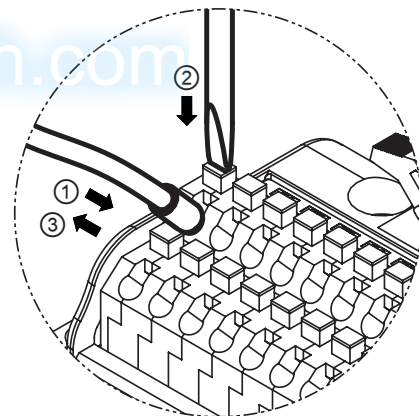
▣ Connecting Crimp Terminals

1. Connecting and Removing end sleeve (ferrule terminal) crimp terminal at screwless type terminal block

● Connection
1) Push the end sleeve (ferrule) crimp terminal towards direction ① to complete the connection.

● Removal
1) Press and hold the catch above the terminal in direction ② with a flat-head screwdriver.
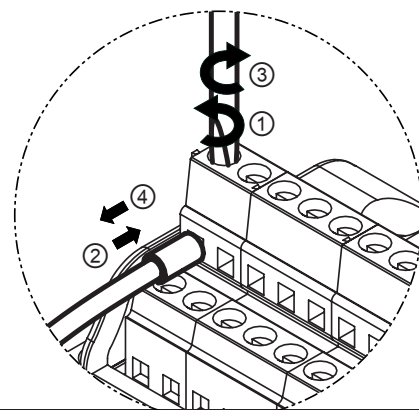2) Pull and remove the end sleeve (ferrule) crimp terminal towards direction ③.

2. Connecting and Removing end sleeve (ferrule terminal) crimp terminal at rising clamp type terminal block

● Connection
1) Insert a flat-head screw driver into the hole above the terminal. Rotate the screw in direction ① (CCW).
2) Push the end sleeve (ferrule) crimp terminal towards direction ②.
3) Insert a flat-head screw driver into the hole above the terminal. Rotate the screw in direction ③ (CW).
   The tightening torque should be between 4.08 and 6.1 kgf·cm (0.4 to 0.6 N·m).

● Removal
1) Insert a flat-head screw driver into the hole above the terminal. Rotate the screw in direction ① (CCW).
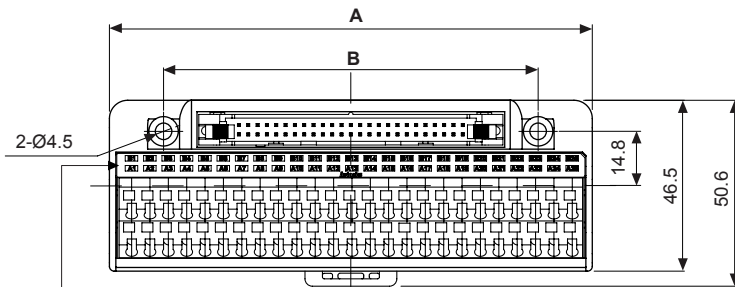2) Remove the end sleeve (ferrule crimp terminal) towards direction ④.

Interface Terminal Block
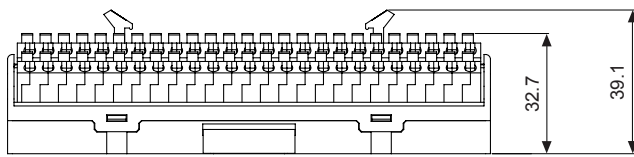
Control Switches

Ø22/25

Ø30

□30

Round Push Button Switches

Square Push Button Switches

Selector Switches

Key Selector Switches

Double Push Button Switches

Mushroom-head Push Button Switches

Emergency Switches

Pilot Lights

Accessories

Buzzers

Modular Terminal Blocks

TUM(Spring Type)
TUW1(Dual Spring Type)
TM(Manual Type)

I/O Terminal Blocks

AFS(Interface Terminal Block)

AFL/AFR(Interface Terminal Block)

ACS(Common Terminal Block)

AFE(Sensor Connector Terminal Block)

ABS(Relay Terminal Block)

ABL(Relay Terminal Block)

Power Relay

I/O Cables

MITUBISHI

LSIS

Autonics

RS Automation

YOKOGAWA

FUJI

KDT

OMRON

TELEMECANIQUE

For SERVO

Open Type Cables

Cable Appearance

Remote I/O Terminal Blocks

ARD(DeviceNet Digital Standard Terminal Type)

ARD(DeviceNet Digital Sensor Connector Type)

ARD(DeviceNet Analog Standard Terminal Type)

ARM(Modbus Digital Sensor Connector Type)

Others

Sensor Connectors

Sockets

Sensor Distribution Boxes

Valve Plugs

Thumbwheel Switches

▣ Dimensions

● AFL-H40(-LN(P))/AFL-H50(B)   ● AFR-H40(-LN (P))/AFR-H50(B)

(unit: mm)

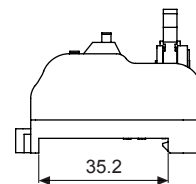※Operation indicator (blue): When signal is input at terminal or connector, the indicator turns ON.
(Model: AFL-H40-LN (P), AFR-H40-LN (P))

※Dimensions are for AFLSeries.

	AFL-H40(-LN P))	AFL-H50(B)
	AFR-H40(-LN (P))	AFR-H50(B)
A	106.5	131.5
B	89	102

▣ Installation

1. Mounting and Removal at DIN rail

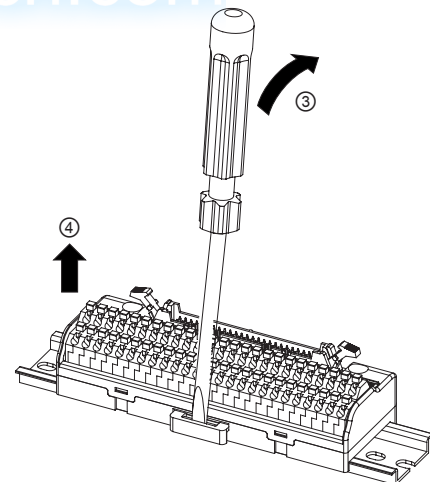※Installation are for AFL Series.

● 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.
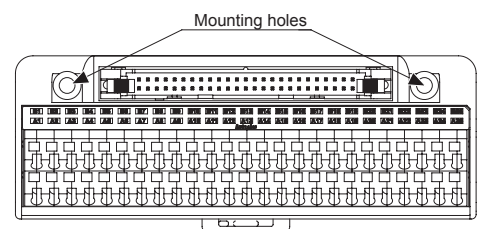

● Removal

1)Insert a screwdriver into the rail lock hole and pull it towards direction ③.

2)Remove the unit by pulling the unit towards direction ④.

2. Mounting with screws

1)The unit can be mounted on panels using the mounting holes next to the hirose connector.

2)M4 × 25mm spring washer screws are recommended for installation. When using flat washers, use Ø8mm diameter washers. The tightening torque should be between 10.2 and 15.3 kgf·cm (1.0 to 1.5N·m).
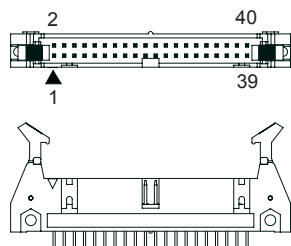

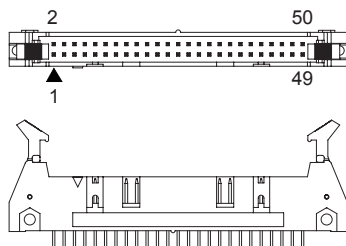Mounting holes

▣ Connections

● AFL-H40(-LN(P)) / AFR-H40(-LN(P))

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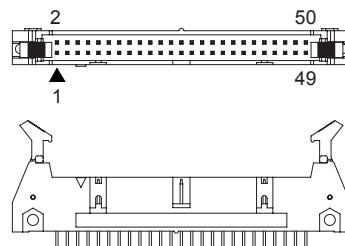HIF3BA-40PA-2.54DSA

● AFL-H50(B) / AFR-H50(B)

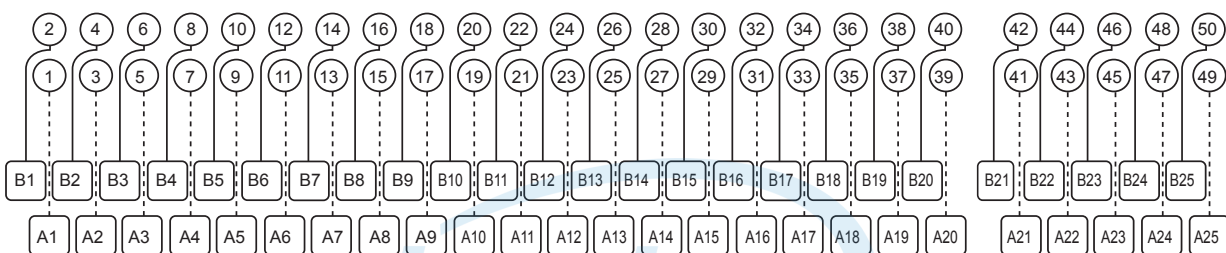※Hirose connector Model :
HIF3BA-50PA-2.54DSA

※Hirose connector Model:
HIF3BB-50PA-2.54DSA

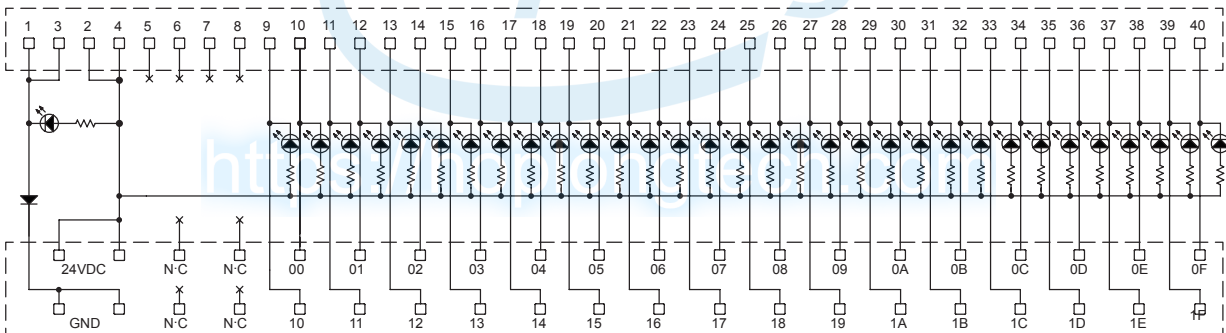### ● AFL-H40 / AFL-H50(B) / AFR-H40 / AFR-H50(B)

Connector

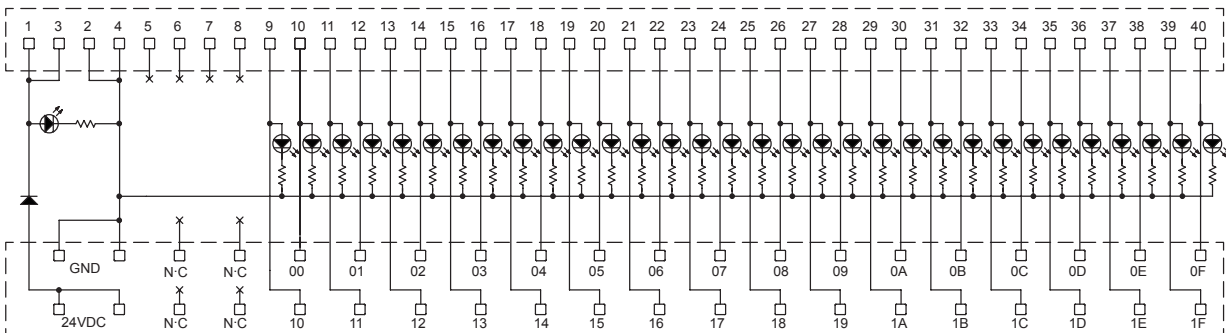Terminal block

● AFL-H40-LN / AFR-H40-LN

Connector

Terminal block

● AFL-H40-LP / AFR-H40-LP

Connector

Terminal block

▣ Caution During Use

1. Do not use the product outside of rated temperature and humidity.

2. Check to make sure that voltage fluctuation in the power supply is within the rated range.

3. When connecting PLC or other controllers, check the power polarity before wiring.

4. Please use power wires listed in the specifications and use appropriate crimp connection for the terminals.

5. Do not connect or disconnect the connector or perform any wiring work while supplied with power.

6. Do not use the unit in the following environments.
   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

7. This unit may be used in the following environments.
   ① It shall be used indoor.
   ② Altitude up to 2,000m
   ③ Pollution degree 2
   ④ Installation category II

Control Switches | Ø22/25 | Ø30 | □30 | Round Push Button Switches | Square Push Button Switches | Selector Switches | Key Selector Switches | Double Push Button Switches | Mushroom-head Push Button Switches | Emergency Switches | Pilot Lights | Accessories | Buzzers | Modular Terminal Blocks | TUM(Spring Type) TUW1(Dual Spring Type) TM(Manual Type) | **I/O Terminal Blocks** | AFS(Interface Terminal Block) | AFL/AFR(Interface Terminal Block) | ACS(Common Terminal Block) | AFE(Sensor Connector Terminal Block) | ABS(Relay Terminal Block) | ABL(Relay Terminal Block) | Power Relay | I/O Cables | MITUBISHI | LSIS | Autonics | RS Automation | YOKOGAWA | FUJI | KDT | OMRON | TELEMECANIQUE | For SERVO | Open Type Cables | Cable Appearance | Remote I/O Terminal Blocks | ARD(DeviceNet Digital Standard Terminal Type) | ARD(DeviceNet Digital Sensor Connector Type) | ARD(DeviceNet Analog Standard Terminal Type) | ARM(Modbus Digital Sensor Connector Type) | Others | Sensor Connectors | Sockets | Sensor Distribution Boxes | Valve Plugs | Thumbwheel Switches