Infilex™ BC
Multipurpose Controller
Control Unit

General

Infilex™ BC Model WY5610W0010 is a multipurpose controller designed to control building equipment, such as AHU.
Infilex BC enables to control the temperature and humidity, as well as building equipment operations.

Infilex BC manages Infilex VC and allows you to control and monitors individual VAV units (ON/OFF, failure monitoring, measuring, and setting) from client PC of our BMS. Infilex VC being combined with Infilex BC performs load reset control of supply air temperature, fan speed control, interlocking operation of VAV units.

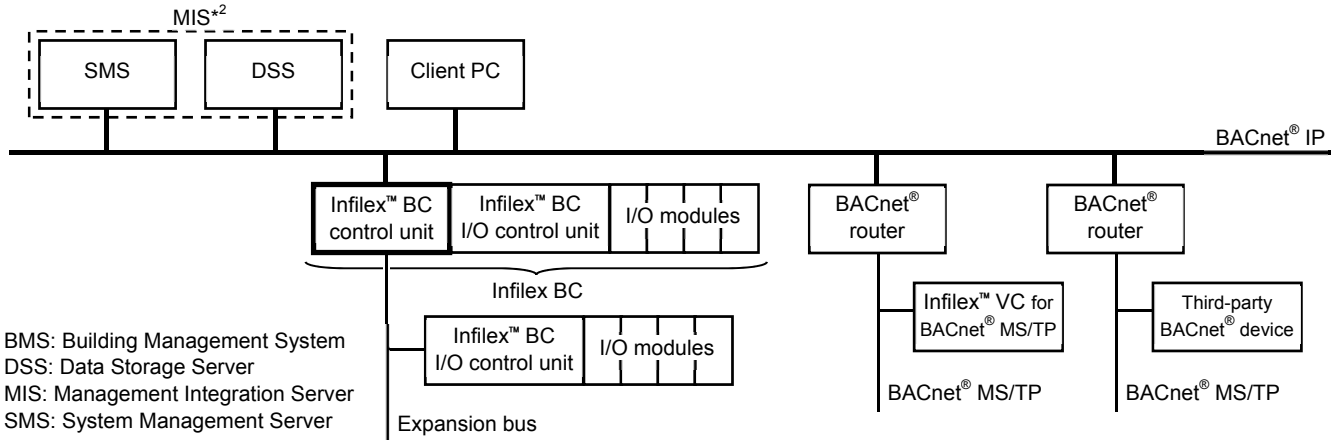
Infilex BC control unit is used with Infilex BC I/O control unit.

Infilex BC control unit conforms to all the applicable standards of CE Marking (Class A).

AHU: Air handling unit
BMS: Building management system
VAV: Variable air volume

System Configuration

Infilex™ BC integrated into BMS: savic-net™ FX*1



Notes:
*1 Fig. 1 shows an example of Infilex BC integrated into savic-net FX BMS. Ask our salesperson for applicable BMS.
*2 MIS may be used instead of SMS and DSS for your system. Note that MIS cannot be mixed with SMS or DSS in the same system.

Figure 1. System configuration example: Infilex BC integrated into savic-net FX BMS

Safety Instructions

Please read instructions carefully and use the product as specified in this manual. Be sure to keep this manual near by for ready reference.

Usage Restrictions

This product is targeted for general air conditioning. Do not use this product in a situation where human life may be affected. If this product is used in a clean room or a place where reliability or control accuracy is particularly required, please contact our sales representative. Azbil Corporation will not bear any responsibility for the results produced by the operators.

Warnings and Cautions

⚠ WARNING	Alerts users that improper handling may cause death or serious injury.
⚠ CAUTION	Alerts users that improper handling may cause minor injury or material loss.

Signs

	Alerts users possible hazardous conditions caused by erroneous operation or erroneous use. The symbol inside △ indicates the specific type of danger. (For example, the sign on the left warns of the risk of electric shock.)
	Notifies users that specific actions are prohibited to prevent possible danger. The symbol inside ⃠ graphically indicates the prohibited action. (For example, the sign on the left notifies that disassembly is prohibited.)
	Instructs users to carry out a specific obligatory action to prevent possible danger. The symbol inside ● graphically indicates the actual action to be carried out. (For example, the sign on the left indicates general instructions.)

⚠ WARNING	
	Before wiring and maintenance, be sure to turn off the power to the product. Failure to do so might cause electric shock.
	Be sure to ground the product with ground resistance of less than 100 Ω. Improper grounding might cause electric shock or malfunction.
	Detach the terminal cover only when wiring the product. Before detaching the terminal cover, be sure to turn off the power to the product and all the connected devices. After wiring, be sure to reattach the terminal cover. Failure to do so might cause electric shock.
	Install this product in a location out of reach of unauthorized people. (e.g. Inside of the control panel) Failure to do so might cause electric shock.

⚠ CAUTION (1/2)	
	Install the product in a location that satisfies the operating conditions (temperature, humidity, power, vibration, shock, mounting direction, atmospheric condition, etc.) as listed in the specifications and use the product within the operating ranges as listed in the specifications. Failure to do so might cause fire or device failure.
	Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.
	All wiring must comply with applicable codes and ordinances.
	Separate the power supply cables from the signal cables so that noise generated in the power supply cables will not affect the signal cables. Failure to do so might cause communication errors.
	To connect the wires to the screw terminals, use crimp terminal lugs with insulation. Failure to do so might cause fire or device failure due to short circuit.
	Firmly tighten the terminal screws. Insufficient tightening of the terminal screws might cause fire or overheating.

⚠ CAUTION	(2/2)
	For wiring, strip each wire insulation as specified in this manual. If the strip length is longer than the specified, the stripped part of the wires will be exposed, causing electric shock or short circuit between adjacent terminals. If it is shorter, the stripped part will not contact the connector.
	Make sure that no wire fiber is unbound from the conductor (stripped wire). Unbound wire fiber may cause electric shock or short circuit between adjacent terminals.
	After mounting the product on DIN rail, push up the DIN rail holder of the product to secure it on the DIN rail. If the product is not fixed with the DIN rail holder, it might drop from the DIN rail and get damaged.
	Do not disassemble the product. Doing so might cause electric shock or device failure.
	Dispose of the product as industrial waste in accordance with your local regulations. Do not reuse all or part of this product.

Model Number

Model number			Description
WY5610			Infilex BC control unit
	W		100 V AC to 240 V AC power
		0010	BACnet Building Controller (B-BC)

Note:
* Infilex BC control unit is always bundled with Infilex BC I/O control unit. When ordering Infilex BC (control unit and I/O control unit), order number is required.

Order Number of Infilex BC

Order number			Description
83171682			Infilex BC
	-		—
		101	One control unit and one I/O control unit
		103	One control unit and three I/O control units
		105	One control unit and five I/O control units

Part for Installation (Optional)

Part number	Description
83104567-001	DIN rail mounting bracket

DIN: Deutsches Institut fur Normung (German Institute for Standardization)

Note:
* Infilex BC is mounted on DIN rail, and the DIN rail mounting bracket is required. Be sure to separately order the DIN rail mounting bracket.

Specifications

Item		Specification
CPU		32-bit CPU
Main storage capacity		128 MB SDRAM 256 MB CompactFlash® memory
Max. data points		775 points
Host system communication		BACnet® IP (Ethernet: 10BASE-T/100BASE-TX), 1 channel
Control unit - I/O control units communication		Expansion bus (JIS IPEV-S cable (0.9 mm × 1 pair), 4800 bps) * JIS: Japanese Industrial Standards
Connectable lines		One line connectable
Connectable I/O control units		25 units connectable
Time backup		72 hours
Rated input voltage		100 V AC to 240 V AC
Allowable voltage range		90 V AC to 264 V AC
Allowable ambient condition		5 °C 40 °C (in operation) / 10 %RH to 85 %RH (non-condensing) / 2000 m or lower altitude
Dimensions (mm)		100 (W) x 106 (D) x 140 (H)
Weight		1.0 kg
Materials, color	Cover, door, case	Modified PPE, gray
	I/O terminal cover, I/O terminal case	Modified PPE equivalent to Zylon® L240Z, gray
	Panel	Polycarbonate, smoke
	Sheet	Lexan® polycarbonate plate (0.5 mm thick), transparent
	DIN rail holder	Polyacetal, white
	Print circuit board	Glass epoxy laminate
	Label (on the rear side of the door)	Siliver mat (0.1 mm thick)
	Identification plate (on the side face of the body)	Yupo sheet (polypropylene synthetic paper, 0.06-0.1 mm thick)
	Packing materials	Container box: Paper Air bubble sheet: Polyethylene Air cushion: Polyolefin
Grounding condition		100 Ω or lower ground resistance

JIS: Japanese Industrial Standards
PPE: Polyphenylene ether
SDRAM: Synchronous dynamic random-access memory

CE Marking Conformity

This product must be installed in a panel cabinet. Besides, the product in the panel cabinet must be out of reach of unauthorized people who are not well-trained for electric facilities.

This product complies with the following Electromagnetic Compatibility (EMC) and the Low Voltage Directive (LVD).

EMC: EN61326-1 Class A, Table 2 (For use in an industrial electromagnetic environment)

LVD : EN61010-1 Overvoltage category II

Pollution degree 2

Dimensions

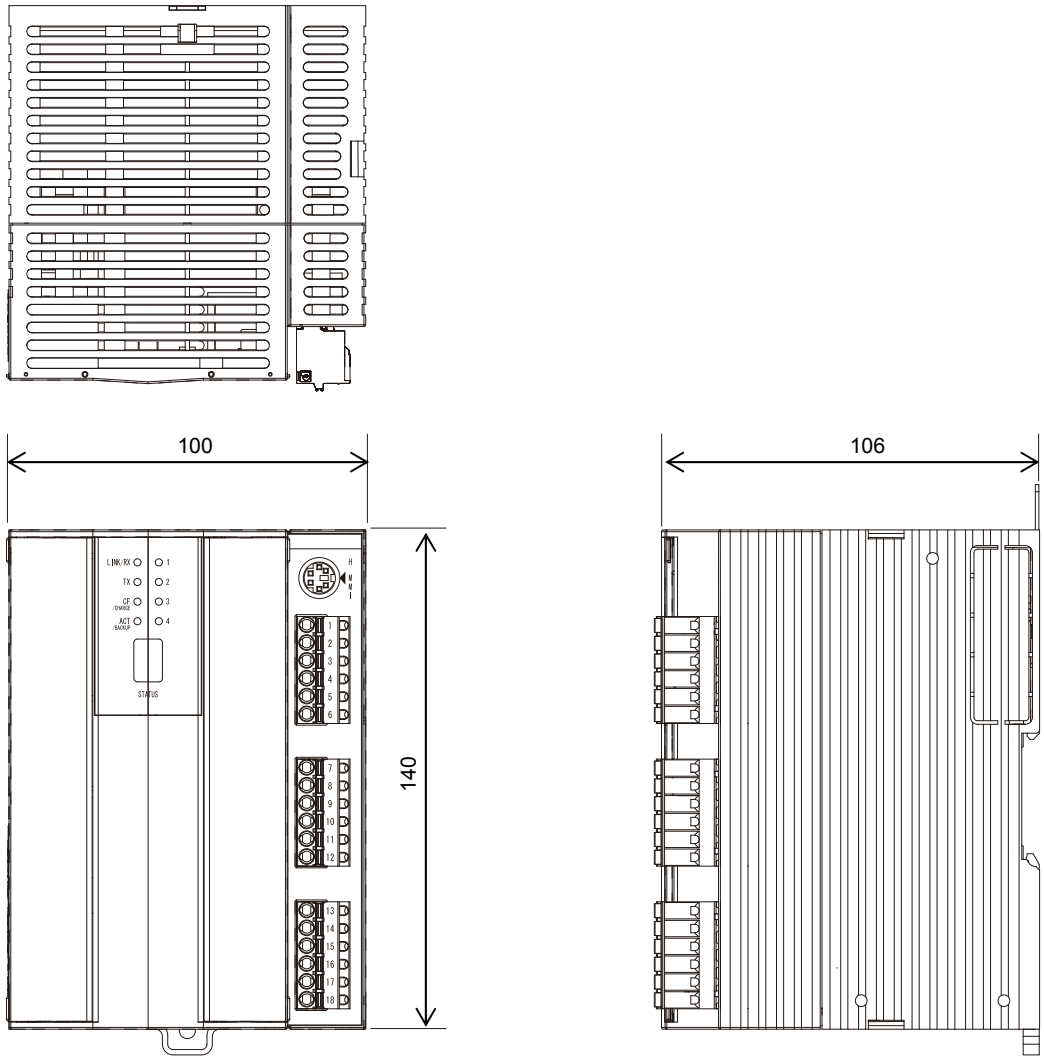
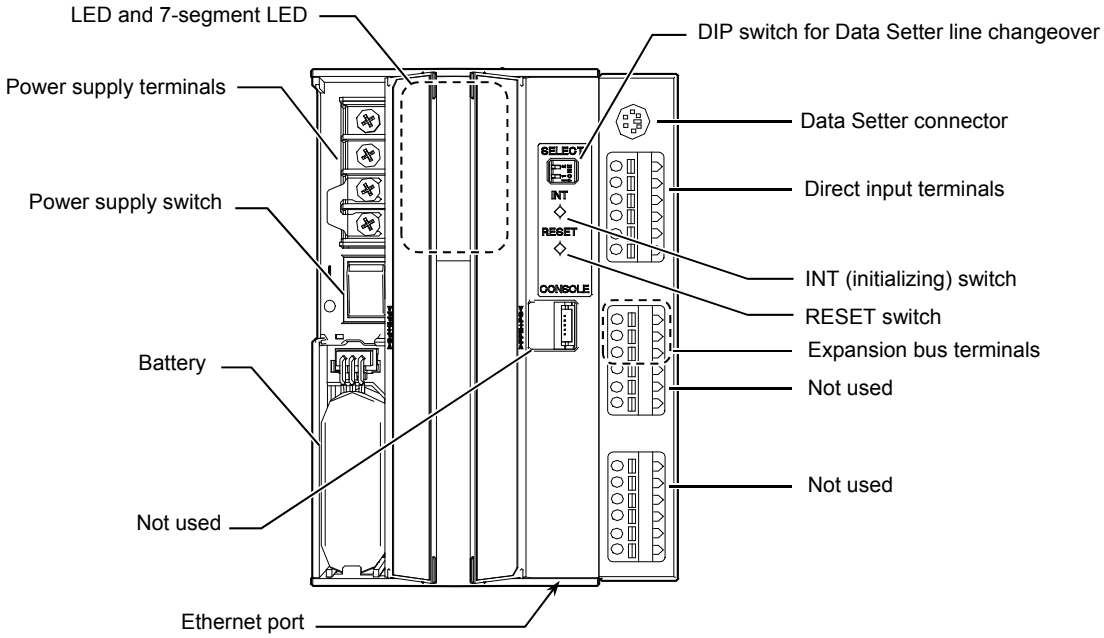


Figure 2. Dimensions (mm)

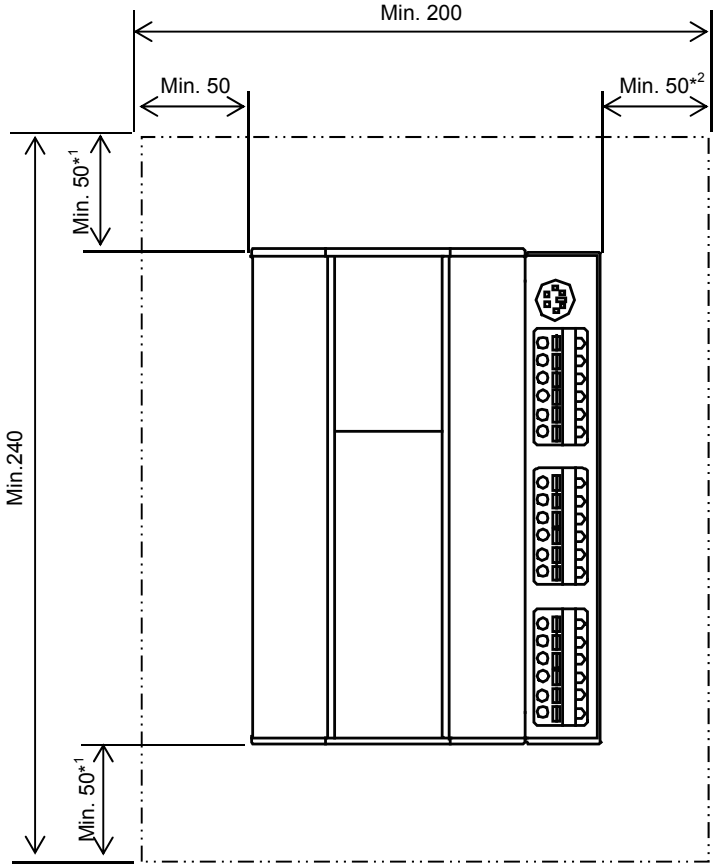
Parts Identifications



DIP: Dual in-line package

Figure 3. Parts identification

Maintenance Clearance



Notes:

*1 For the Infilex BC control unit above and below the cable ducts, leave 35 mm or wider clearance between the top/bottom of Infilex BC and the cable ducts.

*2 When the Infilex BC I/O control unit is directly assembled with the control unit, this maintenance clearance is not needed.

Figure 4. Maintenance clearance

Installation

Precautions for installation

⚠ CAUTION	
❗	Use the product under the operating conditions (temperature, humidity, power, vibration, shock, mounting direction, atmospheric condition, etc.) as listed in the specifications. Failure to do so might cause fire or device failure.
❗	Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.

- Install the product in a control panel.
- Keep the ambient temperature of the control panel at 37 °C or lower. If the ambient temperature rises over 37 °C, temperature error will be detected.
- Mount a fan to prevent temperature rise.
- In addition to the product, install devices (a hub, power failure/return circuit, terminal block, etc.) that do not generate heat inside the control panel.
- Provide ventilation holes and exhaust slot on the control panel.
- Leave minimum of 35 mm clearance between the top/bottom of the product and the cable ducts.
- Install the circuit breaker near the product. Position the product so that the circuit breaker operations are not disturbed.

Mounting position

Always install the product in upright position. Do not install it with its body tilted.

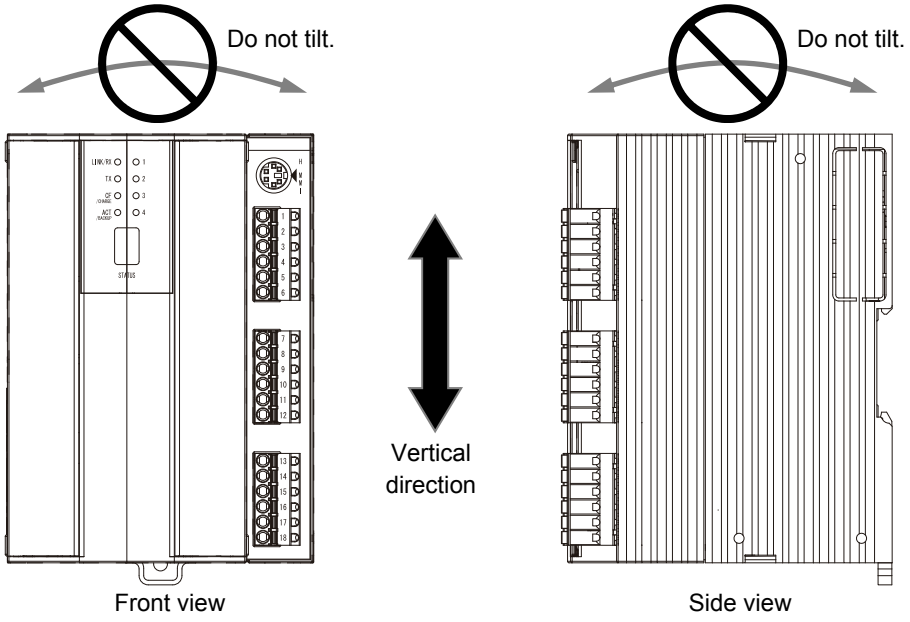


Figure 5. Installation position

Installation procedure

⚠ CAUTION
After mounting the product on DIN rail, push up the DIN rail holder of the product to secure it on the DIN rail. If the product is not fixed with the DIN rail holder, it might drop from the DIN rail and get damaged.

This product is mounted onto DIN rail.

1) Pull down the DIN rail holder.

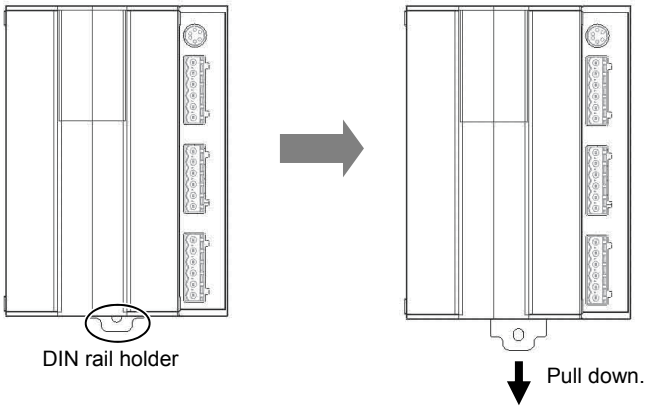


Figure 6. DIN rail mount 1 (front view)

2) Hook the body of the product onto DIN rail and fix the body by pushing the DIN rail holder.

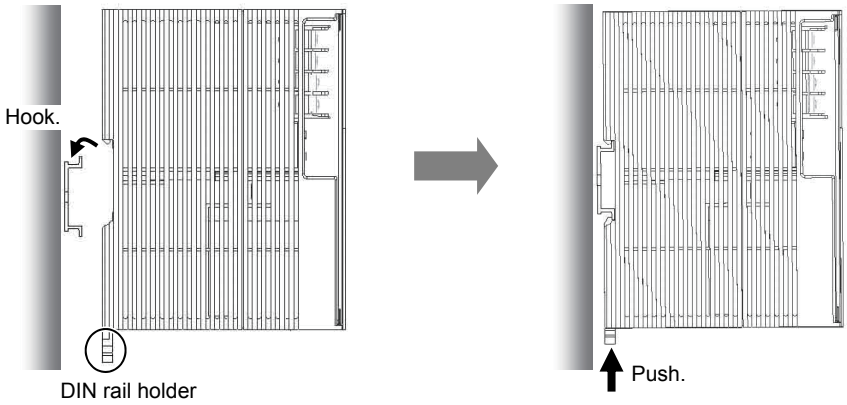


Figure 7. DIN rail mount 2 (side view)

Wiring

Precautions for wiring

⚠ WARNING	
	Before wiring, be sure to turn off the power to the product. Failure to do so might cause electric shock.
	Be sure to ground the product with ground resistance of less than 100 Ω. Improper grounding might cause electric shock or malfunction.
	Detach the terminal cover only when wiring the product. Before detaching the terminal cover, be sure to turn off the power to the product and all the connected devices. After wiring, be sure to reattach the terminal cover. Failure to do so might cause electric shock.

⚠ CAUTION	
	Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.
	Separate the power supply lines from the signal lines so that noise generated in the power supply lines will not affect the signal lines. Failure to do so might cause communication errors.
	Firmly tighten the terminal screws. Insufficient tightening of the terminal screws might cause overheating or fire.

- Single-point ground per building floor is recommended. Do not combine the ground lines of our control panel with another panel such as a power control panel.
- Use recommended or specified cables.
- Leave communication wire way as far as possible from the power and other wire ways.
- Be sure to check connection of the cables to the corresponding terminals and connectors without any misconnections.
- Check that there is no disconnection or ground fault.
- To prevent short-circuit, check that connection (to the terminals/connectors) and termination (with tape) of all the wires are completed.

Wiring to the power supply terminals

Crimp M3.5 ring terminal lugs with insulation on the wire ends, and connect the crimped ring terminal lugs to the power supply terminals of the product.

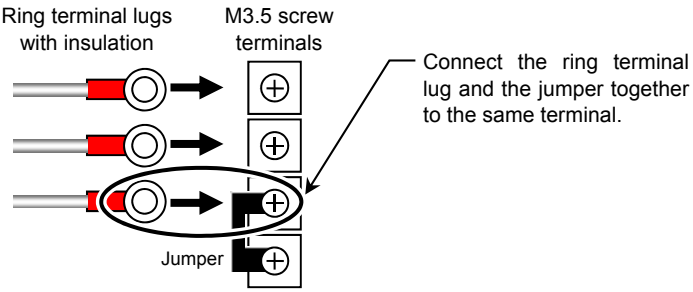


Figure 8. Power supply wiring

Wiring to the Ethernet port

Connect the cable to the Ethernet port of the product.
The Ethernet port is located on the bottom of the product.

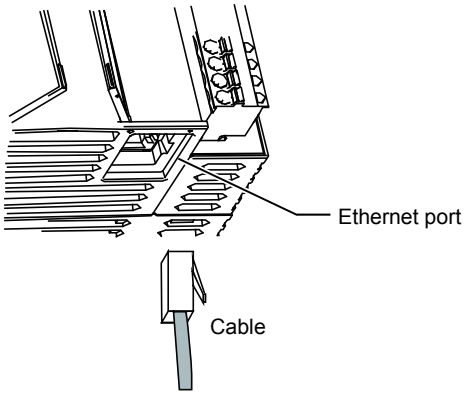


Figure 9. Ethernet wiring

Wiring to the expansion bus terminals

Expansion bus line is connected to the screwless push-in terminal block.
Insert each wire with the clamp release button pressed. Connect all the wires to the screwless push-in terminal block first, and then plug the terminal block into the connectors on the product front surface.

Note:

* Max. 25 I/O control units are connectable to the control unit via the expansion bus.

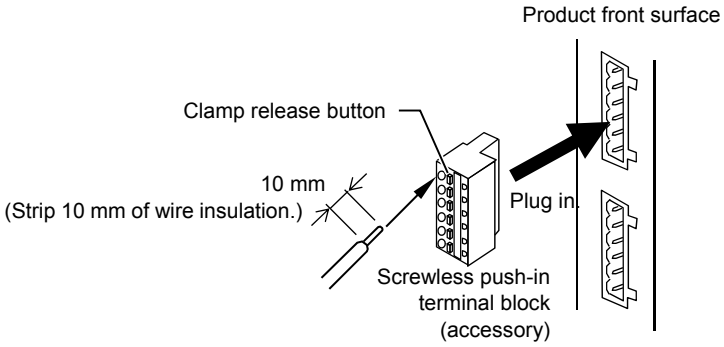


Figure 10. Expansion bus wiring

Expansion bus terminal numbers

Terminal number of expansion bus terminals	Description
7	Line 1+ of expansion bus
8	Line 1- of expansion bus
9	Shield

Connection of Infilex BC control unit to Infilex BC I/O control unit

Up to 25 I/O control units are connectable to the control unit via the expansion bus.
Requirements and constraints of the expansion bus connection differ depending on the wiring length, termination, etc. Refer to the following related documents for details.

- **AB-7163 Specifications/Instructions: Infilex BC I/O Control Unit Model WY5611**
- **AB-6527 Specifications/Instructions: I/O Modules, User Terminal Module, and SAnet Interface Module for Infilex AC, Infilex GC, Infilex GD, PARAMATRIX 4 Model RY50XX**

To assemble the I/O control unit with the control unit, run the expansion bus cable as shown in the figure below.

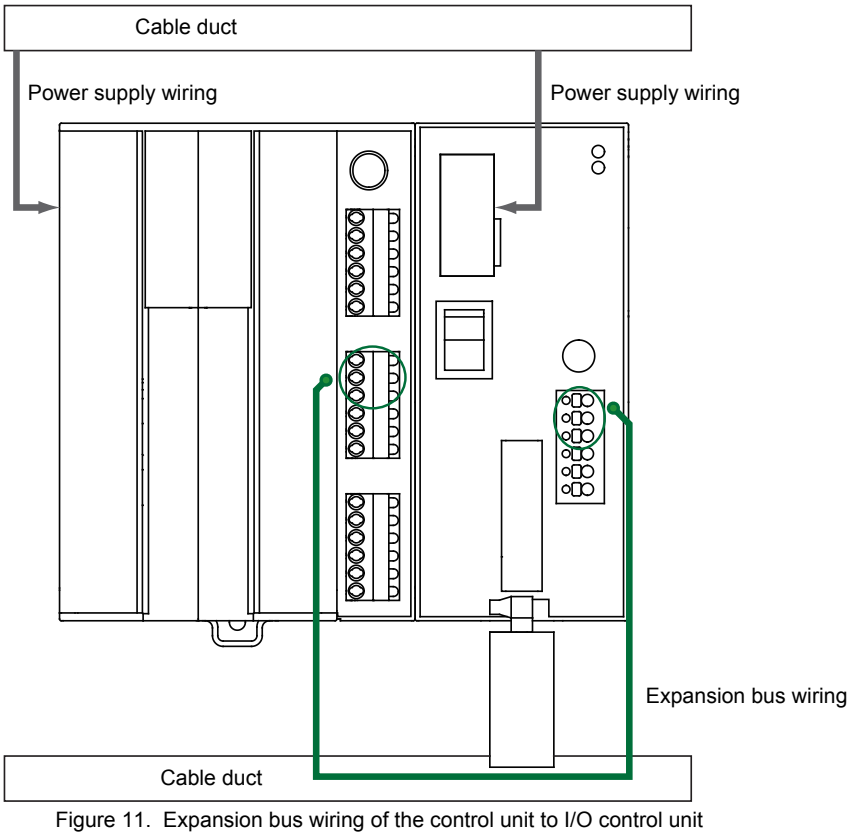


Figure 11. Expansion bus wiring of the control unit to I/O control unit

Wiring to the direct input terminals

Direct input wires are connected to a screwless push-in terminal block.
Insert each wire with the clamp release button pressed. Connect all the wires to the screwless push-in terminal block first, and then plug the terminal block in the connectors on the product front surface.

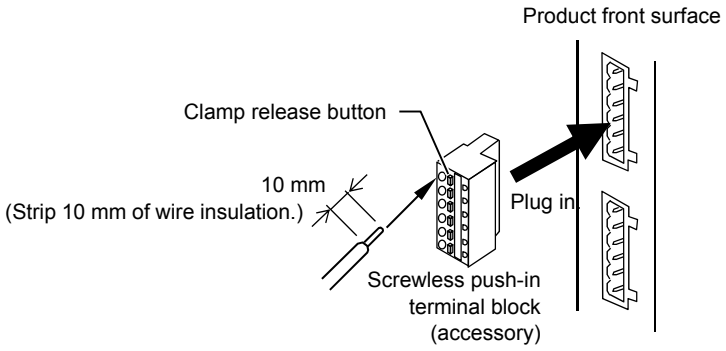
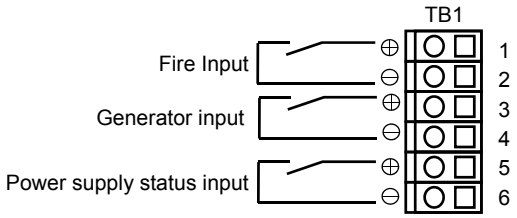


Figure 12. Direct input wiring

Direct input terminal numbers

Terminal number	PIN number of the connector	Description
1	1	Channel 1: Fire DI
2	2	Channel 1 common: Fire DI
3	3	Channel 2: Private generation DI
4	4	Channel 2 common: Private generation DI
5	5	Channel 3: Power feeding information DI
6	6	Channel 3 common: Power feeding information DI

DI: Digital input



Fire input, generator input:
Normal (No Fire, Without Generator)
Relay - Open
Maintain

Power supply status input:
Normal (Power is supplied)
Relay - Make
Maintain

azbil

Specifications are subject to change without notice.

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