B-1325(0)

INSTRUCTION SHEET

MICRO Smart pentra

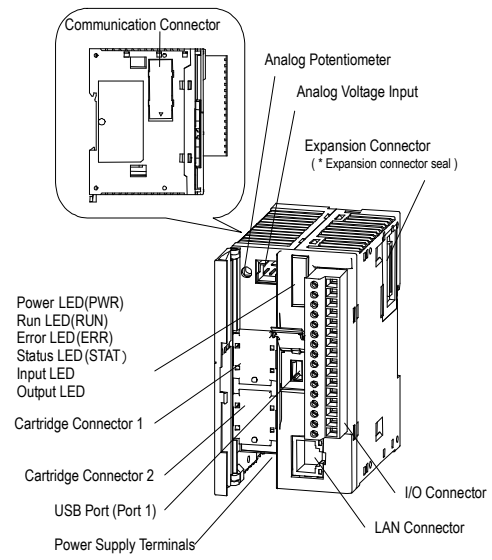
FC5A Series

This sheet provides brief operating instructions of the MicroSmart programmable controller. For details, see the FC5A User's Manual.

1 Type

FC5A-D12K1E, FC5A-D12S1E

2 Name & Function



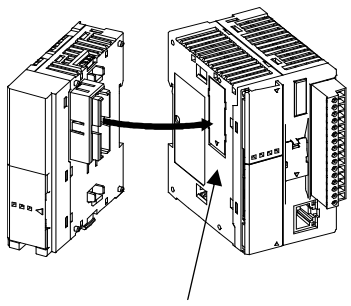
3 Assembling

[I/O Modules]

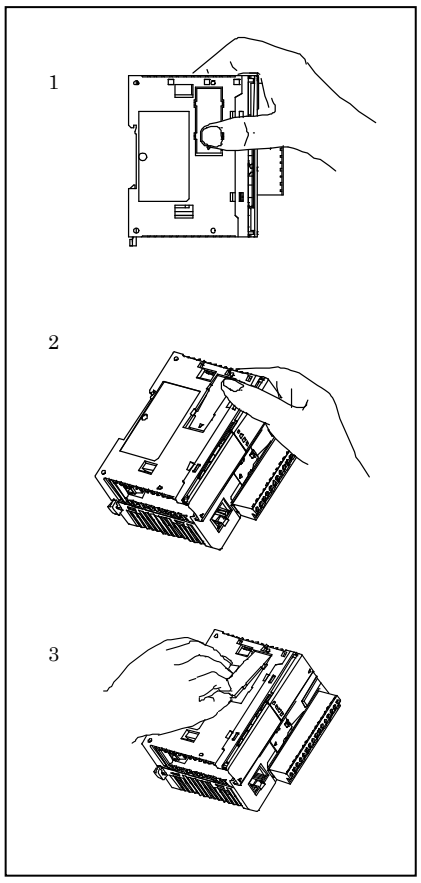
Remove the expansion connector seal (*) from the CPU module. With the expansion connectors aligned correctly, press the CPU module and I/O module together, and push in the unlatch button to attach the modules together firmly.

[Communication Modules]

Remove the communication connector cover from the CPU module. With the communication connectors aligned correctly, press the CPU module and communication module together, and push in the unlatch button to attach the modules together firmly.



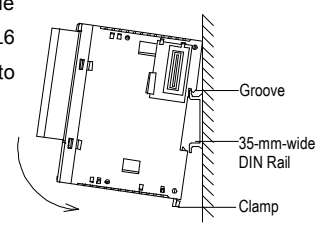
Remove the communication connector cover.



4 Mounting Modules

[DIN Rail Mounting]

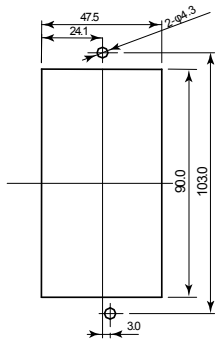
Use a 35-mm-wide DIN rail and BNL6 mounting clips to secure the modules.



[Direct Mounting]

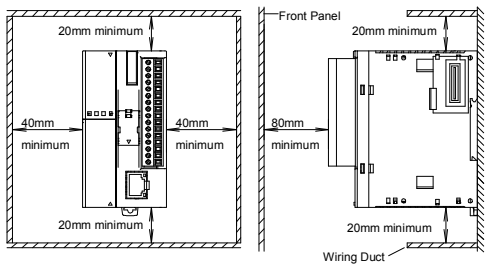
Use optional direct mounting strip FC4A-PSP1P and M4 mounting screws (6 mm or 8 mm long).

FC5A-D12K1E, FC5A-D12S1E

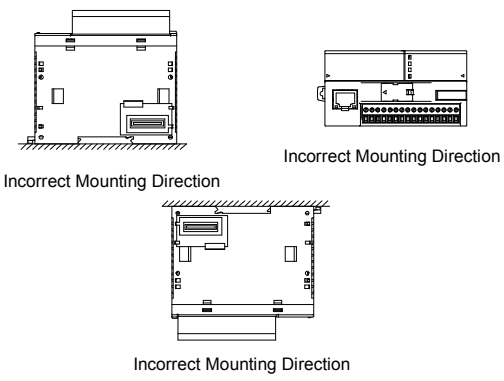


5 Installation in Control Panel & Mounting Direction

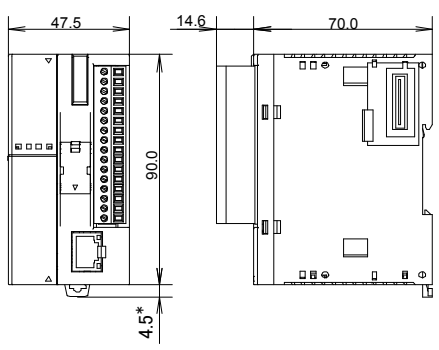
When installing the MicroSmart in a control panel, take the convenience of operation and maintenance, and resistance against environments into consideration.



Always mount the slim type CPU modules horizontally on a vertical plane as shown above. Any other mounting directions are not allowed.



6 Dimensions

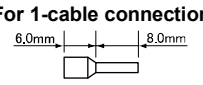
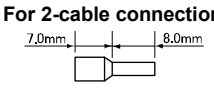


* 8.5 mm when the clamp is pulled out.

Dimensions in mm.

7 Applicable Ferrule Dimensions

To crimp the ferrules shown below, use a special crimping tool (CRIMPFOX ZA3).

For 1-cable connection	For 2-cable connection
	
(AI 1-8 RD , AI 1.5-8 BK) (AI 0.5-8 WH)	(AI-TWIN 2×0.75-8 GY) (AI-TWIN 2×0.5-8 WH)

( ) indicates the Type No. of Phoenix Contact.

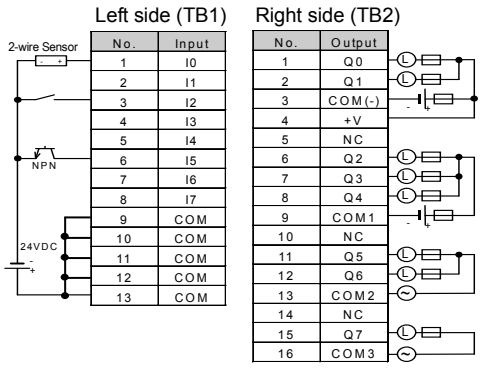
8 Recommended Screwdriver

When wiring the Phoenix Contact terminal block, use the recommended screwdriver.

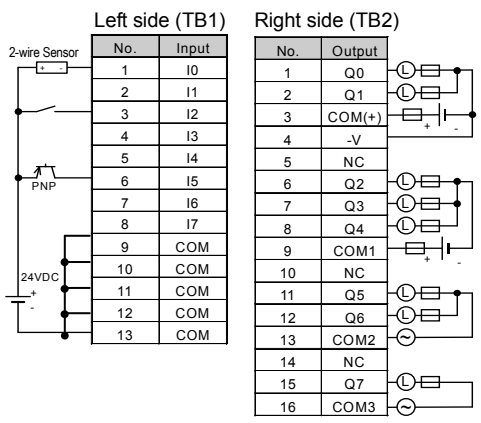
(Phoenix Contact Type No. : SZS 0.6×3.5, SZS 0.4×2.5)

9 I/O Wiring

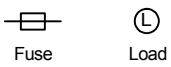
FC5A-D12K1E



FC5A-D12S1E



The following symbols represent a fuse and a load.



COM, COM(-), COM(+), COM1, COM2, and COM3 terminals are not interconnected.
COM terminals are interconnected.

10 Safety Precautions

Special expertise is required to use the MicroSmart.

- Read this instruction sheet and the user's manual to make sure of correct operation before starting installation, wiring, operation, maintenance, and inspection of the MicroSmart.
  Keep this instruction sheet at the end user.
- All MicroSmart modules are manufactured under IDEC's rigorous quality control system, but users must add a backup or failsafe provision to the control system using the MicroSmart in applications where heavy damage or personal injury may be caused in case the MicroSmart should fail.
- Install the MicroSmart according to instructions described in this instruction sheet and the user's manual. Improper installation will result in falling, failure, or malfunction of the MicroSmart.
- Make sure that the operating conditions are as described in the user's manual. If you are uncertain about the specifications, contact IDEC in advance.
- In this instruction sheet, safety precautions are categorized in order of importance to Warning and Caution:

⚠ WARNING

(Warning notices are used to emphasize that improper operation may cause severe personal injury or death.)

- Turn off the power to the MicroSmart before starting installation, removal, wiring, maintenance, and inspection on the MicroSmart. Failure to turn power off may cause electrical shocks or fire hazard.
- Emergency stop and interlocking circuits must be configured outside the MicroSmart. If such a circuit is configured inside the MicroSmart, failure of the MicroSmart may cause disorder of the control system, damage, or accidents.
- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous locations only.
- Warning - Explosion Hazard - Substitution of components may impair suitability for Class I, Division 2.
- Warning - Explosion Hazard - Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

⚠ CAUTION

(Caution notices are used where inattention might cause personal injury or damage to equipment.)

- The MicroSmart is designed for installation in equipment. Do not install the MicroSmart outside equipment.
- Install the MicroSmart in environments described in the user's manual. If the MicroSmart is used in places where the MicroSmart is subjected to high-temperature, high-humidity, condensation, corrosive gases, excessive vibrations, and excessive shocks, then electrical shocks, fire hazard, or malfunction will result.
- The environment for using the MicroSmart is "Pollution degree 2."
- Prevent metal fragments and pieces of wire from dropping inside the MicroSmart housing. Ingress of such fragments and chips may cause fire hazard, damage, or malfunction.
- Use wires of a proper size to meet voltage and current requirements. Tighten terminal screws to a proper tightening torque of 0.5 N·m (power supply terminals) or 0.22 to 0.25 N·m (I/O terminals).
- Use an IEC60127-approved fuse on the power line and output circuit to meet voltage and current requirements.
  (Recommended fuse: Littelfuse 5x20mm slow-blow type 218000 series/Type T) This is required when exporting equipment containing MicroSmart to Europe.
- Use an EU-approved circuit breaker. This is required when exporting equipment containing MicroSmart to Europe.
- If relays or transistors in the MicroSmart output modules should fail, outputs may remain on or off. For output signals which may cause heavy accidents, provide a monitor circuit outside of the MicroSmart.
- Do not disassemble, repair, or modify the MicroSmart modules.

< Handling of Batteries and Devices with Built-in Batteries in EU Member States >

Note) The following symbol mark is for EU countries only and is according to the directive 2006/66/EC Article 20 information for end-users and Annex II.

This symbol mark means that batteries and accumulators, at their end-of life, should be disposed of separately from your household waste.

If a chemical symbol is printed beneath the symbol shown above, this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows:

Hg : Mercury (0.0005%)
Cd : Cadmium (0.002%)
Pb : Lead (0.004%)

In the European Union there are separate collection systems for used batteries and accumulators.

Please dispose of batteries and accumulators correctly in accordance with each country or local regulation.

Product support.

Please download the latest user's manual in the web site as below.

http://www.idec.com/usen/productsupport/productManual.html

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