

**Programmable Controller Unit  
AFPXHC□**

MJE-FPXHCG No.0074-85V

Thank you for purchasing the Panasonic product. Read this installation instructions carefully and follow them to install the product correctly. After installation completes, keep this leaflet in a safe and handy place so that you can refer to it whenever necessary. Refer to the Manual for the detailed explanation.

**SAFETY PRECAUTIONS**

Observe the following notices to ensure personal safety or to prevent accidents.

This leaflet classifies dangers into "⚠ **WARNING**" and "⚠ **CAUTION**" according to the level of danger.

- WARNING** If critical situations that could lead to user's death or serious injury is assumed by mishandling of the product.
- CAUTION** If critical situations that could lead to user's injury or only property damage is assumed by mishandling of the product.

**WARNING**

- Always take precautions to ensure the overall safety of your system, so that the whole system remains safe in the event of failure of this product or other external factor.
- Do not use this product in areas with inflammable gas. It could lead to an explosion.
- Exposing this product to excessive heat or open flames could cause damage to the lithium battery or other electronic parts.
- Battery may explode if mistreated. Do not recharge, disassemble or dispose of fire.

**CAUTION**

- To prevent excessive exothermic heat or smoke generation, use this product at the values less than the maximum of the characteristics and performance that are assured in these specifications.
- Do not dismantle or remodel the product. It could cause excessive exothermic heat or smoke generation.
- Do not touch the terminal while turning on electricity. It could lead to an electric shock.
- Use the external devices to function the emergency stop and interlock circuit.
- Connect the wires or connectors securely. The loose connection could cause excessive exothermic heat or smoke generation.
- Do not allow foreign matters such as liquid, flammable materials, metals to go into the inside of the product. (It could cause excessive exothermic heat or smoke generation.)
- Do not undertake construction (such as connection and disconnection) while the power supply is on. It could lead to an electric shock.
- Be sure to connect the function earth terminal to the ground (Class-D grounding). Failure to do so could lead to an electric shock.
- If the equipment is used in a manner not specified by the Panasonic, the protection provided by the equipment may be impaired.
- This product has been developed / produced for industrial use only.

**1 BEFORE INSTALLATION**

**Environmental requirements**

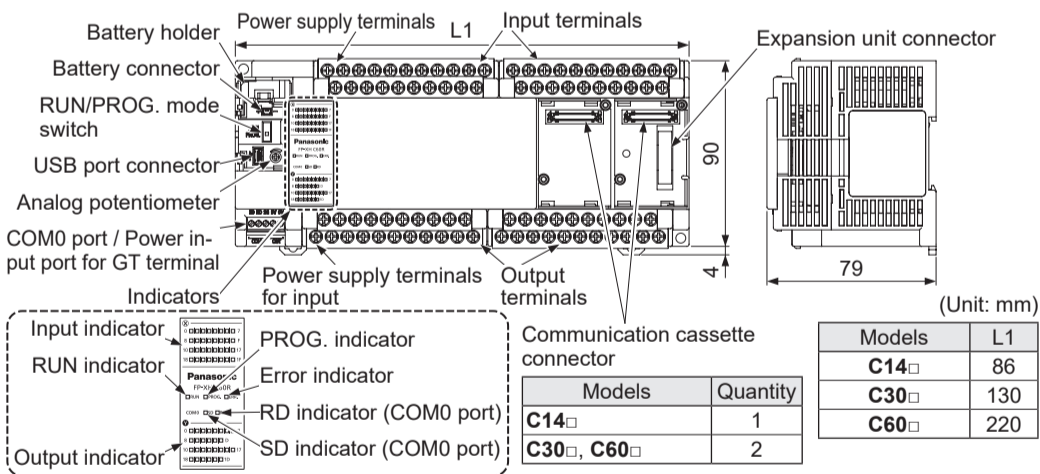
- Surrounding air temperature 0°C to +55°C
- Surrounding air humidity 10% to 95%RH (at 25°C), no-condensing
- Free from dust, smoke, conducting dust, and/or corrosive or inflammable gas
- Free from water, oil, and/or chemicals
- Free from shock and/or vibration
- Apart from high-voltage line (or device), power wire (or device), wireless transmission device, device with large switching surge, and/or heat-generating device (for 100mm or more)
- Pollution degree 2
- Altitude: 2,000m above sea level or lower
- Equipment class: Class 1
- Overvoltage category: II
- Installation location: In a control panel which has a protective construction IP54 or higher (made from metal that is of adequate strength).

Indoor use.

**Notes on handling**

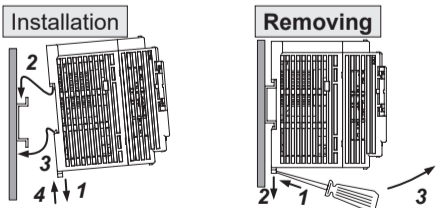
- Do not directly touch the connector pin to avoid damage due to static electricity.
- Always touch a grounded piece of metal in order to discharge static electricity before handling this product.
- Do not connect a unit other than our FP series to the top connector on the unit.
- Use copper wires with a temperature rating of 80°C or higher.
- Use copper wires with a temperature rating of 105°C or higher for the relay output.

**2 PART NAMES AND DIMENSIONS**

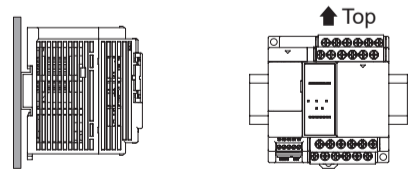


**3 INSTALLATION**

**Installing on DIN rail**

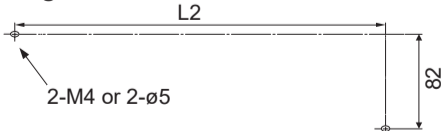


**Installation direction**



Do not install the unit in other directions than shown above to prevent temperature rise.

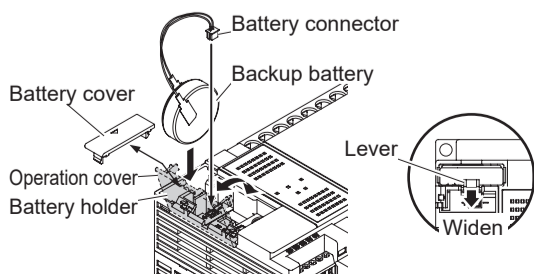
**Installing with screws**



Models	C14□	C30□	C60□
L2	78	122	212

**Installing backup battery**

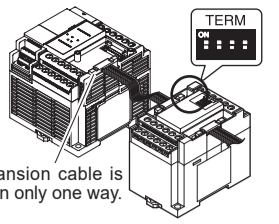
- The backup battery is optional. Purchase the AFPBAT001 separately.
  - The backup battery can be installed whether the power is ON or OFF.
- Open the operation cover and battery cover.
  - Set the backup battery in the battery holder.
  - Connect the battery connector.
  - Close the card cover.



**4 CONNECTION**

**Connecting the expansion unit**

**Note** Connecting/disconnecting the expansion cable must be carried out when the power supply is off. Connecting/disconnecting the expansion cable must be carried out before the add-on cassette is installed.



The expansion cable is inserted in only one way.

	TERM switch
Middle expansion unit	All OFF
Terminal expansion unit	All ON

\*: If the terminal unit is an Expansion FP0 Adapter, the TERM switch should be all OFF.

**Connecting the add-on cassette**

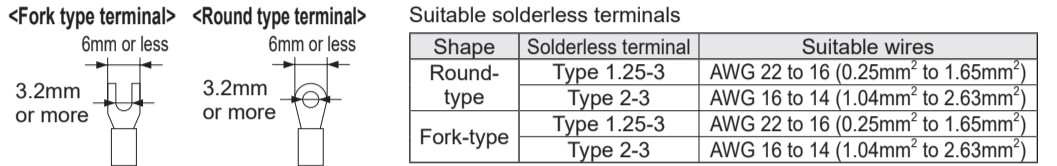
**Note** It can be installed in the cassette mounting part of the control unit. For the details on the installation, refer to the installation manual for the add-on cassette.

**5 WIRING**

**Note** Wiring must be carried out when the power supply is off.

**<Power supply terminals, Power supply terminals for input, Input terminals, Output terminals>**

- Appropriate electrical cables (strand wire)**
  - Size: AWG 22 to 14, Tightening torque: 0.5N·m to 0.6N·m
- Solderless terminal**
  - M3 terminal screws are used for the terminal. The following suitable solderless terminals are recommended for the wiring to the terminals.



**Connecting the power supply and input / output part**

**<AC power supply>**

Model	Rated voltage	Allowable voltage range	Rated current
C14R	100V to 240V AC	85V to 264V AC	0.35A
C14T			0.3A
C30R			0.6A
C30T			0.55A
C60R			0.7A
C60T			0.65A

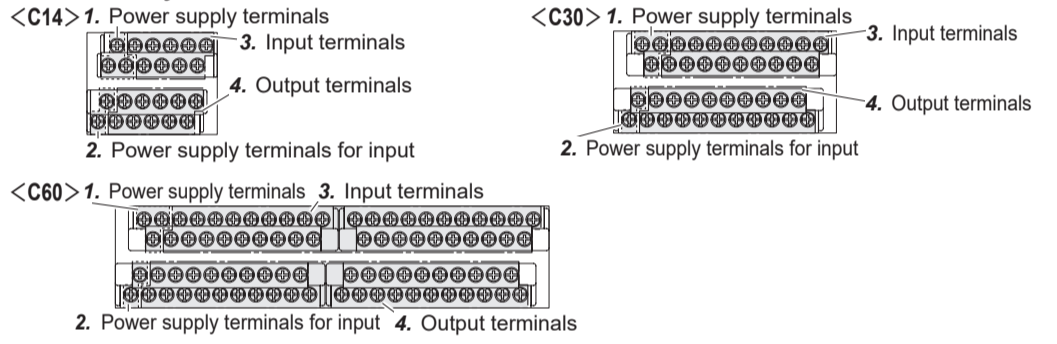
**<DC power supply>**

Model	Rated voltage	Allowable voltage range	Rated current
C14RD	24V DC	20.4V to 28.8V DC	0.45A
C14TD			0.35A
C30RD			0.6A
C30TD			0.6A
C60RD			0.8A
C60TD			0.8A

- Connect the same power supply to the COM terminal of the relay output.
- Be sure to ground the function earth terminal to eliminate any effects from noise emission.

The externally connected DC power supply must conform to the SELV (Safety Extra-Low Voltage) and LIM (Limited Energy Circuit).

**Terminal layout**



**1. Power supply terminals**

**Note** The power supply for the control unit and the expansion unit should be the same, and should be turned on/off simultaneously. Do not connect the 100-240 V AC to the input terminal or the 24 V DC terminal. (It could lead to a burnout.)

**<AC power supply>**

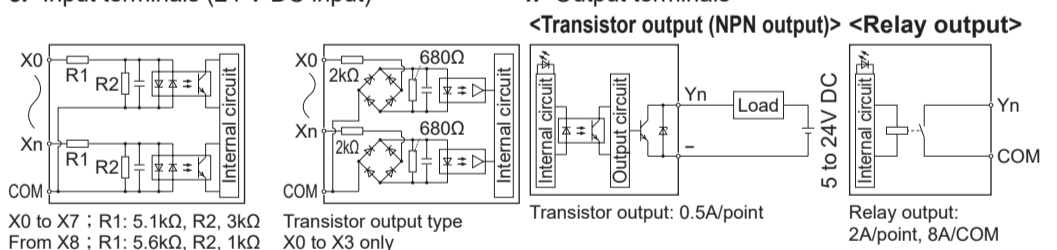


**2. Power supply terminals for input (AC power supply type only)**

Models	Rated output voltage	Rated max. output current
C14	24V DC±10%	0.15A
C30/C60	24V DC±10%	0.40A

\*: Do not connect this power supply in parallel with other DC power supplies.

**3. Input terminals (24 V DC input)**

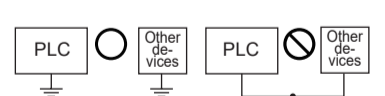


**<COM0 port / Power input port for GT terminal>**

- Appropriate electrical cables (strand wire)**
  - Size: AWG 28 to 18 (0.08mm<sup>2</sup> to 1.00mm<sup>2</sup>)
  - Tightening torque: 0.22N·m to 0.25N·m
- Specialized tool**
  - Blade size: 0.4 × 2.5 (Product No. AFP0806) [Phoenix Contact Co.: SZS0.4×2.5 (1205037)]
- Terminal layout** SD RD SG 5V 0V

**Grounding**

- Be sure to properly ground the unit.
- Do not use the same ground used by other devices. Doing so may cause adverse effects.
- The grounding connection should have a resistance of less than 100Ω.
- Use a 2mm<sup>2</sup> (AWG14) wire for grounding.



**6 PRE-TRIAL CHECKLIST**

- Is the unit securely fixed to the control panel?
- Are the connectors firmly connected?
- Are the connectors properly connected with respect to their voltage and polarity?

**7 CE Marking**

- The FP-XH series complies with the EMC Directive and Low Voltage Directive.
- EMC Directive (2014/30/EU): EN 61131-2, Low Voltage Directive (2014/35/EU): EN 61131-2
- All work related to transportation, installation, test operation, troubleshooting and maintenance must be performed in accordance with applicable safety regulations and standards by experienced technicians.

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<https://panasonic.net/id/pidsx/global>