

## Chapter 3 Installation Precautions

### Danger

1. While installing the FB-PLC or other equipment connected, turn off all power supplies otherwise, electrical shock, or damage to machines and equipment may occur.
2. Cover the protection board on the terminal block and supply power for testing after completion of all installation and wiring operation in order to avoid electrical shock.
3. Never peel off the dust proof film on the ventilation holes of the PLC before completion of installation and wiring. This is necessary in order to prevent dropping of iron chips from drilling and other wire scraps into the PLC and causing damage to the PLC internal circuitry.
4. Remember to peel off the above stated dust-proof film after confirming completion of installation and wiring to prevent poor heat dissipation of the PLC and prevent damage to the unit from excessive heat.

### 3.1 Installation Environment

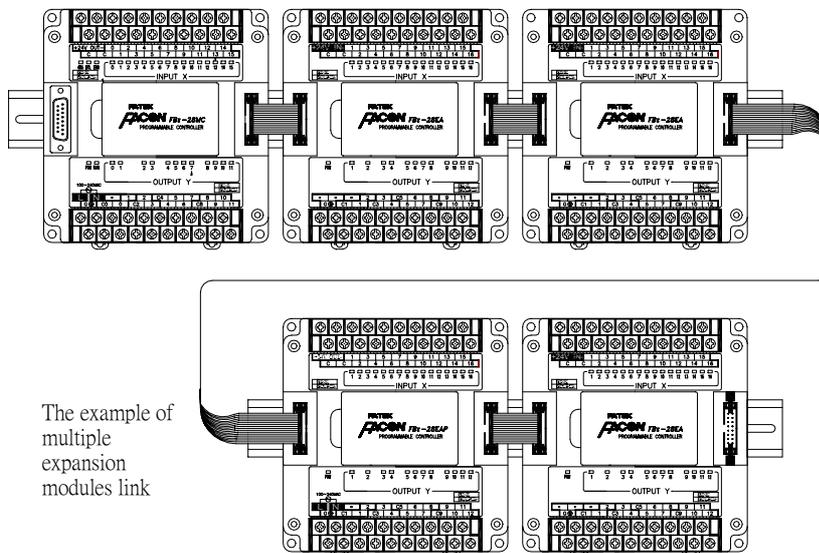
### Caution

1. The working environment specification of the FB-PLC should never exceed the environmental specification listed in section 1.5 in this manual. Besides, never use in environment with fume, conductive dust, high temperature, corrosive gas, combustible gas, rain, saturated humidity, and vibration impact places.
2. Whether used in a system or as a stand alone unit, this product should be installed in an appropriate cabinet, the selection of the cabinet and installation should comply with local or national standard requirement.

### 3.2 Layout of Control Board and Mounting of the PLC

#### Placing of the PLC

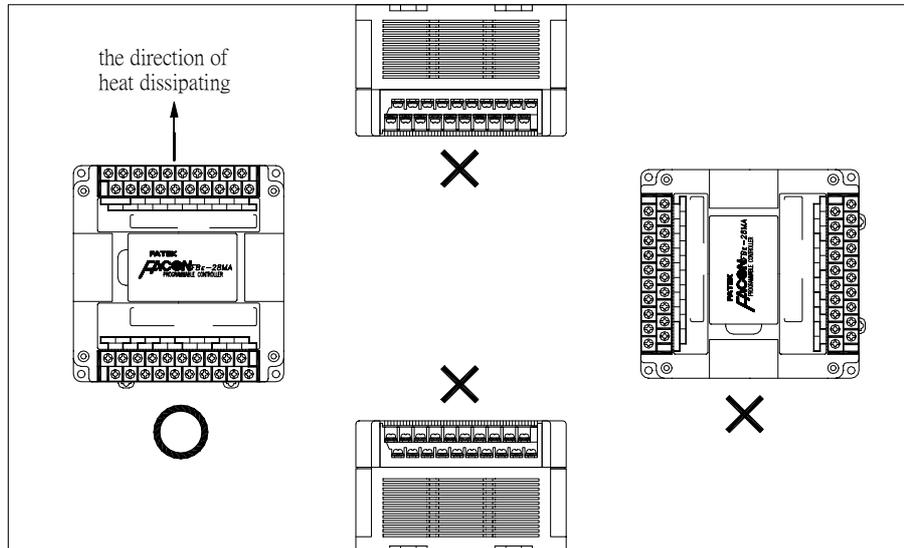
The mounting design of the FB-PLC is facing transversely in front(horizontal position) and placed from left (main unit) to right (expansion unit/module), it can be fixed by using DIN RAIL or mounting screws, the figure below is the typical mounting method:



### Heat Dissipation Clearance

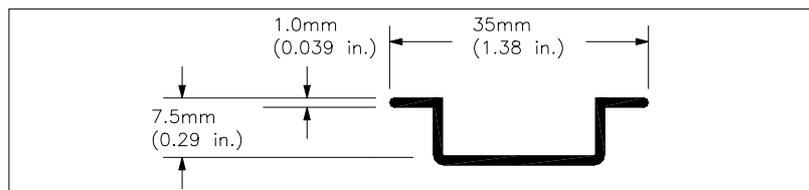
The FB-PLC uses natural air convection for heat dissipation, thus sufficient gap should be provided for heat dissipation.

- A min. of 25mm gap should be provided above and below the unit.
- There should be a minimum of 50mm clearance above the face of the PLC.

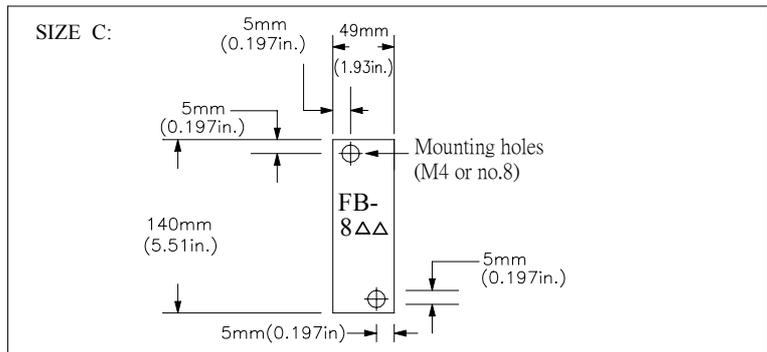
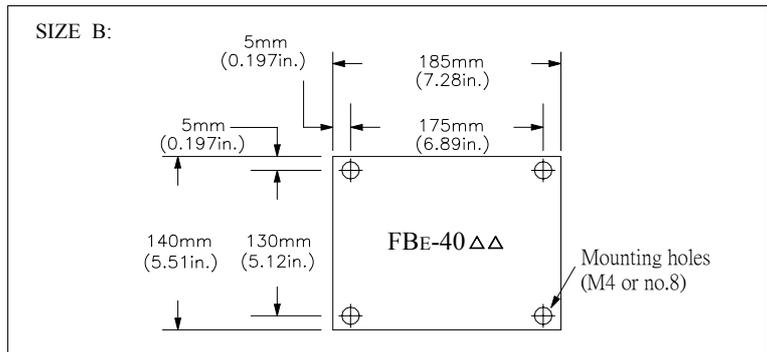
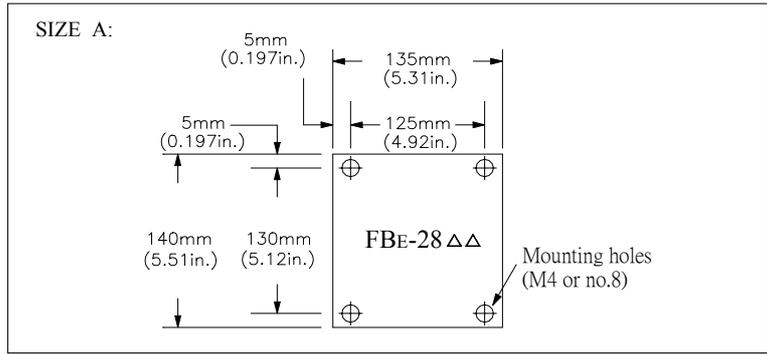


### Mounting Method

- DIN RAIL (DIN EN50022) mounting method
  - This method is not applicable to applications with high vibration condition exceeding 0.5G.
  - Pull the two DIN RAIL removal tab hooks at the bottom of the PLC simultaneously while pushing the PLC from top to bottom.



- Direct mounting by screws → M3~M4 screw fixing method.
  - Use M3~M4 screw holes to directly mount on control cabinet.
  - There are three types of fixing holes for various models of FB-PLC as follows:



FB-PLC Mounting holes

### 3.3 Precautions in Construction and Wiring

1. Please follow local or national standard regulations to proceed with installation and wiring of the FB-PLC.
2. Please notice the current load of the I/O wiring and choose the appropriate wire size.
3. Use as short as possible wires, the I/O wiring should not exceed 100m in any circumstance (less than 10m for high speed inputs).
4. The input wiring should be away from output or power lines (a distance of 30~50mm), make perpendicular crossing if separation is not possible, never run both in parallel.
5. There are two kinds of terminal blocks with the pitch of 9.52mm and 7.62mm, the torque ranges of screw are shown below:

9.52mm Terminal Block		torque : 10~12kg/cm
7.62mm Terminal Block		torque : 6~8kg/cm