



INVERTER

FR-AF700

INSTALLATION GUIDELINE

FR-AF740-00770 to 12120-EC

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AF700

1 Introduction

Thank you for choosing this Mitsubishi Inverter.

This instruction manual explains how to set up an inverter base unit and separately sold control unit.

Read this instruction manual carefully to use the product to its optimum.

Please forward this manual to the end user.

2 Outline

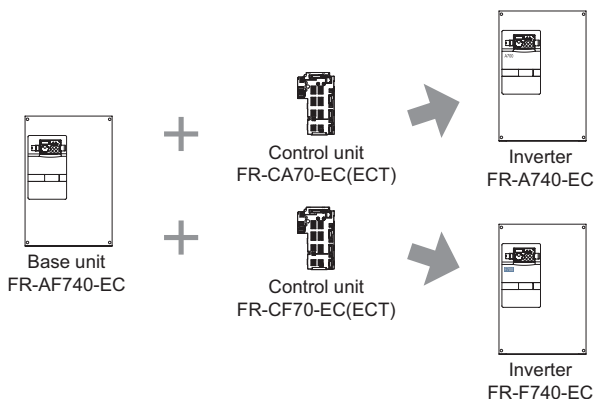
The FR-AF700-EC series is a base unit of the inverter.

A base unit is a main circuit section of the inverter, where three-phase AC power is converted to DC power and then converted to any three-phase AC power.

A control unit is a control circuit section which controls the inverter.

Base unit alone can not be operated.

By combining the base unit and separately sold control unit, they function as an inverter.



CAUTION

- The product made up of a base unit and control unit complies with UL and EC directives (CE mark).
-

Inverter type according to the combination of the base unit and control unit

Base Unit Type	Control Unit Type	Inverter Type as a Result of Combination
FR-AF740-00770-EC	FR-CA70-EC	FR-A740-00770-EC
	FR-CF70-EC	FR-F740-00770-EC
FR-AF740-00930-EC	FR-CA70-EC	FR-A740-00930-EC
	FR-CF70-EC	FR-F740-00930-EC
FR-AF740-01160-EC	FR-CA70-EC	FR-A740-01160-EC
	FR-CF70-EC	FR-F740-01160-EC
FR-AF740-01800-EC	FR-CA70-EC	FR-A740-01800-EC
	FR-CF70-ECT	FR-F740-01800-EC
FR-AF740-02160-EC	FR-CA70-ECT	FR-A740-02160-EC
	FR-CF70-ECT	FR-F740-02160-EC
FR-AF740-02600-EC	FR-CA70-ECT	FR-A740-02600-EC
	FR-CF70-ECT	FR-F740-02600-EC
FR-AF740-03250-EC	FR-CA70-ECT	FR-A740-03250-EC
	FR-CF70-ECT	FR-F740-03250-EC
FR-AF740-03610-EC	FR-CA70-ECT	FR-A740-03610-EC
	FR-CF70-ECT	FR-F740-03610-EC
FR-AF740-04320-EC	FR-CA70-ECT	FR-A740-04320-EC
	FR-CF70-ECT	FR-F740-04320-EC
FR-AF740-04810-EC	FR-CA70-ECT	FR-A740-04810-EC
	FR-CF70-ECT	FR-F740-04810-EC
FR-AF740-05470-EC	FR-CA70-ECT	FR-A740-05470-EC
	FR-CF70-ECT	FR-F740-05470-EC
FR-AF740-06100-EC	FR-CA70-ECT	FR-A740-06100-EC
	FR-CF70-ECT	FR-F740-06100-EC
FR-AF740-06830-EC	FR-CA70-ECT	FR-A740-06830-EC
	FR-CF70-ECT	FR-F740-06830-EC
FR-AF740-07700-EC	FR-CA70-ECT	FR-A740-07700-EC
	FR-CF70-ECT	FR-F740-07700-EC
FR-AF740-08660-EC	FR-CA70-ECT	FR-A740-08660-EC
	FR-CF70-ECT	FR-F740-08660-EC
FR-AF740-09620-EC	FR-CA70-ECT	FR-A740-09620-EC
	FR-CF70-ECT	FR-F740-09620-EC
FR-AF740-10940-EC	FR-CA70-ECT	FR-A740-10940-EC
	FR-CF70-ECT	FR-F740-10940-EC
FR-AF740-12120-EC	FR-CA70-ECT	FR-A740-12120-EC
	FR-CF70-ECT	FR-F740-12120-EC

CAUTION

- If a combination of the base unit and control unit is wrong, inverter alarm (E.PE2) occurs, disabling the inverter operation.

3 Product Check

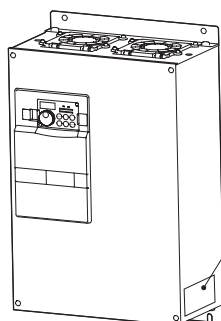
(1) Base unit

• Unit type

FR - AF740 - 00770 - EC

Symbol	Voltage Class
AF740	Three-phase 400V class

Symbol	Type number
00770 to 12120	Displays the rated current



Rating plate

Rating plate	
Inverter type	MODEL → FR-AF740-00770-EC
Input rating	INPUT : XXXXX
Output rating	OUTPUT : XXXXX ND (50°C) XXXA LD (50°C) XXXA ND (50°C) XXXA SLD (40°C) XXXA
Serial number	SERIAL : _____

	Overload Current Rating	Ambient Temperature
SLD	110% 60s, 120% 3s	40°C (104°F)
LD	120% 60s, 150% 3s	50°C (122°F)
ND	150% 60s, 200% 3s	50°C (122°F)
HD	200% 60s, 250% 3s	50°C (122°F)

• Accessory

- DC reactor (01800 or more)
- Installation guideline (this guideline)

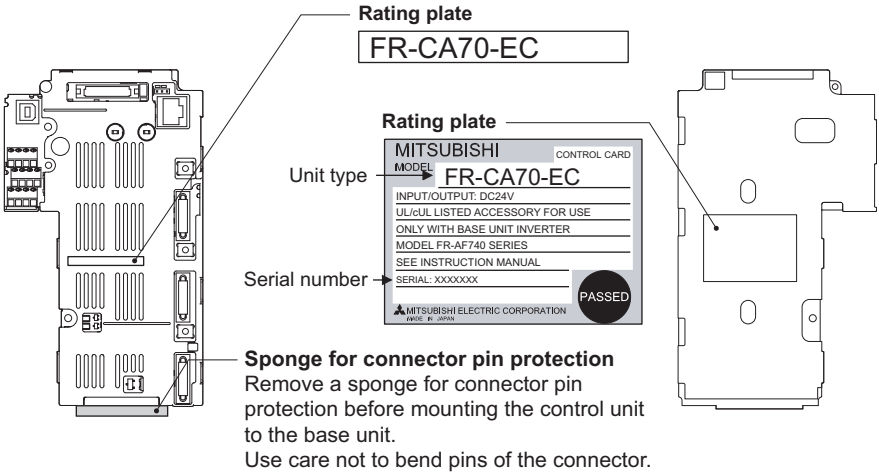
(2) Control unit accessory

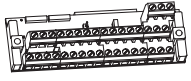



• Unit type

FR - CA70 - EC

Symbol	Voltage Class
CA70	Control unit for FR-A740-EC
CF70	Control unit for FR-F740-EC

Symbol	Compatible Base Unit	
	FR-CA70	FR-CF70
EC	00770 to 01800	00770 to 01160
ECT	02160 to 12120	01800 to 12120

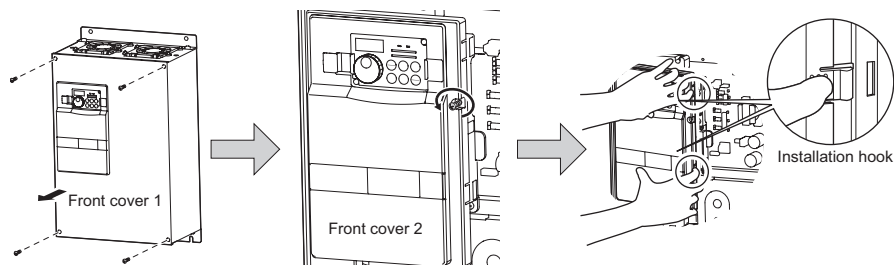


Control circuit terminal block 1 	Sticker 1 FR-CA70-EC(ECT) A700 FR-CF70-EC(ECT) F700	Cable 1 	Mounting screw (M3) 2 
Installation guideline 1 			

4 Setting Up

(1) Removal of a base unit front cover

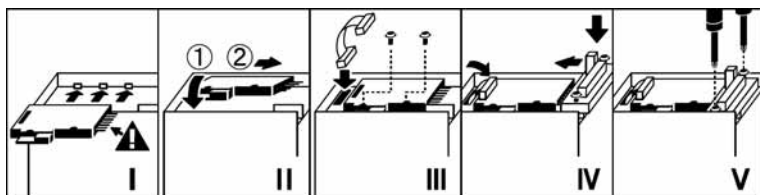
- 1) Remove installation screws on the front cover 1 to remove the front cover 1.
- 2) Loosen the installation screws of the front cover 2.
- 3) Pull the front cover 2 toward you to remove by pushing an installation hook on the right side using left fixed hooks as supports.



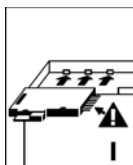
(The number of screws of the front cover 1 differs according to the capacity.)

(2) Mounting a control unit on a base unit

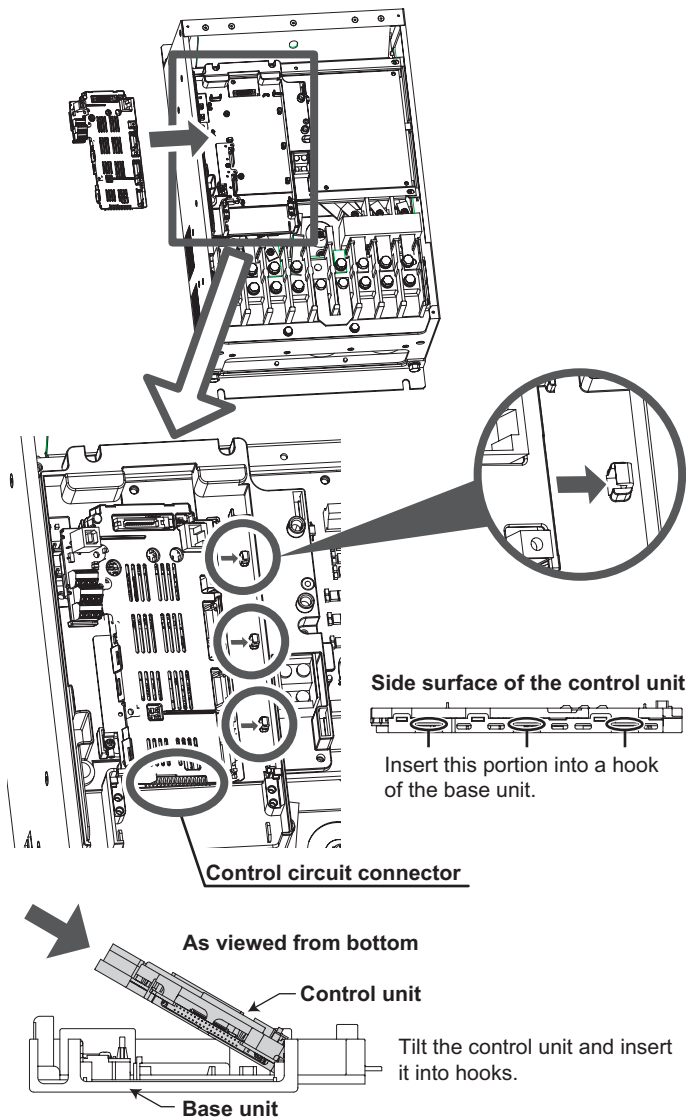
Follow the procedure of the mounting procedure sticker applied on the base unit.



The mounting procedure sticker shows the unit as viewed from the left side.



Remove the sponge for connector pin protection of the control unit. Slightly tilt the control unit to insert a printed circuit board into three hooks of the base unit.

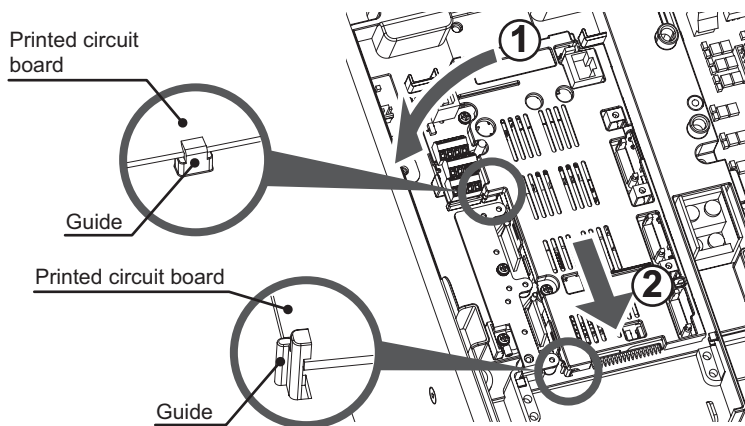


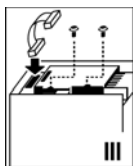
CAUTION

- Use care not to bend pins of the control circuit connector with force.



Tip down the control unit to the base unit side(①) to closely attach to the base unit, then slide it downward(②). Slide it until it is firmly fixed with guides.

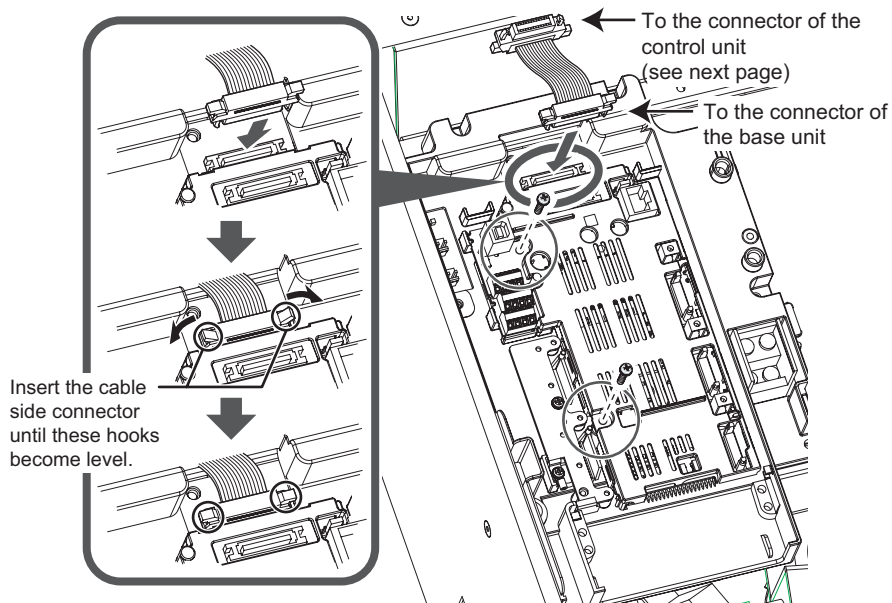


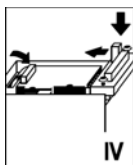


Connect the base unit and the control unit with a cable provided with the control unit.

Insert the cable side connector to the base unit connector straight until you hear a click sound of the cable side connector hooks and firmly fix it.

Fix the control unit with provided mounting screws in two points.

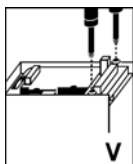
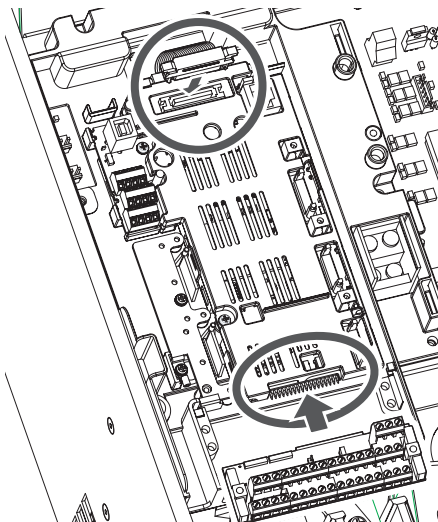




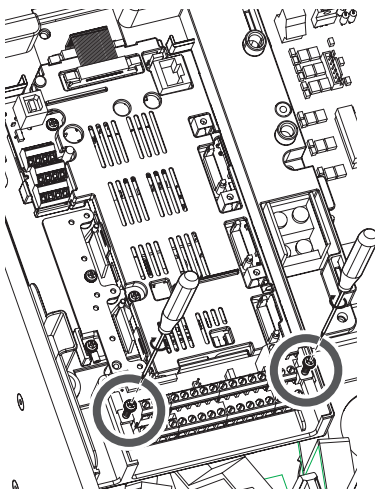
Insert the other side connector of the cable into the connector of the control unit.

Insert the cable side connector until you hear a click sound of the cable side connector hooks and firmly fix it.

Install the control circuit terminal block provided with the control unit using care not to bend the pins of the control circuit connector.

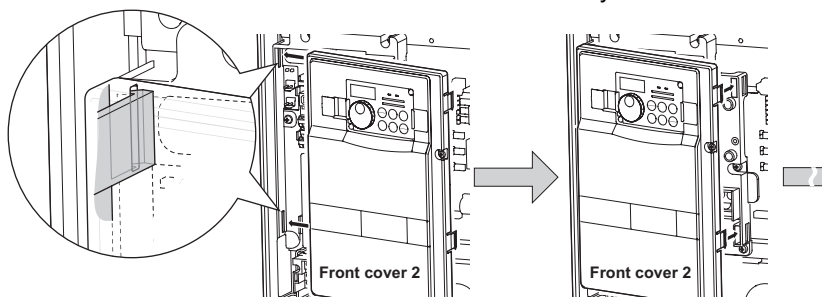


Tighten two screws to the control circuit terminal block and fix the control unit to the base unit.

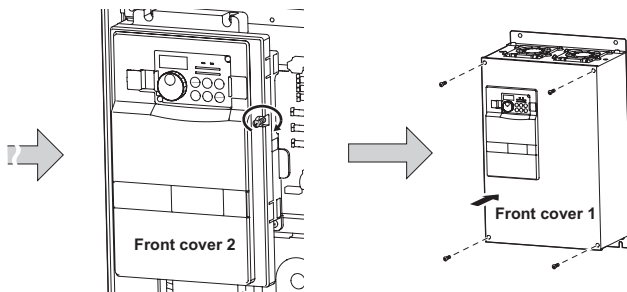


(3) Reinstallation of the front cover

- 1) Insert the two fixed hooks on the left side of the front cover 2 into the sockets of the inverter.
- 2) Using the fixed hooks as supports, securely press the front cover 2 against the inverter.
(Although installation can be done with the operation panel mounted, make sure that a connector is securely fixed.)



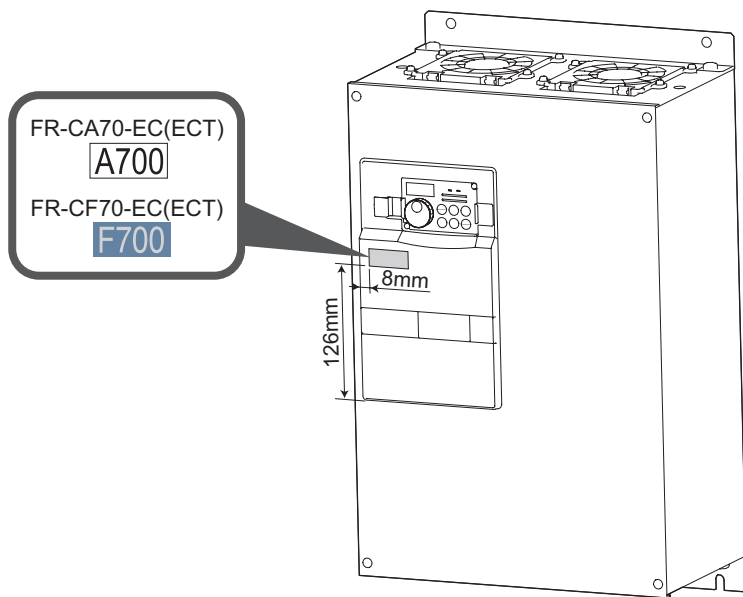
- 3) Tighten installation screws on the front cover 2.
- 4) Fix the front cover 1 with installation screws.



(The number of screws of the front cover 1 differs according to the capacity.)

(4) Applying a logo sticker

Apply a sticker provided with the control unit on the base unit as shown below.



(5) Completed

When set-up is completed, it can be used as the FR-A740-EC or FR-F740-EC. Refer to the instruction manual provided with the control unit for details of operation, specifications, etc.

REMARKS

When a control unit, used for the base unit different in capacity, is mounted to other base unit, parameter settings below automatically change to the initial settings in accordance with the base unit capacity.

Parameter number	Name
0	Torque boost
7	Acceleration time
8	Deceleration time
9	Electronic thermal O/L relay
12	DC injection brake operation voltage

Parameter number	Name
56	Current monitoring reference
557	Current average value monitor signal output reference current
893	Energy saving monitor reference (motor capacity)

REVISIONS

*The manual number is given on the bottom left of the back cover.

Print Date	*Manual Number	Revision
Mar., 2006	IB(NA)-0600267ENG-A	First edition
May, 2006	IB(NA)-0600267ENG-B	<div>Modification</div> Combination of the base unit and control unit