



INVERTER

Control terminal option

FR-A8TR

INSTRUCTION MANUAL

Screw terminal block

PRE-OPERATION INSTRUCTIONS

1

INSTALLATION

2

Thank you for choosing this Mitsubishi inverter control terminal option.

This Instruction Manual provides handling information and precautions for use of the equipment. Incorrect handling might cause an unexpected fault. Before using this product, always read this Instruction Manual carefully to use this product correctly.

Please forward this Instruction Manual to the end user.

Safety instructions

Do not attempt to install, operate, maintain or inspect the product until you have read through this Instruction Manual and appended documents carefully and can use the equipment correctly. Do not use this product until you have a full knowledge of the equipment, safety information and instructions. In this Instruction Manual, the safety instruction levels are classified into "Warning" and "Caution".



Warning

Incorrect handling may cause hazardous conditions, resulting in death or severe injury.



Caution

Incorrect handling may cause hazardous conditions, resulting in medium or slight injury, or may cause only material damage.

The **Caution** level may even lead to a serious consequence according to conditions. Both instruction levels must be followed because these are important to personal safety.

◆ Electric Shock Prevention



Warning

- While the inverter power is ON, do not open the front cover or the wiring cover. Do not run the inverter with the front cover or the wiring cover removed. Otherwise you may access the exposed high voltage terminals or the charging part of the circuitry and get an electric shock.
- Do not remove the inverter front cover even if the power supply is disconnected. The only exception for this would be when performing wiring and periodic inspection. You may accidentally touch the charged inverter circuits and get an electric shock.
- Before wiring or inspection, LED indication of the inverter unit operation panel must be switched OFF. Any person who is involved in wiring or inspection shall wait for at least 10 minutes after the power supply has been switched OFF and check that there is no residual voltage using a tester or the like. For some time after the power-OFF, a high voltage remains in the smoothing capacitor, and it is dangerous.
- Any person who is involved in wiring or inspection of this equipment shall be fully competent to do the work.
- The control terminal option must be installed before wiring. Otherwise you may get an electric shock or be injured.
- Do not touch the control terminal option or handle the cables with wet hands. Otherwise you may get an electric shock.
- Do not subject the cables to scratches, excessive stress, heavy loads or pinching. Otherwise you may get an electric shock.

◆ Injury Prevention



Caution

- The voltage applied to each terminal must be the ones specified in the Instruction Manual. Otherwise a burst, damage, etc. may occur.
- The cables must be connected to the correct terminals. Otherwise a burst, damage, etc. may occur.
- The polarity (+ and -) must be correct. Otherwise a burst or damage may occur.
- While power is ON or for some time after power OFF, do not touch the inverter as it will be extremely hot. Touching these devices may cause a burn.

◆ Additional Instructions

The following instructions must be also followed. If the product is handled incorrectly, it may cause unexpected fault, an injury, or an electric shock.

Caution

Transportation and mounting

- Do not install or operate the control terminal option if it is damaged or has parts missing.
- Do not stand or rest heavy objects on the product.
- The mounting orientation must be correct.
- Foreign conductive objects must be prevented from entering the inverter. That includes screws and metal fragments or other flammable substance such as oil.
- If halogen-based materials (fluorine, chlorine, bromine, iodine, etc.) infiltrate into a Mitsubishi product, the product will be damaged. Halogen-based materials are often included in fumigant, which is used to sterilize or disinfest wooden packages. When packaging, prevent residual fumigant components from being infiltrated into Mitsubishi products, or use an alternative sterilization or disinfection method (heat disinfection, etc.) for packaging. Sterilization or disinfection of wooden package should also be performed before packing a product.

Test run

- Before starting operation, each parameter must be confirmed and adjusted. A failure to do so may cause some machines to make unexpected motions.

Warning

Usage

- Do not modify the equipment.
- Do not perform parts removal which is not instructed in this manual. Doing so may lead to fault or damage of the product.

Caution

Usage

- When parameter clear or all parameter clear is performed, the required parameters must be set again before starting operations. Because all parameters return to their initial values.
- Static electricity in your body must be discharged before you touch the product.

Maintenance, inspection and parts replacement

- Do not carry out a megger (insulation resistance) test.

Disposal

- The product must be treated as industrial waste.

General instruction

- Many of the diagrams and drawings in this Instruction Manual show the inverter without a cover or partially open for explanation. Never operate the inverter in this manner. The cover must be reinstalled and the instructions in the Instruction Manual must be followed when operating the inverter.

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1 PRE-OPERATION INSTRUCTIONS

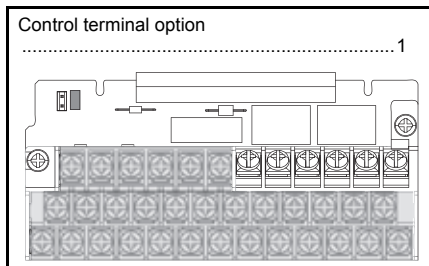
1.1 Unpacking and product confirmation

Take the control terminal option out of the package, check the product name, and confirm that the product is as you ordered and intact.

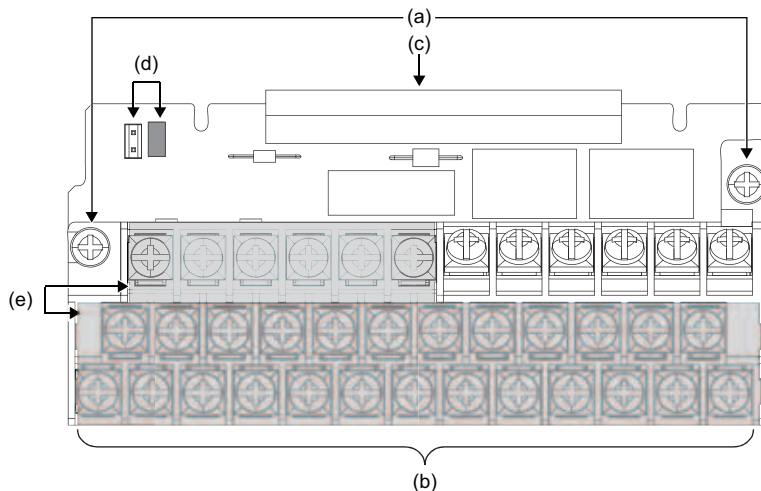
The product is a control terminal option for the FR-A800/F800 series.

1.1.1 Product confirmation

Check the enclosed items.



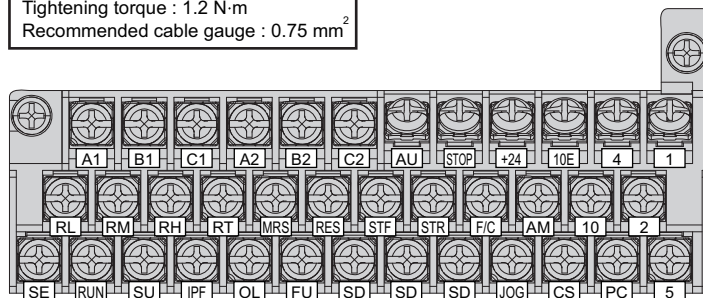
1.1.2 Component names



Symbol	Name	Description	Refer to page
a	Mounting screw	Fixes the option to the inverter.	10
b	Terminal block	Connect signal cables.	7
c	Connector	Connected to the control circuit connection connector of the inverter.	10
d	Control logic switchover jumper connector	Switches the control logic (sink logic or source logic).	8
e	Terminal block cover	Install this cover after wiring.	-

1.1.3 Terminal layout

Terminal screw size : M3.5
Tightening torque : 1.2 N·m
Recommended cable gauge : 0.75 mm²



NOTE

- The inverter cover may not fit properly when using cables whose gauge is 1.25 mm² or larger, or when using many cables, and this could cause a contact fault of the operation panel.
- For the details of the terminal functions and specifications of the inverter, refer to the Instruction Manual (Detailed) of the inverter.

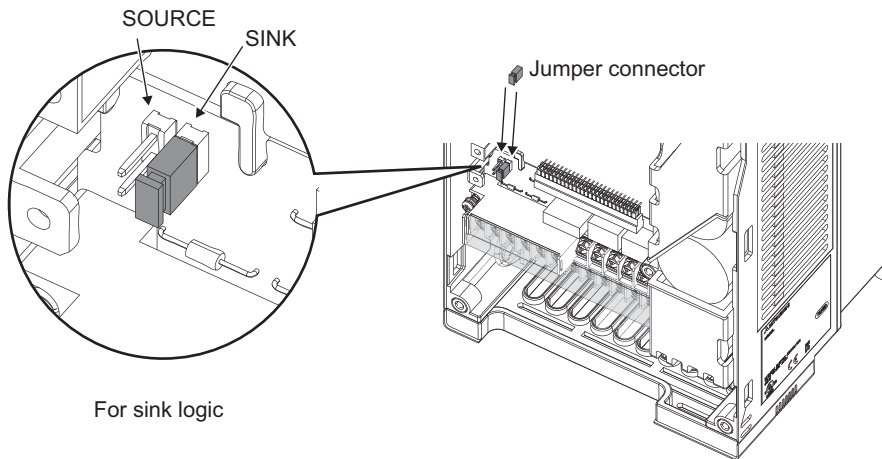
1.1.4 Control logic switchover

Switch the control logic of input signals as necessary.

To change the control logic, change the jumper connector position on the control circuit board.

Connect the jumper connector to the connector pin of the desired control logic.

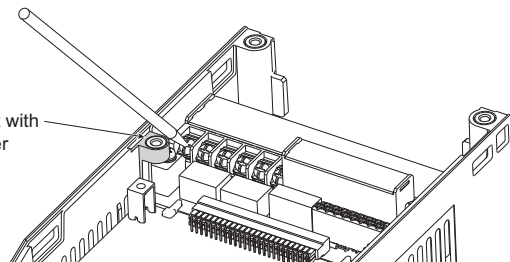
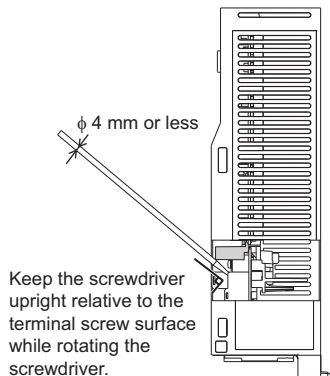
(For the details, refer to the Instruction Manual of the inverter.)



1.2 Restrictions for the FR-A8TR

As compared with the standard control circuit terminal block, the FR-A8TR has the following restrictions.

- When the plug-in option FR-A8NC or FR-A8NCE is used, terminals +24, 10E, 4, and STOP of the FR-A8TR cannot be used.
- Because the height is restricted, two wires cannot be wired to upper-row terminals (except for terminals A1, B1, C1, A2, B2, and C2) and middle-row terminals on the terminal block.
- The safety stop function is not available.
- For the connection to the terminal 1, use a screwdriver with a diameter of 4 mm or less. To avoid contact with the front cover fixing area, put the screwdriver upright relative to the terminal screw surface.



2 INSTALLATION

2.1 Pre-installation instructions

Check that the inverter's input power and the control circuit power are both OFF.

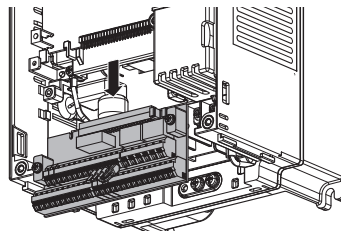
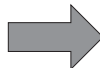
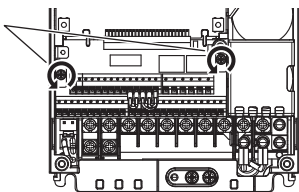
Caution

- Do not mount or remove the control terminal option while the input power is ON. Doing so may damage the inverter or the control terminal option.
- To avoid damage due to static electricity, static electricity in your body must be discharged before you touch the product.

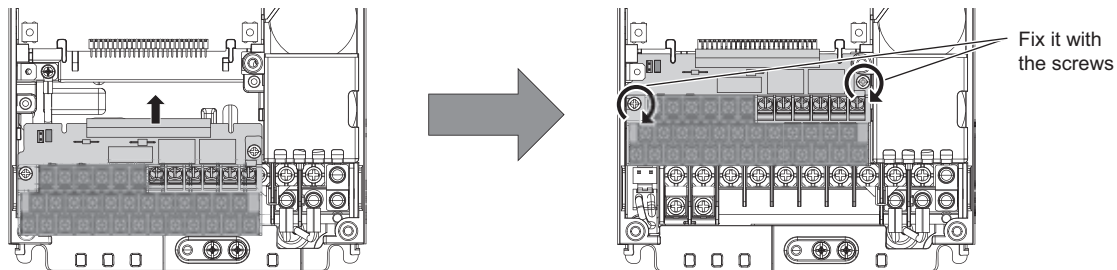
2.2 Installation procedure

- (1) Loosen the two mounting screws at the both side of the standard control circuit terminal block. (These screws cannot be removed.)
Slide down the control circuit terminal block to remove it.

Loosen the screws



- (2) Be careful not to bend the pins of the inverter's control circuit connector, install the control terminal option and fix it with the mounting screws for the control terminal option. (Tightening torque: 0.33 to 0.4 N•m)



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REVISIONS

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

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