

*FRENIC-Mini*

# Copy Adapter "CPAD-C1A"

## **CAUTION**

Thank you for purchasing our Copy Adapter CPAD-C1A.

- This product is designed to copy function codes and their data, which are stored in the FRENIC-Mini series of inverters and to write them into other inverters. Read through this instruction manual and be familiar with the handling procedure for correct use.
- Improper handling might result in incorrect operation, a short life, or even a failure of this product as well as the motor.
- Deliver this manual to the end user of the product. Keep this manual in a safe place until the Copy Adapter is discarded.
- For the usage of inverters and optional equipment, refer to the instruction manuals prepared for the FRENIC-Mini series of inverters and its optional equipment.

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## Preface

Thank you for purchasing our Copy Adapter "CPAD-C1A."

The Copy Adapter can copy and set function codes and their data stored in FRENIC-Mini series of inverters into other ones while the inverters are in a stop state.

Connecting the Copy Adapter to the connector provided for an RS485 communications card (option) on the inverter allows you to copy (by reading data in the inverters and writing them into other ones), set, and monitor function codes and their data.

The Copy Adapter can store and manage up to 10 function code data blocks copied from 10 inverters.

This manual describes how to connect and remove the Copy Adapter and the "data copying," but none of other keypad functions. Note that the Copy Adapter does not allow you to control the inverter for running, stopping or other any operations except above mentioned. For other functions that are common to the built-in keypad, refer to the FRENIC-Mini Instruction Manual (INR-SI47-1205-E), Chapter 3.

Before installing and using the Copy Adapter, read through this manual in conjunction with the FRENIC-Mini Instruction Manual and make yourself familiar with its proper use. Improper handling might result in incorrect operation, a short life, or even a failure of this product as well as the motor.

### Related Publications

Listed below are other publications on the FRENIC-Mini to be consulted in conjunction with this manual as necessary.

- FRENIC-Mini User's Manual (MEH446)
- FRENIC-Mini Instruction Manual (INR-SI47-1205-E)

The materials are subject to change without notice. Be sure to obtain the latest editions for use.

### ■ Safety precautions

Read this manual thoroughly before proceeding with installation, connections (wiring), operation, or maintenance and inspection. Ensure you have sound knowledge of the device and familiarize yourself with all safety information and precautions before proceeding to operate the inverter.

Safety precautions are classified into the following two categories in this manual.

 <b>WARNING</b>	Failure to heed the information indicated by this symbol may lead to dangerous conditions, possibly resulting in death or serious bodily injuries.
 <b>CAUTION</b>	Failure to heed the information indicated by this symbol may lead to dangerous conditions, possibly resulting in minor or light bodily injuries and/or substantial property damage.

Failure to heed the information contained under the CAUTION title can also result in serious consequences. These safety precautions are of utmost importance and must be observed at all times.

### Operation

 <b>WARNING</b>
<ul style="list-style-type: none"><li>• Turn on the inverter power after connecting the cable connector of the copy adapter into the inverter's connector.</li><li>• Do not unplug the cable connector while the power is applied.</li><li>• Do not touch the copy adapter with wet hands. <b>Doing so could cause electric shock.</b></li><li>• If you set the function codes wrongly or without completely understanding the instruction manuals and the FRENIC-Mini User's Manual, the motor may rotate with a torque or at a speed not permitted for the machine. <b>An accident or injuries could occur.</b></li><li>• Do not touch the inverter terminals while the power is applied to the inverter even if the inverter stops. <b>Doing so could cause electric shock.</b></li></ul>

### Connection and cabling/wiring of the copy adapter

## **WARNING**

- Do not handle the inverter and/or the cable connector with wet hands.  
**Doing so could cause electric shock.**
- Before connecting the copy adapter's cable connector, first turn off the inverter, wait more than 5 minutes, and make sure that the DC link bus voltage between the terminals P (+) and N (-) has dropped below the safe voltage level (+25 VDC), using a multimeter.  
**Otherwise electric shock could occur.**
- A high voltage is present on the inverter's connector and neighborhood. Do not remove the cover for the control circuit terminal block (TB) while power is applied.  
**Doing so could cause electric shock.**
- Be sure to keep the copy adapter's cable away from the live main circuit terminals.  
**An accident or electric shock could occur.**

### Disposal

## **CAUTION**

- Handle this copy adapter as an industrial waste when disposing of it.  
**Otherwise injuries could occur.**

### Others

## **WARNING**

- Never attempt to modify the copy adapter and/or inverter.  
**Doing so could cause electric shock or injuries.**

## **GENERAL PRECAUTIONS**

Drawings in this manual may be illustrated without covers or safety shields for explanation of detail parts. Restore the covers and shields in the original state and observe the description in the manual before starting operation.

## How this manual is organized

This manual is made up of chapters 1 through 5.

### Chapter 1. BEFORE USING THE COPY ADAPTER

This chapter describes the points to check upon delivery and lists the inverter models, which the copy adapter is designed to interface with.

### Chapter 2. INSTALLATION AND REMOVAL

This chapter describes how to mount and set up the copy adapter and how to set it up with an inverter, as well as how to remove it from the inverter.

### Chapter 3. OPERATION USING THE COPY ADAPTER

This chapter describes the functions of the copy adapter, as well as how to use it for data copying.

### Chapter 4. MAINTENANCE AND INSPECTION

This chapter describes how to maintain and inspect the copy adapter.

### Chapter 5. SPECIFICATIONS

This chapter lists the general specifications such as dimension and operating environments.

#### Icons

The following icons are used throughout this manual.

 This icon indicates information which, if not heeded, can result in the inverter not operating to full efficiency, as well as information concerning incorrect operations and settings which can result in accidents.

 This icon indicates information that can prove handy when performing certain settings or operations.

 This icon indicates a reference to more detailed information.

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## Chapter 1 BEFORE USING THE COPY ADAPTER

### 1.1 Acceptance Inspection

Unpack the package and check that:

- (1) The package contains a copy adapter, ten pieces of connector adapters (for periodical replacement) and its instruction manual (this book).
- (2) There have been no problems during transportation. In particular, no parts are damaged or have fallen out of electronic parts nor are there any dents on the body.
- (3) The model name "CPAD-C1A" and SER No. are printed on the back of the copy adapter as shown in Figure 1.1.

If you suspect the product is not working properly or if you have any questions about your product, contact your Fuji Electric representative.

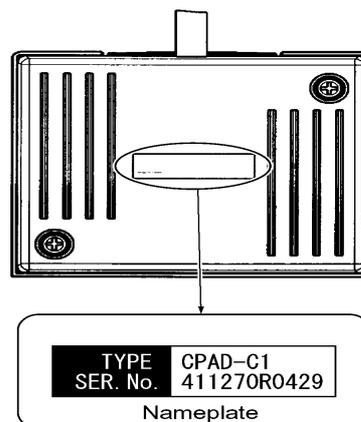
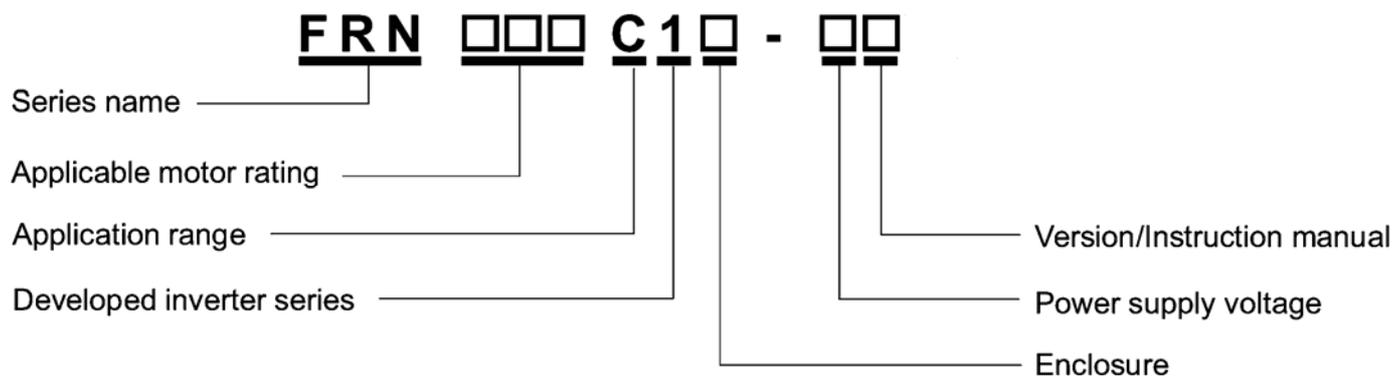


Figure 1.1 Back of Copy Adapter CPAD-C1A

\* Type of inverter



For the details of the inverter type identification, refer to the FRENIC-Mini Instruction Manual (INR-SI47-1205-EU), Chapter 1, Section 1.1 "Acceptance Inspection."

## Chapter 2 CONNECTION AND REMOVAL

This chapter guide you how to connect and remove the copy adapter to/from the inverter.

### 2.1 Connection

#### **⚠ WARNING**

- Before connecting the Copy Adapter's cable connector, first turn off the inverter, wait more than 5 minutes, and make sure that the DC link bus voltage between the terminals P (+) and N (-) has dropped below the safe voltage level (+25 VDC), using a multimeter.  
**Otherwise electric shock could occur.**
- A high voltage is present on the inverter's connector CN3 and its neighborhood. Do not touch the CN3 or cable connector while power is applied.  
**Doing so could cause electric shock.**

To connect the copy adapter to the inverter, follow the steps below.

#### (1) If the wiring to the inverter is completed

First, check that the inverter is powered off.

To remove the control circuit terminal block (TB) cover, insert your finger tip into the gap at the left of the "PULL" mark and pull the cover towards you.

- Note**
- If an RS485 communications card (option) is already mounted, remove it.
  - For safety, remove all the wirings to the [FWD] and [REV] terminals.

#### If the wiring to the inverter is not performed

To remove the control circuit terminal block (TB) cover, insert your finger tip into the gap at the left of the "PULL" mark and pull the cover towards you.

Only the wirings to the input terminals L1/R, L2/S and L3/T will be enough to operate the copy adapter.

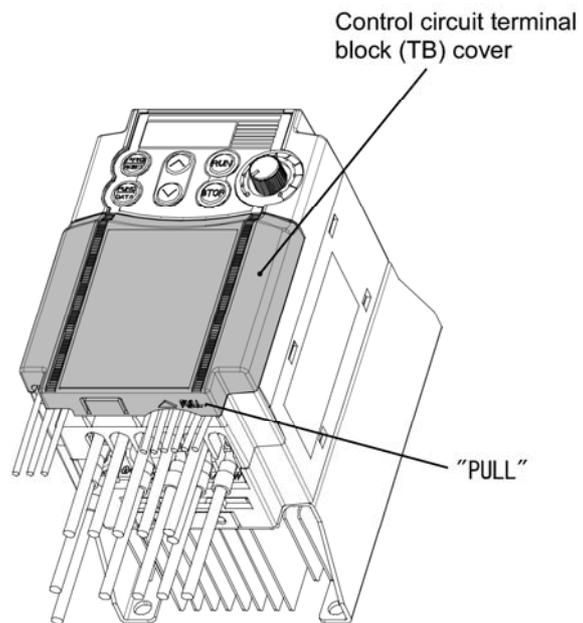


Figure 2.1 Removing the TB Cover

- Note** For safety, do not wire to the [FWD] and [REV] terminals.

**📖** For details of wiring, refer to the FRENIC-Mini Instruction Manual (INR-SI47-0791-EU), Chapter 2 "MOUNTING AND WIRING OF THE INVERTER."

(2) Connect the cable connector of the copy adapter to connector CN3 on the inverter, with the arrow mark facing up as shown below.

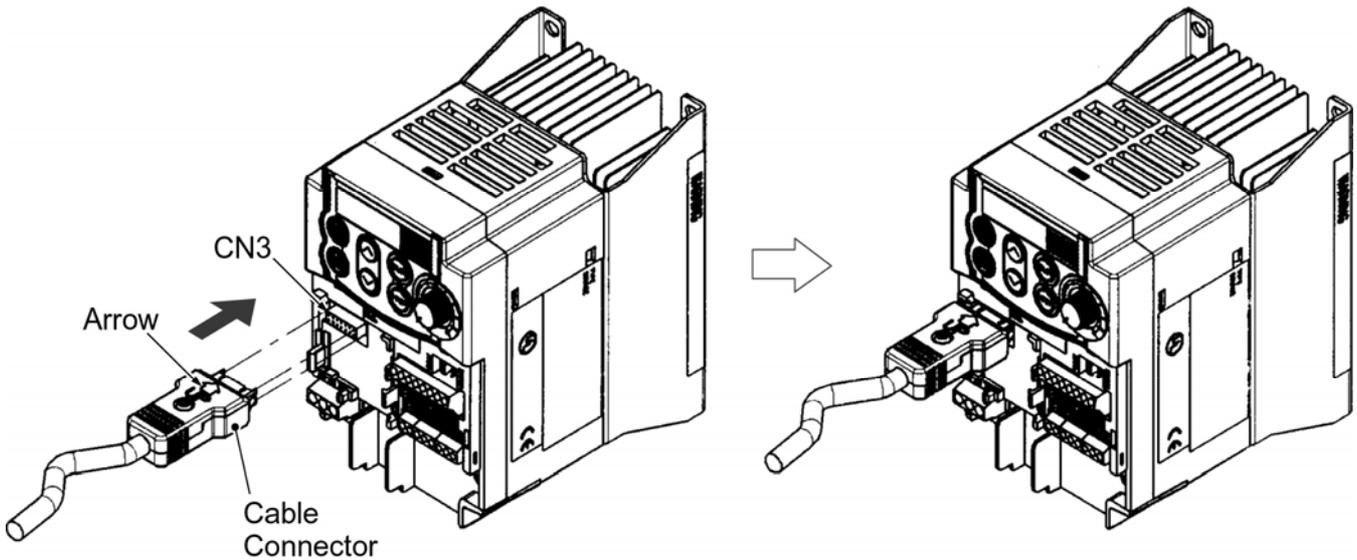


Figure 2.2 Connecting the Cable Connector

(3) Turn on the inverter power.

## 2.2 Removal

### **WARNING**

- Before removing the Copy Adapter's cable connector, first turn off the power of inverter, wait more than 5 minutes, and make sure, using a circuit tester or a similar instrument, that the DC link bus voltage between the terminals P (+) and N (-) has dropped below a safe voltage (+25 VDC).  
**Otherwise electric shock could occur.**
- A high voltage is present on the inverter's connector CN3 and its neighborhood. Do not touch the CN3 or cable connector while the power is applied.  
**Doing so could cause electric shock.**

To remove the copy adapter from the inverter, follow the steps below.

- (1) Power off the inverter.
- (2) Check that the DC link bus voltage between the terminals P(+) and N(-) lowers below the safe level (+25 VDC).
- (3) Remove the cable connector from CN3.

**Note** To remove the cable connector, pinch its outside between your fingers and pull it towards you. Pulling it off with the cable sheath may damage the cable.

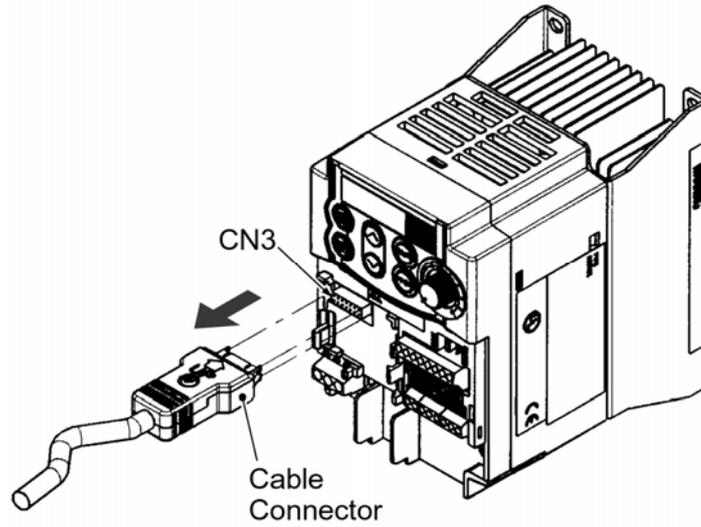


Figure 2.3 Removing the Cable Connector

- (4) Restore the wirings including the [FWD] and [REV] terminal wires into the original positions.
- (5) Set the TB cover back into place.

## Chapter 3 OPERATION USING THE COPY ADAPTER

### 3.1 Familiarizing Yourself with the Copy Adapter

The copy adapter is composed of a 4-digit, 7-segment LED monitor, an LED block consisting of 5 LEDs, and 6 keys as shown in Figure 3.1.

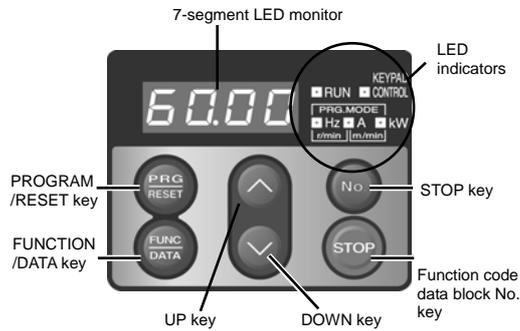


Figure 3.1 Overview of Copy Adapter

Table 3.1 Names and Functions of Various Parts of Copy Adapter

Item	Monitor, LED Indicators and Keys	Function	Remarks
LED Monitor	7-segment LED monitor	Displays information depending on the operation mode*.	*Operation mode: • Running mode • Programming mode • Alarm mode
Operation Keys	key	Switches the operation mode*.	
	key	Switches the information displayed, fixes the function code data, or switches the alarm information displayed, depending on the operation mode. This key also enables or disables the data protection function.	
	key key	These keys are used to select the setting items displayed on the LED monitor and change the function code data.	
	key	This key is used to select the function code data block number.	
	key	Out of use for the copy adapter. (Pressing this key cannot stop the motor in running.)	
LED Indicators	RUN LED	Lights when any run command is given to the inverter.	See Table 3.2.
	KEYPAD CONTROL LED	Lights when the keypad is specified as a run command source.	
	Unit/Mode LEDs	kW, A, Hz, r/min, m/min: These three LEDs together as a group indicate the unit of the quantity being monitored. PRG. MODE: Two LEDs (right and left) light in Programming mode.	

For the operation mode of the FRENIC-Mini and its operating procedures, refer to the FRENIC-Mini Instruction Manual (INR-SI47-1205-E), Chapter 3 "OPERATION USING THE KEYPAD."

Table 3.2 lists the combinations of the three LEDs on the LED block, which indicate what is displayed on the 7-segment LED monitor.

Table 3.2 Definition of LED Indication on the LED Block

Indication on LED	Unit	Description
■Hz □A □kW	Hz	Frequency
□Hz ■A □kW	A	Output current
□Hz □A ■kW	kW	Input power
■Hz ■A □kW	r/min	Load shaft speed
□Hz ■A ■kW	m/min	Line speed
■Hz □A ■kW	-	Programming mode
□Hz □A □kW	-	Events other than above

■:on, □: off

For details, refer to the FRENIC-Mini Instruction Manual (INR-SI47-1205-E), Chapter 3, Section 3.2.1 "Running mode [1] Monitor the running status."

### 3.2 Functions of the Copy Adapter

The copy adapter has the following functions.

Table 3.3 Functions and Operations of Copy Adapter

Function	Description	Remarks
Run/Stop	These functions are disabled in the copy adapter.	For details, refer to the FRENIC-Mini Instruction Manual (INR-SI47-1205-E) Chapter 3 "OPERATION USING THE KEYPAD."
Set up	Pressing the  key or  key sets the set frequency and PID process command, and also sets the timer.	
Monitor the inverter status in idling	Items that can be monitored: drive status, output current (A), output voltage (V), timer (s), input power (kW), PID process command, and PID feedback value. <ul style="list-style-type: none"> <li>◆ In speed monitoring, one of the following can be selected: <ul style="list-style-type: none"> <li>• Output frequency (before slip compensation) (Hz),</li> <li>• Output frequency (after slip compensation) (Hz),</li> <li>• Set frequency (Hz) • Load shaft speed (r/min),</li> <li>• Line speed (m/min) • Constant rate of feeding time (min).</li> </ul> </li> </ul> When an alarm condition has occurred, the cause of the trip is displayed as a code.	
Data setting	The function code data is set up and confirmed.	
Data checking	Only the function codes that have been changed from the factory default are displayed or changed further.	
Drive monitoring	This function is disabled in the copy adapter.	
I/O checking	This function is disabled in the copy adapter.	
Maintenance information	Certain items are checked or monitored during maintenance.	
Alarm information	Certain information such as alarm history is monitored and used in troubleshooting.	
Data copying	<ul style="list-style-type: none"> <li>• This function reads, writes, and verifies the function code data.</li> <li>• Ten sets of function code data can be managed with function code data block numbers (#1 to #10).</li> </ul>	

**Note** Conflict between the copy adapter and the built-in keypad on the FRENIC-Mini

When a copy adapter is connected to the FRENIC-Mini, the built-in keypad on the FRENIC-Mini is automatically disabled to avoid conflicts between them, with the following exceptions (for safety considerations).

The 7-segment LED monitor on the FRENIC-Mini, however, is still displaying the same information as that on the copy adapter.

If data reading is started with the data protection function enabled, the FRENIC-Mini and the copy adapter show *read* and *proT*, respectively, on their 7-segment LED monitors.

### 3.3 Data Copying

Menu #7 of "Data copying" allows you to read function code data out of FRENIC-Mini inverters (for which function codes have already been set up), to store the function code data block into another inverter, or to verify function code data, that is, this function compares the function code data saved in the copy adapter with the one stored in the inverter.

The copy adapter can store up to ten blocks of function code data for ten inverters and protect all data blocks in a lump with the data protection function.

You need to select a function code data block number by using the  key before reading the function code data out of FRENIC-Mini inverter, writing the data into another inverter, or verifying the function code data.

The table below details the data copying function and precautions.

Table 3.4 Data Copying Functions

Function	On LED Monitor	Description
Read data	<i>read</i> and Function code data block number, displayed alternately	Reads the function code data out of the inverter's memory and stores it into the memory of the copy adapter. If you press the  key during a read operation ( <i>read</i> is blinking), the read operation that is under way will be aborted and <i>errv</i> will appear blinking(*). If this happens, the entire contents of the memory of the copy adapter will be cleared to zero.
Write data	<i>copy</i> and Function code data block number, displayed alternately	Writes data stored in the memory of the copy adapter into the inverter's memory. If you press the  key during a write operation ( <i>copy</i> is blinking), the write operation that is under way will be aborted and <i>err</i> will appear blinking(*). The contents of the inverter's memory, which are the function code data, will remain partly old and partly updated. If this happens, do not operate the inverter; instead, perform initialization or rewrite the entire data.  If any incompatible code is about to be written, <i>cper</i> , will appear blinking. In case this function does not work, refer to "■ If you cannot copy function code data": on page 3-9.

Table 3.4 Data Copying Functions (continued)

Function	Display on LED Monitor	Description
Verify data	<i>veri</i> and Function code data block number, displayed alternately	Verifies (collates) the data stored in the memory of the copy adapter with the function code data held in the inverter. When a discrepancy is detected, the verify operation will be aborted, with the function code in disagreement displayed blinking. Pressing the  key again will cause the verification to continue from the next function code. If you press the  during a verify operation ( <i>veri</i> is blinking), the verify operation that is under way will be aborted and <i>err</i> will appear blinking(*). <i>err</i> will appear blinking(*) also when the copy adapter does not contain any valid data.
Data protection	<i>proT</i> and Function code data block number, displayed alternately	Protects the memory contents in the copy adapter. When this function is enabled, no data can be read out from the inverter. The data writing and verifying are possible. If you press the , <i>err</i> will appear blinking(*)).

(\*)To get out of the error state indicated by a blinking *err* or *cper*, press the .

**Note** Some function code data cannot be copied (stored) into another inverter. For safety considerations, some function code data cannot be copied to another inverter if the specifications of the destination inverter are different from those of the source inverter. Which function code data can or cannot be copied is summarized in the FRENIC-Mini Instruction Manual (INR-S147-1205-E), Chapter 5, the "Data copy" column of Section 5.1 "Function Code Tables," using the following designations:

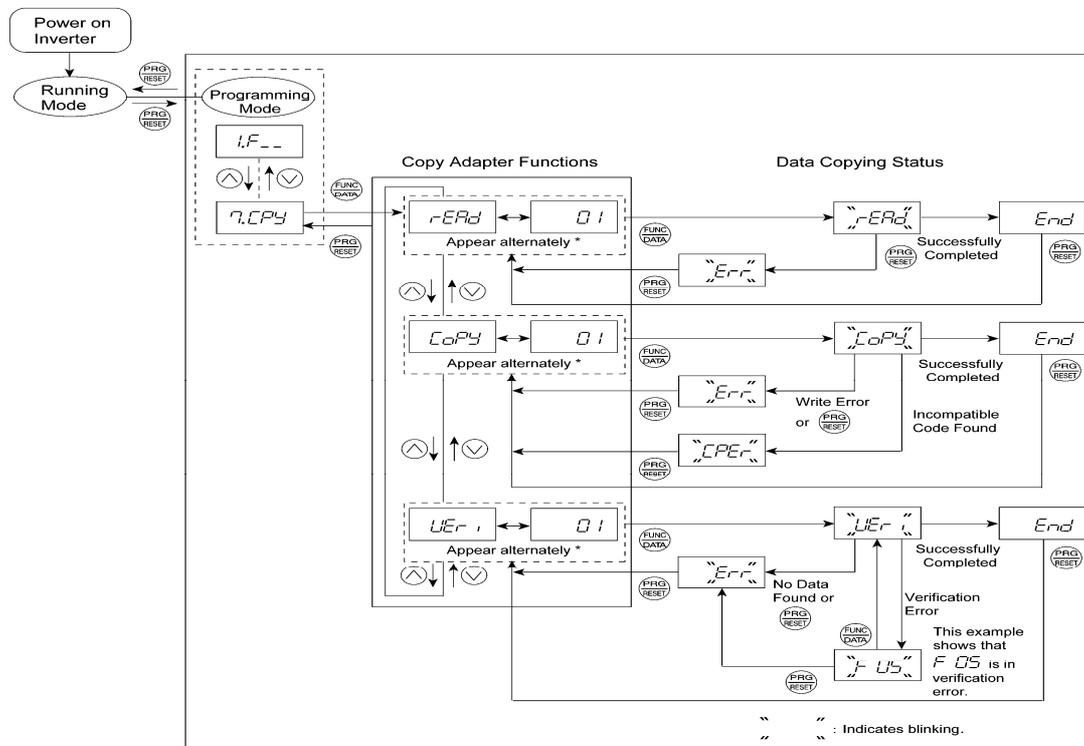
- Y : Can be copied unconditionally.
- Y 1 : Cannot be copied if the rated capacity differs from the source inverter.
- Y 2 : Cannot be copied if the rated input voltage differs from the source inverter.
- N : Cannot be copied in any situation. (The function codes marked with N cannot be verified, either.)

Set up manually function code data that cannot be copied individually as necessary, using Menu #1 "Data setting" in Programming mode. Frequency settings cannot be copied for safety.

■ Transition flow

Figure 3.2 shows the status transition flow of the inverter during data copying operation. Figure 3.3 shows the status transition flow to apply when you select a function code data block number.

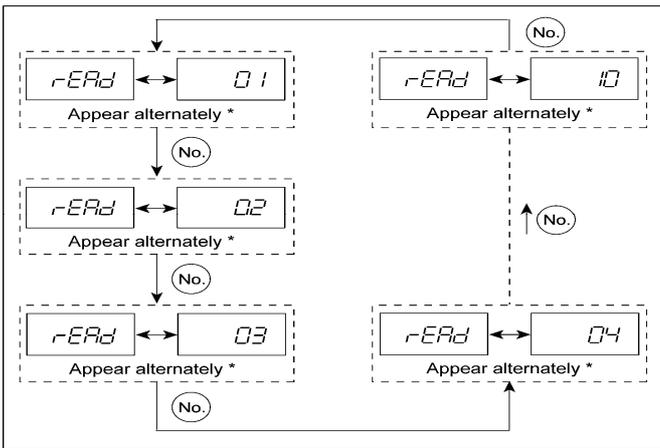
The copy adapter can store ten blocks of function code data in the internal memory.



\* The selected copy function name and function code data block number appear alternately.

Figure 3.2 Status Transition during Data Copying

## Copy Adapter Functions



\*Also during the *copy* and *veri* operations, the function name and the function code data block number appear alternately.

Figure 3.3 Status Transition during Selecting of Function Code Data Block Number

## Basic key operation

**Note** If the ROM version of your inverter is "CIS10900" or earlier, set function code E52 to "2: Full menu mode" before using the copy adapter.

- (1) Turn the inverter on. It automatically enters Running mode. In that mode, press the key to switch to Programming mode. The function selection menu appears.
- (2) Use the and keys to display "Data Copying" ('*cpy*').
  - To enable the data protection function, hold down the key for at least 5 seconds in this state. First, *read* is displayed for 5 seconds and then *proT* appears, indicating that the data protection function is enabled.
- (3) Press the key to proceed to a list of copying functions (e.g. *read*).
- (4) Use the key to select the desired function code data block number.
- (5) Use the and keys to select the desired function, then press the key to execute the selected function. (e.g. *read* will blink.)
- (5) When the selected function has been executed, *end* appears. Press the key to return to the data copying function list. Press the key again to return to the menu.

**Note** The function code data block number selected is preserved even after the copy adapter is removed from the inverter.

## ■ Data protection

You can protect all function code data blocks saved in the keypad in a lump from unexpected modifications. Enabling the data protection that was disabled changes the display *read* on the Data copying function list to *proT*, and disables to read data from the inverter.

To enable or disable the data protection function, follow the steps below.

- (1) Select the data copy '*cpy*' in the Program mode menu.
- (2) Holding down the key for at least 5 seconds alternates data protection status between enabled or disabled.
  - Disabling the enabled Data protection

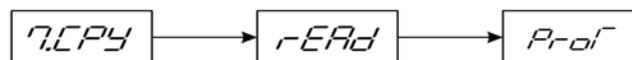
----- Hold key down for at least 5 seconds. ----->



In the data copying state ('*cpy*'), holding down the key for at least 5 seconds first displays *proT* for 5 seconds and then *read*, indicating that the data protection function is disabled.

- Enabling the disabled Data protection

----- Hold key down for at least 5 seconds. ----->



In the data copying state ('*cpy*'), holding down the key for at least 5 seconds first displays *read* for 5 seconds and then *read*, indicating that the data protection function is enabled.

**Note** The data protection enabled status is preserved even after the copy adapter is removed from the inverter.

## Notes in data copying

- Do not disconnect the copy adapter from the inverter during data copying.

If you do so, the following problems will arise with the copy adapter and/or inverter depending upon the actual operation being in progress. Take the necessary action, following the instructions below.

If a data read operation (*read*) was in progress:

The operation in progress is terminated. The data read and stored in the memory area assigned to the function code data block number currently selected becomes invalid (the original data is lost). Data write and verify operations thereafter will result in a blinking *err* display. Mount the copy adapter again and retry the read operation.

If a write operation (*copy*) was in progress:

The operation in progress is terminated. The function code data in the inverter memory is incompletely modified. Do not run the inverter in such a state. Mount the copy adapter again and retry the write operation or initialize the inverter data.

If a verify operation (*veri*) was in progress:

The operation in progress is terminated.

- If an error occurs in communication between the copy adapter and inverter during data copying, the "----" appears on the monitor and the following problems will arise with the copy adapter and/or inverter depending upon the actual operation being in progress. Take the necessary action, following the instructions below.

If a data read operation (*read*) was in progress:

The operation in progress is terminated and "----" appears on the monitor. Once the read operation is terminated, the data read and stored in the memory area assigned to the function code data block number currently selected becomes invalid (the original data is lost). Data write and verify operations thereafter will result in a blinking *err* display.

When the communications error is removed, the copy adapter automatically enters the Running mode. So, retry the read operation at this point.

If a write operation (*copy*) was in progress:

The operation in progress is terminated and "----" appears on the monitor. The function code data in the inverter memory is modified incompletely. Do not run the inverter in such a state.

When the communications error is removed, the copy adapter automatically enters the Running mode. So, retry the write operation or initialize the inverter data.

If a verify operation (*veri*) was in progress:

The operation in progress is terminated and "----" appears on the monitor.

When the communications error is removed, the copy adapter automatically enters the Running mode.

- If you cannot copy function code data

Check whether the *err* or *cper* indicator is blinking.

(1) *err* is blinking ("Write error"): The following cases can be thought of:

- No data is saved in the memory area assigned to the function code data block number currently selected. (You have not read any inverter information since delivery or you have aborted a data read operation.)
- Some invalid or abnormal data is contained in the memory area assigned to the function code data block number currently selected.
- The destination inverter type differs from the source inverter type.
- A write operation has been carried out while the inverter is running.
- The inverter is in data protection mode. (F00 = 1)
- The "Enable data change with keypad" terminal command (**WE-KP**) is off.
- You have attempted to read data when the data protection function is enabled.



Do not run the motor when the copy adapter is connected. Doing so disables the copy adapter from copying data.

- When function code F02 = 1 (External signal), never turn on the terminal command **FWD** or **REV**. Doing so operates the inverter so as to run the motor.

(2) *cper* is blinking: The following cases can be thought of:

- The function codes stored in the copy adapter are not compatible with those stored in the inverter. Non-standard function code data may have been stored, or the inverter may have been upgraded in an incompatible manner. Consult your Fuji Electric representative.

## Chapter 4 INSPECTION AND MAINTENANCE

### ⚠ WARNING

- Maintenance, inspection, and parts replacement should be made only by authorized persons.
  - Take off the watch, rings and other metallic materials before starting jobs.
  - Use insulated tools.
  - Never modify the inverter or Copy Adapter.
- Electric shock or injuries could occur.**

#### 4.1 Periodical Replacement Parts

Service life in putting on/off times of the connector adapter mounted at the end of cable connector is limited. This may vary depending on usage conditions. Table 4.1 below lists its recommended service life for your reference. Ten pieces of the connector adapters (CPAD-C1-CN) come with the product for periodical replacement. When you become to need more connector adapters (CPAD-C1-CN), consult your Fuji Electric representative.

Table 4.1 Periodical Replacement Parts

Item	Service life
Connector Adapter	Up to 100 times

**Note** If you have experienced frequent communications errors (no response, "----", and *er2*) or copy errors (*er1*, *err* and *cper*), replace the connector adapter regardless of its usage times.

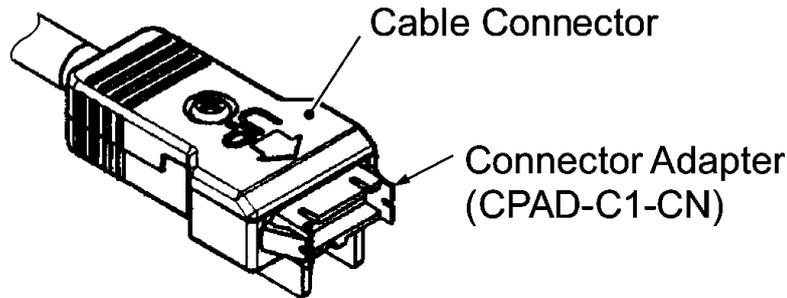


Figure 4.1 Connector Adapter

#### 4.2 Replacing the Connector Adapter

##### 4.2.1 Disassembling

- (1) Remove the fastening screw and disassemble the upper cover and the lower cover as shown in Figure 4.2.

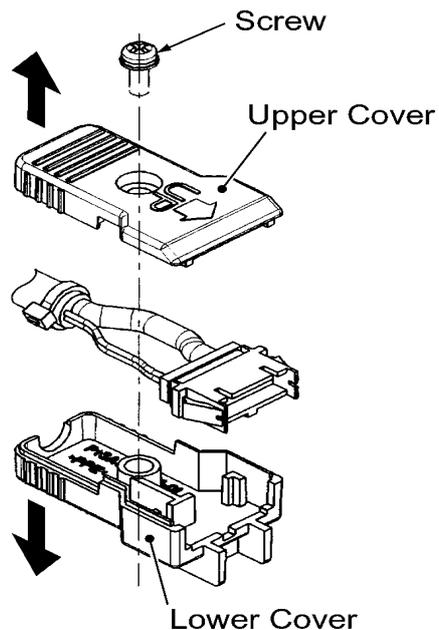


Figure 4.2 Disassembling the Cable Connector

- (2) Remove the connector adapter along the arrow shown in Figure 4.3.

**Note** Pinch the connector between your fingers to remove the connector adapter. Do not do so with gripping the cable sheath. Doing so may damage the cable.

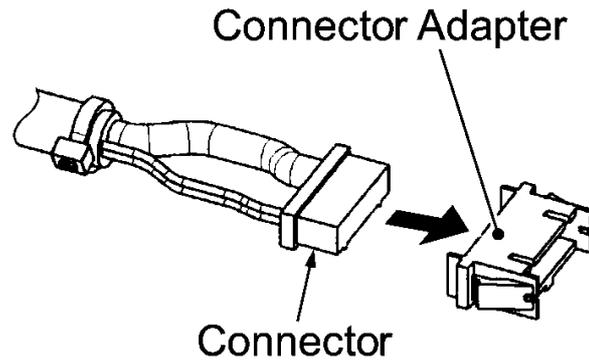


Figure 4.3 Removing the Connector Adapter

#### 4.2.2 Reassembling

- (1) Place the attached connector adapter with the connector end.

To correctly do so, the orientation marker "A" and "B" shown in Figure 4.4 should point toward each other. (Note that the connector and its adapter are illustrated down side up for convention of showing of their interlocking.)

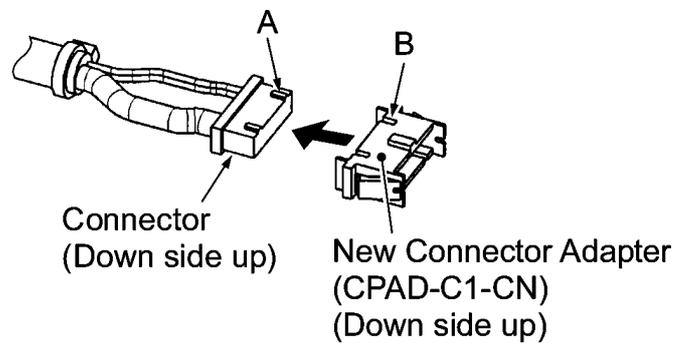


Figure 4.4 Inserting the New Connector Adapter

- (2) Insert the connector with the connector adapter into the lower cover.

The orientation marker "C" on the connector adapter should point toward "D" on the lower cover, contain the lock tie within the lower cover, and route the harnesses E and F as shown in Figure 4.5.

After completion, recheck that the lock of the connector adapter is placed at the position as shown in G-enlarged in Figure 4.5.

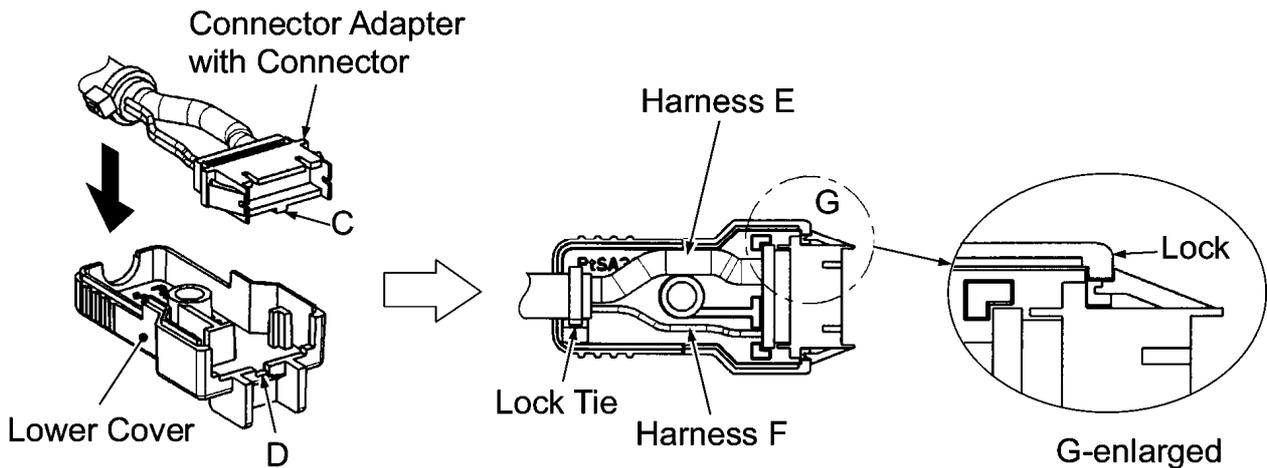


Figure 4.5 Inserting the Connector into the Lower Cover

- (3) Put the upper cover on the lower cover as shown in Figure 4.6, and fasten them by the screw.

Note that, no part of the harnesses is pinched between both covers.

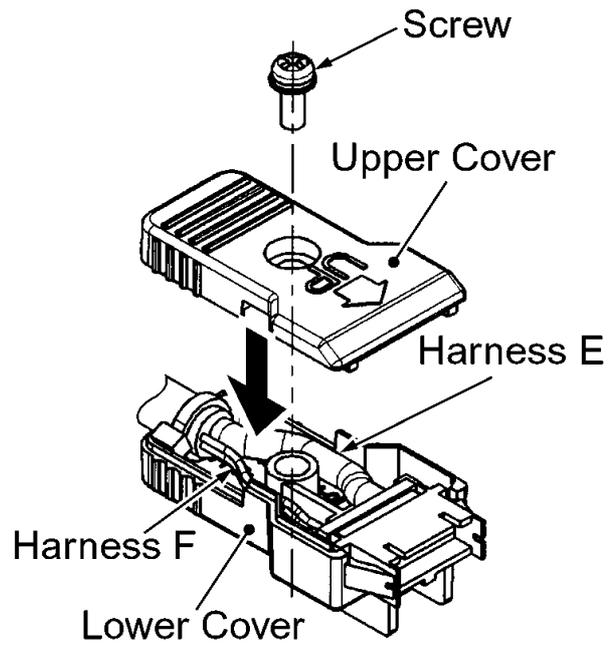


Figure 4.6 Fastening the Covers

### 4.3 Inquiries about Product and Guarantee

#### (1) When making an inquiry

Upon breakage of the product, uncertainties, failure or inquiries, report the following information to your Fuji Electric representative.

- 1) Copy adapter type
- 2) SER No. (serial number of equipment) (Refer to Section 1.1 in this manual.)
- 3) Date of purchase
- 4) Inquiries (for example, point and extent of breakage, uncertainties, failure phenomena, and other circumstances)

#### (2) Product warranty

The term of product warranty is one year after the purchase or 18 months from the month and year of production specified on the nameplate, whichever comes first. However, the product will not be repaired free of charge in the following cases, even if the warranty term has not expired.

- 1) The cause includes incorrect usage or inappropriate repair or modification.
- 2) The product is used outside the standard specified range.
- 3) The failure is caused by dropping, damage or breakage during transportation after the purchase.
- 4) The cause is earthquake, fire, storm or flood, lightening, excessive voltage, or other types of disaster or secondary disasters.

## Chapter 5 SPECIFICATIONS

### 5.1 General Specifications

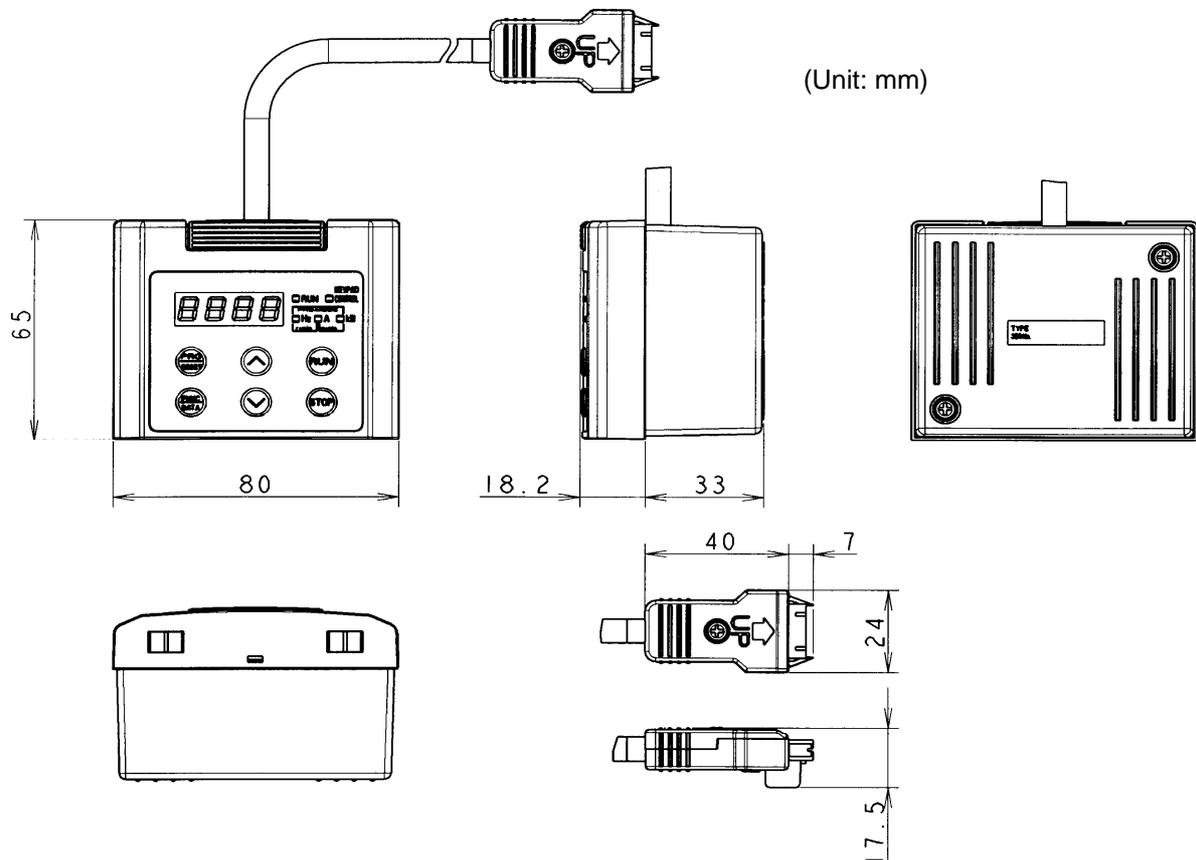
Table 5.1 summarizes the general specifications of the Copy Adapter "CPAD-C1A."

Table 5.1 General Specifications

Item	Specifications	Remarks
Environment	Inverter is idle.	
No. of connectable unit	One per inverter	
Max. cable length	1 m	
Connection to an inverter	Cable connector	
Data storage space	For 10 function code data blocks (for 10 inverters)	
Ambient temperature (during storage)	-25 to +70°C(-13 to 158°F)	
Ambient humidity (during storage)	5 to 95% RH (no condensation)	
External dimensions	See the figure below.	
Weight	155 g	

For details, refer to the FRENIC-Mini Instruction Manual (INR-SI47-0791-EU), Chapter 2, Section 2.1 "Operating Environment."

#### External dimensions



## **Copy Adapter "CPAD-C1A"**

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### **Instruction Manual**

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The purpose of this manual is to provide accurate information in the handling, setting up and operating of Copy Adapter "CPAD-C1A" for the FRENIC-Mini series of inverters. Please feel free to send your comments regarding any errors or omissions you may have found, or any suggestions you may have for generally improving the manual.

In no event will Fuji Electric FA Components & Systems Co., Ltd. be liable for any direct or indirect damages resulting from the application of the information in this manual.

MEMO

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Information subject to change without notice.

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