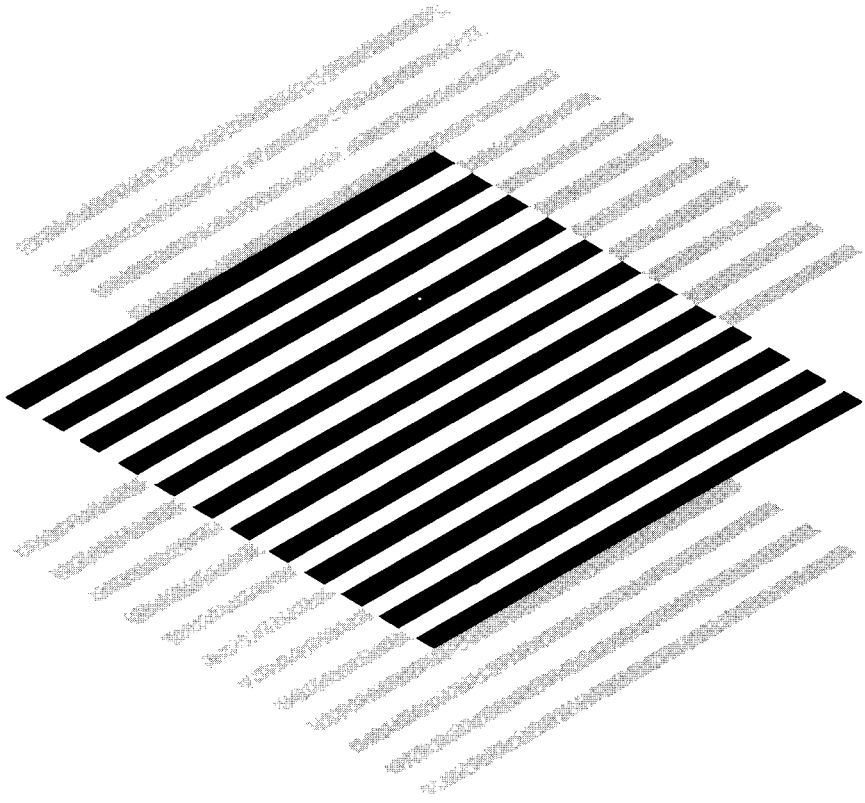
MITSUBISHI
TRANSISTORIZED INVERTER

FREQROL-Z

PARAMETER COPY UNIT

TYPE FR-ZRW

Instruction Manual



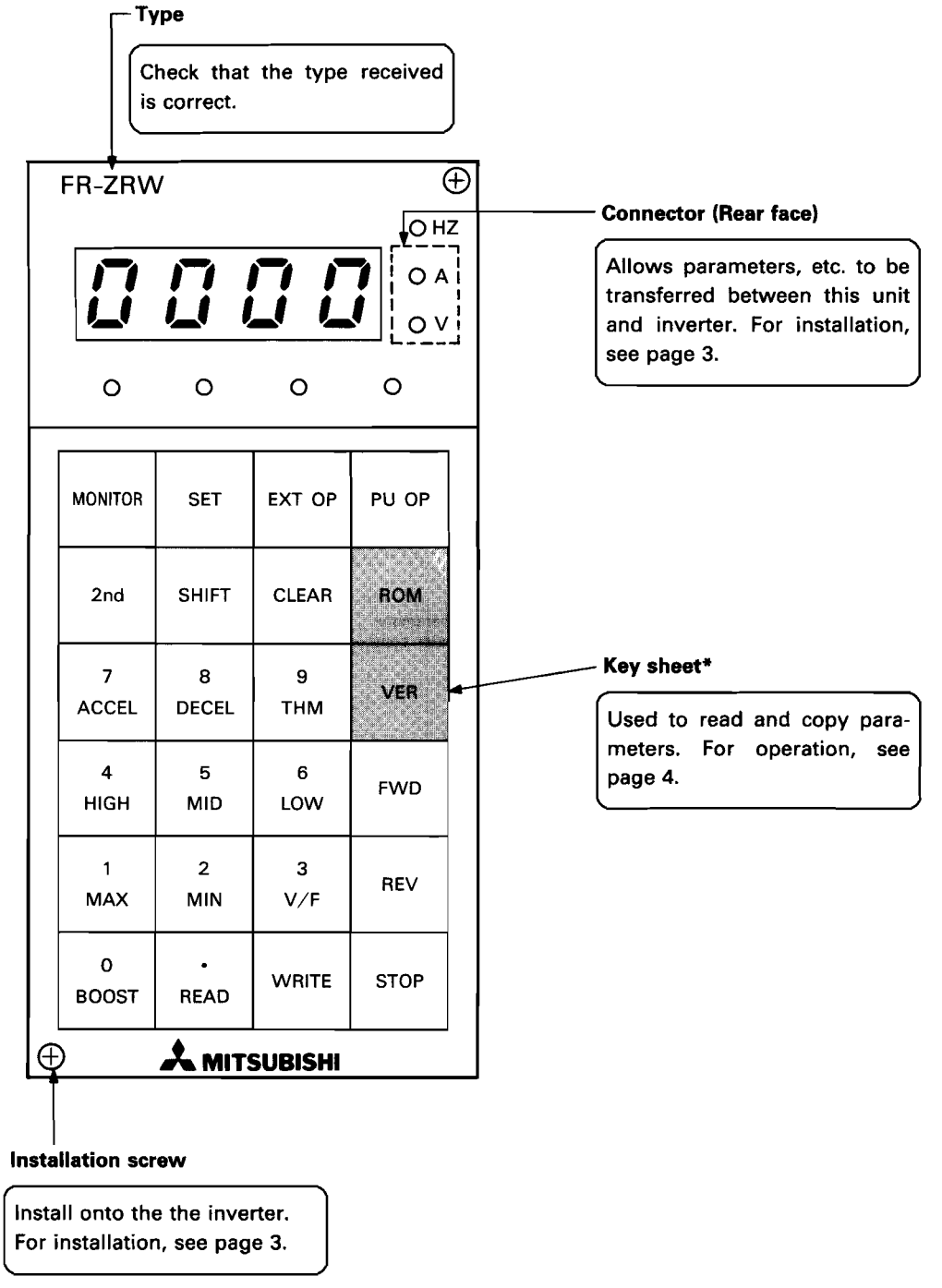
MITSUBISHI ELECTRIC

Thank you for choosing the option unit for the Mitsubishi FREQROL-Z100/Z200 series transistorized frequency inverters. Please read this manual carefully to use the equipment to its optimum.

The FR-ZRW parameter copy unit has an electrically erasable ROM to allow data to be batch-transferred from the inverter ROM to its own ROM. In addition, the FR-ZRW has functions similar to those of the FR-PU01 parameter unit.

CONTENTS

1. STRUCTURE



** Note: In stead of the ▼ and ▲ keys of the parameter unit (FR-PU01), the FR-ZRW parameter copy unit has the "ROM" and "VER" keys.*

2. INSTALLATION

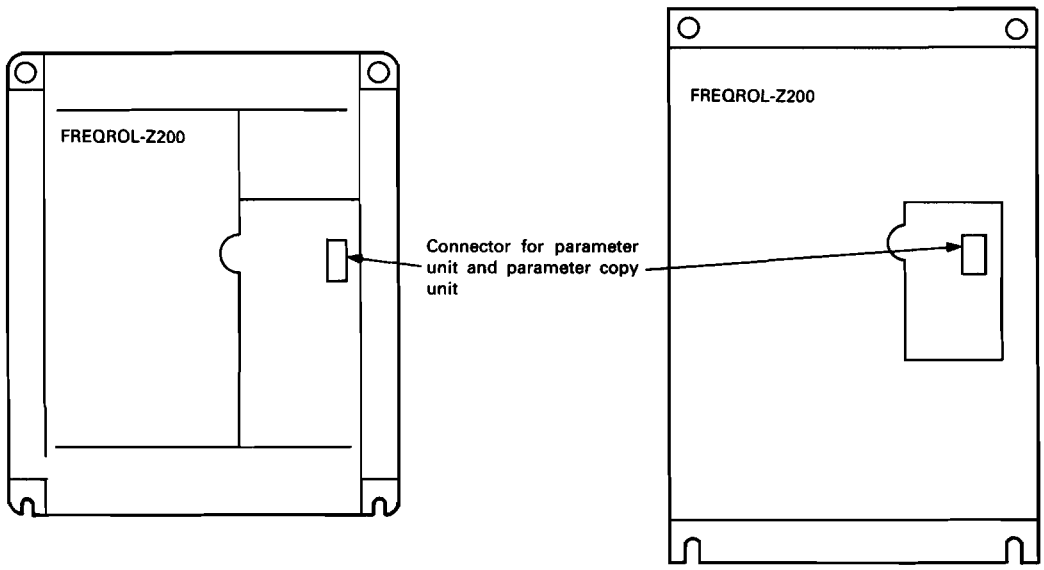
The option unit can be installed without removing the inverter cover.

2.1 Pre-Installation Checks

Check the inverter type.
This option unit may only be used with the FREQROL-Z100/200 series inverters and must not be used with the other series (e.g. K400, F300).

2.2 Installation Position

The FR-ZRW may be loaded onto the parameter unit (FR-PU01) installation position as shown below. Remove the parameter unit if it is on the inverter.



FR-Z120-0.4K to 3.7K
FR-Z220-0.4K to 11K
FR-Z240-2.2K to 7.5K

FR-Z220-15K to 55K
FR-Z240-11K to 55K

2.3 Installation Procedure

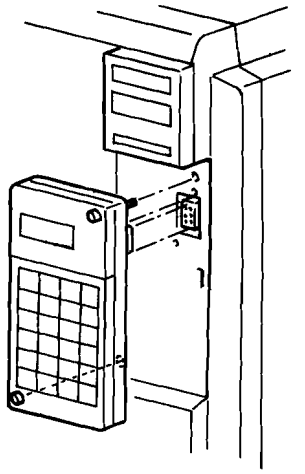
(1) Installation to the inverter

● Connection

Securely fit the connector of the parameter copy unit into the connector of the inverter.

● Fixture

Securely fix the unit onto the inverter with two installation screws.

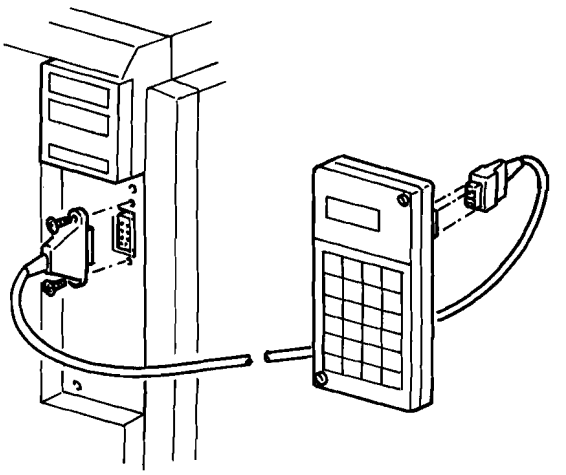


Note: The parameter copy unit must be installed to the inverter with the inverter cover on.

(2) Connection by cable

● Connection

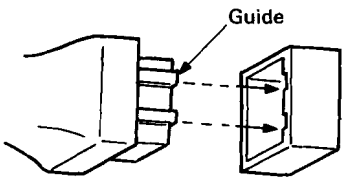
Insert one end of the cable into the inverter connector and the other end into the parameter copy unit. Slide the cable plugs along the connector guides as shown on the right.



Note: The inverter will be damaged if the plugs are inserted in the wrong direction.

● Cable

Connect the inverter and parameter copy unit by the FR-CBL cable (option). Any other cable must not be used.

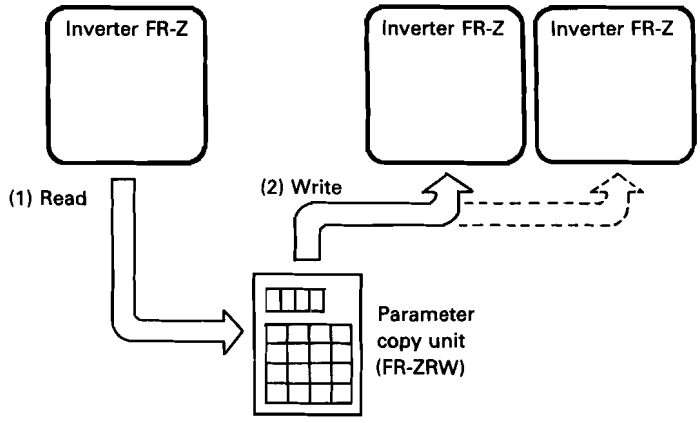


Insert the plug along the guides.

3. OPERATION PROCEDURES

The FR-ZRW parameter copy unit has the same functions as the FR-PU01 parameter unit with the exception of those described on page 7. For full information on operation, see the inverter instruction manual. This section only gives operation procedures which are different from those of the parameter unit.

3.1 General Operation Procedures

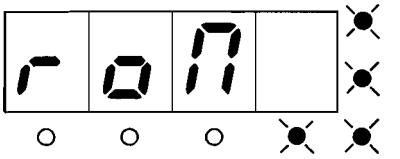
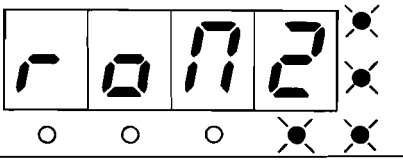
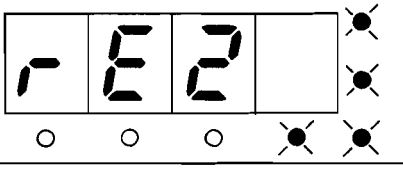
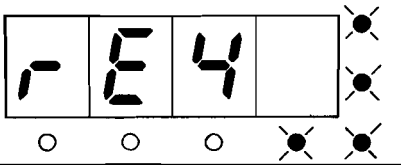


(1) Reading parameter from the inverter to the FR-ZRW parameter copy unit

Step	Key Sequence	Display	Note
1	PU OP, ROM	rom	
2	READ	rom1	The 7-segment LED flickers to indicate that read is in progress and is lit to indicate that read is complete.
Error display		rE1	Read error *1

*1: The read error code is displayed if the parameter has not been written onto the storage element (E2ROM) in the FR-ZRW parameter copy unit. If it is displayed, repeat steps 1 and 2.

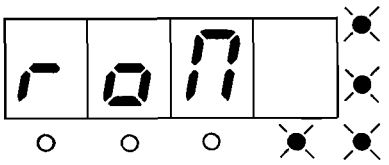
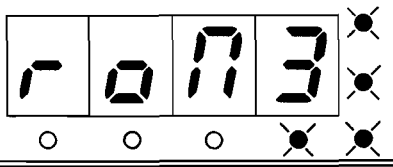
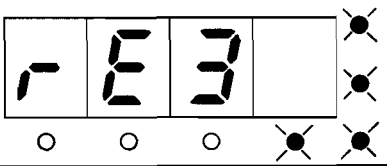
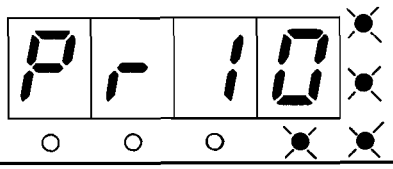
(2) Writing parameter from the FR-ZRW parameter copy unit to the inverter

Step	Key Sequence	Display	Note
1	PU OP ROM		
2	WRITE		The 7-segment LED flickers to indicate that write is in progress and is lit to indicate that write is complete.
3	When the LED is lit, reset the inverter (connect terminals RES and SD for more than 0.1 sec. or once switch power off) to write the parameter onto E^{2}ROM in the inverter.		
Error display			Write error *2
			Model error *3

*2: The write error code is displayed if the parameter written is invalid because parameter data are out of bounds. In this case, read the correct parameter from the inverter to the FR-ZRW.

*3: The model error code is displayed if parameter data read from the FR-Z100 series inverter to the parameter copy unit is written to the FR-Z200 series inverter or vice versa. Any parameter cannot be copied between different models.

(3) Verifying parameters between the parameter copy unit and inverter

Step	Key Sequence	Display	Note
1	PU OP ROM		
2	VER		The 7-segment LED flickers to indicate that verify is in progress and is lit to indicate that verify is complete.
Error display			Flicker alternately Verify error *4
			

*4: The corresponding parameter number and r E 3 flicker alternately if a mismatch is found.

Flicker of r E 3 only

Indicates that the set values of all parameters matched but the set frequency for "PU operation" is different.

3.2 Frequency Meter Calibration and Running Frequency Adjustment

The FR-ZRW parameter copy unit is not equipped with the ▼ and ▲ keys. Hence, it does not provide the frequency meter calibration and running frequency adjustment functions.
These functions are available from the FR-PU01 parameter unit.

4. INSTRUCTIONS

(1) All parameter data in the parameter copy unit is updated by executing read from the inverter.

(2) Write is not allowed while the inverter is running. Read and verify may be performed during inverter run.

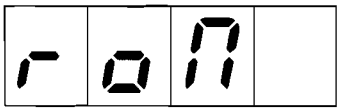
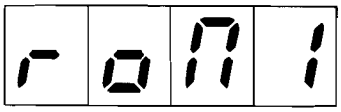
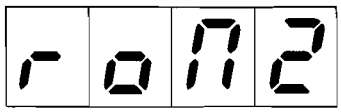
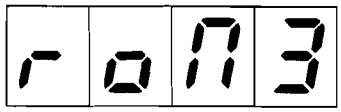
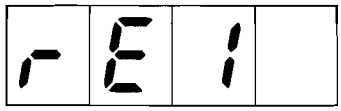
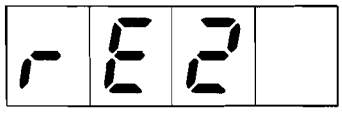
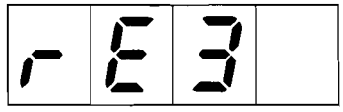
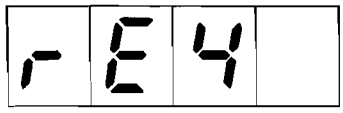
(3) Read and write cannot be stopped during progress.

(4) Parameters remain in the parameter copy unit if power is switched off. Hence, this option unit does not require a back-up power.

(5) This option unit is designed for use with the FR-Z100 and Z200 series inverters only.

5. DISPLAY CODES

The following codes are unique to the parameter copy unit:

Display		Note	
	ROM	Indicates batch parameter write or read mode.	
	ROM1	Indicates read status.	
	ROM2	Indicates write status.	
	ROM3	Indicates verify status.	
	RE1	Error	Read error
	RE2		Write error
	RE3		Verify error
	RE4		Model error

6. SPECIFICATIONS

Power supply:	Power is supplied from the inverter.
Inverter connected:	FR-Z100 or FR-Z200 series inverters
Connection:	Loaded onto the inverter directly or by using the FR-CBL cable.
Functions:	Batch read and write of parameters; run and stop; read, write and monitoring of individual parameters
Data storage:	Built-in E^2ROM
Number of write times:	100,000 times max.
Operating environment:	Ambient temperature: −10 to +50℃ Ambient humidity: 90%RH max. (non-condensing) Ambience: Free of oil mist, corrosive gases, dust and dirt.
Size (mm):	70 (W)×150 (H)×16 (D) (Same as the FR-PU01 parameter unit)

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