



INVERTER

Plug-in option

FR-A8AY E KIT

INSTRUCTION MANUAL

Analog output function

Digital output function

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Safety instructions

Thank you for choosing this Mitsubishi Electric inverter plug-in option.

This Instruction Manual provides handling information and precautions for use of this product. Incorrect handling might cause an unexpected fault. Before using this product, read all relevant instruction manuals carefully to ensure proper use.

Please forward this Instruction Manual to the end user.

Do not attempt to install, operate, maintain or inspect this product until you have read this Instruction Manual and supplementary documents carefully. Do not use this product until you have a full knowledge of this product mechanism, 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.

Note that even the  **CAUTION** level may lead to a serious consequence depending on conditions. Be sure to follow the instructions of both levels as they are critical to personnel safety.

◆ Electric Shock Prevention



WARNING

- Do not remove the front cover or the wiring cover while the power of the inverter is ON, and 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 product shall be fully competent to do the work.
 - The plug-in option must be installed before wiring. Otherwise you may get an electric shock or be injured.
 - Do not touch the plug-in option or handle the cables with wet hands. Doing so may cause an electric shock.
 - Do not subject the cables to scratches, excessive stress, heavy loads or pinching. Doing so may cause an electric shock.
-

◆ Injury Prevention

CAUTION

- The voltage applied to each terminal must be the ones specified in the Instruction Manual. Otherwise an explosion or damage may occur.
- The cables must be connected to the correct terminals. Otherwise an explosion or damage may occur.
- The polarity (+ and -) must be correct. Otherwise an explosion 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 burns

◆ 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 plug-in option if it is damaged or has parts missing.
- Do not stand or rest heavy objects on the product.
- Ensure the mounting orientation of this product is 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 halogens (including fluorine, chlorine, bromine, and iodine) contained in fumigants for wood packages enter this product, the product may be damaged. Prevent the entry of fumigant residuals or use an alternative method such as heat disinfection. Note that sterilization or disinfection of wood packages should be performed before packing the product.

Trial run

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

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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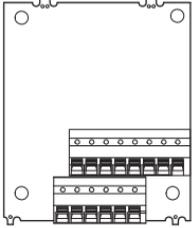
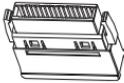
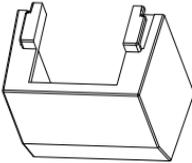
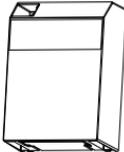
1 PRE-OPERATION INSTRUCTIONS

1.1 Unpacking and checking the product

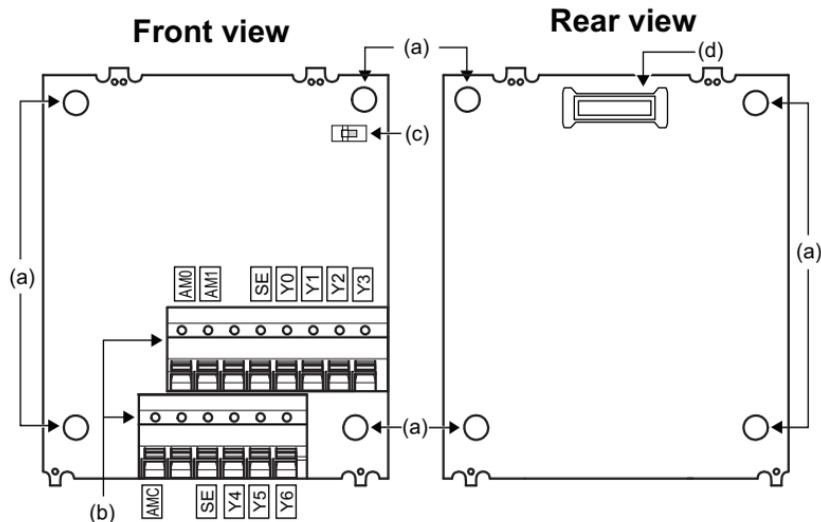
Take the plug-in option out of the package, check the product name, and confirm that the product is as you ordered and intact. This product is a plug-in option made for the FR-E800 series inverters.

1.1.1 Product confirmation

Check the enclosed items.

<p>Plug-in option: 1</p> 	<p>Mounting screw (M3 × 8 mm): 2 (Refer to page 11, page 13.)</p> 	<p>Junction connector: 1 (Refer to page 11, page 13.)</p> 	<p>Option small cover: 1 (Refer to page 13.)</p> 	<p>Front cover for plug-in option: 1 (Refer to page 11, page 13.)</p> 
<p>Recessed neck screw (M3 × 7): 1 (Refer to page 11, page 13.)</p> 	<p>Straight spacer: 1 (Refer to page 11, page 13.)</p> 	<p>L-shaped spacer: 1 (Refer to page 11, page 13.)</p> 	<p>Hexagon spacer: 2 (Refer to page 11, page 13.)</p> 	

1.2 Component names



Symbol	Name	Description	Refer to page
a	Mounting hole	Used to fix this product to the inverter by inserting a mounting screw or a spacer.	10
b	Terminal block	Connects the device to input the signal to the inverter, and the device to receive the signal from the inverter.	18
c	Switch for manufacturer setting	Switch for manufacturer setting. Do not change the initial setting ().	—
d	Connector	Connected to the junction connector, which is connected to the option connector on the inverter.	10

1.3 Specifications

◆ Analog output

Item	Voltage output	Current output
Output signal	0 to ± 10 VDC max (across terminals AM0 to AMC)	0 to 20 mADC (across terminals AM1 to AMC)
Output resolution	3 mV	10 mA
Applicable meter	DC voltmeter Full-scale ± 10 V (internal impedance: 10 kW or more)	DC ammeter Full-scale 20 mA (internal impedance: 300 W or less)
	Wiring length maximum 10 m	

◆ Digital output

Open collector output specification: permissible load of 24 VDC 0.1 A

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 install or remove this product while the inverter power is ON. Doing so may damage the inverter or this product.
 - To avoid damage due to static electricity, static electricity in your body must be discharged before you touch the product.
-

2.2 Installation procedure

◆ Installing the option

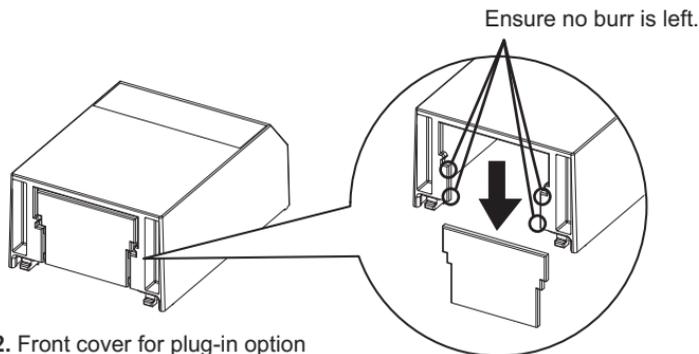
The FR-E800 series inverter has only one plug-in option connector.

NOTE

- Ensure the control circuit terminals are wired before installing the plug-in option. They cannot be wired after the plug-in option is installed.
 - When installing the plug-in option, prevent cables being caught between parts. Otherwise the inverter and the option may be damaged.
-

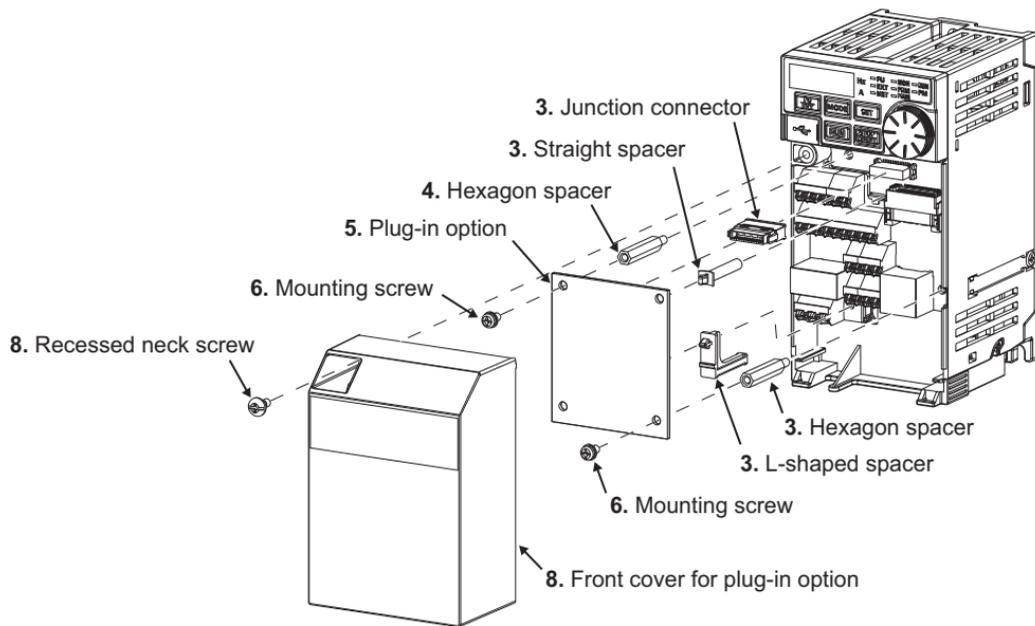
■ For the FR-E820-0175(3.7K) or lower, FR-E840-0170(7.5K) or lower, and FR-E860-0120(7.5K) or lower

1. Remove the inverter front cover. (Refer to the FR-E800 Instruction Manual (Connection) for instructions to remove the cover.)
2. Use a nipper or the like to cut off the bottom of the front cover for plug-in option.



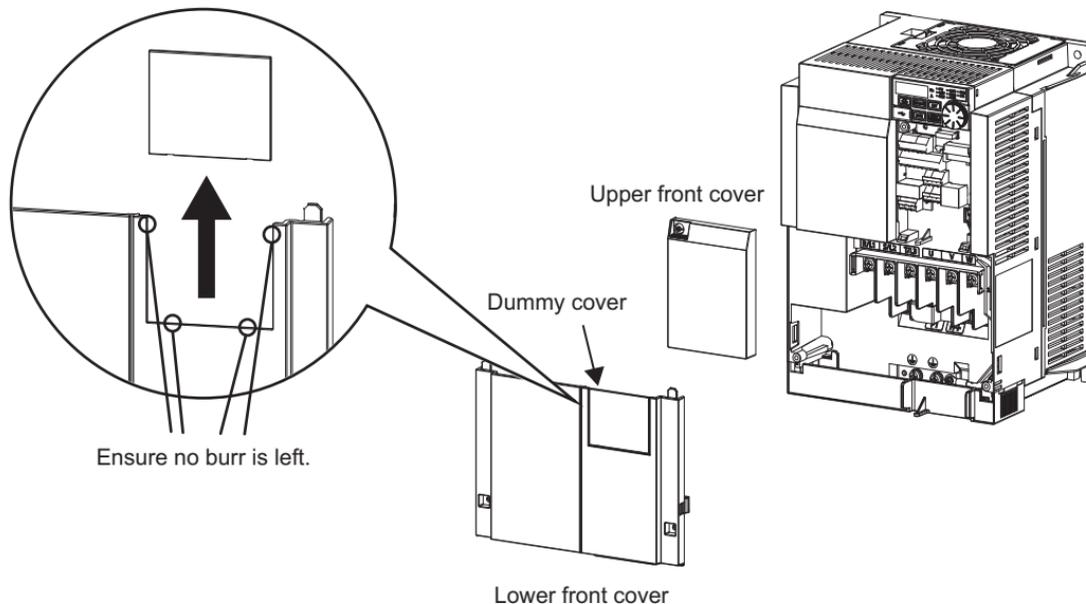
2. Front cover for plug-in option
3. Fit the L-shaped spacer, straight spacer, and junction connector to the plug-in option as shown in the figure on the [page 12](#). Fit the junction connector to the guide of the connector of the plug-in option, and insert the junction connector as far as it goes. Fit the L-shaped spacer to the plug-in option so that the lower edge of the option placed on the ridge of the spacer.

4. Install the hexagon spacers to the inverter.
5. Fit the junction connector, which has been connected to the plug-in option, to the guide of the option connector on the inverter, and insert the junction connector as far as it goes.
6. Fasten this product to the inverter using the two mounting screws through the holes on either side (tightening torque 0.33 to 0.40 N·m). If the connector is not inserted deep enough, the screws cannot be tightened properly. Check the connector.
7. Connect cables to the terminal block of the plug-in option. (Refer to [page 18](#) for the wiring.)
8. After wiring of the plug-in option has been completed, mount the front cover for the plug-in option to the inverter.



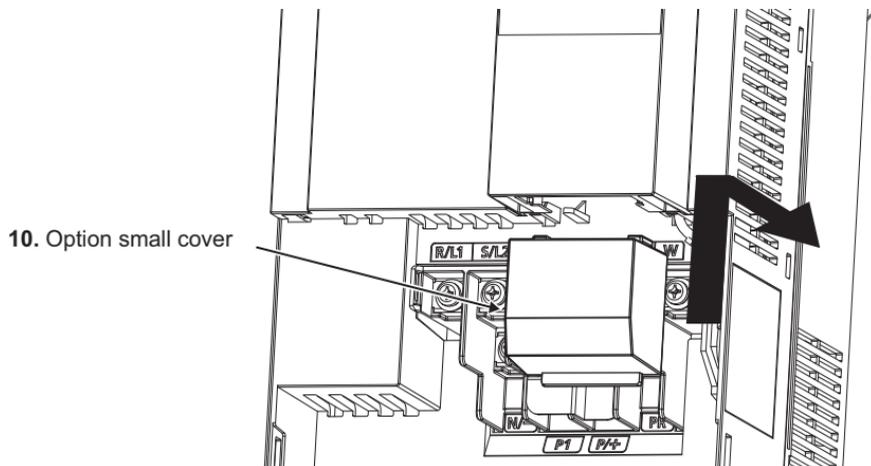
■ For the FR-E820-0240(5.5K) or higher

1. Remove the upper front cover and the lower front cover from the inverter. (Refer to the FR-E800 Instruction Manual (Connection) for instructions to remove the covers.)
2. Use a nipper or the like to cut off the dummy cover of the lower front cover in order to install the option small cover.

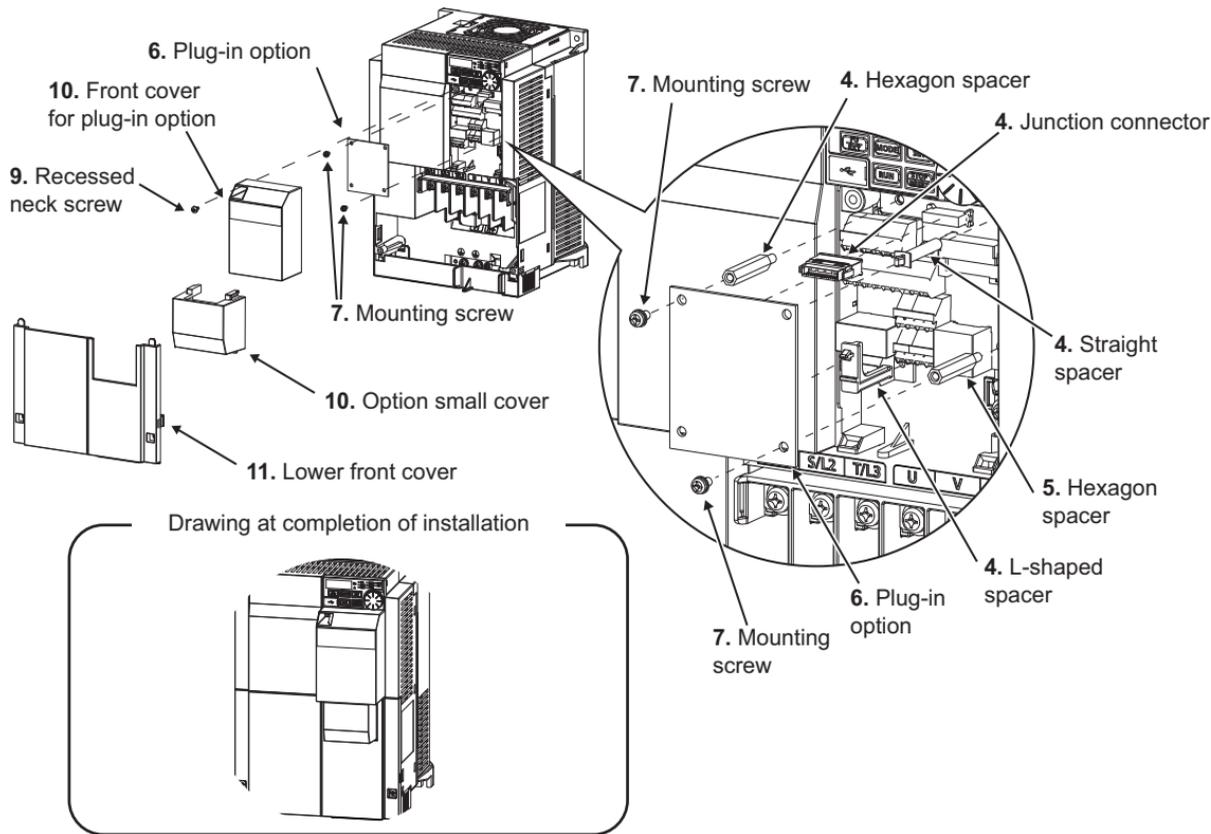


3. Use a nipper or the like to cut off the bottom of the front cover for plug-in option. (For details, refer to [page 11](#).)
4. Fit the L-shaped spacer, straight spacer, and junction connector to the plug-in option as shown in the figure on the [page 15](#). Fit the junction connector to the guide of the connector of the plug-in option, and insert the junction connector as far as it goes. Fit the L-shaped spacer to the plug-in option so that the lower edge of the option placed on the ridge of the spacer.

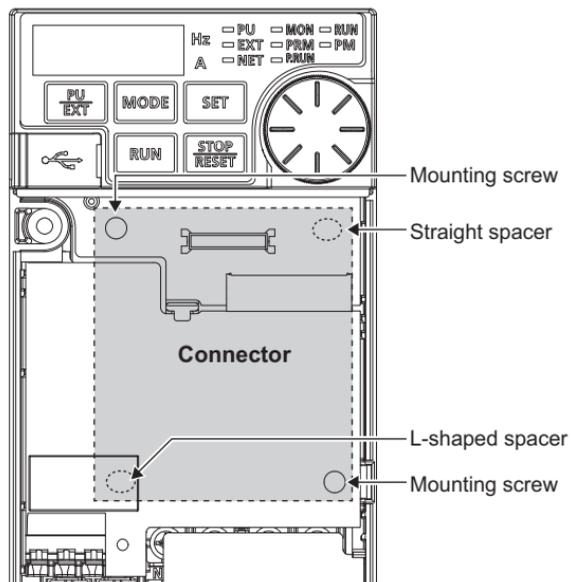
5. Install the hexagon spacers to the inverter.
6. Fit the junction connector, which has been connected to the plug-in option, to the guide of the option connector on the inverter, and insert the junction connector as far as it goes.
7. Fasten this product to the inverter using the two mounting screws through the holes on either side (tightening torque 0.33 to 0.40 N·m). If the connector is not inserted deep enough, the screws cannot be tightened properly. Check the connector.
8. Connect cables to the terminal block of the plug-in option. (Refer to [page 18](#) for the wiring.)
9. After wiring of the plug-in option has been completed, mount the front cover for the plug-in option to the inverter.
10. Install the option small cover to the front cover for plug-in option by inserting the small cover into the front cover and slide it toward the rear of the inverter.



11. Install the lower front cover to the inverter.



◆ Insertion positions for screws and spacers



Insertion positions for screws and spacers

NOTE

- When the junction connector is installed to the plug-in option, the option is fixed with the hooks of the connector. The junction connector cannot be removed from the plug-in option.
- When removing the front cover for plug-in option from the inverter, note that the recessed neck screw cannot be removed from the front cover for plug-in option.
- When installing/removing the plug-in option, hold the sides of the option. Do not press on the parts on the option circuit board. Stress applied to the parts by pressing, etc. may cause a failure.
- Be careful not to drop mounting screws during the installation or removal of the plug-in option.
- When the inverter cannot recognize the option due to improper installation or any other reason, the protective function (E.1) is activated and the inverter cannot be operated.

Mounted position	Fault indication
Option connector	E. 1

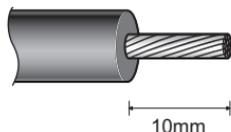
- When removing the plug-in option, remove the two screws on either side, and then pull it straight out. Pressure applied to the option connector and to the option board may break the option.

2.3 Wiring

1. For the wiring, strip off the sheath of a cable, and use it with a blade terminal. For a single wire, strip off the sheath of the wire and apply directly. Insert the blade terminal or the single wire into a socket of the terminal.

Strip off the sheath as shown below. If too much of the wires is stripped, a short circuit may occur with neighboring wires. If not enough of the wire is stripped, wires may become loose and fall out. Twist the stripped end of wires to prevent them from fraying. Do not solder it.

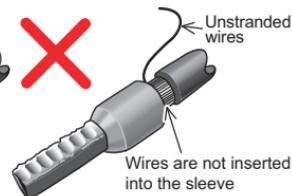
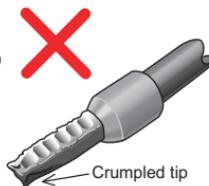
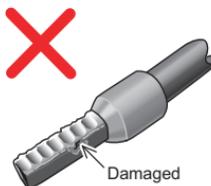
Cable sheath stripping length



Crimp the blade terminal.

Insert wires to a blade terminal, and check that the wires come out for about 0 to 0.5 mm.

Check the condition of the blade terminal after crimping. Do not use a blade terminal of which the crimping is inappropriate, or the face is damaged.



CAUTION

- After wiring, wire cutoffs must not be left in the inverter. They may cause a fault, failure or malfunction.

Blade terminals commercially available (as of December 2019. The product may be changed without notice.)

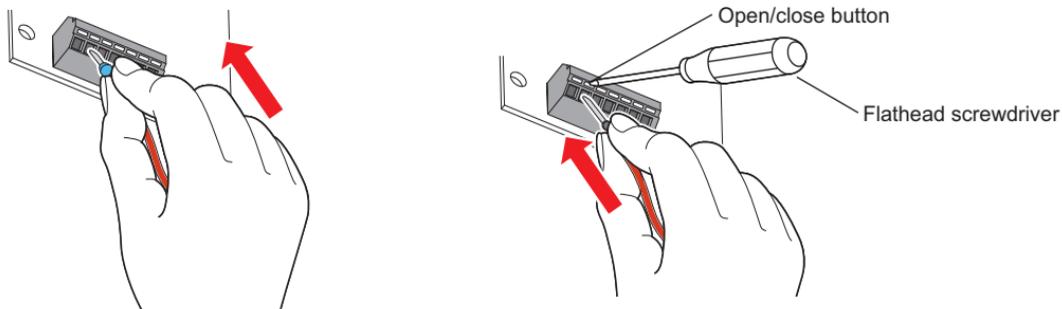
Cable gauge (mm ²)	Ferrule terminal model			Manufacturer	Crimping tool name
	With insulation sleeve	Without insulation sleeve	For UL wire ^{*1}		
0.3	AI 0,34-10TQ	—	—	Phoenix Contact Co., Ltd.	CRIMPFOX 6
0.5	AI 0,5-10WH	—	AI 0,5-10WH-GB		
0.75	AI 0,75-10GY	A 0,75-10	AI 0,75-10GY-GB		
1	AI 1-10RD	A 1-10	AI 1-10RD/ 1000GB		
1.25, 1.5	AI 1,5-10BK	A 1,5-10	—		
0.75 (for two cables)	AI-TWIN 2×0,75-10GY	—	—		

*1 A ferrule terminal with an insulation sleeve compatible with the MTW wire which has a thick wire insulation.

Cable gauge (mm ²)	Blade terminal product number	Insulation product number	Manufacturer	Crimping tool product number
0.3 to 0.75	BT 0.75-11	VC 0.75	NICHIFU Co., Ltd.	NH 69

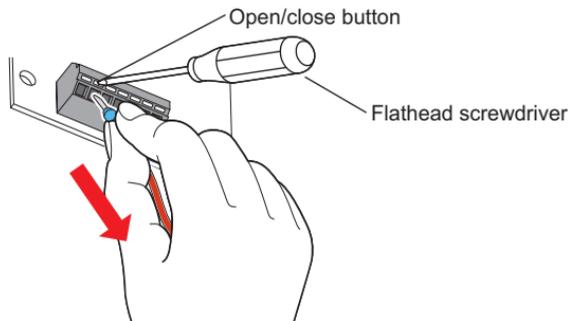
2

- 2.** Insert the cable into a socket.
When using a single wire or stranded wires without a blade terminal, push the open/close button all the way down with a flathead screwdriver, and insert the wire.



• Wire removal

Pull the wire while pushing the open/close button all the way down firmly with a flathead screwdriver.



NOTE

- When using stranded wires without a blade terminal, twist enough to avoid short circuit with a nearby terminals or wires.
- Pulling out the wire forcefully without pushing the open/close button all the way down may damage the terminal block.
- Use a small flathead screwdriver (tip thickness: 0.4 mm/tip width: 2.5 mm). If a flathead screwdriver with a narrow tip is used, terminal block may be damaged.

Commercially available product (as of December 2019. The product may be changed without notice.)

Name	Model	Manufacturer
Driver	SZF 0- 0,4 x 2,5	Phoenix Contact Co., Ltd.

- Place the flathead screwdriver vertical to the open/close button. In case the blade tip slips, it may cause an inverter damage or injury.

3 PARAMETER LIST

The following parameters are used for this plug-in option (FR-A8AY).

Pr.	Pr. group	Name	Setting range	Minimum setting increments	Initial value	Refer to page
Extended analog output	306 ^{*3}	M303	Analog output signal selection	^{*1}	1	2
	307 ^{*3}	M340	Setting for zero analog output	0 to 100%	0.1%	0%
	308 ^{*3}	M341	Setting for maximum analog output	0 to 100%	0.1%	100%
	309 ^{*3}	M342	Analog output signal voltage/current switchover	0, 1, 10, 11	1	0
	310 ^{*3}	M343	Analog meter voltage output selection	^{*1}	1	2
	311 ^{*3}	M344	Setting for zero analog meter voltage output	0 to 100%	0.1%	0%
	312 ^{*3}	M345	Setting for maximum analog meter voltage output	0 to 100%	0.1%	100%
	323 ^{*3}	M346	AM0 0V adjustment	900 to 1100%	1%	1000%
	324 ^{*3}	M347	AM1 0mA adjustment	900 to 1100%	1%	1000%
	C0 (900) ^{*3}	M310	FM terminal calibration	—	—	—
	C1 (901) ^{*3}	M320	AM terminal calibration	—	—	—
290	M044	Monitor negative output selection	0, 1, 4, 5, 8, 9, 12, 13 ^{*4}	1	0	

24 and later

Pr.		Pr. group	Name	Setting range	Minimum setting increments	Initial value	Refer to page
Digital output	313 ^{*3}	M410	DO0 output selection	*2	1	9999	35 and later
	314 ^{*3}	M411	DO1 output selection				
	315 ^{*3}	M412	DO2 output selection				
	316 ^{*3}	M413	DO3 output selection				
	317 ^{*3}	M414	DO4 output selection				
	318 ^{*3}	M415	DO5 output selection				
	319 ^{*3}	M416	DO6 output selection				
	418 ^{*3}	M432	Extension output terminal filter	5 to 50 ms, 9999	1 ms		

*1 The setting range depends on the inverter. For details, refer to the description of **Pr.158 AM terminal function selection** in the FR-E800 Instruction Manual (Function).

*2 The setting range depends on the inverter. For details, refer to the description of **Pr.190 to Pr.196 (output terminal function selection)** in the FR-E800 Instruction Manual (Function).

*3 Parameters which can be displayed when this plug-in option (FR-A8AY) is installed.

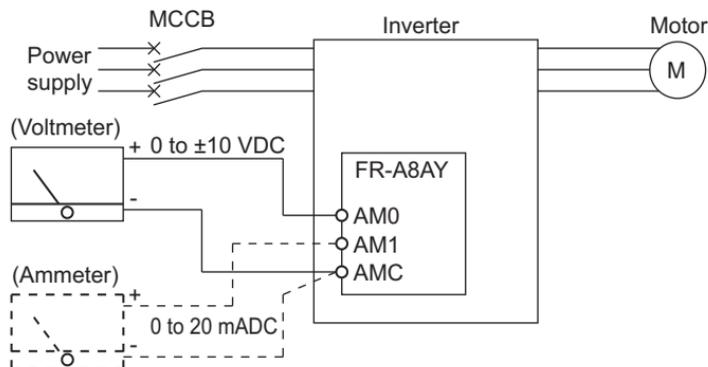
*4 Negative values can be used for indication by setting **Pr.290** = "8, 9, 12, or 13". For details, refer to the FR-E800 Instruction Manual (Function).

4 ANALOG OUTPUT

4.1 Connection diagram

By setting **Pr.306 to Pr.312**, analog signals such as the output frequency and output current can be output from the voltage output terminal (AM0) and current output terminal (AM1).

Connect the voltmeter or ammeter as shown below:

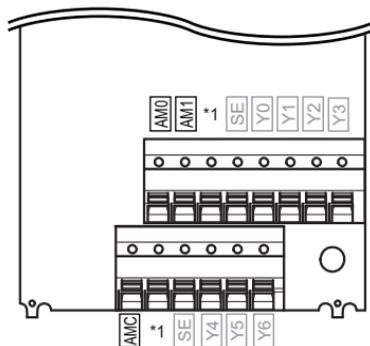


NOTE

- The wiring length for the voltmeter/ammeter should be within 10 m.
- Notes on descriptions in this Instruction Manual

Connection diagrams in this Instruction Manual appear with the control logic of the input terminals as sink logic, unless otherwise specified.

4.2 Terminals



*1 Empty terminal. Do not use.

Terminal symbol	Terminal name	Description
AM0	Voltage output terminal	Connects the DC voltmeter (± 10 VDC).
AM1	Current output terminal	Connects the DC ammeter (20 mADC).
AMC	Common terminal	Common terminal for AM0 and AM1.
Y0 to Y6	Used for digital output function. (Refer to page 35.)	
SE		

4.3 Extended analog output function parameter list

Parameter number	Name	Setting range	Minimum increments	Initial value
306	Analog output signal selection	*1	1	2
307	Setting for zero analog output	0 to 100%	0.1%	0%
308	Setting for maximum analog output	0 to 100%	0.1%	100%
309	Analog output signal voltage/current switchover	0, 1, 10, 11	1	0
310	Analog meter voltage output selection	*1	1	2
311	Setting for zero analog meter voltage output	0 to 100%	0.1%	0%
312	Setting for maximum analog meter voltage output	0 to 100%	0.1%	100%
323	AM0 0V adjustment	900 to 1100%	1%	1000%
324	AM1 0mA adjustment	900 to 1100%	1%	1000%
C0	FM terminal calibration	—	—	—
C1	AM terminal calibration	—	—	—
290	Monitor negative output selection	0, 1, 4, 5, 8, 9, 12, 13	1	0

*1 For details of the setting range, refer to the description of **Pr.158 AM terminal function selection** in the FR-E800 Instruction Manual (Function).

NOTE

- **Pr.306, Pr.310** can be written even when the inverter is operating.

4.4 Adjustment procedure

4.4.1 Analog output signal voltage/current switchover (Pr.309) setting

Use **Pr.309 Analog output signal voltage/current switchover** to select whether to send the same signal from terminal AM0 (voltage output) and terminal AM1 (current output), or to send the signals separately.

Pr.309 setting value	Description	Terminal	Parameter setting	Calibration parameter
0 (Initial value)	Outputs the same selection signal from both the voltage output terminal (AM0) and the current output terminal (AM1). The signal that set in Pr.306 Analog output signal selection is enabled. (The Pr.310 setting is disabled.)	AM0	Pr.306: Selects the output signal. Pr.307: Output signal value when analog output is zero.	Pr.323 Pr.324 C1 (Pr.901)
10		AM1	Pr.308: Output signal value when analog output is at maximum.	
		AM0	Pr.306: Selects the output signal. Pr.307: Analog output value when output signal is zero.	
		AM1	Pr.308: Analog output value when output signal is at maximum.	

Pr.309 setting value	Description	Terminal	Parameter setting	Calibration parameter
1	Outputs separate selection signals from the voltage output terminal (AM0) and the current output terminal (AM1).	AM0	Pr.310: Selects the output signal. Pr.311: Output signal value when analog output is zero. Pr.312: Output signal value when analog output is at maximum.	Pr.323 C0 (Pr.900)
		AM1	Pr.306: Selects the output signal. Pr.307: Output signal value when analog output is zero. Pr.308: Output signal value when analog output is at maximum.	Pr.324 C1 (Pr.901)
AM0		Pr.310: Selects the output signal. Pr.311: Analog output value when output signal is zero. Pr.312: Analog output value when output signal is at maximum.	Pr.323 C0 (Pr.900)	
AM1		Pr.306: Selects the output signal. Pr.307: Analog output value when output signal is zero. Pr.308: Analog output value when output signal is at maximum.	Pr.324 C1 (Pr.901)	
11				

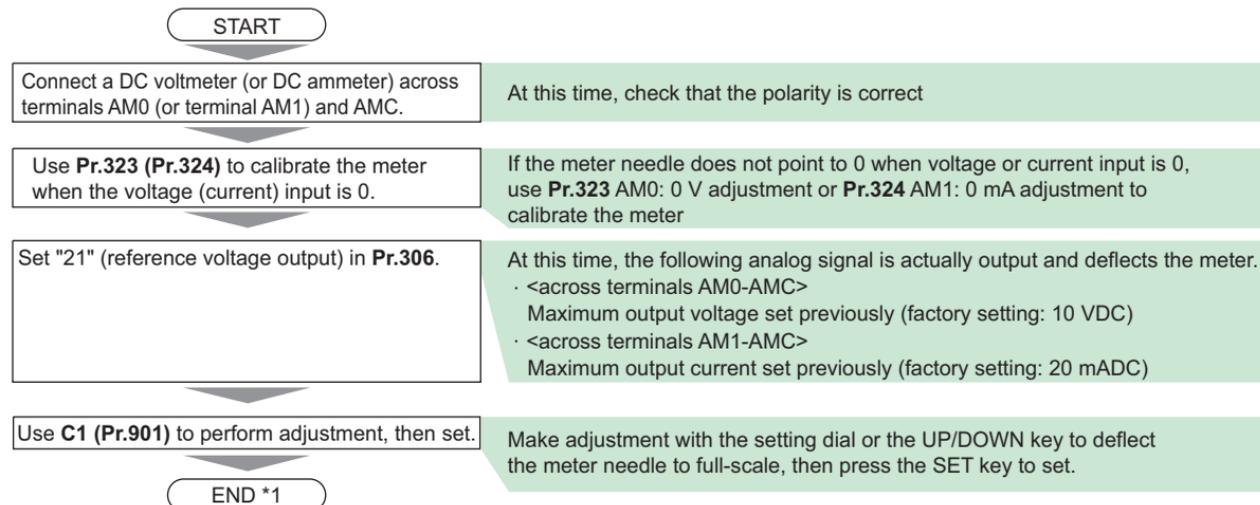


NOTE

- "Analog output" means the voltage (0 to ± 10 V) and current (0 to 20 mA) output from terminals AM0 and AM1; while "output signal" indicates the monitor signal (refer to [page 31](#)) set in parameters **Pr.306** and **Pr.310**.

4.4.2 Meter calibration

1. Outputting the same signal from terminals AM0 and AM1 (**Pr.309** = "0 or 10")

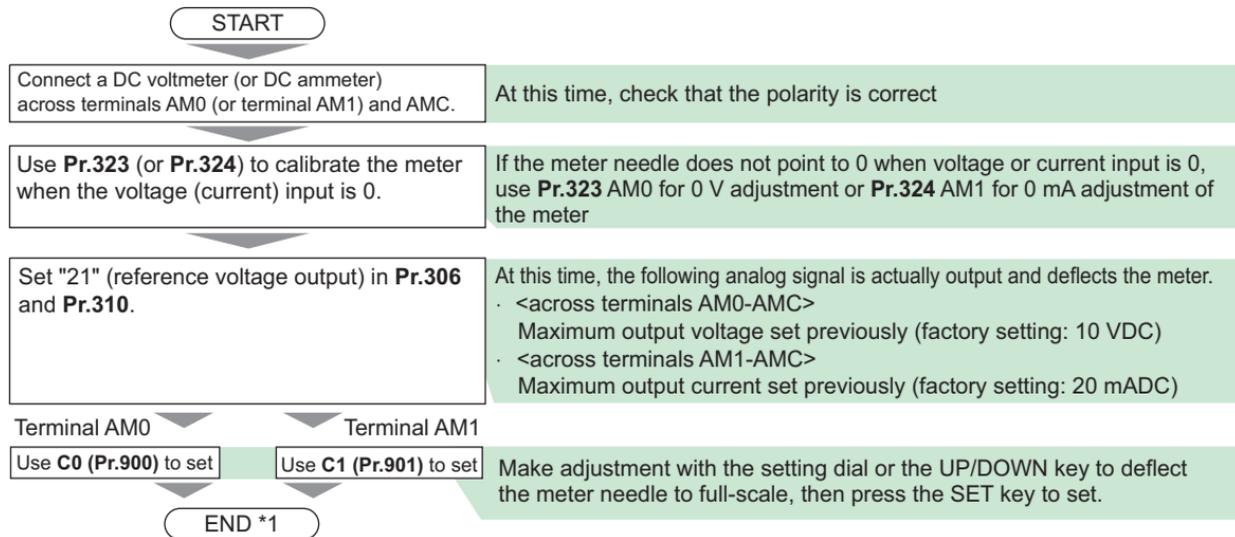


*1 In **Pr.306**, set the types of the signals to be output. (Refer to [page 31](#).)

NOTE

- If calibration is performed without setting **Pr.306** = "21 (reference voltage output)", the terminal AM of the inverter is calibrated. To calibrate the extended analog output, always set to "21".
- When the plug-in option used was remounted on another inverter, use **Pr.323** and **Pr.324** to calibrate again.

2. Outputting separate signals from terminals AM0 and AM1 (Pr.309 = "1 or 11")



*1 In Pr.306 and Pr.310, set the types of the signals to be output. (Refer to [page 31](#).)

NOTE

- If calibration is performed without setting "21 (reference voltage output)" in Pr.306 or Pr.310, the terminal FM or AM of the inverter is calibrated. To calibrate the extended analog output, always set to "21".
- When the plug-in option used was remounted on another inverter, use Pr.323 and Pr.324 to calibrate again.

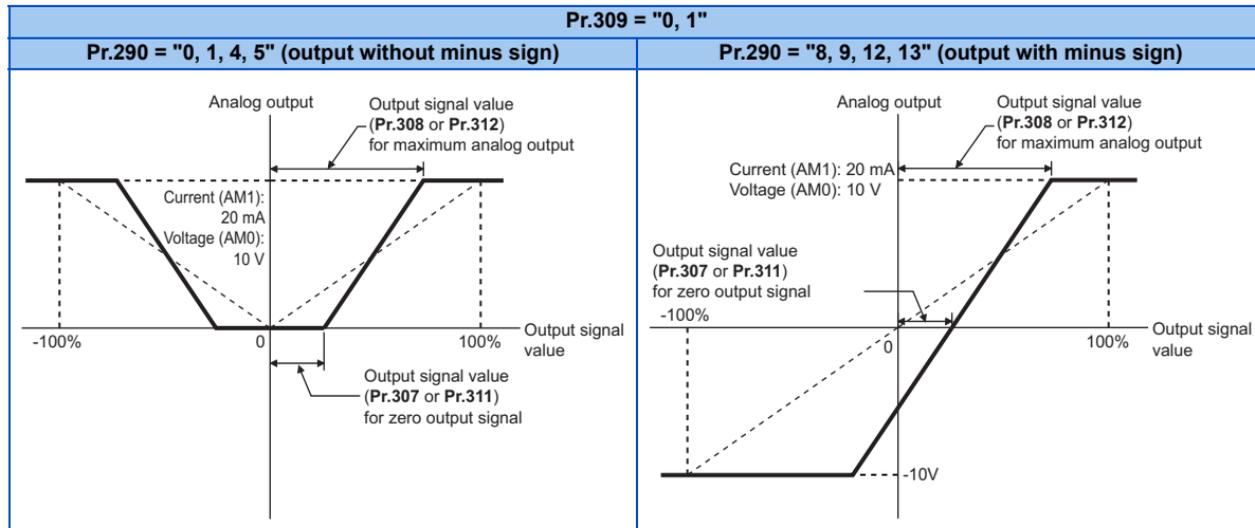
4.4.3 Setting output signals

Set the output signals to be monitored. Set **Pr.306** to output the same signal from terminals AM0 and AM1, and **Pr.306** and **Pr.310** to output different signals. The AM0 terminal can be used for negative output (from -10 VDC to +10 VDC). The settings of **Pr.306** and **Pr.310** are the same as those of **Pr.54 FM terminal function selection** and **Pr.158 AM terminal function selection**. For the details of **Pr.54** and **Pr.158**, refer to the FR-E800 Instruction Manual (Function).

4.4.4 Adjusting the analog signal (Pr.307, Pr.308, Pr.311, Pr.312)

Use **Pr.307** or **Pr.311** to set the values at zero analog output (meter points 0) and **Pr.308** or **Pr.312** at maximum analog output (full scale).

When outputting the same signal from terminals AM0 and AM1, use **Pr.307** to set the value at zero analog output and **Pr.308** at maximum analog output. When outputting separate signals from terminals AM0 and AM1, use **Pr.307** (for terminal AM1) and **Pr.311** (for terminal AM0) to set the value at zero analog output, and **Pr.308** (for terminal AM1) and **Pr.312** (for terminal AM0) at maximum analog output. (Refer to [page 27](#).)



NOTE

- When **Pr.307** \geq **Pr.308** and **Pr.311** \geq **Pr.312**, the output values from the terminals AM0 and AM1 will always be zero.

4.5 Precautions

- When using a voltmeter with a lower internal impedance or an ammeter having a greater internal impedance than the value indicated in the specifications (Refer to [page 9](#)), the indicator may not go to full-scale, making it unable to calibrate in some cases.
 - When calibrating a meter with small full scale, first adjust the outputs from the terminals AM0 and AM1 accordingly, then connect the meter.
-

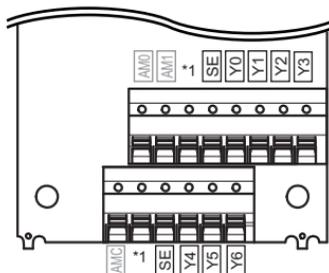
CAUTION

- This product is initially set to provide the full-scale output of 10 VDC and 20 mADC. Voltmeters (7 VDC or less) or ammeters (14 mADC or less) with a small full-scale value may accidentally be damaged during calibration. Use caution.
- When calibrating the meter using **Pr.323, Pr.324, C0 (Pr.900), and C1 (Pr.901)** while **Pr.309 = "10 or 11"**, set "0%" in **Pr.307** or **Pr.311**, and "100%" in **Pr.308** or **Pr.312** to prevent calibration value deviation.
- All the outputs are shut off when a protective function (E.1) is activated.

5 DIGITAL OUTPUT

5.1 Terminals

Use **Pr.313 to Pr.319** to output inverter signals (RUN, SU, etc.) as open collector outputs.



*1 Empty terminal. Do not use.

Terminal symbol	Terminal name	Description
Y0	Digital output terminal	Assigns the function using Pr.313 .
Y1		Assigns the function using Pr.314 .
Y2		Assigns the function using Pr.315 .
Y3		Assigns the function using Pr.316 .
Y4		Assigns the function using Pr.317 .
Y5		Assigns the function using Pr.318 .
Y6		Assigns the function using Pr.319 .
SE	Common terminal	Common terminals for the terminals Y0 to Y6. Isolated from the terminal SE of the inverter
AM0	Used for analog output function. (Refer to page 24 .)	
AM1		
AMC		

5.2 Digital output function parameter list

Parameter number	Name	Initial value	Setting range
313	DO0 output selection	9999	*1
314	DO1 output selection	9999	
315	DO2 output selection	9999	
316	DO3 output selection	9999	
317	DO4 output selection	9999	
318	DO5 output selection	9999	
319	DO6 output selection	9999	
418	Extension output terminal filter	9999	5 to 50 ms, 9999

*1 For details of the setting range, refer to the description of **Pr.190 to Pr.196 (Output terminal function selection)** in the FR-E800 Instruction Manual (Function).

5.3 Parameter setting

◆ Setting output signals

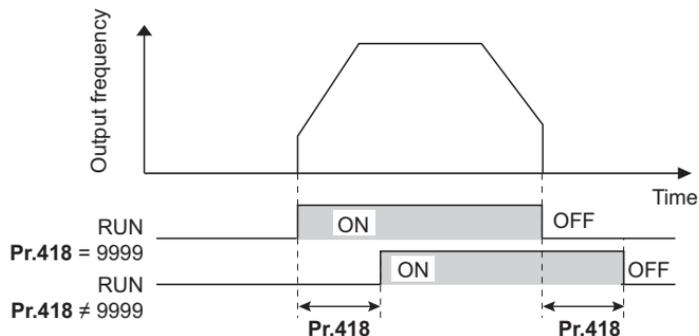
Use **Pr.313 to Pr.319** to assign signals to the terminals DO0 to DO6. The settings of **Pr.313 to Pr.319** are the same as those of **Pr.190 to Pr.196 (output terminal function selection)**. For the details of **Pr.190 to Pr.196**, refer to the FR-E800 Instruction Manual (Function).

NOTE

- The same function can be set to two output terminals or more.

◆ Adjusting the output terminal response level (Pr.418)

The response level of the output terminals can be delayed in a range of 5 to 50 ms. (Operation example for the RUN signal.)



NOTE

- The response level is not adjusted while **Pr.418** = "9999".
- When **Pr.157 OL signal output timer** is set for the Overload warning (OL) signal output, the OL signal is output when the set time of (**Pr.157 + Pr.418**) elapses.

APPENDIX

Appendix 1 Instructions for compliance with the EU Directives

The EU Directives are issued to standardize different national regulations of the EU Member States and to facilitate free movement of the equipment, whose safety is ensured, in the EU territory.

Since 1996, compliance with the EMC Directive that is one of the EU Directives has been legally required. Since 1997, compliance with the Low Voltage Directive, another EU Directive, has been also legally required. When a manufacturer confirms its equipment to be compliant with the EMC Directive and the Low Voltage Directive, the manufacturer must declare the conformity and affix the CE marking.

- The authorized representative in the EU

The authorized representative in the EU is shown below.

Name: Mitsubishi Electric Europe B.V.

Address: Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany

◆ EMC Directive

We declare that this product conforms with the EMC Directive when installed in a compatible inverter, and affix the CE marking on the packaging plate.

- EMC Directive: 2014/30/EC
- Standard(s): EN 61800-3:2004+A1:2012 (Second environment / PDS Category "C3")

■ Note

- To install and wire the inverter, refer to the "Instructions for compliance with the EU Directives" in the Instruction Manual enclosed with the inverter.
- Confirm that the final integrated system with the inverter conforms with the EMC Directive.



Appendix 2 Instructions for EAC

The product certified in compliance with the Eurasian Conformity has the EAC marking on the packaging plate.

Note: EAC marking

In 2010, three countries (Russia, Belarus, and Kazakhstan) established a Customs Union for the purposes of revitalizing the economy by forming a large economic bloc by abolishing or reducing tariffs and unifying regulatory procedures for the handling of articles.

Products to be distributed over these three countries of the Customs Union must comply with the Customs Union Technical Regulations (CU-TR), and the EAC marking must be affixed to the products.

For information on the country of origin, manufacture year and month, and authorized sales representative (importer) in the CU area of this product, refer to the following:

- Country of origin indication

Check the package of this product.

Example: MADE IN JAPAN

- Manufactured year and month

Check the SERIAL number indicated on this product.



The SERIAL consists of one symbol, two characters indicating the production year and month, and three characters indicating the control number. The last digit of the production year is indicated as the Year, and the Month is indicated by 1 to 9, X (October), Y (November), or Z (December).

- Authorized sales representative (importer) in the CU area

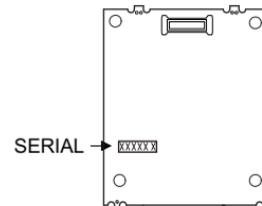
The authorized sales representative (importer) in the CU area is shown below.

Name: Mitsubishi Electric (Russia) LLC

Address: 52, bld 1 Kosmodamianskaya Nab 115054, Moscow, Russia

Phone: +7 (495) 721-2070

Fax: +7 (495) 721-2071



Appendix 3 Restricted Use of Hazardous Substances in Electronic and Electrical Products

The mark of restricted use of hazardous substances in electronic and electrical products is applied to the product as follows based on the "Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products" of the People's Republic of China.

电器电子产品有害物质限制使用标识要求



本产品中所含有的有害物质的名称、含量、含有部件如下表所示。

• 产品中所含有害物质的名称及含量

部件名称 *2	有害物质 *1					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电路板组件 (包括印刷电路板及其构成的零部件, 如电阻、电容、集成电路、连接器等)、电子部件	×	○	×	○	○	○
金属壳体、金属部件	×	○	○	○	○	○
树脂壳体、树脂部件	○	○	○	○	○	○
螺丝、电线	○	○	○	○	○	○

上表依据 SJ/T11364 的规定编制。

○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T26572 规定的限量要求以下。

×：表示该有害物质在该部件的至少一种均质材料中的含量超出 GB/T26572 规定的限量要求。

*1 即使表中记载为 ×，根据产品型号，也可能会有有害物质的含量为限制值以下的情况。

*2 根据产品型号，一部分部件可能不包含在产品中。

Appendix 4 Referenced Standard (Requirement of Chinese standardized law)

This Product is designed and manufactured accordance with following Chinese standards.

EMC: GB/T 12668.3

MEMO

REVISIONS

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

Revision date	*Manual number	Revision
Dec. 2019	IB(NA)-0600880ENG-A	First edition

INVERTER

mitsubishi **Electric Corporation**

HEAD OFFICE: TOKYO BUILDING 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN