

FACTORY AUTOMATION

# E800 NEWS

Replacement Vol. 03



Expanding the range of the possibilities in the factory

## Replacement improves work efficiency.

FR-E700 ▶ FR-E800

Do you have these problems?

- Troubleshooting takes time.
- An operator must turn ON the power just for parameter setting.
- Maintenance cannot be scheduled in advance.



### 1 Fault cause identification using data analysis by AI technology



#### ▶ AI fault diagnosis

The inverter is connected to the engineering software, FR Configurator2, in which *Maisart*<sup>1</sup> is integrated to analyze data and help identify the cause of a fault<sup>2</sup>.

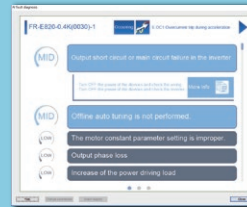
Fault occurring

I find the cause!

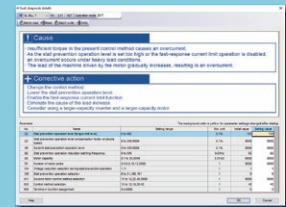


#### Merits

- Easy operation without requiring any special skills
- Fastest troubleshooting procedure



All fault diagnosis result screen



Step 1  
Fault occurring

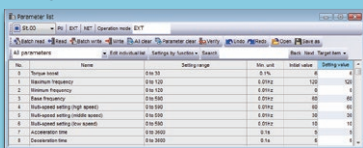
Step 2  
Fault diagnosis

Step 3  
Finding cause of faults

### 2 Parameter setting without turning ON the power

#### ▶ Power supply from USB port

With the power supplied from the computer (USB bus power connection)<sup>3</sup>, parameters can be set using FR Configurator2 while the main circuit power supply is OFF.



#### Merits

- Power supplying from the computer
- Safe operation with the main circuit power OFF

### 3 Inverter service life notification

Replace the inverter before it fails.

#### ▶ Life diagnosis

Availability of life diagnosis checks is extended compared to FR-E700.



#### Diagnosed parts added

- Main circuit capacitor residual-life estimation (available during operation)
- Fault contact relay (A, B, and C contacts) life diagnosis<sup>4</sup>
- Power cycle life diagnosis

- Main circuit capacitor life diagnosis<sup>5</sup>
- Cooling fan life diagnosis
- Control circuit capacitor life diagnosis
- Inrush current limit circuit life diagnosis

#### Merits

- A guideline to replace parts
- Life diagnosis during inverter running

<sup>1</sup>: Maisart is Mitsubishi Electric's brand of AI technology. The name stands for "Mitsubishi Electric's AI creates the State-of-the-ART in technology". This means that it is using our proprietary AI technology to make everything smarter.

<sup>2</sup>: Supported control mode: speed control only. Applicable alarm: overcurrent trip and overvoltage trip. (Other alarms will be applicable later).

<sup>3</sup>: The maximum SCRR should be 500 mA. Note that the PU connector is disabled during USB bus power connection.

<sup>4</sup>: Diagnosis function for terminals A, B, and C of the inverter

<sup>5</sup>: Although the diagnosis result can be checked during inverter running, diagnosis check must be performed with the power OFF.

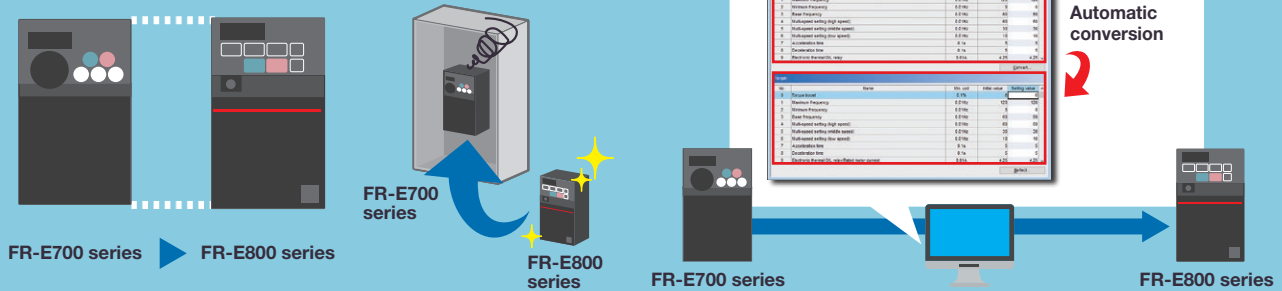
# Easy replacement using the existing wiring as it is

## 4 Streamlining the installation process

### ► Compatible installation size

The installation size was determined to assure exchangeability with the E700 series. Installation interchange attachment options are available for facilitating replacement with the models of different size.<sup>\*1</sup>

**Replacement without changing the place (inside the enclosure)<sup>\*1</sup>**



## 5 Easy parameter setting

### ► Convert function

By using the convert function of FR Configurator2, parameter settings can be easily copied from the FR-E700 series. Automatic conversion prevents incorrect settings.

## Inverter parts have a service life. Replace the inverter used for a long time.

### ■ Checking the SERIAL of the FR-E700

The SERIAL consists of one symbol, two characters indicating the production year and month, and three characters indicating the control number (upper three digits of the control number on the rating plate). 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).



### ■ Estimated lifespan of life parts

Part	Estimated lifespan of FR-E700/FR-E800 <sup>*2</sup>	JEMA guideline <sup>*3</sup>
Cooling fan	10 years	2 to 3 years
Main circuit smoothing capacitor	10 years	5 years
Printed circuit board smoothing capacitor	10 years	5 years

For details on replacement, refer to the Information for Replacement.

Information for Replacement of FR-E700 Series with FR-E800 Series  
Document number: BCN-C21002-214



For the product details, refer to the following videos and documents.

### Supporting setup

Scan the QR code on the product to directly access the setup information.

- Helpful setup menu and videos**
  - Setup menu
  - Instructions
  - Videos
  - Examples
- Ready for reference**
  - FR-E800 Inverter Safety Guideline
  - FR-E800 Instruction Manual (Connection)
  - etc.



Mitsubishi Electric FR-E800 Inverter Catalog  
Document number: L(NA)06131ENG



YouTube  
Mitsubishi Electric FA channel  
Inverter FR-E800



<sup>\*1</sup>: Installation interchange attachment options are required for replacement with the models of different size. The installation depth increases by 12 mm when the attachment is used. For details, refer to the related catalogs.  
<sup>\*2</sup>: Lifespan depends on the surrounding air temperature, output current, or other conditions.  
<sup>\*3</sup>: Excerpts from "Periodic check of the transistorized inverter" of JEMA (Japan Electrical Manufacturer's Association).

QR Code is a registered trademark of DENSO WAVE INCORPORATED.  
YouTube and the YouTube logo are trademarks or registered trademarks of Google Inc.  
Other company and product names herein are the trademarks and registered trademarks of their respective owners.