# Discontinuation of the FR-E700-NF General-Purpose Inverters

Thank you for your continued patronage of Mitsubishi Electric drive control products.
Production of the highly valued FR-E700-NF general-purpose inverters (FL remote communication model) will be discontinued according to the following schedule due to production discontinuation of internal parts and difficulties replacing with compatible parts.
We ask for your understanding in this matter.

## 1. Models to be Discontinued

FR-E700-NF (FL remote communication model)

## 2. Schedule

Production will continue on orders received by the last day of December 2026.
Made-to-order production starts on September 1, 2026 in advance of the discontinuation.
Requests for repairs and service will be accepted until the last day of December 2033.

Note) Repairs are subject to the supply of service parts and may not be possible even within the repair service period.

## 3. Recommended Alternative Models

No backward-compatible successor models are available and development of such models is not planned.
After the end of the supply and maintenance periods of the FR-E700-NF, FL remote communication will be available by combining our inverters and related products as follows.

<Product combinations to enable FL remote communication>
Inverter: FR-A800 series
Option (sold separately): FR-A8NF (plug-in option for FL remote communication)
The currently used network configuration can be used as it is since the FL remote communication specifications of the FR-A8NF are compatible with those of the FR-E700-NF.

| Voltage class | FR-E700-NF | FR-A800 with FR-A8NF | Outline dimensions (FR-E700-NF → FR-A800 with FR-A8NF)*1 | | |
|---|---|---|---|---|---|
| | | | Width [mm] | Height [mm] | Depth [mm] |
| Three-phase 200 V | FR-E720-0.1KNF | FR-A820-00046(0.4K)-1 *2 | 68 → 110 | 128 → 260 | 89.5 → 110 |
| | FR-E720-0.2KNF | | 68 → 110 | 128 → 260 | 89.5 → 110 |
| | FR-E720-0.4KNF | FR-A820-00046(0.4K)-1 | 68 → 110 | 128 → 260 | 121.5 → 110 |
| | FR-E720-0.75KNF | FR-A820-00077(0.75K)-1 | 68 → 110 | 128 → 260 | 141.5 → 125 |
| | FR-E720-1.5KNF | FR-A820-00105(1.5K)-1 | 108 → 150 | 128 → 260 | 144.5 → 140 |
| | FR-E720-2.2KNF | FR-A820-00167(2.2K)-1 | 108 → 150 | 128 → 260 | 144.5 → 140 |
| | FR-E720-3.7KNF | FR-A820-00250(3.7K)-1 | 170 → 150 | 128 → 260 | 151.5 → 140 |
| | FR-E720-5.5KNF | FR-A820-00340(5.5K)-1 | 180 → 220 | 260 → 260 | 174 → 170 |
| | FR-E720-7.5KNF | FR-A820-00490(7.5K)-1 | 180 → 220 | 260 → 260 | 174 → 170 |
| | FR-E720-11KNF | FR-A820-00630(11K)-1 | 220 → 220 | 260 → 300 | 199 → 190 |
| | FR-E720-15KNF | FR-A820-00770(15K)-1 | 220 → 250 | 260 → 400 | 199 → 190 |

Refer to the next page for details on *1 and *2.

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|---|---|---|---|---|

| Voltage class | FR-E700-NF | FR-A800 with FR-A8NF | Outline dimensions (FR-E700-NF → FR-A800 with FR-A8NF)*1 | | |
|---|---|---|---|---|---|
| | | | Width [mm] | Height [mm] | Depth [mm] |
| Three-phase 400 V | FR-E740-0.4KNF | FR-A840-00023(0.4K)-1 | 140 → 150 | 150 → 260 | 123 → 140 |
| | FR-E740-0.75KNF | FR-A840-00038(0.75K)-1 | 140 → 150 | 150 → 260 | 123 → 140 |
| | FR-E740-1.5KNF | FR-A840-00052(1.5K)-1 | 140 → 150 | 150 → 260 | 144 → 140 |
| | FR-E740-2.2KNF | FR-A840-00083(2.2K)-1 | 140 → 150 | 150 → 260 | 144 → 140 |
| | FR-E740-3.7KNF | FR-A840-00126(3.7K)-1 | 140 → 150 | 150 → 260 | 144 → 140 |
| | FR-E740-5.5KNF | FR-A840-00170(5.5K)-1 | 220 → 220 | 150 → 260 | 156 → 170 |
| | FR-E740-7.5KNF | FR-A840-00250(7.5K)-1 | 220 → 220 | 150 → 260 | 156 → 170 |
| | FR-E740-11KNF | FR-A840-00310(11K)-1 | 220 → 220 | 260 → 300 | 199 → 190 |
| | FR-E740-15KNF | FR-A840-00380(15K)-1 | 220 → 220 | 260 → 300 | 199 → 190 |

*1 The outline dimensions and installation size are not compatible. For dimensions other than width, height, and depth, refer to the outline dimensions in the FR-A800 Instruction Manual (Detailed).

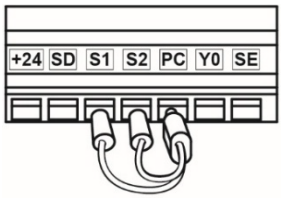
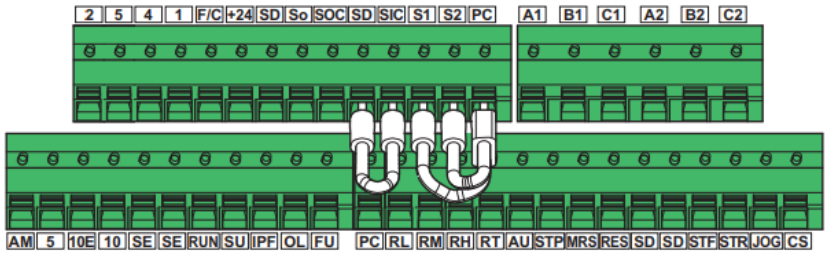
*2 0.2 kW motors can be operated under V/F control only. 0.1 kW motors can be operated under V/F control only and an external thermal relay must be used. Perform the test operation to ensure that no operational problem occurs with the protective and other functions. When the difference between the rated values of the inverter and the motor is large, unexpected operation may occur depending on the functions used and conditions.

Since the unit size is not compatible, the terminal specifications of the main circuit and control circuit and the communication connector positions will be changed. When considering installation after replacement, note that the cables and crimp terminals used for the FR-E700-NF may not be available.

## 4. Precautions for Replacement

(1) Control circuit terminals

Both the 24 V external power supply and the safety stop function can be used also after replacement with the FR-A800, however, some terminal names, functions, and performance are different.

| FR-E700-NF | FR-A800 with FR-A8NF |
|---|---|
|  |  |





1. 24 V external power supply

| Item | Rated specification | | Remarks |
|---|---|---|---|
| | FR-E700-NF | FR-A800 with FR-A8NF | |
| Output voltage | 23.5 to 26.5 VDC | 23 to 25.5 VDC | Inrush current equal to or higher than the current value on the left may flow at power-ON. Confirm that the power supply and other devices are not affected by the inrush current and the voltage drop caused by it. |
| Output current | 0.7 A or more | 1.4 A or more | |
| Safety stop function | The safety stop function is also valid during the 24 V external power supply operation. | The safety stop function is invalid during the 24 V external power supply operation. | - |

2. Safety stop function

| Item | Terminal symbol | | Supplemental information |
|---|---|---|---|
| | FR-E700-NF | FR-A800 with FR-A8NF | |
| Input terminal as the safety stop channel 1 | S1 | S1 | Between S1 or S2 and the common terminal<br>Open: Safety stop function is activated.<br>Shorted: Safety stop function is not activated. |
| Input terminal as the safety stop channel 2 | S2 | S2 | |
| Common terminal for terminals S1 and S2 | PC | SIC | - |
| Output terminal used for fault detection and fault indication display (open collector output) | Y0 (SAFE2 signal) | So (SO)*1 | OFF: Internal safety circuit failure*2<br>ON: No internal safety circuit failure*2<br>The signal from the terminal cannot be used to input a safety stop signal to other devices. |
| Open collector output common | SE | SOC | |

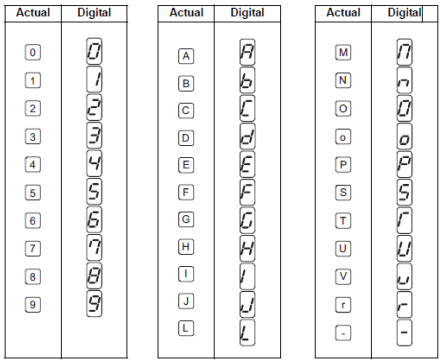
*1 In the FR-A800, terminal So (SO) is fixed to OFF when the main circuit power supply is turned OFF and 24 V external power is supplied to the control circuit.

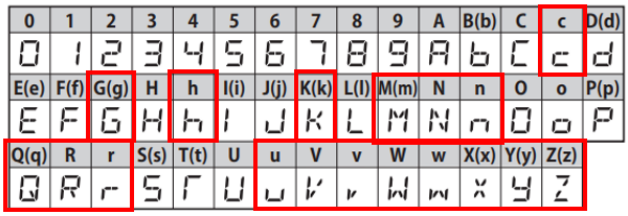
*2 The following table shows faults caused by internal safety circuit failure.

| FR-E700-NF | FR-A800 with FR-A8NF |
|---|---|
| [E.SAF], [E.6], [E.7], [E.CPU] | [E.SAF], [E.5], [E.6], [E.7], [E.CPU], [E.OPT], [E.OP1] to [E.OP3], [E.PE], [E.RET], [E.PE2], [E.PE6], [E.CTE], [E.P24], [E.OS], [E.OSD], [E.ECT], [E.OD], [E.ECA], [E.MB1] to [E.MB7], [E.EP], [E.MP], [E.13] |

(2) Digital characters on the operation panel

| FR-E700-NF | FR-A800 with FR-A8NF |
|---|---|
| Only the upper 4 digits of the parameter setting value can be displayed and set.*1 | Up to the upper 5 digits of the parameter setting value can be displayed and set. |
| Characters are indicated by the 7-segment display as follows. | Characters are indicated as follows.<br>(Changes from the current model are indicated in red.) |




*1 For parameters that allow values from the hundreds place to the second decimal place, such as 120.00 Hz, only the first decimal place can be set (120.0 Hz).

(3) Inverter status monitor

<table>
<tr><th rowspan="2">Bit</th><th colspan="2">Signal name</th><th rowspan="2">Description</th></tr>
<tr><th>FR-E700-NF</th><th>FR-A800 with FR-A8NF</th></tr>
<tr><td>0</td><td>During forward rotation</td><td>During forward rotation</td><td rowspan="2"><table><tr><th>Bit0</th><th>Bit1</th><th>Operation</th></tr><tr><td>Forward rotation: 0</td><td>Reverse rotation: 0</td><td>During stop</td></tr><tr><td>Forward rotation: 1</td><td>Reverse rotation: 0</td><td>During forward rotation</td></tr><tr><td>Forward rotation: 0</td><td>Reverse rotation: 1</td><td>During reverse rotation</td></tr><tr><td>Forward rotation: 1</td><td>Reverse rotation: 1</td><td>Not used</td></tr></table></td></tr>
<tr><td>1</td><td>During reverse rotation</td><td>During reverse rotation</td></tr>
<tr><td>2</td><td>RUN signal</td><td>RUN signal</td><td>Inverter running</td></tr>
<tr><td>3</td><td>SU signal</td><td>SU signal</td><td>Up to frequency</td></tr>
<tr><td>4</td><td>- (not used)</td><td>IPF signal</td><td>IPF signal: When E.IPF (instantaneous power failure) or E.UVT (undervoltage) is activated, the value changes to "1".</td></tr>
<tr><td>5</td><td>OL signal</td><td>OL signal</td><td>Overload warning</td></tr>
<tr><td>6</td><td>FU signal</td><td>FU signal</td><td>Output frequency detection</td></tr>
<tr><td>7</td><td>ALM signal</td><td>ALM signal</td><td>Fault</td></tr>
<tr><td>8</td><td>- (not used)</td><td>- (not used)</td><td>(Always 0)</td></tr>
<tr><td>9</td><td>Safety alarm signal</td><td>- (not used)</td><td>FR-A8NF does not support the safety alarm signal (fixed to 0).<br>Safety alarm signal: When an internal safety circuit failure occurs in the FR-E700-NF, the value changes to "1"</td></tr>
<tr><td>10</td><td>Edit signal</td><td>Edit signal</td><td>0: Parameter change disabled (X12 signal = "0")<br>1: Parameter change enabled (X12 signal = "1")</td></tr>
<tr><td>11</td><td>NET signal</td><td>NET signal</td><td>0: Command (run command / speed command) cannot be given through network.<br>1: Command (run command / speed command) can be given through network.</td></tr>
<tr><td>12</td><td>Y12 signal</td><td>Y12 signal</td><td>Output current detection</td></tr>
<tr><td>13</td><td>Y13 signal</td><td>Y13 signal</td><td>Zero current detection</td></tr>
<tr><td>14</td><td>READY signal</td><td>READY signal</td><td>Reset cancel</td></tr>
<tr><td>15</td><td>- (not used)</td><td>- (not used)</td><td>(Always 0)</td></tr>
</table>

(4) Output terminal status monitor

The layout for inverter output terminal status that can be accessed by the monitor code (virtual address) "H100001AE" is different.

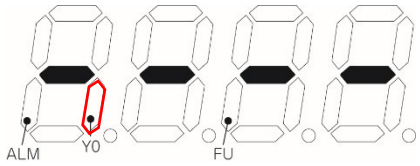
The arrangement of the LEDs displayed on the operation panel when Pr.52 (Operation panel main monitor selection) = "55" is also different.

1. FR-E700-NF

- Output terminal monitor by the monitor code "H100001AE" (1: ON state, 0: OFF state. "-" denotes an indefinite (null) value.)

| b15 | | | | | | | | | | b0 |
|---|---|---|---|---|---|---|---|---|---|---|
| - | … | - | - | - | ALM | FU | - | - | - | Y0 |

- Pr.52 (Operation panel main monitor selection) = "55"
  Output terminal monitor on the operation panel (LED ON: ON state, LED OFF: OFF state)

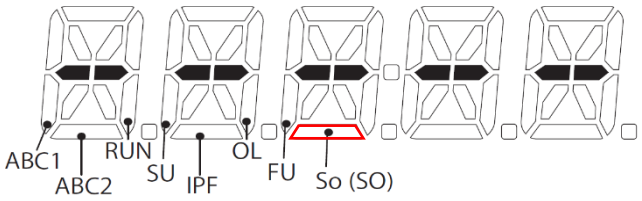



2. FR-A800 with FR-A8NF

- Output terminal monitor by the monitor code "H100001AE" (1: ON state, 0: OFF state. "-" denotes an indefinite (null) value.)

| b15 | | | | | | | | | | b0 |
|---|---|---|---|---|---|---|---|---|---|---|
| - | … | - | So (SO) | ABC2 | ABC1 | FU | OL | IPF | SU | RUN |

- Pr.52 (Operation panel main monitor selection) = "55"
  Output terminal monitor on the operation panel (LED ON: ON state, LED OFF: OFF state)



(5) Parameters

1. Parameters whose setting value is fixed when the FR-A8NF is installed to the FR-A800

For some parameters of the FR-A800, the setting value is fixed when the FR-A8NF is installed. In the Compatibility column of the table, "Yes" indicates that the function/status is compatible with the FR-E700-NF, and "-" indicates that it is not compatible or the function is not provided. Functions that require caution when using the FR-A800 are described in 1) to 3). For details, refer to the next page.

| Pr. | Name | Setting (fixed) | Function/status set by the fixed value | Compatibility |
|---|---|---|---|---|
| 76 | Fault code output selection | 0 | Without fault code output | Yes |
| 79 | Operation mode selection | 7 | PU operation interlock | Yes |
| 180 | RL terminal function selection | 0 | Low-speed operation command (RL) | Yes |
| 181 | RM terminal function selection | 1 | Middle-speed operation command (RM) | Yes |
| 182 | RH terminal function selection | 2 | High-speed operation command (RH) | Yes |
| 183 | RT terminal function selection | 3 | Second function selection (RT) | Yes |
| 184 | AU terminal function selection | 9999 | - (no function) | - |
| 185 | JOG terminal function selection | 9999 | - (no function) | - |
| 186 | CS terminal function selection | 9999 | - (no function) | - |
| 187 | MRS terminal function selection | 24 | Output stop (MRS) | Yes |
| 188 | STOP terminal function selection | 9999 | - (no function) | - |
| 189 | RES terminal function selection | 12 | PU operation interlock (X12) | Yes |
| 190 | RUN terminal function selection | 0 | Inverter running (RUN) | Yes |
| 191 | SU terminal function selection | 1 | Up to frequency (SU) | Yes |
| 192 | IPF terminal function selection | 2 | Instantaneous power failure / undervoltage (IPF) | 1) |
| 193 | OL terminal function selection | 3 | Overload warning (OL) | 2) |
| 194 | FU terminal function selection | 4 | Output frequency detection (FU) | Yes |
| 195 | ABC1 terminal function selection | 99 | Fault (ALM) | 2), 3) |
| 196 | ABC2 terminal function selection | 9999 | - (no function) | - |
| 338 | Communication operation command source | 0 | Operation command source: communication | Yes |
| 339 | Communication speed command source | 0 | Frequency command source: communication | Yes |
| 340 | Communication startup mode selection | 10 | The inverter starts up in the Network operation mode. | Yes |
| 342 | Communication EEPROM write selection | 0 | Parameter values written by communication are written to the EEPROM and RAM. | Yes |
| 500 | Communication error execution waiting time | 0 | There is no waiting time from the communication line error occurrence to the communication error activation. However, the actual time depends on the detection time on the FL remote network. | Yes |
| 502 | Stop mode selection at communication error | 1 | Deceleration stop is performed at communication error occurrence, then a fault is output. | Yes |
| 550 | NET mode operation command source selection | 9999 | The communication option is recognized automatically. | Yes |
| 551 | PU mode operation command source selection | 2 | The PU connector is the command source in the PU operation mode. | - |

1) Instantaneous power failure / undervoltage (IPF)
The IPF signal is output when the protective function E.IPF (instantaneous power failure) or E.UVT (undervoltage) is activated.

2) Pr.156 (Stall prevention operation selection)
As well as when the stall prevention operation is performed, the OL (Overload warning) signal is output when the fast-response current limit is enabled. Thus, some operations (OL signal output, fault display) specified by the Pr.156 Stall prevention operation selection setting differ from those in the FR-E700-NF.

| Pr.156 setting | FR-E700-NF | FR-A800 with FR-A8NF |
|---|---|---|
| 14 | The OL signal and E.OLT (stall prevention stop) are not output because stall prevention is disabled. | When the OL signal is output, operation continues. |
| 30 | | When the OL signal is output, E.OLT is displayed and operation does not continue. |

For lift applications, make settings to disable the fast-response current limit. Otherwise, the torque may be insufficient, causing the load to drop.

3) Fault or alarm indication

| Item | FR-E700-NF | FR-A800 with FR-A8NF | Supplemental information |
|---|---|---|---|
| [Warning] Maintenance signal output MT | "MT" is displayed.<br>  | Any of "MT1" to "MT3" is displayed.<br>  | In the FR-A800, set the time until the MT is displayed using Pr.504 Maintenance timer 1 warning output set time (MT1), Pr.687 Maintenance timer 2 warning output set time (MT2), and Pr.689 Maintenance timer 3 warning output set time (MT3). MT does not appear when the settings of Pr.504, Pr.687, and Pr.689 are initial values (9999). |
| [Warning] Undervoltage UV | Available | Not available | In the FR-A800, a protective function is activated to shut off the inverter output and E.UVT is output when an undervoltage occurs. |
| [Fault] Instantaneous power failure E.IPF | Not available | Available<br><br>The ALM signal is output when a fault occurs. | If a power failure occurs (or when power input to the inverter is shut off) for longer than 15 ms, the instantaneous power failure protective function is activated to shut off the inverter output in order to prevent the control circuit from malfunctioning. |
| [Fault] Undervoltage E.UVT | Not available | Available<br><br>The ALM signal is output when a fault occurs. | In the FR-A800, the inverter output is shut off when the power supply voltage decreases to about 150 VAC (300 VAC for the 400 V class) or below. |

2. Changes for other parameters

| Pr. | FR-E700-NF | FR-A800 with FR-A8NF | Supplemental information |
|---|---|---|---|
| Pr.40 (RUN key rotation direction selection) | Available | Not available | In the FR-A800, the rotation direction is selected using the FWD/REV key on the operation panel. |
| Pr.48 (Second stall prevention operation current) | 9999:<br>Same as Pr.22 Stall prevention operation level (initial value: 150%). | "9999" is invalid. | When "9999" is set for the FR-E700-NF, set "150" for the FR-A800. |
| Pr.96 (Auto tuning setting/status) | 1: Offline auto tuning is performed without the motor rotating under Advanced magnetic flux vector control (all motor constants).<br>11: Offline auto tuning is performed without the motor rotating under General-purpose magnetic flux vector control.<br>21: Offline auto tuning for V/F control (automatic restart after instantaneous power failure (with frequency search)) | 1: Offline auto tuning is performed without the motor rotating.<br>11: Offline auto tuning is performed without the motor rotating (under V/F control or for EM-A/MM-CF).<br>21: Invalid | • When auto tuning is performed with "1 or 11" set for the FR-E700-NF, perform auto tuning with "1" set for the FR-A800.<br>• When auto tuning is performed with "21" set for the FR-E700-NF, perform auto tuning with "11" set for the FR-A800. |
| Pr.277 (Stall prevention operation current switchover) | Available | Not available | In the FR-A800, stall prevention operation is activated based on the output current value (percentage to the inverter rated current). |
| Pr.800 (Control method selection) | General-purpose magnetic flux vector control<br>"9999" is not set in both Pr.80 and Pr.81.<br>Pr.800 = "30" | General-purpose magnetic flux vector control<br>Not available | V/F control and Advanced magnetic flux vector control are available also after replacement. |