

Discontinuation of the FR-E700EX Series Sensorless Servo Drive Units

Thank you for your continued patronage of Mitsubishi Electric drive control products.

Due to difficulties obtaining electronic parts, it will not be possible to sustain production for extended periods of time; therefore, we are discontinuing the production of the highly valued FR-E700EX series sensorless servo drive units according to the following schedule. We ask for your understanding in this matter.

1. Models to be Discontinued

- FR-E700EX series (7 models)
- Related options (1 model)

2. Schedule

Production will continue on orders received by the last day of December 2025.

Made-to-order production starts on September 1, 2025 in advance of the discontinuation.

Requests for repairs and service will be accepted until the last day of December 2032.

- * The products may be discontinued earlier depending on the difficulty of obtaining the electronic parts.
- * Repairs are subject to the supply of service parts and may not be possible even within the repair service period.

3. Products Affected

(1) FR-E700EX series

Model	
Standard model	FL remote communication model
FR-E720EX-0.1K	FR-E720EX-0.1KNF
FR-E720EX-0.2K	FR-E720EX-0.2KNF
FR-E720EX-0.4K	FR-E720EX-0.4KNF
FR-E720EX-0.75K	FR-E720EX-0.75KNF
FR-E720EX-1.5K	FR-E720EX-1.5KNF
FR-E720EX-2.2K	FR-E720EX-2.2KNF
FR-E720EX-3.7K	FR-E720EX-3.7KNF

- * There is no successor to the FR-E720EX-[]KNF.

(2) Related options

Option type	Product name
Plug-in option (Enhanced control functions and additional inputs/outputs)	FR-A7AP-EX kit

- * There is no successor to the standalone FR-A7AP-EX kit.

When the FR-E700EX series is replaced with the FR-E800 series, position control of the MM-GKR and MM-CF by pulse train input from the position module is not available.

Date of issue	July 2025	Title	Discontinuation of the FR-E700EX Series Sensorless Servo Drive Units	Mitsubishi Electric Corp., Nagoya Works 5-1-14 Yada-minami, Higashi-ku, Nagoya 461-8670 Tel.: +81 (52) 721-2111 Main line
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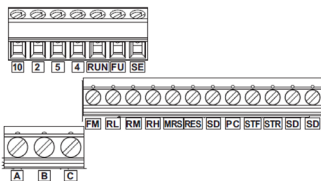
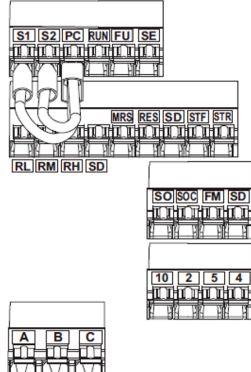
4. Successor Models

Category	Voltage class	Current model	Successor model
Standard model	Three-phase 200 VAC	FR-E720EX-[]K	FR-E820-[]K-1

* When replacing the current model with a successor model, refer to "5. Precautions for Replacement" for precautions on compatibility, etc.

5. Precautions for Replacement

For the FR-E800, the setting unit for the parameters related to the motor speed is initially set to Hz. The initial value assumes that an induction motor is driven. When driving a PM motor, always set Pr.998 (PM parameter initialization).

	FR-E720EX (FR-E720EX-□K)	FR-E820 standard model (FR-E820-□K-1)	Supplemental information						
External dimensions	Compatible. However, the width of some FR-E800 models is different as they are compact. <table><tr><th>Voltage/capacity</th><th>Width difference</th></tr><tr><td>Three-phase 200 VAC 3.7K</td><td>170 mm → 140 mm</td></tr></table>		Voltage/capacity	Width difference	Three-phase 200 VAC 3.7K	170 mm → 140 mm	—		
Voltage/capacity	Width difference								
Three-phase 200 VAC 3.7K	170 mm → 140 mm								
Installation size	Compatible. However, the installation size of some FR-E800 models is different as they are compact. Use the intercompatibility attachment to overcome this issue. <table><tr><th>Voltage/capacity</th><th>Difference in installation dimensions</th><th>Intercompatibility attachment</th></tr><tr><td>Three-phase 200 VAC 3.7K</td><td>W = 170 mm → 140 mm</td><td>FR-E8AT03</td></tr></table>		Voltage/capacity	Difference in installation dimensions	Intercompatibility attachment	Three-phase 200 VAC 3.7K	W = 170 mm → 140 mm	FR-E8AT03	—
Voltage/capacity	Difference in installation dimensions	Intercompatibility attachment							
Three-phase 200 VAC 3.7K	W = 170 mm → 140 mm	FR-E8AT03							
Control circuit terminals	Insertion type screw terminals 	Spring clamp terminals 	—						
Terminal PC	This terminal is initially open.	Terminal S1 and S2 are initially shorted.	—						
Maximum frequency (Pr.1)	Set the maximum rotation speed in Pr.1 (Maximum setting).	Set in Pr.1 (Maximum frequency) if 120 Hz or lower. If more than 120 Hz, set in Pr.18 (High speed maximum frequency).	—						
Minimum frequency (Pr.2)	0 to 4800 r/min The setting range is applicable when the MM-GKR motor (10-pole) is used and equivalent to 0 to 400 Hz.	0 to 120 Hz	—						
Starting frequency (Pr.13)	0 to 4800 r/min The setting range is applicable when the MM-GKR motor (10-pole) is used and equivalent to 0 to 400 Hz.	0 to 60 Hz	—						
Speed display (Pr.37, Pr.144)	The values set in Pr.37 (Speed display) and Pr.144 (Speed setting switchover) switch the speed display.	The value set in Pr.53 (Frequency / rotation speed unit switchover) switches the speed display.	—						

	FR-E720EX (FR-E720EX-[]K)	FR-E820 standard model (FR-E820-[]K-1)	Supplemental information
Input terminal function selection	Pr.178 to Pr.189	The following setting values will be added to Pr.178 to Pr.189. 29: Stopper control switchover (X29) 44: P/P control switchover (P control by turning ON the X44 signal) (X44) 86: Servo-ON (SON)	Setting values "29, 44, and 86" can be set in Pr.178 to Pr.189 when the firmware version is 18 or later.
Output terminal function selection	Pr.190 to Pr.196, Pr.313 to Pr.315	When the following values are set in Pr.190 to Pr.197 and Pr.313 to Pr.319, the Operation ready 3 signal is selected. 37: Operation ready 3 (positive logic) (RY3) 137: Operation ready 3 (negative logic) (RY3) When the following value is set in Pr.320 to Pr.322, the Operation ready 3 is selected. 37: Operation ready 3 (positive logic) (RY3)	Pr.190 to Pr.197 = "37, 137", Pr.313 to Pr.319 = "37, 137", and Pr.320 to Pr.322 = "37" can be set when the firmware version is 18 or later.
Monitor item	When the following value is set, the speed command is selected. 37: Speed command	When the following value is set, the speed command is selected. 66: Speed command	"66" can be set for the monitor item when the firmware version is 18 or later.
Low-speed range response setting	Pr.737	Pr.146	Pr.146 is available when the firmware version is 18 or later.
DC brake torque boost (Pr.795)	Pr.795 (DC brake torque boost)	Pr.795 (DC injection brake operation current level)	Pr.795 is available when the firmware version is 18 or later.
PM parameter initialization (Pr.998)	When the following values are set in Pr.998 (PM parameter initialization), the MM-GKR motor is selected. 3024: Parameter settings for PM motor MM-GKR (rotations per minute) 3124: Parameter settings for PM motor MM-GKR (frequency)	When the following values are set in Pr.998 (PM parameter initialization), the MM-GKR motor (E700EX compatible mode) is selected. 3054: Parameter settings for PM motor MM-GKR (rotations per minute) (E700EX compatible mode) 3154: Parameter settings for PM motor MM-GKR (frequency) (E700EX compatible mode)	Setting Pr.998 = "3054 or 3154" in the E700EX compatible mode will provide more quietness than when driven using the conventional setting of the FR-E800. Setting values "3054 and 3154" can be set in Pr.998 when the firmware version is 18 or later.
Control method selection (Pr.800)	When the following values are set in Pr.800 (Control method selection), PM sensorless vector control is selected. 10: Speed control 13: Position control 14: Speed control / position control switchover	When the following values are set in Pr.800 (Control method selection), PM sensorless vector control (E700EX compatible mode) is selected. 210: Speed control 213: Position control 214: Speed control / position control switchover	Pr.800 = "210, 213, or 214" can be set when the firmware version is 18 or later. The existing PM sensorless vector control setting values ("10, 13, and 14") are also available.
Number of motor poles	Pr.81 (Number of motor poles)	The following setting values will be added to Pr.81 (Number of motor poles) and Pr.451 (Number of second motor poles). 14, 16, 18, 20, 22, 24: Number of motor poles	Setting values "14, 16, 18, 20, 22, and 24" can be set in Pr.81 and Pr.451 when the firmware version is 18 or later.

	FR-E720EX (FR-E720EX-[]K)	FR-E820 standard model (FR-E820-[]K-1)	Supplemental information
Easy gain tuning (Pr.818, Pr.819)	Pr.818, Pr.819	Pr.818, Pr.819	Pr.818 and Pr.819 are available when the firmware version is 18 or later.
Automatic servo-ON	Pr.327	Pr.1493	Pr.1493 is available when the firmware version is 18 or later.
Speed estimation P gain (Pr.730)	When Pr.730 = "9999", the operation is performed according to the following setting value. MM-GKR 0.1K: 200% MM-GKR 0.2K to 0.75K : 125% MM-BF motor (10000 r/min): 75% Other than the above: 100%	When Pr.730 = "9999", the operation is performed according to the following setting value. MM-GKR 0.1K: 200% MM-GKR 0.2K to 0.75K : 125% Other than the MM-GKR: 100%	Pr.730 is available when the firmware version is 18 or later.
Speed control P gain	Pr.820 (Speed control P gain) = "0 to 5000%"	Pr.820 (Speed control P gain 1), Pr.830 (Speed control P gain 2) The setting range will be changed from "0 to 1000%" to "0 to 5000%". Pr.820 (Speed control P gain 1) = "0 to 5000%" Pr.830 (Speed control P gain 2) = "0 to 5000%, 9999" * When an induction motor is driven, the upper limit is 1000%.	Setting values "0 to 5000%" can be set in Pr.820 and Pr.830 when the firmware version is 18 or later.
PM control torque boost (Pr.785)	Pr.785	Pr.785	Pr.785 is available when the firmware version is 18 or later. Note that the parameter name of Pr.785 for the FR-E800 is "Increased magnetic excitation current level".
Notch filter	Pr.862, Pr.863, Pr.871	Pr.1003 to Pr.1005	Pr.1003 to Pr.1005 are available when the firmware version is 18 or later.
Simple positioning function by point tables	Pr.578 to 591	Pr.1222 to Pr.1249 Positioning sub-functions will be added.	—
Home position return	Pr.453, Pr.455, Pr.456, Pr.508, Pr.509, Pr.533, Pr.534, Pr.532, Pr.454	Pr.1283, Pr.511, Pr.1095, Pr.1285, Pr.1286, Pr.1289, Pr.1290, Pr.1282, Pr.1284	Setting values for compatibility with the FR-E700EX are available in Pr.1095 when the firmware version is 18 or later. The target setting values are those from Pr.456 of the FR-E700EX, plus 10000, except for the value "9999". The following setting values can be set in Pr.1282 when the firmware version is 18 or later. 5, 105, 205: Dog type back end reference 9, 109, 209: Dog type front end reference Pr.1284 is available when the firmware version is 18 or later.

	FR-E720EX (FR-E720EX-□K)	FR-E820 standard model (FR-E820-□K-1)	Supplemental information
Position control terminal input selection	Pr.535	Pr.1292	—
Roll feed mode selection	Pr.537	Pr.1293	—
Position detection	Pr.510, Pr.511, Pr.536, Pr.506	Pr.1294 to 1297	—
Stopper control	Pr.512 to Pr.515	Pr.1414, Pr.1415, Pr.1417, Pr.1418	Pr.1414, Pr.1415, Pr.1417, and Pr.1418 are available when the firmware version is 18 or later.
Position control rotation direction selection	Pr.463	Pr.1419	Pr.1419 is available when the firmware version is 18 or later.
<ul style="list-style-type: none"> • Brake operation time at start • Brake operation time at stop 	Pr.281, Pr.283	Pr.1494, Pr.1495 The above parameters can be used to set the brake operation time at start and brake operation time at stop in 0.01 second increments as well as in the FR-E700EX.	Pr.1494 and Pr.1495 are available when the firmware version is 18 or later.
Torque limit level setting method using terminal 4	Setting Pr.22 (Torque Limit Level) = "9999" allows the torque limit level setting using terminal 4.	Setting both Pr.858 (Terminal 4 function assignment) = "4" and Pr.810 (Torque limit input method selection) = "1" allows the torque limit level setting using terminal 4.	—
S-PM geared motor	Supported	To be supported in February 2026	When paired with an S-PM geared motor, select an inverter one rank higher than the motor capacity.
Global PM motor (EM-A)	Supported	Supported	As of July 2025, the latest software version (firmware version 14) has been incorporated into mass production so that the motor can be driven without offline auto tuning for PM motors. The PM sensorless vector control (E700EX compatible mode) operation will be supported in the February 2026 firmware update.
Sensorless servo motor (MM-GKR)	Supported	Supported	As of July 2025, the latest software version (firmware version 14) has been incorporated into mass production so that the motor can be driven without offline auto tuning for PM motors. The PM sensorless vector control (E700EX compatible mode) operation will be supported when the firmware version is 18 or later.