MITSUBISHI ELECTRIC
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Automating the World

INVERTER

FACTORY AUTOMATION

New Product RELEASE No.25-3E

E800

The FR-E800-NC inverters, supporting functions specific to CC-Link communication, have been added to the lineup.

FR-E820-0.1KNC
CC-Link communication function model

NEW

▶Supports the CC-Link communication function

- With the CC-Link communication connector and the operating status indicators on the front cover, the inverter is suitable for CC-Link communication systems.
- Network communication is available even while the main circuit power supply is OFF during the 24 V external power supply operation.

Release schedule	September 2025

Benefit

■ CC-Link communication function integrated in the FR-E800 series inverter

When replacing the FR-E700-NC with the FR-E800-NC, the system can continue using CC-Link communication. The FR-E800 series also features enhanced functionality.

Key enhancements

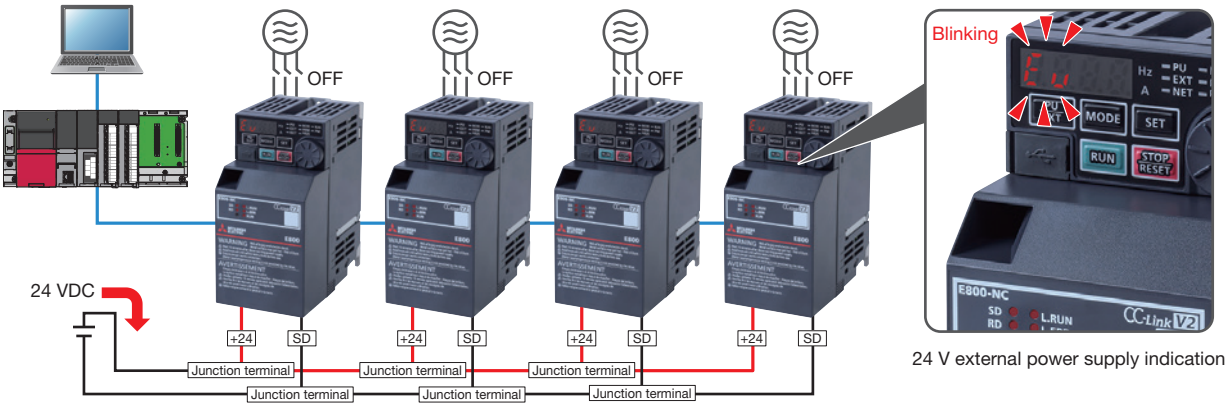
Item		FR-E800-NC	FR-E700-NC
Multiple ratings		Two ratings (LD/ND)	Not available (ND only)
Control method	V/F control	Available	
	Advanced magnetic flux vector control	Available	
	Real sensorless vector control	Available	Not available
	PM sensorless vector control	Available	Not available
Control mode	Speed control	Available	
	Torque control	Available	Not available
	Position control	Available	Not available
Output frequency		0.2 to 590 Hz (under V/F control) 0.2 to 400 Hz (under other than V/F control)	0.2 to 400 Hz
PLC function		Available	Not available
Life check function		• Main circuit capacitor residual-life estimation (available during operation) • Power cycle life diagnosis • Main circuit capacitor life diagnosis • Control circuit capacitor life diagnosis • Cooling fan life diagnosis • Inrush current limit circuit life diagnosis	• Main circuit capacitor life diagnosis • Control circuit capacitor life diagnosis • Cooling fan life diagnosis • Inrush current limit circuit life diagnosis
AI fault diagnosis		Available	Not available

Item	FR-E800-NC	FR-E800 standard model with FR-A8NC E kit
24 V external power supply terminal (+24, SD)	Provided	Not provided
Operation mode at power-ON (initial setting)	Network operation mode	External operation mode

■ Easier maintenance

Connecting a 24 V external power supply across terminals +24 and SD enables the 24 V external power supply operation even at power-OFF of inverter's main circuit power supply.
During the 24 V external power supply operation, maintenance can be performed safely as the parameter setting and communication operation can be done without turning ON the main circuit power supply.
When a fault occurs, troubleshooting is facilitated as the fault indication remains after turning OFF the main circuit power supply. *1

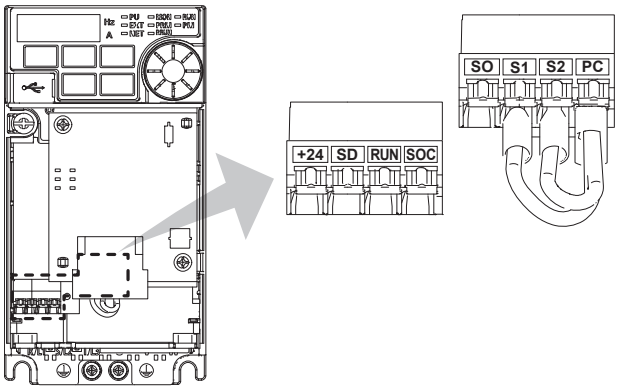
*1 To disable resetting when the power is supplied to the main circuit, set a value in the 100s range in Pr.30 (Regenerative function selection).



24 V external power supply indication

Terminal specifications

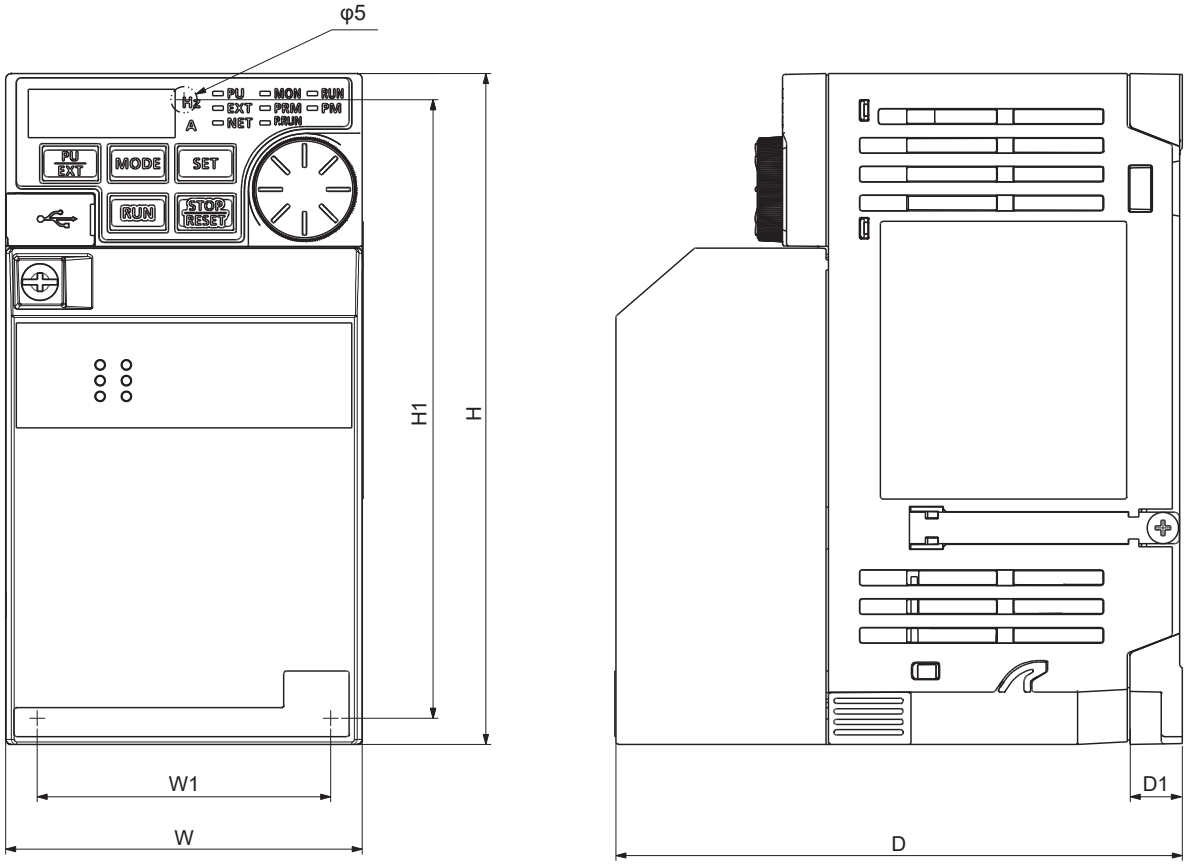
Type	Terminal symbol	Terminal symbol
24 V external power supply	+24	24 V external power supply
	SD	24 V external power supply common
Safety stop	S1	Safety stop input (Channel 1)
	S2	Safety stop input (Channel 2)
	PC	Safety stop input terminal common
	SO	Safety monitor output
	SOC	Safety monitor output common / open collector output common
Open collector	RUN	Inverter running (RUN) signal



Outline dimension drawings

(Unit: mm)

Example: FR-E820-0.1KNC

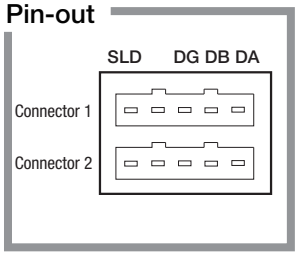


Inverter model	W	W1	H	H1	D	D1
FR-E820-0.1KNC	68	56	128	118	108.1	10
FR-E820-0.2KNC						
FR-E820-0.4KNC					140.1	42
FR-E820-0.75KNC					160.1	
FR-E820-1.5KNC	108	96			163.1	46
FR-E820-2.2KNC						
FR-E820-3.7KNC	140	128			170.1	52.5
FR-E840-0.4KNC	108	96			157.1	40
FR-E840-0.75KNC						
FR-E840-1.5KNC					162.6	46
FR-E840-2.2KNC	140	128	150	138		43.5
FR-E840-3.7KNC						

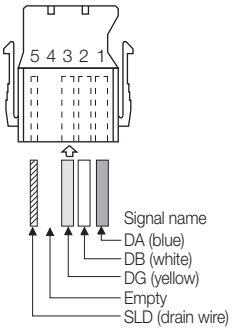
Communication specifications

Shape	One-touch connector connection, online connector (T type (2 to 1)) supported
Power supply	Supplied from the inverter
Number of connectable units	Up to 42 units. (Refer to the FR-E800 Instruction Manual (Communication) for the number of occupied stations). Other models can also be used.
Station type	Remote device station
Number of occupied stations	CC-Link Ver.1: Occupies one station CC-Link Ver.2: Occupies one station (double, quadruple, and octuple settings are selectable)
Connection cable	CC-Link dedicated cable, CC-Link Ver. 1.10 compatible CC-Link dedicated cable

Pin-out



CC-Link communication one-touch connector plug



CC-Link communication one-touch connector plug (as of July 2025)
(The product may be changed without notice.)
If purchasing a CC-Link communication one-touch connector plug separately, refer to the plugs in the following list.

- A6CON-L5P (Mitsubishi Electric Corporation)
- 35505-6000-B0M GF (3M Japan Limited)

Lineup

For the details of the lineup, please contact your sales representative.

FR-E8 2 0 - 0.1K NC

Symbol	Voltage class
2	200 V
4	400 V

Symbol	Description
0.1K to 3.7K	Applicable motor capacity (ND) (kW)

Symbol	Communication / functional safety specifications
NC	CC-Link communication + SIL2/PLd

Symbol	Circuit board coating*1	Plated conductor
None	Without	Without
-60	With	Without

Model		Applicable motor capacity (ND rating) (kW)						
		0.1	0.2	0.4	0.75	1.5	2.2	3.7
Three-phase 200 V	FR-E820-[]KNC	●	●	●	●	●	●	●
Three-phase 400 V	FR-E840-[]KNC	—	—	●	●	●	●	●

●: Released
—: Not applicable

*1 Conforming to IEC 60721-3-3:1994 3C2

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