

INVERTER
FR-E800

Addition of E800-EPC models

Released in May 2021

Design future
manufacturing

Open network and functional safety
functions in a compact size

E800



GOOD
DESIGN
AWARD
2020



**EtherCAT communication supported, enabling
more flexible network configuration** **E800-E**

FR-E800-EPC models are added to the models that support protocols of major global industrial Ethernet networks. FR-E800 inverters support a variety of open networks without using any options, enabling the use of inverters on the existing network and assuring compatibility with various systems.

Selectable protocols differ depending on the group.

Protocol group A	CC-Link IE TSN, CC-Link IE Field Network Basic, MODBUS/TCP, EtherNet/IP, and BACnet/IP
Protocol group B	CC-Link IE TSN, CC-Link IE Field Network Basic, MODBUS/TCP, and PROFINET
Protocol group C	EtherCAT

Multi-protocols
supported

EtherNet/IP
PROFINET
MODBUS[®]/TCP

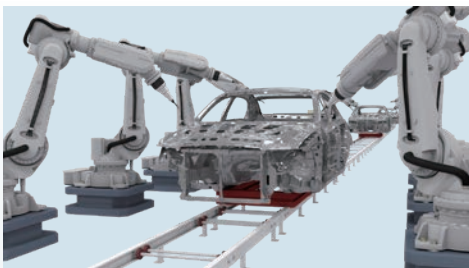


CC-Link IE TSN
CC-Link IE Field Basic

EtherCAT
BACnet/IP

Supporting various applications

FR-E800-EPC inverters can be used together with EtherCAT compatible servo amplifiers on the EtherCAT network. The inverters can be used for various applications, such as transport and production lines.



Transport
(automotive factory)



Stirring
(lithium-ion battery production line)



• Communication specifications

Item	Description	
Transmission speed	100 Mbps (Full duplex)	
Maximum number of connected units	65535*1	
Connection cable	Ethernet cable (IEEE 802.3 100BASE-TX compliant cable or ANSI/TIA/EIA-568-B (Category 5e) compliant shielded 4-pair branched cable)	
Topology	Line, star, ring, or a combination of line and star*2	
PDO (Process Data Object) communication	Communication method	Cyclic communication
	Cycle time	Depends on the master
SDO (Service Data Object) communication	Communication method	Mailbox communication (acyclic communication)
	Synchronization mode	Free-run mode Local cycle time: 4 ms

*1: The number varies depending on the specification of the master.

*2: For star or ring topology, a general-purpose switching hub cannot be used. Use an EtherCAT branch slave.

• Lineup

FR-E8 2 0 - 0.1K EPC

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

Symbol	Voltage class
1*6	100 V
2	200 V
4	400 V
6	575 V

Symbol	Structure, functionality
0	Standard

Symbol	Description
0.1K to 22K	Inverter ND rated capacity (kW)
0008 to 0900	Inverter ND rated current (A) *1

Symbol	Voltage specifications
None	Three-phase
S	Single-phase 200 V input
W*6	Single-phase 100 V input (double voltage rectification)

Symbol	Circuit board coating*3	Plated conductor
None	Without coating	Without plated conductors
-60	With coating	Without plated conductors
-06*4	With coating	With plated conductors

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Symbol	Communication /functional safety specifications	Monitoring/protocol specifications	Rated frequency (initial setting)	Control logic (initial status)
-1	RS-485 + SIL2/PLd	Pulse (terminal FM)	60 Hz	Sink logic
-4*1*5		Voltage (terminal AM)	50 Hz	Source logic
-5		Voltage (terminal AM)	60 Hz	Sink logic
EPA	Ethernet + SIL2/PLd	Protocol group A*2	60 Hz	Sink logic
EPB		Protocol group B*2	50 Hz	Sink logic / Source logic*7
EPC		Protocol group C*2	50 Hz	Sink logic / Source logic*7
SCEPA	Ethernet + SIL3/PLe	Protocol group A*2	60 Hz	Source logic*8
SCEPB		Protocol group B*2	50 Hz	Source logic*8
SCEPC*6		Protocol group C*2	50 Hz	Source logic*8

*1: Models with circuit board coating (-60/-06) only.

*2: Selectable protocols differ depending on the group.

Protocol group A: CC-Link IE TSN, CC-Link IE Field Network Basic, MODBUS/TCP, EtherNet/IP, and BACnet/IP

Protocol group B: CC-Link IE TSN, CC-Link IE Field Network Basic, MODBUS/TCP, and PROFINET

Protocol group C: EtherCAT

*3: Compatible with IEC 60721-3-3: 1994 3C2.

*4: Available for the 11K or higher.

*5: The kW indication is not available for models with a suffix "-4". When the kW indication is required, purchase the applicable model with a suffix "-5" and change the initial settings with reference to the Instruction Manual. (Refer to the Instruction Manual (Connection) for the switching of the control logic of the inverter, and the Instruction Manual (Function) for the rated frequency.)

*6: To be released

*7: The initial status of the control logic differs depending on the inverter model.

Sink logic for the models indicated with the rated capacity (kW)

Source logic for the models indicated with the rated current (A)

*8: The control logic is fixed to the source logic.

	0.1K	0.2K	0.4K	0.75K	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K
Three-phase 200 V	0008	0015	0030	0050	0080	0110	0175	0240	0330	0470	0600	0760	0900
FR-E820-[(E/SCE)	●	●	●	●	●	●	●	●	●	●	●	●	●
Three-phase 400 V	-	-	0.4K	0.75K	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K
FR-E840-[(E/SCE)	-	-	●	●	●	●	●	●	●	●	●	●	●
Three-phase 575 V	-	-	-	0.75K	1.5K	2.2K	3.7K	5.5K	7.5K	-	-	-	-
FR-E860-[(E/SCE)	-	-	-	●	●	●	●	●	●	-	-	-	-
Single-phase 200 V	0.1K	0.2K	0.4K	0.75K	1.5K	2.2K	-	-	-	-	-	-	-
FR-E820S-[(E/SCE)	●	●	●	●	●	●	-	-	-	-	-	-	-
Single-phase 100 V	0.1K	0.2K	0.4K	0.75K	-	-	-	-	-	-	-	-	-
FR-E810W-[(E/SCE)	○	○	○	○	-	-	-	-	-	-	-	-	-

●: Released ○: To be released -: Not applicable

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EtherCAT is a trademark of Beckhoff Automation GmbH.
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