Standard Specifications

◆ Rating

◆ Three-phase 200 V class

Model FR-E820-[]				0008	0015	0030	0050	0080	0110	0175	0240	0330	0470	0600	0760	0900
				0.1K	0.2K	0.4K	0.75K	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K
Applicable motor capacity (kW)*1			LD	0.2	0.4	0.75	1.1	2.2	3.0	5.5	7.5	11.0	15.0	18.5	22.0	30.0
			ND	0.1	0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
Output	Rated capacity (kVA)*2		LD	0.5	0.8	1.4	2.4	3.8	4.8	7.8	12.0	15.9	22.3	27.5	35.1	45.8
			ND	0.3	0.6	1.2	2.0	3.2	4.4	7.0	9.6	13.1	18.7	23.9	30.3	35.9
	Rated current (A)*7		LD	1.3 (1.1)	2.0 (1.7)	3.5 (3.0)	6.0 (5.1)	9.6 (8.2)	12.0 (10.2)	19.6 (16.7)	30.0 (25.5)	40.0 (34.0)	56.0 (47.6)	69.0 (58.7)	88.0 (74.8)	115.0 (97.8)
			ND	0.8 (0.8)	1.5 (1.4)	3.0 (2.5)	5.0 (4.1)	8.0 (7.0)	11.0 (10.0)	17.5 (16.5)	24.0 (23.0)	33.0 (31.0)	47.0 (44.0)	60.0 (57.0)	76.0 (72.0)	90.0 (86.0)
	Overload current rating*3		LD	120% 60 s, 150% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C												
			ND	150% 60 s, 200% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C												
	Voltage*4			Three-phase 200 to 240 V												
	Regenerative braking	Brake transistor		Not installed		Built-in										
		Maximum brake torque (ND reference)*5		150%		100%		50%	20%							
Power supply	Rated input AC (DC) voltage/frequency			Three-phase 200 to 240 V 50/60 Hz (283 to 339 VDC *9)												
	Permissible AC (DC) voltage fluctuation			170 to 264 V, 50/60 Hz (240 to 373 VDC *9)												
	Permissible frequency fluctuation			±5%												
	Rated input current (A)*8	Without DC reactor	LD	1.9	3.0	5.1	8.2	12.5	16.1	25.5	37.1	48.6	74.3	90.5	112.9	139.5
			ND	1.4	2.3	4.5	7.0	10.7	15.0	23.1	30.5	41.0	63.6	79.9	99.0	114.3
		With DC reactor	LD	1.3	2.0	3.5	6.0	9.6	12.0	20.0	30.0	40.0	56.0	69.0	88.0	115.0
			ND	0.8	1.5	3.0	5.0	8.0	11.0	17.5	24.0	33.0	47.0	60.0	76.0	90.0
	Power supply capacity (kVA)*6	Without DC reactor	LD	0.7	1.1	1.9	3.1	4.8	6.2	9.7	15.0	19.0	29.0	35.0	43.0	54.0
			ND	0.5	0.9	1.7	2.7	4.1	5.7	8.8	12.0	16.0	25.0	31.0	38.0	44.0
		With DC reactor	LD	0.5	0.8	1.3	2.3	3.7	4.6	7.5	11.0	15.0	21.0	26.0	34.0	44.0
			ND	0.3	0.6	1.1	1.9	3.0	4.2	6.7	9.1	13.0	18.0	23.0	29.0	34.0
Protective structure (IEC 60529)				Open type (IP20)												
Cooling system				Natural				Forced air								
Approx. mass (kg)				0.5	0.5	0.7	1.0	1.4	1.4	1.8	3.3	3.3	5.4	5.6	11.0	11.0

◆ Three-phase 400 V class

Model FR-E840-[]				0016	0026	0040	0060	0095	0120	0170	0230	0300	0380	0440
				0.4K	0.75K	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K
Applicable motor capacity (kW)*1			LD	0.75	1.5	2.2	3.0	5.5	7.5	11.0	15.0	18.5	22.0	30.0
			ND	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
Output	Rated capacity (kVA) *2		LD	1.6	2.7	4.2	5.3	8.5	13.3	17.5	26.7	31.2	34.3	45.7
			ND	1.2	2.0	3.0	4.6	7.2	9.1	13.0	17.5	22.9	29.0	33.5
	Rated current (A) *7		LD	2.1 (1.8)	3.5 (3.0)	5.5 (4.7)	6.9 (5.9)	11.1 (9.4)	17.5 (14.9)	23.0 (19.6)	35.0 (29.8)	41.0 (34.9)	45.0 (38.3)	60.0 (51.0)
			ND	1.6 (1.4)	2.6 (2.2)	4.0 (3.8)	6.0 (5.4)	9.5 (8.7)	12.0	17.0	23.0	30.0	38.0	44.0
	Overload current rating *3		LD	120% 60 s, 150% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C										
			ND	150% 60 s, 200% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C										
	Voltage *4			Three-phase 380 to 480 V										
	Regenerative braking	Brake transistor		Built-in										
		Maximum brake torque (ND reference) *5		100%		50%	20%							
Power supply	Rated input AC (DC) voltage/frequency			Three-phase 380 to 480 V 50/60 Hz (537 to 679VDC *9)										
	Permissible AC (DC) voltage fluctuation			323 to 528 V, 50/60 Hz (457 to 740VDC *9)										
	Permissible frequency fluctuation			±5%										
	Rated input current (A) *8	Without DC reactor	LD	3.3	6.0	8.9	10.7	16.2	24.9	32.4	46.7	54.2	59.1	75.6
			ND	2.7	4.4	6.7	9.5	14.1	17.8	24.7	32.1	41.0	50.8	57.3
		With DC reactor	LD	2.1	3.5	5.5	6.9	11.0	18.0	23.0	35.0	41.0	45.0	60.0
			ND	1.6	2.6	4.0	6.0	9.5	12.0	17.0	23.0	30.0	38.0	44.0
	Power supply capacity (kVA) *6	Without DC reactor	LD	2.5	4.5	6.8	8.2	12.4	19.0	25.0	36.0	42.0	45.0	58.0
			ND	2.1	3.4	5.1	7.2	10.8	14.0	19.0	25.0	32.0	39.0	44.0
		With DC reactor	LD	1.6	2.7	4.2	5.3	8.5	13.0	18.0	27.0	31.0	34.0	46.0
			ND	1.2	2.0	3.0	4.6	7.2	9.1	13.0	18.0	23.0	29.0	34.0
Protective structure (IEC 60529)				Open type (IP20)										
Cooling system				Natural		Forced air								
Approx. mass (kg)				1.2	1.2	1.4	1.8	1.8	2.4	2.4	4.8	4.9	11.0	11.0

*1 The applicable motor capacity indicated is the maximum capacity applicable for use of the Mitsubishi Electric 4-pole standard motor.
To drive a Mitsubishi Electric high-performance energy-saving motor, use the 200 V class 0.75K inverter for a 1.1 kW motor, or 200/400 V class 2.2K inverter for a 3 kW motor.

*2 The rated output capacity indicated assumes that the output voltage is 230 V for three-phase 200 V class and 440 V for three-phase 400 V class.

*3 The % value of the overload current rating indicated is the ratio of the overload current to the inverter's rated output current. For repeated duty, allow time for the inverter and motor to return to or below the temperatures under 100% load.

*4 The maximum output voltage does not exceed the power supply voltage. The maximum output voltage can be changed within the setting range. However, the pulse voltage value of the inverter output side voltage remains unchanged at about√2 that of the power supply.

*5 The braking torque indicated is a short-duration average torque (which varies with motor loss) when the motor alone is decelerated from 60 Hz in the shortest time and is not a continuous regenerative torque. When the motor is decelerated from the frequency higher than the base frequency, the average deceleration torque will reduce. Since the inverter does not contain a brake resistor, use the optional brake resistor when regenerative energy is large. A brake unit (FR-BU2) may also be used. (Option brake resistor cannot be used for 0.1K and 0.2K.)

*6 The power supply capacity varies with the value of the power supply side inverter impedance (including those of the input reactor and cables).

*7 Setting 2 kHz or more in **Pr. 72 PWM frequency selection** to perform low acoustic noise operation in the surrounding air temperature exceeding 40°C, the rated output current is the value in parenthesis.

*8 The rated input current is the value when at the rated output current. The input power impedances (including those of the input reactor and cables) affect the value.

*9 • Connect the DC power supply to the inverter terminals P/+ and N/-. Connect the positive terminal of the power supply to terminal P/+ and the negative terminal to terminal N/-.
• When the energy is regenerated from the motor, the voltage between terminals P/+ and N/- may temporarily rise to 415 V or more. Use a DC power supply resistant to the regenerative voltage/energy. When a power supply that cannot resist the regenerative voltage/energy is used, connect a reverse current prevention diode in series.
• Powering ON produces up to four times as large current as the inverter rated current. Prepare a DC power supply resistant to the inrush current at power ON, although an inrush current limit circuit is provided in the FR-E800 series inverter.
• The power capacity depends on the output impedance of the power supply. Select a power capacity around the AC power supply capacity.

◆ Three-phase 575 V class

Model FR-E860-[]				0017	0027	0040	0061	0090	0120
				0.75K	1.5K	2.2K	3.7K	5.5K	7.5K
Applicable motor capacity (kW) ∗1			LD	1.5	2.2	3.7	5.5	7.5	11.0
			ND	0.75	1.5	2.2	3.7	5.5	7.5
Output	Rated capacity (kVA) ∗2		LD	2.5	3.6	5.6	8.2	11.0	15.9
			ND	1.7	2.7	4.0	6.1	9.0	12.0
	Rated current (A) ∗7		LD	2.5 (2.1)	3.6 (3.0)	5.6 (4.8)	8.2 (7.0)	11.0 (9.0)	16.0 (13.6)
			ND	1.7	2.7	4.0	6.1	9.0	12.0
	Overload current rating ∗3		LD	120% 60 s, 150% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C					
			ND	150% 60 s, 200% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C					
	Voltage ∗4			Three-phase 525 to 600 V					
	Regenerative braking	Brake transistor		Built-in					
		Maximum brake torque (ND reference) ∗5		100%	50%	20%			
Power supply	Rated input AC voltage/frequency			Three-phase 575 V 60 Hz					
	Permissible AC voltage fluctuation			490 to 632 V, 60 Hz					
	Permissible frequency fluctuation			±5%					
	Rated input current (A) ∗8	Without DC reactor	LD	4.3	5.9	8.9	12.4	15.9	22.4
			ND	3.0	4.6	6.6	9.5	13.3	17.4
		With DC reactor	LD	2.5	3.6	5.6	8.2	11.0	16.0
			ND	1.7	2.7	4.0	6.1	9.0	12.0
	Power supply capacity (kVA) ∗6	Without DC reactor	LD	4.3	5.9	8.9	12.3	16.0	23.0
			ND	3.0	4.6	6.6	9.5	14.0	18.0
		With DC reactor	LD	2.5	3.6	5.6	8.2	11.0	16.0
			ND	1.7	2.7	4.0	6.1	9.0	12.0
Protective structure (IEC 60529)				Open type (IP20)					
Cooling system				Natural	Forced air				
Approx. mass (kg)				1.9	1.9	1.9	2.4	2.4	2.4

◆ Single-phase 200 V class

Model FR-E820S-[]				0008	0015	0030	0050	0080	0110
				0.1K	0.2K	0.4K	0.75K	1.5K	2.2K
Applicable motor capacity (kW)∗1			ND	0.1	0.2	0.4	0.75	1.5	2.2
Output	Rated capacity (kVA)∗2		ND	0.3	0.6	1.2	2.0	3.2	4.4
	Rated current (A)∗7		ND	0.8 (0.8)	1.5 (1.4)	3.0 (2.5)	5.0 (4.1)	8.0 (7.0)	11.0 (10.0)
	Overload current rating∗3		ND	150% 60 s, 200% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C					
	Voltage∗4			Three-phase 200 to 240 V					
	Regenerative braking	Brake transistor		Not installed		Built-in			
		Maximum brake torque (ND reference)∗5		150%		100%		50%	20%
Power supply	Rated input AC voltage/frequency			Single-phase 200 to 240 V 50/60 Hz					
	Permissible AC voltage fluctuation			170 to 264 V, 50/60 Hz					
	Permissible frequency fluctuation			±5%					
	Rated input current (A)∗8	Without DC reactor	ND	2.3	4.1	7.9	11.2	17.9	25.0
		With DC reactor		1.4	2.6	5.2	8.7	13.9	19.1
	Power supply capacity (kVA)∗6	Without DC reactor	ND	0.5	0.9	1.7	2.5	3.9	5.5
		With DC reactor		0.3	0.6	1.1	1.9	3.0	4.2
Protective structure (IEC 60529)				Open type (IP20)					
Cooling system				Natural				Forced air	
Approx. mass (kg)				0.5	0.5	0.8	1.3	1.4	1.9

∗1 The motor capacity indicates the maximum capacity of a 4-pole standard motor driven by all of the inverters in parallel connection.
∗2 The rated output capacity indicated assumes that the output voltage is 575 V.
∗3 The % value of the overload current rating indicated is the ratio of the overload current to the inverter's rated output current. For repeated duty, allow time for the inverter and motor to return to or below the temperatures under 100% load.
∗4 The maximum output voltage does not exceed the power supply voltage. The maximum output voltage can be changed within the setting range. However, the pulse voltage value of the inverter output side voltage remains unchanged at about√2 that of the power supply.
∗5 The amount of braking torque is the average short-term torque (which varies depending on motor loss) that is generated when a motor decelerates in the shortest time by itself from 60 Hz. It is not continuous regenerative torque. The average deceleration torque becomes lower when a motor decelerates from a frequency higher than the base frequency. The inverter is not equipped with a built-in brake resistor. Use a brake resistor for an operation with large regenerative power. A brake unit can be also used.
∗6 The power supply capacity varies with the value of the power supply side inverter impedance (including those of the input reactor and cables).
∗7 Setting 2 kHz or more in **Pr. 72 PWM frequency selection** to perform low acoustic noise operation in the surrounding air temperature exceeding 40°C, the rated output current is the value in parenthesis.
∗8 The rated input current indicates a value at a rated output voltage. The impedance at the power supply side (including those of the input reactor and cables) affects the rated input current.

● Common specifications

Control specifications	Control method		Soft-PWM control/high carrier frequency PWM control
		Induction motor	Selectable among V/F control, Advanced magnetic flux vector control, Real sensorless vector control, and Vector control∗1
		PM motor	PM sensorless vector control
	Output frequency range	Induction motor	0.2 to 590 Hz (The upper-limit frequency is 400 Hz under Advanced magnetic flux vector control, Real sensorless vector control, and Vector control∗1.)
		PM motor	0.2 to 400 Hz (not operable at maximum motor frequency or higher)
	Frequency setting resolution	Analog input	0.015 Hz /60 Hz at 0 to 10 V / 12 bits (terminals 2 and 4) 0.03 Hz /60 Hz at 0 to 5 V / 11 bits or 0 to 20 mA / 11 bits (terminals 2 and 4)
		Digital input	0.01 Hz
	Frequency accuracy	Analog input	Within ±0.2% of the max. output frequency (25°C ±10°C)
		Digital input	Within 0.01% of the set output frequency
	Voltage/frequency characteristics		Base frequency can be set from 0 to 590 Hz. Constant-torque/variable torque pattern can be selected. (available with induction motors only)
	Starting torque	Induction motor	150% 0.5 Hz (Advanced magnetic flux vector control) 200% 0.3 Hz (0.1K to 3.7K), 150% 0.3 Hz (5.5K or more) (Real sensorless vector control)
		PM motor	50%
	Torque boost		Manual torque boost (available with induction motors only)
	Acceleration/deceleration time setting		0 to 3600 s (acceleration and deceleration can be set individually), linear or S-pattern acceleration/deceleration mode
	DC injection brake	Induction motor	Operation frequency (0 to 120 Hz), operation time (0 to 10 s), operation voltage (0 to 30%) can be changed.
		PM motor	Operation time (0 to 10 s) can be changed, operation voltage (operating current) is fixed.
	Stall prevention operation level		Operation current level can be set (0 to 220% adjustable), whether to use the function or not can be selected.
	Torque limit level		Torque limit value can be set (0 to 400% variable). (Real sensorless vector control, Vector control∗1, PM sensorless vector control)
Operation specifications	Frequency setting signal	Analog input	Terminals 2 and 4: 0 to 10 V, 0 to 5 V, 4 to 20 mA (0 to 20 mA) are available.
		Digital input	Input using the operation panel. Four-digit BCD or 16-bit binary (when used with option FR-A8AX E kit)
	Start signal		Forward and reverse rotation or start signal automatic self-holding input (3-wire input) can be selected.
	Input signal (standard model: 7, Ethernet model: 2)		Low-speed operation command, Middle-speed operation command, High-speed operation command, Output stop, Forward rotation command, Reverse rotation command, Inverter reset The input signal can be changed using **Pr.178 to Pr.189 (input terminal function selection)**.
	Operational functions		Maximum and minimum frequency settings, multi-speed operation, acceleration/deceleration pattern, thermal protection, DC injection brake, starting frequency, JOG operation, output stop (MRS), stall prevention, regeneration avoidance, increased magnetic excitation deceleration, frequency jump, rotation display, automatic restart after instantaneous power failure, remote setting, automatic acceleration/deceleration, retry function, carrier frequency selection, fast-response current limit, forward/reverse rotation prevention, operation mode selection, slip compensation, droop control, speed smoothing control, traverse, auto tuning, applied motor selection, RS-485 communication∗2, Ethernet communication∗3, PID control, easy dancer control, cooling fan operation selection, stop selection (deceleration stop/coasting), power-failure deceleration stop function, stop-on-contact control, PLC function, life diagnosis, maintenance timer, current average monitor, multiple rating, speed control, torque control, torque limit, position control, test operation, safety stop function
	Output signal	Open collector output (standard model: 2) Relay output (1)	Inverter running, Up to frequency, Fault The output signal can be changed using Pr.190 to Pr.196 (output terminal function selection).
		Analog output (AM type)	-10 to +10 V / 12 bits
Protective/warning function		Protective functions	Overcurrent trip during acceleration, Overcurrent trip during constant speed, Overcurrent trip during deceleration or stop, Regenerative overvoltage trip during acceleration, Regenerative overvoltage trip during constant speed, Regenerative overvoltage trip during deceleration or stop, Inverter overload trip, Motor overload trip, Heat sink overheat, Undervoltage, Input phase loss∗4, Stall prevention stop, Loss of synchronism detection∗5, Upper limit fault detection, Lower limit fault detection, Brake transistor alarm detection, Output side earth (ground) fault overcurrent, Output short circuit, Output phase loss, External thermal relay operation, PTC thermistor operation∗5, Option fault, Communication option fault, Parameter storage device fault, PU disconnection, Retry count excess, CPU fault, Abnormal output current detection, Inrush current limit circuit fault, USB communication fault, analog input error, Safety circuit fault, Overspeed occurrence∗5, Speed deviation excess detection∗5, Excessive position fault∗1∗5, Brake sequence fault∗5, Acceleration error∗5, PID signal fault, Ethernet communication fault∗3, Opposite rotation deceleration fault∗5, Internal circuit fault, User definition error by the PLC function, Board combination mismatch
		Warning functions	Fan alarm, Stall prevention (overcurrent), Stall prevention (overvoltage), Regenerative brake pre-alarm∗5, Electronic thermal relay function pre-alarm, PU stop, Maintenance timer warning, Parameter write error, Operation panel lock∗5, Password locked, Speed limit indication, Stroke limit warning∗5, Home position return setting error∗5, Home position return uncompleted∗5, Safety stop, Ethernet communication fault∗3, Duplicate IP address∗3, IP address fault∗3, Incorrect parameter setting
Environment	Surrounding air temperature		-20°C to +60°C (-10°C to +60°C for the 575 V class) (The rated current must be reduced at a temperature above 50°C.)
	Ambient humidity		95% RH or less (non-condensing) (With circuit board coating (conforming to IEC 60721-3-3 3C2)) 90% RH or less (non-condensing) (Without circuit board coating)
	Storage temperature∗6		-40°C to +70°C
	Atmosphere		Indoors (without corrosive gas, flammable gas, oil mist, dust and dirt, etc.)
	Altitude/vibration∗7		Maximum 3000 m (Maximum 2000 m for the 575 V class), 5.9 m/s^2 or less at 10 to 55 Hz (directions of X, Y, Z axes)

∗1 Available when a Vector control compatible option (FR-A8AP E kit) is installed.
∗2 Enabled only for standard models.
∗3 Available for the Ethernet model and the safety communication model.
∗4 Available for the three-phase power input model.
∗5 This protective function is not available in the initial status.
∗6 Temperature applicable for a short time, e.g. in transit.
∗7 For the installation at an altitude above 1000 m, consider a 3% reduction in the rated current per 500 m increase in altitude.

◆ PLC function specifications

The following table shows the program capacity and devices of the PLC function.

Item				E800 PLC function specifications
Control method				Repeated operation (by stored program)
I/O control mode				Refresh
Programming language				Relay symbolic language (ladder) Logic symbolic language Function block Structured text (ST)
No. of instructions	Sequence instructions			25
	Basic instructions			88
	Application instructions			37
Processing speed				Sequence instructions 1.9 μs to 12 μs/step∗1
Number of I/O device points				288 (input: 144 points, output: 144 points) For FR-E800 series: 10 points built-in (input: 7 points, output: 3 points)∗2 For FR-E800-E series: 3 points built-in (input: 2 points, output: 1 point)∗2 For FR-E800-SCE series: 1 point built-in (output: 1 point)∗2 FR-A8AX (input: 16 points) FR-A8AY (output: 7 points) FR-A8AR (output: 3 points)
Number of analog I/O points				2 input points built-in (Terminals 2 and 4) 2 output points built-in (Terminals FM and AM), FR-A8AY: 2 output points (Terminals AM0 and AM1)
Watchdog timer				10 to 2000 ms
Program capacity				2K steps (8k bytes) (0 to 2048 steps can be set), contained in one program
Device	Internal relay (M)			128 (M0 to M127)
	Latch relay (L)			Not used (Can be set with parameters but will not latch)∗3
	Timer (T)		Number of points	16 (T0 to T15)
			Specifications	100 ms timer: 0.1 to 3276.7 s can be set 10 ms timer: 0.01 to 327.67 s can be set
	Retentive timer (ST)		Number of points	16 (ST0 to ST15)∗5
			Specifications	100 ms retentive timer: 0.1 to 3276.7 s can be set 10 ms retentive timer: 0.01 to 327.67 s can be set
	Counter (C)		Number of points	16 (C0 to C15)
			Specifications	Normal counter: Setting range 1 to 32767 Interrupt program counter: Not used
	Data register (D)			256 (D0 to D255)
	Pointer (P)			256 points (P0 to P127, P2048 to P2175∗4) (All are common pointers.)
	Special relay (SM)			2048 (SM0 to SM2047) with limited functions
	Special register (SD)			2048 (SD0 to SD2047) with limited functions

∗1 The scan time is approximately 40 ms for 1K steps as inverter control is also performed in actual operations.
∗2 The signals same as the ones assigned to the inverter I/O terminals are used. One point is always required for a sequence start (RUN/STOP).
∗3 There is no device latch function for power failures. Use the **Pr.1150 to Pr.1199 PLC function user parameters 1 to 50** (D206 to D255) to store device values in the EEPROM.
∗4 P2048 to P2175 are used for automatic assignment. For details of automatic assignment, refer to GX Works2 Operating Manual (Simple Project).
∗5 The initial value is "0".

NOTE

- There is no buffer memory.

◆ Amount of heat generated by the inverter

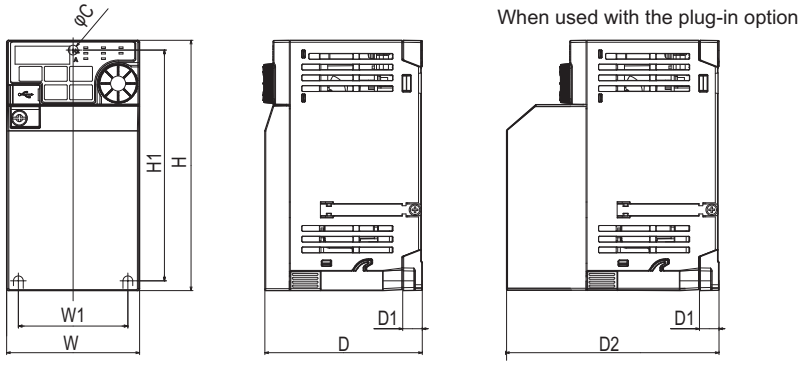
When the heat sink is installed, the amount of heat generated by the inverter unit is shown in the following table.

Voltage	Inverter model	Amount of heat generated (W)*1			
		Standard model		Ethernet model / Safety communication model	
		LD	ND	LD	ND
Three-phase 200 V class	FR-E820-0008(0.1K)	16	11	17	12
	FR-E820-0015(0.2K)	21	16	22	17
	FR-E820-0030(0.4K)	35	29	36	30
	FR-E820-0050(0.75K)	61	48	62	49
	FR-E820-0080(1.5K)	91	74	92	75
	FR-E820-0110(2.2K)	107	91	108	92
	FR-E820-0175(3.7K)	177	153	178	154
	FR-E820-0240(5.5K)	251	191	252	192
	FR-E820-0330(7.5K)	317	249	318	250
	FR-E820-0470(11K)	426	341	427	342
	FR-E820-0600(15K)	547	414	548	415
	FR-E820-0760(18.5K)	735	600	736	601
	FR-E820-0900(22K)	1063	745	1064	746
Three-phase 400 V class	FR-E840-0016(0.4K)	33	25	34	26
	FR-E840-0026(0.75K)	55	38	56	39
	FR-E840-0040(1.5K)	84	58	85	59
	FR-E840-0060(2.2K)	88	75	89	76
	FR-E840-0095(3.7K)	136	112	137	113
	FR-E840-0120(5.5K)	223	136	224	137
	FR-E840-0170(7.5K)	299	197	300	198
	FR-E840-0230(11K)	410	239	411	240
	FR-E840-0300(15K)	486	321	487	322
	FR-E840-0380(18.5K)	510	348	511	349
	FR-E840-0440(22K)	589	401	590	402
Three-phase 575 V class	FR-E860-0017(0.75K)	39	32	40	33
	FR-E860-0027(1.5K)	48	38	49	39
	FR-E860-0040(2.2K)	71	52	72	53
	FR-E860-0061(3.7K)	103	76	104	77
	FR-E860-0090(5.5K)	128	103	129	104
	FR-E860-0120(7.5K)	178	127	179	128
Single-phase 200 V class	FR-E820S-0008(0.1K)	–	11	–	12
	FR-E820S-0015(0.2K)	–	17	–	18
	FR-E820S-0030(0.4K)	–	32	–	33
	FR-E820S-0050(0.75K)	–	49	–	50
	FR-E820S-0080(1.5K)	–	80	–	81
	FR-E820S-0110(2.2K)	–	95	–	96

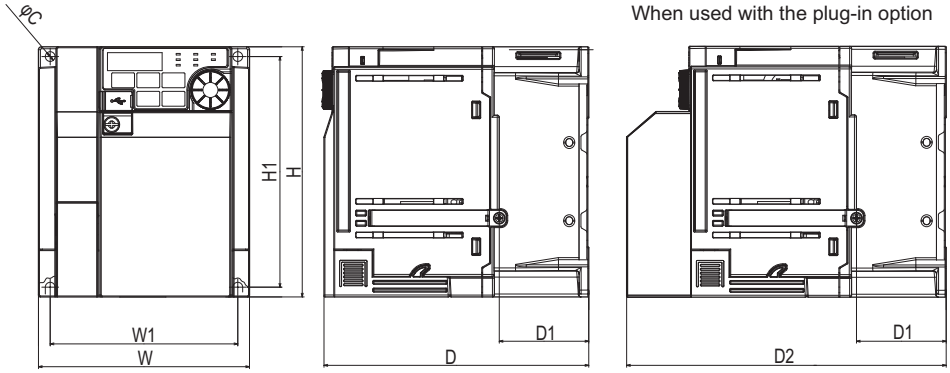
*1 Inverter specifications are as follows.
Output current: inverter rated current
Power supply voltage: 220 V for the 200 V class, 440 V for the 400 V class, and 575 V for the 575 V class
Carrier frequency: 1 kHz

Outline Dimensions

· FR-E820-0.1K to 0.75K
· FR-E820S-0.1K to 0.4K



· FR-E820-1.5K to 22K
· FR-E840-0.4K to 22K
· FR-E860-0.75K to 7.5K
· FR-E820S-0.75K to 2.2K



• Three-phase 200 V class

Inverter model	W	W1	H	H1	D	D1	D2	C
FR-E820-0.1K	68	56	128	118	80.5	10	108.1	5
FR-E820-0.2K								
FR-E820-0.4K					112.5	42	140.1	
FR-E820-0.75K					132.5		160.1	
FR-E820-1.5K	108	96			135.5	46	163.1	
FR-E820-2.2K								
FR-E820-3.7K	140	128			142.5	52.5	170.1	
FR-E820-5.5K	180	164	260	244	165	71.5	192.6	6
FR-E820-7.5K								
FR-E820-11K	220	195			190	84.7	217.6	
FR-E820-15K								
FR-E820-18.5K		200	350	330				10
FR-E820-22K								

• Three-phase 400 V class

Inverter model	W	W1	H	H1	D	D1	D2	C
FR-E840-0.4K	108	96	128	118	129.5	40	157.1	5
FR-E840-0.75K								
FR-E840-1.5K					135	46	162.6	
FR-E840-2.2K	140	128	150	138		43.5		
FR-E840-3.7K								
FR-E840-5.5K	220	208	150	138	147	68	174.6	
FR-E840-7.5K								
FR-E840-11K		195	260	244	190	84.7	217.6	6
FR-E840-15K								
FR-E840-18.5K		200	350	330				10
FR-E840-22K								

• Three-phase 575 V class

Inverter model	W	W1	H	H1	D	D1	D2	C
FR-E860-0.75K	140	128	150	138	135	43.5	162.6	5
FR-E860-1.5K								
FR-E860-2.2K								
FR-E860-3.7K	220	208			147	68	174.6	
FR-E860-5.5K								
FR-E860-7.5K								

• Single-phase 200 V class

Inverter model	W	W1	H	H1	D	D1	D2	C
FR-E820S-0.1K	68	56	128	118	80.5	10	108.1	5
FR-E820S-0.2K								
FR-E820S-0.4K					142.5	42	170.1	
FR-E820S-0.75K	108	96			135	45.5	162.6	
FR-E820S-1.5K					161	46	188.6	
FR-E820S-2.2K	140	128			142.5	52.5	170.1	

(Unit: mm)