Information for Replacement of FR-V200E Series with FR-A800 Series

Size, connection, parameters, options concerning replacement are stated on the following pages.

1. SIZE

When the FR-V200E series is replaced with the FR-V800 (FM type (-1)) series, some FR-A800 series models have different installation size from that of the corresponding FR-V200E series models. Refer to the applicable outline dimension and drill new mounting holes, or use the installation interchange attachment shown in the table below.

[Inverter]

Existing inverter	New inverter	Installation size / installation interchange attachment
FR-V220E-1.5K	FR-A820-2.2K	FR-A5AT02
FR-V220E-2.2K	FR-A820-3.7K	FR-A5AT02
FR-V220E-3.7K	FR-A820-5.5K	FR-A5AT03
FR-V220E-5.5K	FR-A820-7.5K	FR-A5AT03
FR-V220E-7.5K	FR-A820-11K	Same size
FR-V220E-11K	FR-A820-15K	Same size
FR-V220E-15K	FR-A820-18.5K	FR-A5AT04
FR-V220E-18.5K	FR-A820-22K	FR-A5AT04
FR-V220E-22K	FR-A820-30K	Same installation size, different outline dimensions
FR-V220E-30K	FR-A820-37K	Same installation size, different outline dimensions
FR-V220E-37K	FR-A820-45K	Same installation size, different outline dimensions
FR-V220E-45K	FR-A820-55K	Same installation size, different outline dimensions
FR-V240E-1.5K	FR-A840-2.2K	FR-A5AT02
FR-V240E-2.2K	FR-A840-3.7K	FR-A5AT02
FR-V240E-3.7K	FR-A840-5.5K	FR-A5AT03
FR-V240E-5.5K	FR-A840-7.5K	FR-A5AT03
FR-V240E-7.5K	FR-A840-11K	FR-AAT24
FR-V240E-11K	FR-A840-15K	FR-AAT24
FR-V240E-15K	FR-A840-18.5K	FR-A5AT04
FR-V240E-18.5K	FR-A840-22K	FR-A5AT04
FR-V240E-22K	FR-A840-30K	Same installation size, different outline dimensions
FR-V240E-30K	FR-A840-37K	Same installation size, different outline dimensions
FR-V240E-37K	FR-A840-45K	Same installation size, different outline dimensions
FR-V240E-45K	FR-A840-55K	FR-A5AT05

Precautions when replacing inverter:

*1 When performing vector control in FR-A800 series, a plug-in option, FR-A8AP or FR-A8AL, or a vector control terminal block, FR-A8TP is required.

*2 Provide a separate power supply of 5 V/12 V/15 V/24 V to perform vector control with FR-A800. Select the appropriate power supply according to the encoder power supply specification. The plug-in option, FR-A8AL has the built-in encoder power supply (5 V/12 V/24 V).
The vector control terminal block, FR-A8TP has the built-in encoder power supply (24 VDC).

*3 When connecting the thermal protector signal for the vector-control-dedicated motor to the standard control circuit terminal, connect the 2W1k-ohm resistor between the terminals, PC and OH. For details, refer to the Instruction Manual.

*4 FR-A800 series inverter has V/F control set as the initial setting. Change the parameter setting to select vector control.

Rated current value

The following shows the rated current values of the FR-V200E series and the FR-A800 (ND rated) series. When compared between the same capacities of the both series, the rated current value of the FR-V200E series is higher than that of the FR-A800 series.

Thus, use an FR-A800 of one-rank-higher capacity when replacing FR-V200E.

However, when the rated motor current is within the rated inverter current, the FR-A800 of the same rank capacity also can be used.

Comparison table of rated current value

Three-phase 200 V

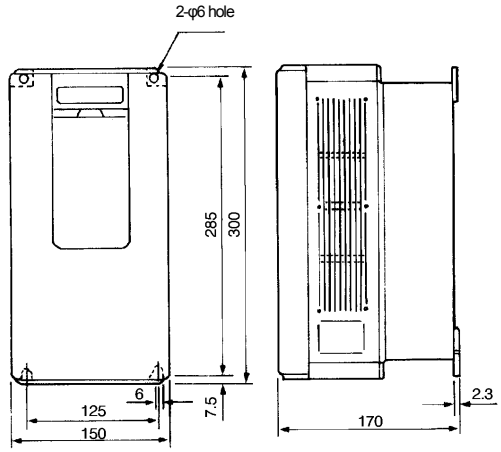
Capacity	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K	30K	37K	45K	55K
V220E	9 A	13 A	20 A	27.7 A	36.3 A	52.7 A	71.0 A	87.0 A	103.5 A	126.5 A	166.8 A	192 A	-
A820	8 A	11 A	17.5 A	24 A	33 A	46 A	61 A	76 A	90 A	115 A	145 A	175 A	215 A

Three-phase 400 V

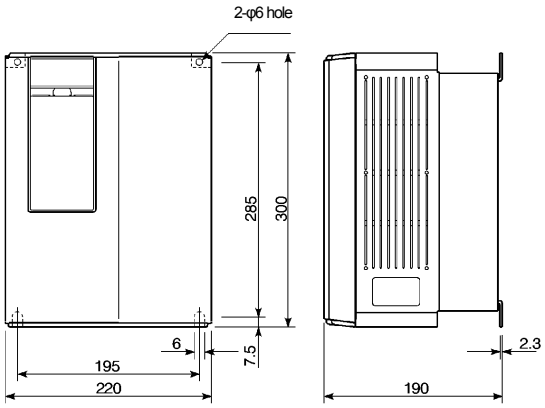
Capacity	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K	30K	37K	45K	55K
V240E	4.5 A	6.5 A	10 A	13.9 A	18.2 A	26.4 A	35.5 A	43.5 A	51.8 A	63.3 A	83.5 A	97.5 A	-
A840	4 A	6 A	9 A	12 A	17 A	23 A	31 A	38 A	44 A	57 A	71 A	86 A	110 A

Outline dimension (Unit: mm)

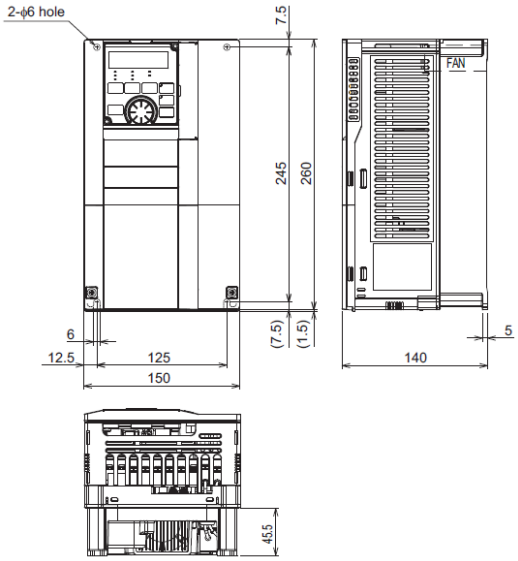
■FR-V220E-1.5K, 2.2K



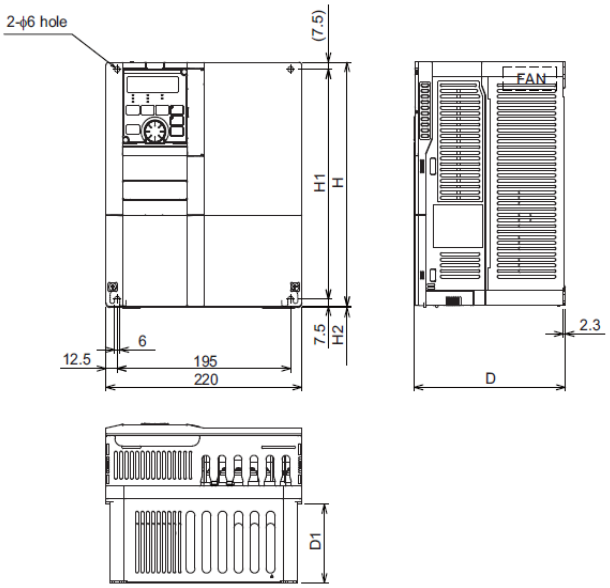
■FR-V220E-3.7K, 5.5K, 7.5K



■FR-A820-2.2K, 3.7K

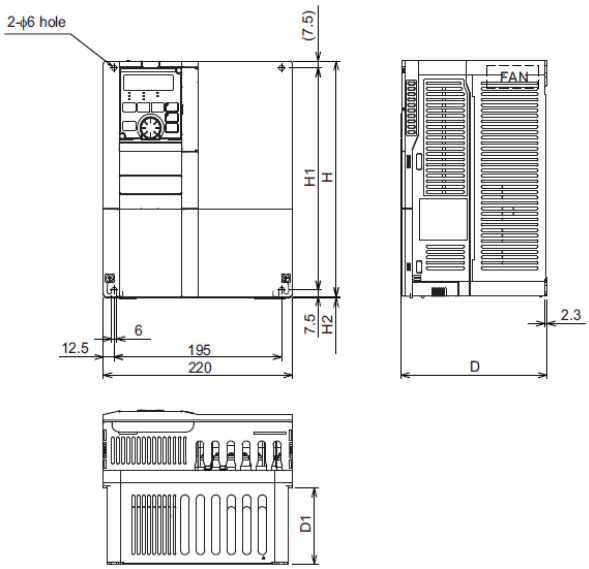


■FR-A820-5.5K, 7.5K



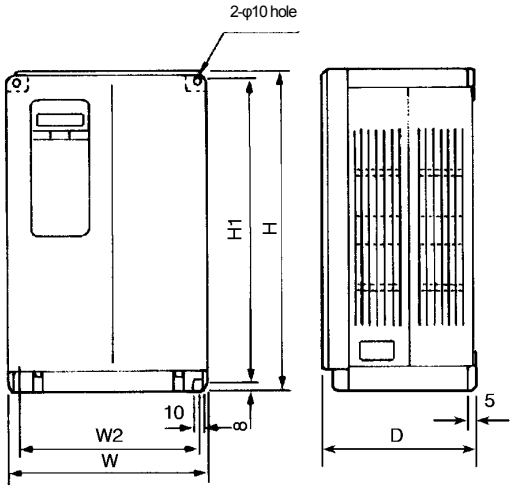
Inverter model	H	H1	H2	D	D1
FR-A820-5.5K,7.5K	260	245	1.5	170	84

■FR-A820-11K



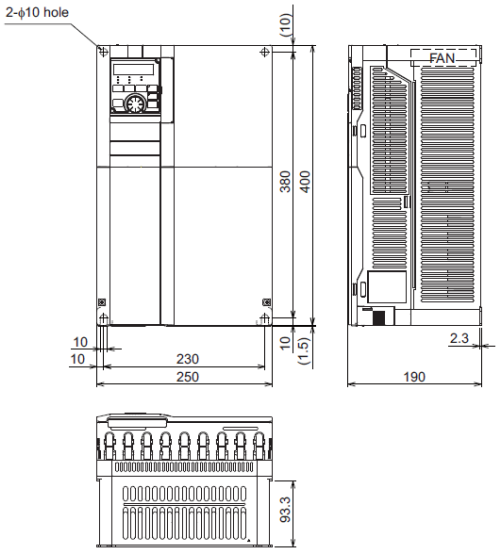
Inverter model	H	H1	H2	D	D1
FR-A820-11K	300	285	3	190	101.5

■FR-V220E-11K, 15K, 18.5K

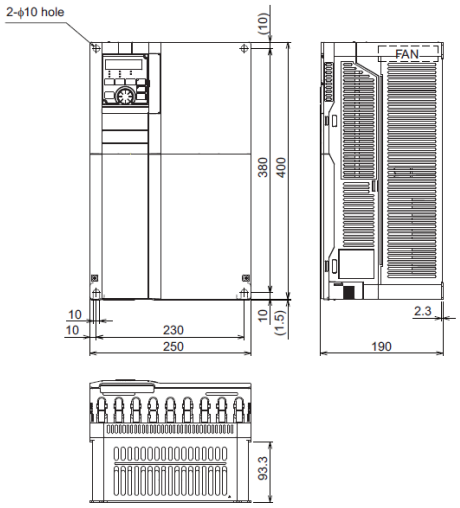


	W	W2	H	H1	D
FR-V220E-11K	250	230	400	380	190
FR-V220E-15K	300	280	450	430	195
FR-V220E-18.5K	300	280	450	430	195

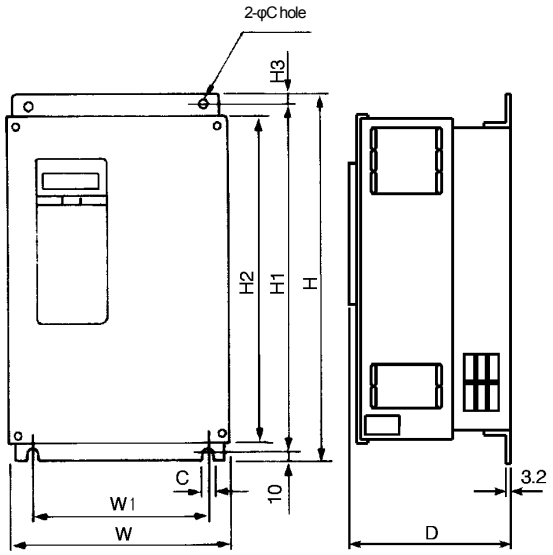
■FR-A820-15K, 18.5K



■FR-A820-22K



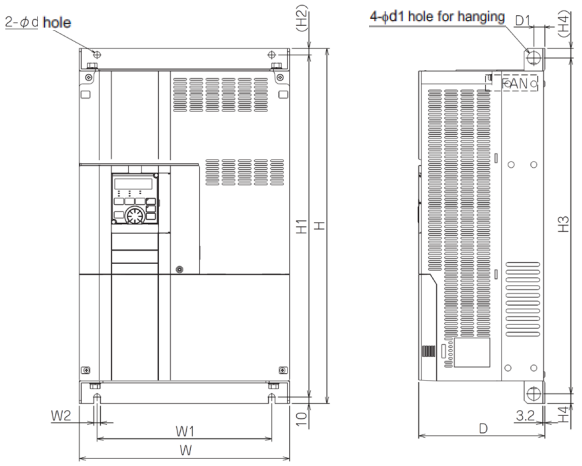
■FR-V220E-22K, 30K, 37K, 45K



	W	W1	H	H1	H2	H3
FR-V220E-22K	340	270	550	530	510	10
FR-V220E-30K	450	380	550	525	495	15
FR-V220E-37K	450	380	550	525	495	15
FR-V220E-45K	480	410	700	675	645	15

	D	C
FR-V220E-22K	195	10
FR-V220E-30K	250	12
FR-V220E-37K	250	12
FR-V220E-45K	250	12

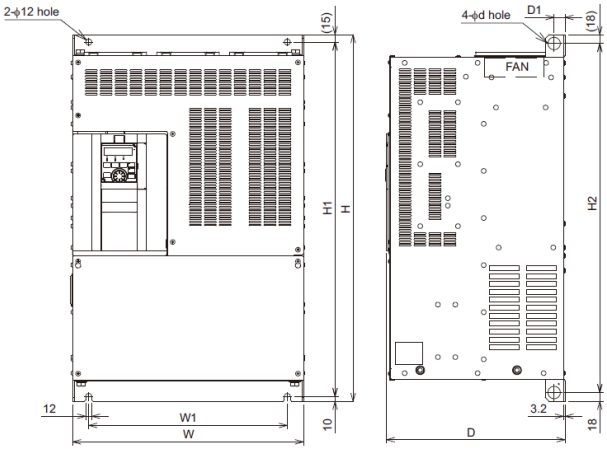
■FR-A820-30K



Inverter model	W	W1	W2	H	H1	H2
FR-A820-30K	325	270	10	550	530	10

Inverter model	H3	H4	d	d1	D	D1
FR-A820-30K	520	15	10	20	195	17

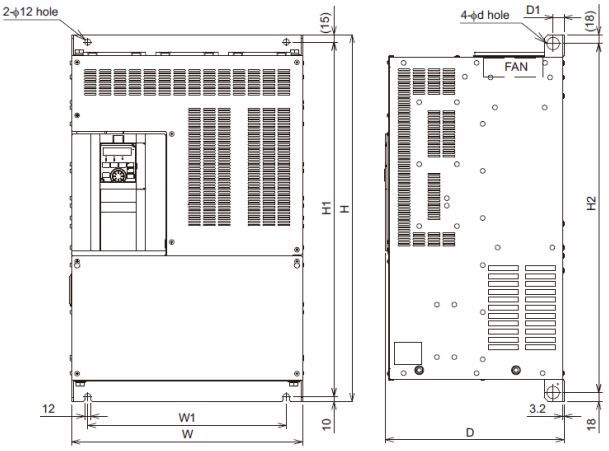
■FR-A820-37K, 45K



Inverter model	W	W1	H	H1	H2
FR-A820-37K, 45K	435	380	550	525	514

Inverter model	d	D	D1
FR-A820-37K, 45K	25	250	24

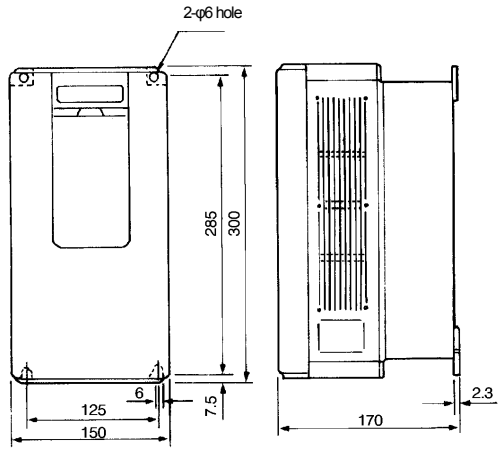
■FR-A820-55K



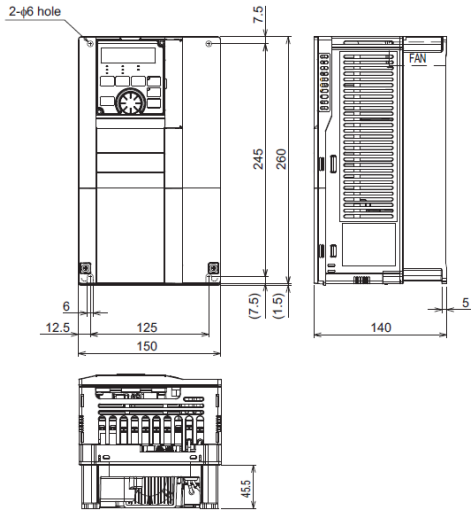
Inverter model	W	W1	H	H1	H2
FR-A820-55K	465	410	700	675	664

Inverter model	d	D	D1
FR-A820-55K	25	250	22

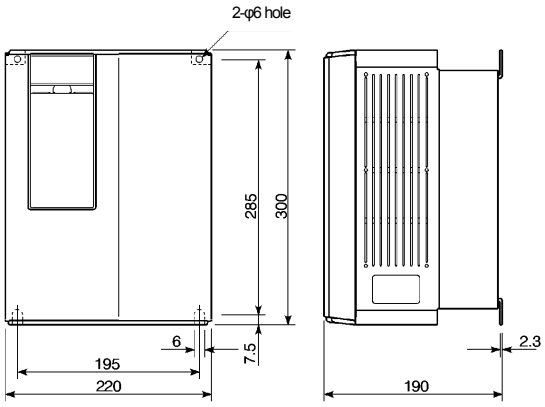
■FR-V240E-1.5K, 2.2K



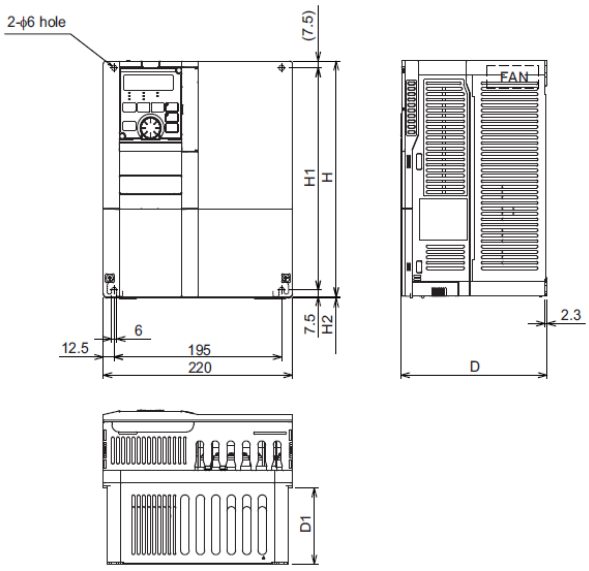
■FR-A840-2.2K, 3.7K



■FR-V240E-3.7K, 5.5K

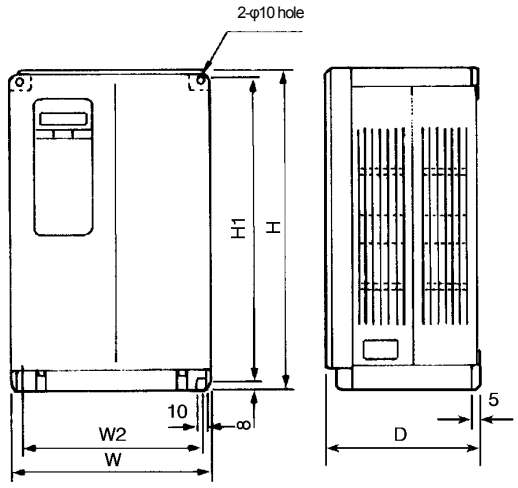


■FR-A840-5.5K, 7.5K



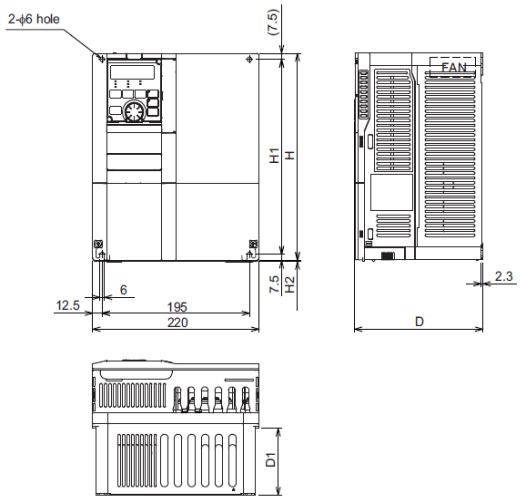
Inverter model	H	H1	H2	D	D1
FR-A840-5.5K, 7.5K	260	245	1.5	170	84

■FR-V240E-7.5K, 11K, 15K, 18.5K



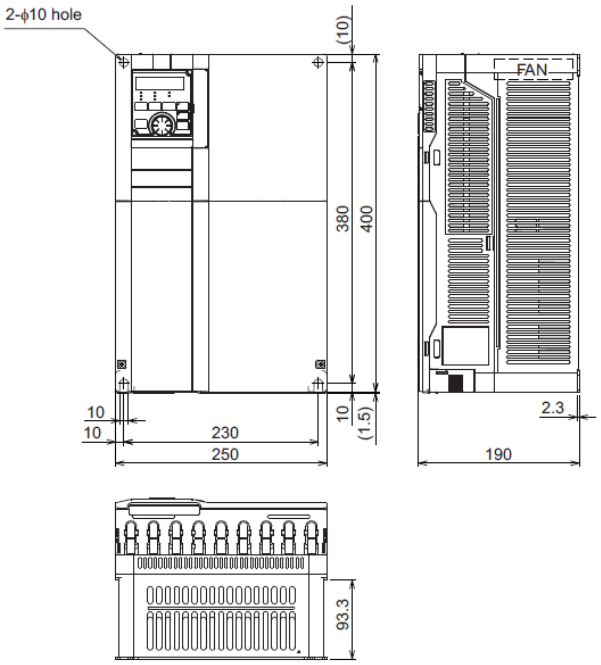
	W	W2	H	H1	D
FR-V240E-7.5K	250	230	400	380	190
FR-V240E-11K	250	230	400	380	190
FR-V240E-15K	300	280	450	430	195
FR-V240E-18.5K	300	280	450	430	195

■FR-A840-11K, 15K

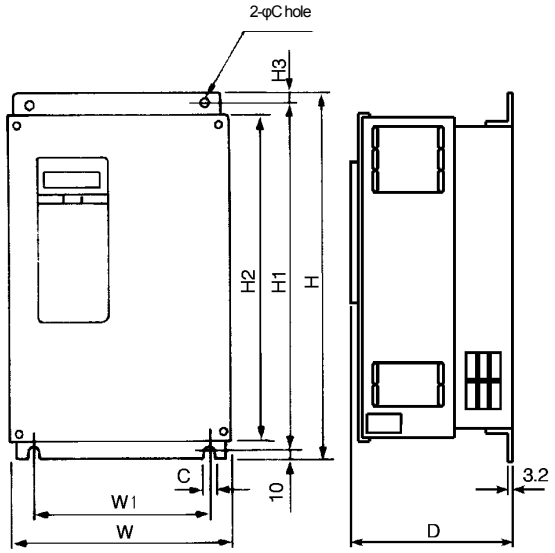


Inverter model	H	H1	H2	D	D1
FR-A840-11K,15K	300	285	3	190	101.5

■FR-A840-18.5K, 22K



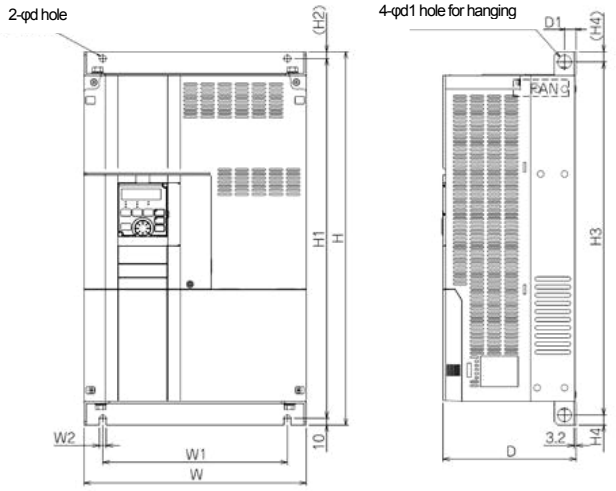
■FR-V240E-22K, 30K, 37K, 45K



	W	W1	H	H1	H2	H3
FR-V240E-22K	340	270	550	530	510	10
FR-V240E-30K	450	380	550	525	495	15
FR-V240E-37K	450	380	550	525	495	15
FR-V240E-45K	480	410	700	675	645	15

	D	C
FR-V240E-22K	195	10
FR-V240E-30K	250	12
FR-V240E-37K	250	12
FR-V240E-45K	250	12

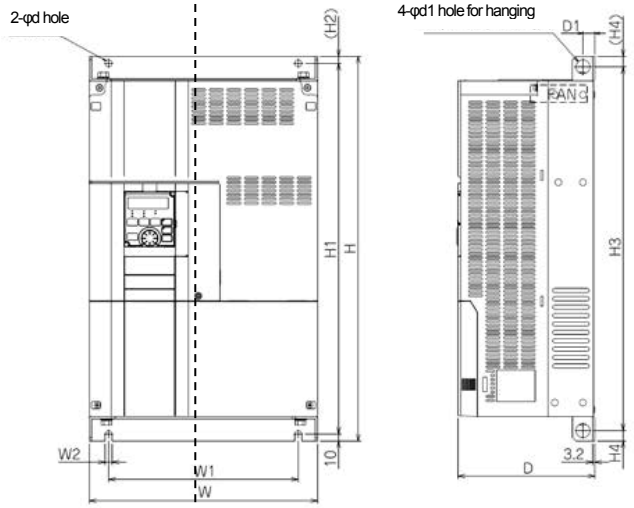
■FR-A840-30K



Inverter model	W	W1	W2	H	H1	H2
FR-A840-30K	325	270	10	550	530	10

Inverter model	H	H4	d	d1	D	D1
FR-A840-30K	520	15	10	20	195	17

■FR-A840-37K, 45K, 55K



Inverter model	W	W1	W2	H	H1	H2
FR-A840-37K, 45K, 55K	435	380	12	550	525	15

Inverter model	H3	H4	d	d1	D	D1
FR-A840-37K, 45K, 55K	514	18	12	25	250	24

2. CONNECTION

The terminal names are basically the same. Connect the terminals according to their names.
When using the plug-in option, FR-A8AP or FR-A8AL

Type		V200E terminal name	A800 compatible terminal name	Remarks
Main circuit		R, S, T	R/L1, S/L2, T/L3	
		U, V, W	U, V, W	
		R1, S1	R1/L11, S1/L21	
		P, PR	P/+, PR / P3, PR*1	
		P, N	P/+, N/- / P3, N/-*2	
		P, P1	P/+, P1	
		PR, PX	PR, PX	
		⏚	⏚	
Control circuit input signal	Contact	STF	STF	
		STR	STR	
		RES	RES	
		DI1 (Initial setting: RH) DI2 (Initial setting: RM) DI3 (Initial setting: RL)	RH	The RH, RM, and RL input signals are assigned in the initial setting.
			RM	
			RL	
			JOG	
			RT	
			AU	
			STP (STOP)	
			MRS	
		OH	CS (example)	Assigned to the OH signal. Connect the 2W1k-ohm resistor between terminals PC and OS (OH).
		SD	SD	
		PC1	PC	
Analog	Frequency setting	10E	10E	
		2 (0 to 10 VDC) Resolution 0.1%	2 (0 to 10 VDC), 12 bits	For terminal 2 input, voltage input (0 to 5 VDC) is assigned in the initial setting. Voltage input can be set to 0 to 10 VDC.
		3 (±10 VDC) Resolution 0.2%	4 (0 to 10 VDC), 12 bits	Torque limit: For terminal 4 input, current input is assigned in the initial setting. Voltage input can be set to 0 to 10 VDC.
			6 (±10 VDC), 16 bits FR-A8AZ	Torque command: Plug-in option, FR-A8AZ is required. When terminal 1 is not used, torque command/limit can be performed by terminal 1.
		1 (±10 VDC) Resolution 0.2%	1 (±10 VDC), 12 bits	
		5	5	Common of frequency setting signal and analog signal AM
Control circuit output signal	Contact	A, B, C	A1, B1, C1	
			A2, B2, C2	
	Open collector	DO1 (Initial setting: ER) DO2 (Initial setting: SU) DO3 (Initial setting: LS)	RUN	Terminals other than SU are not assigned in the initial setting. For use, change the terminal assignment with Pr.190 to Pr.194.
			SU	
			OL	
			IPF	
			FU	
		SE1	SE	
	Analog	DA1 (±10 VDC, 12 bits)	DA1 (±10 VDC), 12 bits FR-A8AZ FM	DA1: Plug-in option, FR-A8AZ is required. FM is used for pulse output.
		DA2 (0 to 10 VDC), 8 bits	AM (±10 VDC), 8 bits	Signal can be connected with the plug-in option, FR-A8AY (±10 VDC) resolution 0.015%.
	Analog Signal common	AG1	5	Common of frequency setting signal and analog signal AM

*1) For the FR-A820-15K to 22K and the FR-A840-18.5K to 55K, connect the brake resistor between P3 and PR.
*2) For the FR-A820-15K to 22K and the FR-A840-18.5K to 55K, connect the brake unit between P3 and N/-.

When using vector control terminal block, FR-A8TP

Type		V200E terminal name	A800 compatible terminal name	Remarks
Main circuit		R, S, T	R/L1, S/L2, T/L3	
		U, V, W	U, V, W	
		R1, S1	R1/L11, S1/L21	
		P, PR	P/+, PR / P3, PR*1	
		P, N	P/+, N/- / P3, N/-*2	
		P, P1	P/+, P1	
		PR, PX	PR, PX	
		⏚	⏚	
Control circuit input signal	Contact	STF	STF	
		STR	STR	
		RES	RES	
		DI1 (Initial setting: RH) DI2 (Initial setting: RM) DI3 (Initial setting: RL)	DI1 (RL)	The RH, RM, and RL input signals are assigned in the initial setting.
			DI2 (RM)	
			DI3 (RH)	
			DI4 (JOG)	
		OH	OH	
		SD	SD	
		PC1	PC	
Analog	Frequency setting	10E	10E	
		2 (0 to 10 VDC) Resolution 0.1%	2 (0 to 10 VDC), 12 bits	For terminal 2 input, voltage input (0 to 5 VDC) is assigned in the initial setting. Voltage input can be set to 0 to 10 VDC.
		3 (±10 VDC) Resolution 0.2%	6 (±10 VDC), 16 bits FR-A8AZ	Plug-in option, FR-A8AZ is required. When terminal 1 is not used, torque command/limit can be performed.
		1 (±10 VDC) Resolution 0.2%	1 (±10 VDC), 12 bits	
		5	5	Common of frequency setting signal and analog signal AM
Control circuit input signal	Contact	A, B, C	A, B, C	
	Open collector	DO1 (Initial setting: ER) DO2 (Initial setting: SU) DO3 (Initial setting: LS)	DO1 (RUN)	Terminals other than SU are not assigned in the initial setting. For use, change the terminal assignment with Pr.190 to Pr.192.
			DO2 (SU)	
			DO3 (IPF)	
		SE1	SE	
	Analog	DA1 (±10 VDC), 12 bits	DA1 (±10 VDC), 12 bits FR-A8AZ	DA1: Plug-in option, FR-A8AZ is required.
		DA2 (0 to 10 VDC), 8 bits	AM (±10VDC), 8 bits	Signal can be connected with the plug-in option, FR-A8AY (±10 VDC) resolution 0.015%.
	Analog Signal common	AG1	5	Common of frequency setting signal and analog signal AM

*1) For the FR-A820-15K to 22K and the FR-A840-18.5K to 55K, connect the brake resistor between P3 and PR.

*2) For the FR-A820-15K to 22K and the FR-A840-18.5K to 55K, connect the brake unit between P3 and N/-.

Terminal size

[Main circuit terminal: Three-phase 200 V]

Voltage class	FR-V220E							FR-A820						
	Capacity	R,S,T	U,V,W	P,N,P1	R1,S1	PR	⏚	Capacity	R/L1, S/L2, T/L3	U,V,W	P/+, N/-, P1	R1,S1	PR PX	⏚
Three-phase 200 V	1.5K	M4	M4	M4	M4	M4	M4	2.2K	M4	M4	M4	M4	M4	M4
	2.2K	M4	M4	M4	M4	M4	M4	3.7K	M4	M4	M4	M4	M4	M4
	3.7K	M5	M5	M5	M4	M5	M5	5.5K	M5	M5	M5	M4	M4	M5
	5.5K	M5	M5	M5	M4	M5	M5	7.5K	M5	M5	M5	M4	M4	M5
	7.5K	M5	M5	M5	M4	-	M5	11K	M5	M5	M5	M4	-	M5
	11K	M6	M6	M6	M4	-	M6	15K	M6	M6	M6	M4	-	M6
	15K	M8	M8	M8	M4	-	M6	18.5K	M8	M8	M8	M4	-	M6
	18.5K	M8	M8	M8	M4	-	M6	22K	M8	M8	M8	M4	-	M6
	22K	M8	M8	M8	M4	-	M6	30K	M8	M8	M8	M4	-	M6
	30K	M10	M10	M10	M4	-	M8	37K	M10	M10	M10	M4	-	M8
	37K	M10	M10	M10	M4	-	M8	45K	M10	M10	M10	M4	-	M8
	45K	M12	M12	M12	M4	-	M8	55K	M12	M12	M12	M4	-	M8

[Main circuit terminals: Three-phase 400 V]

Voltage class	FR-V240E							FR-A840						
	Capacity	R,S,T	U,V,W	P,N,P1	R1,S1	PR, PX	⏚	Capacity	R/L1, S/L2, T/L3	U,V,W	P/+, N/-, P1	R1,S1	PR, PX	⏚
Three-phase 400 V	1.5K	M4	M4	M4	M4	M4	M4	2.2K	M4	M4	M4	M4	M4	M4
	2.2K	M4	M4	M4	M4	M4	M4	3.7K	M4	M4	M4	M4	M4	M4
	3.7K	M4	M4	M4	M4	M4	M4	5.5K	M4	M4	M4	M4	M4	M4
	5.5K	M4	M4	M4	M4	M4	M4	7.5K	M4	M4	M4	M4	M4	M4
	7.5K	M6	M6	M6	M4	-	M6	11K	M5	M5	M5	M4	M5	M5
	11K	M6	M6	M6	M4	-	M6	15K	M5	M5	M5	M4	M5	M5
	15K	M6	M6	M6	M4	-	M6	18.5K	M6	M6	M6	M4	M6	M6
	18.5K	M6	M6	M6	M4	-	M6	22K	M6	M6	M6	M4	M6	M6
	22K	M6	M6	M6	M4	-	M6	30K	M6	M6	M6	M4	-	M6
	30K	M8	M8	M8	M4	-	M8	37K	M8	M8	M8	M4	-	M8
	37K	M8	M8	M8	M4	-	M8	45K	M8	M8	M8	M4	-	M8
	45K	M8	M8	M8	M4	-	M8	55K	M8	M8	M8	M4	-	M8

[Control circuit terminal]

Shape of terminal block screws used in the control circuit terminal block wiring area

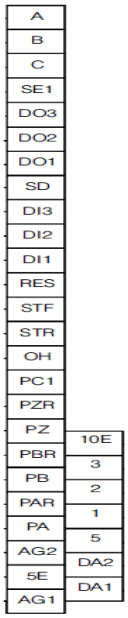
FR-V200E	FR-A800 Standard control circuit terminal block	FR-A800 Vector control terminal block FR-A8TP
M3 Phillips-head screw terminal block	Spring clamp type	Insertion type flat-blade screw terminal

Shape of terminal block screws used in the encoder cable wiring area

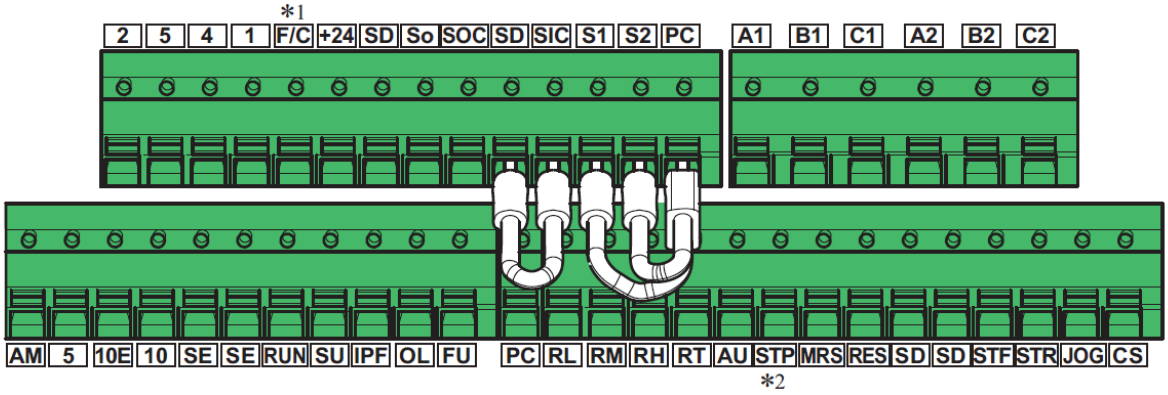
FR-V200E	FR-A800 (FR-A8AP, FR-A8AL, FR-A8TP)
M3 Phillips-head screw terminal block	Insertion type flat-blade screw terminal

The control circuit terminal layouts differ between the FR-V200E series and the FR-A800 series. Check the terminal names and positions before performing wiring.

■ Control circuit terminal layout (FR-V200E series)



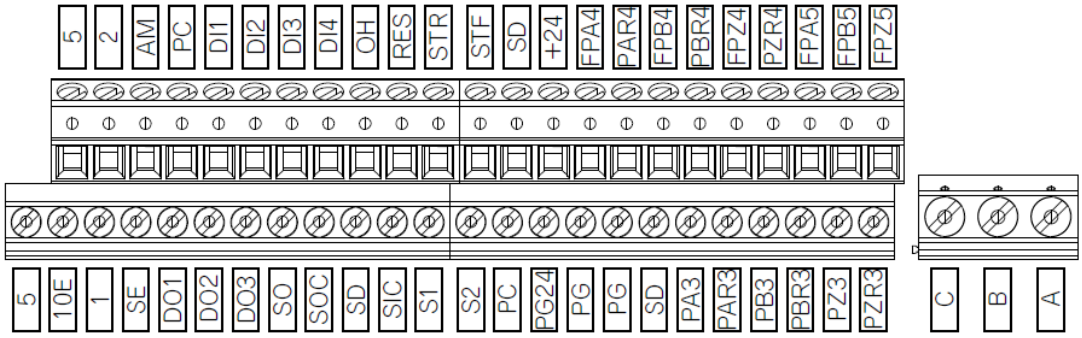
■ Standard control circuit terminal layout (FR-A800 series)



*1) This terminal operates as the terminal FM for the FM type inverter and as the terminal CA for the CA type inverter.

*2) Represents the terminal STOP.

■ Control circuit terminal layout (FR-A8TP)



Refer to the Instruction Manual for information about the wiring method.

Wiring of encoder signal

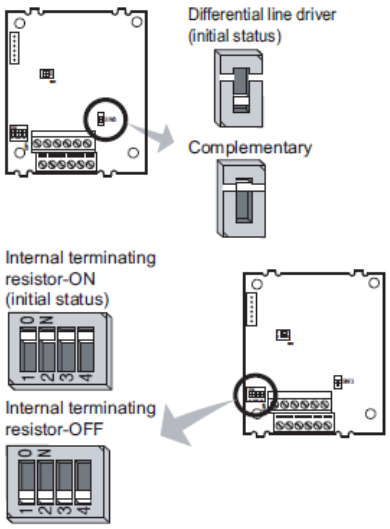
Encoder signals are to be connected to the plug-in option unit mounted on FR-A800, FR-A8AP or FR-A8AL, or vector control terminal block, FR-A8TP.

Type	V200E terminal name	A8AP compatible terminal name	A8AL compatible terminal name	A8TP compatible terminal name
Encoder signal	PA	PA1	PA	PA3
	PAR	PA2	PAR	PAR3
	PB	PB1	PB	PB3
	PBR	PB2	PBR	PBR3
	PZ	PZ1	PZ	PZ3
	PZR	PZ2	PZR	PZR3
	5E	PG	PG	PG
	AG2	SD	SD	SD

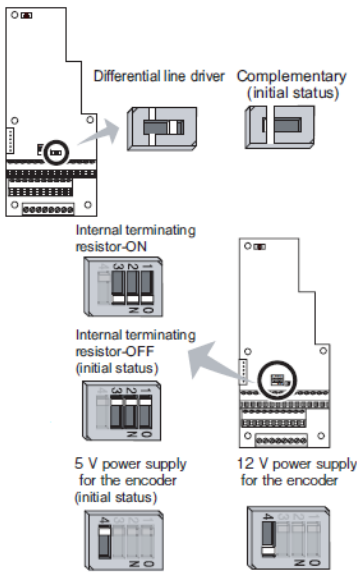
Precaution for wiring of encoder signal:
When connecting the encoder signal

- Encoder specification selection switch: Differential line driver, complementary
- Internal terminating resistor selection switch: Set to ON/OFF according to the encoder specification.

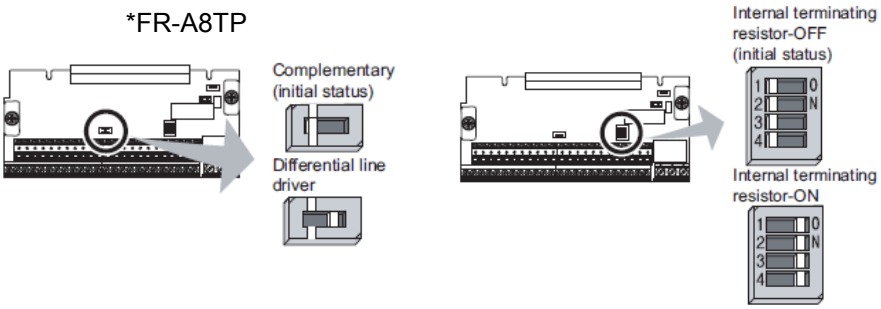
*FR-A8AP



*FR-A8AL



*FR-A8TP



* The initial settings of FR-A8AP and FR-A8AL, FR-A8TP are different as shown above.
For FR-A8AP and FR-A8TP, prepare an external power supply to supply 5 V power to the encoder.
As the terminal blocks are an insertion type, encoder cables need to be modified

3. PARAMETER

Note that some parameter numbers and setting values differ. Please refer to the following table to set the parameters

List of FR-A800 series parameters compatible with the FR-V200E series

The following table shows the parameter settings required when replacing FR-V200E series inverters with FR-A800 series inverters.
When an FR-V200E series parameter is set to a value other than the initial value, set the corresponding FR-A800 series parameter according to the following table.
When an FR-V200E series parameter is set to an initial value, it is usually not necessary to change the corresponding FR-A800 series parameter setting.
The parameters with △ are used for adjustment. Set them as required.
The parameter replacement following the table below does not guarantee the inverter characteristics or performance.

The parameter number of the ▭ parameters differs from that of the FR-V200E series inverter.

Setting ⊙: Set the FR-V200E parameter as it is.
△: Change the FR-V200E parameter and set.
×: Adjust or set the FR-A800 parameter.

FR-V200E parameter list				FR-A800 compatible parameter				Description about parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
1	Maximum frequency	0 to 3600 r/min	1500 r/min	1	Maximum frequency	0 to 120 Hz	120 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
2	Minimum frequency	0 to 3600 r/min	0 r/min	2	Minimum frequency	0 to 120 Hz	0 Hz	×	
4	Multi-speed setting (high speed)	0 to 3600 r/min	1500 r/min	4	Multi-speed setting (high speed)	0 to 400 Hz	60 Hz	×	
5	Multi-speed setting (middle speed)	0 to 3600 r/min	750 r/min	5	Multi-speed setting (middle speed)	0 to 400 Hz	30 Hz	×	
6	Multi-speed setting (low speed)	0 to 3600 r/min	150 r/min	6	Multi-speed setting (low speed)	0 to 400 Hz	10 Hz	×	
7	Acceleration time	0 to 3600 s	5.5K or lower: 5 s 7.5K or higher: 15 s	7	Acceleration time	0 to 3600 s / 0 to 360 s	7.5K or lower: 5 s 11K or higher: 15 s	⊙	Changing Pr.21 after setting this parameter will change the set value.
8	Deceleration time	0 to 3600 s	5.5K or lower: 5 s 7.5K or higher: 15 s	8	Deceleration time	0 to 3600 s / 0 to 360 s	7.5K or lower: 5 s 11K or higher: 15 s	⊙	Changing Pr.21 after setting this parameter will change the set value.
9	Electronic thermal O/L relay	0 to 500 A	Rated output current 0 A	9	Electronic thermal O/L relay	0 to 500 A (55K or lower)	Rated output current	⊙	Set the rated motor current.
10	DC injection brake operation frequency	0 to 1500 r/min, 9999	90 r/min	10	DC injection brake operation frequency	0 to 120 Hz	3 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
11	DC injection brake operation time	0 to 10 s	0.5 s	11	DC injection brake operation time	0 to 10 s	0.5 s	⊙	
12	DC injection brake voltage	0 to 30%	3%	12	DC injection brake operation voltage	0 to 30%	7.5K or lower: 4% 11K to 55K: 2%	△	When this parameter has been used at the initial setting in the FR-V200 inverters, use it at the initial setting in the FR-A800 inverters as well. When the setting has been changed from the initial value in the FR-V200 inverters, set the value obtained by multiplying the ratio of the set value to the initial value in the FR-A800 inverters. Example) When the FR-V220E-1.5K has been used at the setting of 5%, the value for the FR-A820-2.2K can be obtained as follows: (5/3) × 4 = 6.7(%).
13	Starting speed	0 to 1500 r/min	15 r/min	13	Starting frequency	0 to 60 Hz	0.5 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
14	Control Mode	0 to 6, 11, 12, 16, 101, 102, 106	0	800	Control method selection	0 to 5, 9, 10, 11, 12, 20	20	×	The set values for switching the control mode by the external signal differ. Adjust the parameter as required.
				810	Torque limit input method selection	0 to 2	0		
				1113	Speed limit method selection	0, 1, 2, 10, 9999	0		
				801	Output limit level	0 to 400%, 9999	9999	×	The torque current can be limited when the torque is set during torque control.
15	JOG frequency	0 to 1500 r/min	300 r/min	15	JOG frequency	0 to 400 Hz	5 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
16	JOG acceleration/deceleration time	0 to 3600 s	0.5 s	16	JOG acceleration/deceleration time	0 to 3600 s/ 0 to 360 s	0.5 s	⊙	Changing Pr.21 after setting this parameter will change the set value.

FR-V200E parameter list				FR-A800 compatible parameter				Description about parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
17	Input terminal selection	0 to 999	12	178	STF terminal function selection	0 to 20, 22 to 28, 42 to 44, 60, 62, 64 to 71, 74, 9999	60	×	For the FR-V200, the defaults are as follows: DI1: RH, DI2: RM, DI3: RL. The terminal name of vector control terminal block, FR-A8TP, is shown in parentheses.
				179	STR terminal function selection	0 to 20, 22 to 28, 42 to 44, 61, 62, 64 to 71, 74, 9999	61	×	
				180	RL terminal function selection (DI1 terminal)	0 to 20, 22 to 28, 42 to 44, 62, 64 to 71, 74, 9999	0	×	
				181	RL terminal function selection (DI2 terminal)		1	×	
				182	RH terminal function selection (DI3 terminal)		2	×	
				183	RT terminal function selection		3	×	
				184	AU terminal function selection	0 to 20, 22 to 28, 42 to 44, 62 to 71, 74, 9999	4	×	
				185	JOG terminal function selection (DI4 terminal)	0 to 20, 22 to 28, 42 to 44, 62, 64 to 71, 74, 9999	5	×	
				186	CS terminal function selection		6	×	
				187	MRS terminal function selection		24	×	
				188	STOP terminal function selection		25	×	
				189	RES terminal function selection		62	×	
18	Acceleration S-pattern 1	0 to 50%	0%	380	Acceleration S-pattern 1	0 to 50%	0%	⊙	Valid when Pr.29 = 4
19	Deceleration S-pattern 1	0 to 50%	0%	381	Deceleration S-pattern 1	0 to 50%	0%	⊙	Valid when Pr.29 = 4
20	Acceleration/deceleration reference speed	0 to 3600 r/min	1500 r/min	20	Acceleration/deceleration reference frequency	1 to 400 Hz	60 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
21	Acceleration S-pattern 2	0 to 50%	0%	382	Acceleration S-pattern 2	0 to 50%	0%	⊙	Valid when Pr.29 = 4
22	Deceleration S-pattern 2	0 to 50%	0%	383	Deceleration S-pattern 2	0 to 50%	0%	⊙	Valid when Pr.29 = 4
23	Thermal protector input	0, 1	0	186	CS terminal function assignment	0 to 20, 22 to 28, 42 to 44, 62, 64 to 71, 74, 9999	6	×	If the thermal protector input was used, for example, assign the external protection thermal to CS terminal for the standard control circuit terminal block. (Set Pr.186 = 7.) Connect the vector control terminal block to the OH terminal (function fixing).
24	Multi-speed setting (speed 4)	0 to 3600 r/min, 9999	9999	24	Multi-speed setting (speed 4)	0 to 400 Hz, 9999	9999	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
25	Multi-speed setting (speed 5)	0 to 3600 r/min, 9999	9999	25	Multi-speed setting (speed 5)	0 to 400 Hz, 9999	9999	×	
26	Multi-speed setting (speed 6)	0 to 3600 r/min, 9999	9999	26	Multi-speed setting (speed 6)	0 to 400 Hz, 9999	9999	×	
27	Multi-speed setting (speed 7)	0 to 3600 r/min, 9999	9999	27	Multi-speed setting (speed 7)	0 to 400 Hz, 9999	9999	×	
28	Multi-speed input compensation	0, 1	0	28	Multi-speed input compensation	0, 1	0	⊙	
29	Acceleration/deceleration pattern	0, 1, 2, 10, 11,100, 101, 102, 110, 111, 112	0	29	Acceleration/deceleration pattern	0 to 5	0	×	When the acceleration/deceleration S-pattern is set, set Pr.29 = 4 and then, set Pr.380 to 383.
30	Regenerative brake duty change selection / high power factor converter connection selection	0, 1, 3, 4	0	30	Regenerative function selection	0, 1, 2, 10, 11, 20, 21	0	△	When connecting FR-HC(2), set Pr.30 = 2.
31	Speed deviation level	0 to 1500 r/min, 9999	9999	285	Overspeed detection frequency	0 to 30 Hz, 9999	9999	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
32	Overspeed detection level	0 to 3600 r/min	3000 r/min	374	Overspeed detection level	0 to 400 Hz	140 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
33	Torque limit mode	1, 2, 3, 4	3	810	Torque limit input method selection	0, 1, 2	0	×	Only the internal torque limit and external torque limit are available for the torque limit input method. Adjust the setting as required.
				803	Constant output range torque characteristic selection	0, 1, 10, 11	0	×	
34	Torque limit level	0 to 400%	150%	22	Stall prevention operation level	0 to 200%	150%	⊙	
35	Torque limit level (regeneration)	0 to 400%, 9999	9999	812	Torque limit level (regeneration)	0 to 400%, 9999	9999	⊙	
36	Torque limit level (3rd quadrant)	0 to 400%, 9999	9999	813	Torque limit level (3rd quadrant)	0 to 400%, 9999	9999	⊙	
37	Torque limit level (4th quadrant)	0 to 400%, 9999	9999	814	Torque limit level (4th quadrant)	0 to 400%, 9999	9999	⊙	
38	Torque limit level 2	0 to 400%, 9999	9999	815	Torque limit level 2	0 to 400%, 9999	9999	⊙	
39	Torque detection	0 to 400%	150%	864	Torque detection	0 to 400%	150%	⊙	

FR-V200E parameter list				FR-A800 compatible parameter				Description about parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
40	Output terminal assignment	0 to 999	12	190	RUN terminal function selection (DO1 terminal)	0 to 8, 10 to 20, 25 to 28, 30 to 36, 39, 41 to 47, 64, 70, 84, 85, 90 to 99, 100 to 108, 110, 116, 120, 125 to 128, 130 to 136, 139, 141 to 147, 164, 170, 184,185, 190 to 199, 9999	0	×	For the FR-V200, the defaults are as follows: DO1: ER, DO2: SU, DO3: LS. For the FR-A800, ER and LS are not assigned as default. To use ER and LS, set as follows to either of these terminals: ER: 97, LS: 34. The terminal name of vector control terminal block, FR-A8TP, is shown in parentheses.
				191	SU terminal function selection (DO2 terminal)		1	×	
				192	IPF terminal function selection (DO3 terminal)		2	×	
				193	OL terminal function selection		3	×	
				194	FU terminal function selection		4	×	
41	Up-to-speed sensitivity	0 to 100%	10%	41	Up-to-frequency sensitivity	0 to 100%	10%	⊙	
42	Speed detection	0 to 3600 r/min	300 r/min	42	Output frequency detection	0 to 400 Hz	6 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
43	Low speed detection	0 to 1500 r/min	45 r/min	865	Low speed detection	0 to 400 Hz	1.5 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
44	Second acceleration/deceleration time	0 to 3600 s	5 s	44	Second acceleration/deceleration time	0 to 3600 s / 0 to 360 s	5 s	⊙	Changing Pr.21 after setting this parameter will change the set value.
45	Second deceleration time	0 to 3600 s / 9999	9999	45	Second deceleration time	0 to 3600 s / 0 to 360 s, 9999	9999	⊙	Changing Pr.21 after setting this parameter will change the set value.
46	Second multi-function input selection	0 to 999, 9999	9999	178	STF terminal function selection	0 to 20, 22 to 28, 42 to 44, 60, 62, 64 to 71, 74, 9999	60	×	When the second multi-function input selection is used, set the following values to either of these terminals as required: 20 for S pattern acceleration/deceleration C switchover, 42 for torque bias selection 1 and 43 for torque bias selection 2.
				179	STR terminal function selection	0 to 20, 22 to 28, 42 to 44, 61, 62, 64 to 71, 74, 9999	61	×	
				180	RL terminal function selection	0 to 20, 22 to 28, 42 to 44, 62, 64 to 71, 74, 9999	0	×	
				181	RM terminal function selection		1	×	
				182	RH terminal function selection		2	×	
				183	RT terminal function selection		3	×	
				184	AU terminal function selection	0 to 20, 22 to 28, 42 to 44, 62 to 71, 74, 9999	4	×	
				185	JOG terminal function selection	0 to 20, 22 to 28, 42 to 44, 62, 64 to 71, 74, 9999	5	×	
				186	CS terminal function selection		6	×	
				187	MRS terminal function selection		24	×	
				188	STOP terminal function selection		25	×	
				189	RES terminal function selection		62	×	
47	Torque boost	0 to 30%	3%	0	Torque boost	0 to 30%	1.5K to 3.7K: 4% 5.5K, 7.5K: 3% 11K to 55K: 2%	△	When this parameter has been used at the initial setting in the FR-V200 inverters, use it at the initial setting in the FR-A800 inverters as well. When the setting has been changed from the initial value in the FR-V200 inverters, set the value obtained by multiplying the ratio of the set value to the initial value in the FR-A800 inverters. Example) When the FR-V200E-1.5K has been used at the setting of 5%, the value for the FR-A820-2.2K can be obtained as follows: (5/3) × 4 = 6.7(%).
48	Base frequency	20 to 200 Hz	60 Hz	3	Base frequency	0 to 400 Hz	60 Hz	⊙	
49	Base frequency voltage	0 to 500 V, 9999	9999	19	Base frequency voltage	0 to 1000 V, 8888, 9999	9999	⊙	
51	Inverter LED display data	1 to 12, 17	1	52	DU/PU main display data selection	0, 5, 7 to 12, 14, 20, 23 to 25, 52 to 57, 61, 62, 100	0	×	
52	PU main display data selection	0, 9 to 12, 17, 20	0						
53	PU level display data selection	0 to 3, 5 to 12, 17	1	–	–	–	–	–	This function was deleted for the FR–A800.
54	DA1 terminal function selection	1 to 3, 5 to 12, 17, 21	1	54	FM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 24, 32 to 34, 50, 52, 53	1	×	±10 VDC analog input is not available Pulse output: FM terminal
55	DA2 terminal function selection	1 to 3, 5 to 12, 17, 21	7	158	AM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 24, 32 to 34, 50, 52, 53	1	△	Analog output (±10 VDC): AM terminal Set to 6 when monitoring the operation speed.

FR-V200E parameter list				FR-A800 compatible parameter				Description about parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
56	Speed monitoring reference	0 to 3600 r/min	1500 r/min	55	Frequency monitoring reference	0 to 400 Hz	60 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
57	Current monitoring reference	0 to 500 A	Rated value	56	Current monitoring reference	0 to 500 A	Rated output current	⊙	
58	Torque monitoring reference	0 to 400%	150%	866	Torque monitoring reference	0 to 400%	150%	⊙	
59	Language selection	0, 9999	9999	145	PU display language selection	0 to 7	0	△	Pr.145=0: Japanese, Pr.145=1: English
60	Speed deviation time	0 to 100 s	12 s	853	Speed deviation time	0 to 100 s	1 s	⊙	
61	Restart coasting time	0, 0.1 to 5 s, 9999	9999	57	Restart coasting time	0, 0.1 to 5 s, 9999	9999	△	When Pr.57 = 0, the coasting time differs. It is usually not necessary to change the value. For the same time setting as the FR-V200, set 0.1 s.
62	Pre-excitation selection	0, 1, 2, 3	0	802	Pre-excitation selection	0, 1	0	×	When Pr.11 or Pr.12 = 0 for FR-V200, the operation will be changed.
63	Torque command selection	0, 1	0	803	Constant output range torque characteristic selection	0, 1	0	⊙	To give the constant torque command in base frequency or higher, change Pr.803.
64	Motor capacity	0 to 55 kW, 9999	9999	80	Motor capacity	0.4 to 55 kW, 9999	9999	⊙	
65	Number of motor poles	2, 4, 6, 9999	9999	81	Number of motor poles	2, 4, 6, 8, 10, 9999	9999	⊙	
				83	Rated motor voltage	0 to 1000 V	200 V / 400 V	⊙	Set the rated motor voltage.
66	Rated motor speed	0 to 3600 r/min	Rated motor speed	84	Rated motor frequency	10 to 120 Hz	60 Hz	×	For the FR-A800, use Pr.144 to change the unit to "r/min", and then set the same as in the FR-V200 setting.
67	Zero current detection level	0 to 50%	5%	152	Zero current detection level	0 to 200%	5.0%	⊙	
68	Zero current detection time	0.05 to 1 s, 9999	9999	153	Zero current detection time	0 to 1 s	0.5 s	⊙	
69	Number of encoder pulses	0 to 4096	1024 / 1000	369	Number of encoder pulses	0 to 4096	1024	⊙	Set only when FR-A8AP and -A8AL are mounted.
				851			2048	⊙	Set when FR-A8TP.
70	Regenerative brake duty	0 to 30% / 0%	0%	70	Special regenerative brake duty	0 to 30%	0%	⊙	
71	Applied motor	0, 1	0	71	Applied motor	0 to 8, 13 to 18, 20, 23, 24 30, 33, 34, 40, 43, 44, 50, 53, 54	0	⊙	
72	PWM frequency selection	0 to 6	1	72	PWM frequency selection	0 to 15	1	×	Adjust the setting.
73	Speed setting signal	0 to 3	0	73	Analog input selection	0 to 5, 6, 7, 10 to 15, 16, 17	1	×	Set the analog input function.
				267	Terminal 4 input selection	0 to 3	0	×	
				858	Terminal 4 function assignment	0, 1, 4, 9999	0	×	
				868	Terminal 1 function assignment	0 to 6, 9999	0	×	
74	Torque characteristic selection	0, 1	0	–	–	–	–	–	This function is not available.
75	PU stop key selection	0, 1, 2, 3	1	75	Reset selection / disconnected PU detection / PU stop selection	0 to 3, 14 to 17	14	×	When FR-V200 is used in the initial values (default factory setting), use FR-A800 also in the initial values (default factory setting).
76	Fault definition	0, 1	0	875	Fault definition	0, 1	0	⊙	
77	Parameter write disable selection	0, 1, 2	0	77	Parameter write disable selection	0, 1, 2	0	⊙	
78	Reverse rotation prevention selection	0, 1, 2	0	78	Reverse rotation prevention selection	0, 1, 2	0	⊙	
79	Operation mode selection	0, 1, 2	0	79	Operation mode selection	0 to 4, 6, 7	0	⊙	
80	Speed control P gain 1	0 to 1000%	30%	820	Speed control P gain 1	0 to 1000%	60%	×	This parameter is used for adjustment. Adjust the setting as required.
81	Speed control I gain 1	0 to 1000%	3%	821	Speed control integral time 1	0 to 20 s	0.333 s	×	
82	Speed setting filter 1	0 to 5 s	0 s	822	Speed setting filter 1	0 to 5 s, 9999	9999	×	
83	Speed detection filter 1	0 to 5 s	0 s	823	Speed detection filter 1	0 to 0.1 s	0.001 s	×	
84	Torque control P gain 1	0 to 1000%	100%	824	Torque control P gain 1	0 to 200%	100%	×	
85	Torque control I gain 1	0 to 1000%	100%	825	Torque control integral time 1	0 to 500 ms	5 ms	×	
86	Torque setting filter 1	0 to 5 s	0 s	826	Torque setting filter 1	0 to 5 s, 9999	9999	×	
87	Torque detection filter 1	0 to 5 s	0 s	827	Torque detection filter 1	0 to 0.1 s	0 s	×	
88	Droop gain	0 to 100%, 9999	9999	286	Droop gain	0 to 100%	0%	×	
89	OLT level setting	0 to 200%	150%	874	OLT level setting	0 to 200%	150%	×	
90	Speed control P gain 2	0 to 1000%	30%	830	Speed control P gain 2	0 to 1000%, 9999	9999	×	
91	Speed control I gain 2	0 to 1000%	3%	831	Speed control integral time 2	0 to 20 s, 9999	9999	×	
92	Speed setting filter 2	0 to 5 s	0 s	832	Speed setting filter 2	0 to 5 s, 9999	9999	×	
93	Speed detection filter 2	0 to 5 s	0 s	833	Speed detection filter 2	0 to 0.1 s, 9999	9999	×	
94	Torque control P gain 2	0 to 1000%	100%	834	Torque control P gain 2	0 to 200%, 9999	9999	×	
95	Torque control I gain 2	0 to 1000%	100%	835	Torque control integral time 2	0 to 500 ms, 9999	9999	×	
96	Torque setting filter 2	0 to 5 s	0 s	836	Torque setting filter 2	0 to 5 s, 9999	9999	×	
97	Torque detection filter 2	0 to 5 s	0 s	837	Torque detection filter 2	0 to 0.1 s, 9999	9999	×	

FR-V200E parameter list				FR-A800 compatible parameter				Description about parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
98	Auto tuning setting	0, 1	0	96	Auto tuning setting/status	0, 1, 101	0	×	Perform tuning again when Pr.96 = 1 or 101.
99	Motor constant selection	0 to 3, 9999	9999	82	Motor excitation current	0 to 500 A, 9999	9999	×	When the motor constant was set by star wiring or direct delta tangent in the FR-V200, the inductance setting differs. Therefore, perform the auto-tuning.
				90	Motor constant (R1)	0 to 50 Ω, 9999	9999	×	
				91	Motor constant (R2)	0 to 50 Ω, 9999	9999	×	
				92	Motor constant (L1)	0 to 50 Ω (0 to 1000 mH), 9999	9999	×	
				93	Motor constant (L2)	0 to 50 Ω (0 to 1000 mH), 9999	9999	×	
				94	Motor constant (X)	0 to 500 Ω (0 to 100%), 9999	9999	×	
103	Torque bias selection	0 to 3, 9999	9999	840	Torque bias selection	0 to 3, 9999	9999	⊙	
104	Torque bias 1	600 to 1400%, 9999	9999	841	Torque bias 1	600 to 1400%, 9999	9999	×	This parameter is used for adjustment. Adjust the setting as required.
105	Torque bias 2	600 to 1400%, 9999	9999	842	Torque bias 2	600 to 1400%, 9999	9999	×	
106	Torque bias 3	600 to 1400%, 9999	9999	843	Torque bias 3	600 to 1400%, 9999	9999	×	
147	Torque bias filter	0 to 5 s, 9999	9999	844	Torque bias filter	0 to 5 s, 9999	9999	×	
148	Torque bias operation time	0 to 5 s, 9999	9999	845	Torque bias operation time	0 to 5 s, 9999	9999	×	
149	Torque bias balance compensation	0 to 10 V, 9999	9999	846	Torque bias balance compensation	0 to 10 V, 9999	9999	×	
151	Secondary resistance compensation selection	0 to 200°C, 9999	9999	95	Online auto tuning	0, 1, 2	0	×	Set "2" (magnetic flux observer (tuning always)) for vector control.
152	Fall-time torque bias No. 3 bias	0 to 400%, 9999	9999	847	Fall-time torque bias terminal 1 bias	0 to 400%, 9999	9999	×	This parameter is used for adjustment. Adjust the setting as required.
153	Fall-time torque bias No. 3 gain	0 to 400%, 9999	9999	848	Fall-time torque bias terminal 1 gain	0 to 400%, 9999	9999	×	
154	Droop filter time constant	0.00 to 1.00 s, 9999	9999	287	Droop filter time constant	0 to 1 s	0.3 s	×	
155	Speed display	11 to 9998.9999	9999	37	Speed display	0, 1 to 9998	0	×	Conversion formula to machine speed is as follows: Pr.37 x Frequency / Pr.505 Adjust the setting as required.
				505	Speed setting reference	1 to 120 Hz	60 Hz	×	
156	Encoder rotation direction	0, 1	0	359	Encoder rotation direction	0, 1	1	×	Set when FR-A8TP and -A8AL. Initial value is incorrect. Adjust the setting as required.
				852				×	Set when FR-A8TP.
				862	Encoder option selection	0, 1	0	×	Set when FR-A8TP.
157	Excitation ratio	0 to 100%	100%	854	Excitation ratio	0 to 100%	100%	⊙	
158	Torque limit during deceleration	0 to 400%, 9999	9999	816	Torque limit level during acceleration	0 to 400%, 9999	9999	⊙	
159	Torque limit during acceleration	0 to 400%, 9999	9999	817	Torque limit level during deceleration	0 to 400%, 9999	9999	⊙	
900	DA1 terminal calibration	–	–	C0 (900)	FM terminal calibration	–	–	×	As the operation panel is changed, the setting method differs. For the detail, refer to terminal FM and AM calibration of the Instruction Manual (Applied).
901	DA2 terminal calibration	–	–	C1 (901)	AM terminal calibration	–	–	×	
902	Speed setting No. 2 bias	0 to 10 V 0 to 3600 r/min	0 V 0 r/min	C2 (902)	Terminal 2 frequency setting bias frequency	0 to 400 Hz	0 Hz	×	As the operation panel is changed, the setting method differs. For the detail, refer to the Instruction Manual (Applied). Refer to the frequency setting voltage (current) bias and gain Terminal 4: When the torque limit is set. When the terminal 1 is not used, torque command/limit can be performed by the terminal 1. In this case, adjust bias/gain by C16 to C19. When the terminal 1 is used, perform the torque command by option, FR-A8AZ.
				C3 (902)	Terminal 2 frequency setting bias	0 to 300%	0%	×	
903	Speed setting No. 2 gain	0 to 10 V 0 to 3600 r/min	10 V 1500 r/min	125 (903)	Terminal 2 frequency setting gain frequency	0 to 400 Hz	60 Hz	×	
				C4 (903)	Terminal 2 frequency setting gain	0 to 300%	100%	×	
904	Torque command No. 3 bias	0 to 10 V 0 to 400%	0 V 0%	C38 (932)	Terminal 4 bias command	0 to 400%	0%	×	
				C39 (932)	Terminal 4 bias	0 to 300%	20%	×	
905	Torque command No. 3 gain	0 to 10 V 0 to 400%	10 V 150%	C40 (933)	Terminal 4 gain command	0 to 400%	150%	×	
				C41 (933)	Terminal 4 gain	0 to 300%	100%	×	

4. OPTION

The following table shows the comparison of options between the FR-A200E series inverters and the FR-A800 series inverters.

Name		Option				
		FR-V200E		FR-A800		
				When the FR-A8AP is used *1	When the FR-A8AL is used *1	When the FR-A8TP is used
Plug-in type *2	Extension input/output function	FR-VPA	Orientation	Motor end: FR-A8AP Machine end: FR-A8TP	Motor end, Simple machine end: FR-A8AL Machine end: FR-A8TP	Motor end: FR-A8TP Machine end: FR-A8AP
			Extension input: 6 points	Standard control circuit input terminal: 5 points added		Input terminal: 1 point added
			Extension output: 3 points	Standard control circuit input terminal: 2 points added, FR-A8AY		FR-A8AY
			Analog input 0.1%	FR-A8AZ		
			Encoder pulse output	FR-A8AL		FR-A8TP
			Power for long-distance cable	Not supported		
	Position control function	FR-VPB	Position control	FR-A8AL		FR-A8TP
			Analog input 0.1%	FR-A8AZ		
			Encoder pulse output	FR-A8AL		FR-A8TP
			RS-485	Standard function		
			Power for long-distance cable	Not supported		
	12-bit digital input	FR-VPC	12-bit digital	FR-A8AX		
			Analog input 0.01%	FR-A8AZ		
			Encoder pulse output	FR-A8AL		FR-A8TP
			Motor thermistor	FR-A8AZ		
			Power for long-distance cable	Not supported		
	Encoder pulse output	FR-VPD	Position control	FR-A8AL		FR-A8TP
			Analog input 0.05%	FR-A8AZ		
			Extension input:3 points	Standard control circuit input terminal: 5 points added		Input terminal: 1 point added
			Extension output: 2 points	Standard control circuit input terminal: 2 points added, FR-A8AY		FR-A8AY
			Encoder pulse output	FR-A8AL		FR-A8TP
			Power for long-distance cable	Not supported		
Sand-alone type	Parameter unit	FR-PU02V		FR-PU07		
	Encoder cable (for dedicated motor)	FR-VCBL, FR-JCBL		Wire needs to be modified.		
	Heatsink protrusion attachment	FR-CAN		FR-A8CN		
	Totally enclosed structure attachment	FR-ACV		—		
	Attachment for conduit connection	FR-AFN		—		
	Intercompatibility attachment	FR-AAT, FR-A5AT		FR-AAT, FR-A5AT		

	EMC Directive compliant noise filter	SF□□	Integrated in the inverter (EN 61800-3 2nd Environment compatible)
	Surge voltage suppression filter	FR-ASF-H	Compatible
	Power factor improving DC reactor	FR-BEL-(H)	FR-HEL-(H)
	Power factor improving AC reactor	FR-BAL-(H)	FR-HAL-(H)
	Radio noise filter	FR-BIF-(H)	Compatible
	Line noise filter	FR-BSF01、FR-BLF	Compatible
	Bu type brake unit	BU1500 to 15K, H7.5K to 30K	FR-BU2-(H)
	Brake unit	FR-BU-(H)	
	Resistor unit	FR-BR-(H)	Compatible
	FR-RC type power regeneration converter	FR-RC-(H)	FR-XC-(H)
	FR-HC high power factor converter	FR-HC-(H)	FR-HC2-(H)
Controllers and setters	Manual controller with frequency meter	FR-AX	Compatible
	DC tach. follower	FR-AL	Compatible
	Three speed selector	FR-AT	Compatible
	Remote speed setter	FR-FK	Compatible
	Ratio setter	FR-FH	Compatible
	PG follower	FR-FP	Compatible
	Master controller	FR-FG	Compatible
	Soft starter	FR-FC	Compatible
	Deviation detector	FR-FD	Compatible
	Preamplifier	FR-FA	Compatible
Others	Pilot generator	QVAH-10	Compatible
	Deviation sensor	YVGC-500W-NS	Compatible
	Frequency setting potentiometer	WA2W 1kΩ	Compatible
	Frequency meter	YM206NRI 1mA	Compatible
	Calibration resistor	RV24YN 10kΩ	Compatible

*1 FR-A800 accepts up to three plug-in type options. FR-A8AP or FR-A8AL, which facilitates the connection with an encoder, is required to perform vector control with FR-A800. Therefore, up to two options other than the encoder option can be connected.

*2 Select according to the required function.
For the extension input, use the standard control circuit terminal (up to five points).
Prepare a 5.5 V power for long-distance cable as an external power supply.
The RS-485 interface is integrated in the inverter. For details, refer to the Instruction Manual.