Information for Replacement of FR-A200E Series

Replacement model

FR-A800 Series

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

1. REPLACING INVERTER

The FR-A800 series has two specifications types: FM type and CA type.
When replacing the FR-A200E series of the Japanese specifications, select the FM type (FR-A8[]0-[][]K-1).

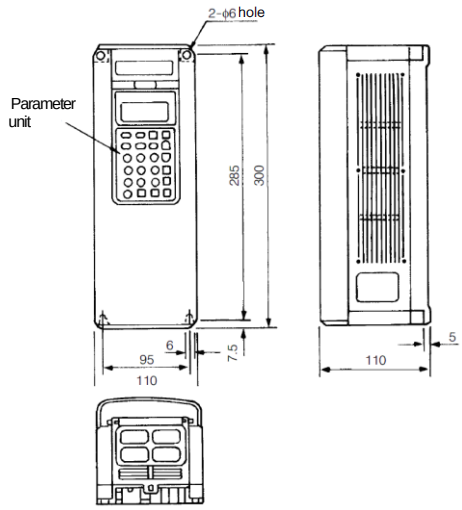
2. SIZE

When the FR-A200E series is replaced with the FR-A800 series, some FR-A800 series models have different installation size from that of the corresponding FR-A200E series models. Refer to the applicable outline dimension and drill new mounting holes, or use the installation interchange attachment shown in the table below.

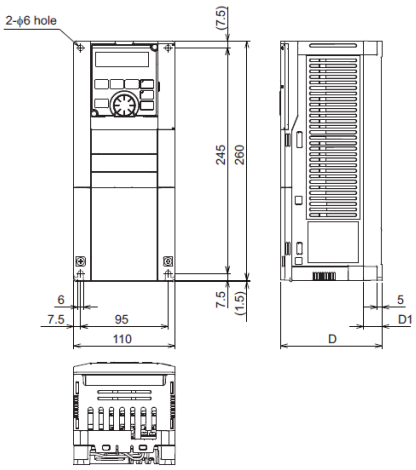
Existing inverter	Replacing inverter	Installation size / installation interchange attachment
FR-A220E-0.4K	FR-A820-0.4K	FR-A5AT01
FR-A220E-0.75K	FR-A820-0.75K	FR-A5AT01
FR-A220E-1.5K	FR-A820-1.5K	FR-A5AT02
FR-A220E-2.2K	FR-A820-2.2K	FR-A5AT02
FR-A220E-3.7K	FR-A820-3.7K	FR-A5AT02
FR-A220E-5.5K	FR-A820-5.5K	FR-A5AT03
FR-A220E-7.5K	FR-A820-7.5K	FR-A5AT03
FR-A220E-11K	FR-A820-11K	Same
FR-A220E-15K	FR-A820-15K	Same
FR-A220E-18.5K	FR-A820-18.5K	FR-A5AT04
FR-A220E-22K	FR-A820-22K	FR-A5AT04
FR-A220E-30K	FR-A820-30K	Same
FR-A220E-37K	FR-A820-37K	Same
FR-A220E-45K	FR-A820-45K	Same
FR-A220E-55K	FR-A820-55K	Same
FR-A240E-0.4K	FR-A840-0.4K	FR-A5AT02
FR-A240E-0.75K	FR-A840-0.75K	FR-A5AT02
FR-A240E-1.5K	FR-A840-1.5K	FR-A5AT02
FR-A240E-2.2K	FR-A840-2.2K	FR-A5AT02
FR-A240E-3.7K	FR-A840-3.7K	FR-A5AT02
FR-A240E-5.5K	FR-A840-5.5K	FR-A5AT03
FR-A240E-7.5K	FR-A840-7.5K	FR-A5AT03
FR-A240E-11K	FR-A840-11K	FR-AAT24
FR-A240E-15K	FR-A840-15K	FR-AAT24
FR-A240E-18.5K	FR-A840-18.5K	FR-A5AT04
FR-A240E-22K	FR-A840-22K	FR-A5AT04
FR-A240E-30K	FR-A840-30K	Same
FR-A240E-37K	FR-A840-37K	Same
FR-A240E-45K	FR-A840-45K	Same
FR-A240E-55K	FR-A840-55K	FR-A5AT05

Outline dimension drawings (Unit: mm)

■FR-A220E-0.4K

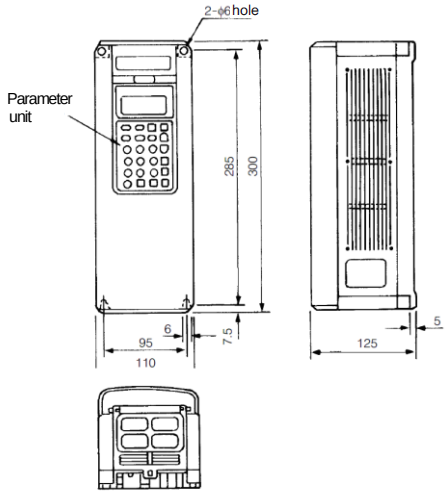


■FR-A820-0.4K

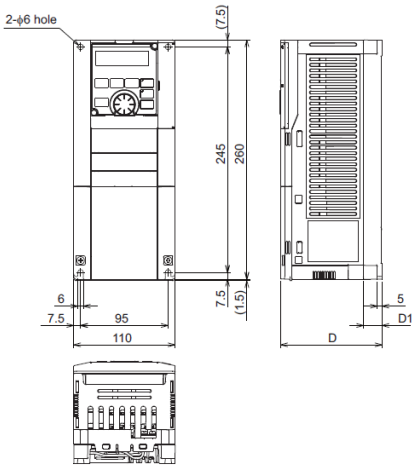


Inverter model	D	D1
FR-A820-0.4K	110	20

■FR-A220E-0.75K

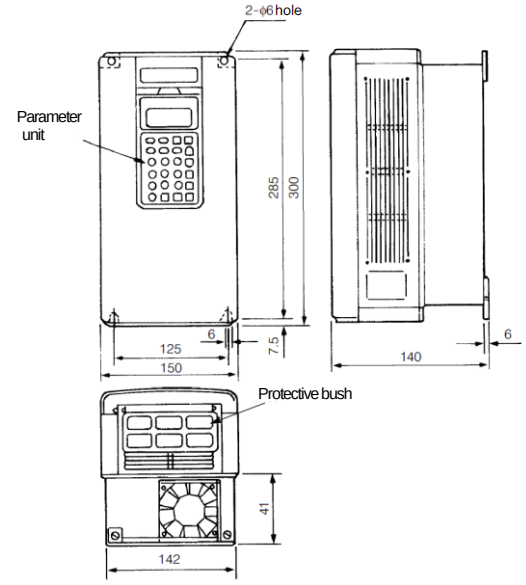


■FR-A820-0.75K

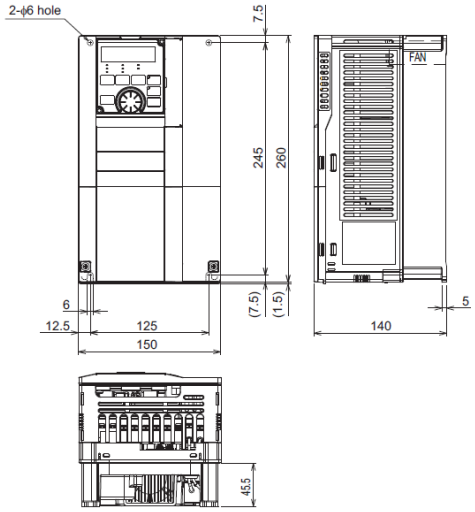


Inverter model	D	D1
FR-A820-0.75K	125	35

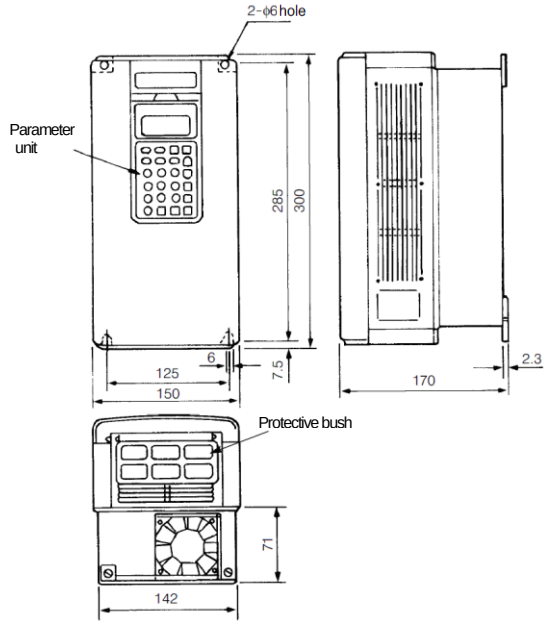
■FR-A220E-1.5K



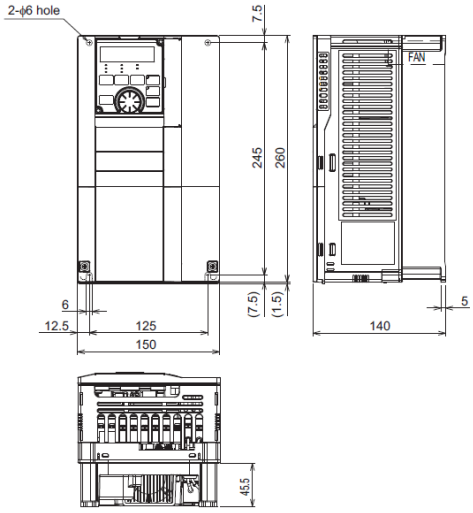
■FR-A820-1.5K



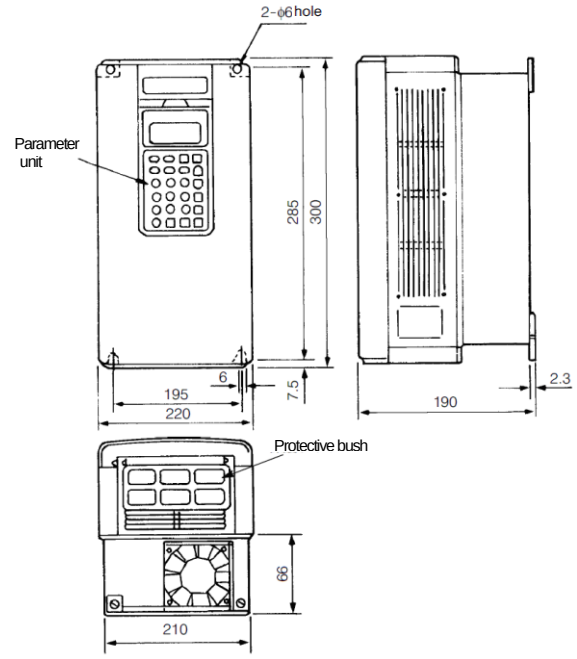
■FR-A220E-2.2K, 3.7K



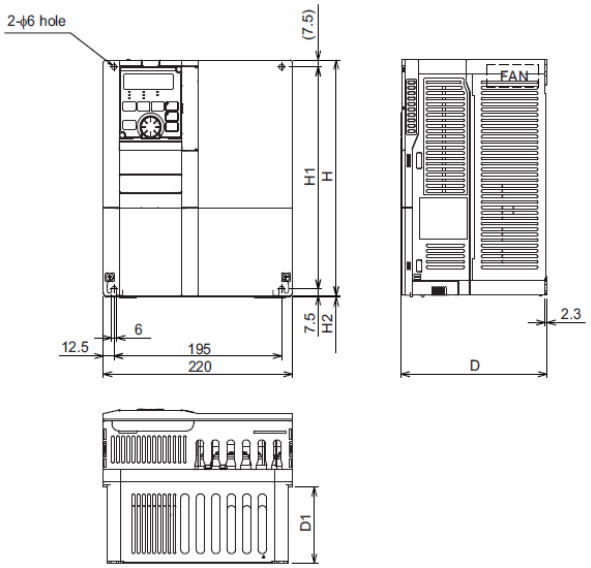
■FR-A820-2.2K, 3.7K



■FR-A220E-5.5K, 7.5K

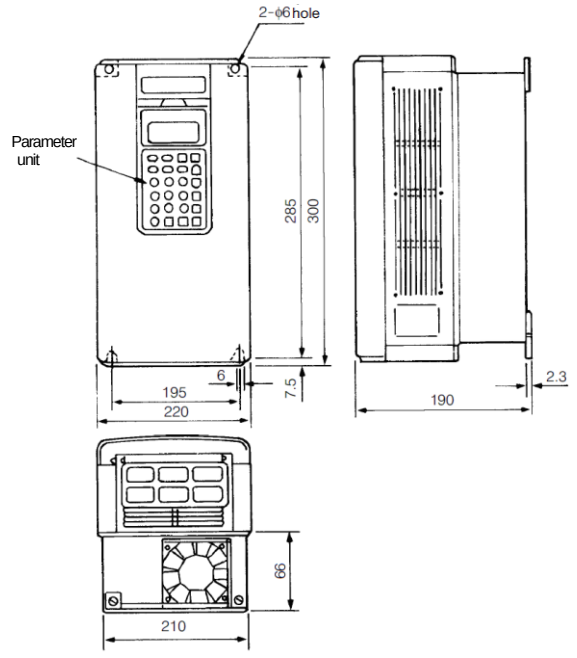


■FR-A820-5.5K, 7.5K

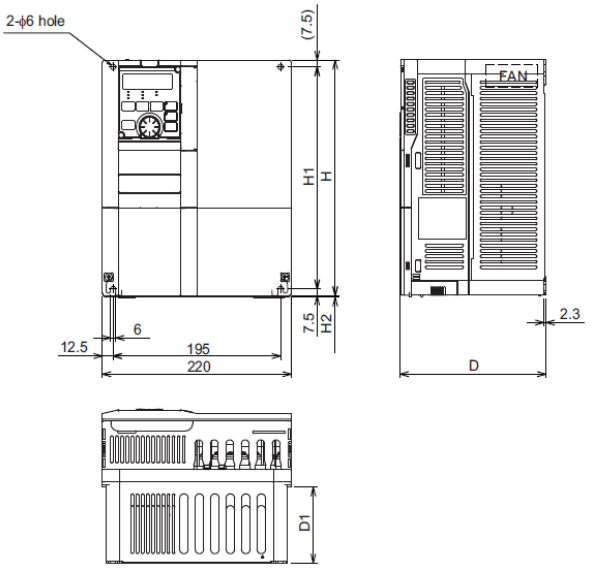


Inverter model	H	H1	H2	D	D1
FR-A820-5.5K, 7.5K	260	245	1.5	170	84

■FR-A220E-11K

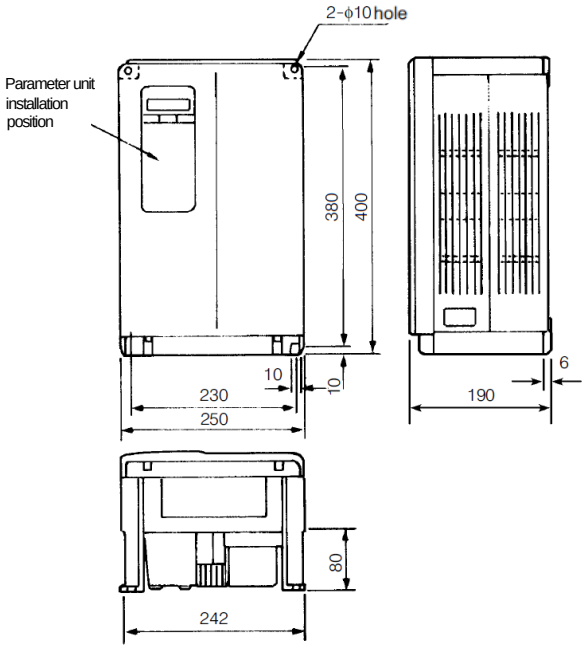


■FR-A820-11K

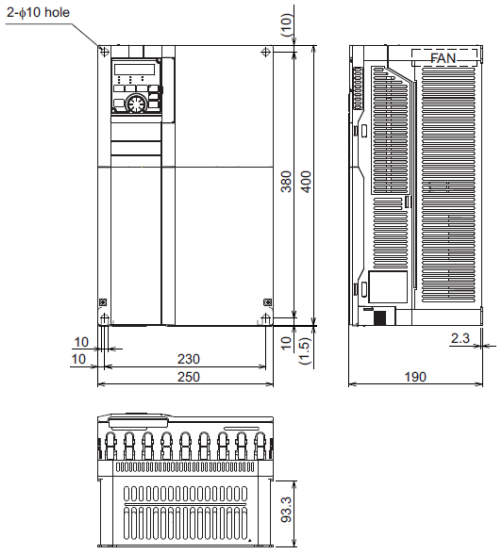


Inverter model	H	H1	H2	D	D1
FR-A820-11K	300	285	3	190	101.5

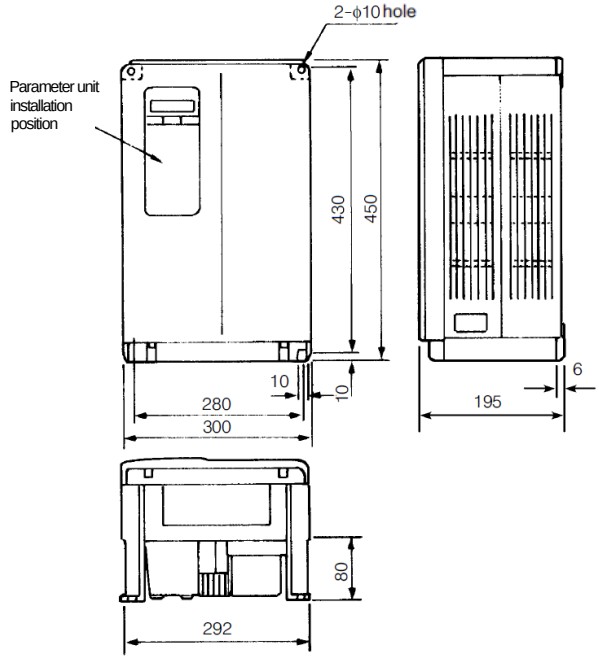
■FR-A220E-15K



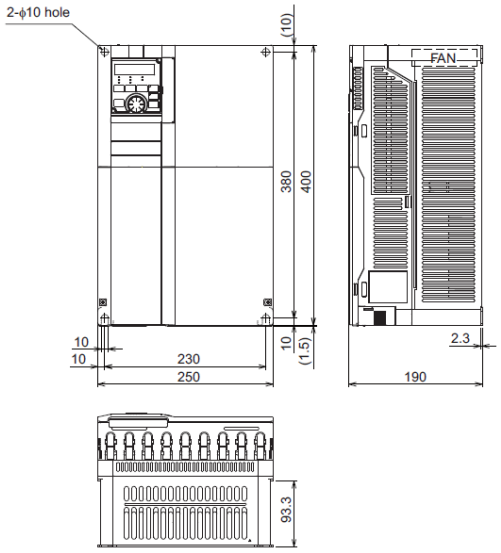
■FR-A820-15K



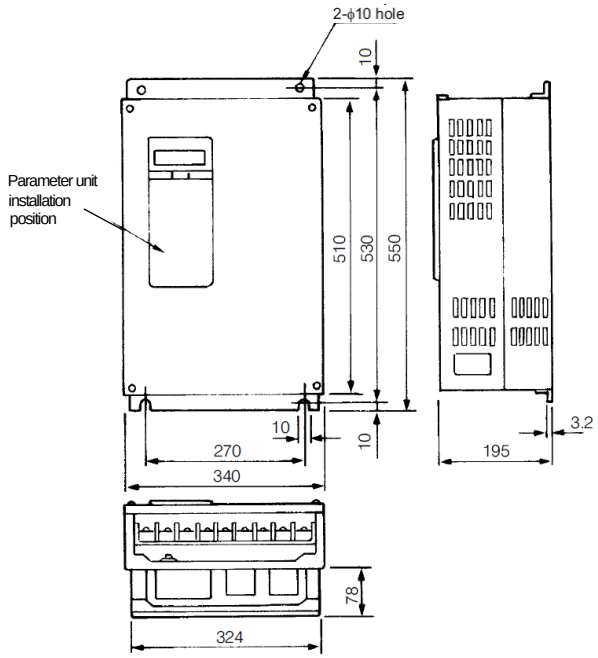
■FR-A220E-18.5K, 22K



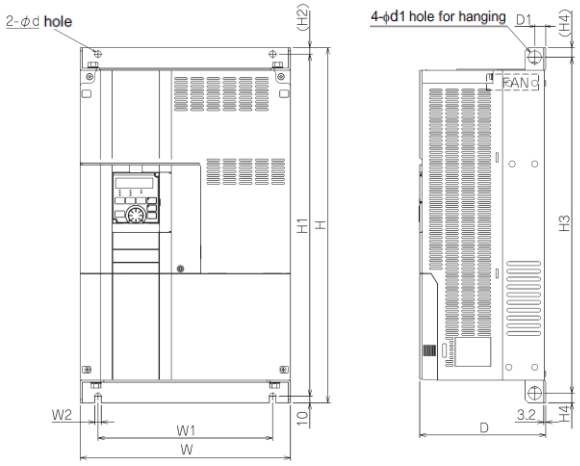
■FR-A820-18.5K, 22K



■FR-A220E-30K



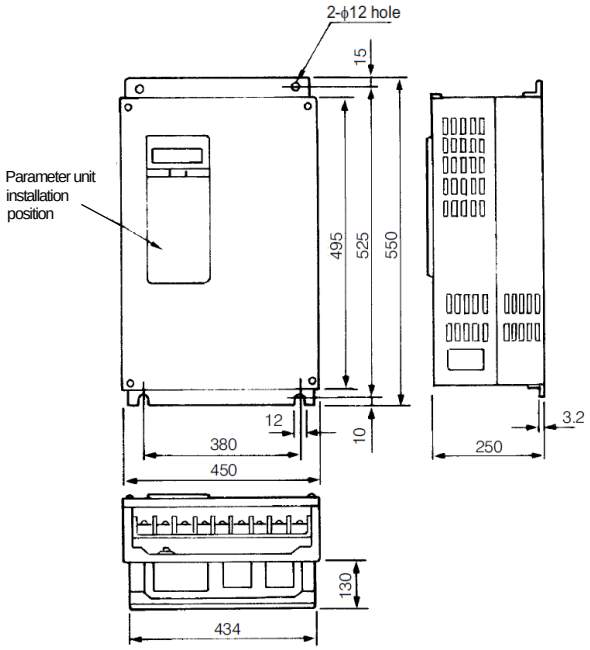
■FR-A820-30K



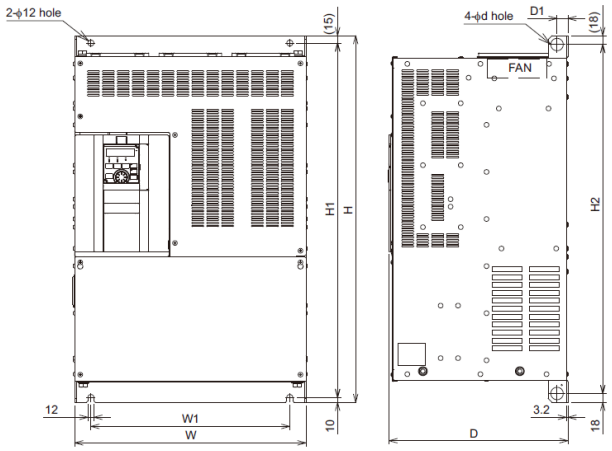
Inverter model	W	W1	W2	H	H1	H2
FR-A820-30K	325	270	10	550	530	10

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

■FR-A220E-37K, 45K



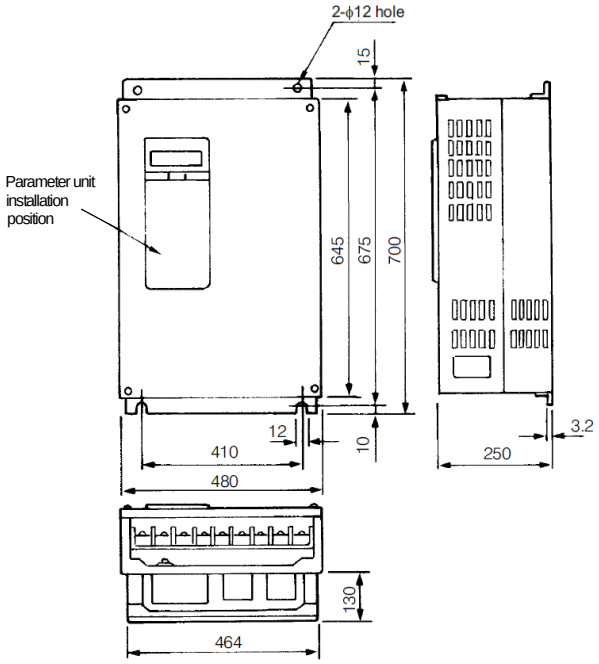
■FR-A820-37K, 45K



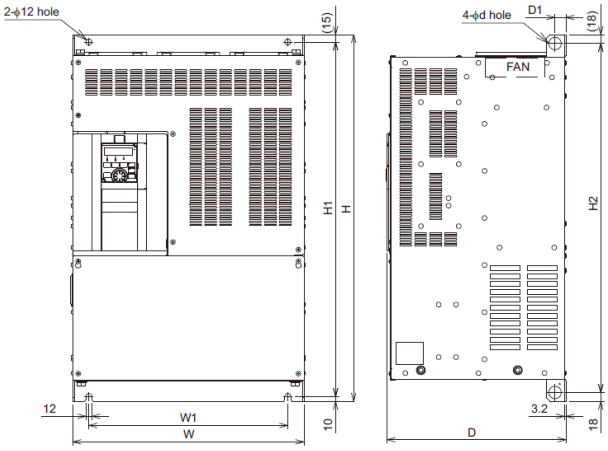
Inverter model	W	W1	H	H1	H2
FR-A820-37K, 45K	435	380	550	525	514

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

■FR-A220E-55K



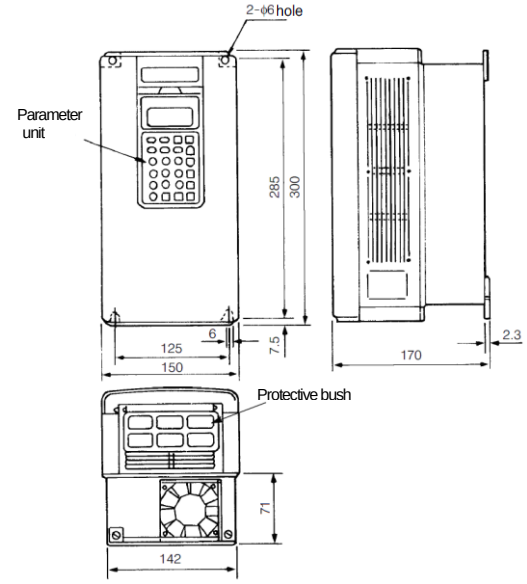
■FR-A820-55K



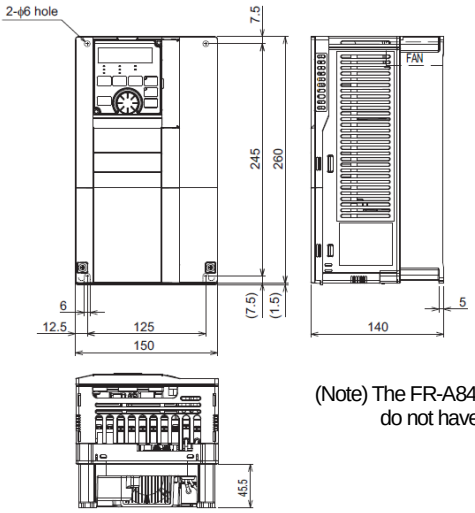
Inverter model	W	W1	H	H1	H2
FR-A820-55K	465	410	700	675	664

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

■FR-A240E-0.4K, 0.75K, 1.5K, 2.2K, 3.7K

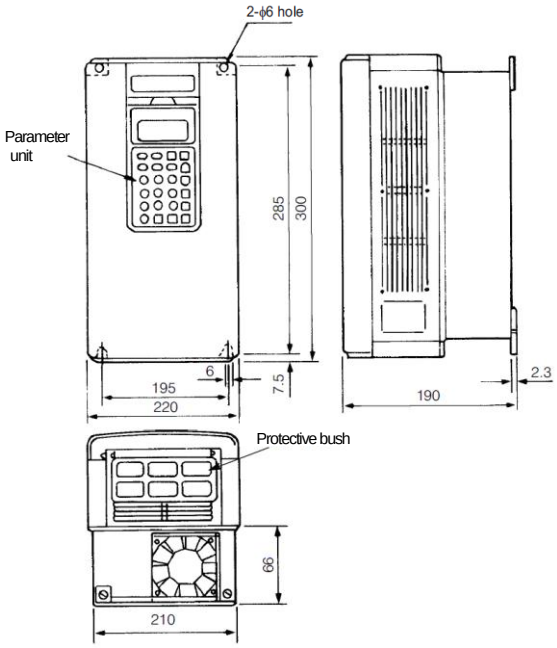


■FR-A840-0.4K, 0.75K, 1.5K, 2.2K, 3.7K

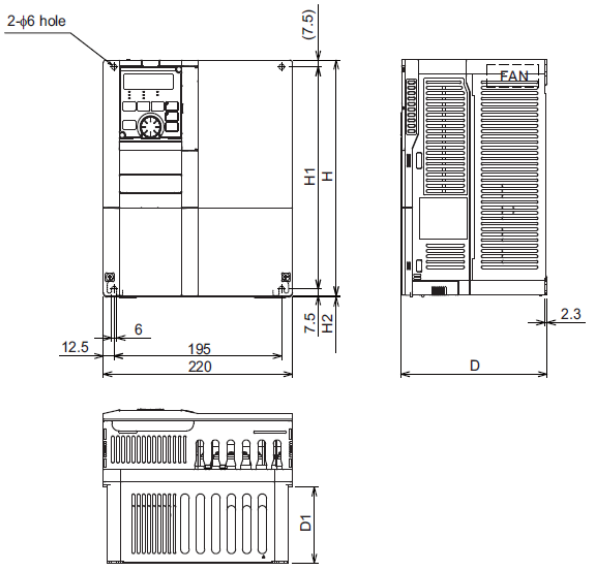


(Note) The FR-A840-0.4K to 1.5K do not have cooling fans.

■FR-A240E-5.5K, 7.5K

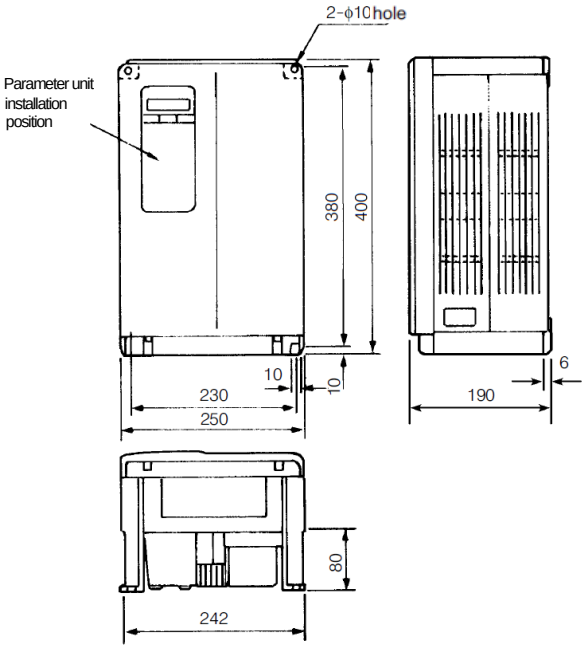


■FR-A840-5.5K, 7.5K

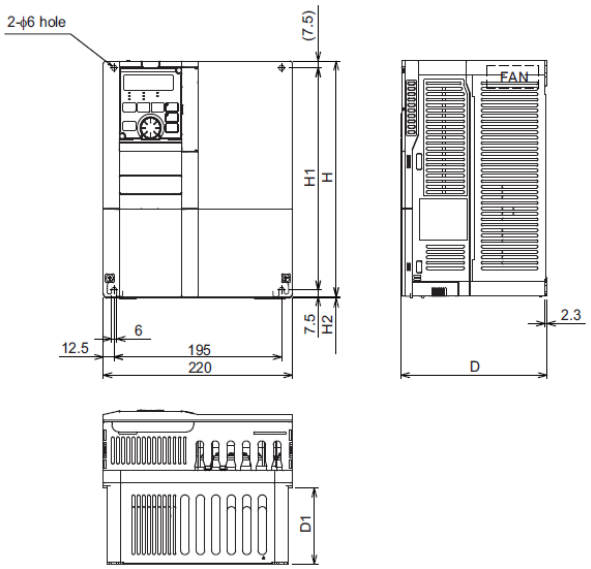


Inverter model	H	H1	H2	D	D1
FR-A840-5.5K, 7.5K	260	245	1.5	170	84

■FR-A240E-11K, 15K

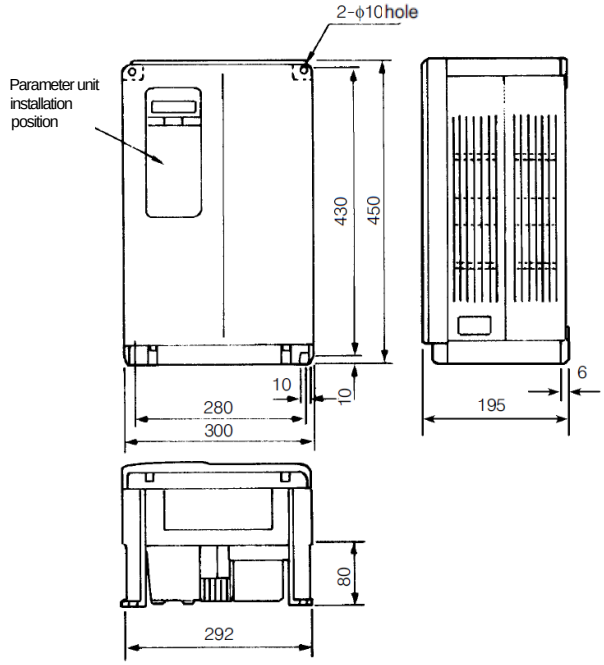


■FR-A840-11K, 15K

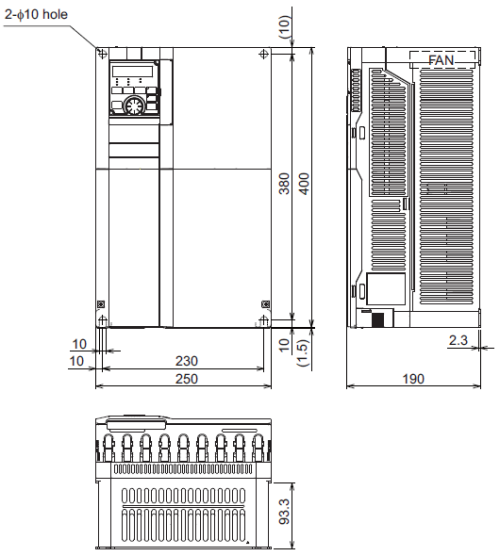


Inverter model	H	H1	H2	D	D1
FR-A840-11K, 15K	300	285	3	190	101.5

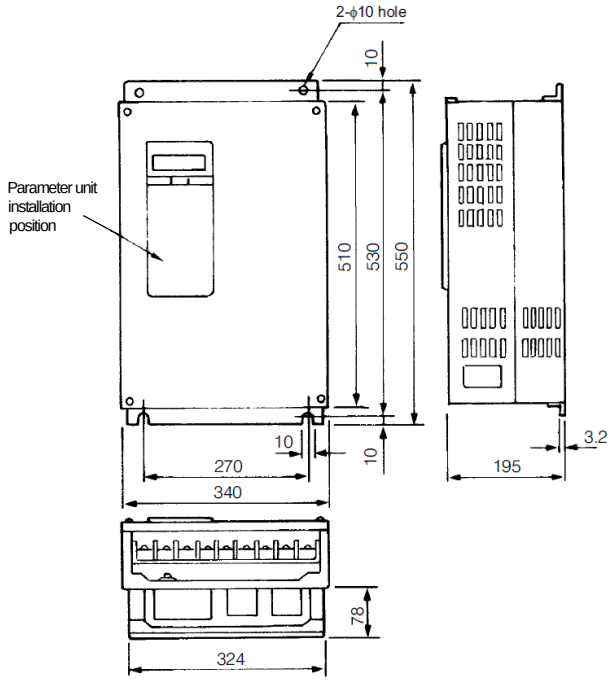
■FR-A240E-18.5K, 22K



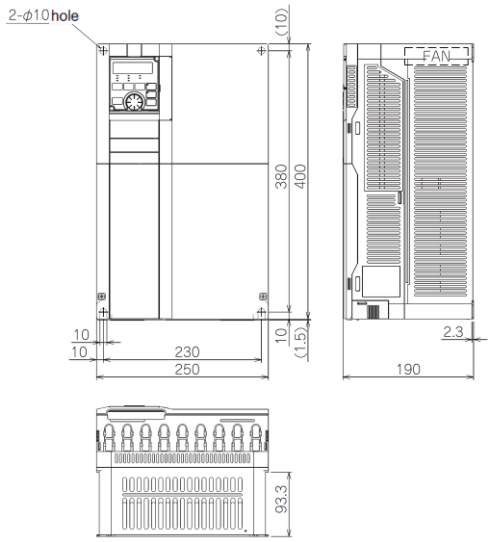
■FR-A840-18.5K, 22K



■FR-A240E-30K



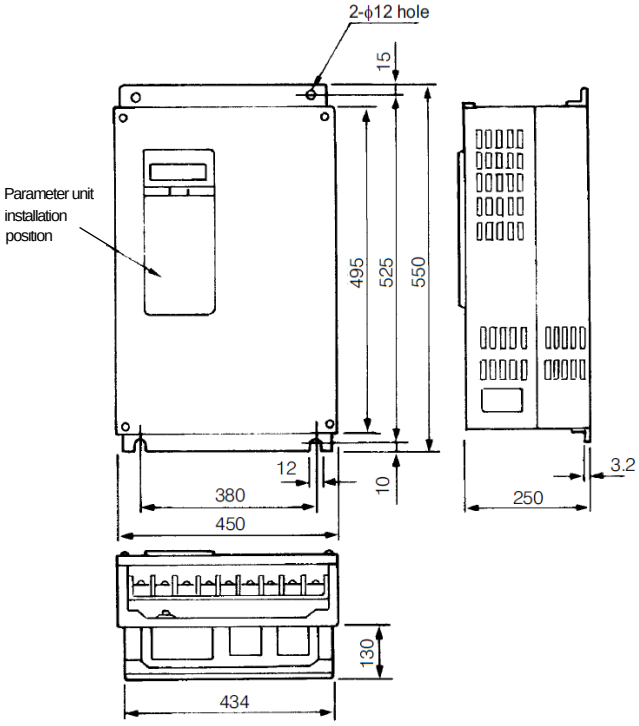
■FR-A840-30K



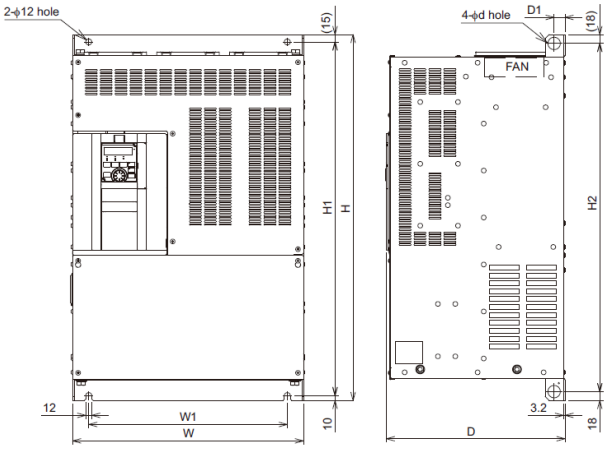
Inverter model	W	W1	W2	H	H1	H2
FR-A840-30K	325	27	10	55	53	10

Inverter model	H3	H4	d	d1	D	D1
FR-A840-30K	520	15	10	20	195	17

■FR-A240E-37K, 45K



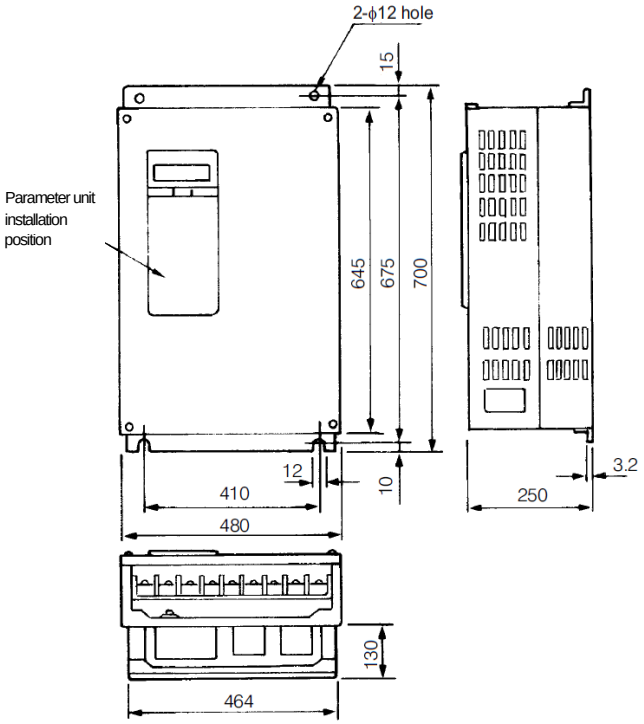
■FR-A840-37K, 45K



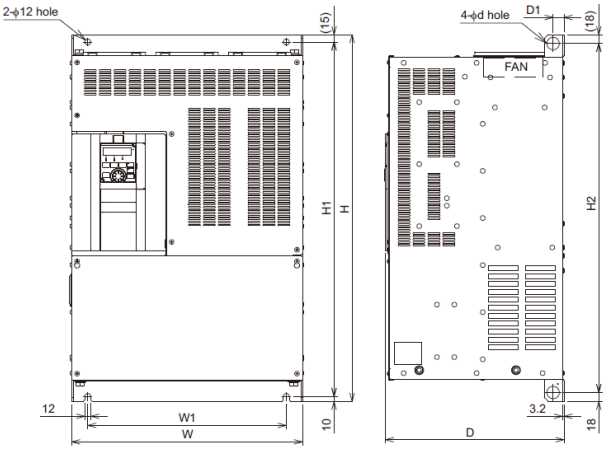
Inverter model	W	W1	H	H1	H2
FR-A840-37K, 45K	435	380	550	525	514

Inverter model	d	D	D1
FR-A840-37K, 45K	25	250	24

■FR-A240E-55K



■FR-A840-55K



Inverter model	W	W1	H	H1	H2
FR-A840-55K	435	380	550	525	514

Inverter model	d	D	D1
FR-A840-55K	25	250	24

3. CONNECTION

The terminal names are basically the same. Connect the terminals according to their names.

Type		A200E terminal name	A800 compatible terminal name
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 (Cannot be used)	PR, PX (Cannot be used)
		⏚	⏚
Control circuit/input signal	Contact	STF	STF
		STR	STR
		STOP	STOP
		RH	RH
		RM	RM
		RL	RL
		JOG	JOG
		RT	RT
		AU	AU
		CS	CS
		MRS	MRS
		RES	RES
		SD	SD
		PC	PC
Analog	Frequency setting	10E	10E
		10	10
		2	2
		4	4
		1	1
		5	5
Control circuit output signal	Contact	A, B, C	A1, B1, C1
	Open collector	RUN	RUN
		SU	SU
		OL	OL
		IPF	IPF
		FU	FU
		SE	SE
	Pulse	FM	FM
	Analog	AM	AM
Communication	RS-485	PU connector	PU connector
Signal for the brake unit		CN8 (equipped in 75K or higher)	Not compatible

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

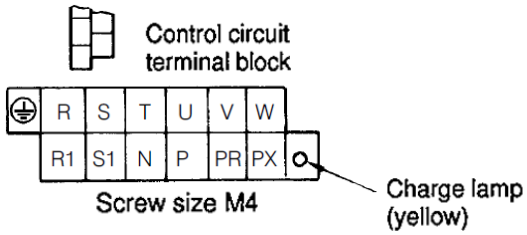
*2) For the FR-A820-15K to 22K and the FR-A840-18.5K to 22K, connect the brake unit between P3 and N/-.

Main circuit terminal layout

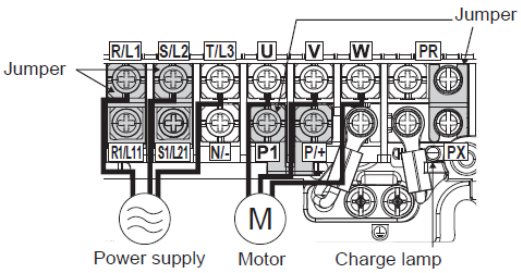
The following shows the main circuit terminal layouts of the FR-A200E series and the FR-A800 series.
The main circuit terminal layout and the position of the earth (ground) terminal may differ depending on the capacity. Check the terminal names and positions before performing wiring.
When the cable used for the FR-A200E series is too short for the FR-A800 series, prepare the longer one.
The terminal screw size may differ depending on the capacity. Check the terminal screw size before performing wiring.

[200 V class]

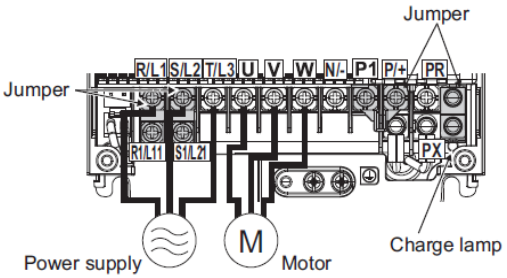
■FR-A220E-0.4K, 0.75K, 1.5K, 2.2K, 3.7K



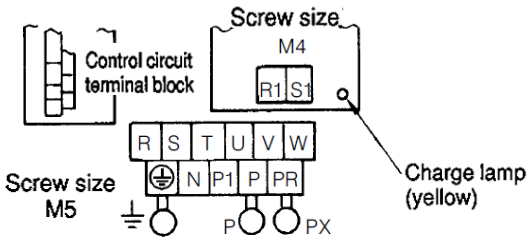
■FR-A820-0.4K, 0.75K



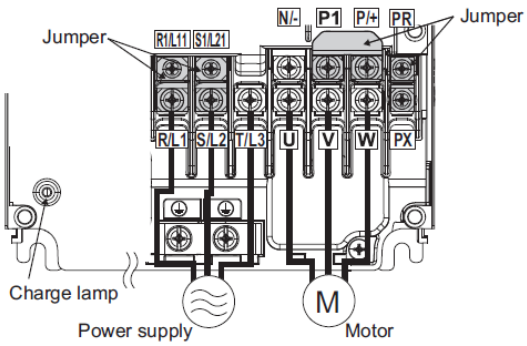
■FR-A820-1.5K, 2.2K, 3.7K



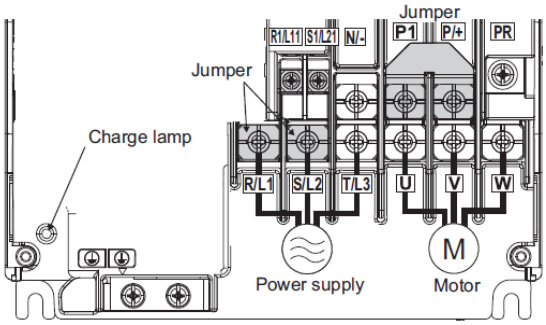
■FR-A220E-5.5K, 7.5K, 11K



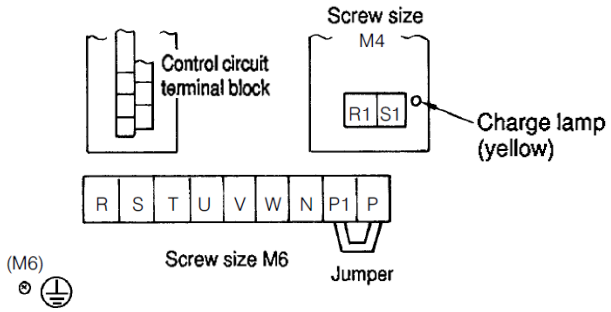
■FR-A820-5.5K, 7.5K



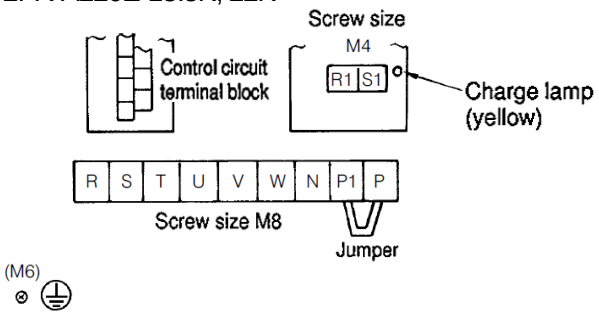
■FR-A820-11K



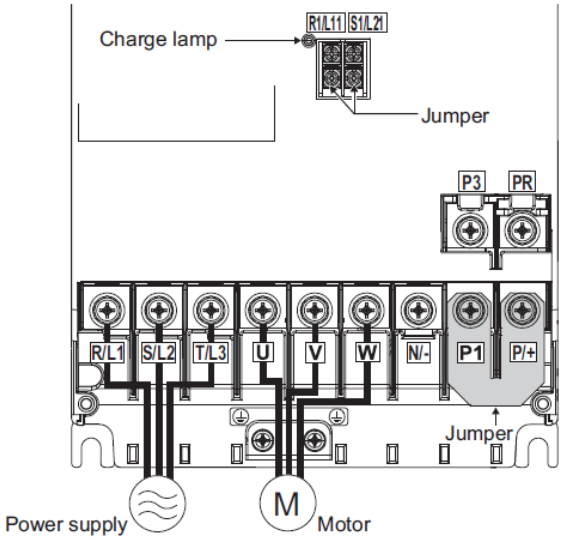
■FR-A220E-15K



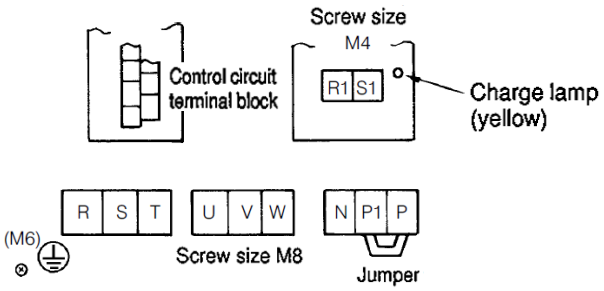
■FR-A220E-18.5K, 22K



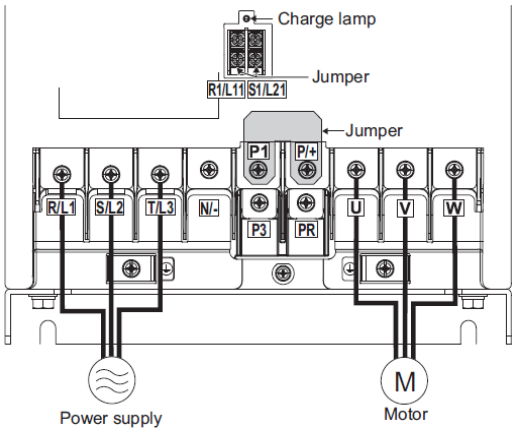
■FR-A820-15K, 18.5K, 22K



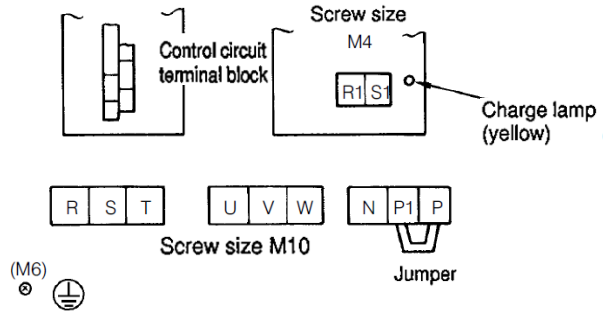
■FR-A220E-30K



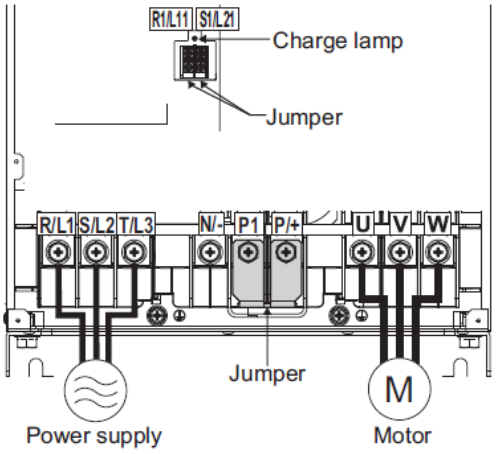
■FR-A820-30K



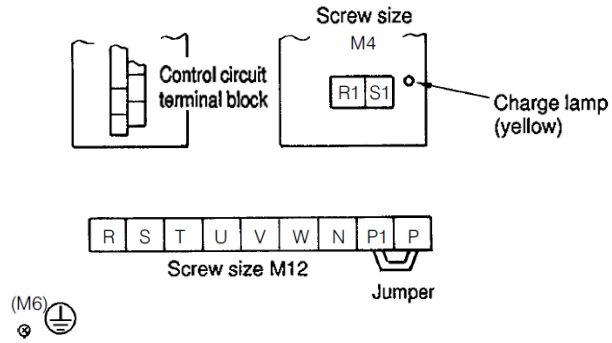
■FR-A220E-37K, 45K



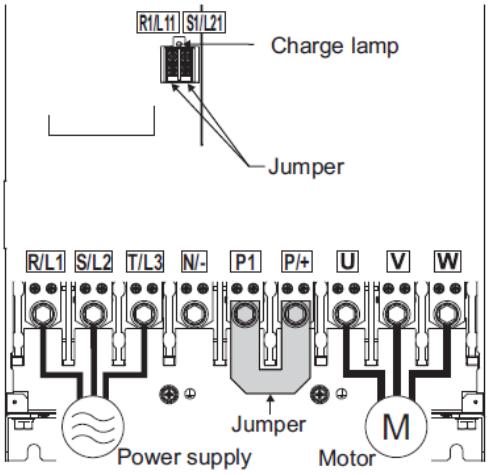
■FR-A820-37K, 45K



■FR-A220E-55K

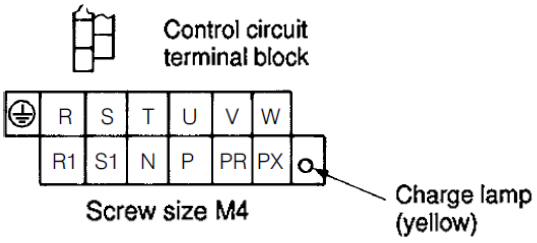


■FR-A820-55K

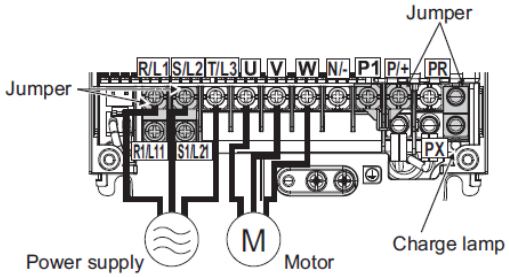


[400 V class]

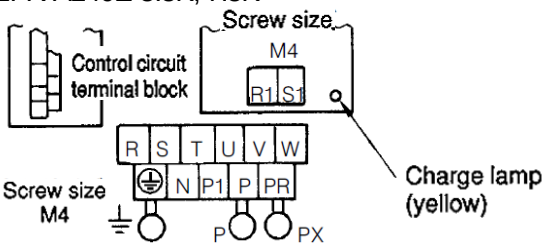
■FR-A240E-0.4K, 0.75K, 1.5K, 2.2K, 3.7K



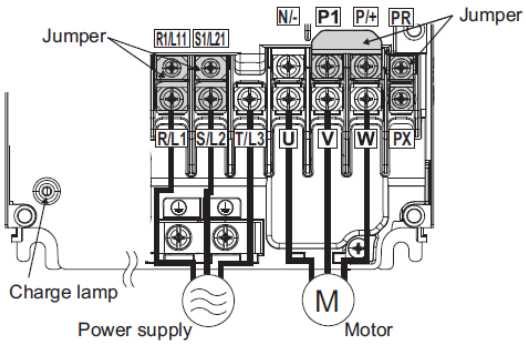
■FR-A840-0.4K, 0.75K, 1.5K, 2.2K, 3.7K



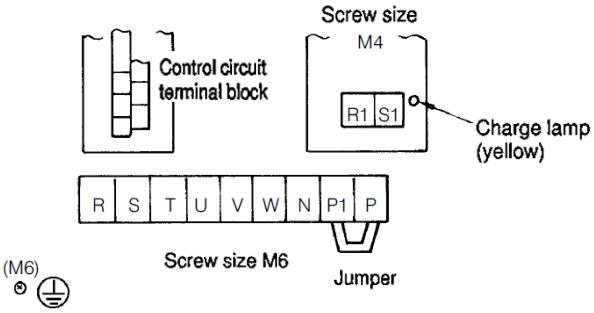
■FR-A240E-5.5K, 7.5K



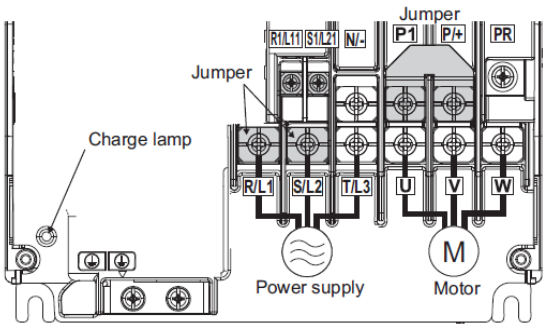
■FR-A840-5.5K, 7.5K



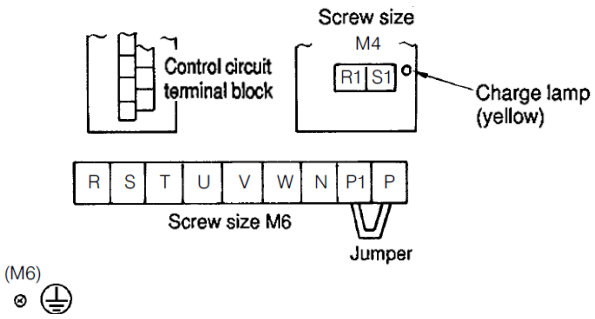
■FR-A240E-11K, 15K



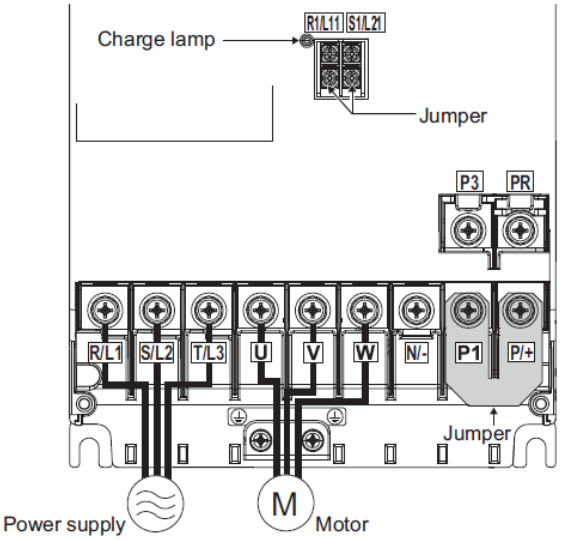
■FR-A840-11K, 15K



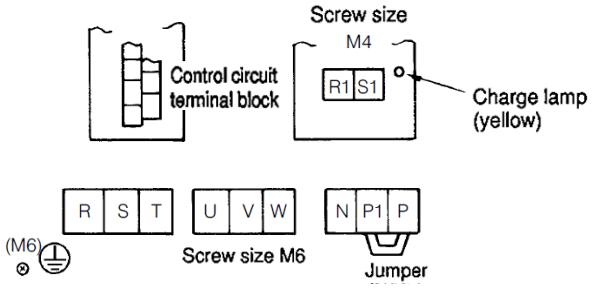
■FR-A240E-18.5K, 22K



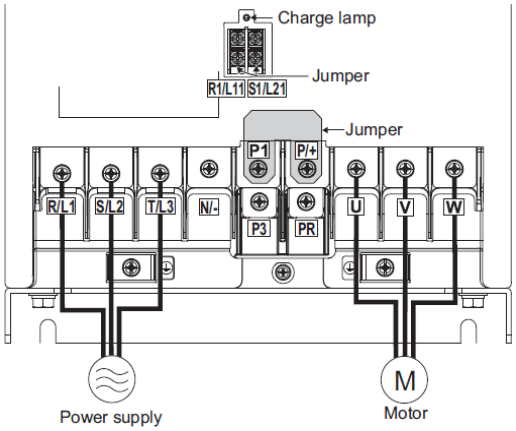
■FR-A840-18.5K, 22K



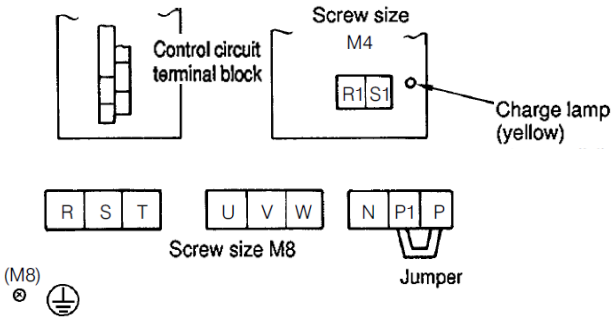
■FR-A240E-30K



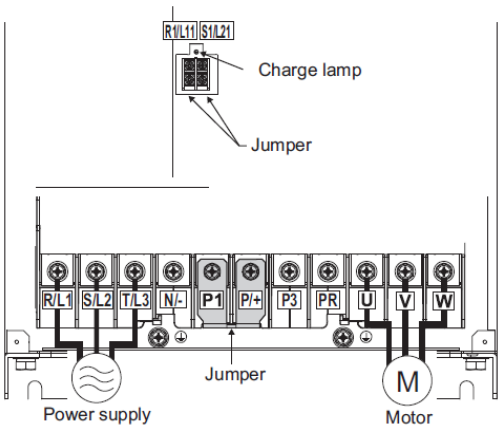
■FR-A840-30K



■FR-A240E-37K, 45K, 55K



■FR-A840-37K, 45K, 55K

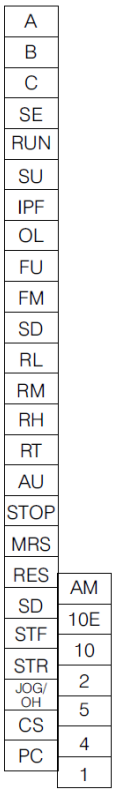


Control circuit terminal layout

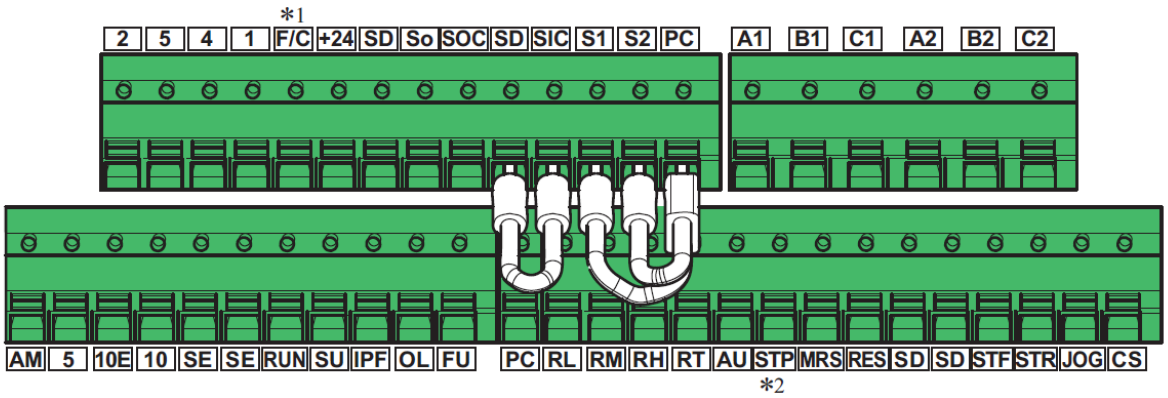
The following shows the control circuit terminal layouts of the FR-A200E series and the FR-A800 series. The control circuit terminal layout differs between the FR-A200E and the FR-A800 series. Check the terminal names and positions before performing wiring.

■ Control circuit terminal layout of the FR-A200E series

Common to all models
Structure .... 2-stage molded terminals
Screw size .. M3



■ Control circuit terminal layout of the 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.

◆Wiring method

• Power supply connection

For the control circuit wiring, strip off the sheath of a cable, and use it with a blade terminal. For a single wire, strip off the sheath of the wire and apply directly.

Insert the blade terminal or the single wire into a socket of the terminal.

(1)Strip off the sheath for the below length. If the length of the sheath peeled is too long, a short circuit may occur with neighboring wires. If the length is too short, wires might come off.

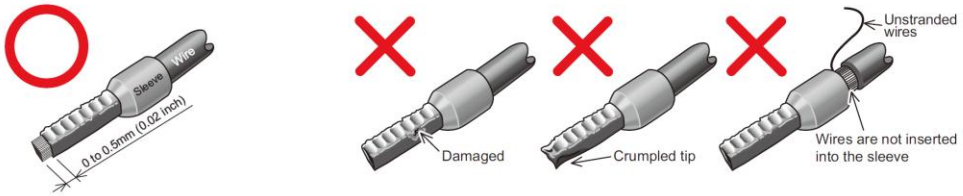
Wire the stripped cable after twisting it to prevent it from becoming loose. In addition, do not solder it.

Cable stripping size

(2)Crimp the blade terminal.

Insert wires to a blade terminal, and check that the wires come out for about 0 to 0.5 mm from a sleeve.

Check the condition of the blade terminal after crimping. Do not use a blade terminal of which the crimping is inappropriate, or the face is damaged.



• Blade terminals commercially available (as of February 2012)

Phoenix Contact Co., Ltd.

Cable gauge (mm^2)	Blade terminal model			Crimping tool name
	With insulation sleeve	Without insulation sleeve	For UL wire*1	
0.3	AI 0,5-10WH	—	—	CRIMPFOX 6
0.5	AI 0,5-10WH	—	AI 0,5-10WH-GB	
0.75	AI 0,75-10GY	A 0,75-10	AI 0,75-10GY-GB	
1	AI 1-10RD	A 1-10	AI 1-10RD/1000GB	
1.25, 1.5	AI 1,5-10BK	A 1,5-10	AI 1,5-10BK/1000GB*2	
0.75 (for two wires)	AI-TWIN 2 × 0,75-10GY	—	—	

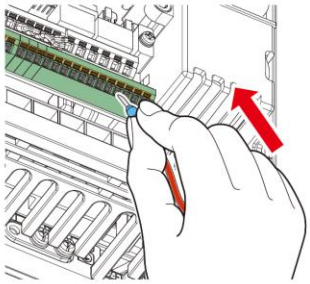
*1 A blade terminal with an insulation sleeve compatible with the MTW wire which has a thick wire insulation.

*2 Applicable for the terminal A1, B1, C1, A2, B2, C2.

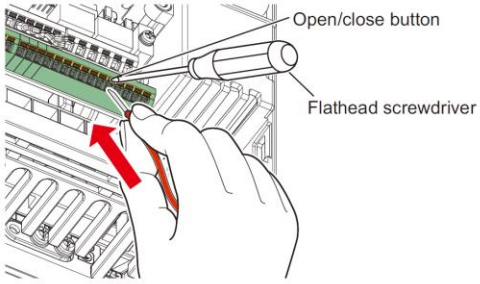
NICHIFU Co., Ltd.

Cable gauge (mm^2)	Blade terminal product number	Insulation product number	Crimping tool product number
0.3 to 0.75	BT 0.75-11	VC 0.75	NH 69

(3)Insert the wires into a socket.



When using a single wire or stranded wires without a blade terminal, push the open/close button all the way down with a flathead screwdriver, and insert the wire.

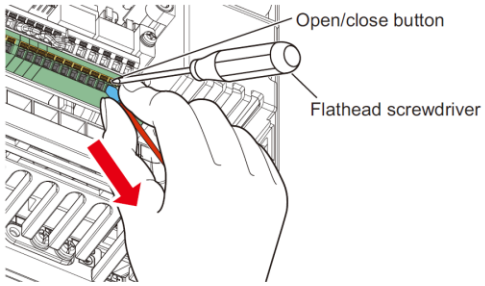


NOTE

- When using stranded wires without a blade terminal, twist enough to avoid short circuit with a nearby terminals or wires.
- Place the flathead screwdriver vertical to the open/close button. In case the blade tip slips, it may cause an inverter damage or injury.

• Wire removal

Pull the wire while pushing the open/close button all the way down firmly with a flathead screwdriver.



NOTE

- Pulling out the wire forcefully without pushing the open/close button all the way down may damage the terminal block.
- Use a small flathead screwdriver (tip thickness: 0.4 mm/tip width: 2.5 mm).
  If a flathead screwdriver with a narrow tip is used, terminal block may be damaged.
  Commercially available products (as of February 2012)

Name	Model	Manufacturer
Driver	SZF 0- 0,4 × 2,5	Phoenix Contact Co., Ltd.

- Place the flathead screwdriver vertical to the open/close button. In case the blade tip slips, it may cause an inverter damage or injury.

4. PARAMETER

4. 1. Parameter List

Although most parameter numbers are the same, some setting values differ. Please refer to the following table to set the parameters.

List of FR-A800 series parameters compatible with the FR-A200E series

The following table shows the parameter settings required when replacing an FR-A200E series inverter by an FR-A800 series inverter.
When an FR-A200E 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-A200E 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 Δ 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-A200E series inverter.

Setting ⊙: Set the FR-A200E parameter as it is.
Δ: Change the FR-A200E parameter and set.
×: Adjust or set the FR-A800 parameter.

FR-A200E parameter list				FR-A800 compatible parameter				Parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
0	Manual torque boost	0 to 30%	7.5K or lower: 6% 11K or higher: 3%	0	Torque boost	0 to 30%	0.4 to 0.75K: 6% 1.5K to 3.7K: 4% 5.5K, 7.5K: 3% 11K to 55K: 2%	Δ	0.4, 0.75K: Keep the setting the same as in the FR-A200E. 1.5K to 3.7K: Set as 2/3 of the FR-A200E setting. 5.5K, 7.5K: Set as 1/2 of the FR-A200E setting. 11K to 55K: Set as 2/3 of the FR-A200E setting.
1	Maximum frequency	0 to 120 Hz	120 Hz	1	Maximum frequency	0 to 120 Hz	55K or lower: 120 Hz	⊙	
2	Minimum frequency	0 to 120 Hz	0 Hz	2	Minimum frequency	0 to 120 Hz	0 Hz	⊙	
3	Base frequency	0 to 400 Hz	60 Hz	3	Base frequency	0 to 590 Hz	60 Hz	⊙	
4	Multi-speed setting (high speed)	0 to 400 Hz	60 Hz	4	Multi-speed setting (high speed)	0 to 590 Hz	60 Hz	⊙	
5	Multi-speed setting (middle speed)	0 to 400 Hz	30 Hz	5	Multi-speed setting (middle speed)	0 to 590 Hz	30 Hz	⊙	
6	Multi-speed setting (low speed)	0 to 400 Hz	10 Hz	6	Multi-speed setting (low speed)	0 to 590 Hz	10 Hz	⊙	
7	Acceleration time	0 to 3600 s/ 0 to 360 s	7.5K or lower: 5 s 11K or higher: 15 s	7	Acceleration time	0 to 3600 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/ 0 to 360 s	7.5K or lower: 5 s 11K or higher: 15 s	8	Deceleration time	0 to 3600 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	9	Electronic thermal O/L relay	55K or lower: 0 to 500 A	Rated output current	⊙	Set the rated motor current.
10	DC injection brake operation frequency	0 to 120 Hz, 9999	3 Hz	10	DC injection brake operation frequency	0 to 120 Hz, 9999	3 Hz	⊙	
11	DC injection brake operation time	0 to 10 s, 8888	0.5 s	11	DC injection brake operation time	0 to 10 s, 8888	0.5 s	⊙	
12	DC injection brake voltage	0 to 30%	7.5K or lower: 6% 11K or higher: 3%	12	DC injection brake operation voltage	0 to 30%	7.5K or lower: 4% 11K to 55K: 2%	Δ	Set as 2/3 of the FR-A200E setting.
13	Starting frequency	0 to 60 Hz	0.5 Hz	13	Starting frequency	0 to 60 Hz	0.5 Hz	⊙	
14	Applied load selection	0 to 5	0	14	Load pattern selection	0 to 5, 12 to 15	0	⊙	
15	Jog frequency	0 to 400 Hz	5 Hz	15	Jog frequency	0 to 590 Hz	5 Hz	⊙	
16	Jog acceleration/deceleration time	0 to 3600 s/ 0 to 360 s	0.5 s	16	Jog acceleration/deceleration time	0 to 3600 s	0.5 s	⊙	Changing Pr.21 after setting this parameter will change the set value.
17	External thermal O/L relay input	0 to 7	0	17	MRS input selection	0, 2, 4	0	⊙	
18	High-speed maximum frequency	120 to 400 Hz	120 Hz	18	High speed maximum frequency	0 to 590 Hz	120 Hz	⊙	
19	Base frequency voltage	0 to 1000 V, 8888, 9999	9999	19	Base frequency voltage	0 to 1000 V, 8888, 9999	9999	⊙	
20	Acceleration/deceleration reference frequency	1 to 400 Hz	60 Hz	20	Acceleration/deceleration reference frequency	1 to 590 Hz	60 Hz	⊙	
21	Acceleration/deceleration time increments	0, 1	0	21	Acceleration/deceleration time increments	0, 1	0	⊙	
22	Stall prevention operation level	0 to 200%, 9999	150%	22	Stall prevention operation level	0 to 400%	150%	Δ	When the FR-A200E setting is "9999", set Pr.810=1 and Pr.868=4 for the FR-A800.
23	Stall prevention operation level at double speed	0 to 200%, 9999	9999	23	Stall prevention operation level compensation factor at double speed	0 to 200%, 9999	9999	⊙	
24	Multi-speed setting (speed 4)	0 to 400 Hz, 9999	9999	24	Multi-speed setting (speed 4)	0 to 590 Hz, 9999	9999	⊙	
25	Multi-speed setting (speed 5)	0 to 400 Hz, 9999	9999	25	Multi-speed setting (speed 5)	0 to 590 Hz, 9999	9999	⊙	
26	Multi-speed setting (speed 6)	0 to 400 Hz, 9999	9999	26	Multi-speed setting (speed 6)	0 to 590 Hz, 9999	9999	⊙	

FR-A200E parameter list				FR-A800 compatible parameter				Parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
27	Multi-speed setting (speed 7)	0 to 400 Hz, 9999	9999	27	Multi-speed setting (speed 7)	0 to 590 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, 3	0	29	Acceleration/deceleration pattern selection	0 to 6	0	⊙	
30	External brake resistor selection / high power factor converter connection selection	0, 1, 3, 4, 5	0	30	Regenerative function selection	0 to 2, 10, 11, 20, 21, 100 to 102, 110, 111, 120, 121	0	⊙	
31	Frequency jump 1A	0 to 400 Hz, 9999	9999	31	Frequency jump 1A	0 to 590 Hz, 9999	9999	⊙	
32	Frequency jump 1B	0 to 400 Hz, 9999	9999	32	Frequency jump 1B	0 to 590 Hz, 9999	9999	⊙	
33	Frequency jump 2A	0 to 400 Hz, 9999	9999	33	Frequency jump 2A	0 to 590 Hz, 9999	9999	⊙	
34	Frequency jump 2B	0 to 400 Hz, 9999	9999	34	Frequency jump 2B	0 to 590 Hz, 9999	9999	⊙	
35	Frequency jump 3A	0 to 400 Hz, 9999	9999	35	Frequency jump 3A	0 to 590 Hz, 9999	9999	⊙	
36	Frequency jump 3B	0 to 400 Hz, 9999	9999	36	Frequency jump 3B	0 to 590 Hz, 9999	9999	⊙	
37	Speed display	2, 4, 6, 8, 10, 11 to 9998	4	37	Speed display	0, 1 to 9998	0	Δ	When the FR-A200E setting is "11 to 9998", keep the setting the same. Use the initial value of Pr.505 of the FR-A800 as is.
				144	Speed setting switchover	0, 2, 4, 6, 8, 10, 12, 102, 104, 106, 108, 110 ,112	4	Δ	When the FR-A200E setting is "2 to 10", keep the setting the same.
38	Automatic torque boost	0 to 200%	0					×	
39	Automatic torque boost operation starting current	0 to 500 A	0					×	
40	Output terminal assignment	0 to 9999	1234					×	
41	Up-to-frequency sensitivity	0 to 100%	10%	41	Up-to-frequency sensitivity	0 to 100%	10%	⊙	
42	Output frequency detection	0 to 400 Hz	6 Hz	42	Output frequency detection	0 to 590 Hz	6 Hz	⊙	
43	Output frequency detection at reverse rotation	0 to 400 Hz, 9999	9999	43	Output frequency detection for reverse rotation	0 to 590 Hz, 9999	9999	⊙	
44	Second acceleration/deceleration time	0 to 3600 s/ 0 to 360 s	5 s	44	Second acceleration/deceleration time	0 to 3600 s	5 s	⊙	Changing Pr.21 after setting this parameter will change the set value.
45	Second deceleration time	0 to 3600 s/ 0 to 360 s, 9999	9999	45	Second deceleration time	0 to 3600 s, 9999	9999	⊙	Changing Pr.21 after setting this parameter will change the set value.
46	Second torque boost	0 to 30%, 9999	9999	46	Second torque boost	0 to 30%, 9999	9999	⊙	
47	Second V/F (base frequency)	0 to 400 Hz, 9999	9999	47	Second V/F (base frequency)	0 to 590 Hz, 9999	9999	⊙	
48	Second stall prevention operation current	0 to 200%	150%	48	Second stall prevention operation current	0 to 400%	150%	⊙	
49	Second stall prevention operation frequency	0 to 400 Hz, 9999	0	49	Second stall prevention operation frequency	0 to 590 Hz, 9999	0	⊙	
50	Second output frequency detection	0 to 400 Hz	30 Hz	50	Second output frequency detection	0 to 590 Hz	30 Hz	⊙	
51	Inverter LED display data selection	1 to 14, 17, 18	1					×	No function
52	PU main display data selection	0, 17 to 20, 22, 23, 24	0	52	DU/PU main display data selection	0, 5 to 14, 17 to 20, 22 to 35, 38, 40 to 45, 50 to 57, 61, 62, 64, 67, 87 to 98, 100	0	⊙	
53	PU level display data selection	0 to 3, 5 to 14, 17, 18	1					×	No function
54	FM･AM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 101 to 103, 105 to 114, 117, 118, 121	1	54	FM/CA terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 24, 32 to 34, 50, 52, 53, 61, 62, 67, 70, 87 to 90, 92, 93, 95, 97, 98	1	⊙	
55	Frequency monitoring reference	0 to 400 Hz	60 Hz	55	Frequency monitoring reference	0 to 590 Hz	60 Hz	⊙	
56	Current monitoring reference	0 to 500 A	Rated output current	56	Current monitoring reference	0 to 500 A	Rated output current	⊙	
57	Restart coasting time	0, 0.1 to 5 s, 9999	9999	57	Restart coasting time	0, 0.1 to 30 s, 9999	9999	⊙	
58	Restart cushion time	0 to 5 s	1.0 s	58	Restart cushion time	0 to 60 s	1.0 s	⊙	
59	Remote setting function selection	0, 1, 2	0	59	Remote function selection	0 to 3, 11 to 13	0	⊙	
60	Intelligent mode selection	0 to 6	0	60	Energy saving control selection	0, 4, 9	0	⊙	
61	Reference | for intelligent mode	0 to 500 A, 9999	9999	61	Reference current	55K or lower: 0 to 500 A, 9999 75K or higher: 0 to 3600 A, 9999	9999	⊙	

FR-A200E parameter list				FR-A800 compatible parameter				Parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
62	Ref. | for intelligent mode accel.	0 to 200%, 9999	9999	62	Reference value at acceleration	0 to 400%, 9999	9999	⊙	
63	Ref. | for intelligent mode decel.	0 to 200%, 9999	9999	63	Reference value at deceleration	0 to 400%, 9999	9999	⊙	
64	Starting f for elevator mode	0 to 10 Hz, 9999	9999	64	Starting frequency for elevator mode	0 to 10 Hz, 9999	9999	⊙	
65	Retry selection	0 to 5	0	65	Retry selection	0 to 5	0	⊙	
66	Stall prevention operation reduction starting frequency	0 to 400 Hz	60 Hz	66	Stall prevention operation reduction starting frequency	0 to 590 Hz	60 Hz	⊙	
67	Number of retries at alarm occurrence	0 to 10, 101 to 110	0	67	Number of retries at fault occurrence	0 to 10, 101 to 110	0	⊙	
68	Retry waiting time	0 to 10 s	1 s	68	Retry waiting time	0.1 to 600 s	1 s	⊙	
69	Retry count display erasure	0	0	69	Retry count display erase	0	0	⊙	
70	Special regenerative brake duty	0.4 to 1.5K: 0 to 15% 2.2K to 7.5K: 0 to 30% 11K or higher: 0%	0%	70	Special regenerative brake duty	0 to 100%	0%	⊙	
71	Applied motor	0 to 6, 13 to 16, 20, 23, 24	0	71	Applied motor	0 to 6, 13 to 16, 20, 23, 24, 30, 33, 34, 40, 43, 44, 50, 53, 54, 70, 73, 74, 330, 333, 334, 8090, 8093, 8094, 9090, 9093, 9094	0	⊙	
72	PWM frequency selection	0.7 to 14.5	14.5	72	PWM frequency selection	55K or lower: 0 to 15 75K or higher: 0 to 6, 25	2	⊙	
73	0 to 5V, 0 to 10V selection	0 to 5, 10 to 15	1	73	0-5V/0-10V selection	0 to 7, 10 to 17	1	⊙	
74	Response time for analog signal	0 to 8	1	74	Input filter time constant	0 to 8	1	⊙	
75	Reset selection/ PU disconnection detection	0 to 3, 14 to 17	14	75	Reset selection/disconnected PU detection/PU stop selection	55K or lower: 0 to 3, 14 to 17 75K or higher: 0 to 3, 14 to 17, 100 to 103, 114 to 117	14	⊙	
76	Alarm code output selection	0, 1, 2, 3	0	76	Fault code output selection	0, 1, 2	0	Δ	When the FR-A200E setting is "0, 1, or 2", keep the setting the same. Setting "3" is not available for the FR-A800.
77	Parameter write disable selection	0, 1, 2	0	77	Parameter write 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 to 5, 7, 8	0	79	Operation mode selection	0 to 4, 6, 7	0	Δ	When the FR-A200E setting is "0 to 4, or 7", keep the setting the same. Setting "5" is not available for the FR-A800. When the FR-A200E setting is "8", set Pr.79="8" and Pr.182="16" for the FR-A800.
80	Motor capacity	0.4 to 55 kW, 9999	9999	80	Motor capacity	0.4 to 55 kW, 9999	9999	⊙	
81	Number of motor poles	2, 4, 6, 12, 14, 16, 9999	9999	81	Number of motor poles	2, 4, 6, 8, 10, 12, 9999	9999	Δ	When the FR-A200E setting is "2 to 6, or 9999", keep the setting the same. When the FR-A200E setting is "12 to 16", set this parameter after subtracting 10 from the FR-A200E setting and use the initial value of Pr.450, 453, and 454 for the FR-A800.
83	Rated motor voltage	0 to 1000 V	Other than the below class: 200 V 400 V class: 400 V	83	Rated motor voltage	0 to 1000 V	Other than the below class: 200 V 400 V class: 400 V	⊙	
84	Rated motor frequency	50 to 120 Hz	60 Hz	84	Rated motor frequency	10 to 400 Hz, 9999	9999	⊙	
96	Auto tuning setting/status	0, 1, 101	0	96	Auto tuning setting/status	0, 1, 11, 101	0	Δ	If auto tuning has been performed, perform tuning again as required.
100	V/F1 (first frequency)	0 to 400 Hz, 9999	9999	100	V/F1 (first frequency)	0 to 590 Hz, 9999	9999	⊙	
101	V/F1 (first frequency voltage)	0 to 1000 V	0 V	101	V/F1 (first frequency voltage)	0 to 1000 V	0 V	⊙	
102	V/F2 (second frequency)	0 to 400 Hz, 9999	9999	102	V/F2 (second frequency)	0 to 590 Hz, 9999	9999	⊙	
103	V/F2 (second frequency voltage)	0 to 1000 V	0 V	103	V/F2 (second frequency voltage)	0 to 1000 V	0 V	⊙	

FR-A200E parameter list				FR-A800 compatible parameter				Parameter setting	
Function number	Name	Setting range	Initial value	Function number	Name	Setting range	Initial value	Setting	Remarks
104	V/F3 (third frequency)	0 to 400 Hz, 9999	9999	104	V/F3 (third frequency)	0 to 590 Hz, 9999	9999	⦿	
105	V/F3 (third frequency voltage)	0 to 1000 V	0 V	105	V/F3 (third frequency voltage)	0 to 1000 V	0 V	⦿	
106	V/F4 (fourth frequency)	0 to 400 Hz, 9999	9999	106	V/F4 (fourth frequency)	0 to 590 Hz, 9999	9999	⦿	
107	V/F4 (fourth frequency voltage)	0 to 1000 V	0 V	107	V/F4 (fourth frequency voltage)	0 to 1000 V	0 V	⦿	
108	V/F5 (fifth frequency)	0 to 400 Hz, 9999	9999	108	V/F5 (fifth frequency)	0 to 590 Hz, 9999	9999	⦿	
109	V/F5 (fifth frequency voltage)	0 to 1000 V	0 V	109	V/F5 (fifth frequency voltage)	0 to 1000 V	0 V	⦿	
110	Third acceleration/deceleration time	0 to 3600 s/ 0 to 360 s, 9999	9999	110	Third acceleration/deceleration time	0 to 3600 s, 9999	9999	⦿	Changing Pr.21 after setting this parameter will change the set value.
111	Third deceleration time	0 to 3600 s/ 0 to 360 s, 9999	9999	111	Third deceleration time	0 to 3600 s, 9999	9999	⦿	Changing Pr.21 after setting this parameter will change the set value.
112	Third torque boost	0 to 30%, 9999	9999	112	Third torque boost	0 to 30%, 9999	9999	⦿	
113	Third V/F (base frequency)	0 to 400 Hz, 9999	9999	113	Third V/F (base frequency)	0 to 590 Hz, 9999	9999	⦿	
114	Third stall prevention operation current	0 to 200%	150%	114	Third stall prevention operation level	0 to 400%	150%	⦿	
115	Third stall prevention operation frequency	0 to 400 Hz	0	115	Third stall prevention operation frequency	0 to 590 Hz	0	⦿	
116	Third output frequency detection	0 to 400 Hz, 9999	9999	116	Third output frequency detection	0 to 590 Hz	60 Hz	⦿	
145	Parameter unit language switching	0, 1, 2, 3	0	145	PU display language selection	0 to 7	1	⦿	
152	Zero current detection level	0 to 50%	5%	152	Zero current detection level	0 to 400%	5%	⦿	
153	Zero current detection time	0.05 to 1 s	0.5 s	153	Zero current detection time	0 to 10 s	0.5 s	⦿	
155	RT activated condition	0, 10	0	155	RT signal function validity condition selection	0, 10	0	⦿	
156	Stall prevent. select. at regeneration	0 to 31, 100	0	156	Stall prevention operation selection	0 to 31, 100, 101	0	⦿	
157	OL signal waiting timer	0 to 25 s, 9999	0 s	157	OL signal output timer	0 to 25 s, 9999	0 s	⦿	
158	AM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 9999	9999	158	AM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 24, 32 to 34, 50, 52 to 54, 61, 62, 67, 70, 87 to 90, 91 to 98	1	⦿	
159	PWM f decrease at low speed	0, 1, 2, 3	0					×	Setting not required
900	FM terminal calibration	-	-	C0 (900)	FM/CA terminal calibration	-	-	×	Calibrate the parameter as required.
901	AM terminal calibration	-	-	C1 (901)	AM terminal calibration	-	-	×	Calibrate the parameter as required.
C2 (902)	Terminal 2 frequency setting bias frequency	0 to 400 Hz	0 Hz	C2 (902)	Terminal 2 frequency setting bias frequency	0 to 590 Hz	0 Hz	Δ	Set the parameter as required. For the details, refer to section "5.12.5 Frequency setting voltage (current) bias and gain" and "5.12.6 Bias and gain for torque (magnetic flux) and set voltage (current)" of the Instruction Manual (Detailed).
C3 (902)	Terminal 2 frequency setting bias	0 to 300%	0%	C3 (902)	Terminal 2 frequency setting bias	0 to 300%	0%	Δ	
125 (903)	Terminal 2 frequency setting gain frequency	0 to 400 Hz	60 Hz	125 (903)	Terminal 2 frequency setting gain frequency	0 to 590 Hz	60 Hz	Δ	
C4 (903)	Terminal 2 frequency setting gain	0 to 300%	100%	C4 (903)	Terminal 2 frequency setting gain	0 to 300%	100%	Δ	
C5 (904)	Terminal 4 frequency setting bias frequency	0 to 400 Hz	0 Hz	C5 (904)	Terminal 4 frequency setting bias frequency	0 to 590 Hz	0 Hz	Δ	
C6 (904)	Terminal 4 frequency setting bias	0 to 300%	20%	C6 (904)	Terminal 4 frequency setting bias	0 to 300%	20%	Δ	
126 (905)	Terminal 4 frequency setting gain frequency	0 to 400 Hz	60 Hz	126 (905)	Terminal 4 frequency setting gain frequency	0 to 590 Hz	60 Hz	Δ	
C7 (905)	Terminal 4 frequency setting gain	0 to 300%	100%	C7 (905)	Terminal 4 frequency setting gain	0 to 300%	100%	Δ	

4. 2. Compatibility of the Terminal Response Speed

The response of the input/output terminals of the FR-A800 series is improved compared to the FR-A200E series. Operation timing of the device may differ depending on the usage.

In this case, set Pr.289 (Inverter output terminal filter) and Pr.699 (Input terminal filter) to adjust the terminal response time.

Set 20 to 30 ms in Pr.289 and Pr.699 and adjust according to the system.

5. OPTION

The following table shows which FR-A200E series options are compatible with the FR-A800 series inverters and their corresponding A800 series options.

Name		Option model			
		FR-A200E		FR-A800	
Plug-in type	Industrial equipment compatible function	FR-EPA	One plug-in option can be mounted.	FR-A8AX (16-bit digital input) FR-A8AP (Encoder interface) FR-A8AY (Additional analog output)	Up to three plug-in options can be mounted.
	Computer link function	FR-EPB		FR-A8AP (Encoder interface) The computer link is already a built-in of the inverter.	
	Programmable controller link function	FR-EPC		FR-A8AP (Encoder interface) NET/MINI is not supported.	
	Automatic control compatible function	FR-EPD		FR-A8AP (Encoder interface) The PI control is already a built-in of the inverter. Program operation is not supported.	
	I/O function	FR-EPE		FR-A8AX (16-bit digital input) FR-A8AY (Additional analog output) FR-A8AR (Three relay output terminals) The two relay output terminals are already built-in of the inverter.	
	Computer link + Additional output function	FR-EPG		FR-A8AY (Additional analog output) FR-A8AR (Three relay output terminals) The computer link is already a built-in of the inverter. The two relay output terminals are already built-in of the inverter.	
	Pulse train input function	FR-EPH		FR-A8AY (Additional analog output) FR-A8AR (Three relay output terminals) The two relay output terminals are already built-in of the inverter. The PI control is already a built-in of the inverter. The pulse train input is already a built-in of the inverter.	
Stand-alone type	Parameter unit	FR-PU02		FR-PU07	
	Parameter copy unit	FR-ARW		Built-in function as standard (FR-DU08)	
	Parameter unit connection cable	FR-CBL		FR-CB201, 203, 205	
	Serial communication unit	FR-CU01		Support RS485 communication as standard	
	Digital operation panel	FR-DU01		Equipped as standard (FR-DU08)	
	Intercompatibility attachment	FR-AAT		FR-A5AT	
	EMC Directive compliant noise filter	SF		Built-in function of the inverter (EN61800-3 2nd Environment compatible)	
	high-duty brake resistor	FR-ABR-(H)		Compatible	
	Surge voltage suppression filter	FR-ASF-H		Compatible	
	BU type brake unit	BU1500 to 15K, H7.5K to 30K		Compatible	
	Brake unit	FR-BU-(H),FR-BU2		Compatible	
	Resistor unit	FR-BR-(H)		Compatible	
	Power regeneration converter	FR-RC-(H)		Compatible	
	High power factor converter	FR-HC-(H)		Compatible	
	Power factor improving DC reactor	FR-BEL-(H)		Compatible	
	Power factor improving AC reactor	FR-BAL-(H)		Compatible	
	Noise reduction output reactor	FR-BOL-(H)		Compatible	
	Radio noise filter	FR-BIF-(H)		Compatible	

Name		Option model	
		FR-A200E	FR-A800
Manual Controller/Speed controller	Manual controller	FR-AX	Compatible
	DC tach. follower	FR-AL	Compatible
	Three speed selector	FR-AT	Compatible
	Motorized speed setter	FR-FK	Compatible
	Ratio setter	FR-FH	Compatible
	Speed detector	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 1 kΩ	Compatible
	Frequency meter	YM206RI 1 mA	Compatible
	Calibration resistor	RV24YN 10 kΩ	Compatible