Information for Replacement of FR-Z200 Series with FR-A800 Series

Size, connection, and parameters 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-Z200 series, select the FM type (FR-A8[]0-[][]K-1).

2. Size

Installation sizes of the FR-Z200 series and the FR-A800 series are different. Use the intercompatibility attachments shown in the table below.
For details of the sizes, refer to the outline dimension drawings on the following pages.

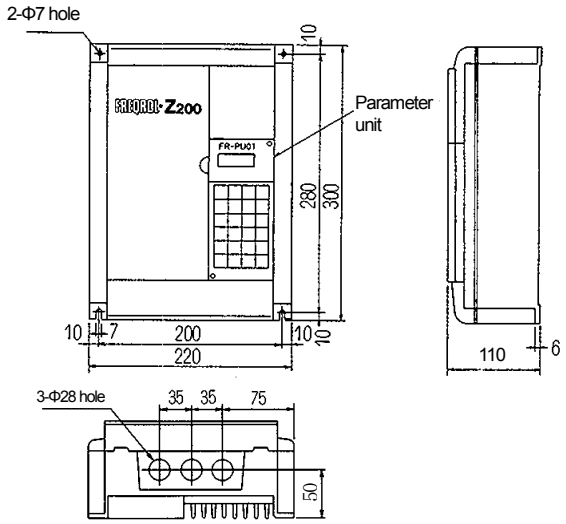
Power supply voltage	Existing inverter	Replacing inverter	Installation size
Three-phase 200 V	FR-Z220-0.4K	FR-A820-0.4K	FR-AAT01
	FR-Z220-0.75K	FR-A820-0.75K	FR-AAT01
	FR-Z220-1.5K	FR-A820-1.5K	FR-AAT01
	FR-Z220-2.2K	FR-A820-2.2K	FR-AAT01
	FR-Z220-3.7K	FR-A820-3.7K	FR-AAT01
	FR-Z220-5.5K	FR-A820-5.5K	FR-AAT02
	FR-Z220-7.5K	FR-A820-7.5K	FR-AAT02
	FR-Z220-11K	FR-A820-11K	FR-AAT24
	FR-Z220-15K	FR-A820-15K	FR-AAT03
	FR-Z220-22K	FR-A820-18.5K	FR-AAT04
		FR-A820-22K	FR-AAT04
	FR-Z220-30K	FR-A820-30K	FR-AAT05
	FR-Z220-37K	FR-A820-37K	FR-AAT06
	FR-Z220-45K	FR-A820-45K	FR-AAT07
	FR-Z220-55K	FR-A820-55K	FR-AAT07
Three-phase 400 V	FR-Z240-2.2K	FR-A840-2.2K	FR-AAT02
	FR-Z240-3.7K	FR-A840-3.7K	FR-AAT02
	FR-Z240-7.5K	FR-A840-5.5K	FR-AAT02
		FR-A840-7.5K	FR-AAT02
	FR-Z240-15K	FR-A840-11K	FR-AAT04
		FR-A840-15K	FR-AAT04
	FR-Z240-22K	FR-A840-18.5K	FR-AAT04
		FR-A840-22K	FR-AAT04
	FR-Z240-37K	FR-A840-30K	FR-AAT06
		FR-A840-37K	FR-AAT06
	FR-Z240-55K	FR-A840-45K	FR-AAT08
		FR-A840-55K	FR-AAT08

Use screws with the proper lengths for installation as required.

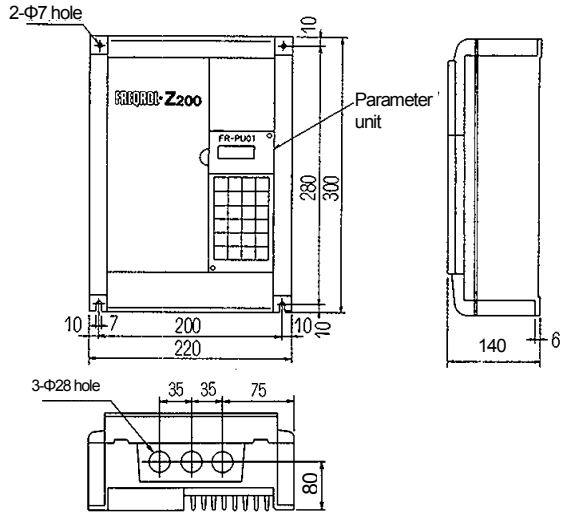
Outline dimension drawings (Unit: mm)

[200 V class]

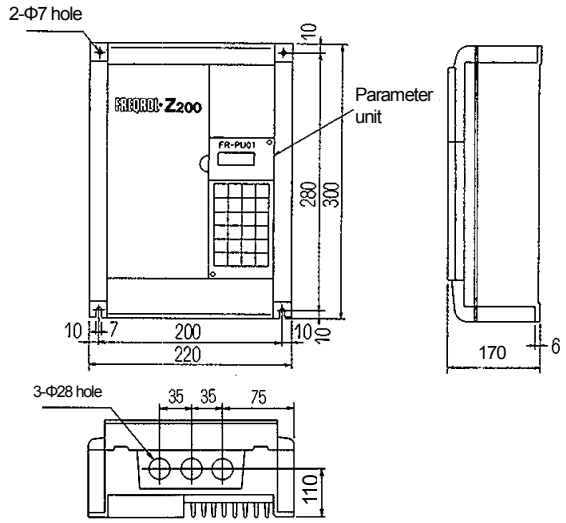
■ FR-Z220-0.4K



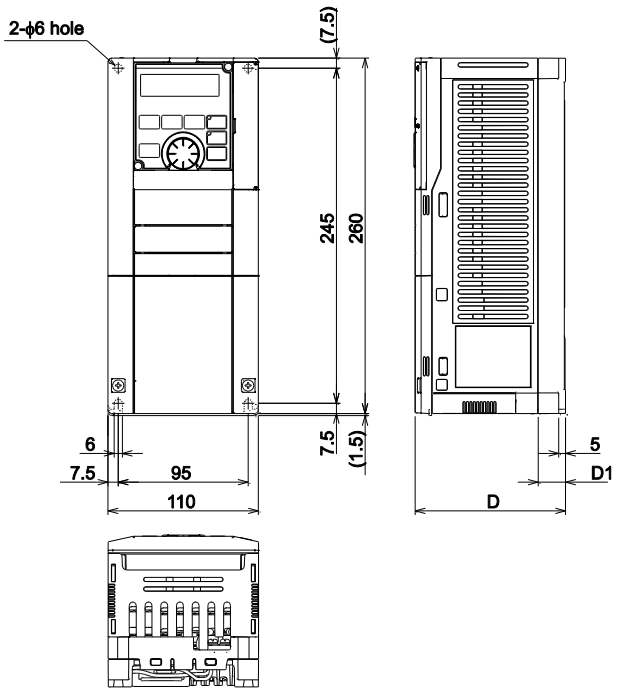
■ FR-Z220-0.75K, 1.5K



■ FR-Z220-2.2K, 3.7K

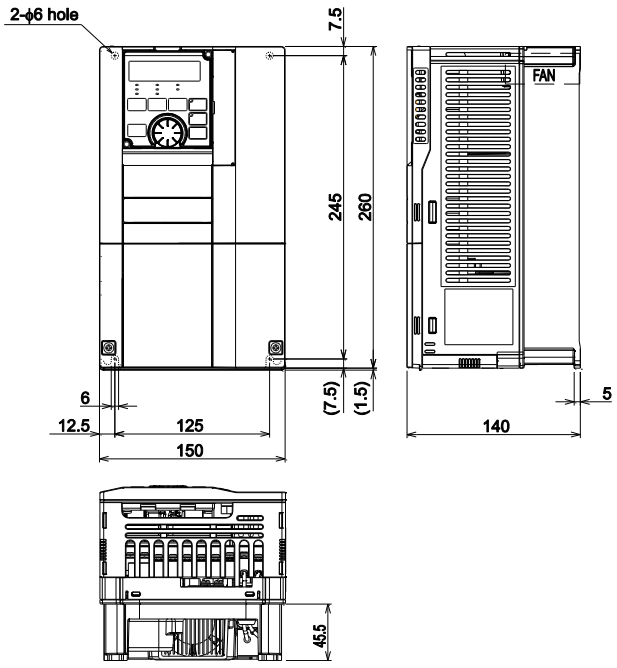


■ FR-A820-0.4K, 0.75K

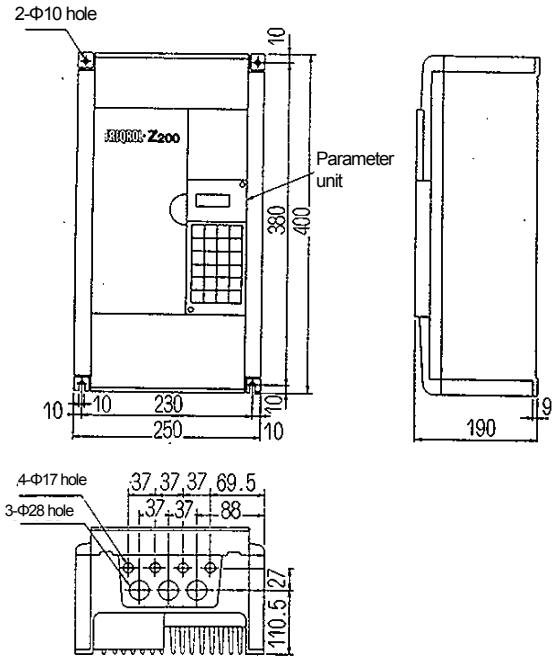


Inverter model	D	D1
FR-A820-0.4K	110	20
FR-A820-0.75K	125	35

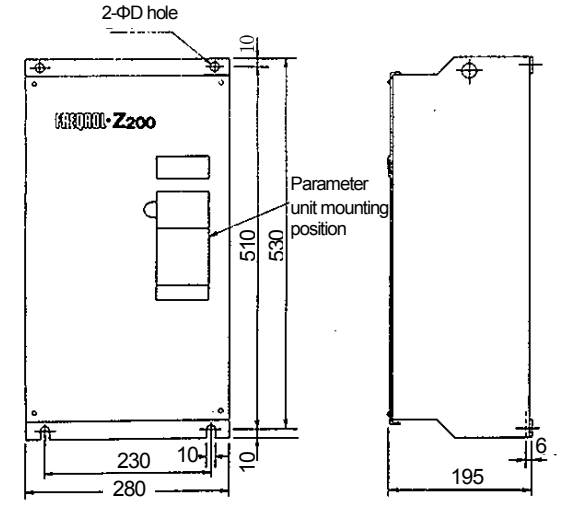
■ FR-A820-1.5K, 2.2K, 3.7K



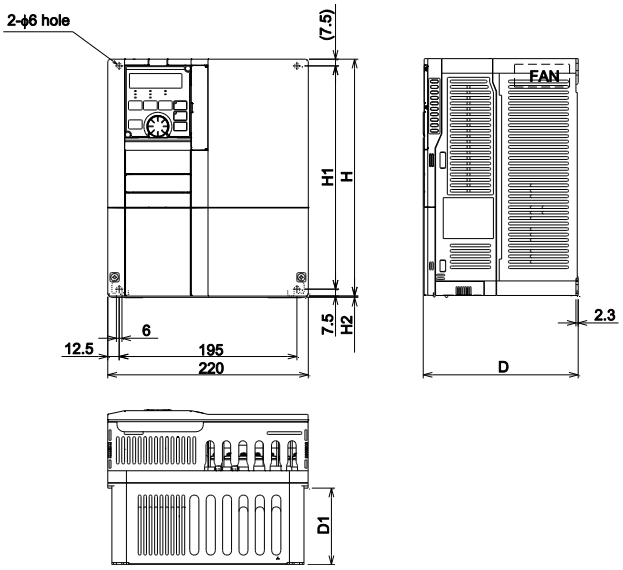
■ FR-Z220-5.5K, 7.5K, 11K



■ FR-Z220-15K

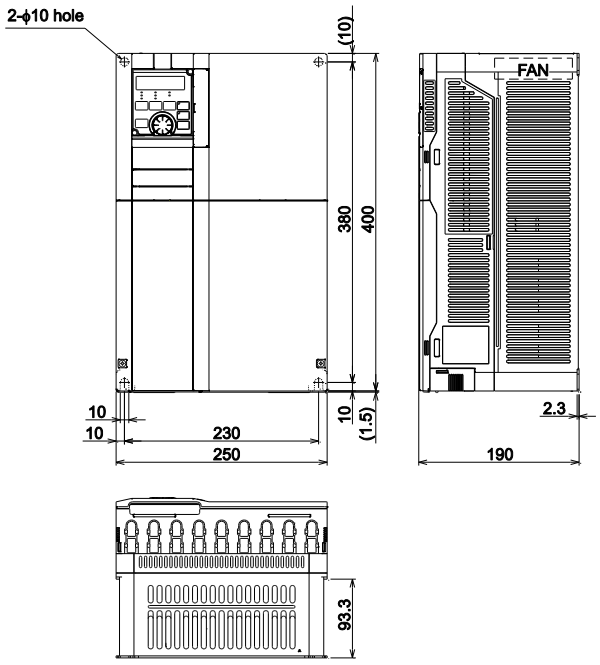


■ FR-A820-5.5K, 7.5K, 11K

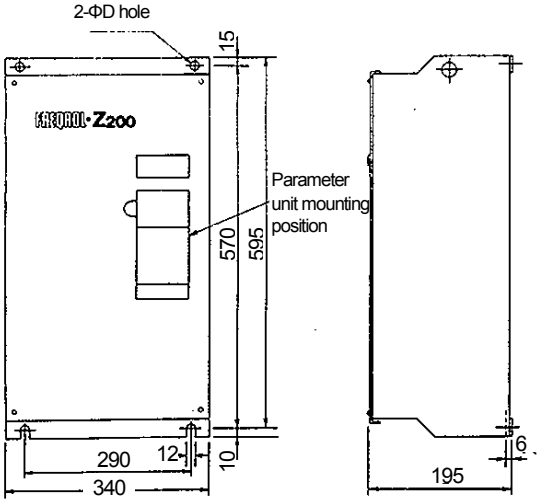


Inverter model	H	H1	H2	D	D1
FR-A820-5.5K, 7.5K	260	245	1.5	170	84
FR-A820-11K	300	285	3	190	101.5

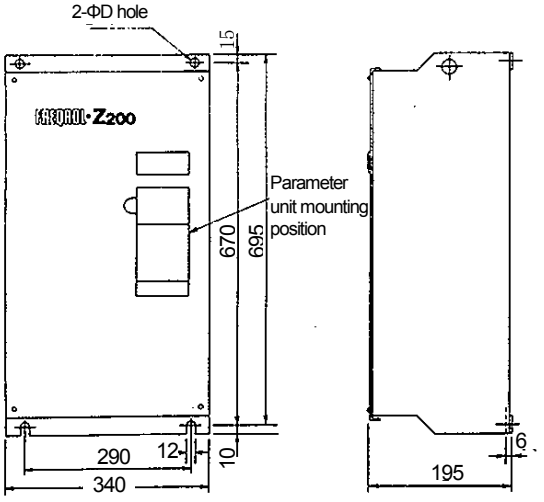
■ FR-A820-15K, 18.5K, 22K



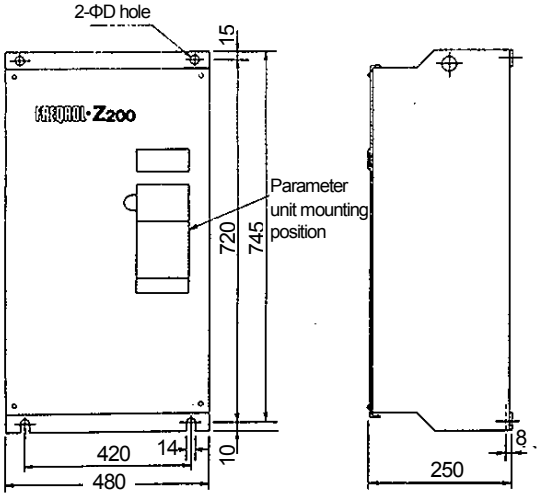
■ FR-Z220-22K



■ FR-Z220-30K

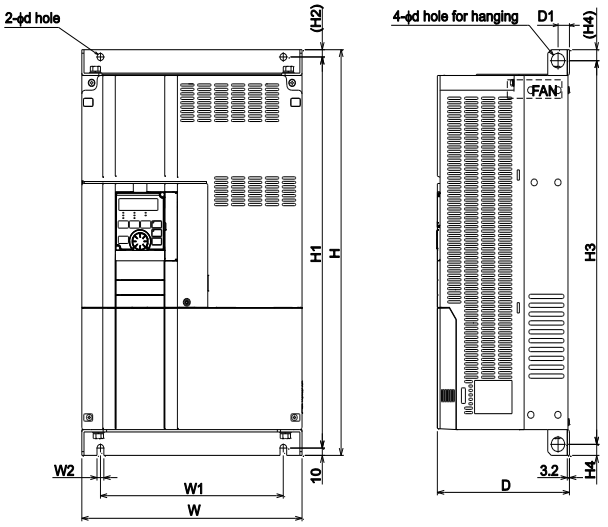


■ FR-Z220-37K



Refer to the outline dimension drawing on the previous page.

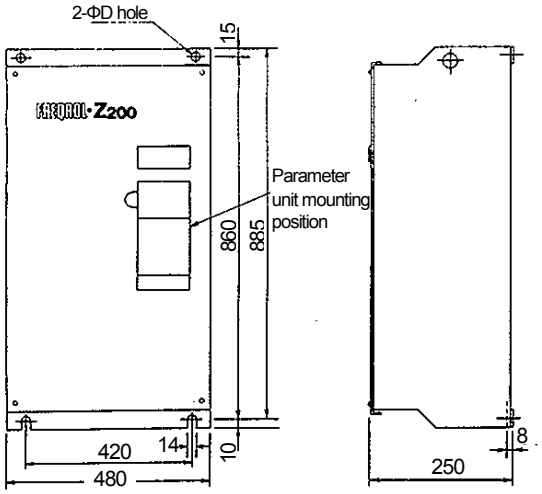
■ FR-A820-30K, 37K, 45K, 55K



Inverter model	W	W1	W2	H	H1	H2
FR-A820-30K	325	270	10	550	530	10
FR-A820-37K, 45K	435	380	12	550	525	15
FR-A820-55K	465	410	12	700	675	15

Inverter model	H3	H4	d	d1	D	D1
FR-A820-30K	520	15	10	20	195	17
FR-A820-37K, 45K	514	18	12	25	250	24
FR-A820-55K	664	18	12	25	250	22

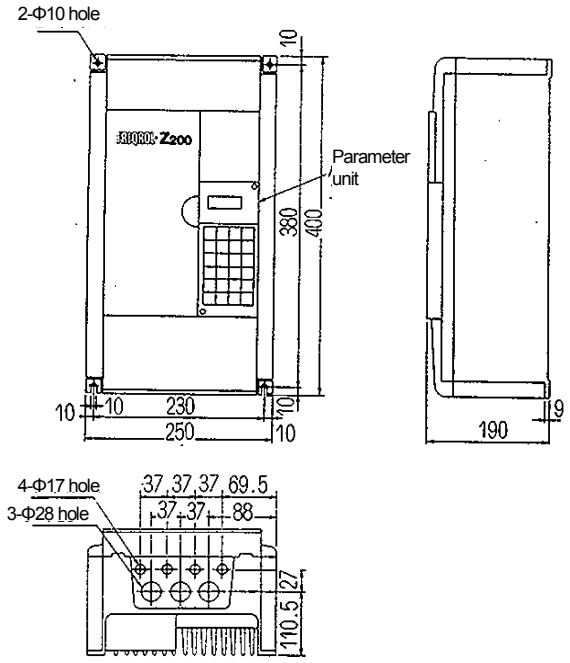
■ FR-Z220-45K, 55K



Refer to the outline dimension drawing on the previous page.

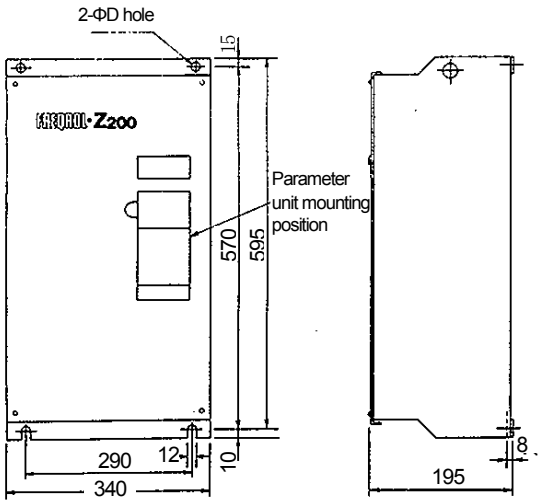
[400 V class]

■ FR-Z240-2.2K, 3.7K, 7.5K

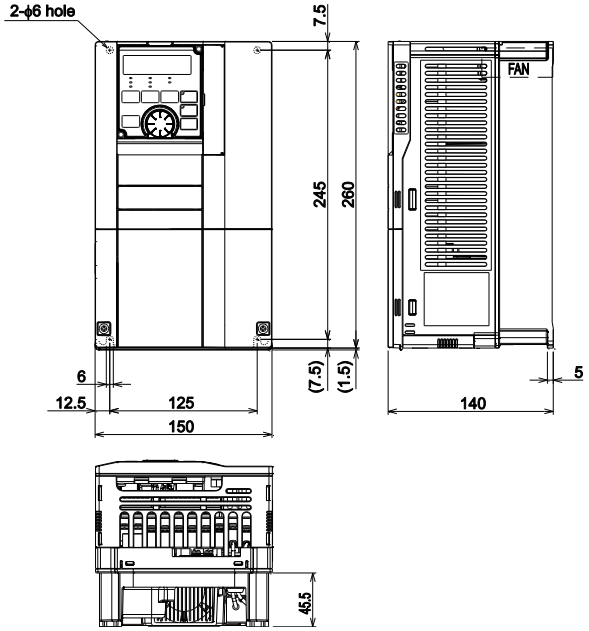


Refer to the outline dimension drawing above.

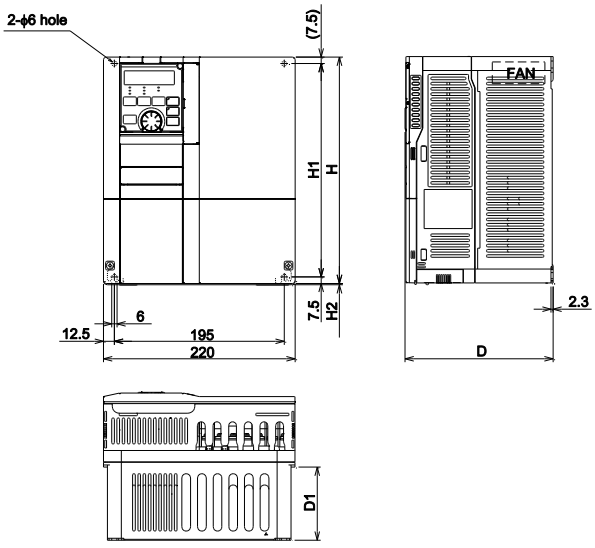
■ FR-Z240-15K, 22K



■ FR-A840-2.2K, 3.7K



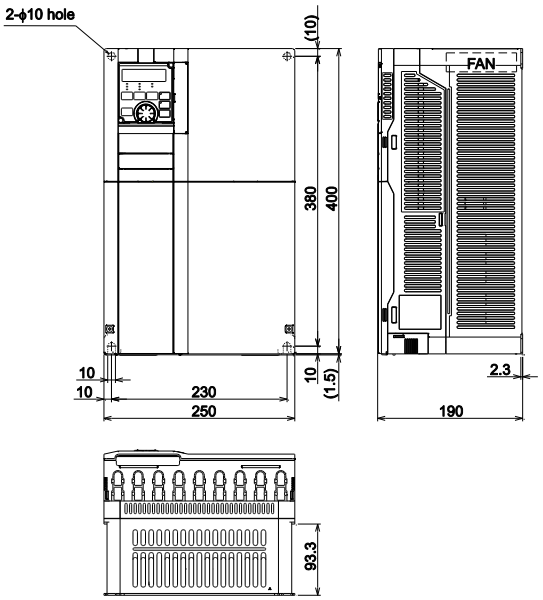
■ FR-A840-5.5K, 7.5K, 11K, 15K



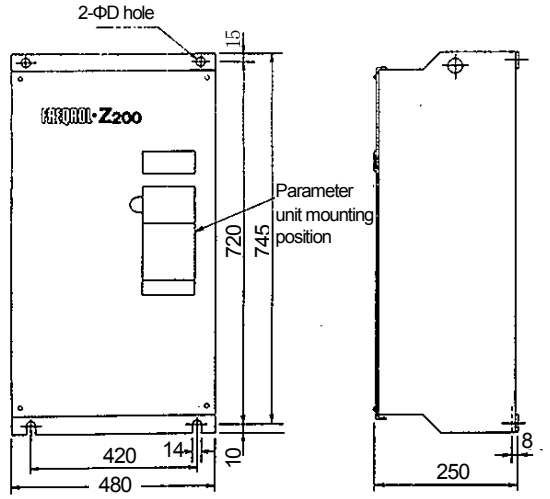
Inverter model	H	H1	H2	D	D1
FR-A840-5.5K, 7.5K	260	245	1.5	170	84
FR-A840-11K, 15K	300	285	3	190	101.5

Refer to the outline dimension drawing on the previous page.

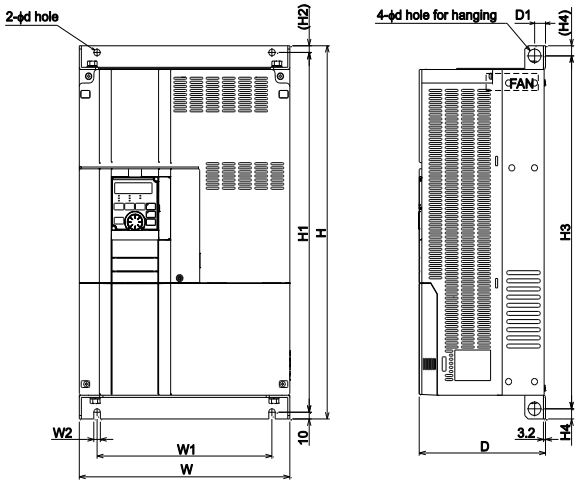
■ FR-A840-18.5K, 22K



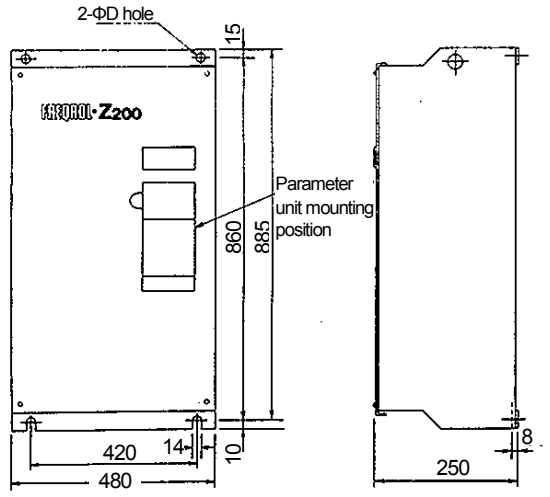
■ FR-Z240-37K



■ FR-A840-30K, 37K, 45K, 55K



■ FR-Z240-55K



Inverter model	W	W1	W2	H	H1	H2
FR-A840-30K	325	270	10	550	530	10
FR-A840-37K, 45K, 55K	435	380	12	550	525	15

Inverter model	H3	H4	d	d1	D	D1
FR-A840-30K	520	15	10	20	195	17
FR-A840-37K, 45K, 55K	514	18	12	25	250	24

3. Wiring

The wiring of the new inverters can follow the one of the existing inverters as the terminal names between them are almost the same.

Type		Z200 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	
		S200, R200		A800 does not have terminals S200 and R200.
		⏚	⏚	
Control circuit / input signal	Contact	STF	STF	
		STR	STR	
		STOP	STP (STOP)	
		RH	RH	
		RM	RM	
		RL	RL	
		JOG/OH	JOG	
		RT	RT	
		AU	AU	
		CS	CS	
		MRS	MRS	
		RES	RES	
		SD	SD	
Analog	Frequency setting	10	10	
		2	2	
		4	4	
		1E, 1K	1	Set with Pr.73.
		5	5	
Thermistor	Thermistor		10	
			2	
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	
Communication	RS-485		PU connector	

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

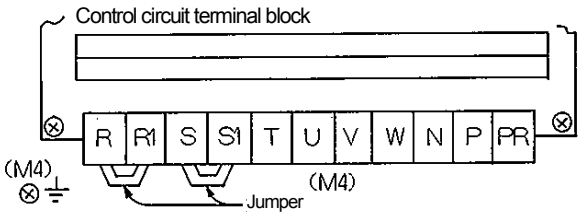
*2 For the FR-A820-15K to 22K and the FR-A840-18.5K to 55K, connect a brake unit to terminals P3 and N/-.

Main circuit terminal layout

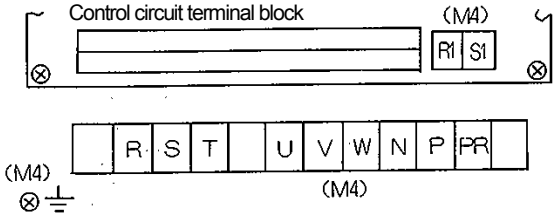
The following shows the main circuit terminal layouts of the FR-Z200 series and FR-A800 series.
The main circuit terminal layout and the position of the earth (ground) terminal may differ depending on the capacity. Check the terminal names and positions before performing wiring.
When the cable used for the FR-Z200 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.
To wire terminals CS and SD, also check the control circuit terminal layout.

[200 V class]

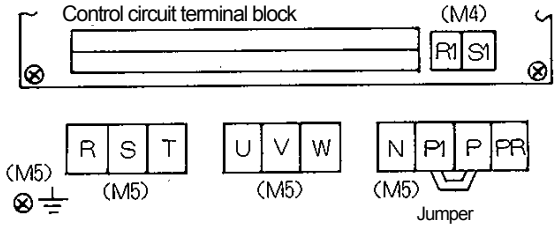
■ FR-Z220-0.4K, 0.75K, 1.5K



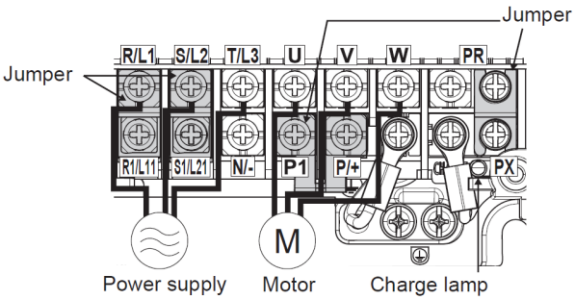
■ FR-Z220-2.2K, 3.7K



■ FR-Z220-5.5K, 7.5K

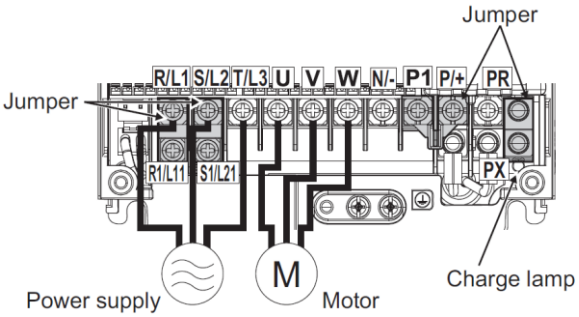


■ FR-A820-0.4K, 0.75K



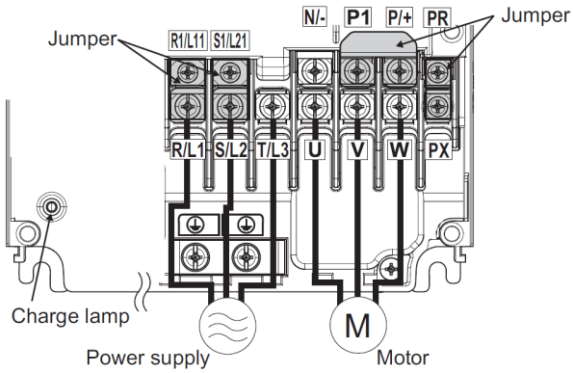
M4

■ FR-A820-1.5K, 2.2K, 3.7K



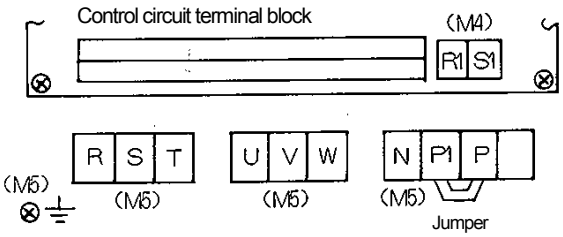
M4

■ FR-A820-5.5K, 7.5K

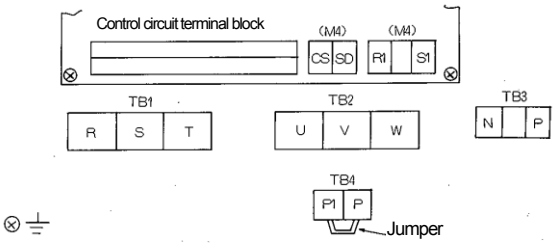


M5 (M4 for terminals PR, PX, R1/L11, and S1/L21)

■ **FR-Z220-11K**



■ **FR-Z220-15K, 22K, 30K, 37K, 45K, 55K**

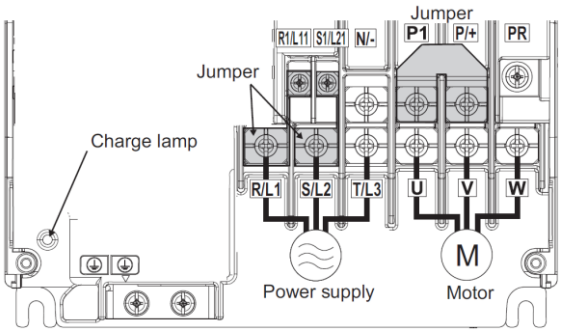


Screw size

Inverter model	TB1	TB2	TB3	TB4	Earth (ground) terminal
FR-Z220−15K	M8	M8	M4	M8	M6
−22K	M8	M8	M4	M8	M6
−30K	M8	M8	M5	M8	M6
−37K	M10	M10	M5	M10	M8
−45K	M10	M10	M5	M10	M8
−55K	M12	M12	M5	M12	M8

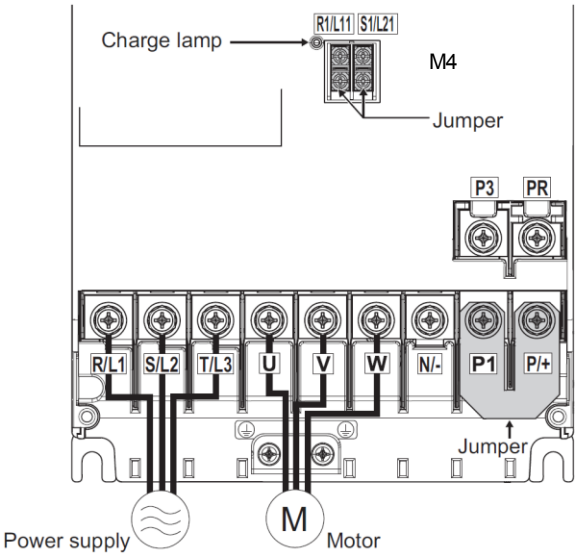
Refer to the terminal layout above.

■ FR-A820-11K



M5 (M4 for terminals R1/L11 and S1/L21)

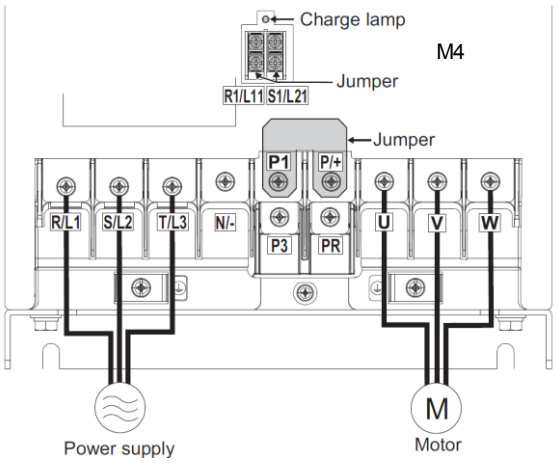
■ FR-A820-15K, 18.5K, 22K



15K: M6

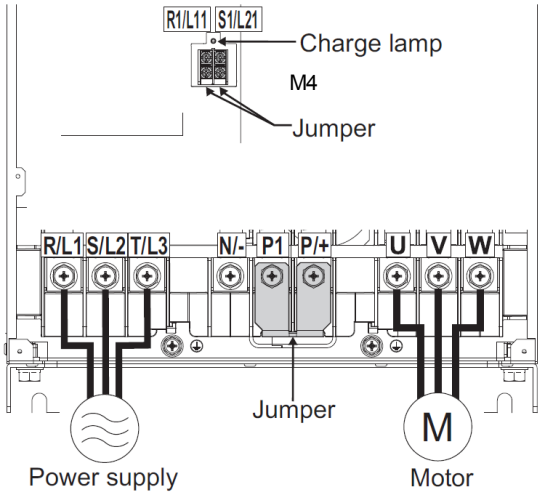
18.5K, 22K: M8 (M6 for earth (ground) terminal)

■ FR-A820-30K



30K: M8 (M6 for earth (ground) terminal)

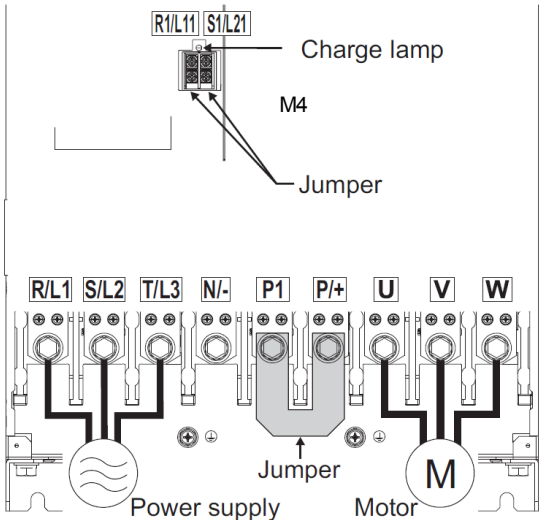
■ FR-A820-37K, 45K



M10 (M8 for earth (ground) terminal)

Refer to the terminal layout in the previous section.

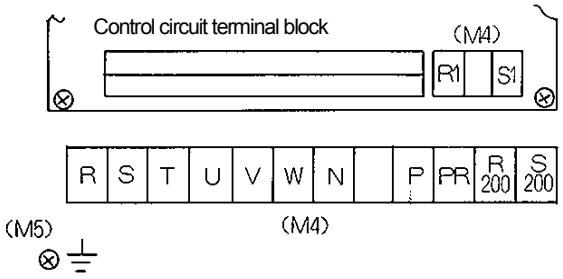
■ FR-A820-55K



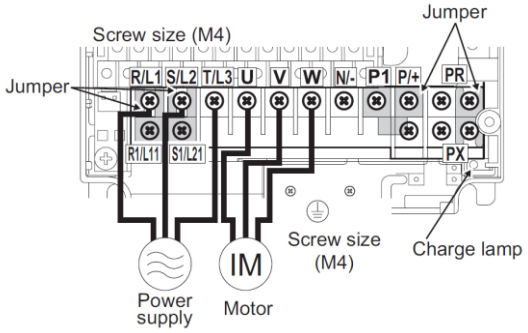
M12 (M8 for earth (ground) terminal)

[400 V class]

■ **FR-Z240-2.2K, 3.7K**

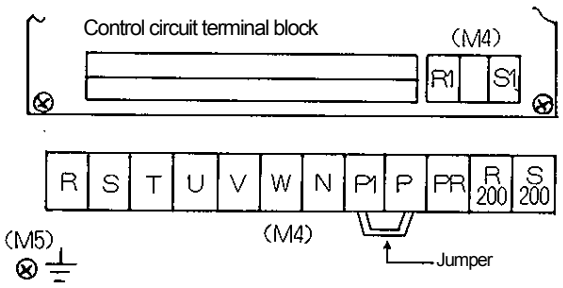


■ FR-A840-2.2K, 3.7K

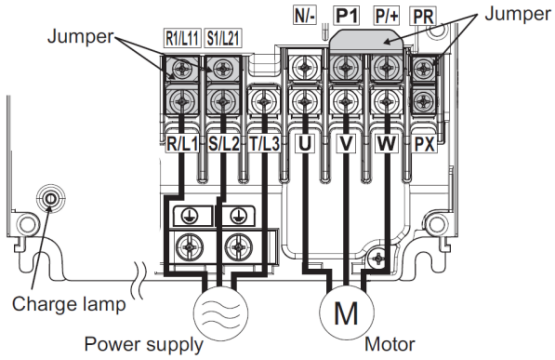


M4

■ **FR-Z240-7.5K**

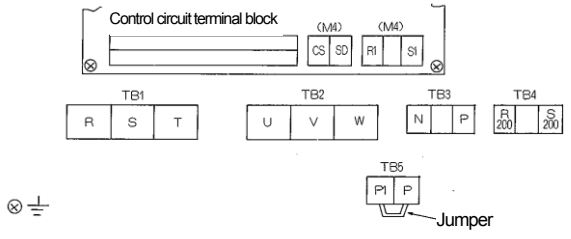


■ FR-A840-5.5K, 7.5K



M4

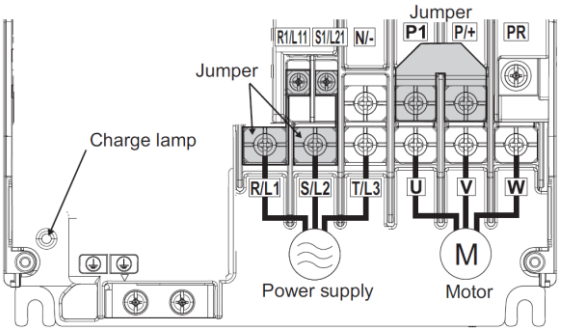
■ **FR-Z240-15K, 22K, 37K, 55K**



Screw size

Inverter model	TB1	TB2	TB3	TB4	TB5	Earth (ground) terminal
FR-Z240−15K	M6	M5	M5	M3.5	M6	M6
−22K	M6	M5	M5	M3.5	M6	M6
−37K	M8	M6	M5	M3.5	M8	M8
−55K	M8	M8	M5	M3.5	M8	M8

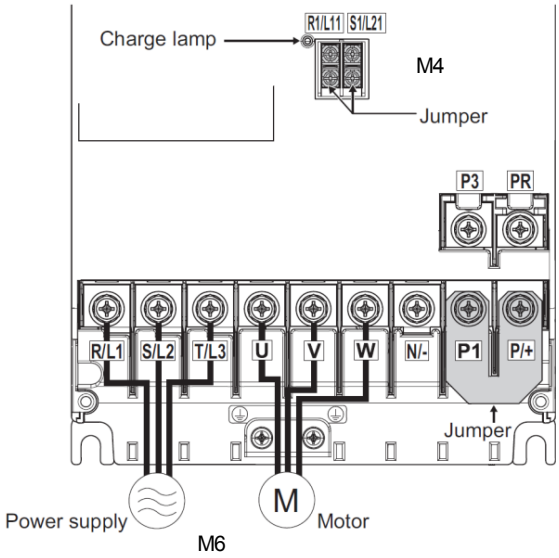
■ FR-A840-11K, 15K



M5 (M4 for terminals R1/L11 and S1/L21)

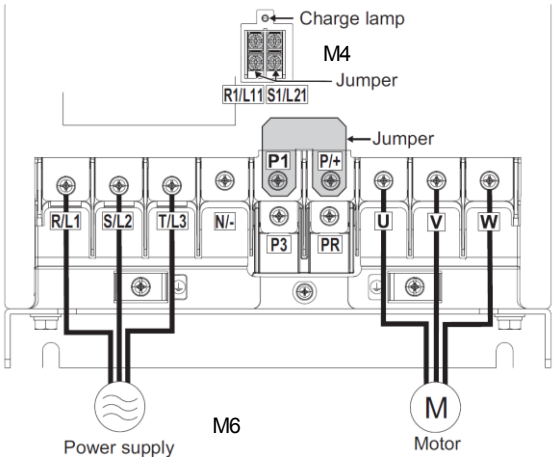
Refer to the terminal layout in the previous section.

■ FR-A840-18.5K, 22K



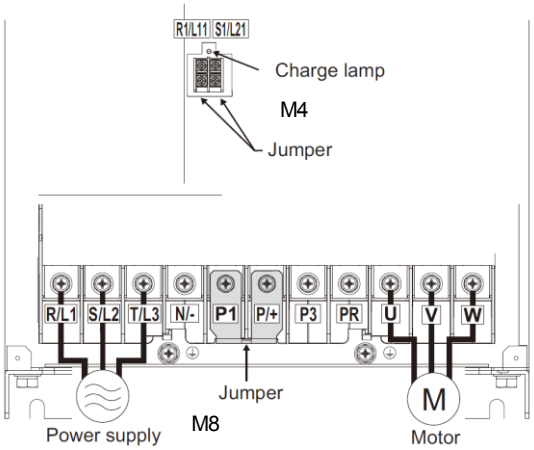
Refer to the terminal layout in the previous section.

■ FR-A840-30K



Refer to the terminal layout in the previous section.

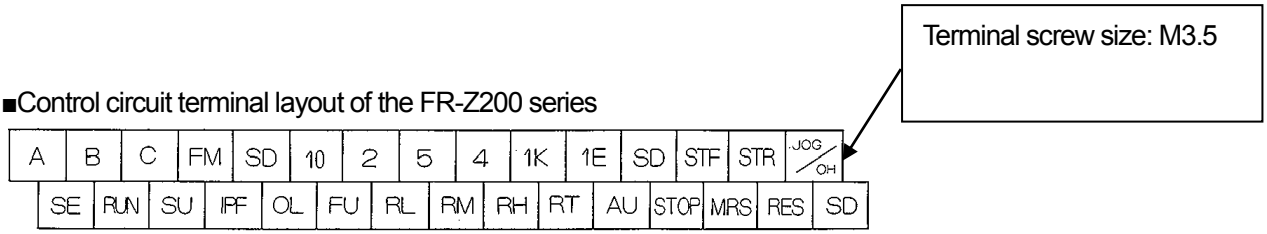
■ FR-A840-37K, 45K, 55K



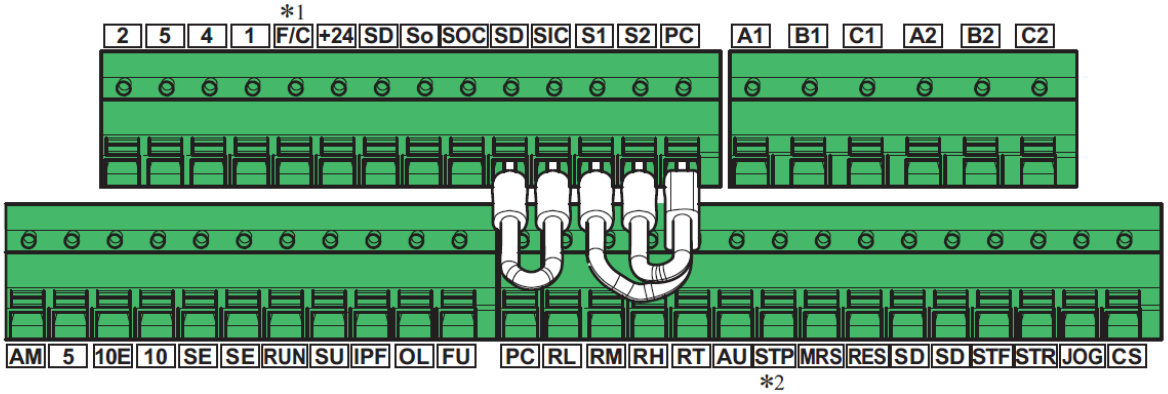
Control circuit terminal layout

The following shows the control circuit terminal layouts of the FR-Z200 series and the FR-A800 series.
The control circuit terminal layout differs between the FR-Z200 and the FR-A800 series. Check the terminal names and positions before performing wiring.

■Control circuit terminal layout of the FR-Z200 series



■ Control circuit terminal layout of the FR-A800 series



*1 This terminal operates as the terminal FM for the FM type inverter.
*2 Represents the terminal STOP.

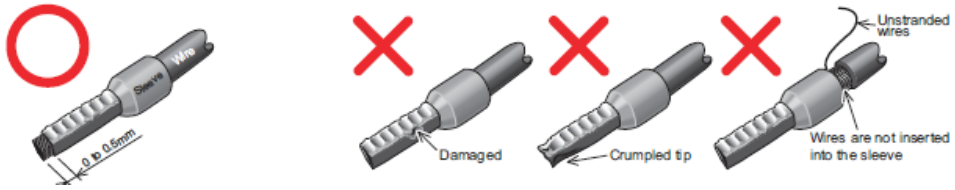
◆Wiring method

■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.

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 January 2017)

- Phoenix Contact Co., Ltd.

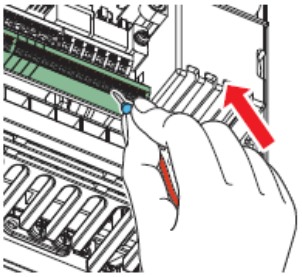
Cable gauge (mm^2)	Ferrule terminal model			Crimping tool name
	With insulation sleeve	Without insulation sleeve	For UL wire*1	
0.3	AI 0,34-10TQ	—	—	CRIMPFOX 6
0.5	AI 0,5-10WH	—	AI 0,5-10WH-GB	
0.75	AI 0,75-10GY	A 0,75-10	AI 0,75-10GY-GB	
1	AI 1-10RD	A 1-10	AI 1-10RD/1000GB	
1.25, 1.5	AI 1, 5-10BK	A 1, 5-10	AI 1,5-10BK/1000GB*2	
0.75 (two-wire product)	AI-TWIN 2×0,75-10GY	—	—	

*1 A ferrule terminal with an insulation sleeve compatible with the MTW wire which has a thick wire insulation.
*2 Applicable for terminals A1, B1, C1, A2, B2, C2.

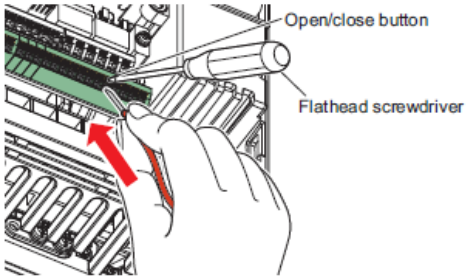
- NICHIFU Co., Ltd.

Cable gauge (mm^2)	Blade terminal product number	Insulation cap 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.

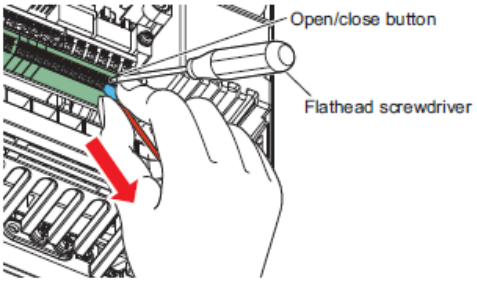


NOTE

- 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 2016)

Product 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. Parameters

Some parameter numbers and the setting values differ. Please refer to the remarks in the following table to set the parameters.

Setting ◎: Use the same setting of the FR-Z200 inverters.

The parameter number of the [ ] parameters differs from that of the FR-Z200 series inverter.

Δ: Change the setting of the FR-Z200 inverters as needed.

×: Adjust or set the FR-A800 parameter.

FR-Z200 parameter list				FR-A800 compatible parameter				Description about parameter setting	
Pr.	Name	Setting range	Initial value	Pr.	Name	Setting range	Initial value	Setting	Remarks
0	Torque boost (manual)	0% to 30%	7.5K or lower: 6% 11K or higher: 3%	0	Torque boost	0% to 30%	0.4K, 0.75K: 6% 1.5K to 3.7K: 4% 5.5K, 7.5K: 3% 11K to 55K: 2%	Δ	When this parameter has been used at the initial setting in the FR-Z200, use it at the initial setting in the FR-A800 as well. When the setting has been changed from the initial value in the FR-Z200, set the value obtained by multiplying the ratio of the set value to the initial value by the initial value in the FR-A800. Example) The initial values of the FR-Z200-7.5K and the FR-A800-7.5K are respectively 6% and 3%. When the FR-Z200-7.5K has been used at the setting of 7%, the value for the FR-A800-7.5K can be obtained as follows: 7/6 × 3 = 3.5(%).
1	Max. frequency limit	0 to 120 Hz	120 Hz	1	Maximum frequency	0 to 120 Hz	120 Hz	◎	
2	Min. frequency limit	0 to 60 Hz	0 Hz	2	Minimum frequency	0 to 120 Hz	0 Hz	◎	
3	V/F (base frequency)	50 to 360 Hz	60 Hz	3	Base frequency	0 to 590 Hz	60 Hz	◎	
4	Multi-speed setting:1st (high speed)	0 to 360 Hz	60 Hz	4	Multi-speed setting (high speed)	0 to 590 Hz	60 Hz	◎	
5	Multi-speed setting:2nd (middle speed)	0 to 360 Hz	30 Hz	5	Multi-speed setting (middle speed)	0 to 590 Hz	30 Hz	◎	
6	Multi-speed setting:3rd (low speed)	0 to 360 Hz	10 Hz	6	Multi-speed setting (low speed)	0 to 590 Hz	10 Hz	◎	
7	Acceleration time	0.1 to 3600 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	◎	Do not change the Pr.21 (Acceleration/deceleration time increments) setting from the initial setting in the FR-A800.
8	Deceleration time	0.1 to 3600 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	◎	Do not change the Pr.21 (Acceleration/deceleration time increments) setting from the initial setting in the FR-A800.
9	Electronic thermal relay (overheat)	0 to 999.9 A	Inverter rated current	9	Electronic thermal O/L relay	0 to 500 A	Inverter rated current	◎	Set the rated motor current.
10	PWM mode	0 to 15	3	72	PWM frequency selection	0 to 15	2	×	The initial values for both series differ.
11	DC dynamic brake time	0 to 10 s	0.5 s	11	DC injection brake operation time	0 to 10 s, 8888	0.5 s	◎	

FR-Z200 parameter list				FR-A800 compatible parameter				Description about parameter setting	
Pr.	Name	Setting range	Initial value	Pr.	Name	Setting range	Initial value	Setting	Remarks
12	DC dynamic brake voltage	0% to 20%	7.5K or lower: 8% 11K or higher: 4%	12	DC injection brake operation voltage	0% to 30%	7.5K or lower: 4% 11K or higher: 2%	Δ	When this parameter has been used at the initial setting in the FR-Z200, use it at the initial setting in the FR-A800 as well. When the setting has been changed from the initial value in the FR-Z200, set the value obtained by multiplying the ratio of the set value to the initial value by the initial value in the FR-A800 in the same way as with Pr.0 (Torque boost).
13	Starting frequency	0.5 to 10 Hz	0.5 Hz	13	Starting frequency	0 to 60 Hz	0.5 Hz	◎	
14	Load pattern selection	0, 1, 2	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	0.5 s	16	JOG acceleration/deceleration time	0 to 3600 s	0.5 s	◎	Do not change the Pr.21 (Acceleration/deceleration time increments) setting from the initial setting in the FR-A800.
17	2nd acceleration/deceleration time	0 to 3600 s	5 s	44	Second acceleration/deceleration time	0 to 3600 s	5 s	◎	Do not change the Pr.21 (Acceleration/deceleration time increments) setting from the initial setting in the FR-A800.
18	High-speed maximum frequency limit	120 to 360 Hz	120 Hz	18	High-speed maximum frequency limit	0 to 590 Hz	120 Hz	◎	When a frequency is set in Pr.1, the Pr.18 setting automatically changes to the frequency set in Pr.1
19	Base frequency voltage	0 to 500 V, 9999	9999	19	Base frequency voltage	0 to 1000 V, 8888, 9999	9999	◎	
20	Frequency at 5 V input voltage	1 to 360 Hz	60 Hz	125	Terminal 2 frequency setting gain frequency	0 to 590 Hz	60 Hz	◎	
21	Stall prevention level	0% to 200%	150%	22	Stall prevention operation level (torque limit level)	0% to 400%	150%	◎	
22	2nd stall prevention level (current)	0% to 200%	150%	48	Second stall prevention operation current	0% to 400%	150%	Δ	
23	2nd stall prevention level (frequency)	0 to 360 Hz	0 Hz	49	Second stall prevention operation frequency	0 to 590 Hz, 9999	0 Hz	Δ	
24	Multi-speed setting:4th	0 to 360 Hz, 9999	9999	24	Multi-speed setting (speed 4)	0 to 590 Hz, 9999	9999	◎	
25	Multi-speed setting:5th	0 to 360 Hz, 9999	9999	25	Multi-speed setting (speed 5)	0 to 590 Hz, 9999	9999	◎	

FR-Z200 parameter list				FR-A800 compatible parameter				Description about parameter setting	
Pr.	Name	Setting range	Initial value	Pr.	Name	Setting range	Initial value	Setting	Remarks
26	Multi-speed setting:6th	0 to 360 Hz, 9999	9999	26	Multi-speed setting (speed 6)	0 to 590 Hz, 9999	9999	◎	
27	Multi-speed setting:7th	0 to 360 Hz, 9999	9999	27	Multi-speed setting (speed 7)	0 to 590 Hz, 9999	9999	◎	
28	Multi-speed input correction	0, 1	0	28	Multi-speed input compensation selection	0, 1	0	◎	
29	Acceleration/deceleration pattern selection	0, 1, 2	0	29	Acceleration/deceleration pattern selection	0 to 6	0	◎	
30	Regenerative brake duty	0% to 30%	3.7K or lower: 3% 5.5K, 7.5K: 2% 11K or higher: 0%	30	Regenerative function selection	0 to 2, 10, 11, 20, 21, 100 to 102, 110, 111, 120, 121	0	×	Pr.70 (Special regenerative brake duty) is valid when Pr.30 = "1" (using the FR-ABR). Do not change the value from the initial value when using a built-in brake resistor. MYS-type brake resistor is not available. Select another braking option instead.
				70	Special regenerative brake duty	0% to 100%	0%		
31	Frequency jump 1A	0 to 360 Hz, 9999	9999	31	Frequency jump 1A	0 to 590 Hz, 9999	9999	◎	
32	Frequency jump 1B	0 to 360 Hz, 9999	9999	32	Frequency jump 1B	0 to 590 Hz, 9999	9999	◎	
33	Frequency jump 2A	0 to 360 Hz, 9999	9999	33	Frequency jump 2A	0 to 590 Hz, 9999	9999	◎	
34	Frequency jump 2B	0 to 360 Hz, 9999	9999	34	Frequency jump 2B	0 to 590 Hz, 9999	9999	◎	
35	Frequency jump 3A	0 to 360 Hz, 9999	9999	35	Frequency jump 3A	0 to 590 Hz, 9999	9999	◎	
36	Frequency jump 3B	0 to 360 Hz, 9999	9999	36	Frequency jump 3B	0 to 590 Hz, 9999	9999	◎	

FR-Z200 parameter list				FR-A800 compatible parameter				Description about parameter setting	
Pr.	Name	Setting range	Initial value	Pr.	Name	Setting range	Initial value	Setting	Remarks
37	Speed display	0, 2 to 9999	0	37	Speed display	0, 1 to 9998	0	×	When this parameter has been used at the initial setting in the FR-Z200, use it at the initial setting in the FR-A800 as well. When Pr.37 = "2 to 10" in the FR-Z200, set Pr.37 = "0" and Pr.144 = "102 to 110" (Number of motor poles + 100) for the FR-A800. When Pr.37 = "11 to 9999" in the FR-Z200, set Pr.37 ="11 to 9998" in for the FR-A800. (Cannot be set to "9999".) Do not change the Pr.505 (Speed setting reference) setting from the initial setting in the FR-A800.
				144	Speed setting switchover	0, 2, 4, 6, 8, 10, 12, 102, 104, 106, 108, 110, 112	4		
38	FM terminal output basic frequency	1 to 360 Hz	60 Hz	55	Frequency monitoring reference	0 to 590 Hz	60 Hz	◎	The setting in this parameter is also valid for the terminal AM.
39	Frequency at 20 mA input	1 to 360 Hz	60 Hz	126	Terminal 4 frequency setting gain frequency	0 to 590 Hz	60 Hz	◎	
40	Torque boost (automatic)	0% to 200%	0%	80	Motor capacity	0.4 to 55 kW, 9999	9999	×	Advanced magnetic flux vector control is available instead of the automatic torque boost. Set "20", the motor capacity, and the number of motor poles in Pr.800, Pr.80, and Pr.81 respectively to enable the Advanced magnetic flux vector control.
				81	Number of motor poles	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 9999	9999		
				800	Control method selection	0 to 5, 9 to 12, 20	20		
41	Reverse operation	0, 1	0	73	Analog input selection	0 to 7, 10 to 17	1	Δ	The initial values for both series differ. Terminal 2 input / terminal 1 input / setting value (reversible polarity) 0 to 10 V / 0 to ±10 V / 0 (without) 10 (with) 0 to 5 V / 0 to ±10 V / 1 (without) 11 (with) 0 to 10 V / 0 to ±5 V / 2 (without) 12 (with) 0 to 5 V / 0 to ±5 V / 3 (without) 13 (with)
42	Up-to-frequency sensitivity	1% to 100%	10%	41	Up-to-frequency sensitivity	0% to 100%	10%	◎	
43	Output frequency detection	0.5 to 360 Hz, 9999	6 Hz	42	Output frequency detection	0 to 590 Hz	6 Hz	×	"9999" is unavailable as no function is assigned.

FR-Z200 parameter list				FR-A800 compatible parameter				Description about parameter setting	
Pr.	Name	Setting range	Initial value	Pr.	Name	Setting range	Initial value	Setting	Remarks
44	Output frequency detection during reverse operation	0.5 to 360 Hz, 9999	9999	43	Output frequency detection for reverse rotation	0 to 590 Hz, 9999	9999	◎	
45	DC dynamic brake frequency	0 to 60 Hz	3 Hz	10	DC injection brake operation frequency	0 to 120 Hz, 9999	3 Hz	◎	
46	External thermal relay signal input	0, 1	0	178	STF terminal function selection	0 to 20, 22 to 28, 37, 42 to 47, 50, 51, 60, 62, 64 to 74, 76 to 80, 87, 92, 93, 9999	60	×	Change an external terminal's function to enable the External thermal relay input (OH) function. Set "7" in any parameter from Pr.178 to Pr.189 (terminal function selection) to use a terminal as terminal OH.
				179	STR terminal function selection		61		
				180	RL terminal function selection	0 to 20, 22 to 28, 37, 42 to 47, 50, 51, 60, 62, 64 to 74, 76 to 80, 87, 92, 93, 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		4		
				185	JOG terminal function selection		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		

FR-Z200 parameter list				FR-A800 compatible parameter				Description about parameter setting	
Pr.	Name	Setting range	Initial value	Pr.	Name	Setting range	Initial value	Setting	Remarks
47	Second deceleration time	0, 1 to 3600 s, 9999	9999	45	Second deceleration time	0 to 3600 s, 9999	9999	◎	
48	Second torque boost (manual)	0% to 30%, 9999	9999	46	Second torque boost	0% to 30%, 9999	9999	◎	
49	Second V/F (base frequency)	50 to 360 Hz, 999	9999	47	Second V/F (base frequency)	0 to 590 Hz, 9999	9999	◎	
67	Reset time period for automatic restart after instantaneous power failure / electronic bypass operation	0, 0.1 to 5 s, 9999	9999	57	Restart coasting time	0, 0.1 to 30 s, 9999	9999	Δ	If the CS signal is not assigned to any input terminal, the restart operation is enabled at all times by setting Pr.57 in the FR-A800.
77	Parameter WRITE prohibition	0, 1	0	77	Parameter write selection	0, 1, 2	0	◎	
78	Reverse prevention	0, 1	0	78	Reverse rotation prevention selection	0, 1, 2	0	◎	
79	Operation mode selection	0, 1, 2	0	79	Operation mode selection	0, 1, 2, 3, 4, 6, 7	0	◎	
C-1	Frequency meter calibration	0 to 360 Hz	60 Hz	C0 (900)	FM terminal calibration	—	—	×	Calibrate terminal FM according to the Instruction Manual.
C-2	Bias for frequency reference voltage signal	0 to 120 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 detail, refer to the Instruction Manual (Detailed).
C-3	Gain for frequency reference voltage signal	1 to 360 Hz	60 Hz	125 (903)	Terminal 2 frequency setting gain frequency	0 to 590 Hz	60 Hz	Δ	
C-4	Bias for frequency reference current signal	0 to 120 Hz	0 Hz	C5 (904)	Terminal 4 frequency setting bias frequency	0 to 590 Hz	0 Hz	Δ	
C-5	Gain for frequency reference current signal	1 to 360 Hz	60 Hz	126 (905)	Terminal 4 frequency setting gain frequency	0 to 590 Hz	60 Hz	Δ	

5. Option

The following table shows the comparison of options between the FR-Z200 series inverters and the FR-A800 series inverters.

Name		Option model	
		FR-Z200	FR-A800
Plug-in type	Digital input unit	FR-ZDA (12 bits)	FR-A8AX (16 bits)*1
	Serial interface	FR-ZRS	Built-in function of the inverter
	Load meter output unit	FR-ZLM	Built-in function of the inverter
	Bypass operation / automatic restart at an instantaneous power failure unit	FR-ZNS	Built-in function of the inverter
	Orientation control unit	FR-ZOR	FR-A8AP
	Encoder feedback unit	FR-ZPG	FR-A8AP
	PI control unit	FR-ZPI	Built-in function of the inverter
	Relay output unit	FR-ZRA	FR-A8AR
	Data link unit	FR-ZDL	—
	Time schedule unit Real time clock unit	FR-ZTO FR-ZTA	—
	Torque smoothing unit	FR-ZTS	Built-in function of the inverter
Stand-alone type	Parameter unit	FR-PU01	Operation panel (FR-DU08) is attached to the inverter.
	Parameter unit connection cable	FR-CB01, 03, 05	FR-CB201, 203, 205
	Operation panel connection connector	—	FR-ADP (This connector is used to connect the operation panel to the inverter with a connection cable.)
	Power factor improving DC reactor	FR-BEL-(H)	FR-HEL-(H)
	Power factor improving AC reactor	FR-BAL-(H)	FR-HAL-(H)*2
	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	Compatible
	Brake unit	FR-BU-(H)	Compatible
	Resistor unit	FR-BR-(H)	Compatible
	FR-RC type power regeneration converter	FR-RC-(H)	Compatible
	FR-CV type power regeneration common converter	FR-CV-(H)7.5K(-AT) to 55K	Compatible
	Stand-alone reactor dedicated for the FR-CV	FR-CVL-(H)7.5K to 55K	Compatible
Manual Controller / Speed Controller	Manual controller	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
	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	YM206NRI 1 mA	Compatible
	Calibration resistor	RV24YN 10 kΩ	Compatible

*1 The priority for the frequency setting differs between FR-Z200 and FR-A800. For the details, refer to the FR-A800 Instruction Manual.

*2 When FR-RC-(H) is used, use FR-BAL-(H).