

EMC filter

FR-E5NF-H0.75K, H3.7K, H7.5K FR-E5NFS-0.75K, 2.2K

This instruction manual gives handling information and precautions for use of this equipment. Incorrect handling might cause an unexpected fault. Before using the equipment, please read this manual carefully to use the equipment to its optimum.

Please forward this manual to the end user.

For further details please refer to Mitsubishi manuals for Frequency Inverters and EMC installation guidelines, which contain detailed information about installation conforming to EMC.

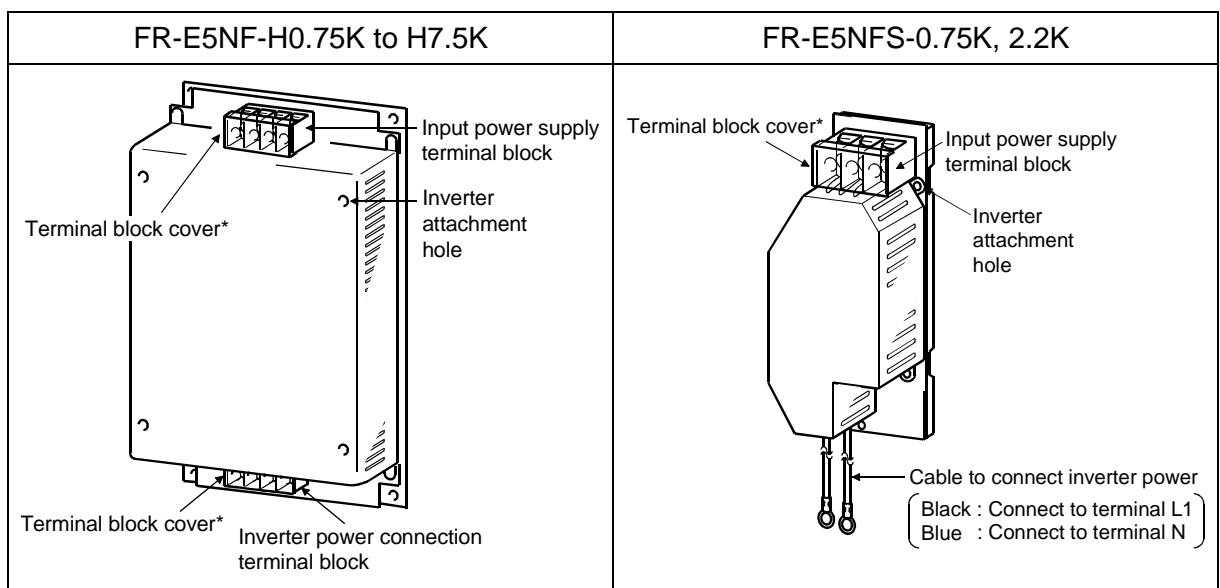
Safety instruction

- ⚠ Do not touch the filter while the power is on or when the inverter is running. Otherwise, you may access the exposed high-voltage terminals and charging part and get an electric shock.
- ⚠ The inverter and EMC filter will be hot while the power is ON and for a short time after the power is turned OFF. Touching the inverter or filter could cause burns.

1. Applicable inverters

Filter type	Applicable inverter
FR-E5NF-H0.75K	FR-E540-0.4K, 0.75K (-NA, -EC, -CH)
FR-E5NF-H3.7K	FR-E540-1.5K, 2.2K, 3.7K (-NA, -EC, -CH)
FR-E5NF-H7.5K	FR-E540-5.5K, 7.5K (-NA, -EC, -CH)
FR-E5NFS-0.75K	FR-E520S-0.4K, 0.75K-EC, -CH
FR-E5NFS-2.2K	FR-E520S-1.5K, 2.2K-EC, -CH

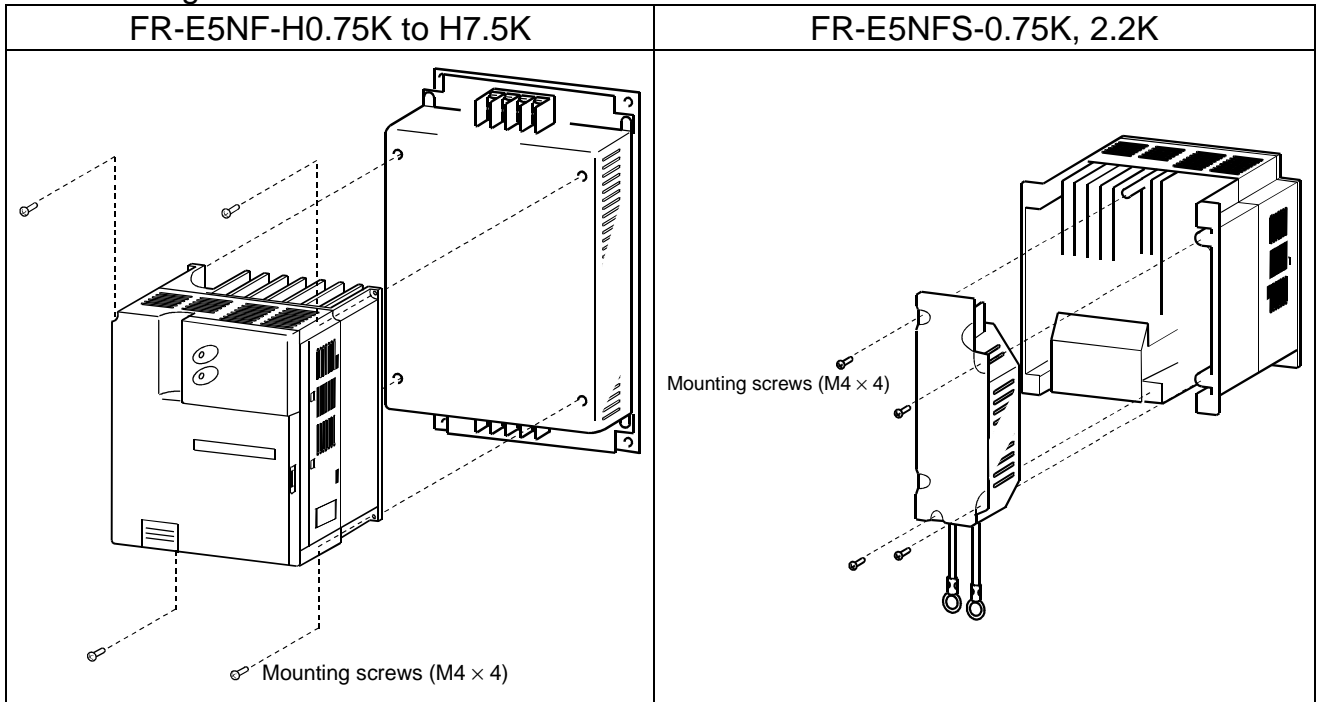
2. Product diagram



*Terminal block cover must be attached when using the filter.

3. Installation

Fix the filter and the inverter using screws as shown below.
Mounting screws are inside filter box.



4. Wiring

Earth the filter before connecting the power to prevent an electrical shock.

4.1 FR-E5NF-H0.75K to H7.5K

(1) Wiring to the inverter terminal.

1) Earth(PE) connection

• PE ———— ⊕

2) Inverter connection (R, S, T < L1, L2, L3 >)

• R/L1 ———— R/L1

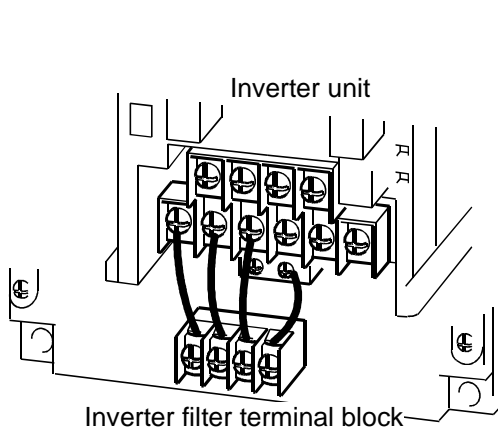
• S/L2 ———— S/L2

• T/L3 ———— T/L3

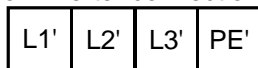
(2) Wiring the power supply.

1) Earth (PE) connection

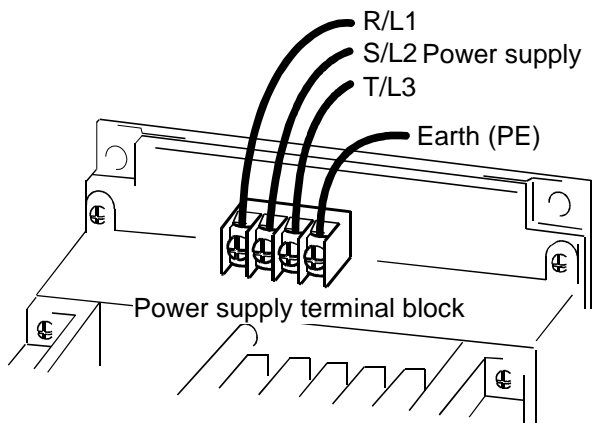
2) Inverter connection (R, S, T < L1, L2, L3 >)



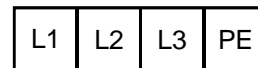
Terminal block diagram for Inverter connection



Screw size (M4)



Terminal block diagram for noise filter connection



Screw size (M4)

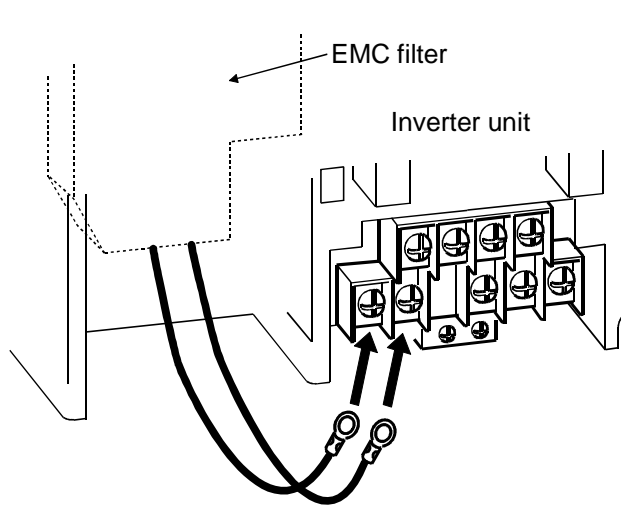
4.2 FR-E5NFS-0.75K, 2.2K

(1) Inverter connection cable wiring.

1) Connect the inverter connection cable to the inverter.

- Black cable L1
- Blue cable N

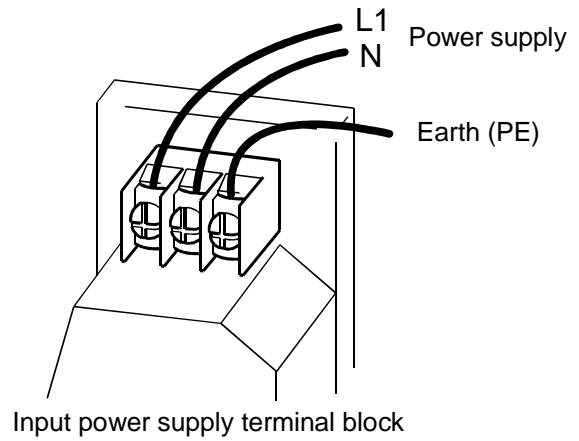
(Black cable: For L1 terminal, blue cable: For N terminal.)



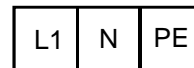
(2) Wiring the power supply.

1) Earth (PE) connection

2) Inverter connection (R, S, T < L1, L2, L3 >)



Terminal block diagram for power supply input



Screw size (M4)

5. Specifications

Filter type	FR-E5NF-H0.75K	FR-E5NF-H3.7K	FR-E5NF-H7.5K	FR-E5NFS-0.75K	FR-E5NFS-2.2K
Rated voltage (V)	480			250	
Rated current (A)	4.5	15	27	14	34
Leakage current (mA) (note)	22.6	44.5	68.4	4.5	9.5
Power loss (W)	5.5	8	15	5	7.5
Ambient temperature (°C)	-10 to 50				
Ambient humidity (%)	90				
Vibration	5 to 200Hz, 1.2G				
Weight (kg)	1.1	1.2	2.0	0.5	0.6

(Note) Condition 60Hz, rated voltage, one phase lost.

6. Outline drawings

