

MITSUBISHI

General-Purpose Inverter/AC Servo

Line Noise Filter <FR-BSF01>

Thank you for selecting the Mitsubishi general-purpose inverter/AC servo option unit. This instruction manual describes the handling and precautions for this unit. Always read through this manual before starting use to ensure correct usage as incorrect handling could lead to unforeseen trouble. Make sure that this instruction manual is delivered to the final user.

Safety Precautions

- ⚠ The inverter will be hot while the power is ON, and for a short time after the power is turned OFF, and during operation, so do not touch it. Touching the inverter during this time could lead to burns.
- ⚠ Transport the product with the correct method that matches the weight. Failure to observe this could lead to injuries. Take special care with the edge sections.
- ⚠ All wiring work and inspections must be carried out by qualified technicians.

By using this filter, the line noise generated from the inverter or servo can be reduced. This filter is configured of only a core, so it can be used regardless of the power voltage and capacity.

1. Installation

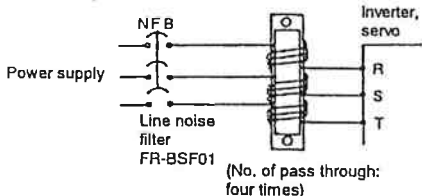
- (1) Select a clean place void of high temperatures, high humidities or flammable gases.
- (2) When installing in a storage panel, make sure that the filter's ambient temperature does not exceed the tolerable value (-10 to $+50^{\circ}\text{C}$). The filter itself will heat up, so secure sufficient ambient space.

2. Connections

Connect the filter according to the following connection diagram.

- (1) When connecting to input side

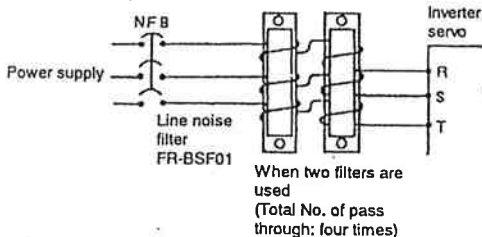
Example 1



- Wind the 3-phase wires all in the same direction with the same number of windings, and insert into the inverter and servo power input side.

(Note) Do not wind the grounding wire (earth wire), as the effect of the filter will be reduced. When using a 4-core cable, the filter effect will be reduced in the same way as if a grounding wire is connected.

Example 2

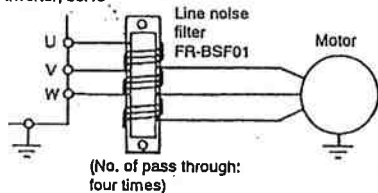


- The more windings there are, the higher the effect will be. Using so that the total No. of pass through is at least four times (4T) is recommended.

(2) When connecting to output side

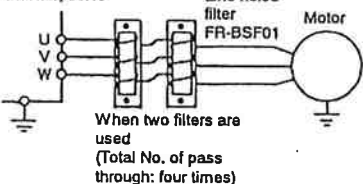
Example 1

Inverter, servo



Example 2

Inverter, servo



- Wind the 3-phase wires all in the same direction with the same number of windings, and insert into the inverter or servo power output side. The filter will heat up more, so only when connecting to the output side, keep the No. of pass through to within four times (4T) per filter.

(Note) Do not wind the grounding wire (earth wire).

(3) Applicable wire and No. of pass through

Applicable wire (mm ²)	No. of wire pass through (times) *
2	4
3.5	4
5.5	3
8	2
14	2
22	1
38	X
∟	Use not possible
150	

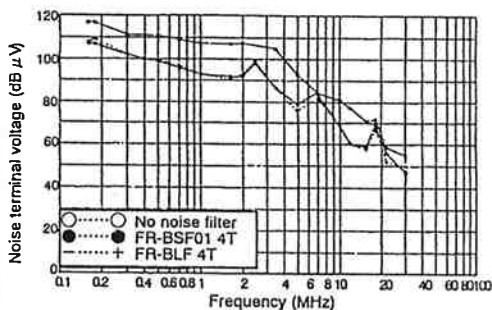
When wire is thick (5.5mm² or more)

Since four pass through cannot be achieved with one filter, use of two or more filters is recommended so that the total No. of pass through will be four times.

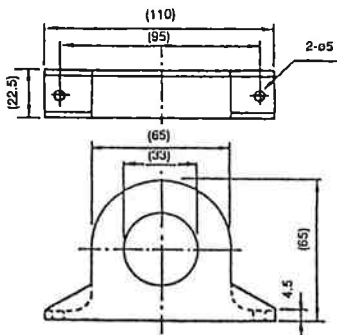
Use the above or FR-BLF type line noise filter.

Example of noise reduction effect

(For FR-A220-3.7K + noise filter (input side 4T))



4. Outline dimensions diagram



Model	FR-BSF01 Instruction manual
Model code	1A2H28

3. Specifications

(1) Applicable models

General-purpose inverter, general-purpose AC servo

(2) Working environment

- Ambient temperature: -10 to +50°C (with no freezing)
- Ambient humidity: 90%RH (with no dew condensation)
- Vibration: 5.9m/s² {0.6G} or less
- Atmosphere: No corrosive or flammable gases