1. SAFETY PRECAUTIONS

1.1 CAUTION AND DANGER

**CAUTION**

- Hold the inverter or as an option, fasten the nuts with an electric tool. Failure to do so may result in a malfunction.
- Do not place the inverter near combustible materials. Failure to do so may result in a fire.

**DANGER**

- Do not place the inverter in the outlet of the power supply. In case of fire, power will be supplied to the load and fire may occur.
- Always install the unit before wiring. Failure to do so may result in an electric shock.
- Always connect ground wire. Failure to do so may result in an electric shock or fire.

1.2 Warning Label on Inverter

- Do not touch inverter terminals during Power ON even in stopping status. Failure to do so could be extremely dangerous, since the inverter contains a high-frequency harmonic component and may cause personnel injury by its dropping.
- The inverter can easily be switched to high speed from low speed, so confirm the selection of starting methods. In case of multiple inverters, use the inverter with a braking resistor protection for the load after the regenerative braking has been completed.
- Install the inverter on a place strong enough to support its weight according to the equipment or system conditions. Failure to do so may result in damage to the inverter. Design the machine so that it can ensure personal safety. (Always take measures to ensure personal safety.) Failure to do so may result in personnel injury.
- The main circuit of the inverter contains a high-frequency harmonic component and may cause electrical interference with other equipment. In case of multiple inverters, use the inverter with the motor, which has a high-frequency harmonic component. For further detailed information, contact your nearest Panasonic representative.

2. PART NAME

2.1 Name

- Please read this Installation Manual carefully for the correct installation and use of it.

3. INSTALLATION PRECAUTIONS

3.1 Installation Precautions

- Do not install that the inverter in the following locations.
- Locations subject to dust: outdoors, asphalt, sandy areas, industrial areas, etc.
- Locations subject to water vapor or high humidity: locations where a large amount of mist, dust, or oil mist, etc.
- Locations subject to excessive, repetitive or excessive vibrations, or unstable conditions.
- Locations subject to corrosive gases, vapors or fumes.

- Install the inverter in suitable locations, such as warehouses, and not in the following places.
- Locations subject to shock, blow, or other moving equipment, such as machinery or systems, Please take measures to ensure personal safety. (Always take measures to ensure personal safety.) Failure to do so may result in personnel injury.

3.2 Dimensions

- Use the inverter in the state of conditions shown in the following diagram.

4. Wiring

4.1 Wiring (Terminals for Main Circuit)

- A 3-core plug shall be used for the plug supplied by the power supply in the outlet of the power supply, and 3-core power shall be used for the plug supplied by the power supply following the power supply plug terminal. Failure to do so may result in a malfunction.

3.3 Removal and Installation of Terminal Cover

- Remove the installation of terminal cover (1st caution) (Note 1) (Note 2)

4.2 Precautions on Wiring Main Circuit

- Precautions on wiring

- To avoid malfunctions in wiring and malfunction of the inverter, always install the inverter with the input terminal (1-3) and output terminal (4-6) of the inverter connected to the input terminal (1-3) and output terminal (4-6) of the inverter, respectively. Failure to do so may result in damage to the inverter.

- Use wires with larger diameter if the wiring distance is long. Failure to do so may result in damage to the inverter.

- When connecting directly to a transformer of large capacity (500 kVA or more), always install an AC reactor on the input side of the inverter. Failure to do so could be extremely dangerous, since the inverter contains a high-frequency harmonic component and may cause electrical interference with other equipment.

- The inverter can easily be switched to high speed from low speed, so confirm the selection of starting methods. In case of multiple inverters, use the inverter with a braking resistor protection for the load after the regenerative braking has been completed.

- When using multi-speeds function, always install the inverter with the motor, which has a high-frequency harmonic component. For further detailed information, contact your nearest Panasonic representative.

- The main circuit of the inverter contains a high-frequency harmonic component and may cause electrical interference with other equipment. In case of multiple inverters, use the inverter with the motor, which has a high-frequency harmonic component. For further detailed information, contact your nearest Panasonic representative.

- Do not use a magnetic contactor which is connected to a contactor on the main circuit side. The contactor shall be used in multi-speeds function (350 kW or more) of the inverter. After the main circuit side, avoid using magnetic contactors to suppress the noise. Use a contactor with high-frequency harmonic component suppression capabilities. Failure to do so may result in damage to the inverter.

- When using the inverter, always use the power supply with a braking resistor connected. Failure to do so may result in a malfunction.

- The inverter can easily be switched to high speed from low speed, so confirm the selection of starting methods. In case of multiple inverters, use the inverter with a braking resistor protection for the load after the regenerative braking has been completed.

- Install the inverter on a place strong enough to support its weight according to the equipment or system conditions. Failure to do so may result in damage to the inverter.

- Design the machine so that it can ensure personal safety. (Always take measures to ensure personal safety.) Failure to do so may result in personnel injury.

- The main circuit of the inverter contains a high-frequency harmonic component and may cause electrical interference with other equipment. In case of multiple inverters, use the inverter with the motor, which has a high-frequency harmonic component. For further detailed information, contact your nearest Panasonic representative.

- Maximum allowable current, etc. are shown in the precautions specified in the Instruction Manual and specifications are correct.

- Always connect ground wire. Failure to do so may result in an electric shock.

- The inverter can easily be switched to high speed from low speed, so confirm the selection of starting methods. In case of multiple inverters, use the inverter with a braking resistor protection for the load after the regenerative braking has been completed.

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- The main circuit of the inverter contains a high-frequency harmonic component and may cause electrical interference with other equipment. In case of multiple inverters, use the inverter with the motor, which has a high-frequency harmonic component. For further detailed information, contact your nearest Panasonic representative.

- Always connect ground wire. Failure to do so may result in an electric shock.
The higher the allowable continuous power for braking resistor is, the resistance shown in the reference table during the resistor selection can be increased.

- Terminal arrangement
- 4.3 Wiring (Control Circuit)

- Terminal arrangement

- 4.5 Operation Modes

- 4.4 Common Precautions on Terminals for Control Circuit

- 4.2 Light load specificaion

- 4.3 Wiring (Control Circuit)

- 4.4 Common Precautions on Terminals for Control Circuit

- 4.5 Operation Modes

- 4.6 Ratings

- 4.7 Specifications

- 4.8 Common specifications

- 5.1 Details and Remedies for Various Faults