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# Installation Manual

## LED Converter

To use the product more reliably and safely, please use it after reading the present manual carefully and after getting sufficiently familiarized with how to use. Incorrect method of use has risks of electrocution, damage, ignition, etc. (Since only major items are recorded in the present manual, please refer to the general catalog for details.)

### **Warning**

Since you may be inflicted with serious bodily injuries due to negligent handling, please make sure to follow the following items for use:

1. Detachment/attachment of the present product shall be conducted after turning off the power supply, and feeding the power supply after wiring is completed to prevent electrocution.
2. To prevent electrocution upon use, make sure to ground the F.G (FRAME GROUND) terminal.
3. Do not use in places with inflammable, explosive gases.
4. Avoid body contact with terminals of the present product since there is a risk of electrocution immediately after shutting off the power supply.
5. Immediately shut off the power supply when an abnormality is perceived.

### **Caution**

Since you may be inflicted with minor injuries or property losses, please make sure to follow the following items for use:

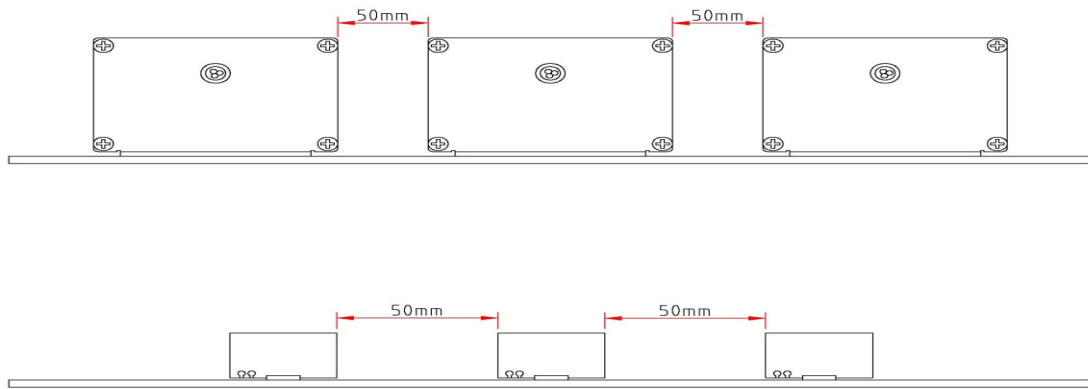
1. Do not allow other people than A/S engineers of our compny to disassemble or repair the present product.
2. Make sure to check if the product has a capacity conforming to the intended use prior to using the present product.
3. Use only a rated input voltage denoted on the present product.
4. Do not install at the following places as life and reliability of the product are affected.
  - (1) Places with poor ventilation of a high ambient temperature.
  - (2) Places with volatile or inflmmable substances.
  - (3) Places with generation of corrosive, combustibile hazardous gases.
  - (4) Places with high occurrence of induction faliure, noise
  - (5) Do not use at places where direct sunlight reaches the product.
  - (6) Do not use at places with intense vibration, shocks.
  - (7) Stay away for installation from instruments generating string high-frequency noises or surges.
5. Avoid body contact with a case and heat dissipation plates since there is a risk of burns due to generation of high temperatures during application of electric currents to the present product.
6. When discarding the present product, process as an industrial waste.

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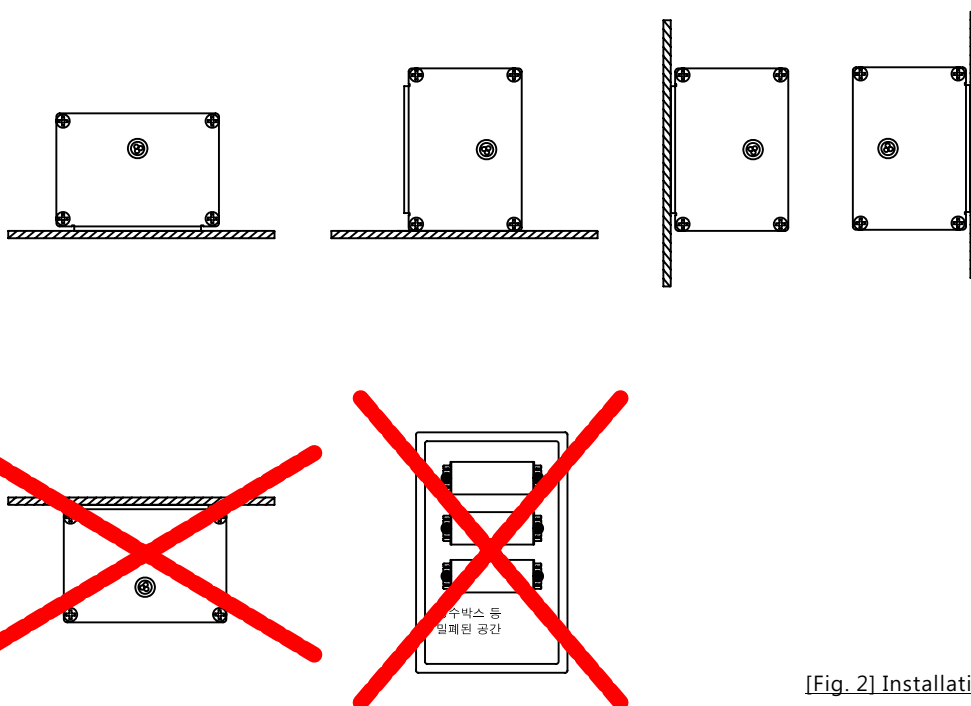
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### How to install the product

1. Installation of metal plates is recommended to facilitate heat dissipation from SMPS.
2. AC input line and DC output line from SMPS shall be securely connected.  
(When connection is not secure, overheating may occur due to contact resistance.)
3. Connect wires after checking the wiring diagram on the label to prevent opposite wiring of the AC input line and the DC output line.
4. Apply voltages after checking if the AC input power supply is a voltage contained in the voltage range allowed for the SMPS.
5. Natural cooling method
  - a. Secure sufficient natural convection to prevent surroundings of the power supply from being filled with heat.
  - b. Please refrain installation such as stacking up the product, since it interferes with heat dissipation.
  - c. In the case of an enclosed structure or structures without generating natural convection, temperature rises in the surroundings of SMPS may cause failures.
  - d. Refer to Figs. 1,2,3 concerning spacing and a correct installation direction using natural convection upon installation of SMPS.



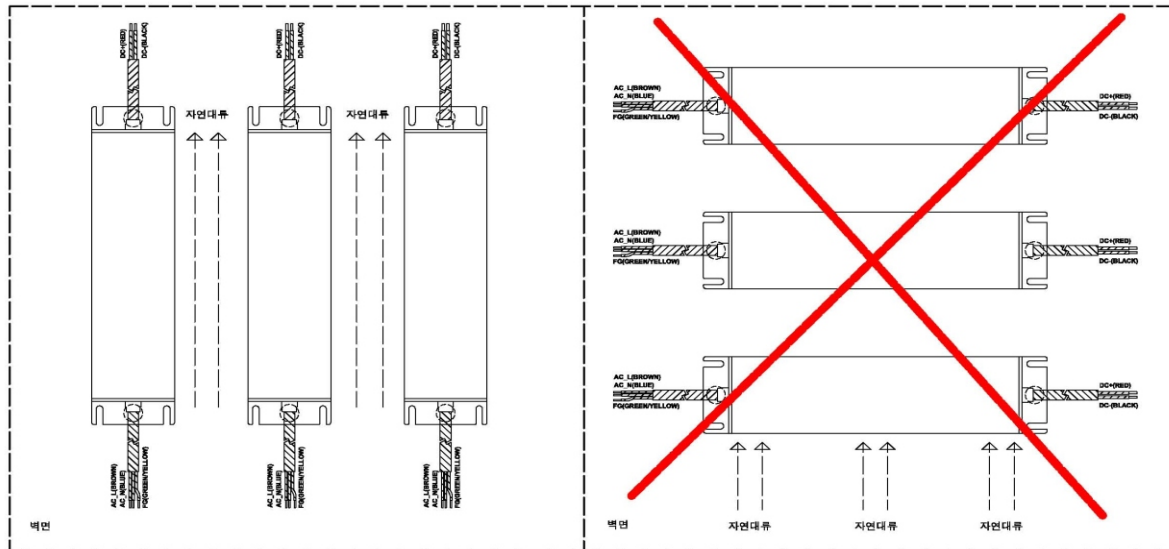
[Fig.1] Product installation spacing



[Fig. 2] Installation method

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[Fig. 3] Installation method

6. Recommended tightening torque for SCREW for power supply installation M3.5:1.27 N.m (13 kgf.cm)
7. Fix the product on a flat face to avoid stresses such as twisting, bending and shock of a product.
8. Installation on a metal plate on the installation side that has a high heat dissipation effect and is advantageous in terms of temperature is recommended.
9. Please use the product within a temperature range not exceeding a Ta/Tc value range.  
(Ta: Ambient temperature around converter/ Tc: Temperature of the hottest area in converter surfaces)
10. Wire connection method
  - a) Input line (L, N)  
Brown, sky blue or white- colored line and connection with reversal between AC\_L phase and AC\_N phase is acceptable.
  - b) Output line (+, -)  
DC+: Red or white color, DC-: Black or white/black-colored line to be connected with attention being paid not to reverse the polarity.
  - c) FRAME GROUND (F,G)  
Green-colored line intended for prevention of electrocution accidents and improvement of EMI. Please make sure to ground it.
  - d) When there are 2 output lines, tie wires of the identical color for use.
  - e) When installing outdoors, make sure to apply waterproof treatment after wiring connections.

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### Items for checking upon occurrence of product defects

1. Check if a rated input voltage is being applied.
2. Check if input, output wiring is correctly connected.
3. Check if a wiring line product is not too thin.
4. Check if an output current and power used are high.
5. Check if a constant voltage and a constant current as a function of LED loads are correctly selected.
6. Check if a VF value of a LED load is not higher than an SMPS output voltage.
7. Check if a VF value of a LED load is not lower than 75% of an SMPS output voltage.

### Quality warranty

1. Warranty periods for products are 2-5 years per series.
2. Defects in performance, functions having occurred in normal conditions within a quality warranty period shall be repaired free of charge.
3. The cases not subject to warranty free of charge shall be as follows:
  - (1) Failures occurring after the quality warranty period is over
  - (2) Failures occurring due to consumer's willful negligence or faults
  - (3) Failures occurring by repairs at other places than our company's quality assurance department or designated A/S places
  - (4) Failures occurring due to installation by other installation methods than specified
  - (5) Failures originating from fire, flooding, and other natural disasters
4. Appearance and specification of the present product may be changed without a notice to customers to enhance quality of the product

Please contact us if you have an inquiry concerning the present product.