

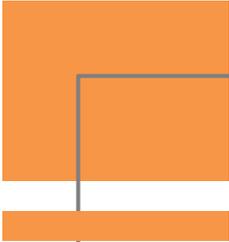


Far-Infrared Radiation Anion Electric Heaters

USER MANUAL

SU Series
SUR Series

SUNRAYTEC CORPORATION



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01 Safety Requirements

Warning

- When you connect a heater to main power supply, the heater makes sure to be connected directly from an earth leakage circuit breaker.
- These heaters are only ceiling mounted products so never use them lying on a bottom or standing vertically.
- When you connect the heater to main power supply, take adequate measures against moisture or an electric leakage.
- Don't apply inflammability spray or oil to the heater directly.
- Don't prick a heater with metal or solid object to prevent it from being damaged.
- Don't touch a front or back of the heater to avoid a danger of a burn while in use.
- Don't use a heater for other purposes than heating. Make sure that we are not liable for any injury or damage resulted from such disapproval uses.

Caution

Before any operations, please read the following safety precautions carefully to avoid any possible bodily injury and damage of this product.

1. Pay attention when you use this product.
 - Do not allow young infants or aged persons to use this heater, in case there is no one to supervise or control safe and right use of the heater.
 - Don't sprinkle water on a surface of a heater.
 - Don't touch a surface of a heater to avoid getting burnt.
2. Don't damage or cover a heating plate part of a heater .
 - Don't damage a heating plate of a heater with metals or solid materials.
 - Don't cover a heating plate of a heater with patches or papers or other things, which will become a cause of decrease of radiation heat.
3. Don't disassemble or assemble a heater in absence of a qualified supervisor.
 - Make sure to use rated parts or materials in the wire connection part .
 - Use of non-rated parts or materials can be a cause of an accident such as an electric leakage or a fire or other unexpected accidents.
 - Make sure that conductive materials such as metals or carbon fibers may harm radiant heat coating applied on the heating plate so that anion effects will be decreased.
 - Don't touch parts, especially metal parts inside a heater when its cover is opened. It will be a cause of electric shock or a fire or unexpected accidents.
4. Turn off it when you do not use a heater for a long time.
 - It is an energy saving product, but turn off it when you do not use it for cost saving.

02 Ceiling-Flush Mount Heaters

● Specifications

Model No	Size (L x W x D)mm	Power Consum. (W)	Voltage (V)	Current (A)	Heat (Kcal)	WGT (KG)	Heating Area (m ²)
SU-1800-1	1200x295x48	1800	110, 220	8.2	1548	10	9.9~13.2
SU-2400-1	1510x295x49	2400	110, 220	10.9	2064	13	13.2~19.8
SUR-1200-1	1200x295x48	1200	110, 220	5.5	1032	8	6.6~9.9
SUR-1800-1	1200x295x48	1800	110, 220	8.2	1548	10	9.9~13.2
SUR-2400-1	1510x295x48	2400	110, 220	10.9	2064	13	13.2~19.8
SUR-600	625x230x35	600	110, 220	2.7	516	5	3.3~4.9

● Models

SU-1800-1



SU-2400-1



SUR-1200-1



SUR-1800-1



SUR-2400-1



ON/OFF Switch

Remote Sensor

● Components



Remote Controller
Model SUR-170



Wall Mounting
Controller
Model UTH-170R

- Remote Controller Model SUR-170
- Temperature Sensor (Attached)
- 2 hooks for fixing to ceiling
- Wall Mounting Controller (Option)
- Ceiling Mounting Supporter (Option)
- Wall Mounting Supporter (Option)

* Electric wire excluded.

03 Ceiling-Exposed Mount Heaters

● Specifications

Model No	Size (L x W x D)mm	Power Consum. (W)	Voltage (V)	Current (A)	Heat (Kcal)	WGT (KG)	Heating Area (m ²)						
SUW-1200	1010x175x48	1200	110, 220	5.5	1032	5	3.3~6.6						
SU-1200	1510x175x48	1200	110, 220	5.5	1032	8	6.6~9.9						
SU-2400	1510x275x48	2400	110, 220	10.9	2064	13	13.2~19.8						
SU-3600	1510x375x49	3600	110, 220/380	16.3	3096	16	19.8~29.7						
SUWR-1200	1010x175x48	1200	110, 220	5.5	1032	5	3.3~6.6						
SUR-1200	1510x175x48	1200	110, 220	5.5	1032	8	6.6~9.9						
SUR-2400	1510x275x48	2400	110, 220	10.9	2064 </tr <tr> <td>SUR-3600</td> <td>1510x375x49</td> <td>3600</td> <td>110, 220/380</td> <td>16.3</td> <td>3096</td> <td>16</td> <td>19.8~29.7</td> </tr>	SUR-3600	1510x375x49	3600	110, 220/380	16.3	3096	16	19.8~29.7
SUR-3600	1510x375x49	3600	110, 220/380	16.3	3096	16	19.8~29.7						

● Models

SUR-3600 SU-3600 SUR-2400 SU-2400 SUR-1200 SU-1200 SUW-1200 SUWR-1200



SUR-600

● Components

* Same as Ceiling-Flush Mount

04 Installation Procedures

Caution before Installation

1. In case that there is any construction materials like vinyl or plastic to be deformed by heat at back of the heater, the construction materials should be away min. 20cm of distance from the back of the heater.
2. When a Ceiling-Flush Mount typed heater is installed, make sure to be cleared behind the heater.
3. Make sure not touch the heating plate in the front side of the heater. Its surface temperature ranges from 300°C to 400°C.
4. Don't disassemble a heater and modify its circuitry without permission.
5. Make sure to consult with a maker beforehand, if you want to use a heater for other purposes than its own heating purpose.
6. The ceiling mounting types should be installed on the ceiling alone.
7. Never touch the heater in use by the hand to avoid a burn.
8. Don't use the heater as a cookware for meals.
9. We are not liable for any accidents or damages caused by user's improper use or mishandling or modification or uses for other purposes than its own heating purpose.
10. There may be smell or smoke for 2 or 3 hours of operation after installation.

Installation Procedures

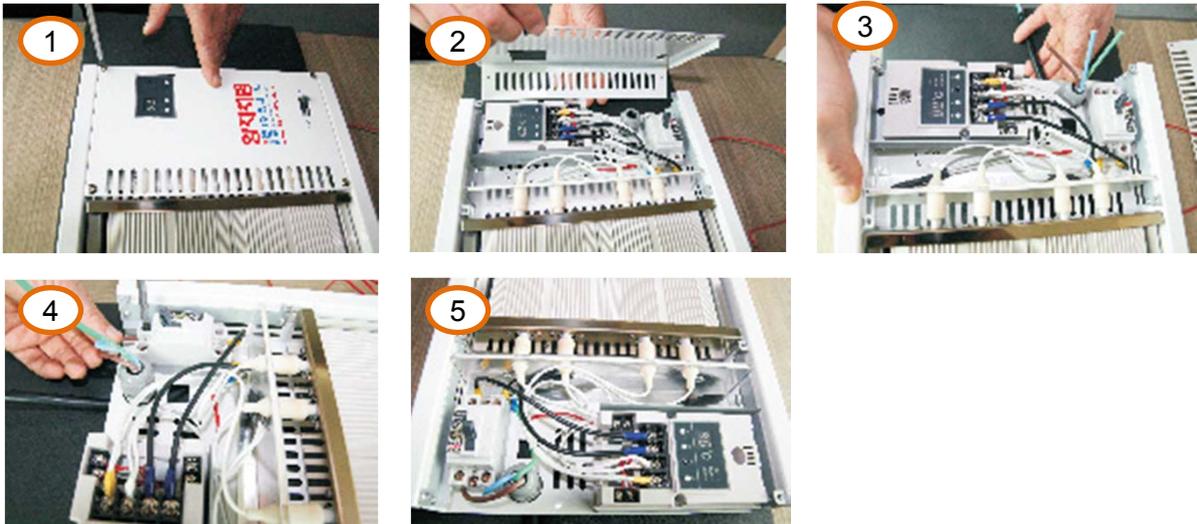
1. Check conditions of ceiling, bottom and insulation where a heater is installed.
2. Check if the ceiling is strong enough to stand weight of the heater.
3. After checking of the above-mentioned 1 and 2, decides a type and model of heater in consideration of heating area.
4. Don't install a heater directly above heads of persons to prevent direct heat from falling on the heads of persons.
5. For installation of a Ceiling-Exposed Mount Heater,
 - (a) Install two "Fixing ceiling D shaped hook sets" at a distance of 60cm.
 - (b) Hang a heater to the installed hooks using O shaped rings provided.

04 Safety Requirements and Installation

- (c) In case the ceiling is not strong enough to stand weight of the heater, use an optional Ceiling Mounting Supporter for safe installation and weight dispersion of a heater.
- 6. A correctly rated electric wire to the heaters should be used, and install an earth leakage breaker and then supply main power.
- 7. Once the installation work is completed, check again whether wiring is correct and bolts are tightened well.
- 8. After checking is done, turned on , and check whether the control unit operates properly and set temperature is displayed. And make sure if heat is emitted properly from a heater.
- 9. In principle, ceiling mounted heaters should be installed into or onto the ceiling alone. However, in case that it is forced to be installed on the wall, don't install it vertically. The heater should be installed at an angle of 45° between wall and ceiling and its face should look toward the floor.
- 10. If insulation of wall or ceiling is not good, heat efficiency would decrease and heating area would become smaller against its specified heat capacity. Thus, for heat efficiency increase, if possible, a construction for insulation increase or protection against wind is recommended.

05 Power Supply and Wiring Procedures

Power Supply and Wiring Procedures



1. As shown in the picture 1, unscrew 4 piece of bolts.
2. Keep the upper case unscratched.
3. As shown in the picture 3, insert appropriate square (SQ) electric wires to capacity of a heater into the gray colored socket from the backside of the control unit.

※ Requirements of square electric wire

SUR-600 : Over 1.0 SQ

SU-1200, SUW-1200, SUWR-1200, SUR-1200, SUR-1200-1 : Over 1.5 SQ

SU-1800-1, SUR-1800-1 : Over 2.0 SQ

SU-2400, SUR-2400, SU-2400-1, SUR-2400-1 : Over 2.5 SQ

SU-3600, SUR-3600 : Over 4.0 SQ

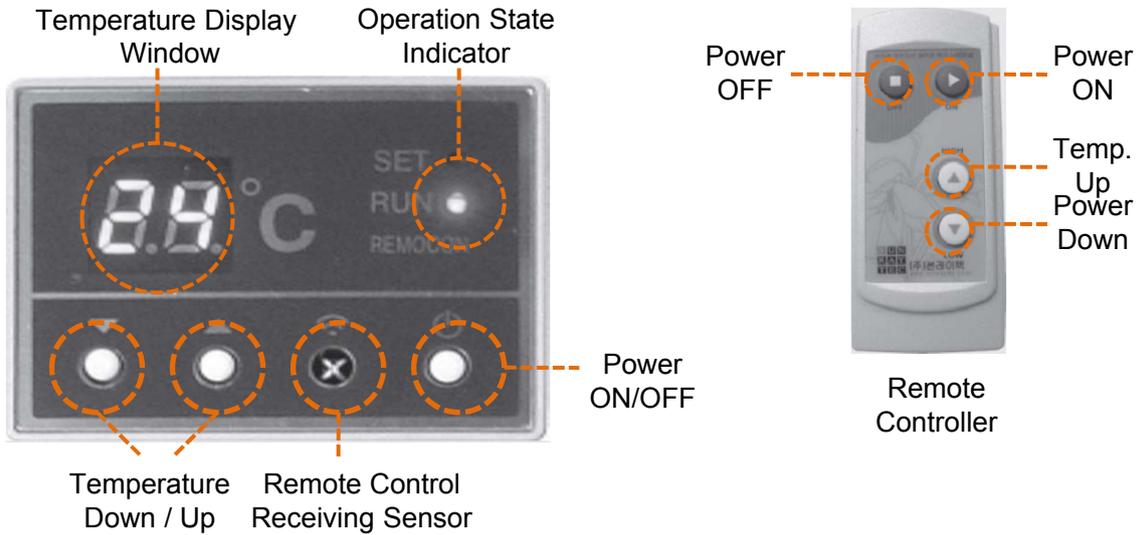


Caution : Standard electric wires should be used.

4. Discriminate inserted electric wires well and connect two wires to a No Fuse Breaker(NFB).
5. Normal ground wire color is black or green. Connect green color wire to an earth terminal.
6. Once connecting of electric wires and an earth wire is completed, close the upper case and tighten it with bolts.

06 Functions and Operation

Functions and Descriptions



Operation



Operation Setting
(26°C)



Display in Operation
(24°C)

Lamp Indication

- SET Lamp
 - This lamp turns on when you change temperature setting value or set temperature using temperature setting button. (Green light)
 - In case temperature change setting ends and there is no key operation, current temperature is displayed in 3 seconds and SET lamp blinks.
- RUN Lamp
 - This lamp turns on when a heater starts heating after power-on. (Red light)
 - RUN lamp blinks when an error happens, too.

Basic Operation

- Temperature Setting
 - Temperature displayed on the temperature display window is always current temperature. When you press a setting button or change temperature, set temperature is displayed. When there is no change of setting, current temperature is displayed in 3 seconds and is activated.
- Power Operation
 - Use to turn on or off a controller. In OFF mode, all the displays are turned off and keys are inoperable.

07 Error Messages and Wiring Drawing

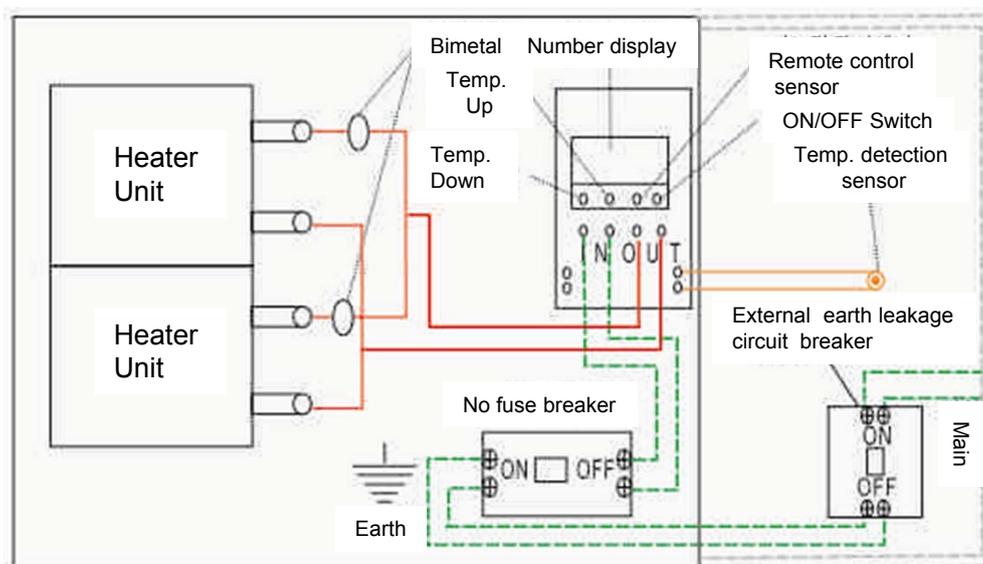
Error Messages (On Temperature Display Window)

1. Number display (Temperature detection sensor wire in the controller is cut)
 - When a present temperature is displayed with a number between 1 and 10 in the temperature display window .
 - Press the power button for 10 seconds to reset the heater.
 - If there is no change thereafter, contact a dealer for a repair.
2. ES display (Temperature sensor wire in the controller is short-circuit)
 - When “ES” is blinking without temperature display in the temperature display window.
 - Press the power button for 10 seconds to reset the heater.
 - If there is no change thereafter, contact a dealer for a repair.
3. HT display
 - “HT” displays when an overheat detection sensor inside the heater detects temperature exceeding the preset temperature.
 - Press the power button for 10 seconds to reset the heater.
 - If there is no change thereafter, contact a dealer for a repair.

※ Note : In case of ES or HT display, heating is not available.

When a problem occurs, firstly , make sure of error display and press the power button for 10 seconds to reset the setting values of a heater. If there is no change thereafter, contact a dealer for a repair.

Wiring Drawing



Limited Warranty

Limited Warranty

Sunraytec Corporation (Company) warrants that our product will be free from defects for a period of 36 months since the original date of purchase of the product, which original Buyer(s) orders directly from the Company. This warranty only applies to the original purchaser and could not be transferable to the third party. Provided the product proves defective during the warranty period, based upon different situations, The Company will either repair the defective product at own cost, or provide replaced parts in exchange of counterpart from the defective product. Parts, modules, or replaced products used by the Company in the warranty may be new or reconditioned, to assure better performance.

To obtain better service under this warranty, Buyer should notify the Company of the defects in a written form (fax, e-mail, or other similar ways) before the expiration of the warranty. Buyer is responsible for packing, and shipping the defective product to the service center / place designated by the Company, and attach with a copy of original written proof of purchase (order) as well.

This warranty is not applied to any defects, failures, or damages caused by improper operation, or improper / inadequate maintenance. And the Company will not be liable for furnishing service during the warranty under these circumstances, a). to repair the damages result from installation, or repairs, or service by unauthorized / unqualified person; b). to repair the damages result from improper operation, or improper connection with non-rated parts or wires c). to repair any damage or malfunction caused by the use of non-the Company-required / -stipulated supplies; or d). to repair a product that has been modified or integrated with other products.

For the service items not covered in this summary, or in the applicable warranty statement(s), Sunraytec Corporation will not be liable for offering guarantee service. Sunraytec Corporation will not take any responsibilities for any indirect, exceptional, or consequent damages caused towards our product by Buyer(s).

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