Far-infrared Electric Floor Heating System

PRIMAVERA NEO

OPERATION MANUAL

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Thank you for purchasing PRIMAVERA.

All of the Safety Instructions contained in this Manual must be read carefully and must be fully understood before you attempt to use your floor heating system, in order to avoid potential hazards that could cause bodily injury, property damage, or damage the floor heating system. Store this manual near a controller, for convenient future reference.

Warning!!! Follow these safety regulations below to prevent serious injury or death.

❖ Do not disassemble, modify or repair PRIMAVERA.
It could cause fire, electric shock or mechanical troubles.

❖ Do not spill any liquid on/near PRIMAVERA heating area or controllers.
It could cause fire, electric shock or mechanical troubles.

❖ Do not damage PRIMAVERA heating area or controllers on any foreign sharp objects such as nails or cutter knives.
It could cause fire, electric shock or mechanical troubles.

❖ Never leave any other strongly flammable objects such as spray cans or lighters on/near PRIMAVERA heating area.
It could cause fire or mechanical troubles.

Caution!!! Follow these safety regulations below to prevent serious injury, death and material damage.

❖ Avoid using PRIMAVERA under the certain conditions like a direct sunlight, a high temperature, high humidity, dust, inflammable gas, corrosive gas, strong vibration, shocking strike.
It could cause mechanical troubles or malfunction.

❖ Never try to clean controller’s surface with water, alcohol or any other chemicals.
It could cause fire or electric shock by short-circuit.

❖ Avoid lying down onto the floor heating system directly for a long time without attention. It could cause a skin irritation, such as a skin burn. In particular, the special attention is required when the following people operate PRIMAVERA.
• People who are not able to change their position by themselves on PRIMAVERA, or be impossible to control temperature level by own will; infants, babies, children, the disabled or the elderly.
• People who have delicate skin type.

❖ Be careful of the overheating.
Do not place high insulating materials (thick carpet) or furniture (which has no legs) onto PRIMAVERA directly; otherwise it could happen troubles due to overheating between PRIMAVERA and high insulation materials. Placing furniture having with at least 5cm legs onto PRIMAVERA would be no problems.

Refer to FAQ section (P.15 – P.16) for preventing accident.
### Names of parts and their Functions

<table>
<thead>
<tr>
<th>Items</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>➀ LCD PANEL</td>
<td>Displays current status of the various system features and functions.</td>
</tr>
<tr>
<td>➁ On Lamp(HK1)</td>
<td>Displays the operating condition.</td>
</tr>
<tr>
<td>➂ On/Off Lamp(HK2)</td>
<td>Displays the each heating zone's operating condition.(zone 1, zone 2)</td>
</tr>
<tr>
<td>➃ &quot;On&quot; button(HK1)</td>
<td>Start operating</td>
</tr>
<tr>
<td>➣ &quot;Off&quot; button(HK1)</td>
<td>Stop operating</td>
</tr>
<tr>
<td>➅ &quot;On/Off&quot; button(HK2)</td>
<td>Controls operating of each heating zone.</td>
</tr>
<tr>
<td>➆ &quot;Timer&quot; button</td>
<td>Converts &quot;Normal Operating&quot; into &quot;On-Off Time Setting&quot;</td>
</tr>
<tr>
<td>➇ &quot;Reservation/Add&quot; button</td>
<td>Controls &quot;Operating term setting&quot; function.</td>
</tr>
<tr>
<td>➈ &quot;Setup&quot; button</td>
<td>Executes various setting. Saves programmed condition.</td>
</tr>
<tr>
<td>❼ ▽△ button</td>
<td>Adjusts each condition such as time or temperature level.</td>
</tr>
</tbody>
</table>

### LCD panel

#### HK1

- **Function display**
- **Error display**
- **Operating indicator**
- **Programmed time indicator**
- **Temperature level indicator**

#### HK2

- **Child-Lock display**
- **24 hour time display**
- **Heating zone indicator**

#### Display contents

<table>
<thead>
<tr>
<th>Display contents</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>➁ Function display</td>
<td>Displays the current operating status.</td>
</tr>
<tr>
<td>➂ Error display</td>
<td>Displays when abnormal operating occurs.</td>
</tr>
<tr>
<td>➃ Operating indicator</td>
<td>Operating - ON  Operating - OFF</td>
</tr>
<tr>
<td>➄ Heating zone indicator(HK2)</td>
<td>Displays heating zone which is currently running.</td>
</tr>
<tr>
<td>➅ 24 hour time display</td>
<td>It usually displays the current time. (While Operating Term Setting) - Display the remained operating term. (While Starting Time Setting) - Displays the scheduled starting time when the user press .</td>
</tr>
<tr>
<td>➆ Temperature level indicator</td>
<td>Displays temperature levels from 1 to 7 stages.</td>
</tr>
<tr>
<td>➇ Error code display</td>
<td>Displays when the error occurs. (Refer to page 13.)</td>
</tr>
<tr>
<td>➈ Programmed time indicator</td>
<td>Displays the programmed time of &quot;On-Off Operating Setting&quot;.</td>
</tr>
<tr>
<td>❼ Child-Lock display</td>
<td>Displays when Child-Lock function is on.</td>
</tr>
</tbody>
</table>
Preparation (2)

Check the circuit breaker turns on before using the system. Turn the circuit breaker off, if the system would not be used for a long time.

Setting current time

1. Press “Setup” button few seconds.
2. Use ▼ button to get to correct time.
3. Press “Setup” button few seconds.
4. Use ▲ button to get to correct time.

- Press few seconds, while it is not operated.
- The number (hour—minutes) displays flashing.
- Setting correct time would be saved, if the user press one more time or keep it without doing anything for 60 seconds.

System Operation

Performing of “Normal Operating”

- Not operated ⇔ “Normal Operating”
  - Press “ON” button in order to switch the power on to off.
  - (Heating zone 1) Press “ON/OFF” button.
  - (Heating zone 2) Press “ON/OFF” button.

Changing temperature level

- Press while the system is running.
- Using ▼, ▲ adjust the comfortable temperature level.
  - (If it is HK2 controller, the temperature setting of each zone will be executed step by step. Repeat this procedure until temperature level of heating zone 2 is set.)
- Setting temperature level would be saved, if the user press few seconds or without doing anything for 10 seconds.

“ECO mode” (Energy saving operating)

When the temperature level is set to 1 or 2 stage, will be displayed. ECO mode operating is how to use more environmentally friendly since it is less usage of electricity.
Advanced Operation 1

“On-Off” Time Setting

Primavera is possible to set two operating time programs for each day. During “ON-OFF” Time Setting is running, the system will maintain the floor at the comfortable temperature. The user should remember that only two programs are active for each day. It will run everyday by the same time unless the user changes programs.

Performing of “On/Off” Time Setting

- On/Off” Time Setting.

Press "Timer" button few seconds.

Automatic Cut-Off function

The system operating will stop automatically after 8 hours working, therefore, the user cannot set “On-Off” Time Setting over 8 hours.

Caution

The user cannot set “On-Off” Time Setting over 8 hours, because running time is limited 8 hours by “Automatic Cut-Off function”.

Refer to demonstrations on next page.
Setting procedure – On-time of Program (1)

1. Press \( \text{Setup} \) button.
2. Adjust the time to start running.

3. Press \( \text{Setup} \) button.

Setting procedure – Off-time of Program (1)

1. The number (Off-time) displays flashing.
   Using \( \downarrow, \uparrow \), adjust time at 9:00.

2. Press \( \text{Setup} \) button.

Setting procedure – temperature level of Program (1)

1. Using \( \downarrow, \uparrow \), adjust the comfortable temperature level.

2. Press \( \text{Setup} \) button.

Setting procedure – On-time of Program (2)

1. Press \( \text{Setup} \) while “On-Off” Time Setting is running.

2. The number (On-time) displays flashing.
   Using \( \downarrow, \uparrow \), adjust time at 18:00.

3. Press \( \text{Setup} \). (Fix On-time setting. (on 2))

Setting procedure – Off-time of Program (2)

1. The number (Off-time) displays flashing.
   Using \( \downarrow, \uparrow \), adjust time at 23:00.

2. Press \( \text{Setup} \). (Fix Off-time setting. (off 2))

Setting procedure – temperature level of Program (2)

1. Using \( \downarrow, \uparrow \), adjust the comfortable temperature level.

2. Press \( \text{Setup} \).

Saving programs

1. Return to the status of “On-time” of program(1).

2. “On-Off” Time Setting would be saved if the user press \( \text{Setup} \) few seconds or keep it without doing anything for 10 seconds.
Advanced Operation 2

“Operating Term Setting”
This function allows to set the specific heating term (1 minute ~ 120 minutes) while the system is running on Normal Operating. After driving up setting operating term in advance, the system shut down automatically.

Performing of “Operating Term Setting”
- Press \[\text{\texttt{HK1}}\], while “Operating Term Setting” is running.
- Press \[\text{\texttt{SI1}}\] few seconds.

Setting procedure – Programming “Operating Term Setting”

Setting procedure – Programming temperature level

Saving programs

Advanced Operation 3

“Starting Time Setting”
This function allows reserving the “Starting Time”, while the system is not operated. The user can only set up “Starting Time” while the system is on Normal Operating - the lamp is lighting on “red (●)”. It couldn’t be set when the lamp is lighting on “green (●)” or the lamp is lighting on “off (●)” condition.

Performing of Programming “Starting Time Setting”

Setting procedure – Programming “Starting Time”

Setting procedure – Programming temperature level

Saving programs
# Troubleshooting

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| The system does not start. | Isn’t the circuit breaker off?  
Make sure the circuit breaker is ON, before it used. |
| The buttons are suddenly frozen. | Isn’t the Child-Lock function effective?  
If the icon is displayed, Child-Lock function is in effect.  
Make sure turn Child-Lock function off before it used. |
| The floor is too hot. | Is the temperature setting appropriate?  
Controller is consist of temperature level from 1 to 7 stage.  
It may be too hot, while level setting is on higher stage.  
Reduce temperature level to lower stage. |
| It is not warm enough. | Isn’t the room temperature too low?  
The user might not feel warm enough, if the room temperature is too low. Raise up room temperature until approximately 20℃ using air conditioner before running. |
| The system turns off by itself. | Is “Operating Term Setting” running?  
“Operating Term Setting” takes precedence over “Normal operating”.  
Cancel “Operating term Setting”.  
Wasn’t it working over 8 hours continuously?  
The system shuts down automatically after 8 hours running because it is limited by “Automatic Cut-Off function”. and LCD panel is displayed off mark at that time. |
| “On-Off” time setting could not be programmed. | Didn’t you attempt to set “On-Off” time more than 8 hours?  
Operating time is limited until 8 hours at once.  
Set operating time within 8 hours. |

When symptoms are not improved by the above methods, turn off. The circuit breaker immediately and please contact to IRSYSTEM Co., Ltd.

<table>
<thead>
<tr>
<th>Error code</th>
<th>Countermeasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>“F1.□” (□ signifies the heating zone number)</td>
<td>The controller has a mechanical trouble. The user should replace controller without delay. Turn the circuit breaker off immediately and please contact to IRSYSTEM Co., Ltd.</td>
</tr>
<tr>
<td>“F2, F3, F4, F5.□” (□ signifies the heating zone number)</td>
<td>It could be a mechanical trouble. After turning the circuit breaker off, turn it on again. If symptoms are not improved, turn the circuit breaker off immediately and please contact to IRSYSTEM Co., Ltd.</td>
</tr>
<tr>
<td>“F6”</td>
<td>The controller has a mechanical trouble. It is recommended replace a controller for comfort use. Please contact to IRSYSTEM Co., Ltd.</td>
</tr>
</tbody>
</table>

**Others**

In such following symptoms occur, turn the circuit breaker off immediately and please contact to IRSYSTEM Co., Ltd.

- Smoke, abnormal noise, irregular odor from the controller.
- Partly deformation, discoloration or abnormal heat of the controller.
- Spilled much water onto floor.
- Other abnormalities.
Q: Is it safe to put the carpet on the floor heating system?
A: It could cause an accident because of the overheating between the carpet and the floor heating system. Avoid placing the carpet onto the floor heating system.

Q: Is it safe to put the furniture (such as closet or the piano) onto the floor heating system?
A: If the furniture doesn’t have legs, it could cause an accident because of the overheating between surface of furniture and floor heating system. Make sure put furniture with at least 5cm legs.

Q: Is it safe to sleep onto a surface of the floor heating system directly?
A: Under certain operating conditions (such as sleeping with highly lagging clothes.), it could cause skin irritation. Avoid touching between PRIMAVERA and your skin for a long time without attention.

Q: It sounds some strange noise such as “tick-tock” in a controller. Is it a controller malfunction?
A: That sounds are happened by conversion of each setting. It is a very normal driving condition.

Q: Should it be program set again after blackout?
A: If the blackout were temporary, re-setting is not necessary. However, re-setup might be needed when it is long term blackout.

Q: Does PRIMAVERA emit electromagnetic waves?
A: PRIMAVERA emits out very tiny amount of electromagnetic waves. But it is much less than other electric devices like a television or a microwaves oven. It means there is no harm of human body. In addition, PRIMAVERA has discharged far-infrared rays which is very valid for human body.

Q: Is it safe to drop water onto the floor heating system?
A: PRIMAVERA is made of waterproof structure basically. There is no problem even if it drops small amount of water. However, if it is spilled large amount of water onto the floor heating and neglect it for a long time, it could cause an accident, possibly resulting in mechanical troubles. Do not spill any liquid onto Primavera or Controllers. If it happens, turn off the circuit breaker and please contact to IRSYSTEM Co., Ltd.

Q: Is there any tips for reducing the electric charges?
A: If temperature level is set to 1 or 2 stage (ECO mode), it could be reduced the electric charge since it is less usage of electricity. The user might not be able to feel warm enough if it runs ECO mode from the first time. But it will become warm enough due to increase in the temperature, after it is operated continuously.

Q: Is it possible to use Primavera as a main heating system?
A: If your house has been completely furnished with a perfect conditions that we offer (perfect air tightness conditions and perfect heat insulation property) it could not need other heating devices. However, we recommend raising your room temperature until approximately 20 ℃ using air conditioner before running floor heating system because floor heating system does not raise room temperature in air directly. And that will be also one good option to save electric charges.

Q: Is maintenance of floor heating system required?
A: Maintenance is not required basically. In order to last a good condition, it is recommended turning the circuit breaker off if the floor heatingsystem is not used for a long time.
### Specifications

#### Specifications of the controller

<table>
<thead>
<tr>
<th>Model Number</th>
<th>HK1</th>
<th>HK2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manner of control</td>
<td>Controls electric current amount.</td>
<td>Controls two heating zones</td>
</tr>
<tr>
<td>Display</td>
<td>LCD Panel</td>
<td></td>
</tr>
<tr>
<td>Control type</td>
<td>Control one heating zone</td>
<td>Control two heating zones</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>AC 100V/200V 50/60Hz</td>
<td>AC 200V 12A(load resistance)×2</td>
</tr>
<tr>
<td>Rating</td>
<td>AC 200V 12A(load resistance)×1</td>
<td>AC 200V 12A(load resistance)×2</td>
</tr>
<tr>
<td>Capability</td>
<td>Less than 4W</td>
<td></td>
</tr>
<tr>
<td>Temperature control range</td>
<td>Control of the 7 stages</td>
<td></td>
</tr>
<tr>
<td>Current time display</td>
<td>Displays at 24 hour formation.</td>
<td></td>
</tr>
<tr>
<td>Advanced functions</td>
<td>“ON-OFF” time setting two times for a day.</td>
<td>Reservation “Operating term” (1 to 120 min.) “Starting Time” setting</td>
</tr>
<tr>
<td>Dimensions / Weights</td>
<td>W116mm × H120mm × D50.4mm / 270g</td>
<td>W116mm × H120mm × D50.4mm / 270g</td>
</tr>
<tr>
<td>Installation standard</td>
<td>A Switch box of JIS2 standard. All opening of installation position, vertical installation.</td>
<td></td>
</tr>
<tr>
<td>Terminals</td>
<td>Non screw terminal board</td>
<td></td>
</tr>
<tr>
<td>Installation circumstance</td>
<td>-10〜40℃, 45〜85%RH (non condensation only)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Conditions after blackout : Power Off</td>
<td></td>
</tr>
</tbody>
</table>

※All the specifications above are represented based on testing standards of IRSYSTEM Co., Ltd.