

Description	Power Rating	Remarks
<b>Control</b>		
Rated Power 3 Phases	15kW AC1 (3 x 5kW)	
Rated Voltage 3 Phases	400V 3N~	
Rated Power Single Phase	9kW AC1	
Rated Voltage Single Phase	230V 1N~	
Frequency	50/60Hz	
Switching capacity per phase	21A	
Sauna temperature range	40-110°C	
Maximum session time (preset)	4, 6, 12, 18, 24h	Restrictions apply according to IEC/EN 60335-2-53
Dimensions INNOVA S types		
User Interface	(W) 180 x (H) 105 x (D) 31	
Power Controller	(W) 265 x (H) 245 x (D) 75	
Dimensions INNOVA B types		
User Interface	(W) 265 x (H) 245 x (D) 75	
Weight INNOVA S types		
User Interface	120g	
Power Controller	1500g	
Weight INNOVA B types		
User Interface	1600g	

Description	Remarks
<b>Sensor</b>	
Temperature Sensor with fuse	
<b>Bench Sensors</b>	
Bench Temperature Sensor	
Bench Combined Temperature - Humidity Sensor	Optional
<b>Cabin Light</b>	
Rating	230 V 1N~ 100W AC1

# INNOVA CONTROLS



## INSTRUCTIONS MANUAL



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## Introduction of the Innova Controls

Congratulations on your purchase of Innova Control Unit!

Innova Control Unit is developed to enhance your sauna bathing with a variety of features. It can adjust temperature, control lights and door (option) and have intelligent pre-heating mode. The Innova Control Units are available on a separate or built-in mounting on the Power Controller Board.

The following information provides you with instructions on adjusting the settings of the control unit. Please, read this instruction manual carefully before using it. Familiarization of key functions will give you a more enjoyable sauna experience.

### Precautions

1. Only a qualified electrician is allowed to make electrical connections and repairs on the unit. Use original parts only.
2. Disconnect the Power Controller Board and the Contactor Unit from the electrical circuit before installation and repair.
3. Check power supply rating before installation.
4. Check the correct location of the sensor in the installation section of the manual. It is very important to place the temperature sensor correctly as its closeness to the air ventilation cools down the sensor and may lead to overheating.
5. The control unit can be operated on a room temperature 0-40°C. Do not install the control unit inside the sauna room!
6. Do not pour water in the sauna control or clean it with wet cloth. For cleaning purposes, use a cleaning cloth that has been only slightly moistened with a mild soapy solvent (dish detergent).

## 2 Directions of Use



### 2.1 Power - Up

Power  
"ON / OFF"



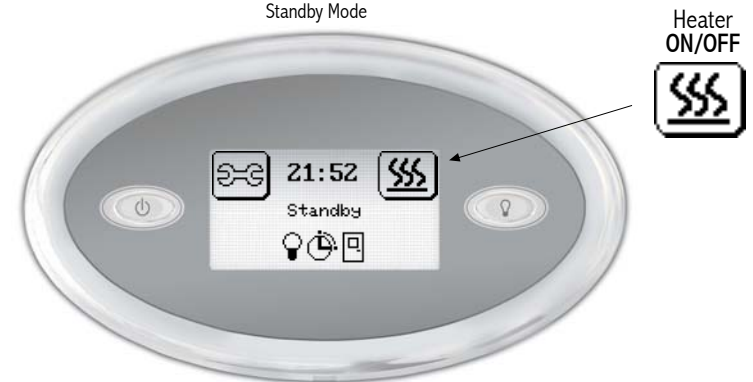
When the control unit is in "Off" mode and on/off button is pressed, it will automatically switch on the power. The SAWO logo is displayed for 2 seconds.

Then, the control unit will go to standby mode, where you can switch the heater on or change any of the settings.



### 2.2 Switching the Heater On / Off

Standby Mode

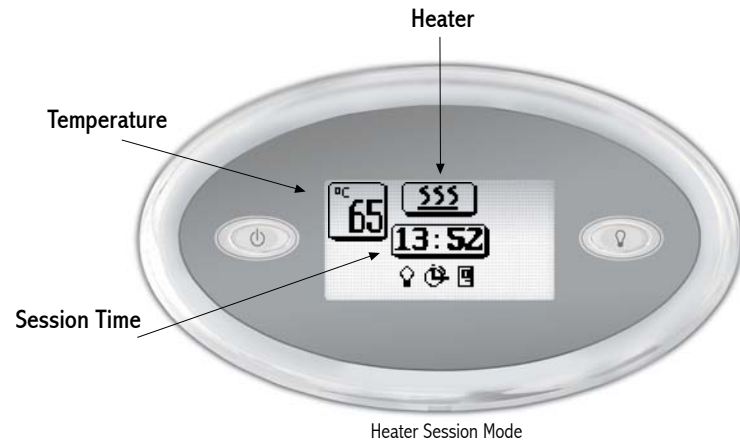


1. The heater can be switched on by pressing the heater icon in standby mode.
2. When the heater is switched on, the set sauna room temperature is blinking in the display for 3 seconds.
3. Then the actual sauna temperature will be displayed.
4. Turn the heater off by pressing power ON/OFF button on the left side of the screen. The display will return to standby mode.



Always check that there are no combustible materials, like towels, above the heater, nor inside the safety distances, before switching the heater on! The safety distances are stated in the heater manual.

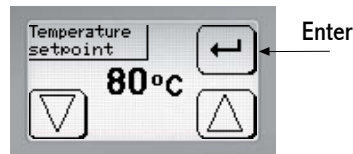
Once the heater has been switched on, "Session" mode will be displayed. The user can change the settings simply by pressing the relevant icon on the display and using the up and down arrows.



### 2.1.1 Temperature

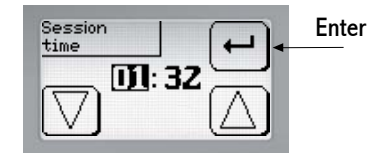
Press the temperature icon to change the temperature with up and down arrow keys. After setting the preferred temperature, user can go back to the previous menu with saved settings by pressing the enter button.

If no keys are pressed within 5 seconds pressing the temperature button, the actual temperature in the sauna room is displayed again and changes are discarded.



If the temperature is changed within the first 5 minutes after starting, the set temperature is saved as a start value for the next session.

### 2.2.2 Session Time



Press the session time icon to change it with up and down arrow keys. After setting the preferred session time, user can go back to the previous menu with saved settings by pressing the enter button.

If no keys are pressed within 5 seconds, the remaining session time is displayed again and changes are discarded.

When the session time expires, a high tone buzzer notifies the user. Then the control unit goes to "Standby" mode.

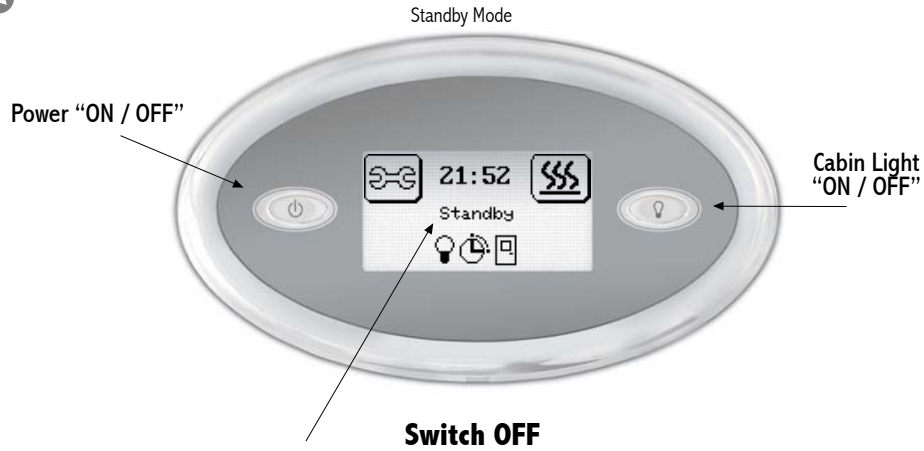
The session can be finished earlier than originally set by pressing the on/off button. If the session time is changed within the first 5 minutes after starting, the set values are saved as a start value for the next session.

The control unit goes to "Standby" mode.

If the user attempts to put an invalid input, short, low tone buzzer can be heard to alarm the user.



## 2.3 Switching the Control Unit OFF



In order to switch the control unit Off, the control unit must be in the "Standby" mode! When On/Off button is pressed in another mode, control unit goes to Standby mode.

The on/off button needs to be pressed shortly, less than 3 seconds, to switch the unit on or off.



NOTE

When the control unit is switched off, the timer will not be activated. However, all the set values will remain in the memory. Leave the control unit in the "Standby" mode if the timer is wished to be used!

### Cabin Light

Cabin lights can be switched on and off by pressing Cabin Light button even when the control unit is off.

If Power on/off button is pressed while the lights are on in the cabin "Cabin lights on" text will be displayed. Press Cabin Light

button to switch the lights off and to turn off the control unit.

When cabin lights are on light bulb icon is displayed



## 2.4 Pre-run Timer

Standby Mode

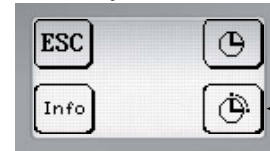


### 2.4.1 Pre-setting the sauna before use



Press the configuration icon in the "Standby" Mode to go to the "Configuration" Mode. Then press the Pre-run Timer icon to switch on the timer.

Configuration Mode



### 2.4.2 Pre-run Timer

The Innova Touch control unit has a weekly timer that can be programmed for every day of the week. This feature is only available for

public saunas, used in condominiums, hotels or similar places.

### 2.4.3 Pre-run Timer for Domestic Sauna

For domestic sauna use, the weekly timer is not allowed\*. Only one pre-heat timer setting can be made at a time. The pre-run time is limited to a maximum of 5 hours.

After pressing the timer icon in the "Configuration" mode, the following display will be shown displaying existing pre-run settings.

\* IEC 60335-2-53



WARNING

Always check that there are no combustible materials, like towels, above the heater, nor inside the safety distances, before switching it on! The safety distances are stated in the heater manual.

Timer Mode - Off State



NOTE

Before using Pre-run timer make sure that the time and date of the control unit are correct. See Changing The Settings / Time and Date

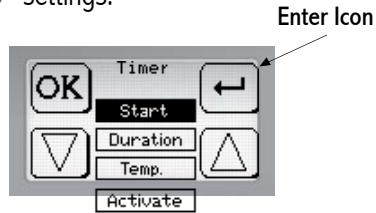


NOTE

By Default, the Pre-run Timer is set for Domestic Sauna use.



The hammer icon is used for changing the settings.



If any pre-run setting needs to be changed push of the hammer icon opens up the settings display (see the picture). Choose the feature using arrow icons and press then enter to open up the setting display for that feature. Change parameters with arrow icons and confirm by pressing enter.

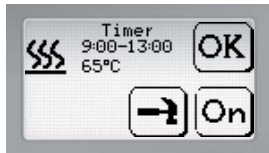


The start time means the time the sauna is ready to use, therefore the heater is switched on before the set start time. When the heater is switched on the countdown time for the start time will be displayed.



Please note that the start time needs to be set before the duration.

Timer Mode - On State



In the "Timer" mode, the user can double-check all the functions and set values.

If the ON icon is displayed, it means the pre-run time is activated for the set values shown in the display. If the ON icon is pressed, it will switch to OFF, inactivating the pre-run timer. The set values will be stored for the next session.



When the OK icon is pressed, the unit will go back to the "Standby" mode.

If the Timer was set to "ON" mode, the "Standby" mode will display the symbol for timer.

If the OFF icon is pressed, the control unit will activate the timer and display the corresponding ON icon.

Standby Mode with Pre-run Timer symbol



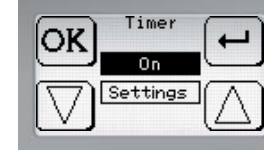
Pre-run timer activated

## 2.4.4 Pre-run Timer for Public Saunas with Weekly Timer

Weekly timer is available only when maximum session time is set for 12 hours or more (see more on maximum session time chapter).

When maximum session time is set for 12 hours automatic restarting of the heater using timer is not allowed during the following 6 hours of previous heater shut down. (IEC 60335-2-53)

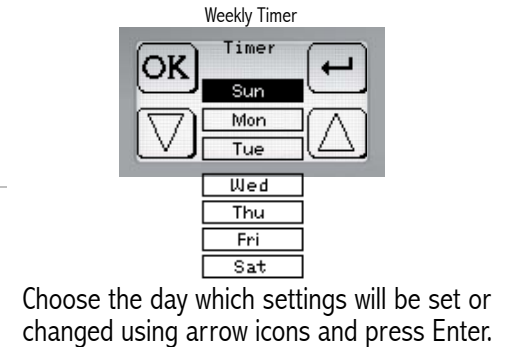
Timer Setting Mode for Weekly Timer



After pressing the timer icon in the "Configuration" mode, user can see the following display for the weekly timer.



To activate the timer weekly preset values must be set (see Settings chapter below for details).



To return to Configuration mode display press OK icon.

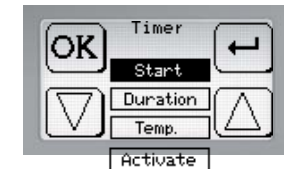


The values for the weekly timer can be set in timer mode. Press "Enter" icon when the Settings is selected.



The hammer icon is used for changing the settings.

Timer Mode - Off State



In "Timer" mode push of hammer icon open up settings display (see the picture). Choose the feature using arrow icons and press then enter to open up the setting display for that feature. Change parameters with arrow icons and confirm by pressing enter.

Choosing the Activate icon and then Enter, Pre-run will activate with set values.

OK icon will return the display to standby mode.



In the “Timer” mode, the user can double-check all the functions and set values.

If the ON icon is displayed, it means the pre-run time is activated for the set values shown in the display. If the ON icon is pressed, it will switch to OFF, inactivating the pre-run timer. The set values will be stored for the next session.

If the OFF icon is pressed, the control unit will activate the timer and display the corresponding on icon.

**NOTE** The start time needs to be set before the duration.



When the OK icon is pressed, the unit will go back to the “Standby” mode.

If the Timer is activated, the “Standby” mode will display the symbol for timer.

#### 2.4.5 Countdown for Pre-heat



When the control unit turns the heater on upon pre-set time, pre-heat countdown mode will be displayed. Once the set Pre-heat time has finished, high tone can be heard and backlight in the display will be switched on to mark sauna ready for use. Unit will go to Heater / Steamer On mode.

During Pre-heat mode, the heater is turned On.

**NOTE** When the control unit is switched Off, the timer will not be activated. However, all the set values will remain in the memory. Leave the control unit in the “Standby” mode if the timer is wished to be used!

#### 2.4.6 More about Pre-run Timer

When the pre-run function is used for the first time, it estimates the time that the heater needs to reach the set temperature in the sauna room. For example, if the pre-run time is set to 2 hours, the heater will be switched on in 1.5 hours.

If the sauna has not reached the set temperature by the in 30 minutes, control unit will remember that. Pre-set time, in this case in 30 minutes, control unit will remember that. Next time the pre-run function is used, the heater will be switched on earlier, for example 50 minutes before the end of the pre-run time.

Alternatively, if the heater reaches the set temperature too quickly, it will adjust itself to be switched on later. The control unit teaches itself to switch the heater on at the ideal time in order to reach the set temperature when wanted.

When the pre-run time has expired, there will be a high tone for 5 seconds to notify the user that sauna is ready for use.

Pre-run or Pre-heat can be canceled by pressing Power on/off button. The control unit will go off or to “Standby” mode respectively and the heater will not be activated.

**NOTE** If door switch is connected, and door is opened when timer is activated, timer will be deactivated.

During Pre-heat and Sauna Session, opening the door is allowed and timer stays active.



## 2.5 Changing the Settings

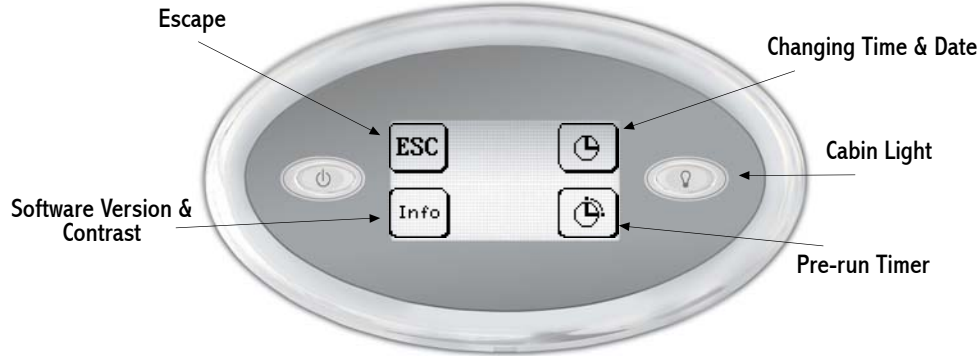


### 2.5.1 Configuration Icon



The settings for the control unit can be changed in the "Configuration" mode. When the configuration icon is pressed, in "Standby" mode "Configuration" mode will be displayed.

Configuration Mode



### 2.5.2 Time and Date

Press the top right-hand clock to set the time and date. Use the arrow keys to change the parameters and confirm with the Enter button. Return to the "Configuration" mode by pressing ESC icon.

The Pre-run Timer can only be enabled when time and date are set. If the user tries

to activate it before these parameters are set, "Parameter not set" is displayed for 5 seconds.



### 2.5.3 Escape

Press the ESC button to go back to "Standby" mode.



### 2.5.4 Software Version

Pressing Info icon software versions will be displayed.

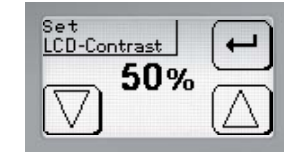
Two software versions are displayed, first one is for the user interface and the second one for the control board.



After 2 seconds



The LCD contrast can also be set in the "Info" sub-state by pressing the LCD button and using the up and down arrow keys.



## 2.6 Other Innova Control Features



### 2.6.1 Key Lock

The keypad lock can be activated and deactivated in the "Standby" mode by holding down the configuration button for 10 seconds or more. Activation or deactivation is confirmed by a high beep and "Lock ON" or "Lock OFF" message in the display.

When key lock is activated only heater on/off and cabin light functions can be

used. If other buttons are pressed, display will show "KEY LOCK" for 5 seconds.

When the control unit is switched on, the key lock will be reactivated automatically if it was activated during the previous operation.

### 2.6.2 Low Battery

When the battery in the control unit needs to be changed, "Low battery" message will be displayed every minute for 5 seconds.

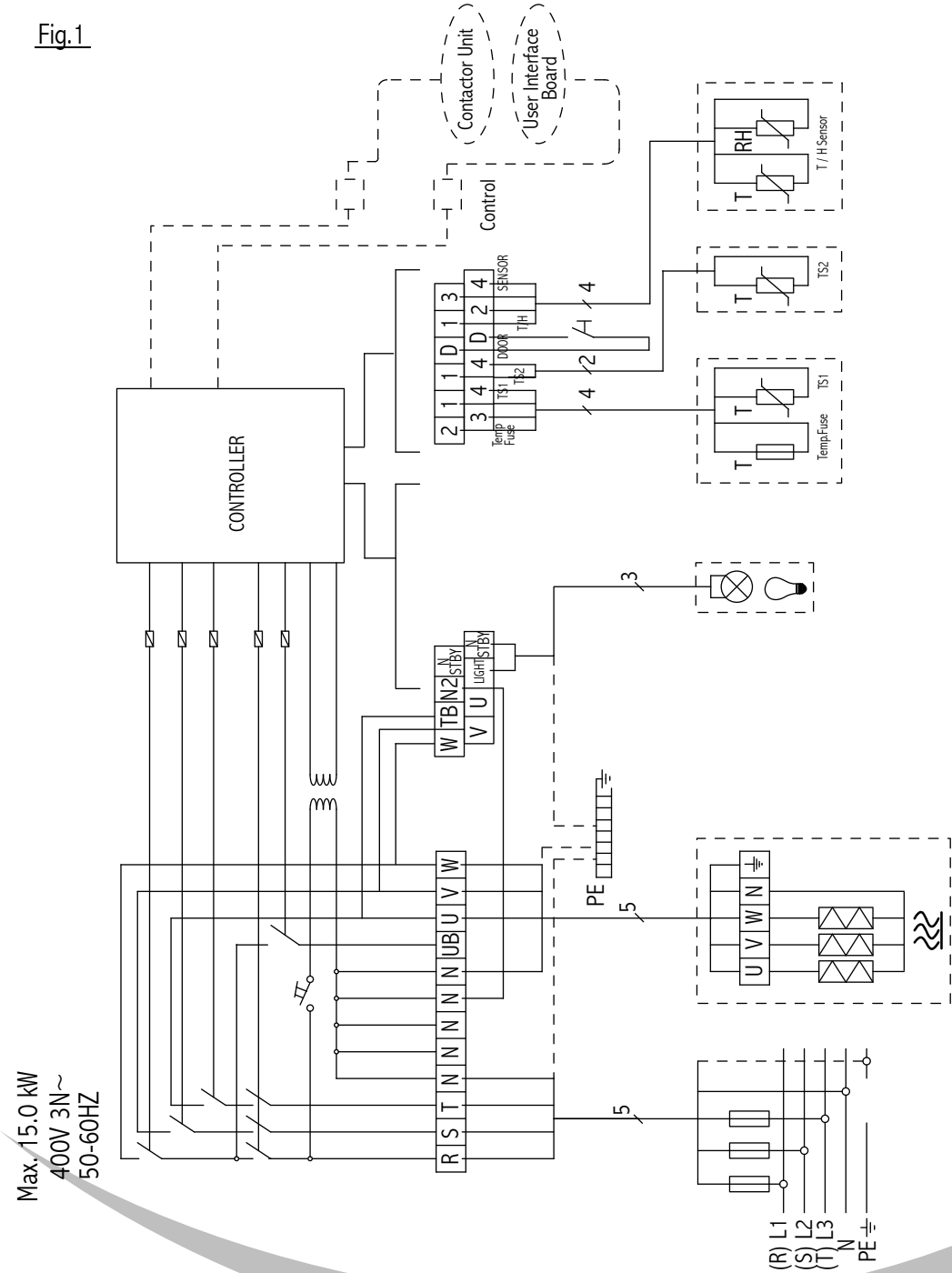


### 2.6.3 Up and Down Arrow Keys

The Up and Down Arrow Keys are repetitive. This means that holding down the up or down key will cause the set-point value to increase or decrease with a specific rate. This rate also increases when holding the key for a longer time.

## 3. Technical Diagram

Fig.1

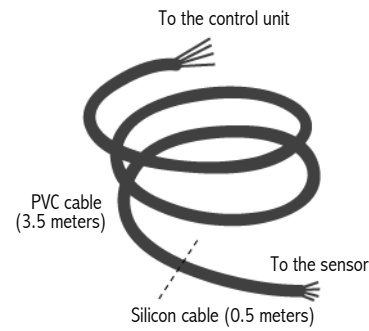




Make sure you mount the temperature sensor with the fuse, above the heater following the instructions given in the Sensor section!

The optional bench sensor, needs to be mounted on the wall, opposite to the heater, close to the shoulder height of the sauna goers. Do not place the second sensor above the heater! Do not surface mount PVC cable inside the sauna room. For that purpose silicon cable is available upon request.

For safety reasons, please follow the instructions!



## 4. Assembly and Installation

The Innova Control Unit consists of the Innova control panel (Separate or Built-in), Power Controller and Sensors. The control panel and Power Controller communicate by using a RJ12 cable.

The Innova Control Unit is designed to monitor and regulate the functions of the electric heater and steamer \*(not all models), maintaining the settings programmed by the user.

### OPTIONAL BENCH SENSOR

Sensor Fig.2

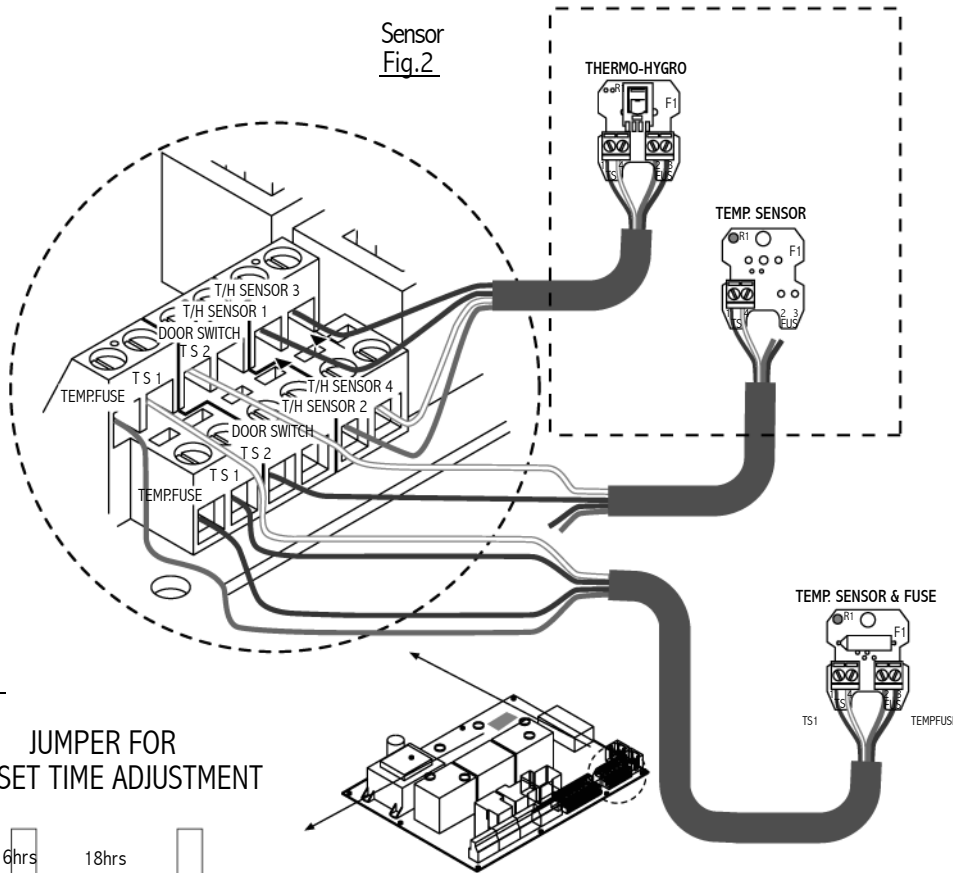
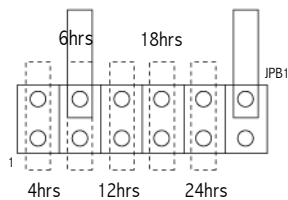


Fig.3

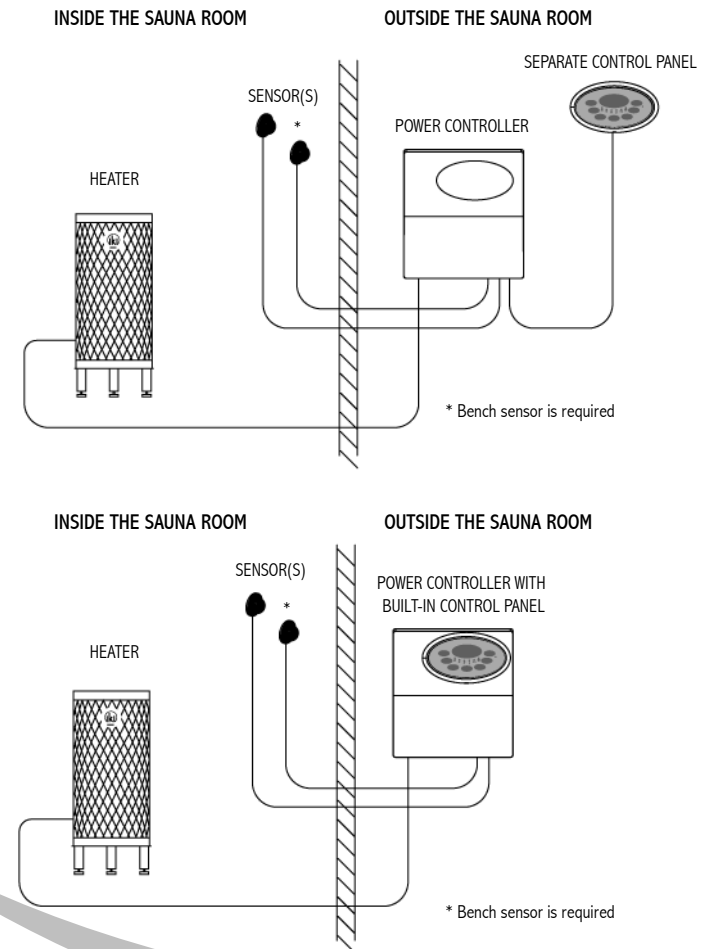
### JUMPER FOR PRESET TIME ADJUSTMENT



By changing the place of jumpers, you can adjust the session time and pre-run time

### 4.1 Control to Heater Connection Diagram

Fig.4



## 4.2 Power Controller

The power controller or the separate control panel must not be located inside the sauna room or in places where temperature can exceed 40°C. It is protected against water splashes, however it should not get in contact with water. Mount the controller board on a dry location, outside the sauna room.

Install the Power Controller Board on the wall in vertical direction only and at least 30cm from the ceiling (refer to Fig.5).

Electrical supply cable of H07RN-F or equivalent has to be used to connect the controller board to the heater.

Fig.5

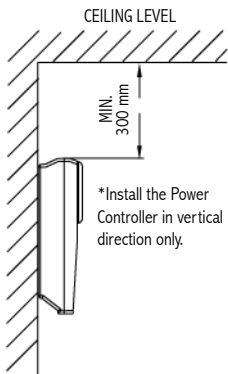
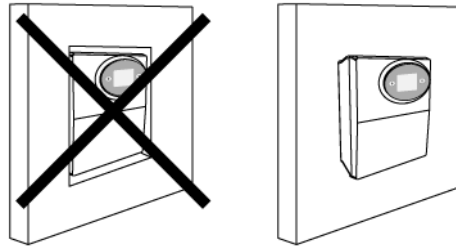


Fig.6



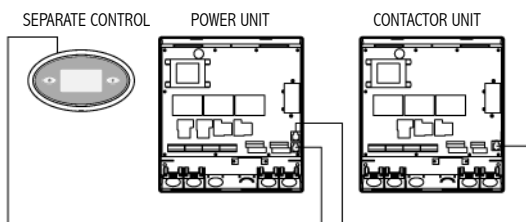
Do not embed the control unit into the wall, because it may lead to overheating of the unit and cause damage!

## 4.3 Contactor Unit

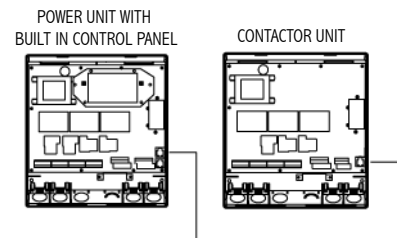
If the heater used is more than 15kW, an additional contactor is needed. The contactor unit is linked to the main Power Controller Board with a RJ12 cable (Fig.7).

Fig.7

### Installation for Separate Interface with Contactor Unit



### Installation for Built-in Interface with Contactor Unit



## 4.4 Sensors

One or two sensors can be connected to the power controller. The first sensor measures the temperature, it is the sensor with temperature fuse and thermistor.

The second sensor, the optional bench sensor, is a temperature sensor or combined temperature humidity sensor. The combined sensor is capable of measuring the humidity as well as the temperature.

With two sensors it is possible to receive more accurate measurements from the sauna room.

If the heater is floor standing model and less than 200 mm from the wall place sensors as describe in figure 8.

If the heater is over 200 mm away from the wall place sensors in the ceiling as described in figure 9.

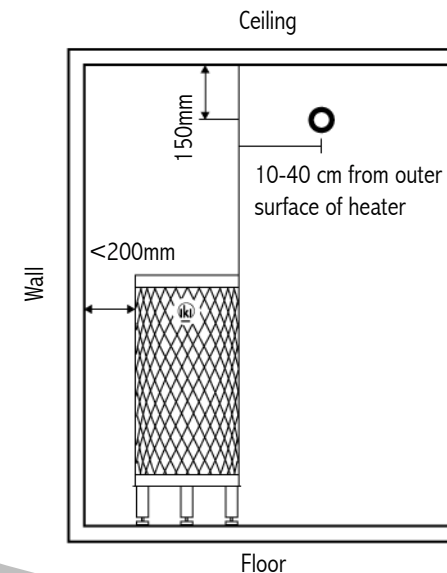
If the heater is placed on the floor, but is less than 200mm from the wall, follow the same guidelines than wall-mounted heater (fig 8).

The optional second sensor should be mounted on the wall, opposite to the heater, minimum 30cm from the ceiling and minimum 130cm from the floor (fig 8). It is designed to measure the bench temperature, so ideally place it close to the shoulder height of the sauna goers.

Do not place the sensors near the air ventilation. The closeness of the air vent cools down the sensor. Thus, an incorrect temperature is displayed and the heater may overheat (Fig.11).

### Sensor location with heaters mounted near the wall

Fig.8



**Sensor location with heaters mounted on the floor more than 200mm from the wall**

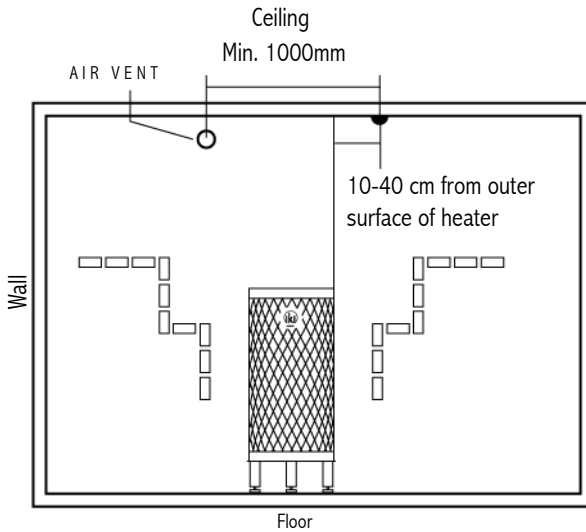


Fig. 9

**Note**

Do not place the sensors too near to air ventilation (not under 1000mm) or not under 500mm from air ventilation, which is directed away from sensors.

**4.5 Maximum Session Time**

The maximum sauna session time depends on the purpose of the sauna. For domestic use, the total on-time of the sauna is limited to 6 hours. It includes pre-run time and the session time. The factory setting for the control unit is 6 hours.

The weekly timer is only allowed for hotels, condominiums and other public saunas. If the maximum session time is set for 12 hours and weekly timer is used, the heater must have a minimum 6 hours of inactivity in between session (IEC 60335-2-53).

For condominiums, hotels and similar locations, the operating period of the sauna heater is limited to 12 hours, including the pre-run time and the session time.

The maximum heater on-time is set by the jumpers on SCB1 in the power controller. The standards and regulations of the country where the control unit is installed must be followed, when setting the jumpers. When no jumpers are placed, the default time is 6 hours. See the Table 1.

For public sauna, the operating period of the sauna heater can be either 18 or 24 hours. Please note, if the public sauna is set to 24 hours, it will be on constantly. It needs to be continuously attended.

**NOTE** If you need to change the settings in the build-in interface, removing the display board helps.

Table 1

Sauna Type	Domestic sauna		Hotels, condominiums	Public sauna	
	1	2	3	4	5
Jumper					
Max. time	4h	6h	12h	18h	24h
Max. pre-run time	3h	5h	Weekly timer		

**4.6 Door Sensor**

In other than house hold use, it is recommended to install door sensor. The door sensor disables all pre-run operations if the door is opened while the pre-run countdown is active.

door is open for more than 15minutes, an alarm and “DOOR” will be displayed to warn the user. The heater will be switched off automatically.

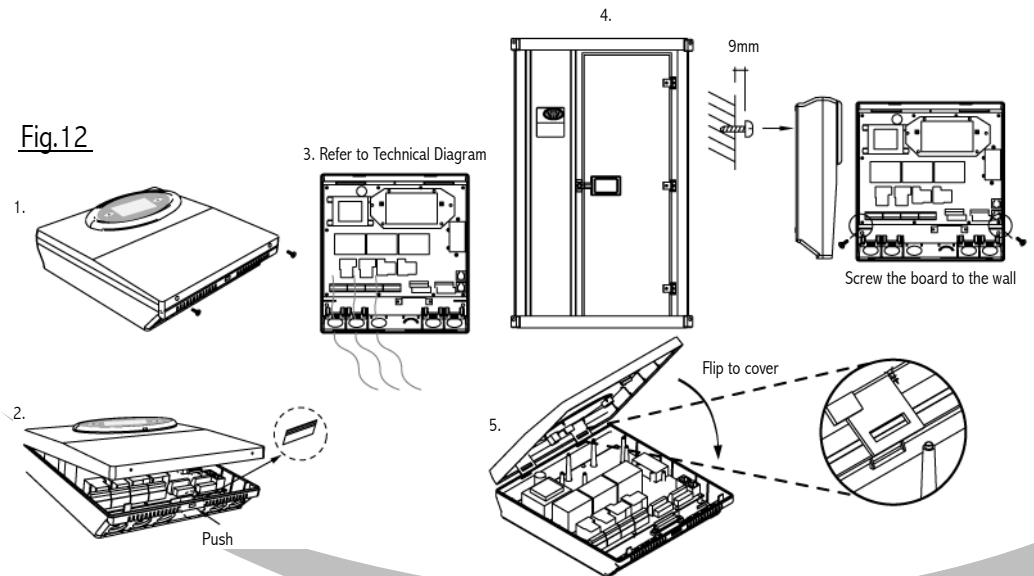
The door sensor also ensures that the door is not open for long periods of time when the heater is on. If the heater is on and the

**4.7 Installation of power controller with built in control panel (See Illustration)**

Follow the steps how to attach the power controller on the illustration below.

1. Unscrew two screws from the top cover.
2. Remove the plastic cover of the unit by pushing the front lock through the hole in the chassis.
3. Insert the designated wires to corresponding terminals. See Diagram.
4. Drill holes for the screws on the wall to attach the power controller. Install the power controller in vertical direction only. Follow the measurements given.
5. Cover back the power controller after the wiring connections have been made by snapping the front lock. Screw the two screws back to the top cover.

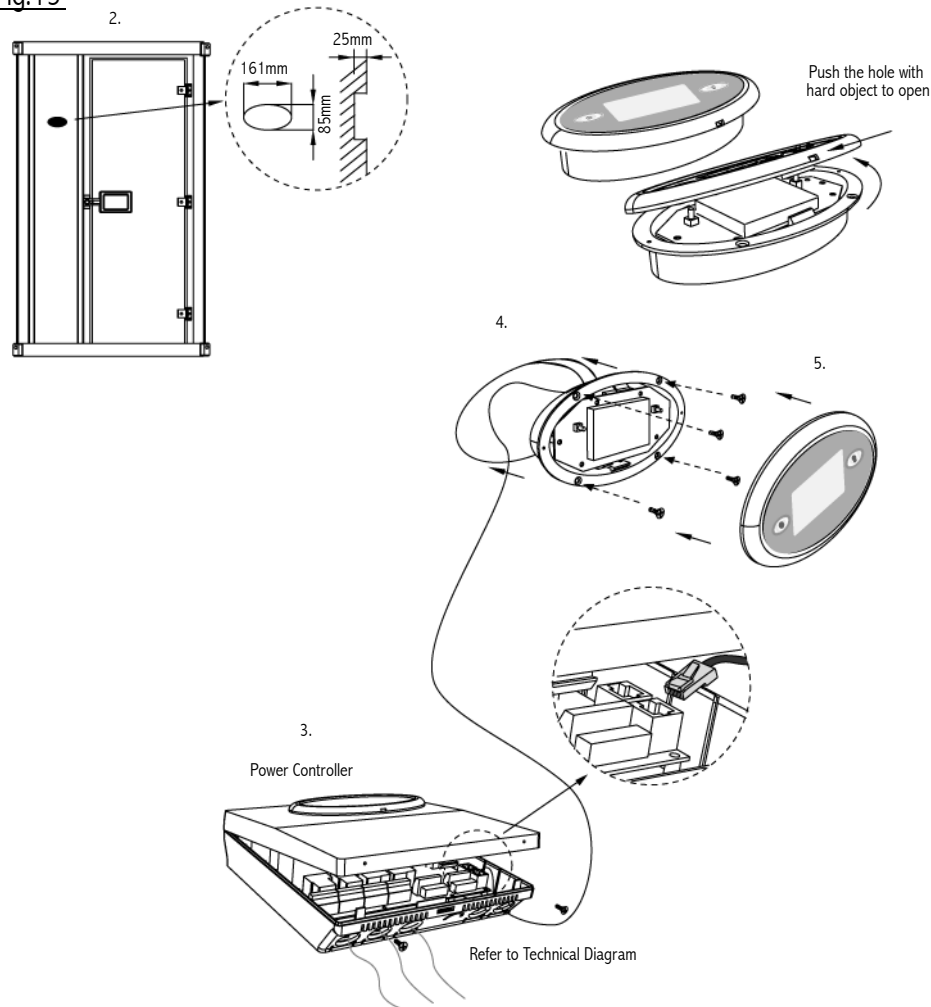
Fig.12



## 4.8 Installation for Separate Control Panel (See Illustration)

1. Mount the Separate control panel casing outside the sauna room, on any preferred, secure area on a room temperature.
2. Cut the wall section according to the specifications.
3. Connect the RJ12 cable provided from the control panel to the Power Controller. See Fig. 13.
4. Insert the casing on the cut section.
5. Screw the interface to the wall on the holes provided.
6. Snap the top cover of the control to its place.

Fig.13



## 5. Troubleshooting

If an error occurs, the heater will be switched off. There will be a high tone warning beep for 2 seconds. Text "ERROR" will be blinking in the display with the error description. See more details on the table below.



Table 2

Code	Problem	Solution
E1	Temperature sensor 1 is not connected.	Check the wire between the sensor and the control unit.
E2	Temperature sensor 1 is short circuit.	If there is no problem with the wires and they are correctly installed, check the sensor. If no reason for the problem can be found, contact the retailer.
E3	Temperature fuse has blown.	Check the wire between the sensor and the control unit. It has probably overheated. The reason for it needs to be discovered before using the sauna again. A new sensor is needed. If no reason for the problem can be found, contact the retailer.
E4	Not in IKI Touch model	Check the wire between the sensor and the control unit.
E5	Temperature sensor 2 is short circuit.	If there is no problem with the wires and they are correctly installed, check the sensor. The heater can still be used with the sensor 1 only, but 2 sensors are needed for the steamer*.
E6	Combined Temperature / Humidity sensor is defective.	If no reason for the problem can be found, contact the retailer.
E7	Communication failure.	Check the RJ12 cable. If the area where the cable is located has many other cables, it can cause EMC problems. If no reason for the problem can be found, contact the retailer.
E8	Temperature is greater than the maximum temperature.	Contact qualified electrician or maintenance personnel before using the sauna again.





\* Not in IKI Touch model

## Other possible problems are:


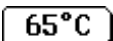

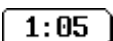











- The control unit is working fine, but the heater does not turn on. Check the electricity supply to the heater. Check that the wires for the sensors are placed into the correct terminals in the power controller.
- The control unit cannot display the relative humidity\* (only when the combined sensor is installed). The combined sensor cannot be recognised. The wires for the sensor are placed in the wrong terminals.
- Control unit does not turn on and clicking sound can be heard. Check that the N2 in jumper is connected with the N (refer to Technical Diagram).
- While pressing the "power on/off" button to switch on the control unit nothing happens or the software version/logo is displayed shortly. The problem may be low battery that does not enough power to display "Low battery". Change the battery inside the controller.
- "Door open" symbol is displayed with high warning tone, when door sensor is not installed. - Check that "Door switch" terminals are connected with each other by wire in the power controller. (See fig. 2/Sensors. Note that the connection is not present in the drawing.

## 6. Symbol Reference

### Keys

	On / Off		Configuration
	Cabin Light		
	Sauna session		

### Indicators

	Cabin light on		65°C	Set temperature
	Pre-run timer mode		1:05	Remaining time – session, pre-run
	Cabin door open			
	Timer On		Info	Go to "Info"
	Timer Off		ESC	Go to previous screen
	Enter, OK			Pre-run Timer
	Increase the value			Set time and date
	Decrease the value			Change settings