INNOVA
CONTROLS

INSTRUCTIONS MANUAL

ENGLISH

IKI CLASSIC

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INN_ML(En0109)

Table of Contents

1. 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 interactive tasks. With IKI Classic -model you can adjust temperature, session time and light. The Innova Control Units are available on a separate or built-in mounting on the Power Controller Board.

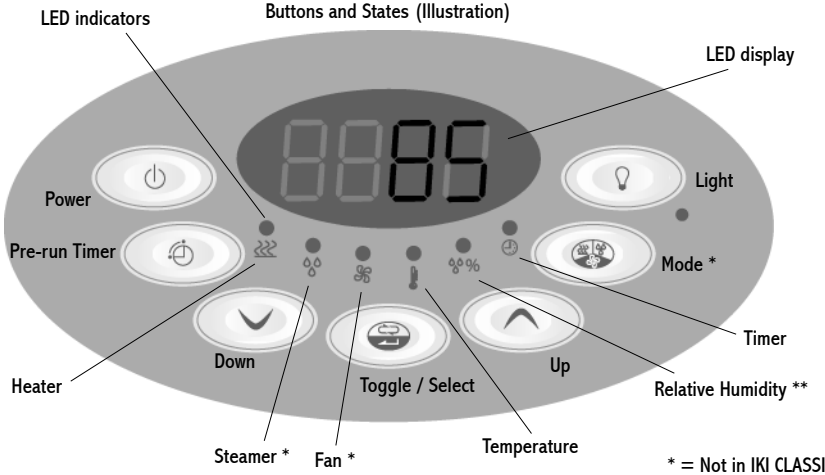
The following information provides you with instructions on adjusting the settings of the control unit. Please, read this instruction manual carefully before using it. Familiarization of key functions and easy usage will give you a more enjoyable sauna experience.

1.1 Precautions

1. Only a qualified electrician should make the 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 when installing and repair.
3. Check power supply rating when installing.
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 it closeness of 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 on the sauna control or clean it with very wet cloth. For cleaning purposes, use a cleaning cloth that has been only slightly moistened with a mild soapy solvent (dish detergent).

* For illustration purposes only.

Buttons and States (Illustration)



* = Not in IKI CLASSIC model

** = Optional

2. Operating Instructions

2.1 Quick Start

1. Switch the power “ON”. First the software versions will be displayed. Then set temperature will be displayed for 5 seconds. Finally the actual temperature inside the sauna room will be displayed.
2. Short press the toggle button to see the actual values for the different functions: temperature, session time and humidity* (not all models). The corresponding LED will light up.
3. To reset the values, long press the toggle button.
4. Now the corresponding LED is blinking faster. Use the up and down arrows to select the desired function.
5. Confirm the settings by long pressing the toggle button. If no keys are pressed after 5 seconds, the control unit will confirm the changes automatically.
6. You can move from one parameter to another by short pressing the toggle button.
7. It usually takes around 45-75 minutes for the sauna to get warm. After this you can start to use your sauna.

2.2 Directions of use

2.2.1 Heater on

Press the on/off button to activate the heater. The heater LED is illuminated indicating that the heater is turned on.

The sauna will heat up to the temperature of the previous setting and operate for the length of previous session time, if the changes made were confirmed within the first 5 minutes of switching the heater on. Changes can also be made now to the previous settings.

Warning

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

2.2.2 Heater off

Turn the heater off by pressing the on/off button. This button will turn off all the active functions, including the pre-run session. However, the light will not be switch off, it can be used in "OFF" mode as well as the pre-run button.

2.2.3 Pre-run button

Pre-run button works only on the "OFF" mode. It enables changing of the settings for the sauna room before using it.

Set the pre-run time by pressing the button. It will show the time when the sauna will be ready, the up and down arrow keys can be used to change the pre-run time.

Next, set the temperature, and session time. Finally press the toggle button for long to confirm.

When the control unit is in the pre-run state, it will display the remaining time of the pre-run. The confirmed pre-run settings are saved for the next session.

When the pre-run function is used for the first time it estimates the time that the heater needs to reach the set temperature. 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 time is meant to be ready, in this case 2 hours, it will remember this. Next time the pre-run function is used, the heater will be switched on earlier, for example 1 hour 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.

The pre-run function has different settings, depending on the installation made.
For domestic use, the default time is 6 hours, including the pre-run time as well as the session time. See more details in the installation section of the manual.

Warning

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

2.2.4 Setting Mode

Long press the toggle button to go into setting mode. It can be used to select and adjust the temperature, and the session time. Corresponding LEDs will be blinking on each selected features. Set the values by pressing the up and down buttons.

Save the settings by long pressing the toggle button, a high beep will confirm it. If no keys are pressed after 5 seconds, the control unit will save the settings.

2.2.5 Cabin Light Button

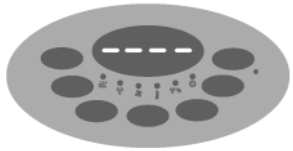
Cabin light can be switched on, even when the sauna is not used. Short press the button and the lights will be switched on/off.

LED for the light indicates if the light is switched on or off.

2.2.6 Key Pad Lock (to prevent unauthorised people from using the control unit)

Lock the key pad by pressing the up and down arrow keys at the same time for more than 5 seconds. A high beep will confirm the activation and the deactivation.

Any settings cannot be changed whilst the keys are locked. The only functioning keys are the on/off, cabin light buttons and toggle button to see the actual values, not to change them. If other buttons are pressed, "----" is shown in the display.

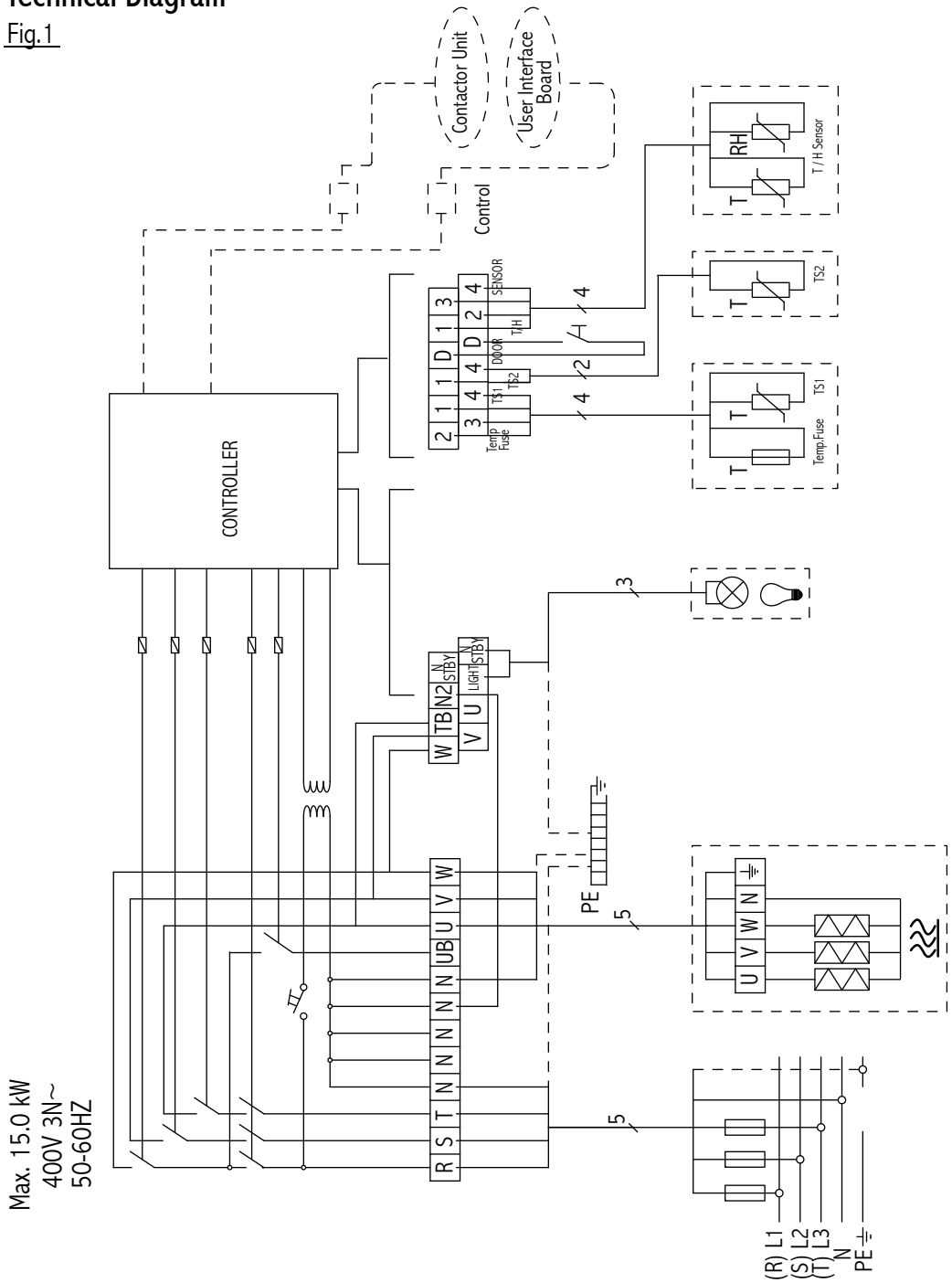


Unlock the buttons by pressing up and down arrow keys at the same time for more than 5 seconds. A high beep will confirm it.

The key lock function is set automatically if it was activated during the previous operation.

Technical Diagram

Fig.1



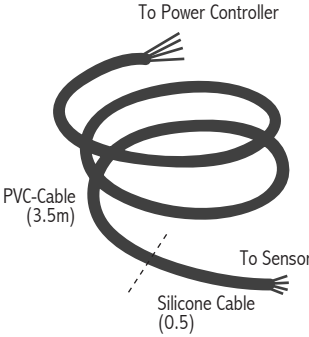
Please Note:

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, temperature sensor or combined temperature humidity 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!

Temperature sensor cable consist of two different materials.Install the silicone insulated head of the cable to the temperature sensor.

For safety reasons, please follow the instructions!



OPTIONAL BENCH SENSOR

Fig.2

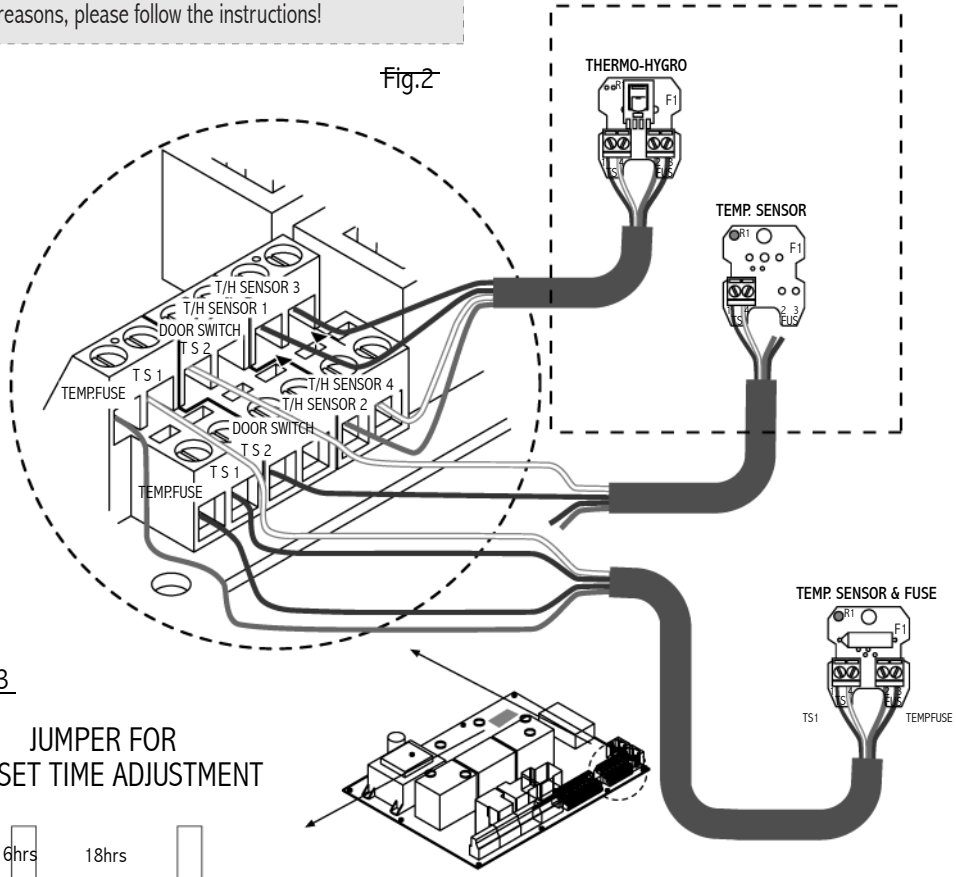
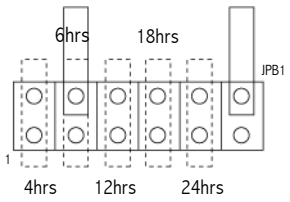


Fig.3

JUMPER FOR
PRESET TIME ADJUSTMENT



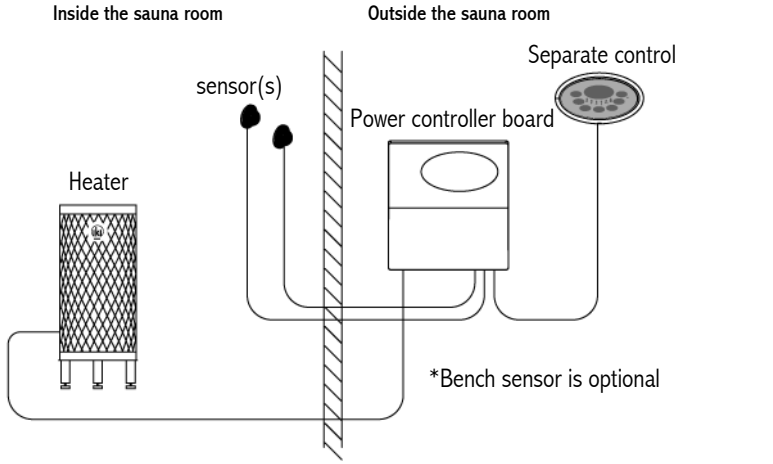
By changing the place of jumpers, you can adjust the session time and pre-run time.

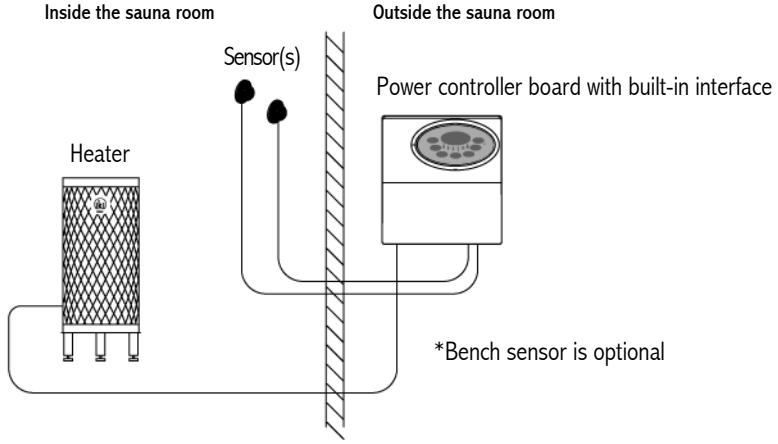
4. Installation instructions

The Innova Control Unit is composed of the Innova Interface (Separate or Built-in), Power Controller Board and the Sensors. The interface and Power Controller communicate by using a telephone-like cable.

Connection diagram to connect control unit to heater

Fig. 4





4.1 Power Controller Board

The controller board or the separate interface must not be located inside the sauna room or in places where temperature can exceed 40°C. It is protected from 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

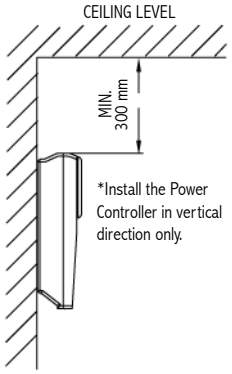
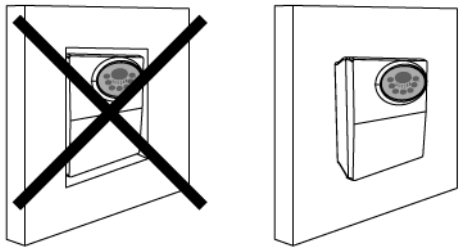


Fig.6



Warning

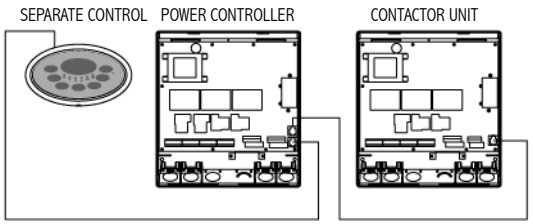
Do not embed the control unit into the wall, because it may lead to overheating of the unit and cause damage!

4.2 Contactor Unit

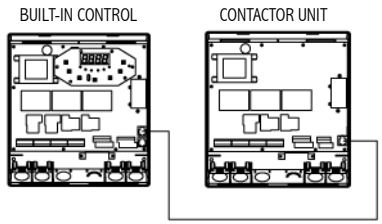
If the heater used is more than 15kW, an additional contactor is needed for increased power capabilities. The contactor unit is linked to the main Power Controller Board with a RJ12 cable (Fig.7).

Fig.7

Installation for Separate Interface with Contactor Unit



Installation for Built-in Interface with Contactor Unit



4.3 Sensors (Temperature Sensor)

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

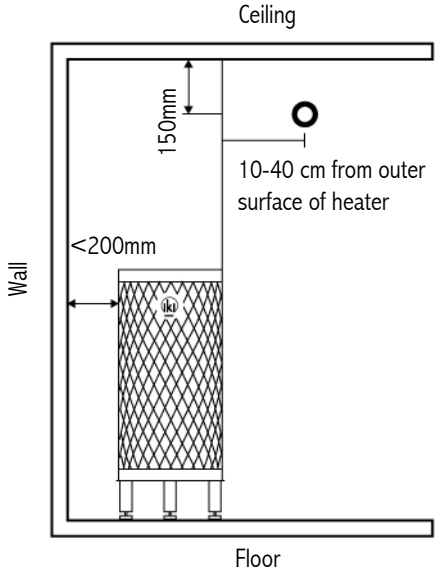
However, if the heater is more than 200mm from the wall, place the sensor to the ceiling, 10-40cm from the heater surface, as shown in the figure 9.

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. It is designed to measure the bench temperature, so ideally place it close to the shoulder height of the sauna goers.

Sensor location with heaters mounted near by the wall

Fig. 8

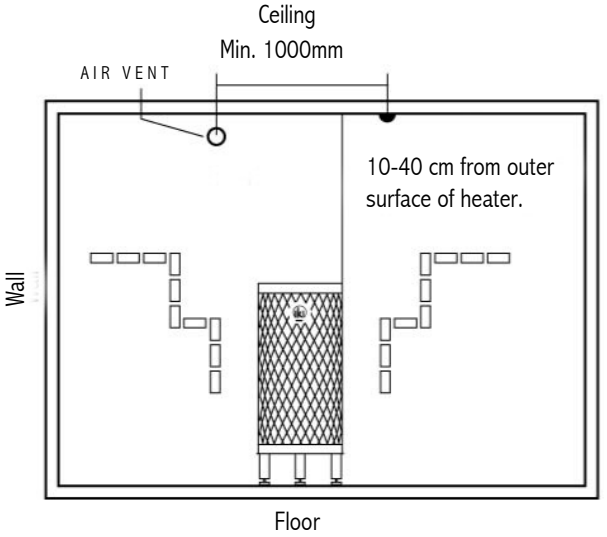


Sensor location with heaters mounted on the floor more than 200mm from the wall

Fig. 9

Note

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



4.4 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.

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.

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.

The maximum heater on-time is set by the jumpers on SCB1, see the picture 3. In Finland jumpers 3, 4 and 5 are meant only for public sauna rooms. Only a qualified electrical can change the settings.. 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.

Please 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, block of flats	Public sauna	
Jumper	1	2	3	4	5
Max. time	4h	6h	12h	18h	24h
Max. pre-run time	3h	5h	99h	99h	99h

4.5 Door Switch

If the control unit is for other than household use, the sauna door shall be fitted with interlock. The interlock disables all pre-run operations if the door is opened while the pre-run countdown is active.

The door switch 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 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.

4.6 Low Battery

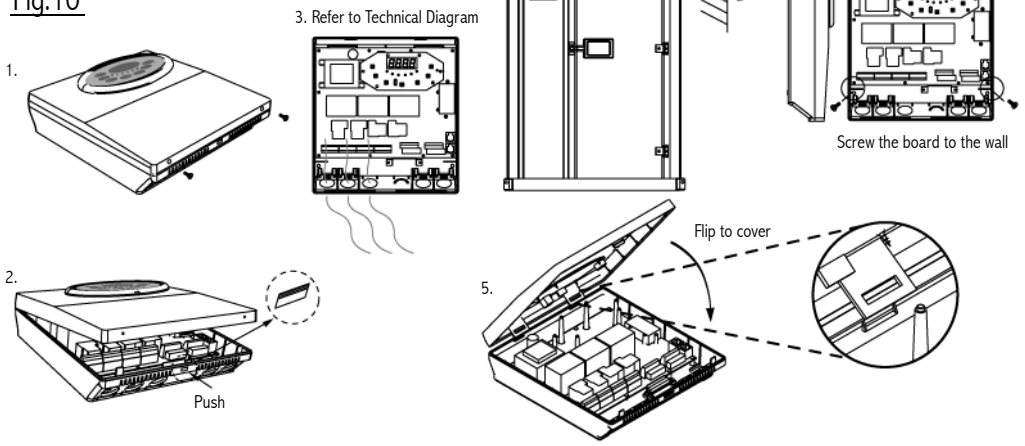
When the battery inside the controller is running low, "LbAt" will be displayed every minute for 5 seconds. It will continue until the battery is changed to a new one. One 9V PP3 Alkaline cell battery can be used only!

4.7 Installation for Built-In Interface (See Illustration)

Follow the steps how to attach the Controller Board on the illustration below. Before installation, please read first paragraph 1.1 Precautions.

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

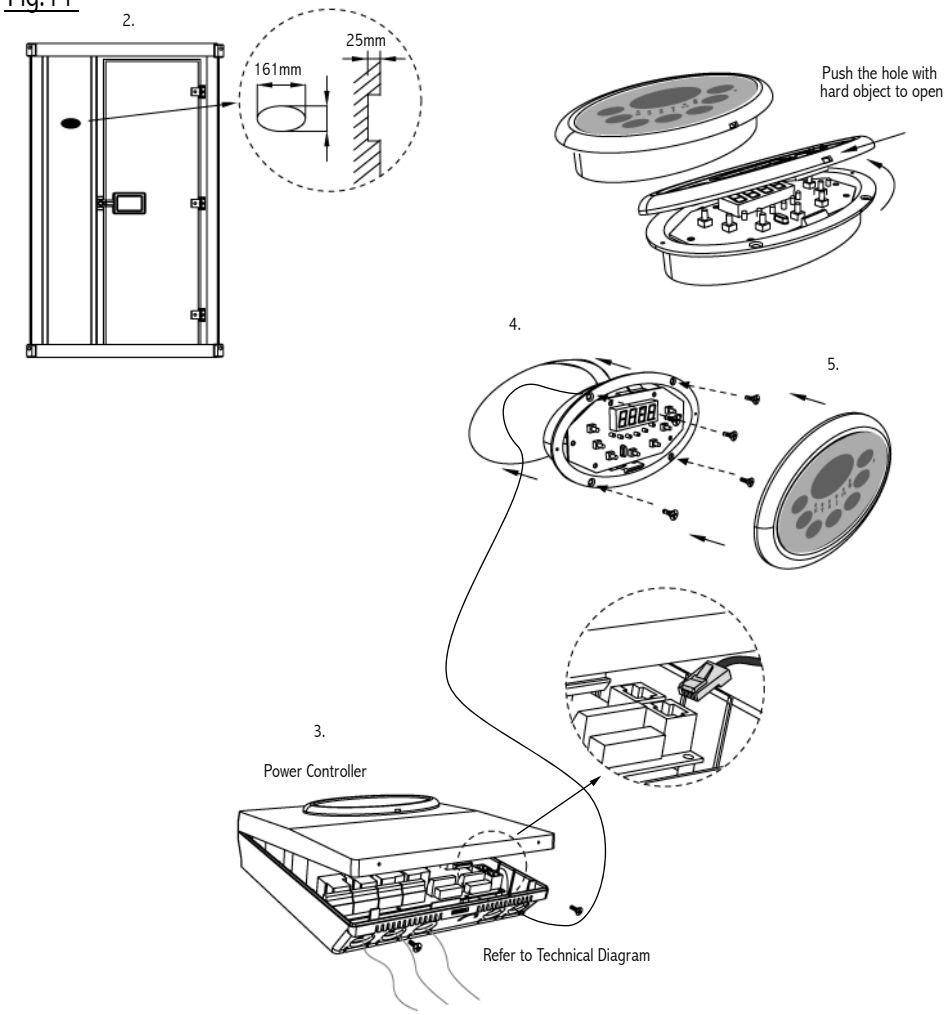
Fig.10



4.8 Installation for Separate Interface (See Illustration)

1. Mount the Separate Interface 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 interface input to the Power Controller.
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.11



5. Troubleshooting

If an error occurs, the heater will be switched off. There will be a warning beep and the code for the error will be displayed in the control panel, see the table below.

Please note, only a qualified electrician or maintenance personnel should make the service operations and repairs!

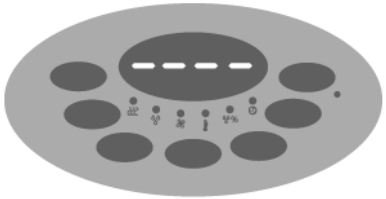
Possible errors are:

Table 2

Code	Problem	Solution
E1	Temperature sensor 1 is not connected.	Check the wire between the sensor and the control unit. If there is no problem with the wires and they are correctly installed, check the sensor. If no problem can be found, contact the retailer.
E2	Temperature sensor 1 is short circuit.	
E3	Temperature fuse is defective.	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 problem can be found, contact the retailer.
E4	Not in IKI Classic models.	Check the wire between the bench sensor and the control unit. 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. If a new sensor is needed or no problem can be found, contact the retailer.
E5	Temperature sensor 2 is short circuit.	
E6	Combined Temperature / Humidity sensor is defective.	
E7	Communication failure.	Check the RJ12 cable, if Innova Separate model is used. If the area where the cable is located has many other cables, it can cause EMC problems. If built-in model is used, remove the user interface board. Wipe the pin header contact to remove any dirt. Assemble back the user interface board in correct position and make sure the six pin header connectors are properly inserted to the socket. If no problem can be found, contact the retailer.
E8	Temperature is greater than the maximum temperature.	This should never occur under normal conditions. However, if this happens contact qualified electrician or maintenance personnel before using the sauna again.

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 control unit.
- 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 N2in jumper is connected with the N.
- User presses a button and "----" is shown in the display. This indicates that the key pad is locked. Unlock the buttons by pressing up and down arrow keys at the same time for more than 5 seconds. A high beep will confirm the activation and the deactivation.



- The control unit is attempted to be switched on with the power button and nothing happens or the software version/logo is displayed shortly. The problem may be low battery that does not have enough power to display "LbAt". Change the battery inside the controller.

Dimensions:	
Power Controller (W x H x D)	265 x 245 x 75 mm
Separate User Interface (W x H x D)	180 x 105 x 31 mm
Weight:	
S- Type: Power Controller	1500 g
	120 g
B-Type:	1600 g
Voltage / Max Capacity	
Rated Power 3 Phases: Max. Capacity	400V 3N~ 15kW, 3 x 5kW
Rated Power 1 Phases: Max. Capacity	230V 1N~ 9kW AC1
Frequency	50/60Hz
Maximum Session Time (preset)	Restrictions apply according to IEC/EN 60335-2-53
Separate Contactor Unit	
max 15 kW AC1	(3 x 5 kW), 400 V 3N~, 50/60 Hz
Cabin Light	
Rating	230V 1N~ 100W AC1

Sensors:
1. Temperature sensor with fuse
2. Bench sensor (optional) either temperature sensor or combined temperature-humidity sensor.