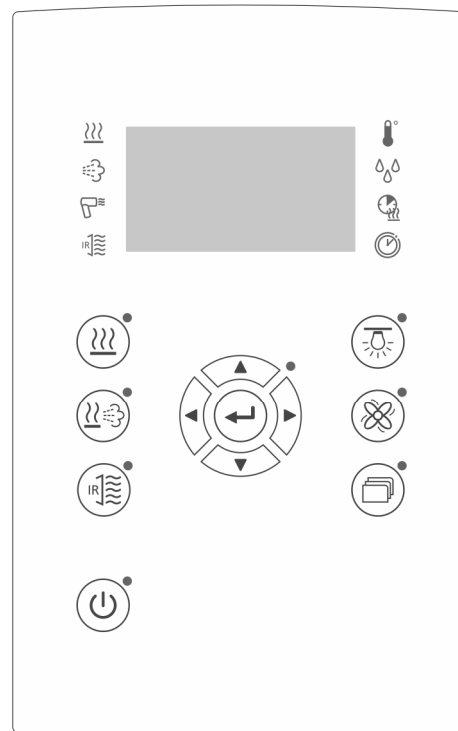
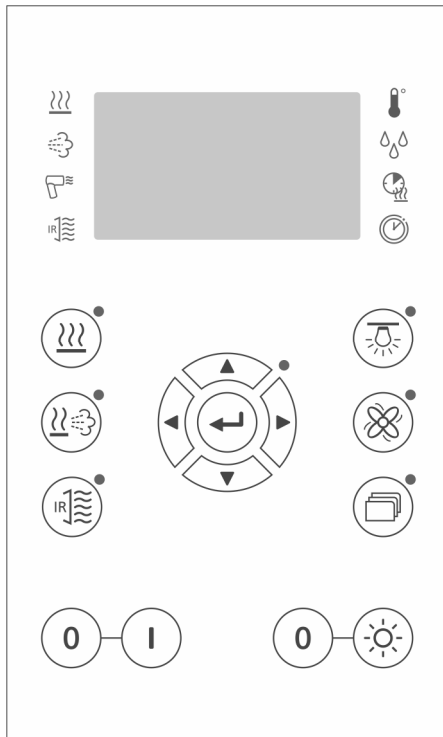


Series FCU2x00/FCU3x00/FCU4x00

Operating manual

Sauna control

	only Sauna	with Sauna with humidity	with IR
Series	FCU2000	FCU2200	---
Series	FCU3000	FCU3200	FCU3400
Series	FCU4000	FCU4200	FCU4400



Doc-ID: B_FCUxxxx_EN

Version: V 2.10



certificated

FASEL GmbH
Germany

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1 Safety

1.1 Explanations of symbols

Warnings

Warnings in this operating manual are indicated through symbols. The instructions are introduced through signal words, which express the degree of danger.

Follow these instructions strictly and take care to avoid accidents, personal injuries and property damage.



DANGER!

...indicates an imminent dangerous situation, which could lead to loss of life or cause serious injuries if not avoided.



WARNING!

...indicates a possible dangerous situation, which can be fatal or cause serious injuries if not avoided.



CAUTION!

...indicates a possible dangerous situation, which could lead to small or slight injuries if not avoided.



ATTENTION!

...indicates a possible dangerous situation, which could lead to property damage if not avoided.

Tips and recommendations



NOTE!

...highlights useful tips and recommendations as well as information for an efficient and smooth operation.

1.2 Demands on the operator and technicians

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

The operating instructions are to be read carefully before switching on the unit! To ensure safe operation and safe working practices you must comply with all the given safety and handling instructions.

If you have any doubts, please contact your customer service.

Inadequate qualifications



WARNING! **Danger caused by inadequate qualifications!**

Improper handling could lead to considerable personal injuries and damages to property.

Therefore:

The assembly, installation, commissioning, troubleshooting, maintenance and repair work should be carried out only by qualified persons unless otherwise mentioned.

1.3 Intended use

The FASEL Sauna controls of the series FCU4000, FCU4200 and FCU4400 are solely intended for operating and controlling saunas and saunas with humidity cabins depending on the model. The control units are approved for private and commercial use.

Intended use



CAUTION! **Danger caused by improper use!**

Using the Sauna control for purposes other than the intended use could lead to dangerous situations.

Therefore:

- Use the Sauna control only for the intended purpose.
- Operate the Sauna control only within the permissible ambient temperature and humidity range. → See page 9
- All the information in the operating and installation manual are to be strictly followed.
- When the Sauna control is not in use, then switch off the main switch (230V) or the fuses.
- Before switching on the Sauna control, make sure that nothing is on the oven.

Any damage claims which arise due to improper use are excluded. Only the user is responsible for damages caused by improper use.

1.4 Changes and modifications

Changes and modifications to the control unit or to the installation could lead to unpredictable dangers.

The written approval of the manufacturer must be obtained before making any technical changes and enhancements to the Sauna control.

1.5 Operational safety and special dangers

Pay attention to the safety and warning notes in the following chapters of this manual to minimize health hazards and to avoid dangerous situations.

The following instructions are to be adhered for your own safety and the safety of the unit:

Electric potential



DANGER!

Danger to life due to electric potential!

Contact with live components can be fatal.

Damage of the insulation of the individual components can be dangerous to life.

Therefore:

- For switching off the mains, the power supply cable must be equipped with a fuse with a contact opening width corresponding to the requirements of the excess voltage category III for total disconnection.
- Disconnect the unit from the mains before carrying out any work on it (switch off the fuse in the distribution box) and secure against re-starting. Check for zero potential. The control device should be disconnected from the mains before opening the casing.
- In case of damage to the insulation, switch off the power supply immediately and carry out the repair.
- Work on electrical unit should be carried out by certified electricians only.
- Never bypass fuses or put them out of operation.
- While replacing fuses, pay attention to correct current specifications.
- Keep moisture away from live components, since it can lead to short circuit.



WARNING!

If a short circuit occurs in a 230V/400V load, the relay contact can be welded by the high short-circuit current. Is turned on before removing the short circuit, the safety relay can be also welded. This can lead to the continuous operation of the load. Turn off the circuit breaker in the distribution box. Send the unit back to the factory for check/repair.

Improper operation



WARNING!

Improper operation can result in serious injuries!

Therefore:

- read and note the operating manual.

1.6 Information on the operating and installation manual

An operating manual as well as an installation manual are available for the FASEL control unit.

The operating manual is meant for the user and gives important instructions for handling the FASEL control unit.

The installation manual describes the assembly, installation, commissioning, rectification of defects and repair and is provided exclusively for the technical personnel.

To ensure safe operation and working practices, all the prescribed safety instructions and guidelines have to be followed.

Furthermore, the local accident prevention regulations and general safety regulations applicable for the fields of use of the control unit are to be adhered to.

The operating manual must be read carefully before switching on the device. The operating manual as well as the installation manual are an integral part of the product and must be kept in the immediate vicinity of the control unit so that they are always accessible.

The number of available connections and functions depends on the version of the device. The keys and the display text can be customized depending on the particular model and can differ from the figure shown on the first page.

If you pass on the control unit to a third party, make sure you hand over also the operating and installation manual.

Components from other suppliers have their own operating manuals, safety regulations and guidelines, which must be followed as well.

2 Identification

2.1 Nameplate

The nameplate is located on the control unit on the left side:

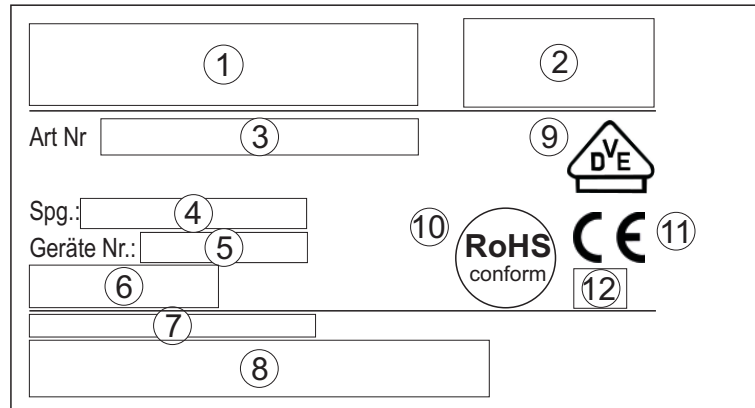


Fig.1 Control unit nameplate

- 1 Type designation
- 2 Company logo
- 3 Article number
- 4 Voltage and max. power
- 5 Device number
- 6 Barcode
- 7 article number
- 8 Barcode article number
- 9 VDE mark (for devices that are approved by VDE)
- 10 RoHS marking
- 11 CE mark
- 12 Protection category

3 Technical Data:

Label	Type		
	Series FCU2000	Series FCU3000	Series FCU4000
Ambient temperature	0°C to +40 °C With protective coating -20°C to +40°C		
Rel. humidity	max. 80 % r.H., non condensing		

Table 1: Technical Data

4 Design and function

4.1 Function

Depending on the model, the control unit is suitable for the following modes:

- Sauna
- Sauna with humidity
- Infrared

4.1.1 Sauna

In the "Sauna" mode, the cabin is heated to the desired temperature (set point temperature) using an oven. In order then to maintain the desired temperature in the cabin, the control unit switches the heater on and off.

As long as the heater heats, the status display shows "Heater" and the display shows "Heat-up phase". Once the desired temperature is reached, this message disappears. The cabin is ready for use.

4.1.2 Sauna with humidity (only FCUx200 and FCUx400)

In the "Sauna with humidity" mode, the cabin is heated to the desired temperature (set point temperature) using an oven. In addition, the desired humidity (set point humidity) is generated using an evaporator.

As long as the heater heats, the status display shows "Heater". As long as the evaporator blows "steam" into the cabin, the status display shows "Evaporator".

Control unit with humidity control (with humidistat)

For these control units, the evaporator is controlled by the connected humidistat.

Control unit with time-controlled humidity (without humidistat)

In these control units, the evaporator is time-controlled. The amount of steam is adjusted by a numerical value from 1 to 9. If set to "1", steam is blown for a short time into the cabin. If set to "9", the evaporator runs continuously and produces the maximum amount of steam.

4.1.3 Infrared (only FCUx400)

For the "infrared" mode, the cabin is heated to the desired temperature by one or more heat sources (set point temperature). The heat sources can be mounted on the wall or in the wall. As long as the heat sources are working, the status display "infrared heating system" lights up.

In addition a base temperature can be adjusted. The sauna oven heats as soon as this temperature falls below. If this base temperature is reached, the sauna oven turns off.

4.2 Operating and display elements

4.2.1 FCU4x00 design and FCU4x00 design glass

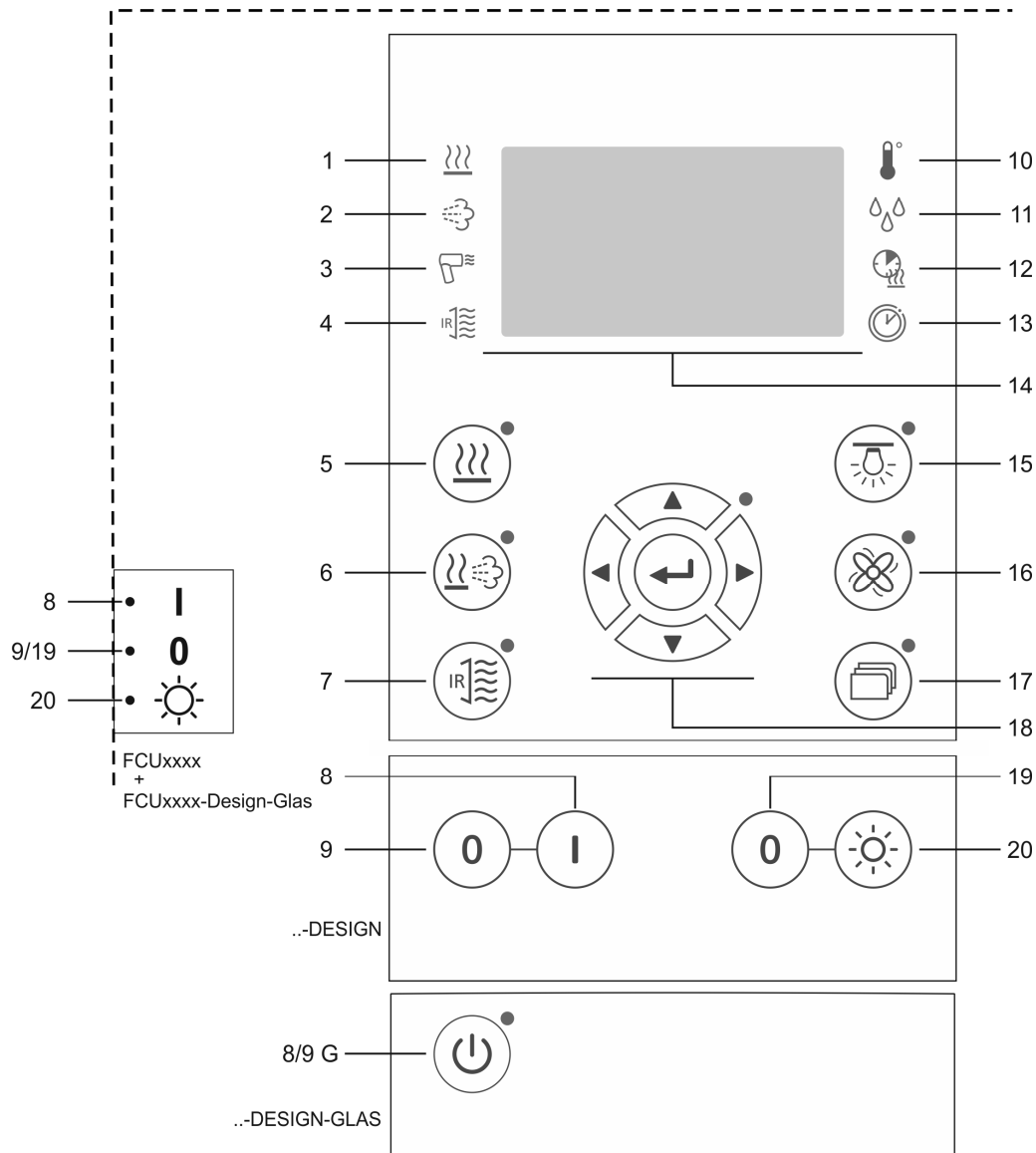




Fig. 2: Operation FCU4x00 design and FCU4x00 design glass view

- | | | | |
|---|--|----|--|
| 1 | Status display "Heater" | 10 | symbol "Set temperature" |
| 2 | Status display "Evaporator" | 11 | symbol "Set humidity " |
| 3 | Status display "Drying function" | 12 | symbol "Set remaining or heating time" |
| 4 | Status display "Infrared heating system" | 13 | symbol "Set start time" |
| 5 | key "Sauna mode" | 14 | Display |
| 6 | key "Sauna mode with humidity"
(only FCUx200 and FCUx400) | 15 | key "Cabin light" |
| 7 | key "Infrared mode" (only FCUx400) | 16 | key "Fan" |
| 8 | Control unit ON (only design) | 17 | key "Basic settings" |
| 9 | Control unit OFF (only design) | 18 | keys for navigation |
| | | 19 | Cleaning light OFF (only design) |
| | | 20 | Cleaning light ON (only design) |

4.2.2 Control keys Sauna control

The sauna control is equipped with the following control keys:

Key	Description	
	key "Sauna mode" Depending on the status of the green lamp, the "Sauna mode" key has different functions.	
	Status lamp next to the key	Meaning
	Does not light up	<ul style="list-style-type: none"> ■ Mode is not selected. ■ The lamp flashes after pressing the "Sauna mode" key.
	Flashes	<ul style="list-style-type: none"> ■ Mode can be adjusted. ■ Control unit can be turned off using the "Control unit OFF" switch. ■ The lamp lights up after pressing the "Sauna mode" key.
	Lights up	<ul style="list-style-type: none"> ■ "Sauna" mode is turned on. ■ The lamp flashes after pressing the "Sauna mode" key.
	key "Sauna mode with humidity" (only FCUx200 and FCUx400) Depending on the status of the green lamp, the "Sauna mode with humidity" key has different functions.	
	Status lamp next to the key	Meaning
	Does not light up	<ul style="list-style-type: none"> ■ Mode is not selected. ■ The lamp flashes after pressing the "Sauna mode with humidity" key.
	Flashes	<ul style="list-style-type: none"> ■ Mode can be adjusted. ■ Control unit can be turned off using the "Control unit OFF" switch. ■ The lamp lights up after pressing the "Sauna mode with humidity" key.
	Lights up	<ul style="list-style-type: none"> ■ "Sauna with humidity" mode is turned on. ■ After pressing the "Sauna with humidity mode" key, the drying function starts (if this mode was active for at least 10 minutes). The 'Drying function' lamp lights up. ■ After pressing the "Sauna with humidity mode" key again, the drying function stops. An error message appears if the drying temperature was not reached.

Key	Description								
	<p>key "Infrared mode" (only FCUx400)</p> <p>Depending on the status of the green lamp, the "Infrared mode" key has different functions.</p>								
	<table border="1"> <thead> <tr> <th>Status lamp next to the key</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>Does not light up</td> <td> <ul style="list-style-type: none"> ■ Mode is not selected. ■ The lamp flashes after pressing the "Infrared mode" key. </td> </tr> <tr> <td>Flashes</td> <td> <ul style="list-style-type: none"> ■ Mode can be adjusted. ■ Control unit can be turned off using the "Control unit OFF" switch. ■ The lamp lights up after pressing the "Infrared mode" key. </td> </tr> <tr> <td>Lights up</td> <td> <ul style="list-style-type: none"> ■ "Infrared" mode is on. ■ The lamp flashes after pressing the "Infrared mode" key. </td> </tr> </tbody> </table>	Status lamp next to the key	Meaning	Does not light up	<ul style="list-style-type: none"> ■ Mode is not selected. ■ The lamp flashes after pressing the "Infrared mode" key. 	Flashes	<ul style="list-style-type: none"> ■ Mode can be adjusted. ■ Control unit can be turned off using the "Control unit OFF" switch. ■ The lamp lights up after pressing the "Infrared mode" key. 	Lights up	<ul style="list-style-type: none"> ■ "Infrared" mode is on. ■ The lamp flashes after pressing the "Infrared mode" key.
	Status lamp next to the key	Meaning							
	Does not light up	<ul style="list-style-type: none"> ■ Mode is not selected. ■ The lamp flashes after pressing the "Infrared mode" key. 							
	Flashes	<ul style="list-style-type: none"> ■ Mode can be adjusted. ■ Control unit can be turned off using the "Control unit OFF" switch. ■ The lamp lights up after pressing the "Infrared mode" key. 							
Lights up	<ul style="list-style-type: none"> ■ "Infrared" mode is on. ■ The lamp flashes after pressing the "Infrared mode" key. 								
<p>Special function (only FCUx000 and FCUx200)</p> <p>If this function is available, use the "Infrared" key to adjust the infusion automat. After the key has been pressed, the oven heats to the maximum temperature (max. 110°C). When the adjusted time is over, the oven is controlling back to the adjusted set point value. When the key is pressed or during the infusion time, on the display and on the cabin interior display appears the message "Hot".</p>									
	<p>key "Cabin light"</p> <p>Turn cabin light on and off. By pressing the key, the light is turned on or off and the menu for adjusting the brightness is automatically displayed.</p> <p>When special function light "LIS" is activated, then the light output is only active as long as the light button is pressed. External dimmer can be controlled with this function, the internal dimmer function is turned off.</p>								
	<p>key "Fan"</p> <p>Turn the fan on and off. By pressing the key, the fan is turned on or off and the menu for adjusting the fan speed is automatically displayed.</p>								
	<p>key "Basics menu settings"</p> <p>Call "Basic settings menu".</p>								
	<ul style="list-style-type: none"> ■ Navigate upwards within the menu. ■ Navigate one line upwards in the display. ■ Increase the value by one. ■ Select option 								
	<ul style="list-style-type: none"> ■ Navigate downwards within the menu. ■ Navigate one line downwards in the display. ■ Reduce the value by one. ■ Select option 								







Key	Description
	<ul style="list-style-type: none"> ■ Change mode ON: (the green lamp next to navigation keys lights up): Move cursor to the left. ■ Change mode OFF: (the green lamp next to navigation keys does not light up): Go back to the parent menu.
	<ul style="list-style-type: none"> ■ Change mode ON: (the green lamp next to navigation keys lights up): Move cursor to the right. ■ Change mode OFF: (the green lamp next to navigation keys does not light up): Call sub-menu.
	<ul style="list-style-type: none"> ■ Call sub-menu. ■ Turn on change mode. Digit flashes. ■ Accept value (and go back into the parent menu).
	<p>Keys "Cleaning light OFF" and "Cleaning light ON" (only FCU4x00 and FCU4x00 design, not for FCU4x00 design glass) Use these keys to turn the cleaning light on and off. The control unit need not be turned on.</p>
	<p>Keys "Control unit mains OFF" and "Control unit mains ON" (only FCU4x00 and FCU4x00 design) Turn the control unit mains on and off.</p>
	<p>Key "Control unit standby OFF" and "Control unit standby ON" (only FCU4x00 design glass)</p> <ul style="list-style-type: none"> ■ Turn the control unit standby on and off. ■ To prevent uncontrolled switching on and off, when cleaning the keyboard, the control is automatically after two minutes in the off-state. In this state, only the LED of the Standby-Key is lighting. To restart or start a mode, press for 0.5 – 1 second the corresponding key. From Software-Version 5.25.

Table: 2 Control keys Sauna control

4.2.3 Explanation of the display FCU2x00

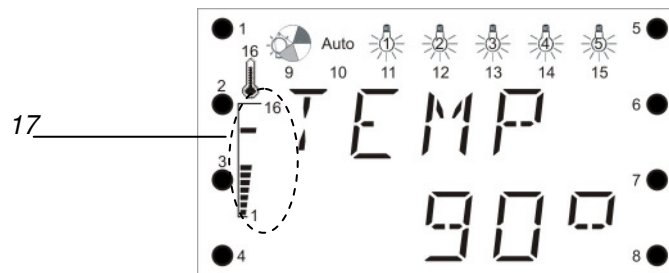


Fig. 3: Explanation of the FCU2xxx display

- 1-8 indicates which symbol or status display is currently enabled.
- 9 Colour wheel indicates whether colour light option is available.
- 10 Auto / manual
- 11-14 Colour lamps 1-4
- 15 Supply to the colour box
- 16 Thermometer is visible as soon as a value is shown on the bar graph.
- 17 The bar graph shows the actual and the set point temperature. In figure 4, the upper bar represents the set point temperature (90 °C) to be reached. The lower bars represent the actual temperature (60 °C).

4.3 Display symbols

The following symbols can appear in the display of the FCU4x00 control:













Display elements	Description
	Temperature
	Humidity
	Heating time
	Remaining heating time
	Time
	Flavor
	Colour light
	Fan
	Light
	ON / OFF
	Weekly timer
	Display lighting
	Display contrast
	Start time
	Infusion (Löyly)

Table: 3 Display symbols FCU4x00

The following symbols can appear in the display of the FCU2x00 and FCU3x00 control:




Display elements	Description
	Selection checkmark
	0 / 1
	Enter

Table: 4 Display symbols FCU2x00/FCU3x00

5 Operation

5.1 Safety and instructions

Electric potential



DANGER!
Danger to life due to electric potential!

Touching live parts can cause immediate danger to life.

Therefore:

- Control unit should be opened only by authorised electricians.
- Electrical work on the machine should be carried out only by qualified electricians.

Improper operation



WARNING!
Improper operation can result in serious injuries!

Therefore:

- Carry out all the operating steps according to this operating manual.

Danger of fire



WARNING!
Danger of injury caused by fire!

Objects on the heater or in the vicinity of the heater can cause a fire and thus result in injuries.

Therefore:

- Always keep the heater and the area around the heater free of objects.

Health hazard



WARNING!
Danger of injury caused by covering the temperature sensor and / or the humidistat!

Covering the temperature sensor and / or the humidistat could lead to increased temperatures and humidity. These increased levels could lead to health hazards or serious injuries.

Therefore:

- Do not cover the temperature sensor and humidistat.
- Ensure free circulation of air.



NOTE!

The temperature and humidity values displayed on the control unit may vary from that displayed on the thermometers and hygrometers mounted additionally in the cabin. This may be because of the following reasons:

Depending on the cabin, temperatures differences of up to 60K and differences in the relative humidity of up to 40% can occur from the floor to ceiling or from the heater to the opposite wall.

Analogue instruments are slower to react than the electronic measurement and display system used in the control unit.

5.2 Turn sauna control on and off

5.2.1 Turn sauna control on

Ensure that the heater, the surroundings and the sensors are free of objects.

1. Turn on the sauna control using the "Control unit ON" key. → See page 11, Fig. 2
2. The set point temperature and the set point humidity (if necessary) of the mode last selected are displayed. The green lamp of the last selected mode flashes.
3. Select mode according to chapter.5.2.3

5.2.2 Turn sauna control off



PLEASE NOTE!

The electronic components can be damaged by repeated improper turning off!

Therefore:

- Turn off the sauna control as described.



PLEASE NOTE!

Cabin damage for e.g. mould growth due to premature stopping of the drying function!

After completion of the "sauna with humidity" mode, the cabin is automatically dried for a certain time at a certain temperature. This drying function is used to avoid cabin damage such as mould growth.

Therefore:

- Do not stop the drying function prematurely.
- The drying function may only be stopped if the cabin is subsequently operated in "Sauna" mode.
- If the drying function is stopped accidentally, a message appears on the display. Start the drying function again by following the instructions on the display.

A mode is selected. The corresponding green lamp lights up.

1. Press the key of the selected mode. The green lamp next to the key flashes.
2. The green lamp of the selected mode flashes. Turn off the sauna control using the "Control unit OFF" key. → See page 11, Fig. 2

5.2.3 Select or start the mode

Mode select or start

1. Turn on sauna control according to chapter 5.2.1.
2. The green lamp of the last selected mode flashes.
3. Press the key for the desired mode.

Key	Description
	Sauna mode
	Sauna mode with humidity (only FCUx200 and FCUx400)
	Infrared mode (only FCU3400 and FCU4400)

Table: 5 Mode control keys

4. If the green lamp of the selected mode flashes, press the key again. The desired mode has been started only when the green lamp stops flashing.

5.3 Adjust modes



NOTE!

There are two menu navigations available for the control unit. All the menus are displayed only in the "Professional" menu. These menus are indicated accordingly in this chapter. If these menus are not displayed, your control has been set to the "Small" menu. → Also see "options menu".

Furthermore, the control unit can be equipped with extension boards like for e.g. for flower feeding. This requires additional menus, which are indicated accordingly in this chapter. For information about the fittings of your sauna control, please contact the installer or the dealer of your sauna system.

The control unit is turned on.

1. Press the key (sauna mode), (Sauna with humidity mode) or (infrared mode) if required. The lamp next to the key must flash or light up.
2. Following view is displayed:

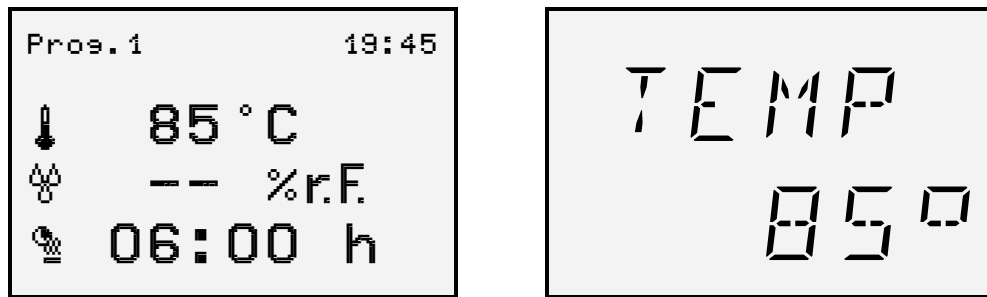


Fig. 4: "Sauna" view (example)

3. Press the ▼ key.
4. The symbol (adjust the temperature) lights up. → See page 22, chapter 5.3.3.
5. Press the ▼ key.
6. The symbol (adjust heating / remaining heating time) lights up.
7. Depending on the status of the lamp next to the mode key, adjust the heating time or the remaining heating time. → See page 22, chapter 5.3.3.
8. Press the ▼ key.
9. Menu option Professional: "Light brightness" view is displayed.
→ See page 24, chapter Fig. 8.
10. Press the ▼ key.
11. Menu option "Professional": "Fan speed level" view is displayed.
→ See page 25, Fig. 9.
12. Press the ▼ key.
13. Optional: "Adjust colour light mode" view is displayed.
→ See page 27, Fig. 11.
14. Press the ▼ key.
15. Optional: "Options menu (flavor feed)" view is displayed.
→ See page 30, Fig. 15.
16. Press the ▼ key. The "Sauna" view (Fig. 4) is displayed again.



NOTE!

If the key is not operated for a few seconds, the program automatically switches back to the "main" view. (If the controller has a timer and it is active, he switches into the timer menu.)

5.3.1 Adjust "Sauna" mode

In this mode there are no other settings.

5.3.2 Adjust "Sauna with humidity" mode (only FCUx200 and FCUx400)



PLEASE NOTE!

Cabin damage for e.g. mould growth due to premature stopping of the drying function!

After completion of the "sauna with humidity" mode (min. 10 minutes operation), the cabin is automatically dried for a certain time at a certain temperature. This drying function is used to avoid cabin damage such as mould growth.

Therefore:

- Do not stop the drying function prematurely.
- The drying function may only be stopped if the cabin is subsequently operated in "Sauna" mode.
- If the drying function is stopped accidentally, a message appears on the display. Start the drying function again by following the instructions on the display.



NOTE!

The adjustable set point humidity and set point temperature are limited for safety reasons (fire hazard). With a higher set point temperature, the allowable set point humidity decreases. For e.g. at a set point temperature of 55 °C, the maximum adjustable set point humidity is 46%. If the set point temperature increases, the maximum adjustable set point humidity decreases. This dependence between temperature and humidity is not linear.

The control unit is turned on.

In the mode "Sauna with humidity" additionally the humidity can be adjusted.

1. Press the ▼ key until the symbol $\Delta\Delta$ (adjust humidity) lights up. → See page 22, chapter 5.3.3.

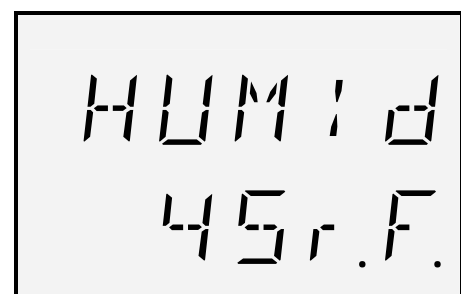
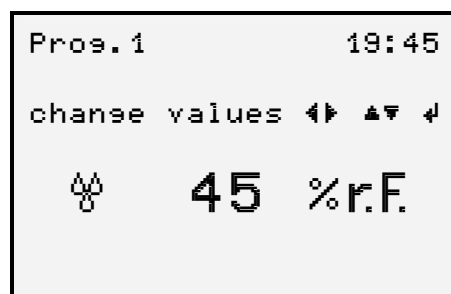


Fig. 5: "Sauna with humidity" view (example)

5.3.3 Adjust "Infrared" mode (only FCU3400 and FCU4400)

The control unit is turned on.

1. Press the key (infrared mode) if required
In the mode "Infrared" additionally the base temperature of the oven can be adjusted.
2. Press the key until the symbol (adjust temperature) lights up
3. Press the key again (symbol lights up).

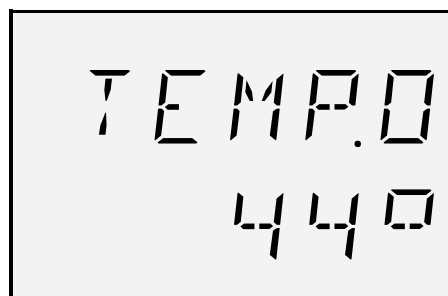
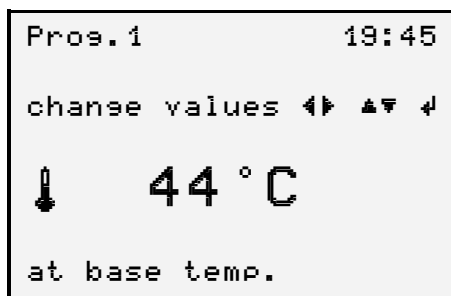


Fig. 6: "Infrared" view (example)

5.4 Adjust the set point temperature, humidity, heating- and remaining time

The following example describes how to adjust the set point temperature.

The set point humidity, the heating time, the remaining heating time and the timer are adjusted similarly.

Note the following points:

- If you want to adjust the set point temperature, set point humidity, heating time, remaining heating time or the timer, the corresponding symbol must light up at the right of the display. That is, the symbol "Temperature" should light up if you want to adjust the temperature.
- The set point humidity can be adjusted only for the "Sauna with humidity" mode.
- The heating time and the remaining heating time use the same symbol. The value which you adjust depends on the status of the lamp next to the mode key.

Heating time	Remaining heating time
The heating time is the operating time for the selected mode.	The remaining heating time is the remaining time when the mode is turned on. The remaining heating time is reduced automatically.
The heating time can be adjusted if the lamp next to the mode key flashes.	The remaining heating time can be adjusted if the lamp next to the mode key lights up. The modified remaining heating time does not change the programmed heating time.

Table: 6 Heating time / remaining heating time

- The timer may be enabled or disabled depending on the setting. In the series FCU2x00 and FCU3x00, weekly timer is not available.

1. The "Sauna" (Fig. 4), "Sauna with humidity" (Fig. 5) or "Infrared" (Fig. 6) view is displayed.
2. Press the ▼ key till the symbol ⚡ (adjust temperature) lights up.
3. Press the ⏪ key.
4. Following view is displayed:

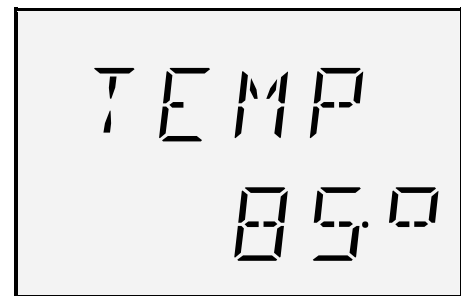
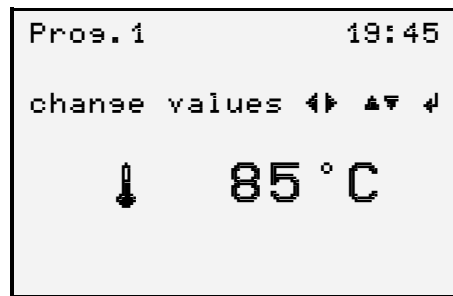


Fig. 7: "Change values" view (example)

5. Press the ⏪ key. Last digit flashes.
6. Adjust the desired value:
Press the ▼ key: Reduce value.
Press the ▲ key: Increase value.

Note!

After the digit "9" or "0", the higher digit of the temperature value is changed. That is "90" is displayed after "89".

You can also select the higher digit using the ⏪ key or ⏩ key and then change.

7. Press the ⏪ key. The adjusted value is accepted

5.4.1 Maximum allowed heating time

After starting a mode, the remaining heating time is displayed in place of the full heating time. The heating time can be changed only in standby mode.



The EN 60335-2-53 "Specific requirements for sauna heating devices" allows the following maximum heating times:

Max. heating time	Description
more than 12 hours	Public cabins which are supervised by trained personnel.
max. 12 hours	Hotels, apartment blocks, etc.
max. 6 hours	All other cabins / private households

Table: 7 Maximum heating time

The control devices are delivered with a maximum adjustable heating time of 6 hours. If you need heating times exceeding 6 hours, please contact the installer or the dealer of your sauna system.

5.5 Day timer

1. Press the ▼-key until the symbol  (adjust timer) lights up.
2. Adjust desired time (see above)
3. Press the ←-key to adjust the value.
4. Press the mode-key (flashes)
5. Symbol  flashes.
6. For turning off the timer, please turn off the control unit or press mode-key once for starting and once again for stopping.

5.6 Adjust the brightness of the cabin light (not for FCU2xxx)

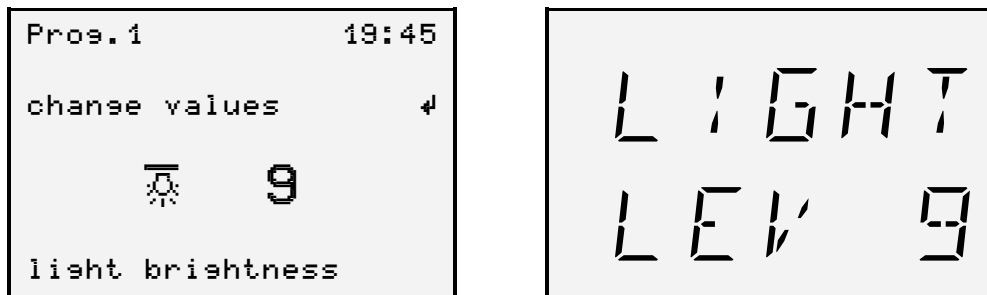



Fig. 8: "Light brightness" (example)

1. Select setting "light brightness". Either:
 - Press  key to turn on the light or
 - From the main view "adjusting a mode", press the ← key until the menu "Light brightness" is displayed.
2. Press the ← key
3. Value flashes.
4. Adjust the desired value:
 - Press the ▼ key: Reduce value.
 - Press the ▲ key: Increase value.
 - 0: darker
 - 9: brighter
5. Press the ← key. The adjusted value is accepted.

5.7 Adjust the cabin fan speed (not for FCU2xxx)

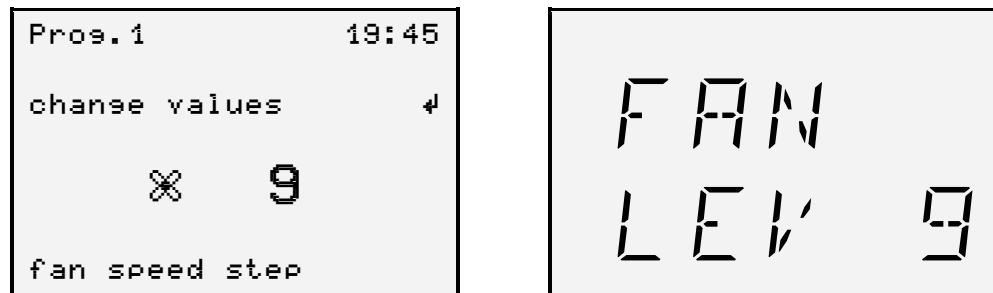








Fig. 9: "Fan speed" view (example)

1. Select "Fan speed" setting. Either:
 - Press  key to turn on the fan or
 - From the main view "adjusting a mode", press the  key until the menu "Light brightness" is displayed.
2. Press the  key:
3. Value flashes.
4. Adjust the desired value:
 - Press the  key: Reduce value.
 - Press the  key: Increase value.
 - 0: slow step
 - 9: quick step
5. Press the  key. The adjusted value is accepted.

5.8 Options menu


5.8.1 RGB-LED brightness (only for FCU4xxx and menu "Pro")

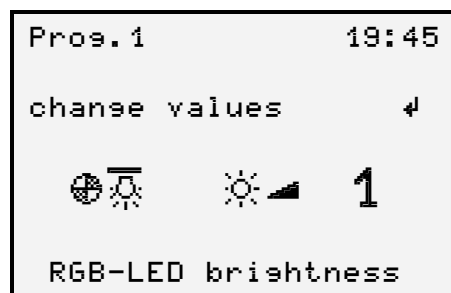


NOTE!

The "RGB-LED brightness" menu is only available for control devices which are connected to a RGB-LED control from the company Licht2000.

In this menu you can set the brightness of the RGB-LEDs.

1. -Press the key until you see the following view:



Not available with FCU2000 and FCU3000!

Fig. 10: View "RGB-LED brightness"

2. Press key.
3. Select RGB-LED brightness. Digit flashes.
Press the key: Increase value.
Press the key: Reduce value.
There are 4 brightness levels possible.
4. Press the key. The selection is saved.

5.8.2 Colour light mode (including parameter description)



NOTE!

The "Colour light mode" menu is only available for control devices with the extension board type FCU-EXT-COLOR LIGHT or a RGB-LED control from the company Licht2000.

In this menu, you can adjust the coloured lights. The following table shows the parameters and their explanations.

Parameter	Description
OFF / ON	<ul style="list-style-type: none"> ■ OFF: The colour light mode is off. ■ ON: The colour light mode is on. The colour lights are controlled either directly (manual) or by an automatic program (auto).
Manual / Auto	<p>The option "ON" must be selected.</p> <ul style="list-style-type: none"> ■ Manual: The colour lights are manually controlled using this "Colour light mode". See parameters "1 / 2 / 3 / 4". ■ Auto: The colour lights are controlled automatically. Select the desired colour program using the parameter "colour program". For the "Auto" option, you can make further adjustments in the "Colour light automatic" menu.
Colour program	<p>The options "ON" and "auto" must be selected. 2 colour programs are available. These programs can be setup in the menu. "basic settings"</p>
Lamps 1 / 2 / 3 / 4	<p>The options "ON" and "manual" must be selected.</p> <p>Depending on the settings in the service menu, you can select single or mixed colours.</p> <p>Single colours are: 1 / 2 / 3 or 4.</p> <p>Mixed colours are combinations of two colour lights. The following combinations are possible: 1 + 2 / 2 + 3 or 3 + 4.</p>

Table: 8 Parameter description menu "mode colour light"

1. Select "colour light mode".
2. Following view is displayed:

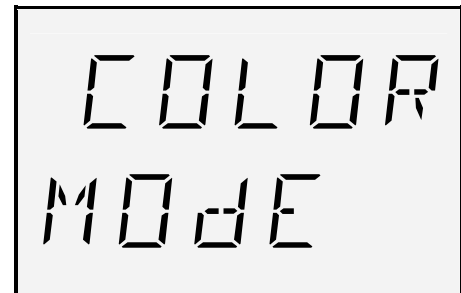


Fig. 11: View "colour light mode"

3. Press ◀ key or ▶ -key.
4. Following view is displayed:

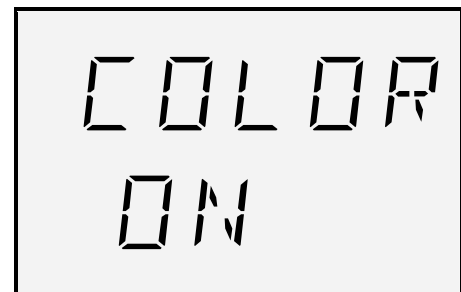














Fig. 12: View "Set colour light – change mode" (example)

5. Select one of the following lines with the ▼ or ▲ key:
 - OFF / ON COLOR ON (→ point 7)
 - Manual / Auto COLOR HA/AU (→ point 10)
 - Colour program COLOR Pr. 1 (→ point 13)
 - Lamps COLOR LAMP (→ point 16)
6. Press the ◀ key. Selected line is enabled.
7. Select option OFF or ON. "OFF / ON" line is enabled.
 - OFF is enabled.
 - ▶ Key: without function
 - ◀ Key: Select "ON".
 - ON is enabled.
 - ▶ Key: Select "OFF".
 - ◀ Key: without function
8. Press the ◀ key. The selection is saved.
9. Exit the menu using the ◀ key or select the next line with the ▼ or ▲ key.
10. Select option "manual" or "auto". "Manual / Auto" line is enabled. The options "manual" or "auto" do only work if the "ON" option is enabled.
 - "manual" is enabled.

- ◀ Key: without function
 - ▶ Key: Select "auto".
 - "auto" is enabled. The symbol "auto" (symbol no. 10) appears in the display.
 - ◀ Key: Select "manual".
 - ▶ Key: without function
 - 11. Press the  key. The selection is saved.
 - 12. Exit the menu using the  key or select the next line with the  or  key.
 - 13. If the option "auto" is selected, the line "colour program no." is displayed. Select "colour program no." and enable.
 - "1" is displayed for "colour program no."
 - ▼ Key: without function
 - ▲ Key: Select colour program no. 2.
 - "2" is displayed for "colour program no."
 - ▼ Key: Select colour program no. 1.
 - ▲ Key: without function
 - 14. Press the  key. The selection is saved.
 - 15. Exit the menu using the  key or select the next line with the  or  key.
 - 16. If the option "manual" is selected, the active colour lamps are displayed. With the option "lamps", the number of colour lamps can be edited.
 - 17. Select one or two (mixed colour) colour lights with the  or  key. The following combinations are possible:
 - 1 / 1 + 2 / 2 / 2 + 3 / 3 / 3 + 4 and 4
- Note!**
- The possibility of selecting mixed colours is set in the service menu. For modification requests, contact the installer or dealer of your sauna system.
- 18. Press the  key. The selection is saved.
 - 19. Exit the menu using the  key. The "colour light mode" view (fig. 10) is displayed.

5.8.3 Colour light start (only for menu "Pro")



NOTE!

The "Colour light start" menu is only available for control devices with the extension board type FCU-EXT-COLOR LIGHT or a RGB-LED control from the company Licht2000.

Here you can set the starting time for the colour light.

Option		Description
FCU4x00	FCU2x00/FCU3x00	
If power on	<i>I.F.P.O</i>	Start, as soon as control device is switched on.
On heat-up phase	<i>HEUP</i>	Start, as soon as a mode is active.
If bath is ready	<i>bARE</i>	Start, as soon as the set point temperature is reached.

Table 9: Parameter description menu "colour light"

1. Select "colour light start".
2. Following view is displayed:



Fig. 13: View "colour light start"

3. Press < key or > -key.
4. Following view is displayed:

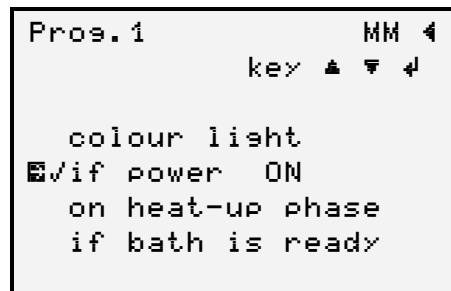


Fig. 14: View "Set colour light start – change mode" (example)

5. Select one of the following lines with the < or > key:
 - If power ON *I.F.P.O*
 - On heat-up phase *HEUP*
 - If bath his ready *bARE*
6. Press the < key. Selected line is enabled. The selection is saved. Check mark behind the cursor is placed.
7. Exit the menu using the < key. The view "colour light start" (Fig. 13) is displayed.

5.8.4 Adjust the flavour feed

The control unit is turned on.

1. Press the (Adjust flavour) key or ▼ key till the following view is displayed.

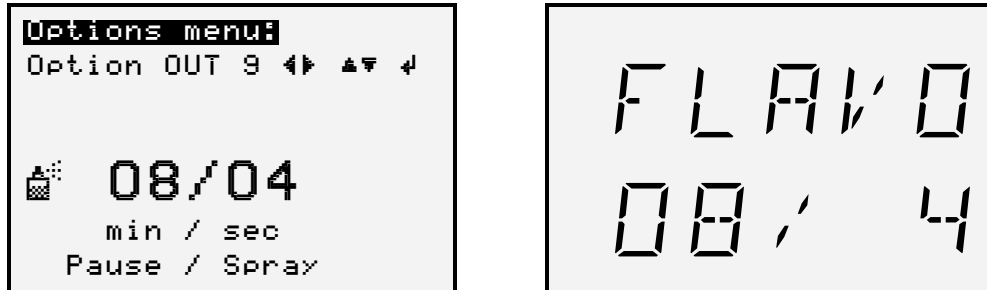


Fig. 15: "flavour feed" view (example)

2. Press the key. Last digit flashes.
3. Adjust the desired parameters "Pause (in min.) / Spray (in sec.)".

Change between "Pause" and "Spray".
 Press key: Move the cursor to the left.
 Press key: Move the cursor to the right.
 Adjust the desired value.
 Press the key: reduce value.
 Press the key: increase value.

Note!

After the digit "9" or "0", the higher digit of the temperature value is changed. That is "20" is displayed after "19".
 You can also select the higher digit using the key or key and then change.

4. Press the key. The adjusted value is accepted.

Parameter	Description
Spray	Duration of flavour feed in seconds
Pause	Time between two flavour feeds in minutes.


Table 10: Parameter description menu "flavour feed"

6 "Basic settings" menu

6.1 "Basic settings" - general

6.1.1 Time and Weekday

In this menu you can set the time and the weekday.

1. Press key  (basic settings). The lamp next to the key must light. The weekday appears only, if the weekly timer is released.
2. The following view is shown:

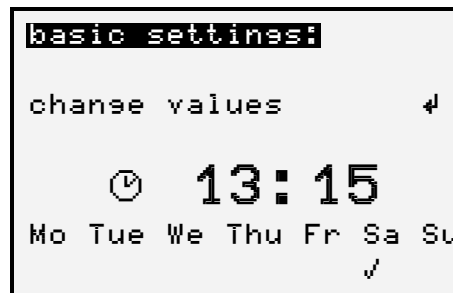



Fig. 16: View „Change values“ (example)

3. Press -key.
4. The following view is shown:

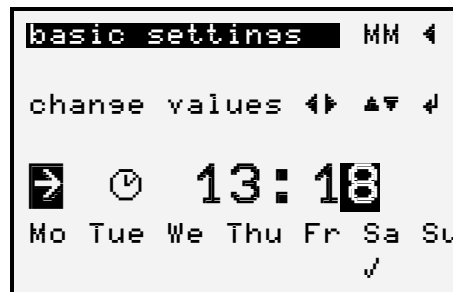













Fig. 17: View „Change values – change mode“ (example)

5. Select one of the following lines with the keys - or -key:
 - Time (→ point 7)
 - Weekday (→ point 10) (only at FCU4xxx and if the weekly timer is enabled)
6. Press -key. Selected line is activated.
7. Set the desired time. Last digit flashes.
 - Press -key: reduce value.
 - Press -key: increase value.
 - Press -key: move cursor left.
 - Press -key: move cursor right.
8. Press -key. The selection is saved.
9. Exit the menu by using the -key or select the next line with the  or -key.

"Basic settings" menu

10. Select desired weekday. Check mark flashes.
Press ◀-key: move cursor left.
Press ▶-key: move cursor right.
11. Press ↵-key. Selection is saved.
12. Leave menu with ◀-key.

6.1.2 Weekly timer ON/OFF (only for FCU4xxx)



NOTE!

The timer cannot be activated by your service technician without additional protective measures against fire hazards (e.g. protective cover over the oven) and therefore can be disabled (the menu does not appear). In the series FCU2x00 and FCU3x00 is no weekly timer.

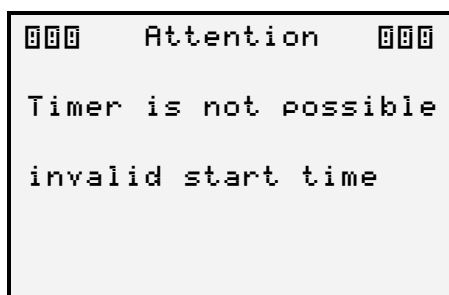
1. Following view is displayed:



Not available with FCU2000 and FCU3000

Fig. 18: Weekly timer enabled. – Check mark not set (example)

2. Press the ◀ key.
3. The following message is shown on the display: Please inspect the cabin and check the steam inlet. Nothing must be positioned on the steam inlet.
4. Message will disappear automatically.
5. Following view is displayed if no valid start time is programmed. In that case, programme a start time first.




Not available with FCU2000 and FCU3000

Fig. 19: Start time (example)

6.1.3 Program the weekly timer

The timer appears only if the weekly timer is enabled.


In this menu, you can set the weekly program. You can program 2 start times for each day.

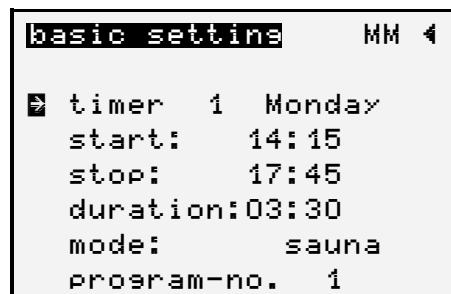
1. Press (basic settings)  key. The lamp next to the key must light up.
2. ▼ - Press the key until you see the following view:



Not available with FCU2000 and FCU3000




Fig. 20: "Program the weekly timer" view

3. Press the  key.



Not available with FCU2000 and FCU3000

Fig. 21: "Program the weekly timer" view (example)

4. Select one of the following lines with the ▼ or ▲ key:
 - Timer (→ point 6)
 - Start (→ point 9)
 - Stop (→ point 12)
 - Duration (→ point 12)
 - Mode (→ point 15)
 - Programme no. (→ point 18)
5. Press the  key. Selected line is enabled. Cursor flashes.
6. Adjust timer. Digit flashes. Each day is assigned two numbers. For Monday the numbers are 1 and 2, for Tuesday 3 and 4, etc.
 - Press the ▼ key: Reduce value. (Select weekday)
 - Press the ▲ key: Increase value. (Select weekday)
7. Press the  key. The selection is saved.
8. Select the next line with the ▼ or ▲ key.
9. Setup start time. Last digit flashes.
 - Press the ▼ key: Reduce value.
 - Press the ▲ key: Increase value.
 - Press the  key: Move cursor to the left.

"Basic settings" menu

Press the ► key: Move cursor to the right.

Here you set the time when the timer is started. If you change the start time, the duration changes automatically.

10. Press the ◀ key. The selection is saved.
11. Select the next line with the ▼ or ▲ key.
12. You can set the stop time (end) and the duration similar to the start time. If you change the end time, the duration changes automatically.
13. Press the ◀ key. The selection is saved.
14. Select the next line with the ▼ or ▲ key.
15. Select mode. Cursor flashes.
Select the mode with the ▼ or ▲ key.
16. Press the ◀ key. The selection is saved.
17. Select the next line with the ▼ or ▲ key.
18. Select program no. Digit flashes.
Press the ▼ key: Reduce value.
Press the ▲ key: Increase value.
19. Press the ◀ key. The selection is saved.
20. Exit the menu using the ◀ key.

6.1.4 Select program (only for FCU4xxx)

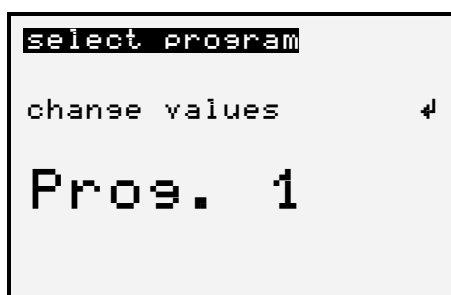


Note!

*For each mode there exist 8 programs which are freely adjustable. .
The program numbers are shown on the display. (These 8 freely adjustable programs may be locked by the service engineer.)*

In this menu you can select 1 of 8 programs.

1. Press key "basic settings". The lamp next to the key must light.
2. Press ▼-key until the following view is shown:



Not available with FCU2000 and
FCU3000

Abb. 22: View "select program" (example)

3. Press ◀ key
4. Select desired program with the keys ▲ or ▼
5. Confirm with key ◀

6.1.5 Adjust display lighting (not for FCU2xxx)

In this menu you adjust the brightness of the display.

1. Press (basic settings) key. The lamp next to the key must light up.
2. Press the key until you see the following view:

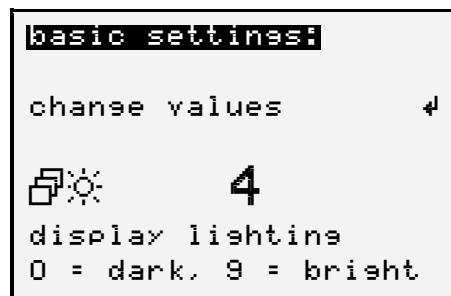


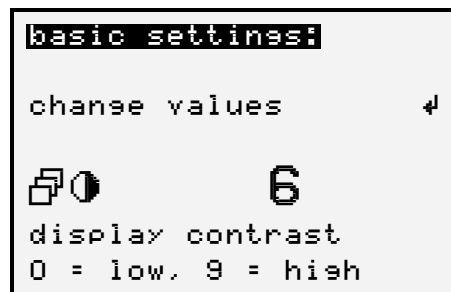
Fig. 23: "Display lighting" view (example)

3. Press the key.
4. Value flashes.
5. Adjust the desired value:
Press the key: Reduce value.
Press the key: Increase value.
0: dark
9: bright
6. Press the key. The adjusted value is accepted.
7. Exit the menu using the key.

6.1.6 Adjust display contrast (only for FCU4xxx)

In this menu you can change the contrast of your display.

1. Press key "basic settings". The lamp next to the key must light.
2. Press the -key until the following view is shown:



Not available with FCU2xxx and FCU3xxx

Fig. 24: View "light settings" (example)

3. Press -key.
4. Select desired contrast with the keys or .
5. Press -key to confirm selection.

6.1.7 Light settings (only for menu "Pro")

In this menu you can set the time, when the light should go on and how long it should stay on after the end of a mode.

1. Press (basic settings) key. The lamp next to the key must light up.
2. Press the key until you see the following view:

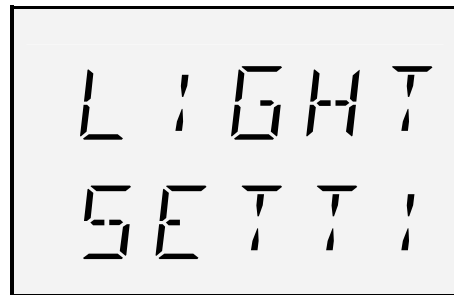
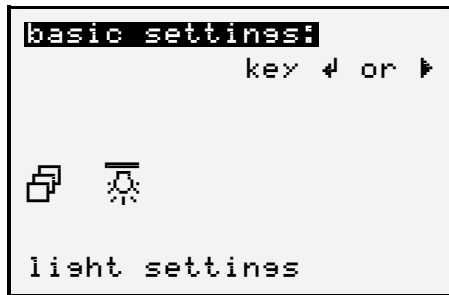


Fig. 25: "Light settings" view (example)

3. Press the key.
4. Following view is displayed:

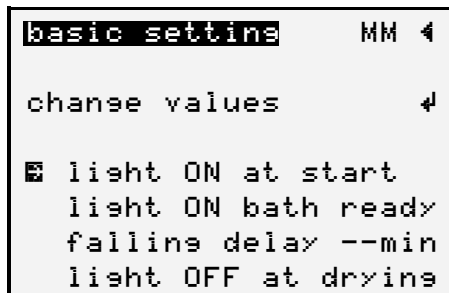


Fig. 26: "Light settings – change mode" view (example)

5. Select one of the following lines with the or key:

– Light ON at start	START	NO	(→ point 7)
– Light ON if bath ready	BATH	NO	(→ point 11)
– Falling delay time x min	dELTA	--MIN	(→ point 15)
– Light OFF at drying	L.dRY	---	(→ point 18)

Note!

Only the option "light ON at start" or "light ON if bath ready" can be selected.

6. Press the key. Selected line is enabled.
7. Option "light ON upon starting" is enabled. Cursor flashes on the selected line. Press the key. Check mark is set (option selected). Press the key: Check mark is deleted (option not selected).
8. Press the key. The selection is saved.
9. Exit the menu using the key or select the next line with the or key.

10. Press the **↵** key. The selected line is enabled.
11. Option "light ON after heat-up phase" is enabled. Cursor flashes on the selected line.
Press the **▲** key. Check mark is set (option selected).
Press the **▼** key: Check mark is deleted (option not selected).
12. Press the **↵** key. The selection is saved.
13. Exit the menu using the **◀** key or select the next line with the **▼** or **▲** key.
14. Press the **↵** key. The selected line is enabled.
15. Adjust the time for turn off delay. Digit flashes.
Press the **▼** key: Reduce value.
Press the **▲** key: Increase value.
Press the **◀** key: Select left digit.
Press the **▶** key: Select right digit.
16. Press the **↵** key. Selected value is accepted.
17. Exit the menu using the **◀** key or select the next line with the **▼** or **▲** key.
18. Option "light OFF at drying" is enabled. Cursor flashes on the selected line.
Press the **▲** key. Check mark is set (option selected).
Press the **▼** key: Check mark is deleted (option not selected).
19. Press the **↵** key. The selected line is enabled.
20. Exit the menu using the **◀** key.

6.1.8 Fan settings (only for menu "Pro")

In this menu you can set the following:

- The mode in which the fan is turned on.
 - Follow-up time of the fan, if the mode is completed.
1. Press (basic settings) **☐** key. The lamp next to the key must light up.
 2. Press the **▼** key until you see the following view:

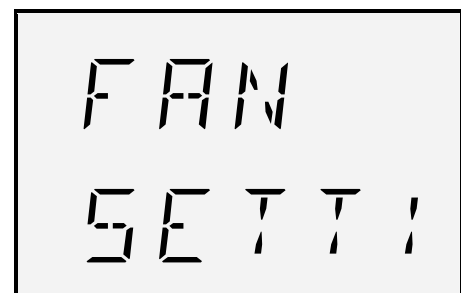
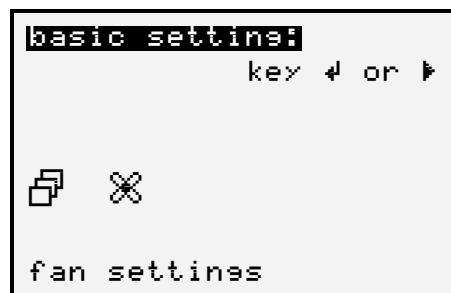


Fig. 27: "Fan settings" view (example)

3. Press the **↵** key.
4. Following view is displayed:

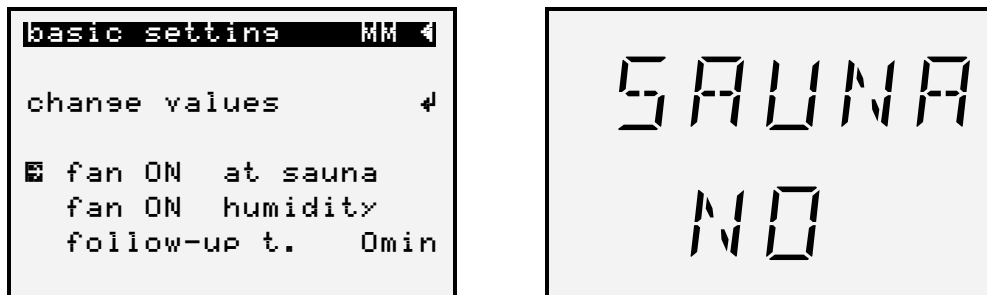


Fig. 28: "Fan settings – change mode" view (example)

5. Select one of the following lines with the ▼ or ▲ key:

– Fan ON at sauna	SAUNA	NO	(→ point 7)
– Fan ON humidity	HUMID	NO	(→ point 11)
– Follow-up time x min	DELTA	0MIN	(→ point 15)

Note!

Several modes can be selected, in which the fan is turned on.

6. Press the ↵ key. Selected line is enabled.
7. Select fan ON at sauna option. Cursor flashes on the selected line. The fan is switching on after heat-up phase.
Press the ▲ key. Check mark is set (option selected).
Press the ▼ key: Check mark is deleted (option not selected).
8. Press the ↵ key. The selection is saved.
9. Exit the menu using the ◀ key or select the next line with the ▼ or ▲ key.
10. Press the ↵ key. Selected line is enabled.
11. Select fan ON humidity option. Cursor flashes on the selected line. The fan is switching on after heat-up phase.
Press the ▲ key. Check mark is set (option selected).
Press the ▼ key: Check mark is deleted (option not selected).
12. Press the ↵ key. The selection is saved.
13. Exit the menu using the ◀ key or select the next line with the ▼ or ▲ key.
14. Press the ↵ key. Selected line is enabled.
15. Adjust the follow up time. Last digit flashes.
Press the ▲ key: Increase value.
Press the ▼ key: Reduce value.
Press the ◀ key: Move cursor to the left.
Press the ▶ key: Move cursor to the right.
16. Press the ↵ key. Selected value is accepted.
17. Exit the menu using the ◀ key.

6.2 "Basic settings" for options



NOTE!

These menus appear only if the corresponding options board is available in the control unit.



6.2.1 RGB-LED settings (only for FCU4xxx and menu "Pro")

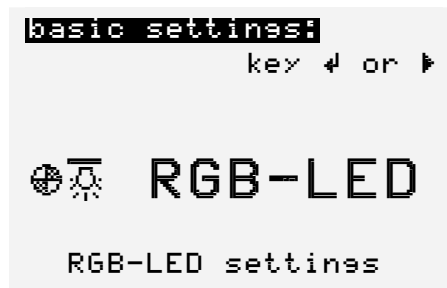


HINWEIS!

The "RGB-LED settings" menu is only available for control devices which are connected to a RGB-LED control from the company Licht2000.

In this menu you can program the fading time (the time for a smooth colour transition from one colour to another) for RGB-LEDs.

1. Press key  (basic settings). The lamp next to the key must light.
2.  - Press the key until you see the following view:



Not available with FCU2000 and FCU3000!



Fig. 29: "RGB-LED settings" view

3. Press the  key.
4. Following view is displayed:



Not available with FCU2000 and FCU3000!

Fig. 30: "RGB fading time – change mode" view (example)

5. Select one of the following lines with the  or  key:
 - hand (→ point 7)
 - auto (→ point 10)

"Basic settings" menu

6. Press the key. The selected line is enabled.
7. Select hand. Cursor flashes on the selected line.
Press the key: Increase value.
Press the key: Reduce value.
There is a maximum time period of 3 seconds possible.
8. Press the key. The selection is saved.
9. Exit the menu using the key or select the next line with the or key.
10. Adjust auto. Last digit flashes.
Press the key: Increase value.
Press the key: Reduce value.
Press the key: Select left digit.
Press the key: Select right digit.
There is a maximum time period of 50 seconds possible.
11. Press the key. The selection is saved.
12. Exit the menu using the key.

6.2.2 Colour light automatic (only for menu "Pro")



Note!

The "Colour light automatic" menu is only available for control devices with the extension board type FCU-EXT-COLOR LIGHT or a RGB-LED control from the company Licht2000.

In this menu you can program the sequence, if you have selected the "Auto" option in the "Colour light mode". → See operating instructions for program settings.

1. Press (basic settings) key. The lamp next to the key must light up.
2. Press the key until you see the following view:



Fig. 31: "Colour light automatic" view (example)

3. Press the key.
4. Following view is displayed:

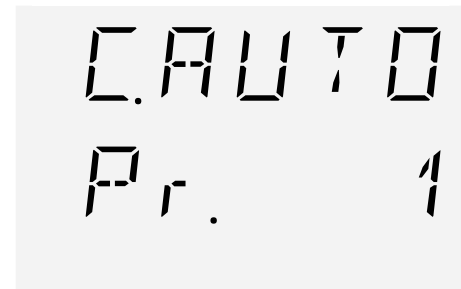
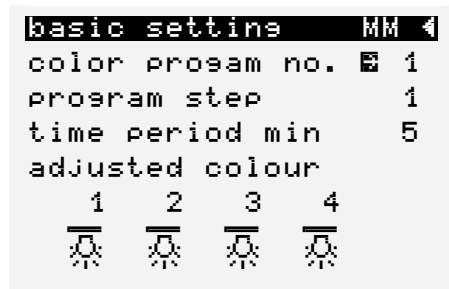


Fig. 32: "Colour light automatic – change mode" view (example)

5. Select one of the following lines with the ▼ or ▲ key:
 - Colour program no. CAUTO PR. 1 (→ point 7)
 - Program step CAUTO PHA 1 (→ point 10)
 - Duration in min CAUTO MIN 5 (→ point 13)
 - Adjusted colour CAUTO LAMP (→ point 16)
6. Press the ◀ key. Selected line is enabled.
7. Select colour program no. Cursor flashes on the selected line.
Press the ▲ key. Increase value.
Press the ▼ key: Reduce value.
8. Press the ◀ key. The selection is saved.
9. Exit the menu using the ◀ key or select the next line with the ▼ or ▲ key.
10. Select program step. Digit flashes.
Press the ▲ key. Increase value.
Press the ▼ key: Reduce value.
16 program steps are possible.
11. Press the ◀ key. The selection is saved.
12. Exit the menu using the ◀ key or select the next line with the ▼ or ▲ key.
13. Adjust duration. Last digit flashes.
Press the ▲ key. Increase value.
Press the ▼ key: Reduce value.
Press the ◀ key: Move cursor to the left.
Press the ▶ key: Move cursor to the right.
A maximum duration of 32 minutes is possible.
- Important!**
If you enter "0", the colour light programme automatically goes back to programme step no. 1 during the programme run, i.e. after you enter the colour combination for the last programme step, you must enter a "0" in the next programme step.
14. Press the ◀ key. The selection is saved.
15. Exit the menu using the ◀ key or select the next line with the ▼ or ▲ key.
16. Select adjusted colour. Cursor flashes. Select one or two (mixed colour) colour lights with the ◀ or ▶ key. The following combinations are possible:
 - 1 / 1 + 2 / 2 / 2 + 3 / 3 / 3 + 4 and 4
17. Press the ◀ key. The selection is saved.

18. Exit the menu using the ◀ key.

6.2.3 Key manual infusion (only for menu "Pro")

In this menu can be the time programmed as long as the oven heats to the maximum temperature. This menu is only available if the corresponding option is enabled.

1. Press key (basic settings). The lamp next to the key must light.
2. Press the ▼ key until you see the following view:

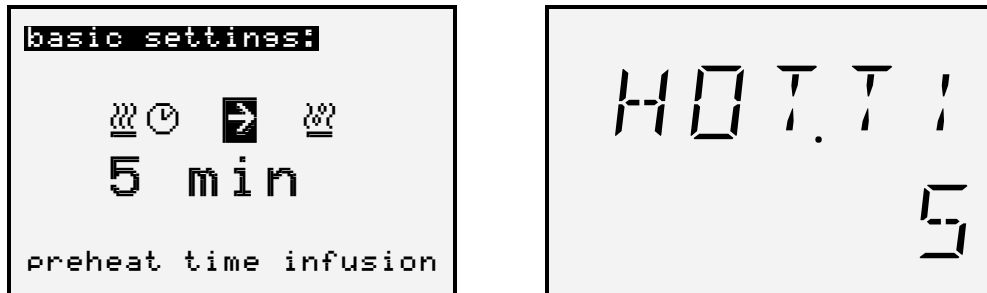


Fig. 33: "manual time infusion" view (example)

3. Press the ◀ key. Digit flashes respectively point right next digit flashes.
4. Adjust heating time for maximum temperature.
Press the ▲ key. Increase value.
Press the ▼ key: Reduce value.
5. Press the ◀ key. The selection is saved.

6.2.4 Versions and data (only for menu "Pro")

This menu is used for service to, for e.g., quickly find the cause of fault with the versions given here.

1. Press (basic settings) key. The lamp next to the key must light up.
2. Press the ▼ key until you see the following view:

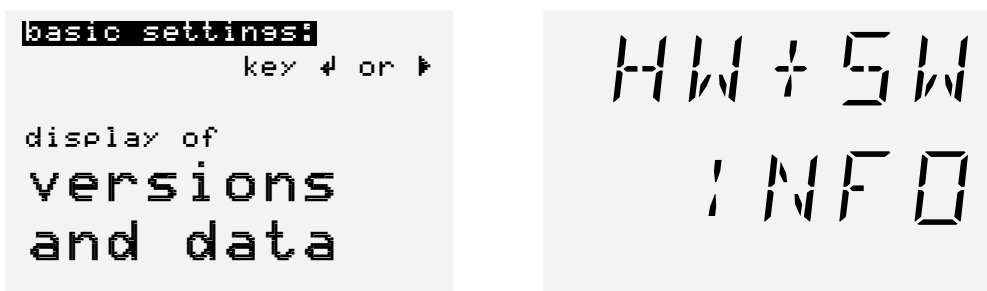


Fig. 34: "Versions and data" view (example)

3. Press the ◀ key.
4. Following view is displayed:

```

basic settine MM ◀
HW- and SW- versions
control unit:
FCU      4000 V 6.07
operating panel:
intern. T---- V--.--
desian  T4000 V 1.17
remote  T---- V--.--

```



The digital display shows the number '3000' in the top row and '1/ 6.07' in the bottom row.

Fig. 35: "HW and SW versions" view (example)

5. With the ▼ or ▲ key you can navigate within the menu. The following information is displayed here:
 - Software version of the control board and the keyboard PCB
 - Device configuration
 - Customer configuration
 - Configuration of the optional inputs and outputs
6. Exit the menu with the ◀ key.

7 Options menu

7.1 Small/professional

The control unit offers two menu navigations "small" and "professional".

The menu "small" includes the main menu items. The menu "professional" includes all menu items. Typically, the menu navigation "small" is sufficient.

You can change the menu as follows:

1. Press the ▲ key.
2. Press the ▲ and the key "basic settings" simultaneously.
3. Press the ↵ key.
 - Switch from "small" to "professional" menu: Press the ▲ key.
 - Switch from "professional" to "small" menu: Press the ▼ key.
4. Press the ↵ key to confirm the selection.

7.2 Parental/Keypad lock

From this menu it is also possible to lock or unlock various keys.

You can lock or unlock the keys as follows:

1. Press the ◀ and ▶ key simultaneously.
2. In the display appears the text "Lock and unlock individual keys. If the LED next to the key lights up, this key is locked".
3. Now press the keys that need to be locked or unlocked.
4. Press the ◀ and ▶ keys simultaneously to apply changes and navigate back to the "Small / Professional" menu.

7.3 Select language

Besides, there is the possibility to change the language of the menu guide. You can change the language from menu "Small/Profi" in the following way:

1. Press the ▲ or ▼ key to get to the language selection menu.
2. Press the ↵ key.
3. Press the ▲ or ▼ key to select the desired language.
4. Press the ↵ key to confirm the selection.

8 Maintenance

The sauna controls are maintenance free.

8.1 Cleaning

Aggressive cleaning agents and additives



PLEASE NOTE!
Device damage possible!

Aggressive cleaning agents and additives can damage or destroy the electrical components and cable.

Therefore:

- Do not use cleaning agents and additives with aggressive substances.

1. Turn off control device and secure against turning on (turn off circuit breakers.)
2. Clean the housing only from the outside with a damp soft cloth. The housing must not be opened.

9 Malfunctions

9.1 Safety

General



WARNING!
Danger of injury caused by improper troubleshooting!

Improper troubleshooting can result in serious injury or death.

Therefore:

- In case of malfunctions turn off the control unit, disconnect from mains and secure against reconnection. Contact the customer service.
- Troubleshooting must be carried out only by qualified technicians, unless stated otherwise.
- Ensure that there is adequate assembly space available before starting work.
- Ensure that the work area is clean and tidy! Components lying loosely on one another or lying around the work area can cause accidents.
- If parts were replaced: Ensure correct installation of spare parts. Mount all the fastening elements properly again. Only use original spare parts.
- Before turning on again ensure that all covers are properly installed.



WARNING!

If a short circuit occurs in a 230V/400V load, the relay contact can be fused by the high short-circuit current. This can lead to the continuous operation of the load. Turn off the circuit breaker in the junction box. Contact the customer service.

9.2 Messages and instructions on the display

Messages and instructions are shown on the display, which generally require action from the operator.

Messages / instructions	Possible causes	Measures	To be carried out by
Water deficiency in evaporator -H20	Evaporator without water	Refill water according to the operating instructions of the evaporator.	Operator
		Check water inlet / magnetic valve of the evaporator.	Technician / Electrician
Drying function stopped ERROR 0800	After completion of the "sauna with humidity" mode, the cabin is automatically dried for a certain time at a certain temperature. This drying function is used to avoid cabin damage such as mould growth. This drying function was stopped prematurely.	Follow the instructions on the display. Restart drying function.	Operator

Table: 11 Messages and instructions

9.3 Acknowledge the message

1. Rectify the cause of the message.
2. -Press the key for about 2 seconds. Message disappears.

9.4 Malfunction messages

Possible malfunctions and troubleshooting measures are described in this chapter.

Contact the installer or the dealer of your sauna systems for malfunctions that are not described below. See the invoice, delivery note or the reverse of this manual for the address.

If the error occurs during operation, then the display alternately shows the cause, the error number and the possible rectification.

If the error cannot be rectified by the end user, please note down the shown display and contact your service technician.


No.	Malfunction	Possible causes	Troubleshooting	To be carried out by
000	Internal time error	Internal time error		Service engineer
100	STB circuit open, STB	The connection to the safety temperature limiter (STB) is broken or the thermal fuse was destroyed by very high temperature.	<ul style="list-style-type: none"> ■ Check STB. ■ Check cable. ■ Check terminals 29 and 30. 	Electrician / service engineer
200	Heater sensor short circuit	Short circuit heater sensor	<ul style="list-style-type: none"> ■ Check cable. ■ Check terminals 27 and 28. 	Electrician / service engineer
201	Heater sensor interruption	Cable break heater sensor Contact terminals	<ul style="list-style-type: none"> ■ Check cable. ■ Check terminals 27 and 28. 	Electrician / service engineer
210	Bench sensor short circuit	Short circuit bench sensor	<ul style="list-style-type: none"> ■ Check cable. ■ Check terminals 31 and 32. 	Electrician/ Service engineer
211	Bench sensor interruption	Cable break bench sensor Contact terminals	<ul style="list-style-type: none"> ■ Check cable. ■ Check terminals 31 and 32. 	Electrician / service engineer
220	Wall sensor short circuit	Short circuit wall sensor	<ul style="list-style-type: none"> ■ Check cable. ■ Check terminals 33 and 34. 	Electrician / service engineer
221	Wall sensor interruption	Cable break wall sensor Contact terminals	<ul style="list-style-type: none"> ■ Check cable. ■ Check terminals 33 and 34. 	Electrician / service engineer
300	Humidistat	The humidity sensor is interrupted or shorted.	Check terminal 21 - 23 Note: The control unit can continue to be operated with time-controlled humidity. Acknowledge error display. Disconnect humidistat.	Electrician / service engineer
400	External malfunction message	Optional input of control unit, for example, Gas burner.	Acknowledge error. Rectify malfunction in external device.	User / Service engineer

Decommissioning and disposal

No.	Malfunction	Possible causes	Troubleshooting	To be carried out by
11C	I ² C error	Error on I ² C bus	Disconnect mains, wait for some time and turn on again. If error occurs again then contact the service technician.	Service engineer
485	RS485 error	Error on RS485 bus	Disconnect mains, wait for some time and turn on again. If error occurs again then contact the service technician.	Service engineer
800	Drying not properly completed	Drying temperature was not reached or program cancelled by user or error	Run drying program or acknowledge error. Start sauna program if the cabin is damp.	User
999	Internal time error	Internal time error		Service engineer

Table: 12 Malfunction messages

9.5 Acknowledge malfunction message

1. Rectify the cause of the message.
2.  -Press the key for about 2 seconds. Message disappears.

10 Decommissioning and disposal

- Do not dispose the sauna control with household waste.
- Dispose the control unit according to the respective country-specific regulations.

11 General Information

11.1 Liability limitation

All the details and instructions in this manual have been compiled taking into consideration the relevant standard specifications and stipulations and the state-of-the-art technology as well as our knowledge and experience of many years.

The manufacturer does not take any liability for damages caused by:

- Non-compliance to the operating and installation manual
- Improper use
- Unauthorized alterations
- Technical changes
- Use of unapproved spare parts and consumables.

The actual scope of delivery can deviate from the explanations and the presentation given here in case of special designs, additional orders or technical updates.

Otherwise the obligations agreed upon in the delivery contract, the general business conditions as well as the delivery terms of the manufacturer and the legal regulations valid at the time of concluding the agreement are applicable

Guarantee

The guarantee period of the manufacturer starts from the time of dispatch by the manufacturer and is valid for 24 months. The delivery date can be determined from the device number on the nameplate.

The manufacturer does not assume any liability which differs from this regulation. Guarantee claims must be submitted to the sauna manufacturer or dealer.

11.2 Copyright

Handing over the operating and installation manual to a third party without the written consent of the manufacturer is not permitted.



NOTE!

The details, texts, drawings, pictures and other representations in this manual are protected by copyright and subjected to the industrial proprietary laws. Any misuse is liable to punishment.

Reproduction in any manner or form – even as excerpt- as well as use and/or conveying of the content without written consent of the manufacturer is not permitted.

11.3 Scope of delivery

For information on the scope of delivery, pl. see the delivery note.

11.4 Spare parts



CAUTION

Danger of injury due to incorrect spare parts

Incorrect or defective spare parts could lead to damage, incorrect functioning or total breakdown and can impair the safety.

Therefore:

- Use only original spare parts of the manufacturer.
 - Repairs of the sauna control should be carried out only by the technical experts.
-

Obtain spare parts from the installer or the dealer of the sauna unit. For address see the invoice, delivery note or the reverse of the manual.

11.5 Customer service

Your dealer or the installer of the sauna unit can provide technical information on request.

The address you can find on the invoice, delivery note or the reverse of this manual.



NOTE!

For quick processing, before calling note down the data on the nameplate as well as the model, serial number, version etc..

12 Setting value

12.1 Setting value Sauna

	min.	max.
Temperature	10 °C	110 °C
Operating time	00:15 h	06:00 h (20:00 h *)

12.2 Setting value Sauna with humidity

	min.	max.
Temperature	10 °C	65 °C
Humidity	30% (01 F)	80% (09 F)
Operating time	00:15 h	06:00 h (20:00 h *)
Drying temperature	80 °C	110 °C
Drying time	0	59 min
Humidity - temperature - sum	according to VDE characteristic line EN 60335 – 2 – 53:2003 + A1:2007 picture 101	

12.3 Setting value Infrared

	min.	max.
Temperature	40 °C	90 °C (45 °C **)
Base temperature	--	65 °C (40 °C **)
Operating time	00:15 h	06:00 h (20:00 h *)

* The control units will be delivered with a maximum heating time of 6 hours. When you need a longer heating time than 6 hours, contact the installer of the dealer of your sauna.

** For Austria, the temperature can be limited to 45 °C

13 Declaration of Conformity

The electronics of the FCU2000 and FCU3000 equipment are identical to the FCU4400 equipment.

The current Declaration of Conformity can be found on the Internet at www.fasel-gmbh.de under „Control units for wellness, sauna and spa / Service / Downloads“

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Notes:

Notes:

Address of the installer or dealer of the sauna system: