

**Important documents:** Please add these documents to the device documents, they must be kept in the immediate vicinity of the control unit, so that they are always accessible.

For FCUxx00 with device-number:

here stick device number

Series FCU2x00/FCU3x00/FCU4x00/FCU5x00



## Installation instructions for options board

- FCU-EXT-POTFREI-4xIN-4xOUT-A,
- FCU-EXT-POTFREI-4xIN-A
- FCU-EXT-POTFREI-8xIN-A
- FCU-EXT-230V-4xIN-4xOUT-A,
- FCU-EXT-230V-4xOUT-A
- FCU-EXT-230V-8xOUT-A
- FCU-EXT-230V-COLOR-4xANA

### Instruction for activating the options by FCU-EXT-FREI-Modul-A

### Instruction configuration menu for the option inputs and outputs

### Description of the possible options programs

**Only for trained service technicians not for end customers!**



**Read the safety warnings in the operating manual and in the installation instructions!**

Inputs assigned as follows:

FCU-EXT-	Potfrei				230V				Potfrei			
Input IN	1	2	3	4	5	6	7	8	9	10	11	12
Program-no.												

Outputs assigned as follows:

FCU-EXT-	Potfrei				230V				230V				230V			
Output OUT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Program-no.																

Analog-Outputs assigned as follows:

FCU-EXT-4xANA	0...5V / 0...10V		0...10V	
Output A_+	1		2	3
Program-no.	1		2	

**For detailed information please refer to the configuration menu (page 8) or the delivery note with the above transaction key.**

**Position of the option board on page 4, connection diagrams starting on page 68.**

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# 1. Installation of the option boards into the FCU-control device

## ATTENTION!



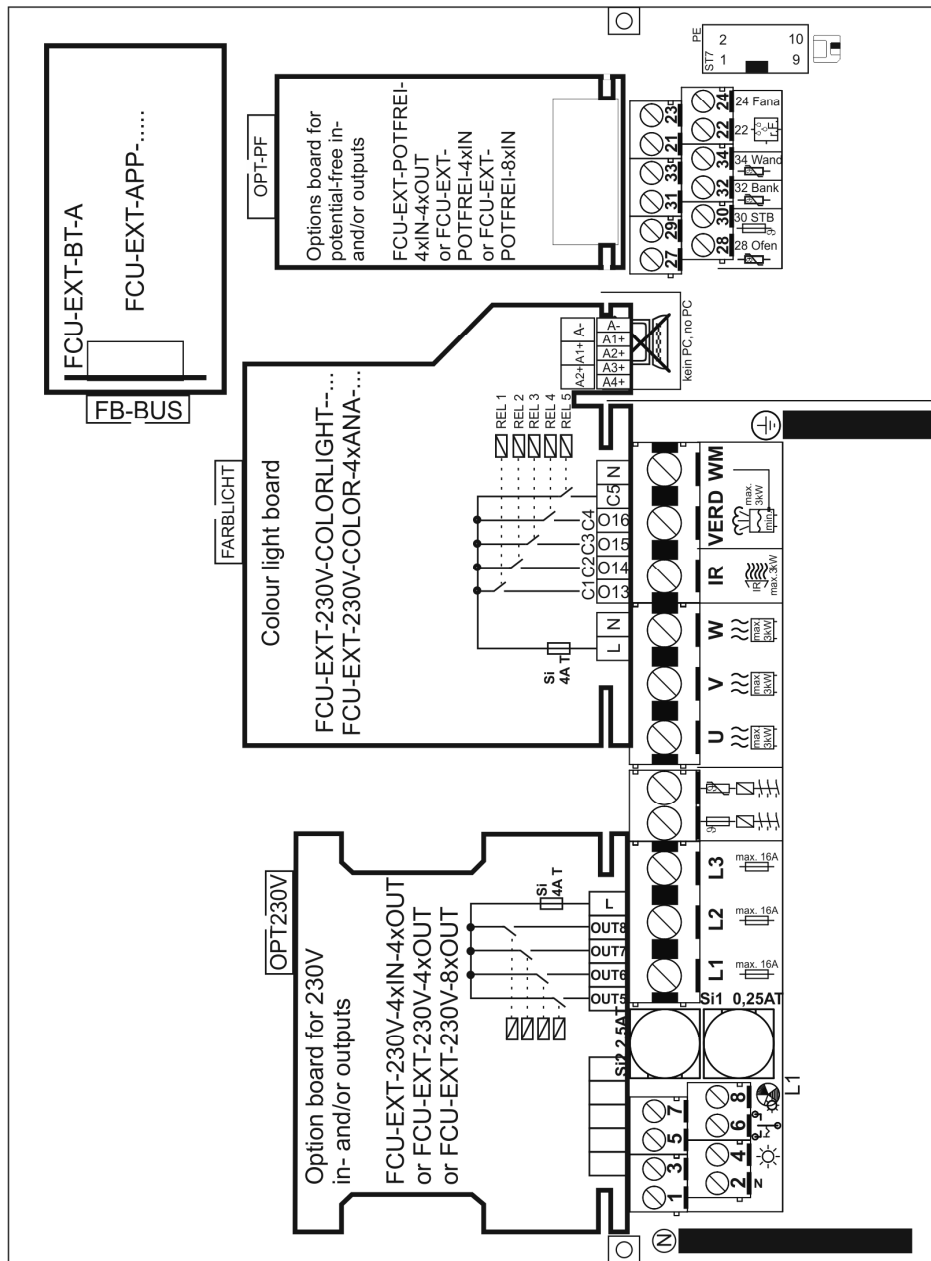
### Note ESD protection!

- Do not touch on electrical parts because of ESD protection
- Take appropriate protections. Touch a grounded piece of metal as a minimum protection.

### Tips for installation of options boards

**Attention:** Before opening the control device, please **separate all poles of the control device from the mains** (fuse box or distributing box).

Please plug the 4 included plastic distance bolts with the sharp edges in the provided holes on the control board. Now you can put the flat ribbon plug into the appropriate connector of the control board (coding nose up). Lead the connecting terminal through the separating strip and set the options board onto the distance bolts. Press the options board firmly, until the lock clips of the distance bolts click into place. The notches of the board must be placed firmly on the noses of the separating strip, otherwise the options board can slip from the fastener when attaching the power plugs.



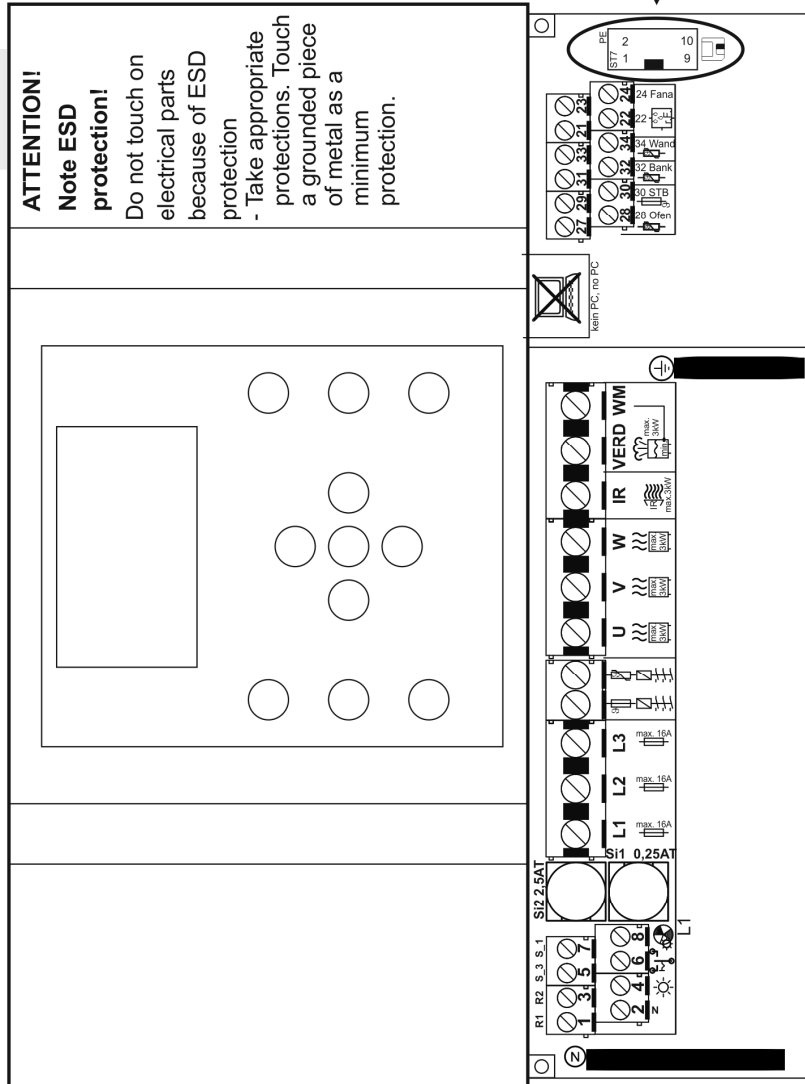
Prepared:	Modified:	Checked:	File:	
Kanzinger	Kanzinger		I:\Dok\Fasel\FCU-Ext-Modul\Opt_Platten_Einbau.cdr	
25.03.2010	19.02.2019		Technical changes and errors excepted, illustration similar	
<h2>Installation instructions of the options board</h2>				

## 2. Release of the in- and/or outputs with release module

### Modifications via update module, release module or configuration module

When several changes are made, then in the following order: 1. Update module, 2. Release module, 3. Configuration module

#### Sauna control FCUxxxx



**ATTENTION!**  
**Note ESD protection!**

Do not touch on electrical parts because of ESD protection  
- Take appropriate protections. Touch a grounded piece of metal as a minimum protection.

Software Update via update module (FCU-EXT-UPDATE-Modul) or release of an option program via release module (FCU-EXT-FREI-MODUL) or configuration via configurations module (FCU-EXT-CONFIGURATION-MODUL)

**Attention: plugging in and out of the chip module is to be done only when the power is OFF!!!**

1. Interrupt the power supply. Interrupt the electronic supply by using the main switch or set the FI (ΔI) safety switch in position OFF. **Attention!!! The main switch does not cut off the voltage on the terminals!!!**
2. Remove the lower cover from the box. Plug in the chip module. Switch on the mains again and follow the instructions on the display (press key ↵).
3. After the request "switch off mains", interrupt the power supply. Remove the chip-module and again screw the cover on.

After the release of an option program via the release module, you can learn the function of the option programs from the enclosed list of option programs. You can find the connecting terminals for the new functions on the enclosed circuit diagram.

**Attention: Do not interrupt the power supply during the software update, otherwise the program will be instable. Relays may switch uncontrollably. If the power supply was interrupted nevertheless, you must not take control into operation !!**  
**In this case the board must be sent to your merchantiser for restoring the program.**

Control Board FCUxxxx / modifications through the Up-Frei-Con-module

Prepared: Schmalz  
12.2009

Modified: Kanzinger  
06.2013

File: Up-Frei-Con-Modul.cdr

Technical changes and errors excepted, illustration similar

**FASEL**  
ELEKTRONIK

Keys	FCU2x00 FCU3x00	FCU4x00 FCU5x00	Info
↵	CHIP =KEY #  CRED: 10	<b>chip-modul data/opt:</b>  change data or option with chip-modul number of possible releases: 10 start = key ↵	This display is shown, if the chip-module was inserted and the mains was switched on. The number of possible modifications is reduced by 1 with each release. To release in- or outputs, please press the keys ↵ or ▶.
	EMPTY MAINb	<b>Chip-Modul Update:</b>  This chip-modul has no credit !  switch off mains and remove chip-modul	Attention: This error message appears, if no credit is available on the Chip-Modul. Then switch off mains, remove Chip-Modul and buy a new module. Then repeat the process
	RELEA  IN OUT SFUNC END	<b>chip-modul data/opt:</b> select options ▲ ▼ ↵ No. Releases : 10 [ ] enable inputs enable outputs enable outputs enable Color-4xANA special functions quit releases	Choose the desired function with the keys ▲ or ▼ and then press the key ↵ or ▶  You can select only the options which are installed in the unit. If the corresponding options board is missing, the menu item will be skipped. I.e. special functions, which are available only for steam bath (seat heater)
↵  ◀	RELEA  IN 1  IN 12	<b>modul data/opt:</b> HM ◀ release option input / = option enable p.fr 230V p.fr --- [ ] IN1 IN5 IN9 --- IN2 IN6 I10 --- IN3 IN7 I11 --- IN4 IN8 I12 ---	Choose the corresponding input (or output) with the keys ▲ or ▼ and then press key ↵ and afterwards key ▲ to enable the in- or output, resp. press key ▼ to disable the in- or output.
▼ ▼	RELEA  ANA	<b>chip-modul data/opt:</b> select options ▲ ▼ ↵ No. Releases : 10 enable inputs enable outputs [ ] enable Color-4xANA special functions quit releases	Here you can enable the analog output 3 and 4. (The analog output 1 and 2 can not be modified. They are assigned to the functions as FCU-EXT-230V-COLORLIGHT-A).
↵  ▶	RELEA  A3+	<b>modul data/opt:</b> HM ◀ release analog output / = option enable ANA '-4xANA' 230V A1+ 013= C1 A2+ 014= C2 [ ] A3+ 015= C3 A4+ 016= C4	Choose the corresponding output with the keys ▲ or ▼ and then press key ↵ and afterwards the key ▲ to enable the output, resp. press key ▼ to disable the output.
▼ ▼	RELEA  SFUNC	<b>chip-modul data/opt:</b> select option ▲ ▼ ↵ No. Releases : 10 enable inputs enable outputs enable Color-4xANA [ ] special functions quit releases	Here you can enable special resp. additional functions.

⏪	RELEA RGB		Here you can enable the RGB-LED-Colour light of company Licht 2000.
▼	RELEA KNX	<b>modul data/opt:</b> HM ⏪	Here you can enable the WEB-Control for communication to the Building Control (KNX-BUS). <b>This option requires a credit of 3 releases !</b>
▼	RELEA SHZ	➡ RGB STI KNX --- ⏪ ↓ ---	Only for STEAM-Control Here you can enable the regulator of a seat heater.
⏪	RELEA STI		Here you can enable the Sand-Timer (only FCU5x00)
▼	RELEA END	<b>chip-modul data/opt:</b> select option ▲ ▼ ⏪ ⏩ No. Releases: 10 enable inputs enable outputs enable Color-4xANA special functions ☒ quit releases	When you have processed all desired releases, please choose menu item quit releases and press the keys ⏪ or ⏩
⏪	END MAINb	<b>chip-modul update:</b>  update has been successfully completed  switch off mains and remove chip-modul	Switch off the power switch and remove the chip-modul. Then please switch on the device and assign the in- and outputs to the desired program functions in the configuration menu.

### 3. Configuration of options in- and outputs

# FASEL GmbH

## Brief instruction for configuration menu.

**Only for trained service technicians not for end customers!**



Read the safety warnings in the operating manual

Some menus are available only if the corresponding bathing options or other options are available.

		Display	
Keys	FCU2x00 FCU3x00	FCU4x00 (FCU5x00)	Info
▲ + ☐	MENU SMALL	Menu - Options	Hold ▲-key and press the ☐-key simultaneously
▲ + ☐	MEN-S PIN	service menu:	Hold ▲-key and press the ☐-key simultaneously
▲ + ☐	MEN-C PIN  MENUE KONF:	configuration: only for pro fitters Please enter pin  XXXXX	Enter the PIN-No. here  Standard: 8775
▼	CUST KONF:	configuration: only trained fitters are allowed to make modifications here! devi. damage possible	CAUTION: possibility of damage to device. Should be set only by a qualified service technician, who is knowledgeable about the component parts. Here the control device can be adapted to special accessories.
▼	Press the button ▼ repeatedly until the following display appears.		
▼	KONF: OUT 1 2 .. 16	configuration: SM ↵.▶  assign a feature to an option output  output           xx program number   xx	Use key ↵ to configure the option outputs
↵  ◀	OUT x. Pr. 1	configuration: MM ◀ OUT xx   prog.no. 1 output active when several fault signal  no additional options	<b>Example:</b> Select the program number and if existing set additional options. If the output is to be disabled, you must be set program number 00. It appears the following text: output ready ! No function !



▼	KONF: IN 1 2..12	<b>configuration: SM ↵.▶</b> assign a feature to an option input  <b>input            xx</b> program number    xx	Use key ↵ to configure the option inputs
↵	IN x. Pr. 1  START .....	<b>configuration: MM ↵</b> IN xx    prog.no. 1 external key start. time reset mode            sauna programm-no.    01 drying program disable        ----	<b>Example:</b> Select the program number and if existing, set the additional options. If the input is to be disabled, you must be set program number 00. It appears the following text: input ready ! no function !
▼	INPUT NO/NC	<b>configuration: SM ↵.▶</b> relay contact type select for the inputs NC = normally closed = opener NO = normally open = closer	Here select the switching type of the contact for the relevant option input. NO = Normally open contact NC = Normally closed contact
↵	IN 1 NO	<b>configuration: MM ↵</b> Relay contact type select for the inputs 1NO    5NO    9NO    13NO 2NO    6NO    10NO    14NO 3NO    7NO    11NO    15NO 4NO    8NO    12NO    16NO	Select with the keys ⬆ and ▼ the desired input. Use the key ↵ to enter programming mode. With the key ⬆ you can activate the switching function NC (opener) and with the key ▼ the switching function NO (closer). Confirm with the key ↵.
▼	KONF: ANA x.	<b>configuration: SM ↵.▶</b> assign a feature to an analog output  <b>analog Ax+</b> program number    xx	Use key ↵ to configure the analog option outputs
Additional configuration options of the device can be found in the service and configuration menu.			
☰			Use key ☰ to exit the configuration menu.

## 4. Option Programs for FCU-Series 2x00, 3x00, 4x00 and 5x00



The option programs listed here, can be selected in the configuration menu after release of the in- and outputs with a release module Please note that not all options are available for the series 2x00, 3x00 and 5x00.

## 5. Option outputs

All the following option programs can be configured on the outputs 1 – 16.



Up to software version 6.02: For option output OUT 12 you may use only programs that have no setting values in the user menu.



From software version 6.03, the option output OUT 12 can be used without restrictions.



For steam bath, the option output OUT 9 is internally reserved for flavour functions on the clamp 'flavour' and can therefore not be used freely.



**Program - No. 01**  
**Malfunction message**

---

**Available for the following series of control units**

FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured optional output:

Potential-free Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1    OUT 2    OUT 3    OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

FCU-EXT-230V-8XOUT-...

OUT 5    OUT 6    OUT 7    OUT 8

OUT 9    OUT 10    OUT 11    OUT 12

FCU-EXT-COLOR-4XANA

OUT 13    OUT 14    OUT 15    OUT 16

---

**Additional possibilities for configuration:**

None

---

**Functional Description:**

If there is an error message (Error-No. on Display) this output will be set. For all messages that afford an operator's intervention (e.g. lack of water, ext. error message), this output is set as well.

**Program - No. 02**  
**Status displays**



Available for the following series of control units

- FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output:

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

- OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

- OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

- OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

- OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

- |                                     |      |  |
|-------------------------------------|------|--|
| <input type="checkbox"/> Standby    | IFPD | Condition: Controller is in standby-mode, all modes are inactive           |
| <input type="checkbox"/> TimerSby   | T15b | Condition: Timer is active, but no mode is active yet                      |
| <input type="checkbox"/> Heating up | HEUP | Condition: The cabin is in heating-up phase                                |
| <input type="checkbox"/> Bath ready | bARE | Condition: The cabin is ready for bath, the desired temperature is reached |
| <input type="checkbox"/> Sauna      | SAU  | In mode sauna and the selected condition the output has to be active       |
| <input type="checkbox"/> Humidity   | HUM  | In mode humidity and the selected condition the output has to be active    |
| <input type="checkbox"/> Infrared   | IR   | In mode infrared and the selected condition the output has to be active    |
| <input type="checkbox"/> Drying     | DRY  | Condition: The cabin is dried (after humidity mode)                        |
| <input type="checkbox"/> Steam      | STE  | In mode steam bath and the selected condition the output has to be active  |

Function Description:

The output is active, if one or several of the ticked modes meet the selected condition



**Attention:** A mode must always be selected (even while drying), otherwise the output does not switch.

**Program - No. 03**  
**Status display for heating is blocked**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connnection:** To an adequately preconfigured optional output:

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1    OUT 2    OUT 3    OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5    OUT 6    OUT 7    OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9    OUT 10    OUT 11    OUT 12

FCU-EXT-COLOR-4XANA

OUT 13    OUT 14    OUT 15    OUT 16

---

Additional configuration possibilities:

OFF   Output is open if heater is blocked (ab V5.39)

---

Function Description:

The output is active, if a mode is active, but the heater will not be turned on, because it is blocked due to a special option.

Options that block the heater:

Programme – No. 21: Door is open for more than xx min., heaters OFF

Programme – No. 33: Heater is blocked by a performance optimizing system.

**Program - No. 04**

**Status display option inputs** (ab V5.35)

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output:

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

- Input 1
- Input 2
- Input 3
- Input 4
- Input 5
- Input 6
- Input 7
- Input 8

Function Description:

The output will be active, if one or more selected option inputs are active.

## Program - No. 06

### Status displays for door-programs

Available for the following series of control units

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Outputs

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA


OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: **(factory setting)**

- |   |              |   |
|---|--------------|---|
| <input type="checkbox"/> Standby remote     | <i>SbF</i>   | Start enable available (Flashing) (output of INxx Pr. 29, 30)         |
| <input type="checkbox"/> watch door         | <i>WATE</i>  | Door monitoring active, don't open door (output of INxx Pr 23, 29)    |
| <input type="checkbox"/> Abort because door | <i>STOP</i>  | Start abort because door was opened (output from INxx Pr. 23, 29)     |
| <input type="checkbox"/> Door longer open   | <i>-----</i> | Door longer open than xx min. (output from INxx Pr. 21, only FCU4x00) |

#### Function Description:

The output is active when the corresponding states by the door monitoring programs are reached.

If "Abort because door" is open before door monitoring was inactive, the button  must be acknowledged to reset the output.

See Option Input Program No. 21, No.23, No. 29 und No.30.



For this option program you absolutely need the option input program (s) - no. 21, no. 23, no. 29 and / or no. 30.



Options input program No. 21 only possible with the FCU4x00 series.

**Program - No. 07**  
**Status displays for temperature-lowering**

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Outputs

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

FCU-EXT-230V-8XOUT-...

OUT 5  OUT 6  OUT 7  OUT 8

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: **(factory setting)**

<input type="checkbox"/> „COOL“	temperature-lowering active from INxx Pr. 18)
<input type="checkbox"/> „HOT“	temperature-lowering inactive from INxx Pr. 18))
<input type="checkbox"/> heat up	Heat up (start until basic temperature, release until bath ready)

**Function Description:**

The output is active when the corresponding states are reached.

„COOL“	when regulated to the "basic temperature" (low temperature).
„HOT“	when regulated to the normal set temperature (user menu value).
Heat up	if one of the heating phases, start to basic temperature or basic temperature up to the set setpoint temperature, is active.



For this option program you absolutely need the option input program no. 18



After the end of the program, in standby, the output is inactive.



## Program - No. 09 Control of flavour pump

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

FCU2/3x00

FCU4/5x00

with EVAP

Flavour only, if evaporator is active

10 min

No more flavour, if remaining time is less than 10min

20 min

No more flavour, if remaining time is less than 20min

30 min

No more flavour, if remaining time is less than 30min

fix)

b.Farb1

Flavour only, if colour 1 is active (only if colour light exists)

fix)

b.Farb2

Flavour only, if colour 2 is active (only if colour light exists)

fix)

b.Farb3

Flavour only, if colour 3 is active (only if colour light exists)

fix)

b.Farb4

Flavour only, if colour 4 is active (only if colour light exists)

### Function Description:

A flavour pump is installed at an adequate output (230V~). In menu 'Program settings' the time of pause (interval) and the injection time can be set.



The flavour pump is not activated during heat-up phase and drying phase.



If the configuration 'flavour only active with evaporator' is selected, the start of the flavour pump will be delayed until the evaporator is active.



The flavour pump is not activated if the configuration 'flavour only active with evaporator' will be selected and the humidistat will show less than 50% humidity (if evaporator is out of order and produces nor more humidity).

**Program - No. 10**  
**Control of flavour pump at fixed times**

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

FCU-EXT-230V-8XOUT-...

OUT 5  OUT 6  OUT 7  OUT 8

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

- with EVAP Flavour only, if evaporator is active  
 10 min No more flavour, if remaining time is less than 10min  
 20 min No more flavour, if remaining time is less than 20min  
 30 min No more flavour, if remaining time is less than 30min

**Function Deskription:**

A flavour pump is installed at an adequate output (230V~).

In menu 'program settings' the injection time and the time of pause (interval) and can be set. For each selected number of minutes, the flavour pump is activated according to the set injection time.

- |                                |                                |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> xx:00 | <input type="checkbox"/> xx:30 |
| <input type="checkbox"/> xx:10 | <input type="checkbox"/> xx:40 |
| <input type="checkbox"/> xx:15 | <input type="checkbox"/> xx:45 |
| <input type="checkbox"/> xx:20 | <input type="checkbox"/> xx:50 |



The flavour pump is not activated during heat-up phase and drying phase.



If the configuration 'flavour only active with evaporator' is selected, the start of the flavour pump will be delayed until the evaporator is active.



The flavour pump is not activated if the configuration 'flavour only active with evaporator' was selected and the humidistat showed less than 50% humidity (if evaporator is out of order and produces nor more humidity).

## Program - No. 11 infusion automat

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free – Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

only FCU4x00

heat with oven U

For infusion oven phase U heats (since V6.09)

heat with oven V

For infusion oven phase V heats (since V6.09)

heat with oven W

For infusion oven phase W heats (since V6.09)

### Function Description:

An infusion automat is installed at an adequate output.

In the menu 'program settings' the start time and the duration of a infusion (0...99s) can be adjusted for each program separately. For each selected number of minutes, the infusion automat is activated for the duration you set.

In the menu 'basic settings' you can set the time (between 2 and 9 minutes) the heating should start prior to all the other programs beginning.

During the infusion phase, the display as well as the cabin interior display show *Hot*.

xx:00

xx:30

xx:10

xx:40

xx:15

xx:45

xx:20

xx:50



The infusion automat is activated only in mode Finnish Sauna.



The infusion automat is not activated during the heating phase.



There must be no option programs, which can block the heat up of the oven.

**Program - No. 12**  
**Manual infusion**

---

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

---

Additional configuration possibilities:

None

---

**Function Description:**

An infusion automat is installed at an adequate output.

If the manual infusion (options-input program No. 17) was started, this output is active. All setting values are at options-input program No. 17.



The infusion automat is activated only in mode Finnish Sauna.



The infusion automat is not activated during the heating phase.



There must be no option programs, which can block the heat up of the oven.

**Program - No. 13**  
**Output via menu ON and OFF**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured optional output:

Potential-free Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1    OUT 2    OUT 3    OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5    OUT 6    OUT 7    OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9    OUT 10    OUT 11    OUT 12

FCU-EXT-COLOR-4XANA

OUT 13    OUT 14    OUT 15    OUT 16

---

**Additional possibilities for configuration:**

None

---

**Functional Description:**

The corresponding Output can be freely switched on and off via the user menu.



The state of the output remains valid until it is changed by menu, or the controller is turned off, then turns off the output.

**Program - No. 14**  
**Momentary impulse, started by option input xx**

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1    OUT 2    OUT 3    OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

FCU-EXT-230V-8XOUT-...

OUT 5    OUT 6    OUT 7    OUT 8

OUT 9    OUT 10    OUT 11    OUT 12

FCU-EXT-COLOR-4XANA

OUT 13    OUT 14    OUT 15    OUT 16

Additional configuration possibilities:   **(factory setting)**

FCU4x00

1..12

flavor

Number of the Input which starts the Momentary impulse

Output = flavor

No:    Output functions (when any mode is activated)

Yes:   Output switches only when „bath ready“, only when evaporator is active, not during the drying program

**Function Description:**

The output is activated for set time, which is adjusted in the user menu, as soon as the selected input is activated and a mode is active. When the pulse time runs out, a reactivation of the input has no effect.



The output switches only when a mode is activated (standby = OFF).



When output is selected for “flavor”, the output is only activated if the mode “sauna with humidity” is active, the cabin is ready for bath (not heat-up or drying phase), the evaporator is active and the humidistat will show more than 50% humidity (if evaporator is out of order and produces no more humidity)



The selected option input (1..12) has to be unlocked and programmed with Prog.Nr. 0 (output ready, no function).

**Program - No. 17**  
**Evaporator by options relay**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1    OUT 2    OUT 3    OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5    OUT 6    OUT 7    OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9    OUT 10    OUT 11    OUT 12

FCU-EXT-COLOR-4XANA

OUT 13    OUT 14    OUT 15    OUT 16

---

Additional configuration possibilities: (factory setting)

<input type="checkbox"/> <b>Oven W heats</b>	Oven phase W heats also at mode "sauna with humidity"
Always active	In configuration WAN (Wall-heating-system)
Always active	In configuration 3PH (All oven phases operate synchronously)

---

**Function Description:**

The evaporator (with own power supply or through a FCU-EXT-POW-...) is controlled by an options relay.

As an additional configuration you can heat the oven with all 3 phases



This program is needed whenever an evaporator is driven and all 3 oven phases are in use (i.e. with configuration mode 3PH or WAN)

**Program - No. 18**  
**Infrared by options relay**

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

**Oven V heats**      Oven phase V heats also at mode "Infrared"  
Always active:      In configuration WAN (Wall-heating-system)  
Always active:      In configuration 3PH (All oven phases operate synchronously)

**Function Description:**

The infrared-system (with own power supply or through a FCU-EXT-POW-..) is controlled by an options relay.

As an additional configuration you can heat the oven with all 3 phases



This program is needed whenever the infrared system is active and all 3 oven phases are in use (i.e. with configuration mode 3PH or WAN)



## **Program - No. 19** **Control base load**

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

The option output must not switch the oven load directly. A capacity expansion of the type FCU-EXT-POW\_xxx must be used.

Clamp 8 of the capacity expansion must be connected with the option output. Clamp 7 of the capacity expansion must be connected with  (clamp 7) of the control unit.

### Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

### 230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

### **Additional configuration possibilities:**

none

### **Function Description:**

With this program the oven is heated with a continuously part load, to avoid greater temperature fluctuations.



This output is controlled only in mode ‚Finnish sauna‘.



The output will be switched off when the maximum sauna temperature is reached.



The output will be switched off when the limiter temperature of the oven is reached.



With release of this program, the base load activated on the standard oven relay does not run anymore. The oven relay switches back to normal.



The output will not be switched off when the option-input program no. 18 (temperature-lowering) is active.

**Program - No. 20**  
**Fan by options relay** (since V5.28)

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12

FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

Additional configuration possibilities: (factory setting)

None

**Function Description:**

If the fan is active, the options relay will be activated in addition to the fan output, independent of the set fan speed.



You will need this program, if a throttle is installed in the air outlet conduit, which must be opened electrically.



This output function is also active if the FCUxxx-Design-Glas is in the OFF-Mode (the red LED lights).

**Program - No. 21**  
**Light by options relay** (since V6.08)

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1    OUT 2    OUT 3    OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5    OUT 6    OUT 7    OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9    OUT 10    OUT 11    OUT 12

FCU-EXT-COLOR-4XANA

OUT 13    OUT 14    OUT 15    OUT 16

Additional configuration possibilities: (factory setting)

None

**Function Description:**

If the light is active, the options relay will be activated in addition to the light output, independent of the set light level



You will need this program whenever cabin lighting uses a high inrush current electronic ballast module, e.g. LED modules. Use the option outputs Out 13 ... Out 16 for high inrush currents!



This output function is also active if the OFF state (red LED lit) is active for FCUxxxx design glass.

**Program - No. 22**  
**Reset external Error**

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional output

Potential-free - Output

FCU-EXT-POTFREI-4XIN-4XOUT

OUT 1  OUT 2  OUT 3  OUT 4

230V~ – Outputs

FCU-EXT-230V-4X(8X)OUT-...

OUT 5  OUT 6  OUT 7  OUT 8

FCU-EXT-230V-8XOUT-...

OUT 9  OUT 10  OUT 11  OUT 12


FCU-EXT-COLOR-4XANA

OUT 13  OUT 14  OUT 15  OUT 16

**Additional configuration possibilities:**

None

**Function Description:**

With this option program an external error can be acknowledged (i.e. error signal). If the error message of option input program 22 or 52 was active, please press key  in order to acknowledge the error. Then the output switches for approx. 2 seconds.



For this program the option input program 22 or 52 must be active too.

The option programs listed here, can be selected in the configuration menu after release of the in- and outputs with a release module Please note that not all options are available for the series 2x00, 3x00 and 5x00.

## 6. Option inputs

All the following option programs can be configured on the inputs 1 - 12.

### ***Safety instructions and warnings***

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**NOTE!**

*Before use the option inputs (especially the start programs) it is absolutely recommend to read the operating manual of the FCUxxxx carefully and completely! **Epecially consider the safety instruction and warnings**, which are also valid for the option inputs!*

---

**Program - No. 01****Start, resp. set time anew (key)**

(Pulse duration: 0,5s ... 10s)

Available for the following series of control units

 **FCU**  
 **FCU-IR**  
 **FCU-Steam**  
 FCU2x00  
 FCU3x00  
 FCU4x00  
 FCU5x00
**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...
 IN 1  
 IN 2  
 IN 3  
 IN 4
FCU-EXT-POTFREI-8XIN-...
 IN 9  
 IN 10  
 IN 11  
 IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...
 IN 5  
 IN 6  
 IN 7  
 IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00

FCU4/5x00

 Mode Program number Lock drying programDepending on alternative: act., sauna, humidity, IR  
Act., 1..8

No drying program after sauna with humidity

**Function Description:**

The desired program (sauna, sauna with humidity or IR) is started with a pulse. The heating time of a running program is replaced by the programmed heating time.



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 02**  
**Start / Stop (key)**

(Pulse duration: 0,5s ... 10s)

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00    FCU4/5x00

<input type="checkbox"/>	<input type="checkbox"/> Mode	Depending on alternative: act., sauna, humidity, IR
	<input type="checkbox"/> Program number	Act., 1..8
	<input type="checkbox"/> Lock drying program	No drying program after sauna with humidity

**Function Description:**

**Mode inactive:** The desired program (sauna, sauna with humidity or infrared) is started with a pulse.

**Mode active:** The actual program is ended with a pulse



If "lock drying program" is not activated in mode sauna with humidity, the drying program can be started by a second pulse.



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

Options-input



**Program - No. 03**  
**Stop ( key)**

(Pulse duration: 0,5s ... 10s)

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

Additional configuration possibilities: (factory setting)

FCU2/3x00 FCU4/5x00

( fix)

Lock drying program

No drying program after sauna with humidity

---

**Function Description:**

**Mode inactive:** No function

**Mode active:** When the switching contact is closed, the current program ends



If “lock drying program” is not activated in mode sauna with humidity, the drying program can be started by opening the contact.



If FCUxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.



**Program - No. 04**  
**Start / Stop as switch function**

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Input

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00

FCU4/5x00

Mode

Program number

Lock drying program

Depending on alternative: act., sauna, humidity, IR  
 Act., 1..8

No drying program after sauna with humidity

**Function Description:**

**Mode inactive:** By closing the switching contact, the desired program (sauna, sauna with humidity or infrared) is started.

**Mode active:** By opening the switching contact, the desired program is ended.



If “lock drying program” is not activated in mode sauna with humidity, the drying program can be started by opening the contact.



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 05****Start / set time anew, Start locked at control device**

(Key pulse duration: 0,5s ... 10s)

**Available for the following series of control units**
 FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00
**Connection:** To an adequately preconfigured optional input

:

## Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...
 IN 1    IN 2    IN 3    IN 4
FCU-EXT-POTFREI-8XIN-...
 IN 9    IN 10    IN 11    IN 12

## 230V~ – Inputs

FCU-EXT-230V-4XIN-...
 IN 5    IN 6    IN 7    IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00

FCU4/5x00

 Mode Program number Lock drying programDepending on alternative: act., sauna, humidity, IR  
Act., 1..8

No drying program after sauna with humidity

**Function Description:**

The desired program (sauna, sauna with humidity or infrared) is started with a pulse. The heating time of a running program is replaced by the programmed heating time.

With this option program a remote start can be prevented if the control device was not installed near the cabin door.



The keys of the control device and (up V5.34) of the WEB-CONTROL for the modes only serve as a stop-function. It is not possible to start the device with the keys.



The timer cannot be activated (is considered remote start)



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 06**  
**Start/Stop, Start locked at control device**

(Key pulse duration: 0,5s ... 10s)

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00 FCU4/5x00

Mode

Program number

Lock drying program

Depending on alternative: act., sauna, humidity, IR  
 Act., 1..8

No drying program after sauna with humidity

**Function Description:**

**Mode inactive:** The desired program (sauna, sauna with humidity or infrared) is started with a pulse.

**Mode active:** The current program is ended by a pulse.

With this option program a remote start can be prevented if the control device was not installed near the cabin door.



The keys of the control device and (up V5.34) of the WEB-CONTROL for the modes only serve as a stop-function. It is not possible to start the device with the keys.



The timer cannot be activated (is considered remote start)



If “lock drying program” is not activated in mode sauna with humidity, the drying program can be started by a second pulse.



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 07**  
**Start/Stop as switch, Start locked at control device**

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00

FCU4/5x00

Mode

Program number

Lock drying program

Depending on alternative: act., sauna, humidity, IR  
 Act., 1..8

No drying program after sauna with humidity

**Function Description:**

**Mode inactive:** By closing the switching contact, the desired program (sauna, sauna with humidity or infrared) is started.

**Mode active:** By opening the switching contact, the current program is ended.

With this option program a remote start can be prevented if the control device was not installed near the cabin door.



The keys of the control device and (up V5.34) of the WEB-CONTROL for the modes only serve as a stop-function. It is not possible to start the device with the keys.



The timer cannot be activated (is considered remote start)



If “lock drying program” is not activated in mode sauna with humidity, the drying program can be started by opening the contact.



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 08****Start/Stop of coiner, Start locked at control device****Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00

FCU4/5x00

Mode

Program number

Lock drying program

Depending on alternative: act., sauna, humidity, IR  
Act., 1..8

No drying program after sauna with humidity

**Function Description:**

**Mode inactive:** By closing the switching contact, the desired program (sauna, sauna with humidity or infrared) is started.

**Mode active:** By opening the switching contact, the current program is ended.



The keys of the control device and (up V5.34) of the WEB-CONTROL for the modes only serve as a stop-function. Only if the contact of the coin meter is active, it will be possible to start with these keys



The timer cannot be activated.



If “lock drying program” is not activated in mode sauna with humidity, the drying program can be started by opening the contact



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 09**  
**Start from Standby (key)**

(Pulse duration: 0,5s ... 10s)

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

Additional configuration possibilities: (factory setting)

FCU2/3x00    FCU4/5x00

- Mode  
 Program number  
 Lock drying program

Depending on alternative: act., sauna, humidity, IR  
Act., 1..8  
No drying program after sauna with humidity

---

**Function Description:**

The desired program (sauna, sauna with humidity or infrared) is started by a pulse, but only, if „standby“ was active. On a running program a new impulse is without effect.



If FCUxxxx-DESIGN-TOUCH / GLAS is in OFF-state, no program can be started.

**Program - No. 15**  
**Timer Ein/Aus (Taster)**

(Impulsdauer: 0,5s ... 10s)

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1    IN 2    IN 3    IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

---

Additional configuration possibilities: **(factory setting)**  
none

---

**Function Description:**

With this option program the timer can be switched on and off.

**Program - No. 16**

**Start locked at control device** (since V6.15 drying lockable)

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

Additional configuration possibilities: (factory setting)

FCU2/3x00 FCU4/5x00

fix)

Lock drying program

No drying program after sauna with humidity

---

**Function Description:**

**Mode inactive:** The start of the bath modes is not affected.

**Mode active:** The current program is terminated with / without drying and the timer is deactivated. The start of any bath modes is disabled.



## Program - No. 17

### Start manual infusion (key)

(Pulse duration: 0,5s ... 10s)

#### Available for the following series of control units

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

Additional configuration possibilities: (factory setting)

FCU2/3x00

fix)

fix)

fix)

FCU4x00

heat with oven U

heat with oven V

heat with oven W

For infusion oven phase U heats

For infusion oven phase V heats

For infusion oven phase W heats

#### Function Description:

After pressing the key, that is connected with the option input, the oven heats up for the set 'HOT-time' or to the maximum sauna temperature. After the set time, the oven regulates to the set point temperature.

After pressing the key or during the infusion phase, the display as well as the cabin interior display show *Hot*.

Set heating time for sauna maximum temperature

**The time, how long the oven heats up to maximum temperature can be set at the control device in menu "basic settings"**



The infusion-function is only possible in mode sauna and only after the heat-up phase.

**Program - No. 18**  
**Energy-saving mode: temperature-lowering**

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

**Additional configuration possibilities:** (since V 6.14)

FCU4x00

evaporator lock                      evaporator during temperature-lowering = OFF

**Function Description:**

If this option program is active, the cabin temperature is regulated to a basic temperature. If the input is activated, the temperature-lowering is cancelled for an adjustable time and the temperature is regulated according to the value set in the user menu.

When the time has expired, (the time expires only if the input is inactive) the temperature is regulated to basic temperature again and all options, which are active only after the heat-up phase, are switched off as well. While lowering the temperature, in the display and the cabin interior

display appears: **Cool**.

During the heat-up phase (such as for 30min) appears in the display **HOT für 30.00**

and in the cabin interior display **H 30**

The basic temperature and how long it is interrupted (temperature on set point), are adjusted in the menu 'basic settings'

If you use the modes „finnish sauna“ and „sauna with humidity“ in the same cabin, you will have to set the values twice: once selected with mode sauna and once with mode sauna with humidity.

	Setting value	Factory setting	
time in minutes:	2 .. 99	30 min	with sauna (or steam bath) up V5.30
time in minutes:	2 .. 99	30 min	with sauna with humidty up V5.30
Temperature in °C:	40° .. 70°	60°	sauna
Temperature in °C:	30° .. 45°	40°	sauna with humidity up V5.24
Temperature in °C:	30° .. 45°	40°	ir up V5.24
Temperature in °C:	30° .. 40°	35°	steam bath up V5.24

**Program - No. 19**  
**Energy-saving mode: Interrupt program**

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

**Additional configuration possibilities:**

None

**Function Description:**

If this option program is active, the current mode will be interrupted, i.e. the heater (and IR-heater) and the humidity are switched off, but the clock for the heating time continues to run. The program can be continued with options input program 20.



For this option program you necessarily need the option program 20, so that the interrupted program can be continued.

**Program - No. 20**  
**End Energy-saving mode: Continue program**

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

**Additional configuration possibilities:**

None

---

**Function Description:**

With this option program you can continue the current mode, which was interrupted by option input program 19.



For this option program you necessarily need the option program 19, otherwise this option program is without effect.

**Program - No. 21**

**Energy-saving mode: Door open for xx min. Heaters off**

---

**Available for the following series of control units**

FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1    IN 2    IN 3    IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

---

**Additional configuration possibilities:** (factory setting)

**Switching off-dead time: 05 min**

---

**Function Description:**

With this option program the cabin door is controlled. If the door is open for more than the set time, all heaters (oven, IR and evaporator) are switched off.

**Program - No. 22**  
**External error message (Program termination)**

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---


**Additional configuration possibilities:**

None

---

**Function Description:**

With this program external error messages are reported to the control unit. The current program is cancelled and the display shows the error message (error No. 400).

The error message is acknowledge with the key  (as all other error messages as well)



If an option output is activated with a collective error message, this output will be set.

**Program - No. 23**  
**Door control** (since V5.37)

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...      FCU-EXT-POTFREI-8XIN-...

IN 1    IN 2    IN 3    IN 4       IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

**Function Description:**

The door must be opened for inspection of the cabin and then closed again. Then within 60s a mode (sauna, sauna with humidity, IR or steam bath) can be started or the timer can be activated. If the door is open,(or the expiry of the time) the following message will be shown on the display:

```

    Attention
  check the cabin
  Nothing should be
  lie on the oven !!!
  close the door
  
```

FCU4/5x00

```

  DOOR
  
```

FCU2/3x00

After a successful start the following message is shown:

```

  watch door
  
```

FCU4/5x00

```

  WATCH
  DOOR
  
```

FCU2/3x00

The cabin door may be opened only when the temperature over the oven is increased by 10°C (or has reached 80% of the set point value), otherwise the mode will be cancelled.

```

  door STOP
  
```

```

  STOP
  DOOR
  
```

**Note**

**When used as a safety device to prevent a fire hazard:**



To prevent fire hazard, please make sure before starting the sauna, that the heater and the area around the heater is free of objects.

If the control unit is not installed directly at the sauna cabin, it is recommended to use this option program together with option program 5, 6 or 7. These option programs cannot be started with the keys of the control unit! Therefore the sauna can be started only at the sauna cabin, e.g. with a key switch (when the door is closed).

**Program - No. 24**  
**Change mode/program**

---

**Available for the following series of control units**

FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1    IN 2    IN 3    IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

---

**Additional configuration possibilities:**

(factory settings)

FCU2/3/5x00   FCU4x00

   Mode  
 Program number

Depending on alternative: act., sauna, humidity, IR  
act., 1..8

---

**Function Description:**

With this option program you can change in a particular mode or program (only FCU4x00), even if another mode was active.



**Program - No. 29****Standby for Remote operation and door control** (since V6.08)

Available for the following series of control units

**FCU**  **FCU-IR**  **FCU-Steam**  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...      FCU-EXT-POTFREI-8XIN-...

IN 1    IN 2    IN 3    IN 4       IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

**Function Description:**

For standard-compliant activation of the sauna by remote operation or timer.

The door must be opened to control the cabin and then the door must be closed again. Then within 60 seconds the control can be acknowledged with the key or, if the operating unit is not close to the door, with an external key switch (program number 30). Now the cabin is in standby for remote operation. Only then an operating mode (sauna, sauna with humidity, IR or steam bath) can be started or the timer can be activated.

When the cabin door is open (or after the time has expired) the following message appears in the display:

FCU4x00 FCU5x00

```

Attention
Check the cabin
Nothings should be
lie on the oven !!!

close the door

```

FCU2/3x00

```

CHECK
OVEN

```

After checking and the door is closed, the following message appears, now the release must be given within 60s:

```

Attention
Cabine checked ?

give
release

```

```

RE-
LEASE

```

After acknowledgment, the following message appears:

```

Remote

```

```

REMOT
ENABL

```

The control unit is now in the standard-compliant operating state "Standby for remote operation". This state is retained until the door is opened, the controller is switched off or the power supply is interrupted. The controller can now be started or the timer can be activated.

After the start, the following message appears:

```
    watch door    
```

```
WATCH  
DOOR
```

The cabin door must not be opened again until the temperature in the cabin (above the oven) has increased by 10°C (or reaches 80% of the setpoint), otherwise the operating mode will be aborted. In this case, the following message appears again:

FCU4x00 FCU5x00

```
    Attention    
```

```
Check the cabin  
Nothins should be  
lie on the oven !!!  
  
close the door
```

FCU2/3x00

```
CHECK  
OVEN
```



**For this option program is the activation "SBF" required at the factory**



To prevent fire hazard, please make sure before starting the sauna, that the heater and the area around the heater is free of objects.



If the control unit is not installed near the door of the sauna cabin, the input option program no. 30 must be used together with a key switch and the output option program no. 6 must be used as the indication for the release of the "Standby for remote control".

### Program - No. 30

### Standby for Remote operation, external acknowledgment key

(since V6.08)

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional input

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1    IN 2    IN 3    IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

#### Function Description:

For standard-compliant activation of the sauna by remote operation or timer.

If the control unit is not installed near the door, the cabin control must be acknowledged via an external key.

Functional sequence see program no. 29



**For this option program is the activation "SBF" required at the factory**



The option program - No. 29 is absolutely necessary



To prevent fire hazard, please make sure before starting the sauna, that the heater and the area around the heater is free of objects.



If the control unit is not installed near the door of the sauna cabin, the output option program no. 6 must be used as the indication for the release of the "Standby for remote control".

## Program - No. 33

### Energy-saving mode by performance optimization

#### Available for the following series of control units

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

#### Potential-free - Input

*FCU-EXT-POTFREI-4X(8X)IN-...*

*FCU-EXT-POTFREI-8XIN-...*

IN 1  IN 2  IN 3  IN 4  IN 9  IN 10  IN 11  IN 12

#### 230V~ – Inputs

*FCU-EXT-230V-4XIN-...*

IN 5  IN 6  IN 7  IN 8

#### Additional configuration possibilities: (factory settings)

- Oven U if input is active, the oven phase U will be switched off
- Oven V if input is active, the oven phase V will be switched off
- Oven W if input is active, the oven phase W will be switched off
- Humid if input is active, the evaporator will be switched off
- IR if input is active, the infrared heating system will be switched off

#### Function Description:

In energy contracts for large-scale consumers, the peak capacity is stipulated by the contract. If this peak capacity is exceeded, high costs will arise. To prevent this, you can use the performance optimization systems (LOA), which control the maximum peak capacity and, in case of exceedance, switch off chosen consumers

With this option program the sauna control FCU can be connected with such a system. As long as the corresponding input is activated, the selected consumers will be switched off.



If a consumer is switched off by the performance optimization system, the display will show the message `000 Perform.opt.000`, or for FCU2xxx and FCU3xxx `DFEN LOCK`

**Program - No. 34**  
**Switch on / off cabin light**

---

**Available for the following series of control units**

FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1    IN 2    IN 3    IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

---

**Additional configuration possibilities:**

None

---

**Function Description:**

With this option program the cabin light can be switched on or off.

## Options-Input

### **Program - No. 35** **Switch on / off fan**



---

#### Available for the following series of control units

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

#### Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1

IN 2

IN 3

IN 4

IN 9

IN 10

IN 11

IN 12

FCU-EXT-POTFREI-8XIN-...

#### 230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5

IN 6

IN 7

IN 8

---

#### Additional configuration possibilities:

None

---

#### Function Description:

With this option program the fan can be switched on or off.

## Options-Input

### Program - No. 36 Infrared single seat release



---

#### Available for the following series of control units

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00-IR-6kW  FCU5x00

**Connection:** To an adequately preconfigured optional input:

#### Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

#### 230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

#### Additional configuration possibilities: (factory settings)

- |                                 |  |
|---------------------------------|--|
| <input type="checkbox"/> IR 1.1 | if input is active, the infrared heater L_1.1 is enabled |
| <input type="checkbox"/> IR 1.2 | if input is active, the infrared heater L_1.2 is enabled |
| <input type="checkbox"/> IR 1.3 | if input is active, the infrared heater L_1.3 is enabled |
| <input type="checkbox"/> IR 1.4 | if input is active, the infrared heater L_1.4 is enabled |
| <input type="checkbox"/> IR 2.1 | if input is active, the infrared heater L_2.1 is enabled |
| <input type="checkbox"/> IR 2.2 | if input is active, the infrared heater L_2.2 is enabled |

---

#### Function Description:

With this option program, a switch for “seat occupied” can be connected to the infrared control FCU4000-IR-6kW. As long as the corresponding input is activated, the selected infrared heater will be enabled.

## Options-Input

### **Program - No. 49** **Switch Colour light**



---

#### Available for the following series of control units

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

#### Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

#### 230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

#### Additional configuration possibilities:

None

---

#### Function Description:

With this option program you can switch the colour light. Start with the current colour and select the next colour /mixed colour by activating the input (depending on whether mixed colours are allowed) After the 4<sup>th</sup> colour, switch off the colour light, then select AUTO-operation, afterwards manual operation again.



**Program - No. 51**  
**Chimney sweeper mode**

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

**Additional configuration possibilities:**

None

**Function Description:**

This option program is especially for gas-oven-controls!

For the immission measurement the chimney sweeper can turn on the switch. The control starts automatically sauna program No. 1 and the sauna is heated up to maximum sauna temperature (like a infusion).

The maximum heating time is programmed once in the control unit as infusion time. When the time has expired or the switch is turned off, the control is stopped and changes to standby mode.

**Program - No. 52**  
**External error message for burner (only display)**

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---


**Additional configuration possibilities:**

None

---

**Function Description:**

With this program an external error message is sent to the control unit and shown on the display. The current program is not interrupted.

To delete the message, the external error must be inactive for more than 60 sec. or the key  must be pressed. Then the oven relays are switched off for 60 sec., so that i.e. the error message of a gas-burner can be reset.



If an option output with collective error message is activated, this output is set.

**Program - No. 53**

**Acknowledge messages and malfunction messages**

(since V6.12)

---

**Available for the following series of control units**

FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1    IN 2    IN 3    IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9    IN 10    IN 11    IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5    IN 6    IN 7    IN 8

---

**Additional configuration possibilities:**

None

---

**Function Description:**

With this program messages and malfunction messages are acknowledged.

**Program - No. 57**  
**Counter for door openings**

---

**Available for the following series of control units**

FCU  FCU-IR  FCU-Steam  FCU2x00  FCU3x00  FCU4x00  FCU5x00

**Connection:** To an adequately preconfigured optional input:

Potential-free - Input

FCU-EXT-POTFREI-4X(8X)IN-...

IN 1  IN 2  IN 3  IN 4

FCU-EXT-POTFREI-8XIN-...

IN 9  IN 10  IN 11  IN 12

230V~ – Inputs

FCU-EXT-230V-4XIN-...

IN 5  IN 6  IN 7  IN 8

---

**Additional configuration possibilities:**

None

---

**Function Description:**

With this program you can count, how many times the door was moved, i.e. to estimate the number of visitors.



The counter runs only, when a mode is active.



The counter can be reset only in the configuration menu.

## 7. Analog option outputs

Analog Option Output

**Program - No. 01**  
**Color wheel control 0...4V**



---

Available for the following series of control units

FCU    FCU-IR    FCU-Steam    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

*FCU-EXT-...-4xANA*

---

A3+     A4+

---

Function Description:

An analog voltage of 0 ... 4V is output for a light box with color wheel. Each voltage is assigned to a specific color



The jumper for the selection from 0 ... 5V / 0 ... 10V must not be plugged!.

Analog Option Output 0...10V



**Program - No. 02**  
**Dimmer cabin light**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

*FCU-EXT-...-4xANA*

---

A3+       A4+

---

Function Description:

An analog voltage of 0 ... 10V, accordingly to the dimmer level for the cabin light, is output for the control of an external dimmer

Analog Option Output 0...10V



**Program - No. 03**  
**Speed control fan**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

FCU-EXT-...-4xANA

A3+     A4+

---

Function Description:

An analog voltage of 0 ... 10V is output accordingly to the fan speed.



This function can e.g. used to control a central exhaust valve.

## **Program - No. 05** **Control of IR intensity 1**

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

FCU-EXT-...-4xANA

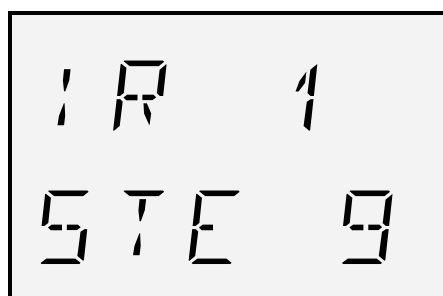
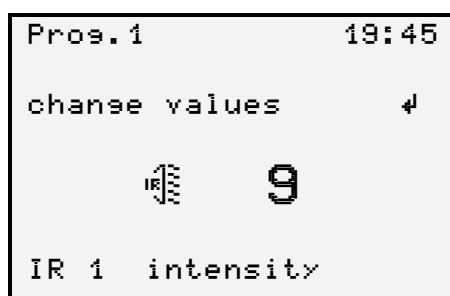
A3+     A4+

### Function Description:

An analog voltage of 0 ... 10V is output accordingly to the programmed IR intensity 1.  
This function is used to adjust the intensity of the IR emitter with the external AC voltage controller (dimmer) FCU-EXT-POW-2000-DIM

### settings:

On the control unit and on the internal display (FCU-EXT-DISPLAY-TOUCH), the intensity of stage 1..9 can be set in the user menu.



## **Program - No. 06** **Control of IR intensity 2**

Same function for a 2nd channel on another analog output.



Analog Option Output 0...10V



**Program - No. 08**  
**Control IR intensity temperature controlled**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

FCU-EXT-...-4xANA

A3+     A4+

---

Function Description:

An analog voltage of 0 ... 10V is output according to the temperature deviation from the setpoint. This function is used to reduce the intensity of the IR emitter at increased temperature with the external AC voltage controller (dimmer) FCU-EXT-POW-2000-DIM. From 10 °C before reaching the set temperature, the intensity is continuously reduced.

**Program - No. 09**  
**Control of fan heater**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

FCU-EXT-...-4xANA

A3+     A4+

---

**Function Description:**

For a special heating control (FWA thermal oil), an analogue voltage of 0 ... 10V is output according to the temperature difference between setpoint and actual value in order to control the fan heater.

**Settings:**

In the service menu can for the control characteristics the xp value, as well as minimum and maximum value of the voltage can be set. The minimum value is held until the heater is completely switched off, then the voltage goes back to 0V.



When the control unit is de-energized, the heater fan must not allow heat to enter the cabin!

## **Program - No. 10** **Control of Bypass**

---

Available for the following series of control units

**FCU**    **FCU-IR**    **FCU-Steam**    FCU2x00    FCU3x00    FCU4x00    FCU5x00

**Connection:** with an adequately configured option output

A1+ = Program – No. 01      Color wheel control 0..4V      (fixed, not changeable)

A2+ = Program – No. 02      Dimmer cabin light 0..10V      (fixed, not changeable)

Analog – Outputs

FCU-EXT-...-4xANA

A3+     A4+

---

### Function Description:

For a special heating control (FWA thermal oil), an analogue voltage of 0 ... 10V is output according to the temperature difference between setpoint and actual value in order to control the bypass valve.

### Settings:

In the service menu can for the control characteristics the xp value, as well as minimum and maximum value of the voltage can be set. The minimum value is held until the heater is completely switched off, then the voltage goes back to 0V..



When the control unit is de-energized, the bypass must not allow heat to flow to the oven !

# 8. Connecting diagram

## Connecting diagram FCU-EXT-POTFREI-4xIN-4xOUT

### Technical Data

Potential free inputs		Potential free outputs	
Contact supply	Internal approximately 12.....16V	max. voltage	50V= (safety extra-low voltage)
max. switching current	Approximately 10 mA	max. switching current	0,2 A

For the connection of the cables it is recommended to use rigid wires, e. g. bell wires!

**Attention:**  
 All connections to the optional in- and outputs must have a safe separation between mains and SELV (Safety extra-low-voltage).  
**Danger of life !**

**Jumper position:**  
 Schließer normally open  
 Öffner normally closed

Out 1 Out 3 Out 4  
 1 2 3 1 2 3 1 2 3  
 1 2 3 1 2 3 1 2 3

Option outputs for customer specific applications

Function depending on the program no., see enclosure Option programs.  
 Place of installation of the options board see installation instructions page 3.

### Connection diagram option board Potential free FCU-EXT-POTFREI-4xIN-4xOUT

Prepared:	Kanzinger	16.03.2010
Modified:	Kanzinger	17.12.2018
Checked:		

File: I:\Doku\Fasel\FCU-EXT\Potfrei-4x\_8xModul\Potfrei-4xIN-4xOUT\_EN.pdf

Technical changes and errors excepted, illustration similar

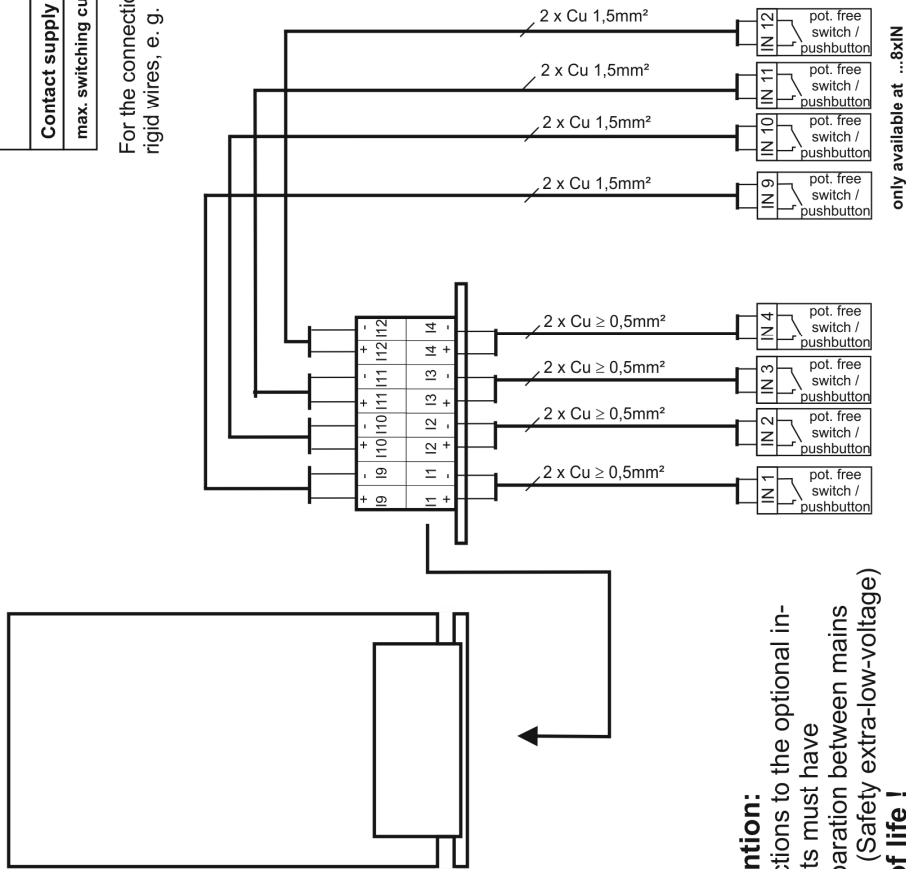
FASEL  
ELEKTRONIK

# Connecting diagram FCU-EXT-POTFREI-4xIN resp.8xIN

## Technical Data

Potential free inputs	
Contact supply	Internal approximately 12.....16V
max. switching current	Approximately 10 mA

For the connection of the cables it is recommended to use rigid wires, e. g. bell wires!



**⚠ Attention:**  
All connections to the optional in- and outputs must have a safe separation between mains and SELV (Safety extra-low-voltage) **danger of life !**

Prog. function see enclosure Option programs  
Place of installation of the options board see installation instructions page 3.

Connection diagram option board Potential free  
FCU-EXT-POTFREI-4xIN und ...-8xIN

Prepared:	Kanzinger	16.03.2010	24.11.2011	File:	I:\Doku\Fasel\FCU-Ext-Potfrei-4xIN.cdr An_Potfrei-4xIN_8xIN_EN.pdf	Technical changes and errors excepted, illustration similar
Modified:	Schmalz			Checked:		

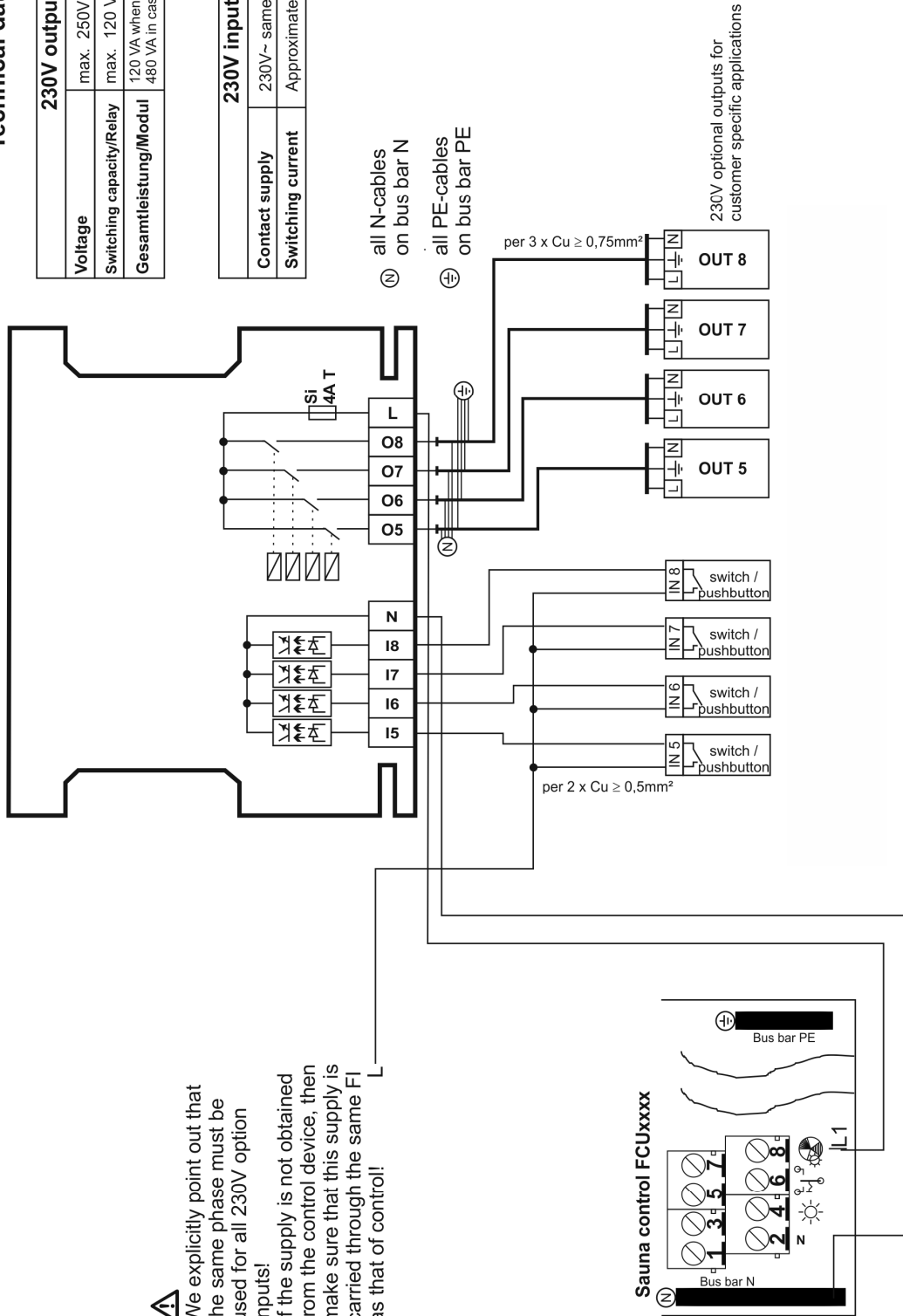
**FASEL**  
ELEKTRONIK

# Connecting diagram FCU-EXT-230V-4xIN-4xOUT

## Technical data

230V outputs	
Voltage	max. 250V~
Switching capacity/Relay	max. 120 VA
Gesamtleistung/Modul	120 VA when supplying L1 of FCUxxxx 480 VA in case of external power supply

230V inputs	
Contact supply	230V~ same phase for all inputs
Switching current	Approximately 10 mA



**⚠** We explicitly point out that the same phase must be used for all 230V option inputs! If the supply is not obtained from the control device, then make sure that this supply is carried through the same FI as that of control!

Ⓝ all N-cables on bus bar N  
Ⓟ all PE-cables on bus bar PE

230V optional outputs for customer specific applications

Function depending on the program no., see enclosure Option programs.  
Place of installation of the options board see installation instructions page 3.

## Connection diagram 230V option board FCU-EXT-230V-4x...

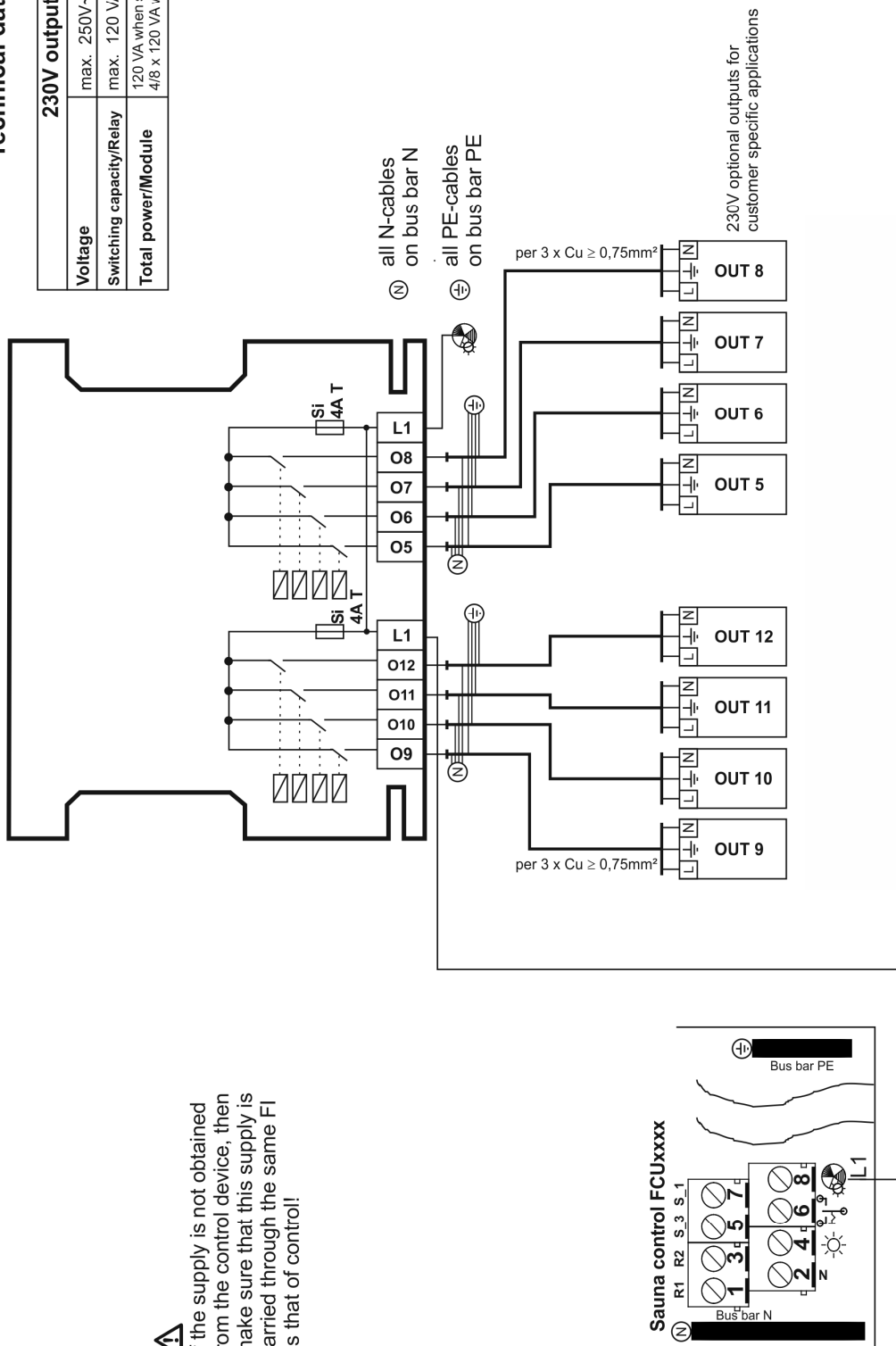
Prepared:	Kanzinger	04.02.2010
Modified:	Schmalz	25.11.2011
Checked:		
File:	i:\Doku\Fasel\FCU-EXT-230V-4x\Modul\230V-4x.cdf An_230V-4x_EN.pdf	
Technical changes and errors excepted, illustration similar		

**FASEL**  
ELEKTRONIK

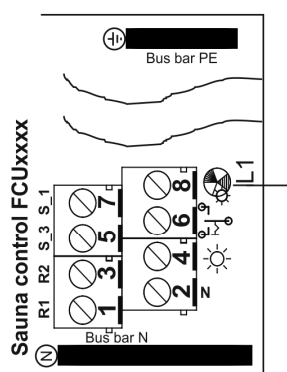
# Connection diagram FCU-EXT-230V-4xOut resp. 8xOUT

## Technical data

230V outputs	
Voltage	max. 250V~
Switching capacity/Relay	max. 120 VA
Total power/Module	120 VA when supplying L1 of FCUxxxx 4/8 x 120 VA with external power supply



**⚠** If the supply is not obtained from the control device, then make sure that this supply is carried through the same FI as that of control!



Function depending on the program no., see enclosure Option programs.  
Place of installation of the options board see installation instructions page 3.

## Connection diagram 230V option board FCU-EXT-230V-4/8xOUT-A

Prepared: Kanzinger  
04.02.2010

Modified: Kanzinger  
02.10.2012

Checked:

File: i:\Doku\Fasel\FCU-EXT-230V-4xModul\230V-4x\_cod\_An\_230V-8x\_EN.pdf

Technical changes and errors excepted, illustration similar

**FASEL**  
ELEKTRONIK

# Connecting diagram FCU-EXT-230V-COLOR-4xANA

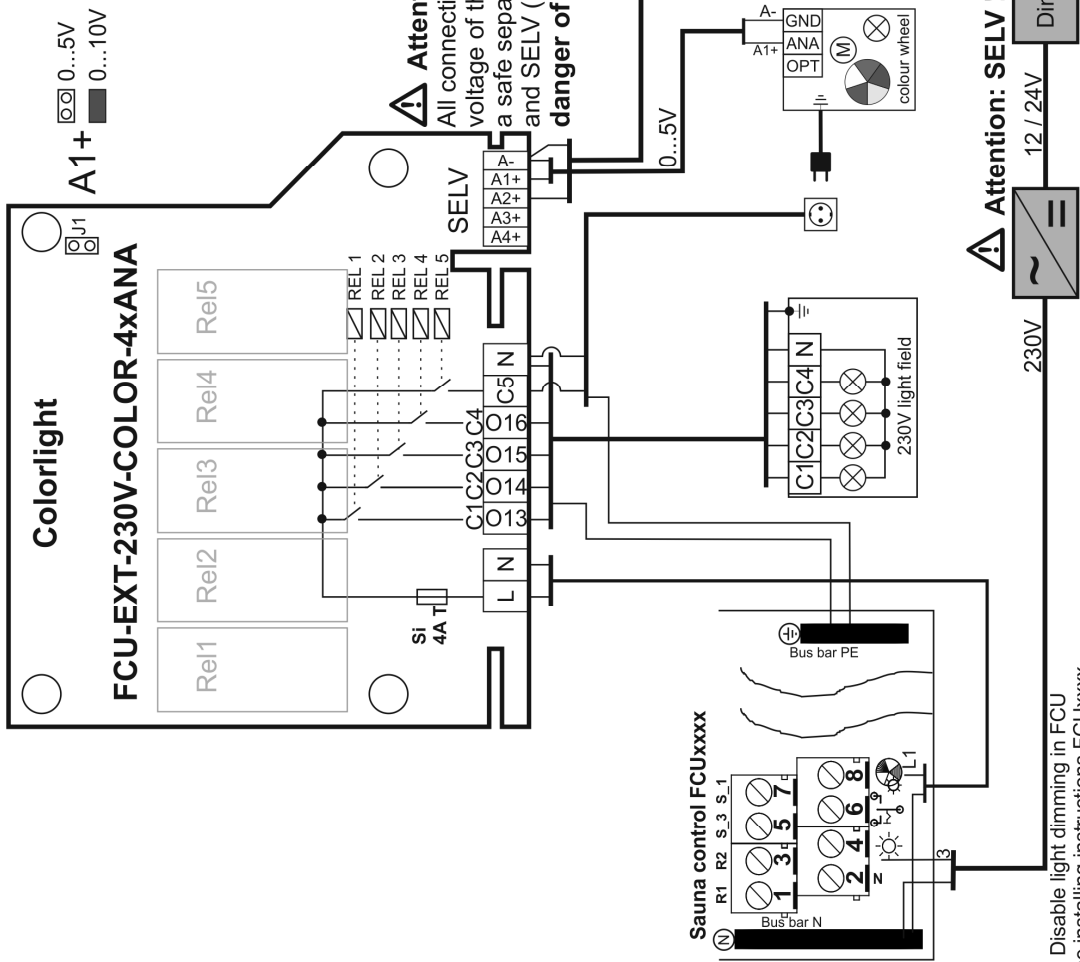
Place of installation of the options board see installation instructions page 3.

## Technical data

Coloured light 230V outputs	
Voltage	max. 250V~
Switching capacity/relay	max. 200 VA
Total capacity/module	120 VA in case of supply L1 of FCUxxxx 400 VA in case of external supply

Control voltages for the corresponding colours of the light box on terminals A1+, A- or ANA, GND

Colour	Voltage
White	0.0 V
Blue	1.0 V
Blue/red	1.5 V
Red	2.0 V
Red/yellow	2.5 V
Yellow	3.0 V
Yellow/green	3.5 V
Green	4.0 V



**Attention:** All connections to the safety extra-low-voltage of the colorlight must have a safe separation between mains and SELV (Safety extra-low-voltage) **danger of life!**

Never exceed the maximum permissible temperature of cable unused!

The safety-socket is to be fitted near the light box. After successful connection, the sauna control device activates the light box in the range between 0 ... 4 V depending on the colour. (see table above right)

Please also read the installation and operation manual of the sauna control device.

0...10V depending on dimming level light in FCUxxxx



Disable light dimming in FCU see installing instructions FCUxxxx

## Connection diagram colorlight board FCU-EXT-230V-Color-4xAAna

Prepared:	Kanzinger	03.02.2010
Modified:	Kanzinger	15.03.2016
Checked:		
File:	\\Doku\Fasel\FCU-EXT 230V-Colorlight Modul\Color-4xAAna.cdr An_COLOR-4xAAna.pdf	
Technical changes and errors excepted, illustration similar		











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Address of the installer or dealer of the sauna system: