

Instruction controller board and lux connection print of the ComfoAir 350 and ComfoAir 550

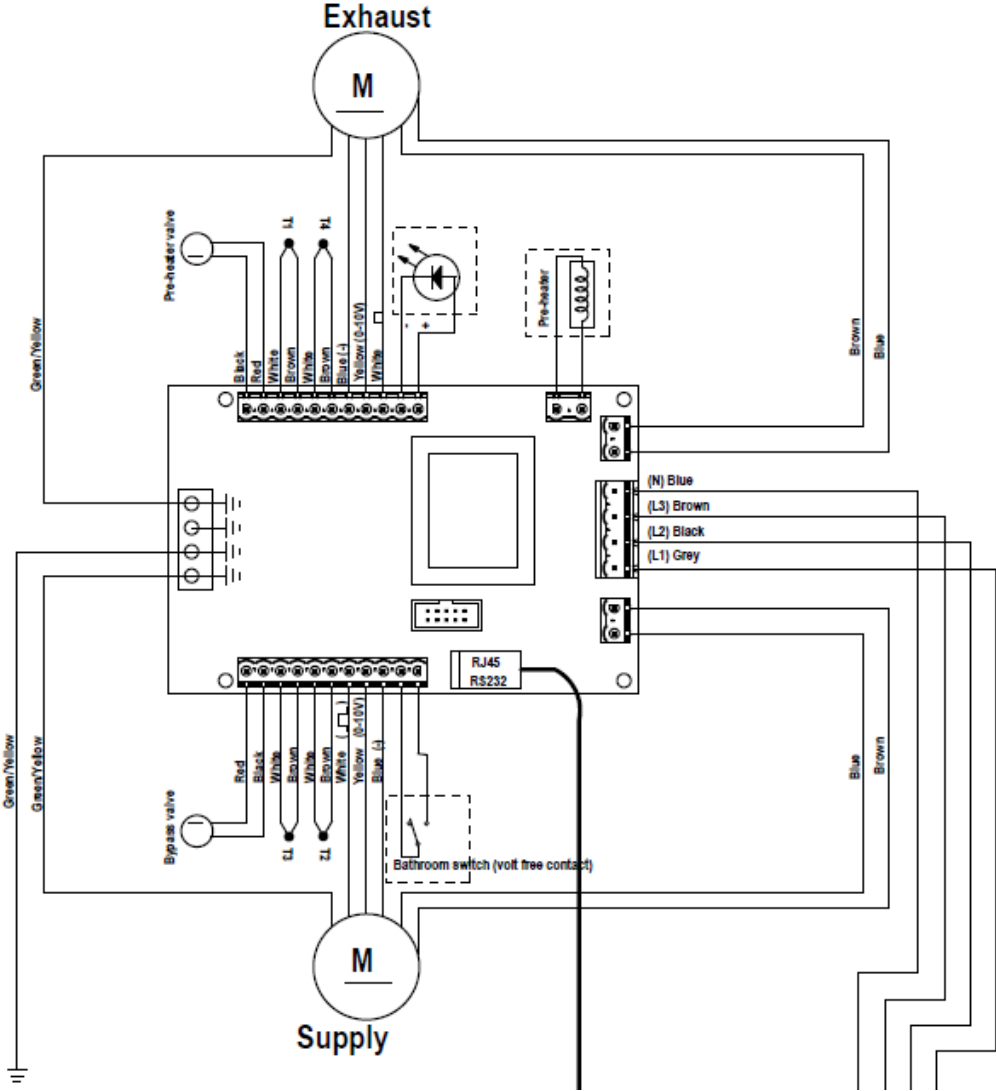
Version 1.0

29-06-2010

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Controller board

Controller Board

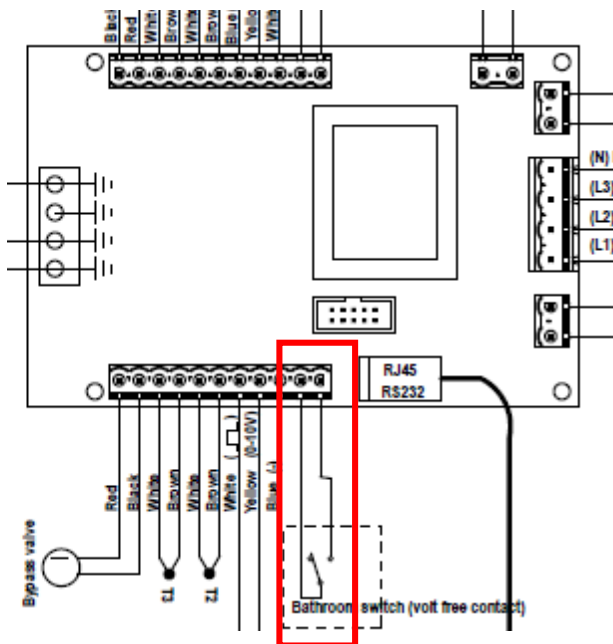


The controller board is at any time intergrated in the ComfoAir 350 as well as the ComfoAir 550.

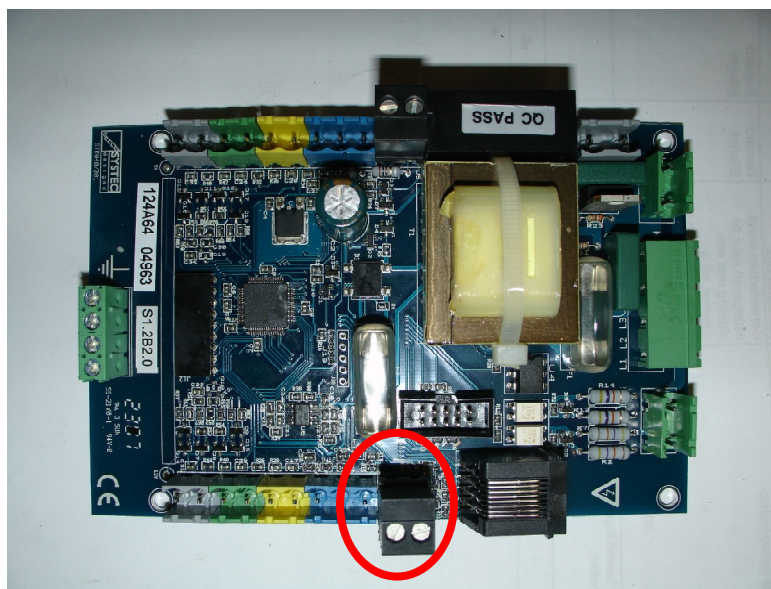


Bathroom switch (controller board)

Bathroom switch – potential free contact



Parameter P21 &P22

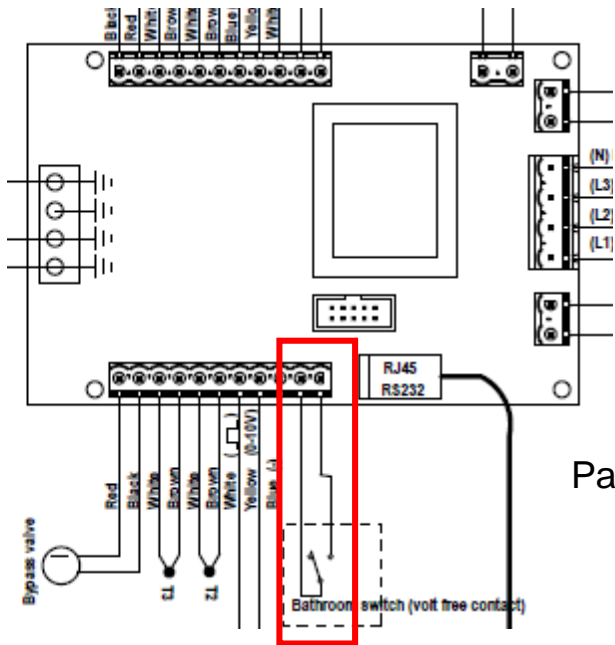


The controller board as well as the luxe connection print have a potential free contact to which the bathroom switch can be connected. (On the picture above you see bathroom switch contact on the controller board).

Bathroom switch:

The bathroom switch can e.g. be used to let the unit increase speed when somebody switch the light on in the bathroom. We call it the bathroom switch but of course can it also be used in a switch that has been installed in another room. This potential-free contact just gives a simple sign on/ off. When putting the switch on the unit will start running in level three.

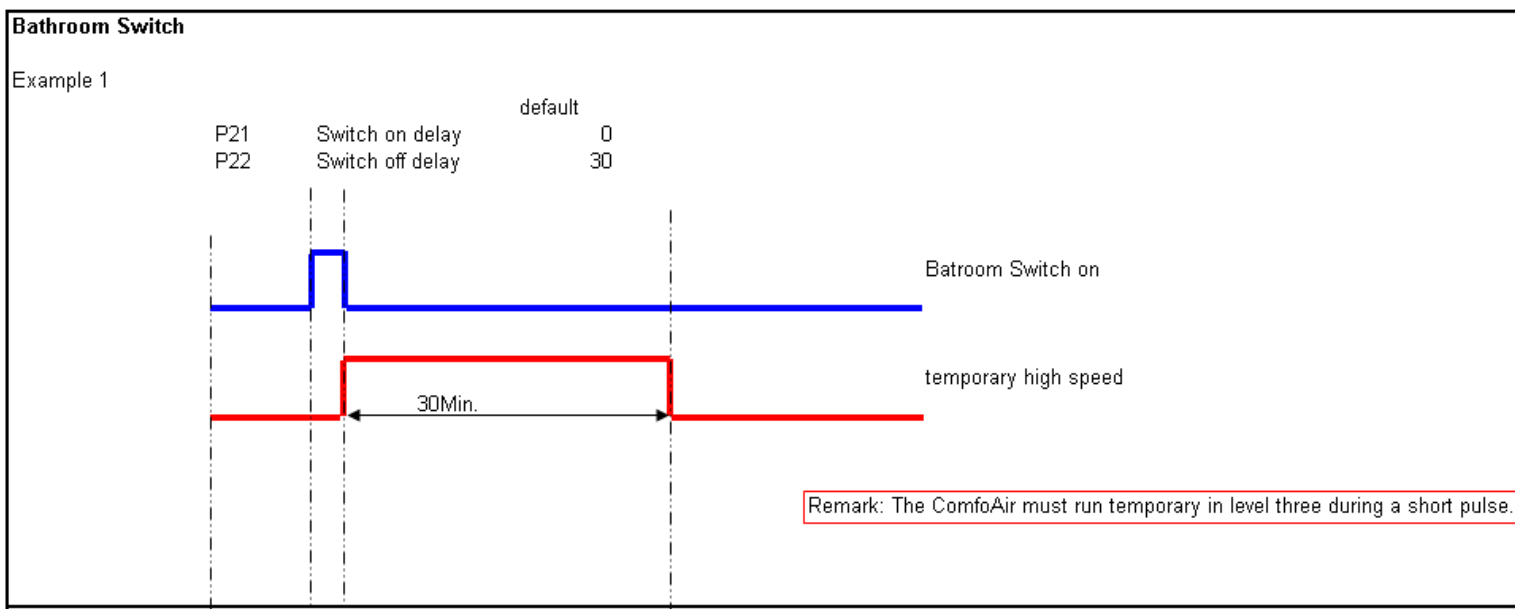
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Parameter P21 & P22



Bathroom switch Art no : 659000160



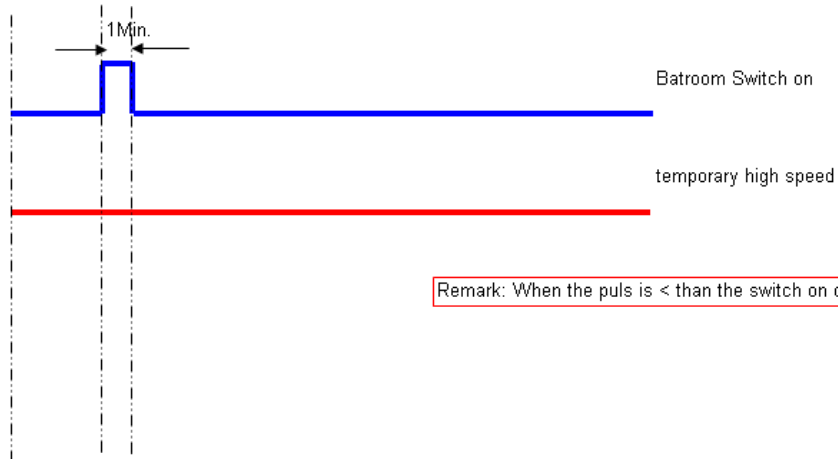
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Bathroom Switch

Example 2

Puls is > switch on delay

P21	Switch on delay	10
P22	Switch off delay	30



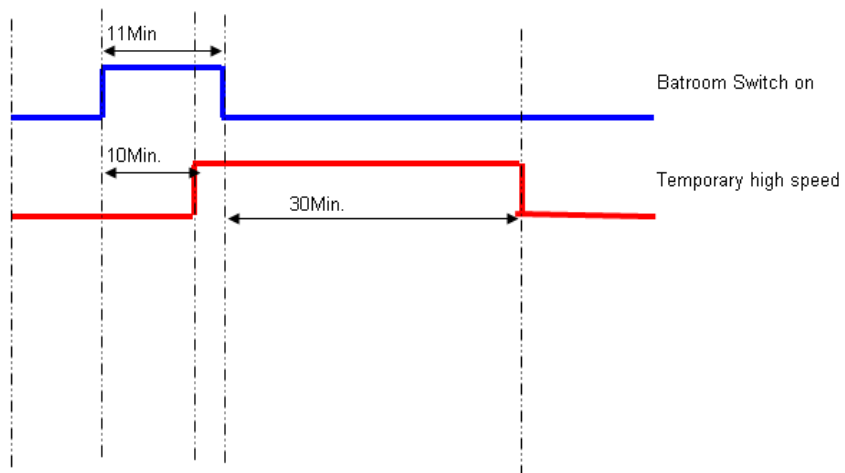
Remark: When the puls is < than the switch on delay, no action will be taken by the unit.

Bathroom Switch

Example 3

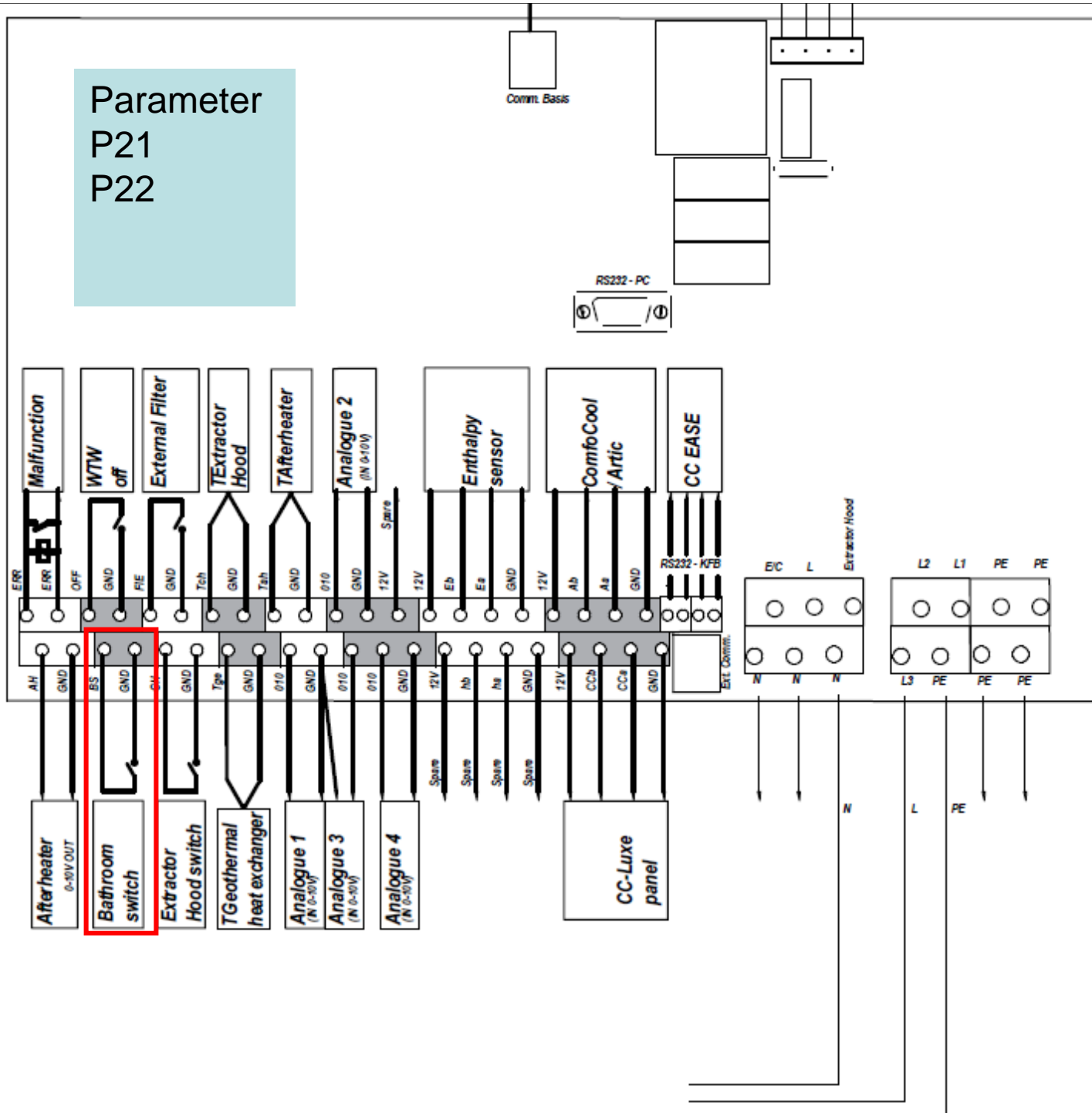
Puls is > switch on delay

P21	Switch on delay	10
P22	Switch off delay	30



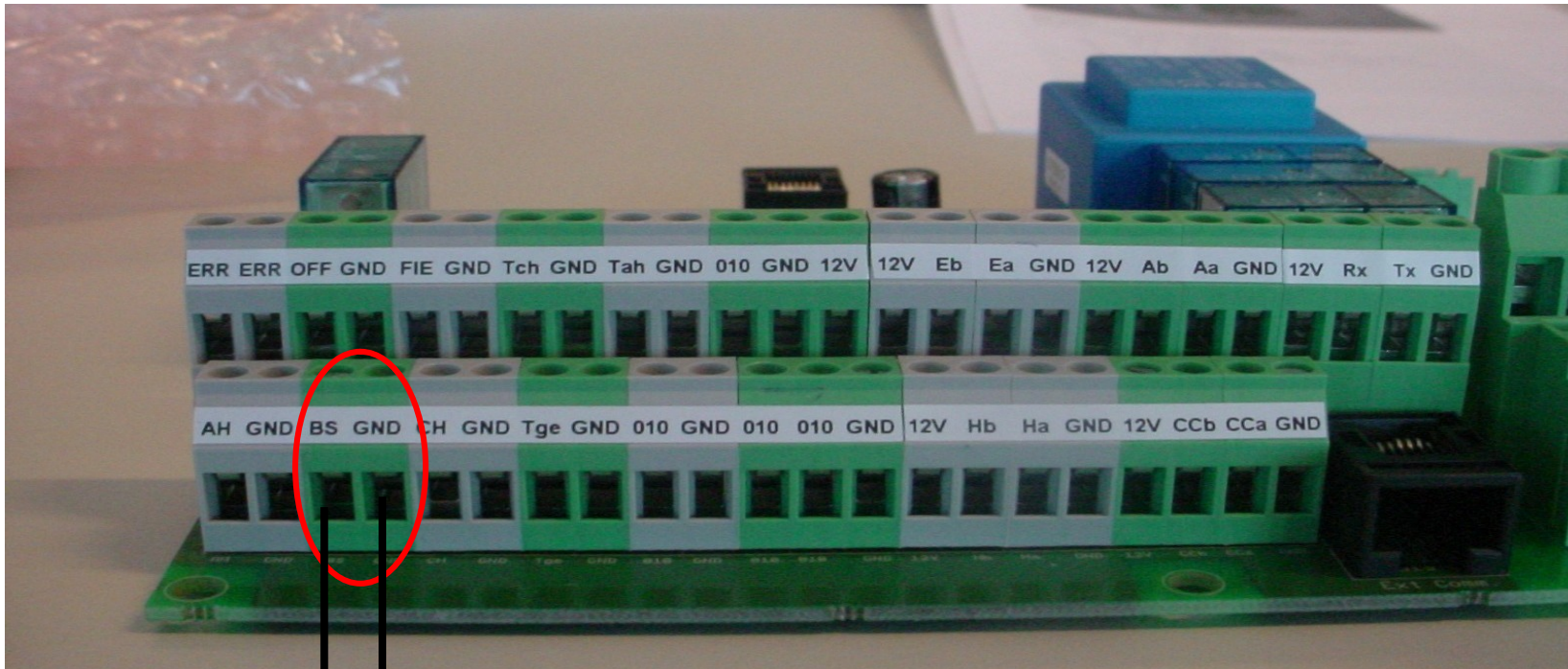
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Parameter
P21
P22



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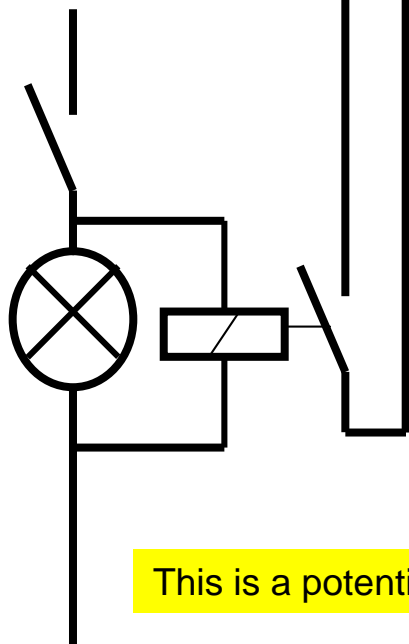
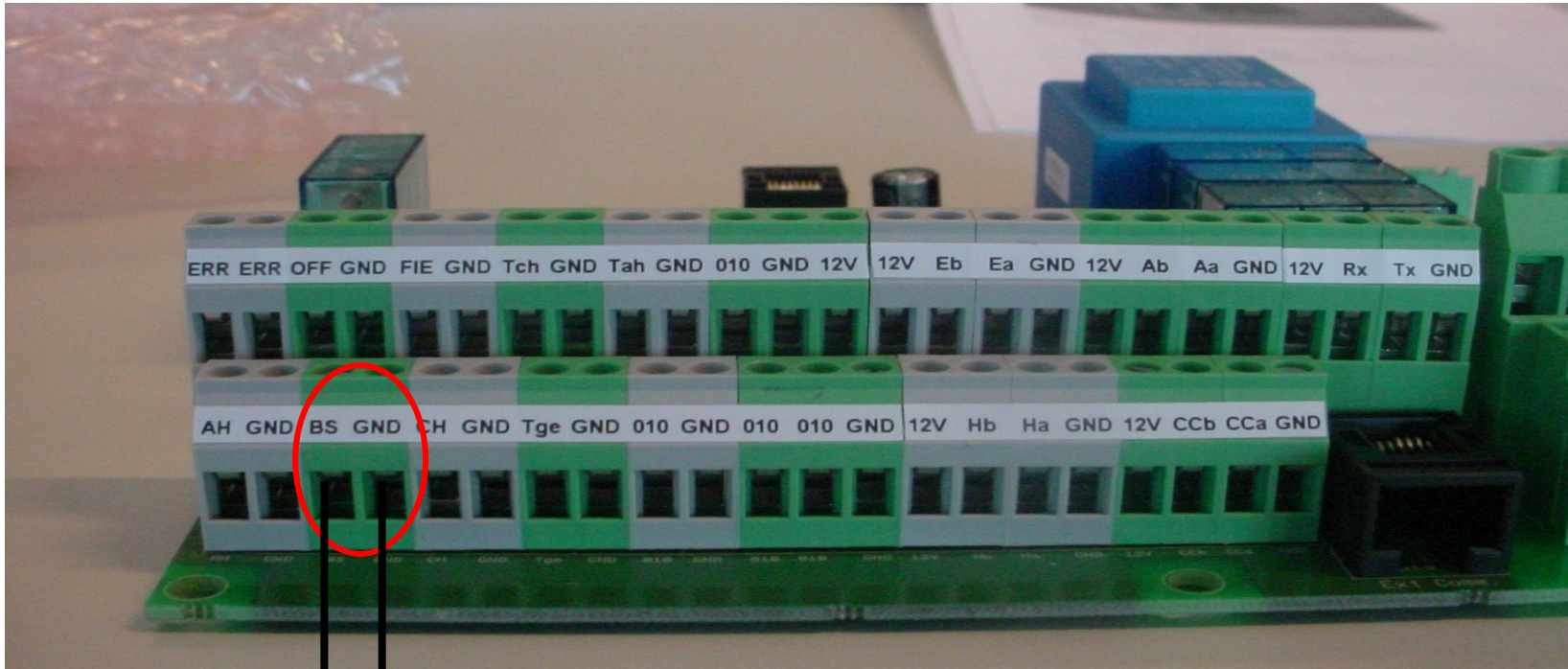
Bathroom switch (lux connection board)



Parameter P21 & P22

This potential free contact has the same possibilities as the bathroom switch contact on the controller board (described on page 3)

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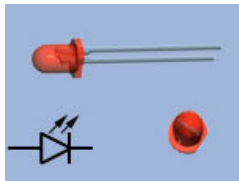
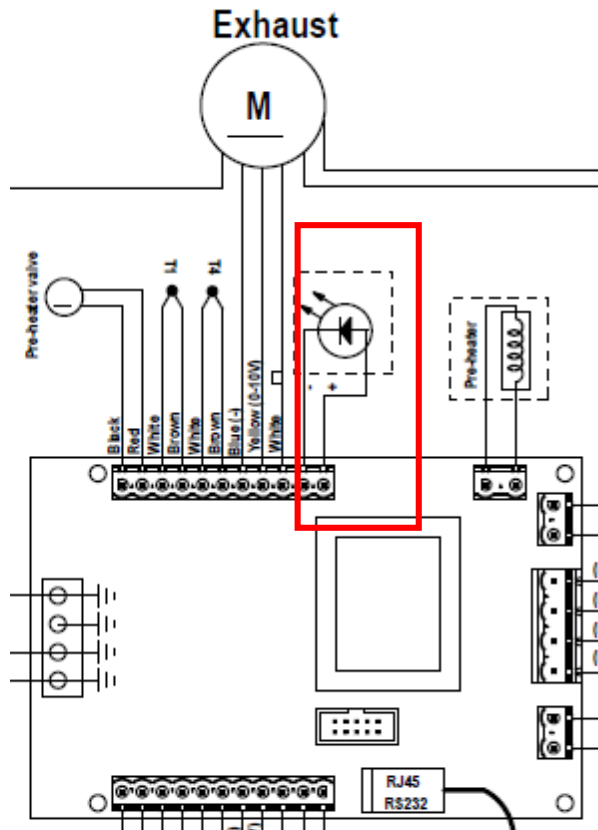
Bathroom switch

This potential free contact can also be connected over a relays (in e.g. the bathroom light switch) and has the same possibilities as the bathroom switch contact on the controller board.

Parameter P21 &P 22

This is a potential free contact so **do not** connect it to 230V

Mal Function (on controller board)



LED- Malfunction- Filter

5Vdc/16mA
320Ω in serie on PCB

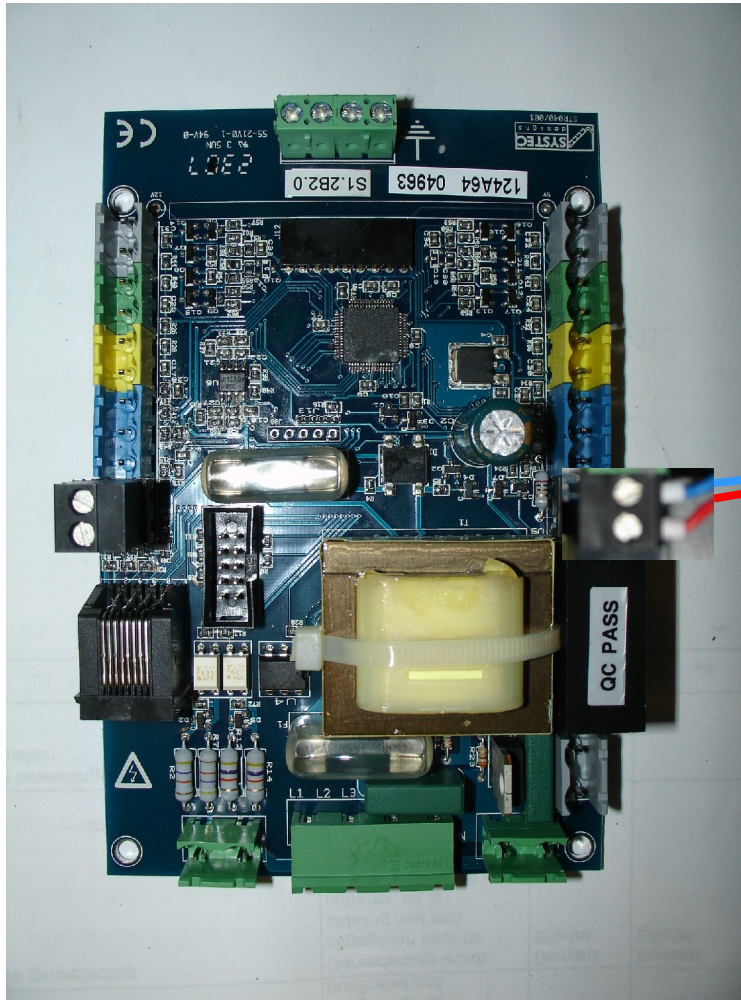


SAI Flash 1-3: 659000300

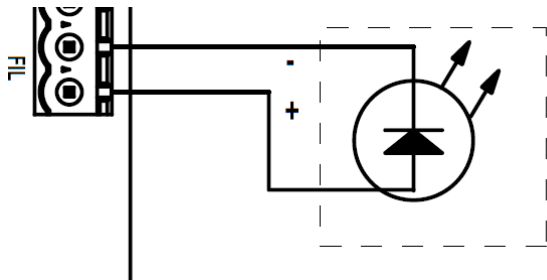
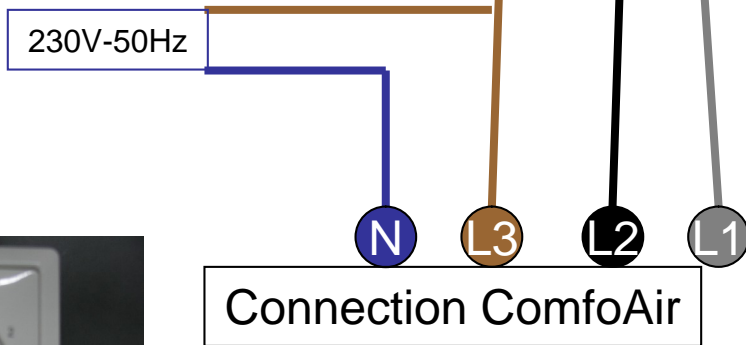
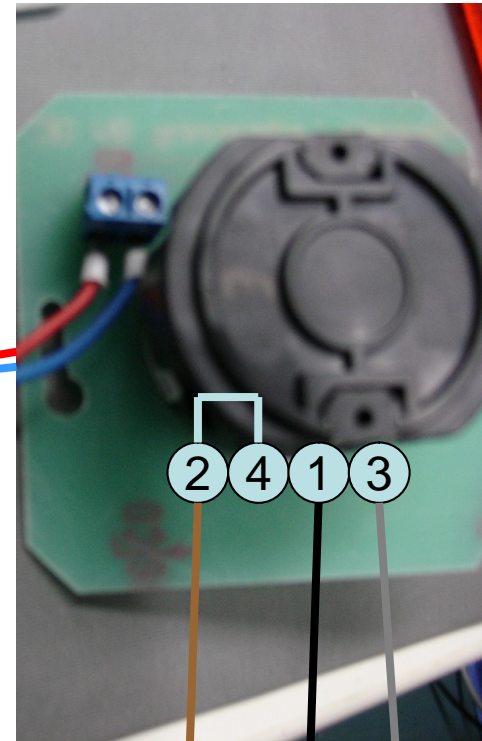
On the internal controller board there is a contact that can be used to connect a led light to. When an error occurs the led light, that is e.g. mounted in the living room, will light up to give a sign on the switch for the home owner.

An option would be to apply the SAI Flash 1-3. How this switch must be connected can be seen on page 10.

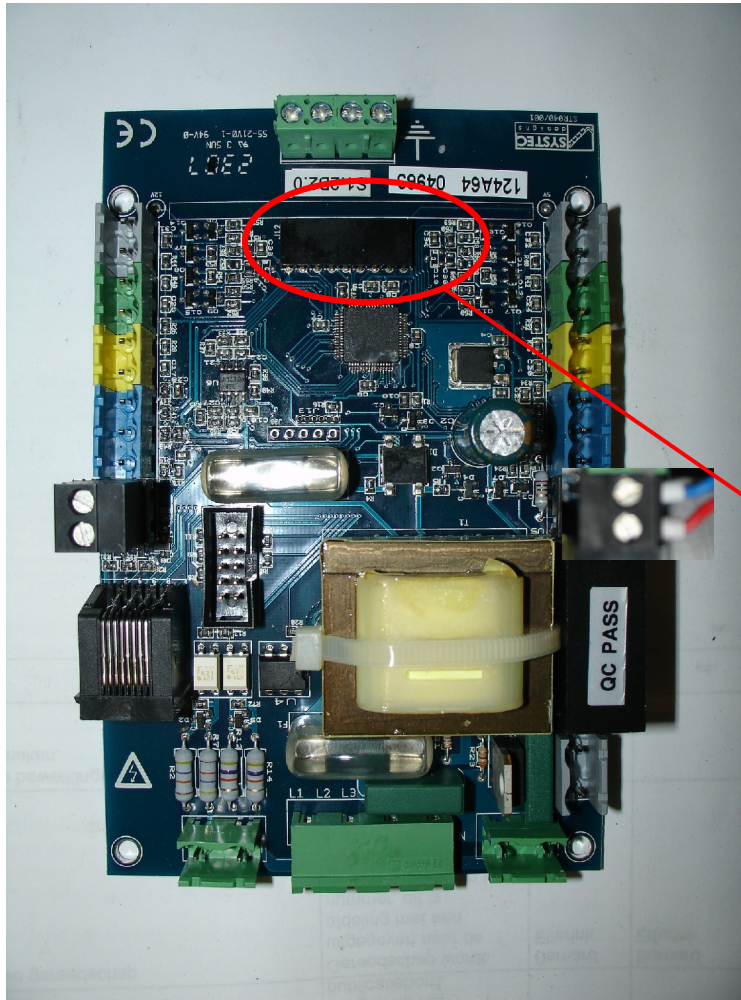
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Flash SAI 1-3V



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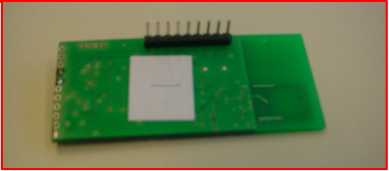
Parameter P25 &P26

RFZ

655000755



When having a RF receiver mounted on the controller board you can control the unit wireless by means of the RFZ sensor.



Receiver 655000770



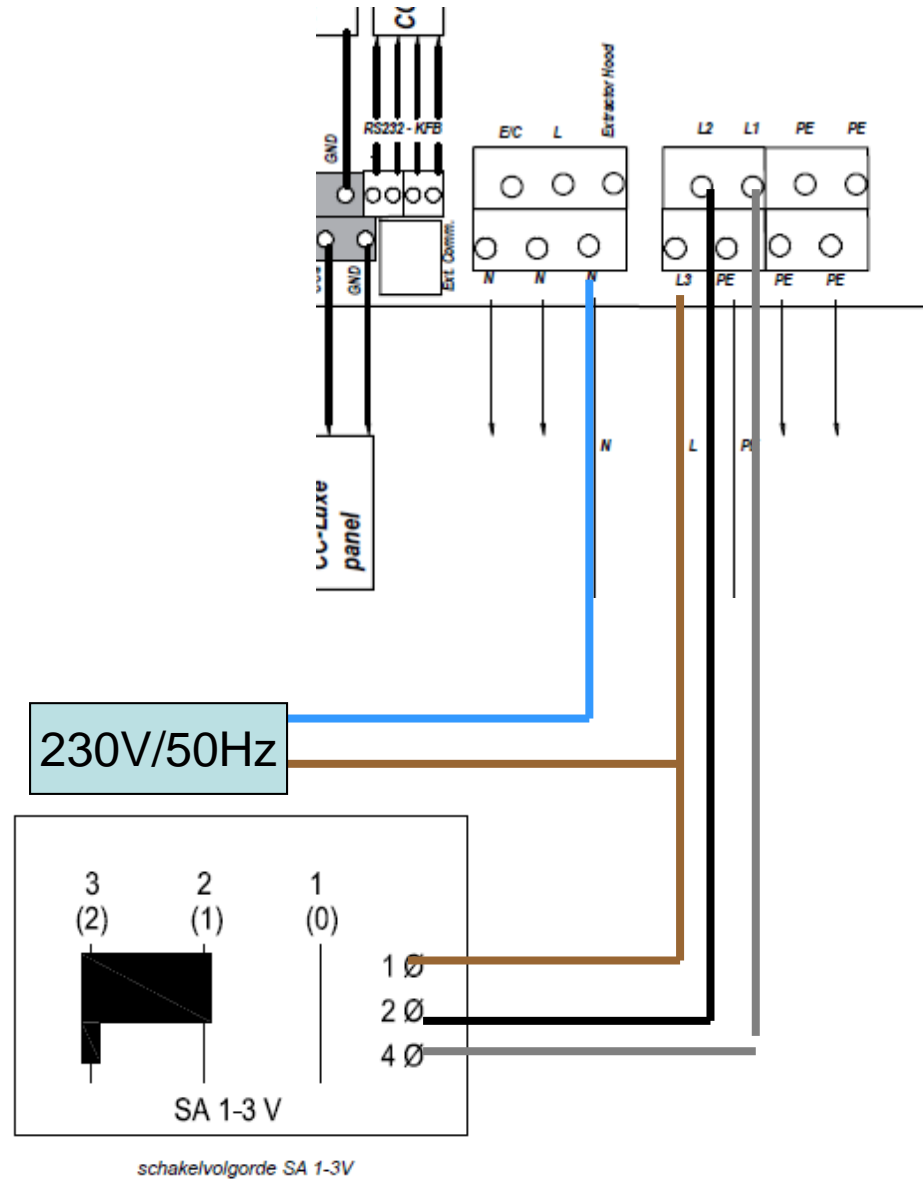
CC-Ease 655010100

The RFZ can also communicate with the CC-ease whereas it is equipped with an RF receiver. So the RFZ communicates with the CC-ease whereupon the CC-ease communicates with the unit. (A maximum of 31 RFZ sensors can be connected)

Note: The CC-ease can only be used in combination with a luxe version.

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Three position Switch



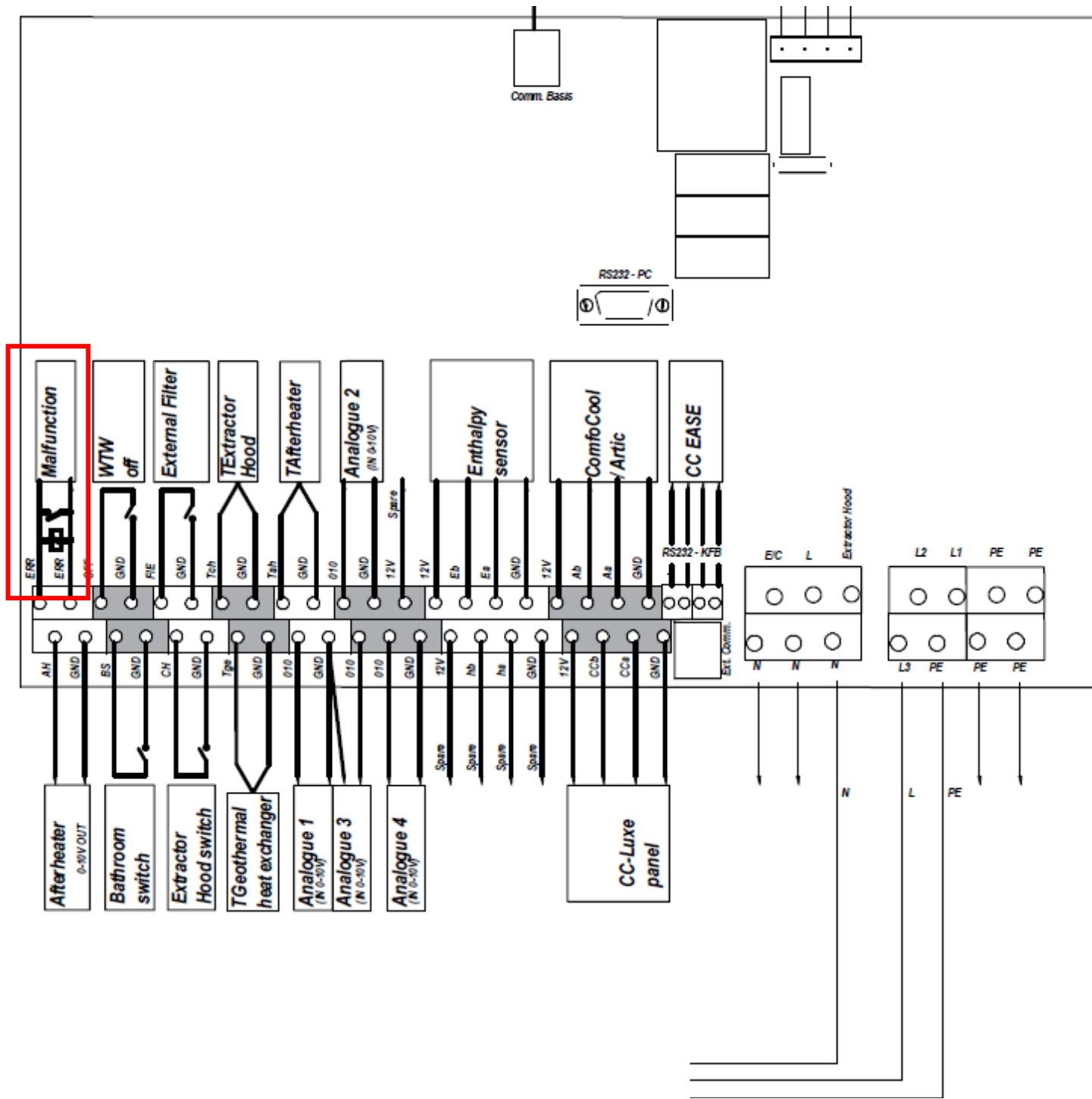
SA 1-3V

SA 1-3V 659000120

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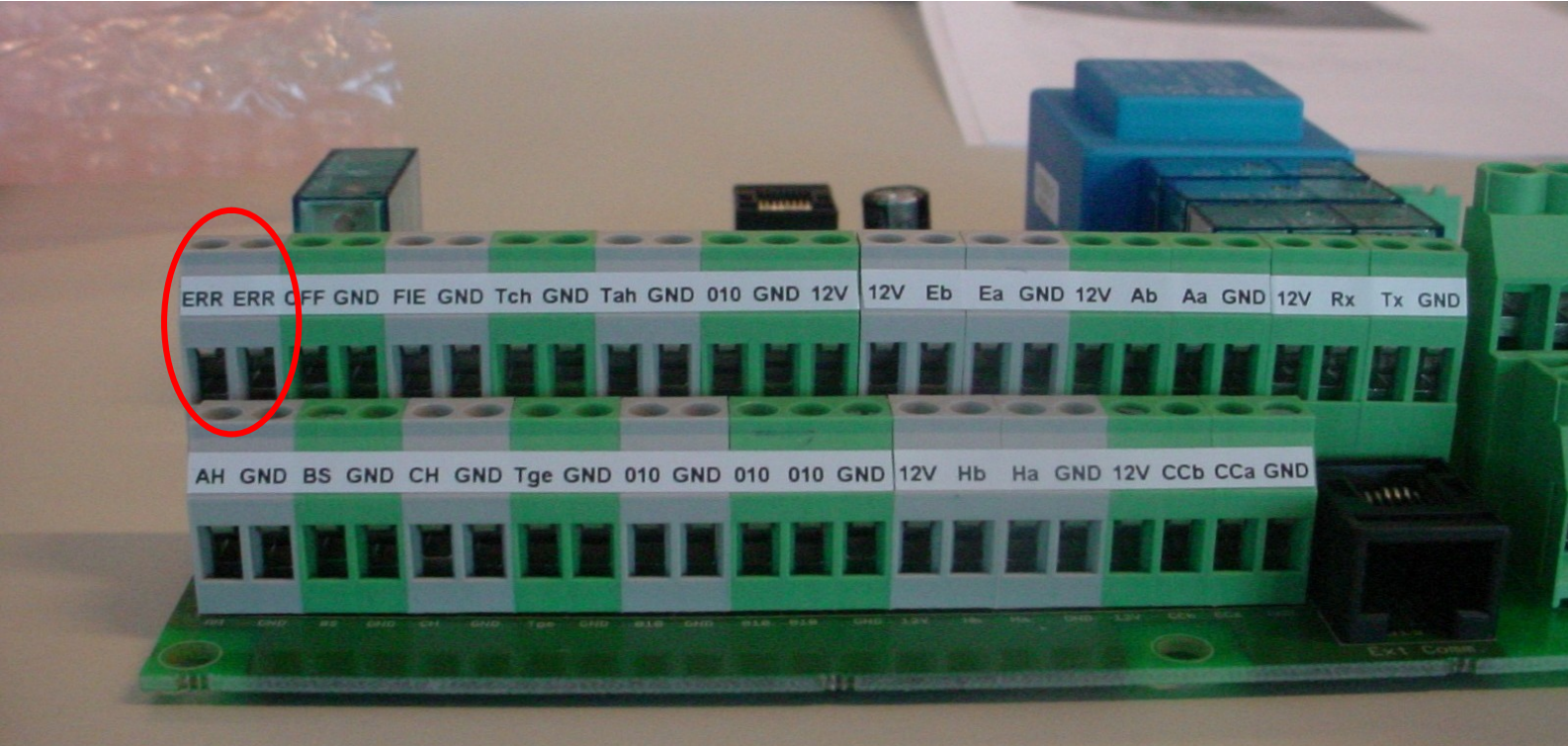
Luxe Connection Print

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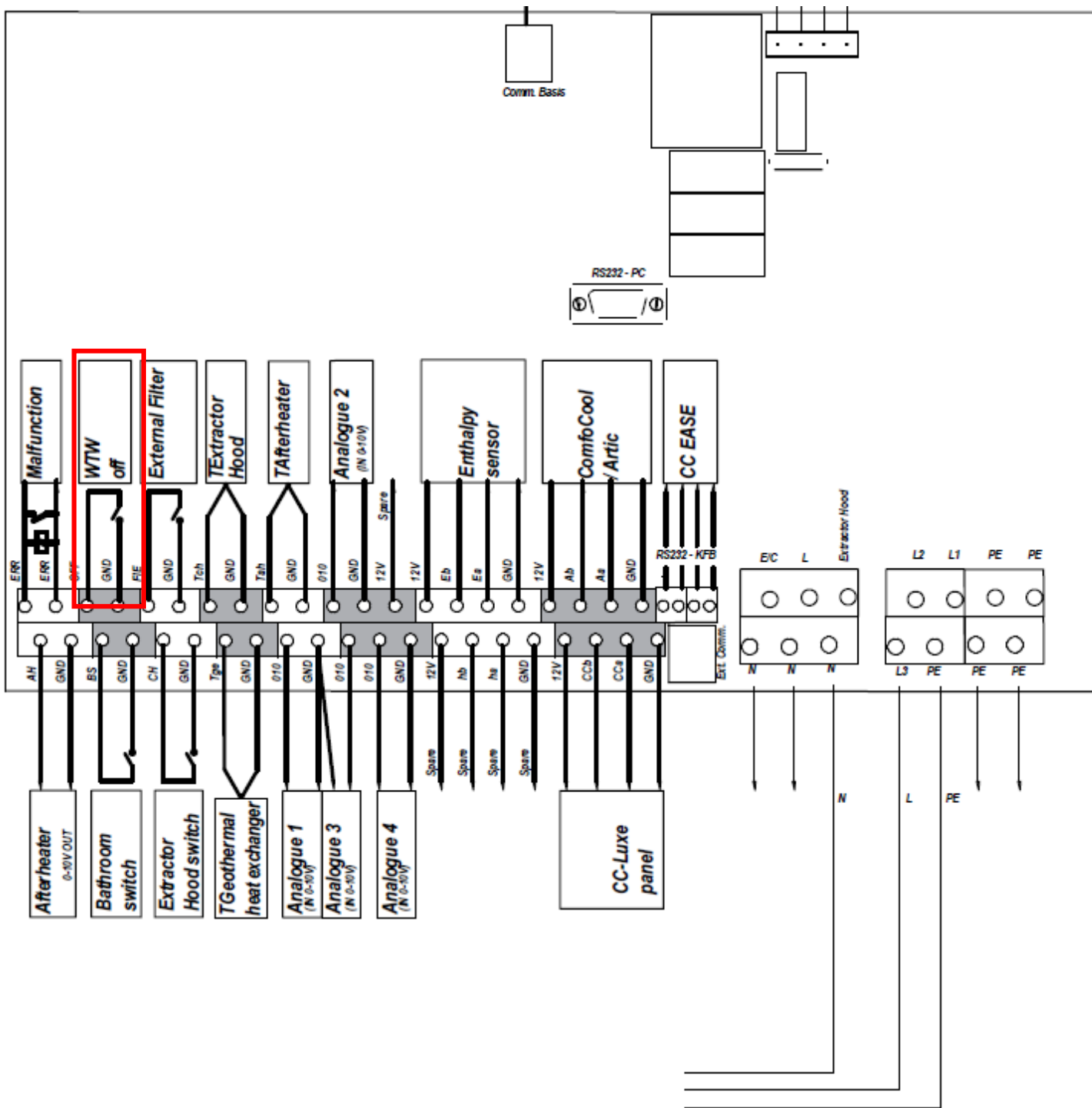


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Mal Function



This is a potential free relais contact that will close when an error occurs, the installer can decide him/ her self what to do with it.



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WTW off (ComfoAir off)

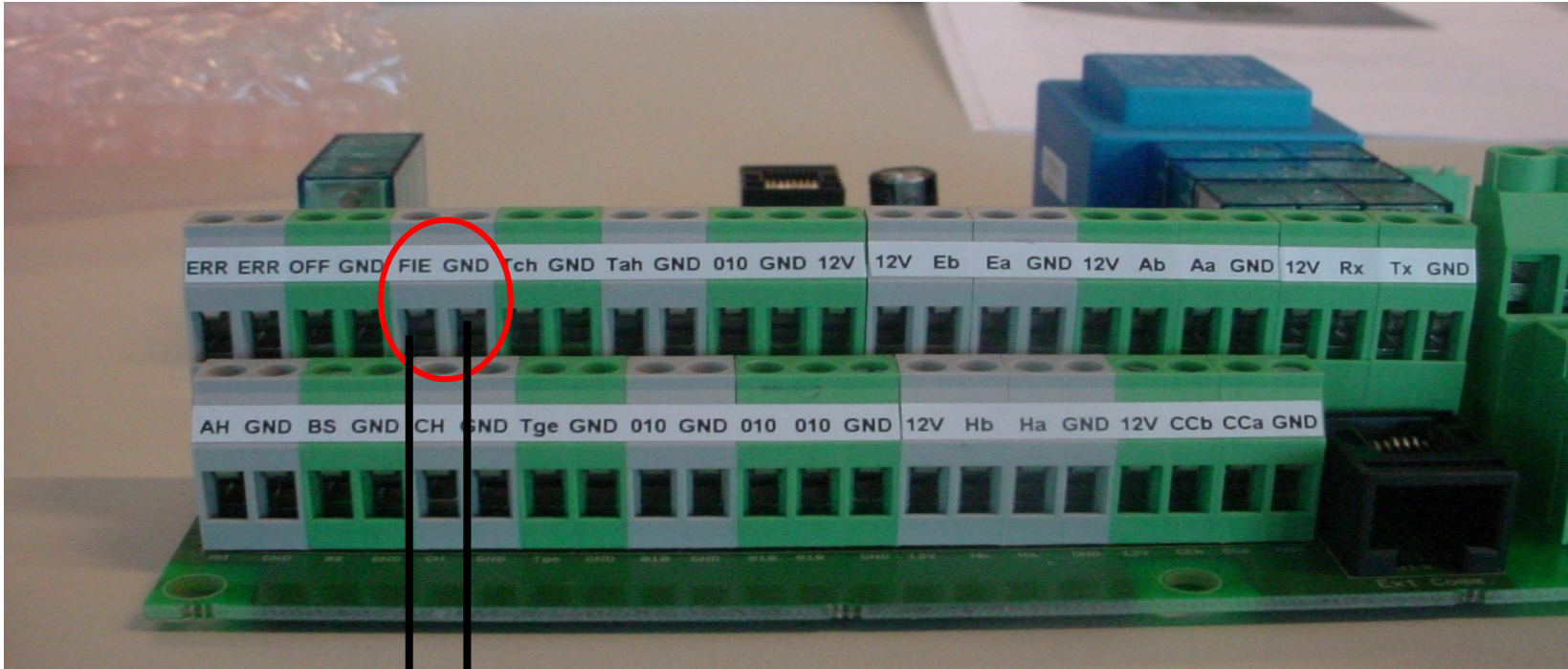


This is a potential free input. The unit will be switched off with a connected connector thus not by a power switch or push switch.

When you turn off the unit by using this connected connector the fans will stop running directly. On the unit itself or on the control panel an E4 message (error) will appear. The switch can be located wherever you want. In the Netherlands it is not allowed to switch off the unit whereas there must always be ventilation in the building, even when nobody is attended. Because of this, it is very uncommon that this function is applied. This function can e.g. be used by fire, when a fire occurs the fire alarm can give a sign to this contact whereupon the fans will be switched off automatically.

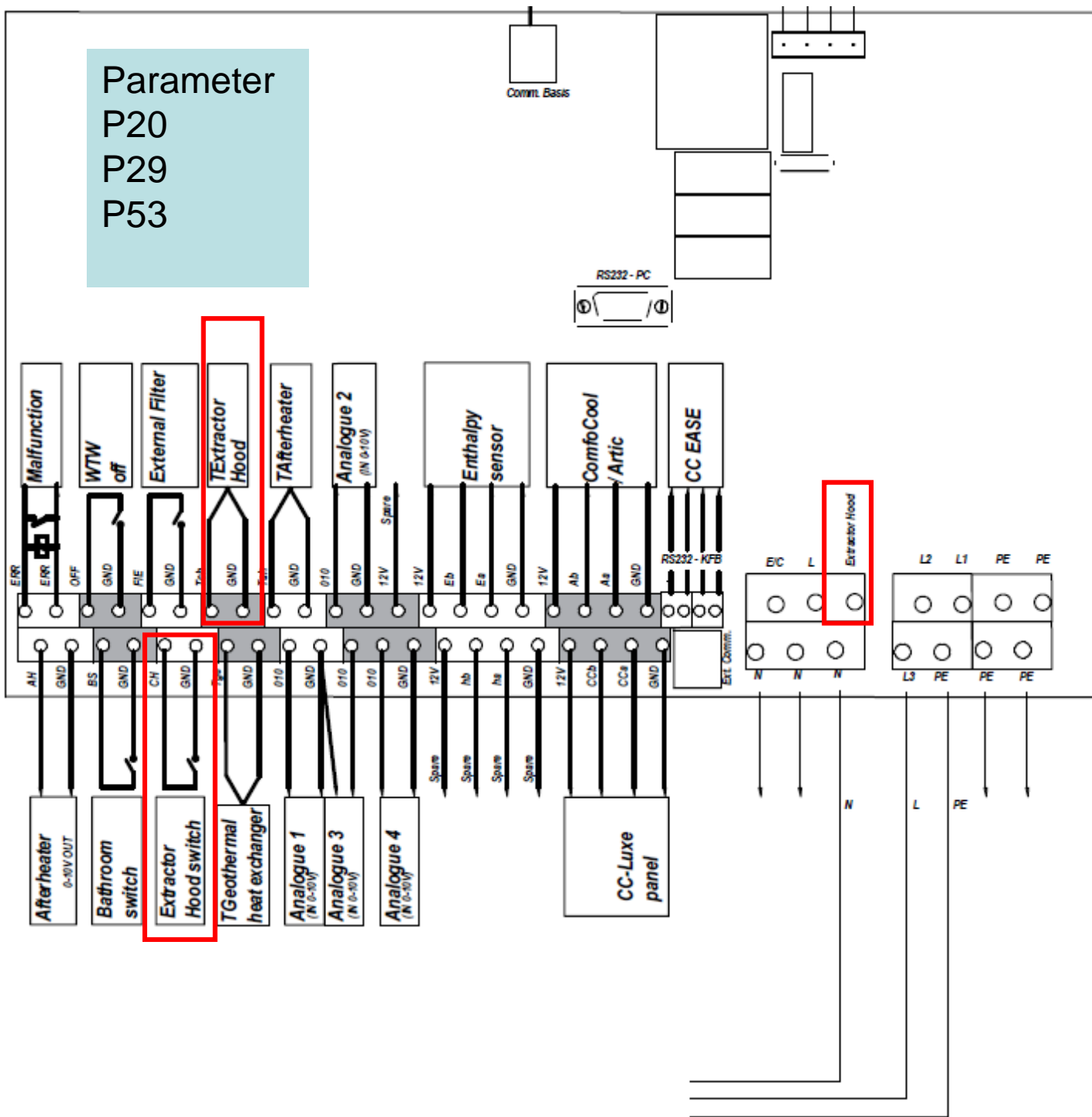
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External filter



When you apply an external filter you can connect it to this potential free input. In case the external filter is equipped with a possibility to give a sign when the filter must be replaced, a message will appear on the control device CC-ease or CC-luxe

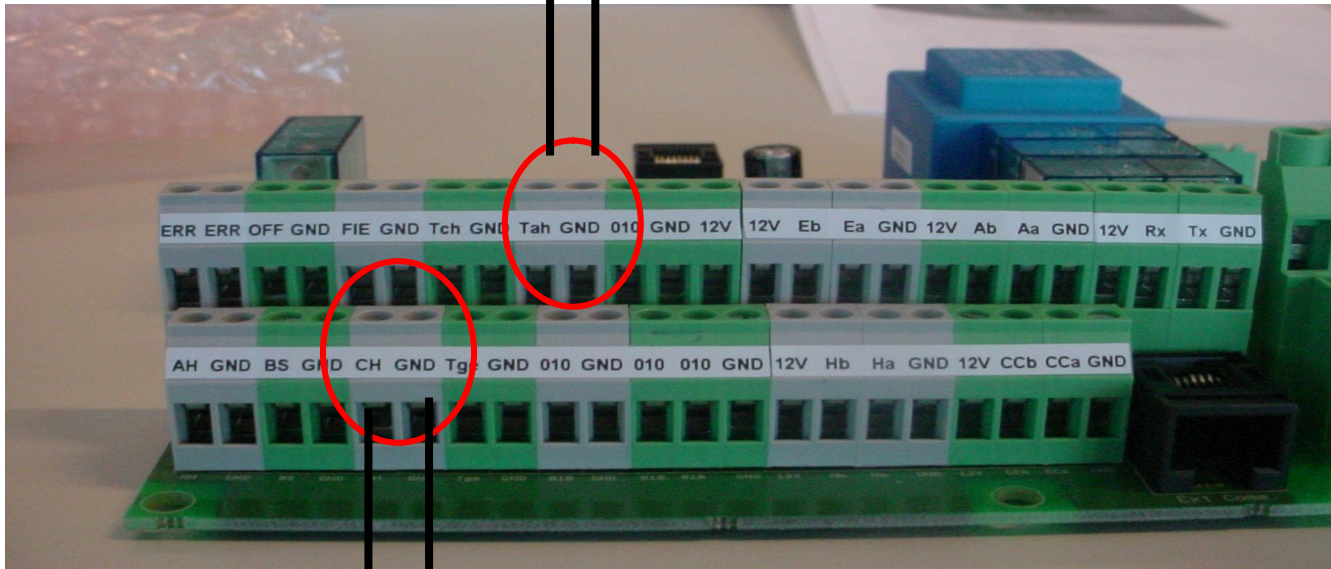
Parameter
P20
P29
P53



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Extractor hood

When the temperature in the system becomes too high while using the cooker hood, the cooker hood will be switched off automatically and an E3/ A10 error will be displayed.

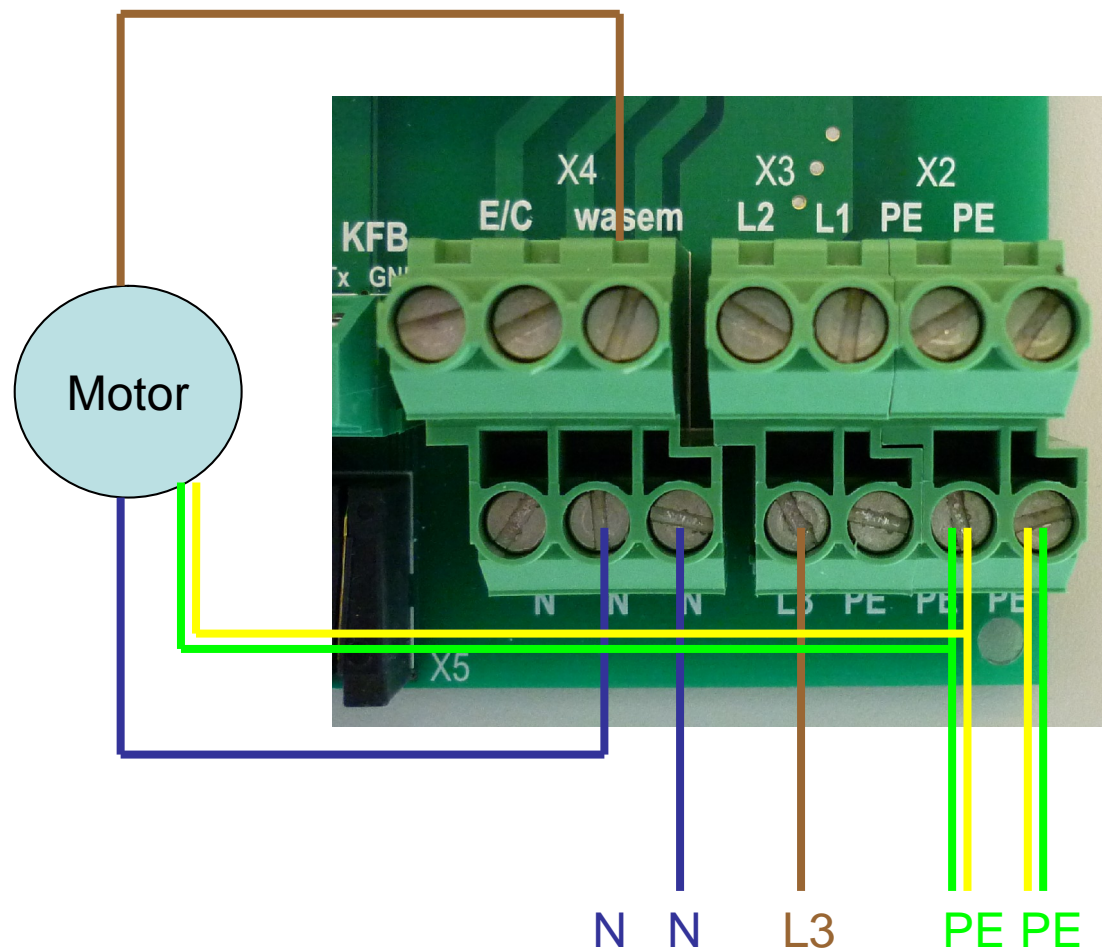


This potential-free input gives a sign to the unit when the cooker hood is switched on and is especially developed for Zehnder Swiss where they have developed a system that is equipped with a cooker hood. For a brief explanation of this system please see the next page.

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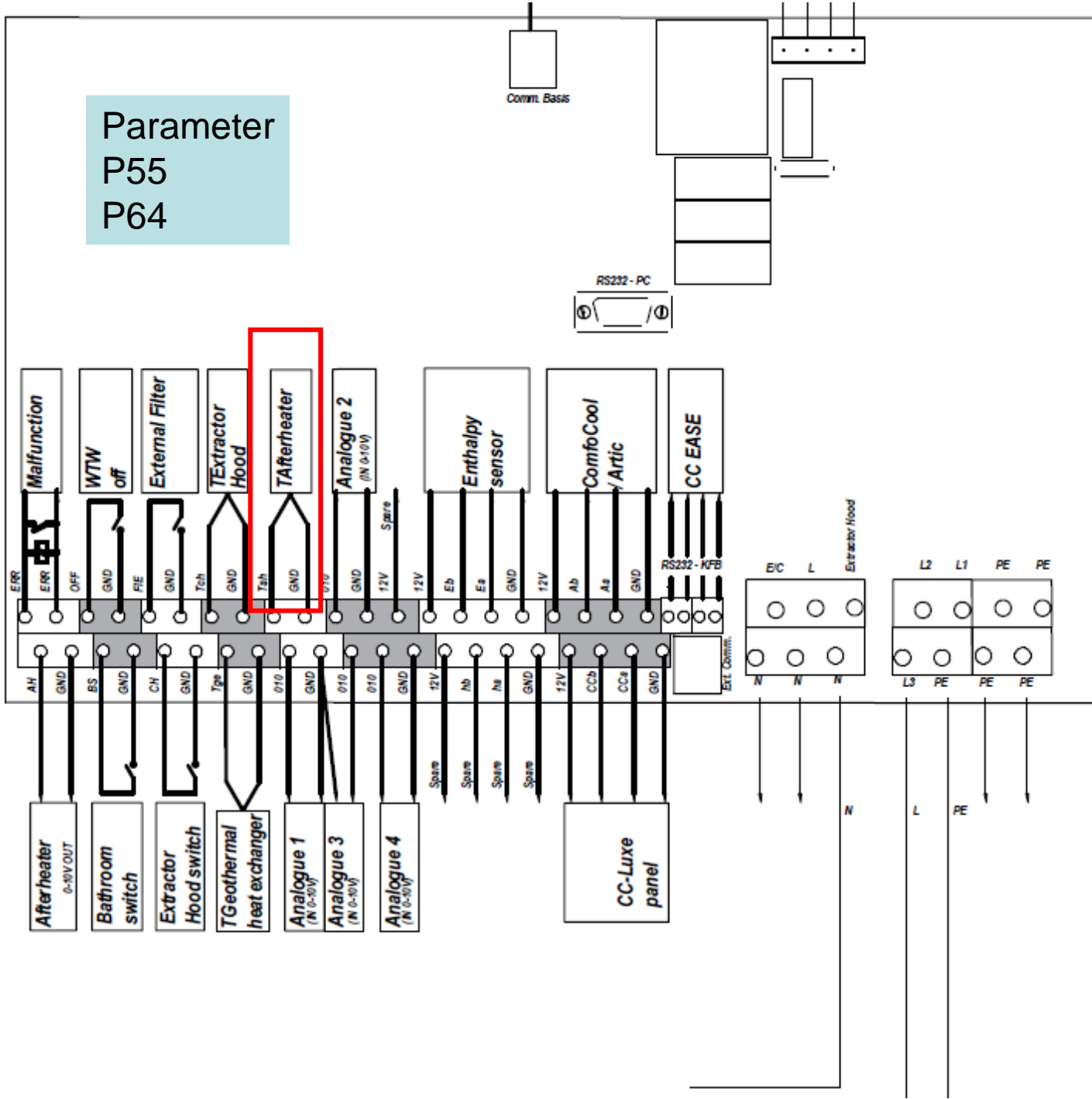
A motor less cooker hood is connected to the system, a cooker hood that is equipped with a motor is not possible whereas it will disrupt the system by bringing it in unbalance. In Swiss they equip the air distribution system with a valve in the exhaust air channel, this valve will close the exhaust air from all the areas except the channel that is connected to the cooker hood. By means of closing the outlets all the capacity will go to the cooker hood, without closing the other outlets the capacity will be too less to exhaust all the fumes and humidity created by cooking. Furthermore, a NTC sensor must be connected to the contact "T Extractor Hood", in case the temperature in the system becomes too high the cooker hood will be switched off automatically via this contact.

L (230V) Cooker hood



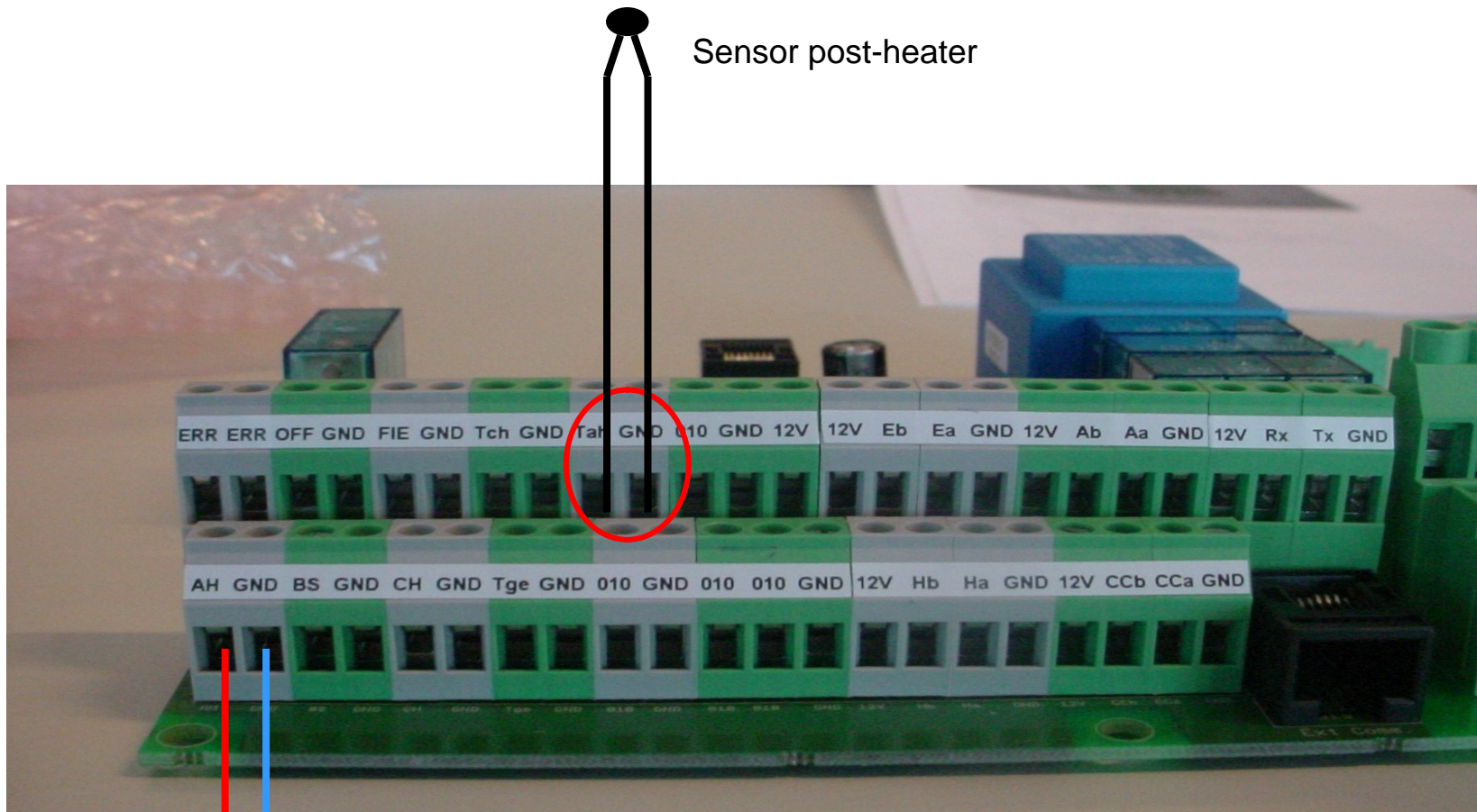
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Parameter
P55
P64



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Post heater



Sensor post-heater

0-10V out

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Type of sensors:

All sensors are NTC sensors (Negative Temperature Coefficient). Please see table below for the temperature range. (Also shown on pages 24 and page 30 in the installer manual of the ComfoAir)

Temperature [°C]	Resistance [KΩ]		
	MIN.	MID.	MAX.
10	19,570	19,904	20,242
15	15,485	15,712	15,941
18	13,502	13,681	13,861
19	12,906	13,071	13,237
20	12,339	12,491	12,644
21	11,801	11,941	12,082
22	11,291	11,420	11,550
25	9,900	10,000	10,100
30	7,959	8,057	8,155



Temperature channel sensor post-heater: 677200330

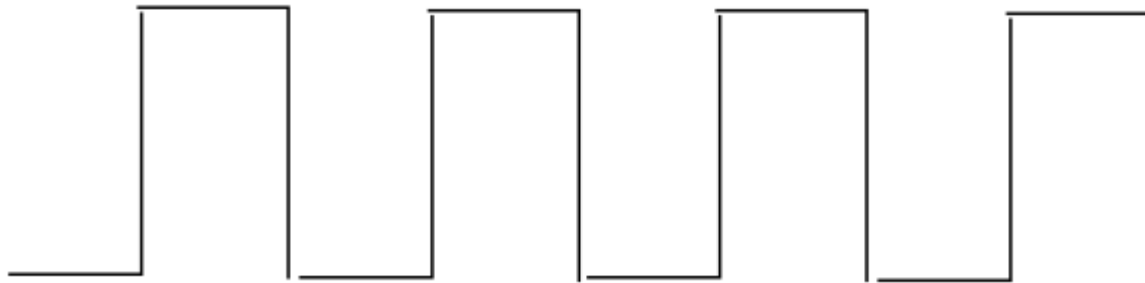
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1. Post heater:

We do not offer a post-heater in our assortment, you can apply a post heater that suits the system and circumstances best. We advise you to apply a post-heater of 500W till max. 2KW. This post-heater can be an electrical one as well as a water battery post heater steered by a pump. The power must be delivered externally. Our unit offers the possibility to steer the post-heater by means of the temperatures measured by the NTC sensor that must be placed in the supply duct after the post-heater. If you have to steer the post-heater by a PWM (digital) sign or a 0-10V sign depends on the post-heater you apply. When your client has selected a post-heater, it can be adjusted in menu P55. Here you can adjust if the post-heater gives a PWM sign or a 0-10 V sign.

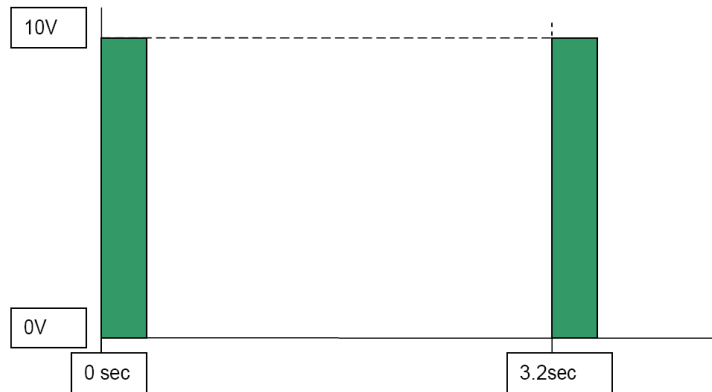
PWM à 0/10V:

When the heater must e.g. work on 50% of his capacity, the heater will run 50% of the time on full capacity and 50% of the time it will be off. *0-10 V (analogue):*

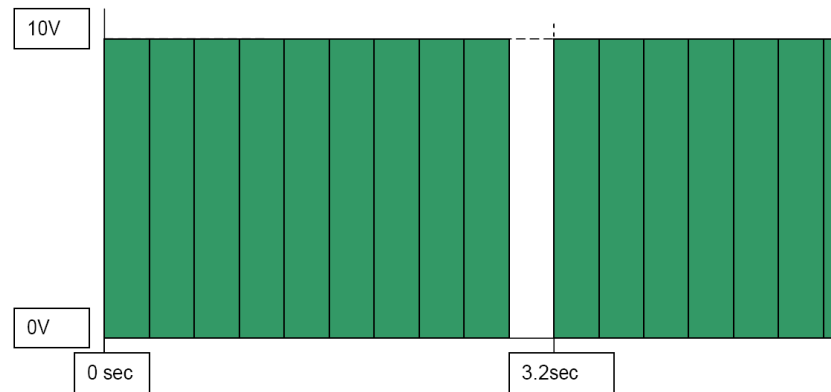


PWM 0/10V: examples

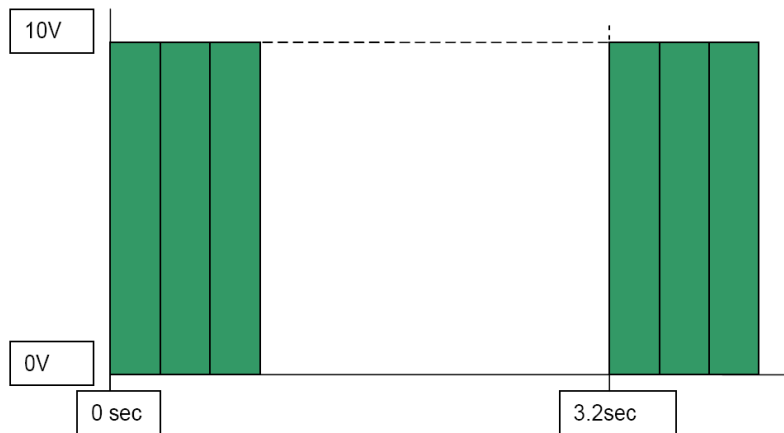
10%



90%



30%



PWM 0/10V:

When steering with a 0/10V, a pulse, with a cycles time of 3,2 sec, will be set on the output (the pulse width depends on the requirements). The height of the pulse is always 10V. When having a steering of 10%, the pulse width will be 10% from 3,2% (0,32 sec). With 90% it will be 2,88 seconds.

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0-10 V (analogue):

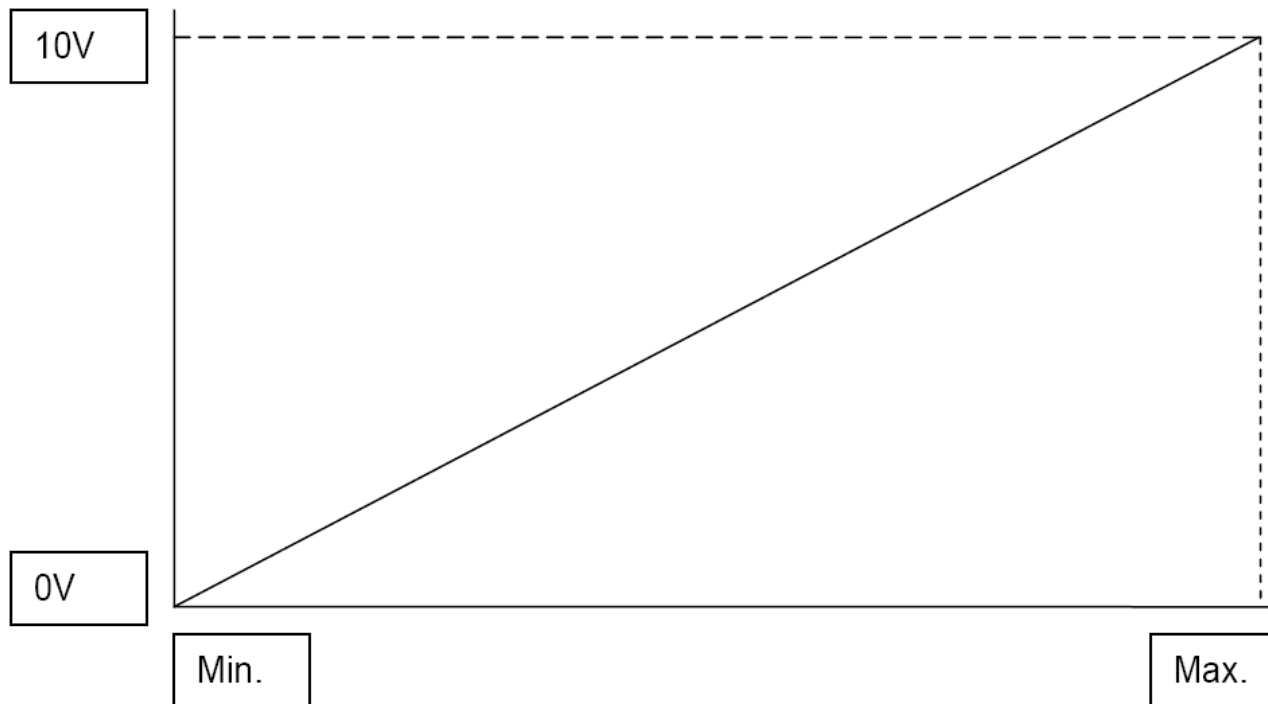
When the heater must e.g. work on 50% of its capacity then 5volt signal will be given to the post-heater.

Security: when the NTC sensor that has been placed after the post-heater becomes to warm (based on the comfort temperature set in P64) the post-heater will be switched off automatically. Furthermore when the fans turn off for some reason, the post-heater will be switched of automatically. All other safety regulations depend on the regulations set in the concerning country.

The comfort temperature that has been set in menu P64 decides if the post-heater must run and in what intensity.

Steering with 0-10 Volt (P55=1)

With an analogue steering the 0-10 V signal increases in proportion with the required capacity. So with a maximum capacity the signal will be 10V and for a capacity of 50% a 5V sign will be given.



Post heater steering Solid state relays

OMRON

Solid State Relays G3NA

The reliable choice for Hockey-puck-style
Solid State Relays. Available in a Wide
Range of Currents.

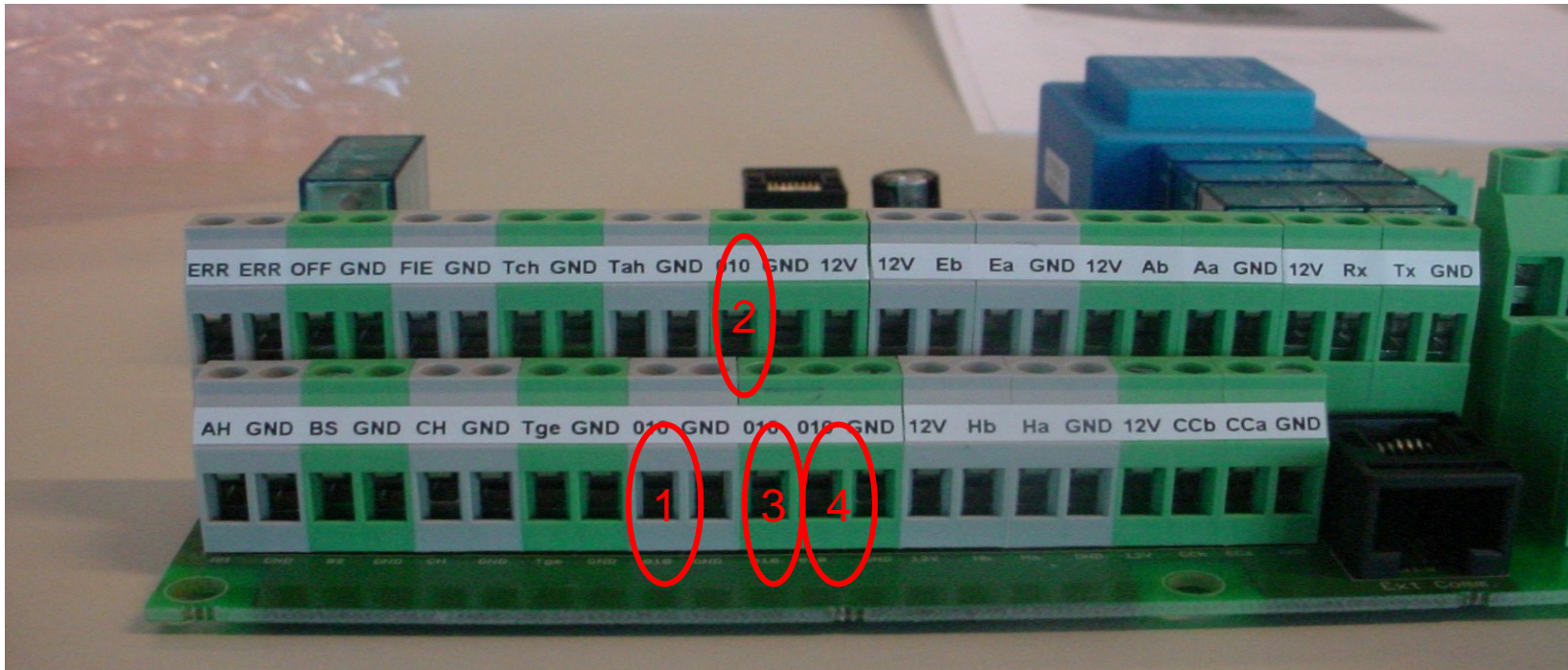
- All models feature the same compact dimensions to provide a uniform mounting pitch.
- Built-in varistor effectively absorbs external surges.
- Operation indicator enables monitoring operation.
- Protective cover for greater safety.
- Certified by UL, CSA, and TÜV.



CE RU SF Δ

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Analogue input (0-10V)



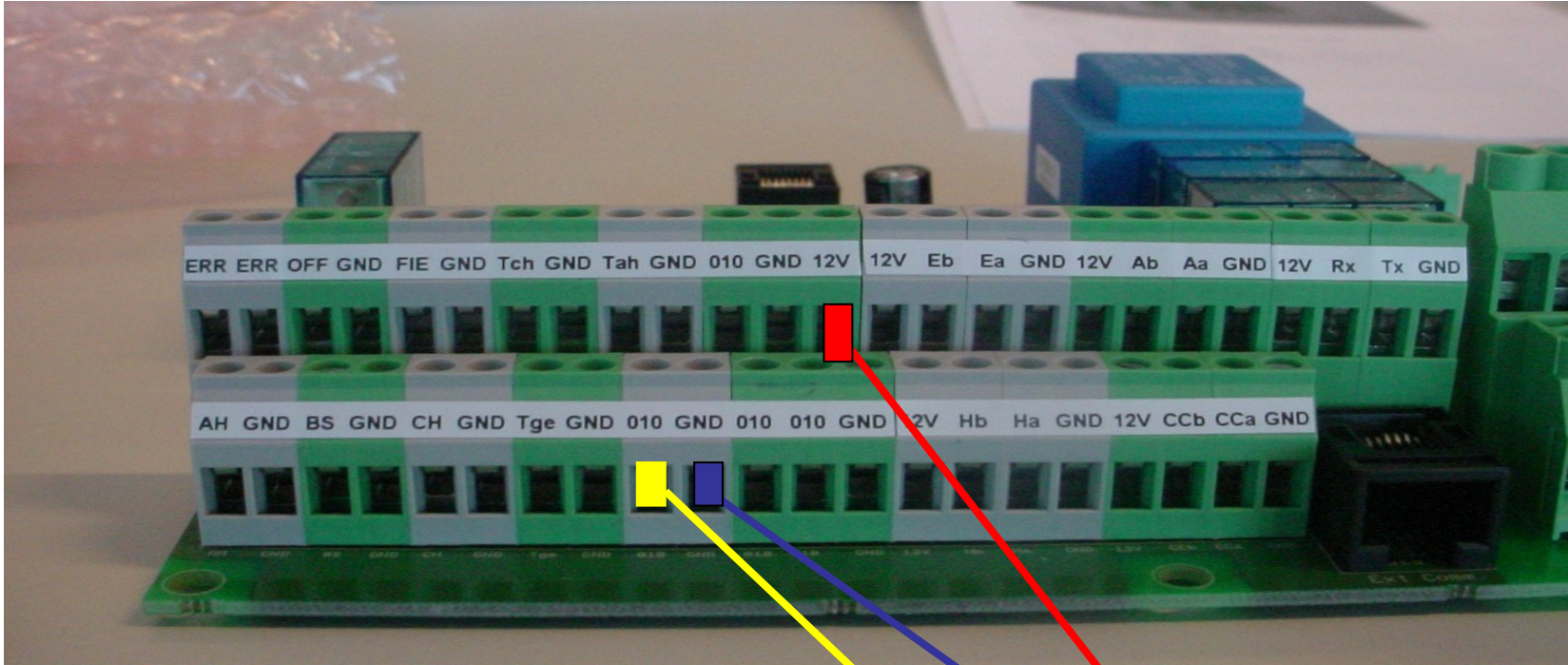
All the analogue inputs of the ComfoAir 350 luxe and ComfoAir 550 luxe are 0-10 Volt (Direct current). As long as a 0-10 Volt signal is given, the length of the cable does not matter. Furthermore, we advise to apply a 2x 0,75 mm² cable.

To these inputs you can e.g. connect a CO₂ or humidity sensor (for ventilation on demand).

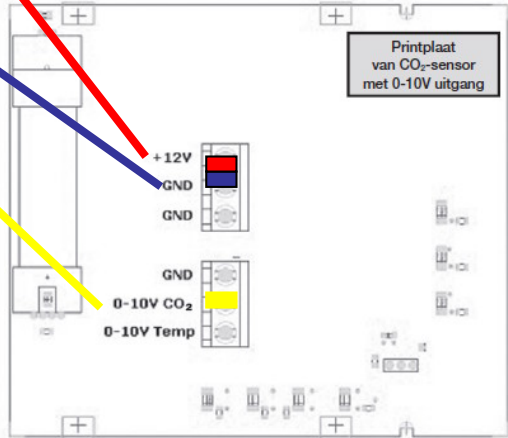
Analog1

Analogue input 1

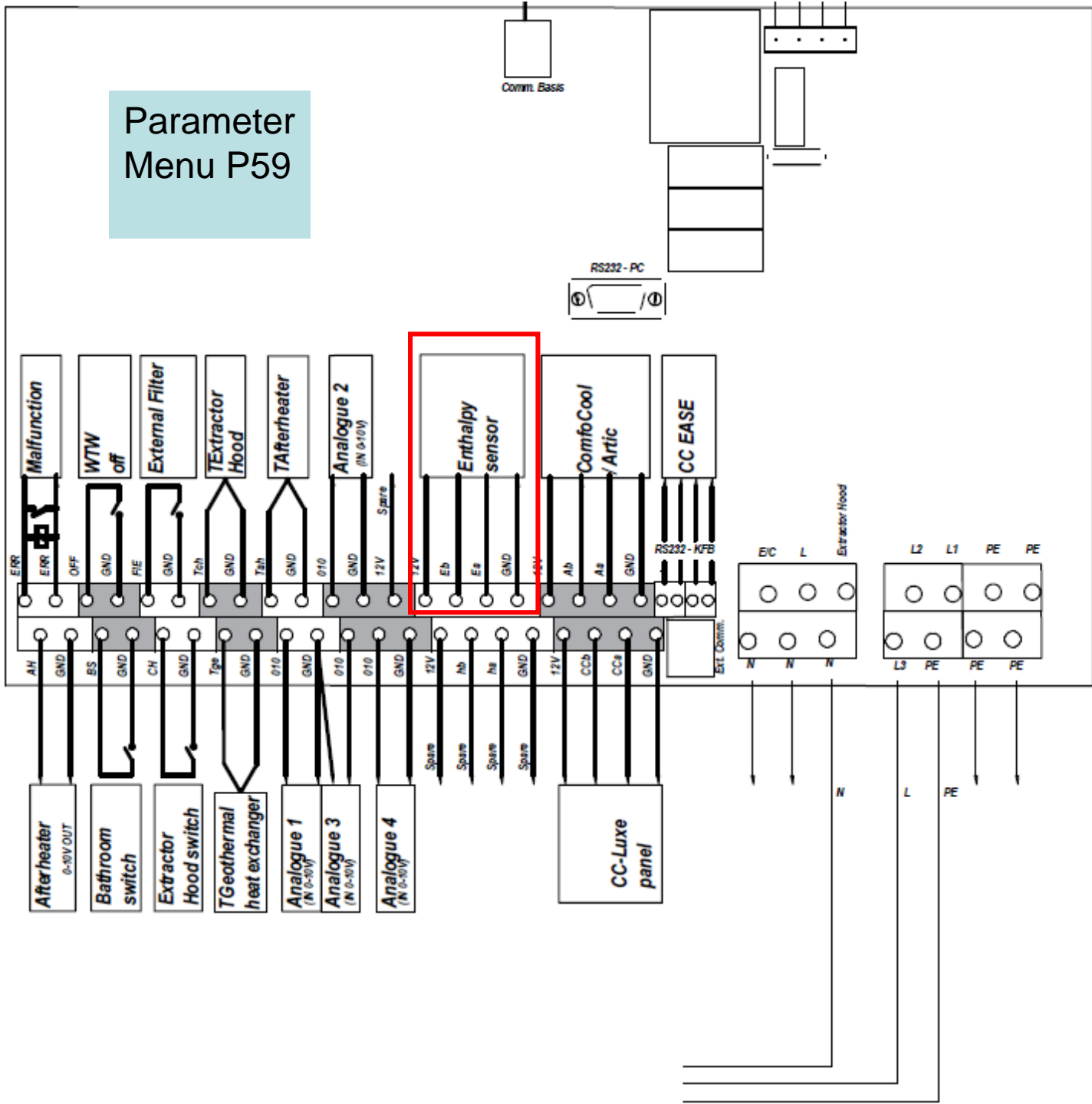
		Default	Min	Max
810	0 = not fitted 1 = fitted	0	0	1
811	0= controlling (proportional-control) , 1 = programming (set-point control)	0	0	1
812	set point analogue input (programming)	50%	0%	100%
813	min. setting analogue input	0%	0%	99%
814	max. setting analogue input	100%	0%	100%
815	0 = positive analogue input	1	0	1
	1 = negative setting analogue input			
816	read-out analogue input 0 100 -	-	0%	100%



Analog1

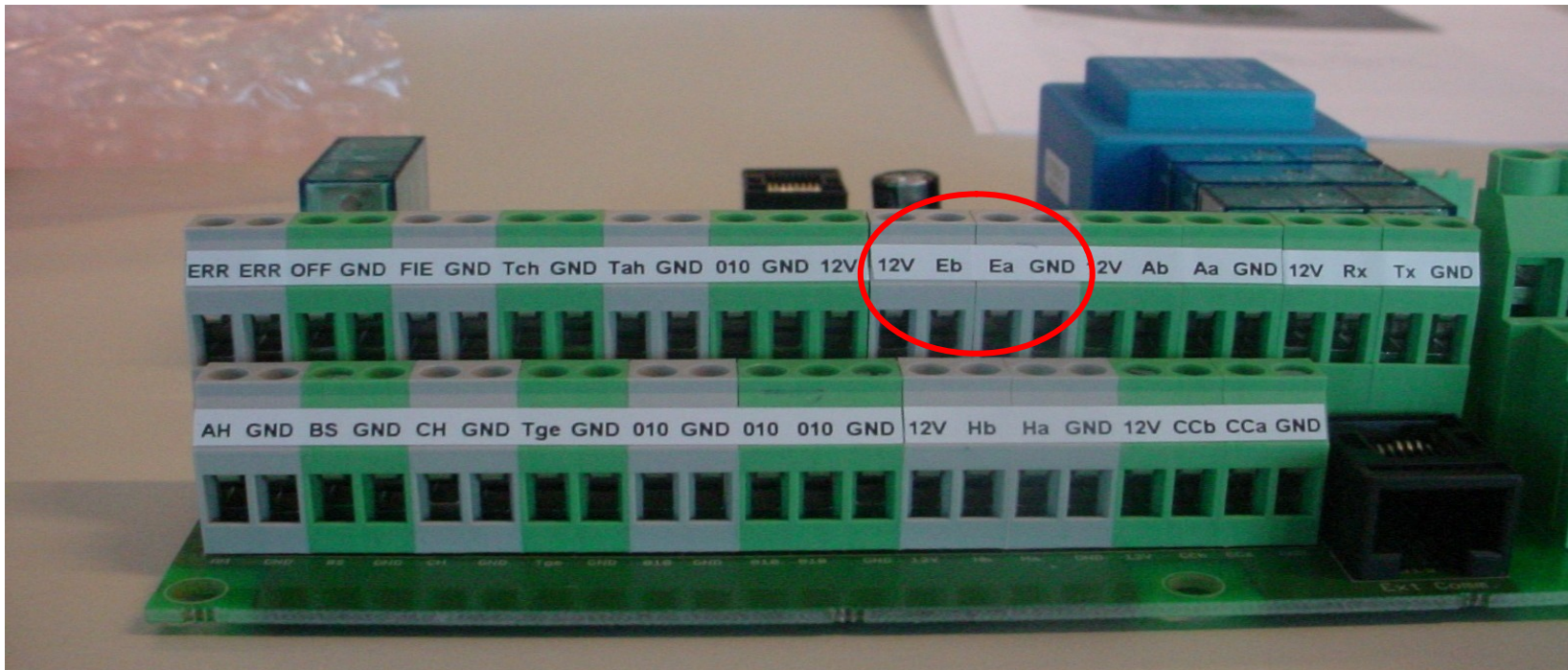


Parameter Menu P59



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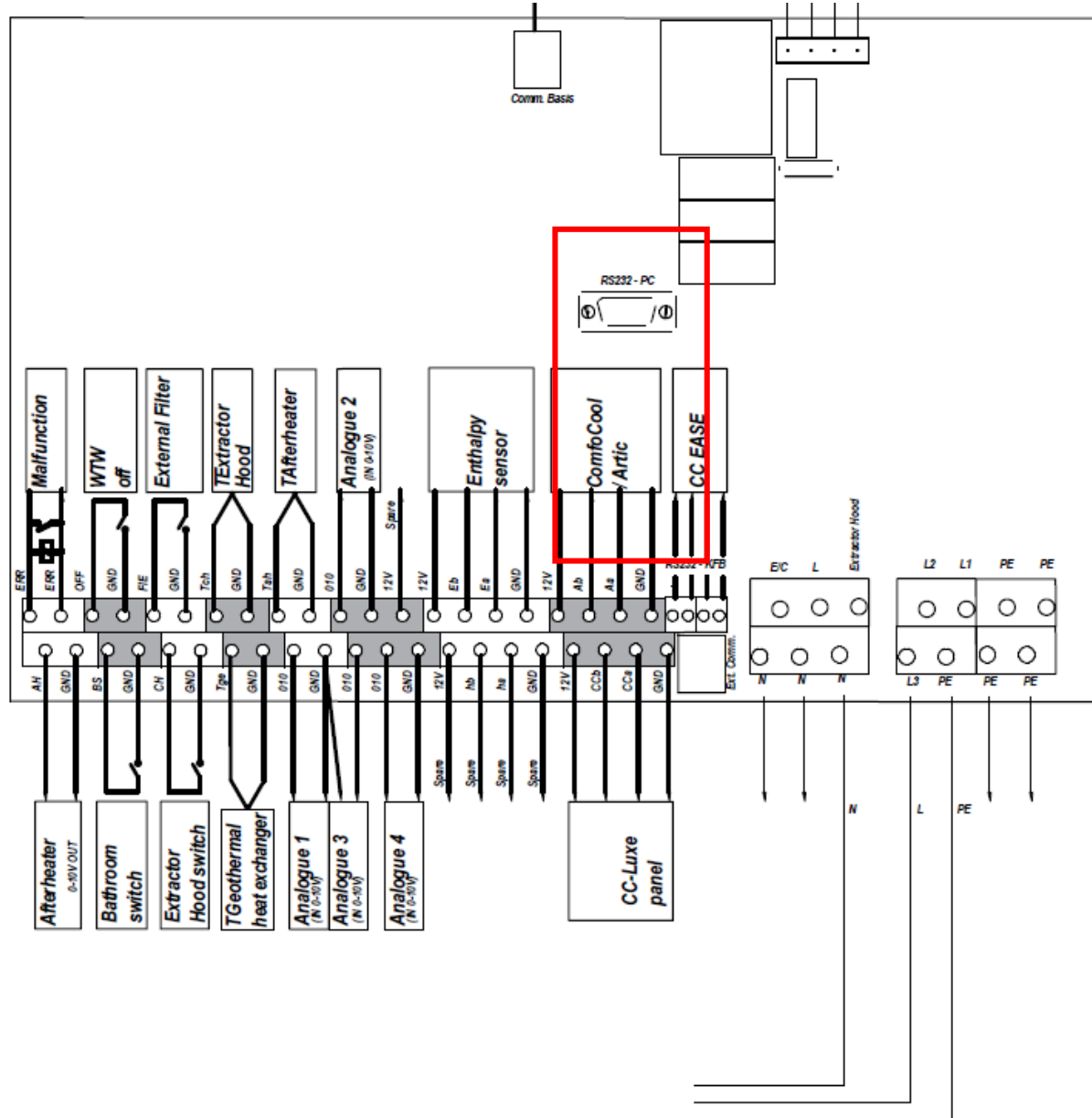
Enthalpy sensor



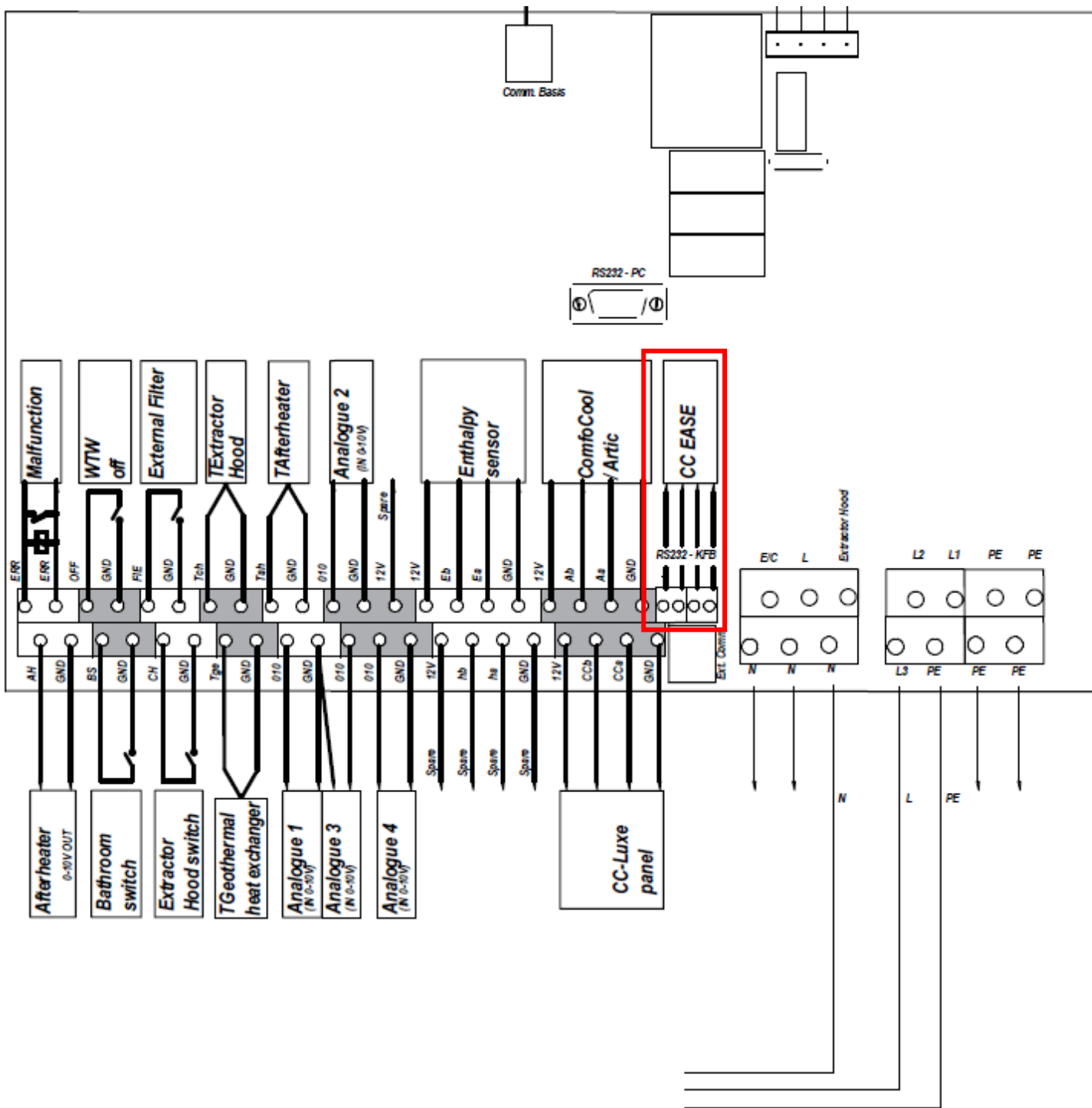
This function is not used anymore and can be forgotten. This function has been used to measure the humidity in the house, based on the measured level of humidity a sign was given when the enthalpy exchanger should have been exchanged for a normal exchanger and visa versa.

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ComfoCool



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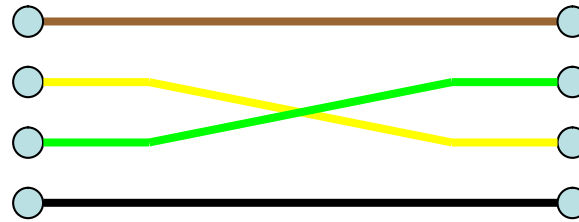
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Connection CC Ease



+12V
RX
TX
GND

CC Ease



+12vdc
RX
TX
GND

CA350

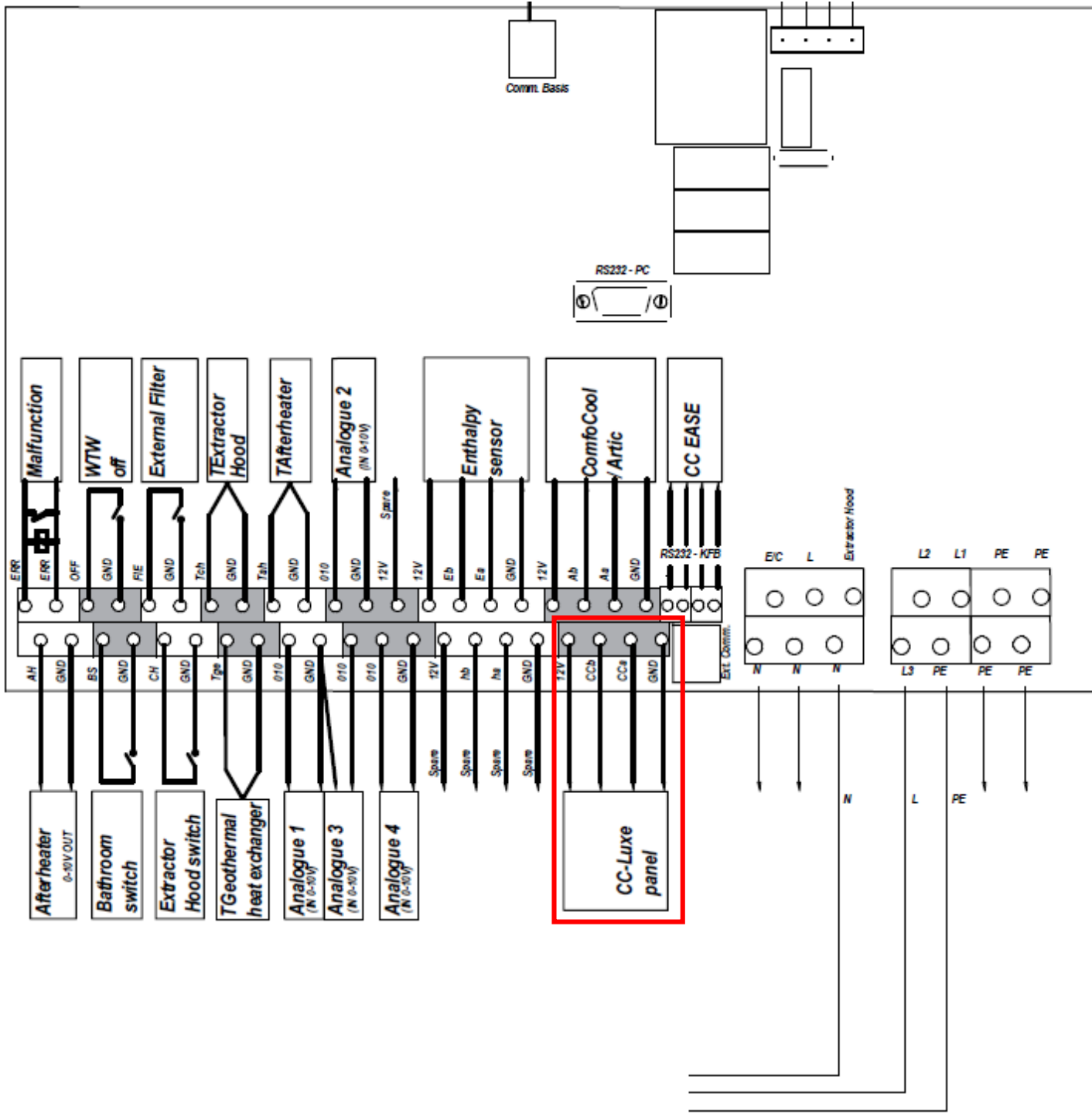


4x0,34mm²



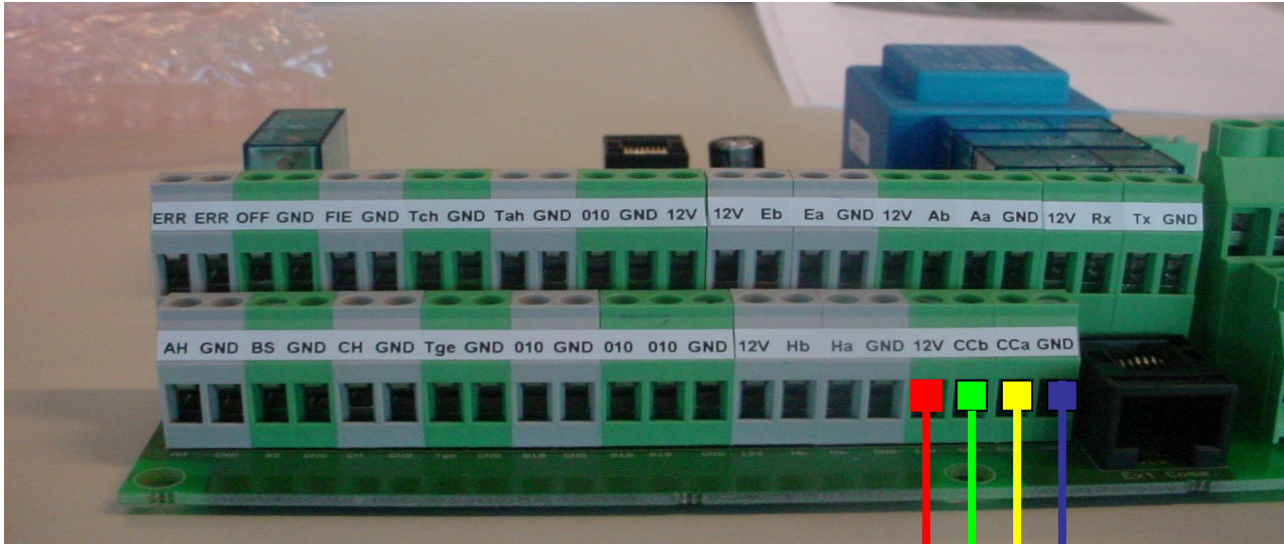
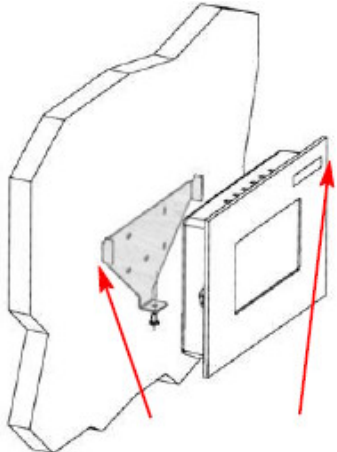
Please be aware that the RX and TX connection are crossed.

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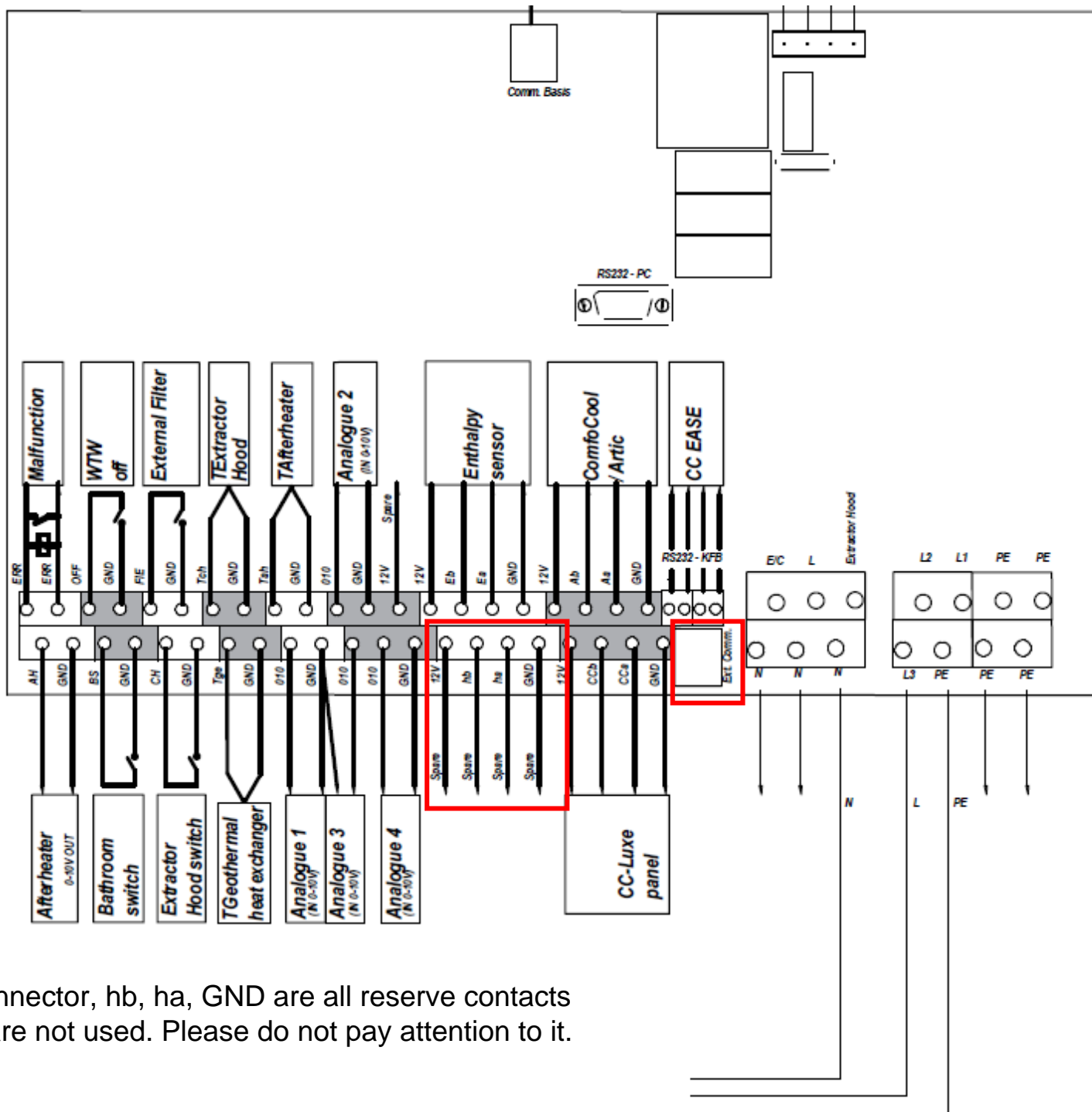


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CC Luxe



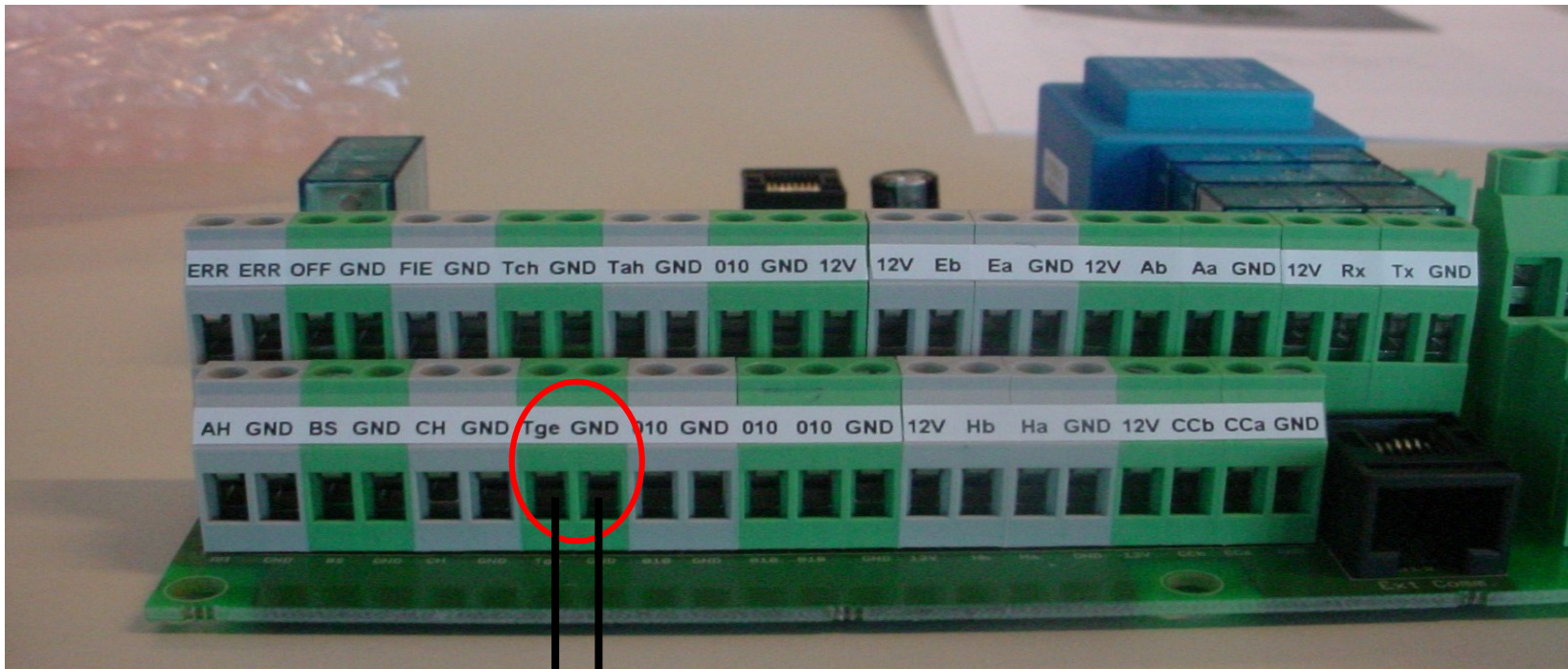
Open	Comm		Power		Relay		Relay		Temp. Sens	
Therm	□	□	□	□	□	□	□	□	□	□
*	*	A	B	-	+	*	*	*	*	*



12V connector, hb, ha, GND are all reserve contacts which are not used. Please do not pay attention to it.

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Temperature sensor ground heat exchanger (ComfoFond-L)



The type of sensor that is used is a NTC sensor, the minimum temperature of the sensor is -27°C and the maximum temperature $+127^{\circ}\text{C}$. When the sensor will reach a temperature that is below -27°C or above 127°C the unit will give th

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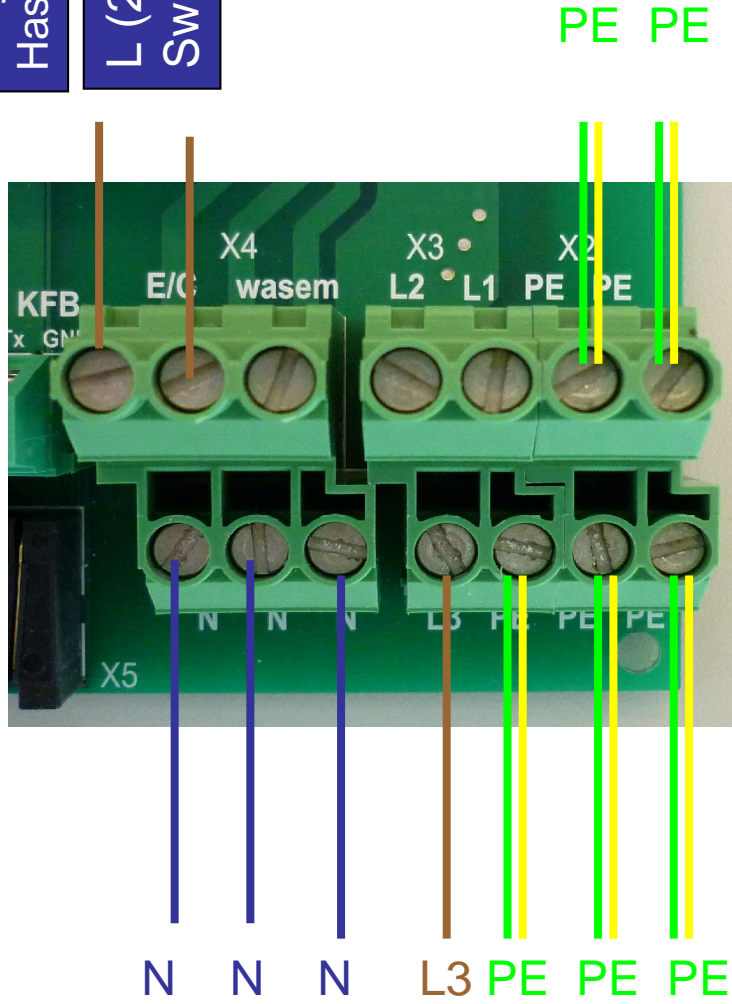


Temp. [°C] (-)	- - MIN.	Weerstand [KΩ] MID	- - MAX.
10	19.570	19.904	20.242
15	15.485	15.712	15.941
18	13.502	13.681	13.861
19	12.906	13.071	13.237
20	12.339	12.491	12.644
21	11.801	11.941	12.082
22	11.291	11.420	11.550
25	9.900	10.000	10.100
30	7.959	8.057	8.155

T-outside sensor: 677200320

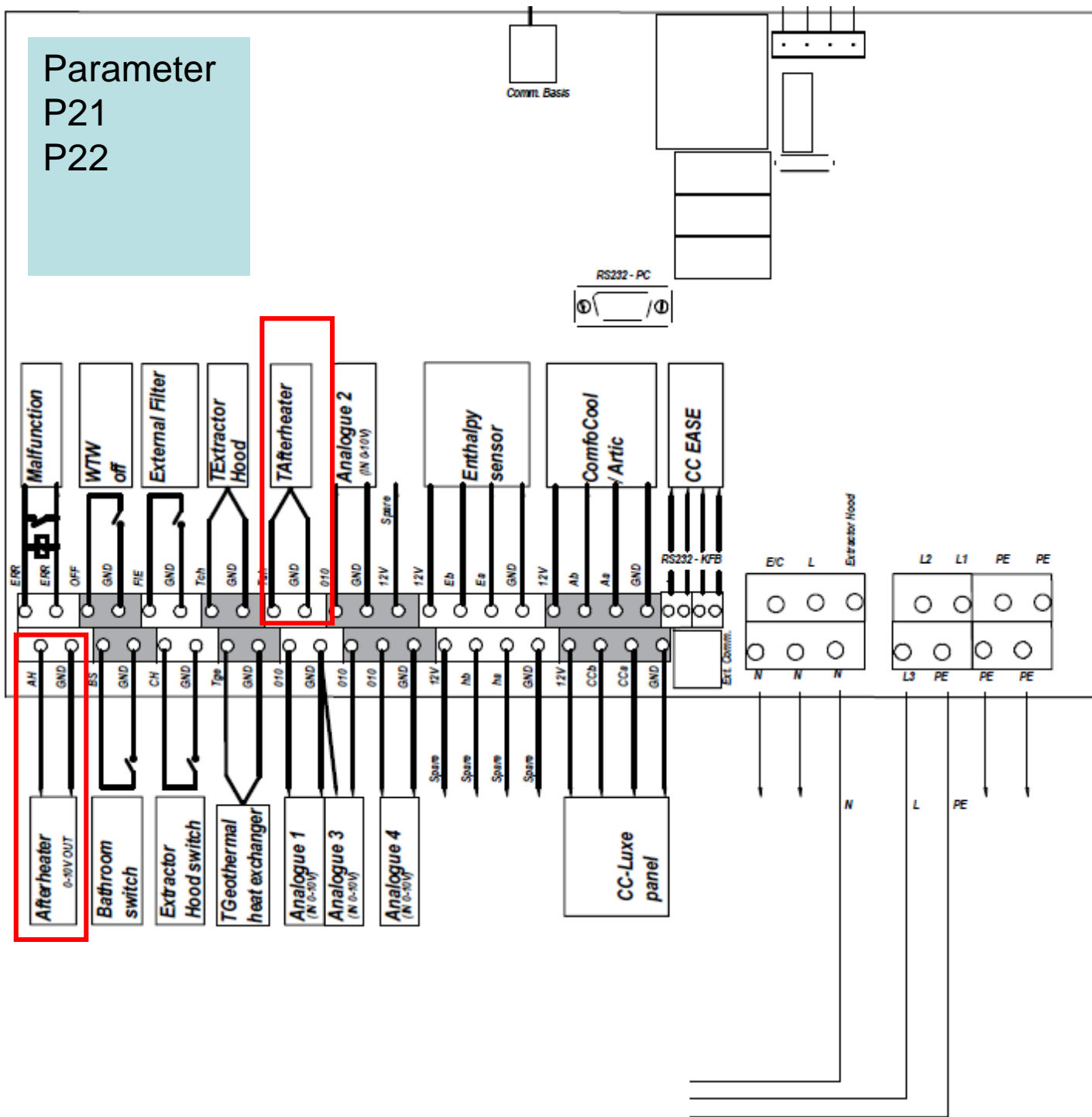
L (230V)
Only when EWT
Has been registered

L (230V) EWT
Switch power



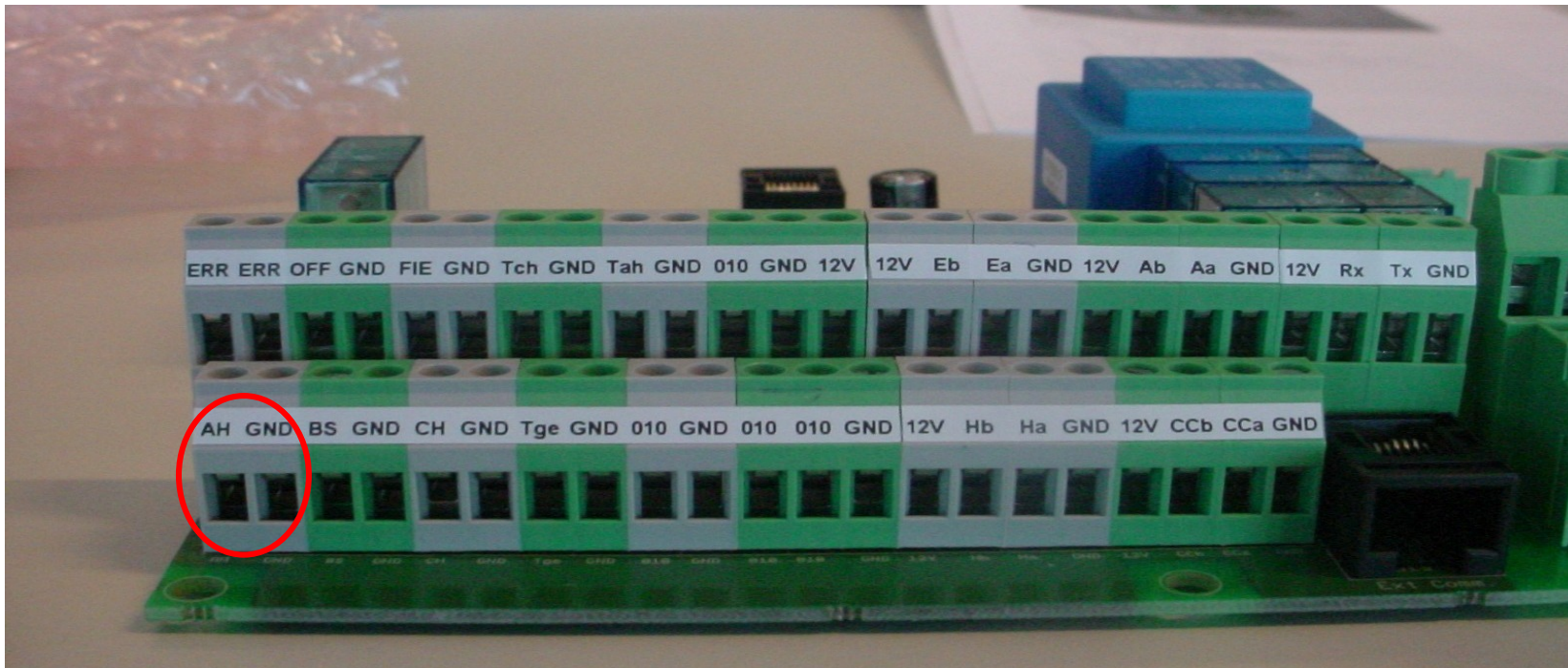
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Parameter
P21
P22



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Post heater



Output post heater 0-10V. For more information please check page 25 -31

