AURA 37

MANUAL

VERSION A1

Art.Nr. 5911975

GB180104

Table of contents

1. General introduction

This manual has been created with the utmost care. If, however, you should discover an error, please inform Fancom B.V..

1.1 Documentation with the control computer

This manual supplies information about connecting and configuring the control computer and information about working with the control computer after installation. Always keep the manual close to the control computer.

	For more information about the principles of climate management see the Fancom climate handbook.

1.2 How to use this manual

The following symbols are used in this manual:

	Tips and suggestions.
	Note providing recommendations and additional information.
	Warning indicating damage to the product if you do not follow procedures carefully.
	Warning indicating danger to humans or animals.
	Electrical shock hazard. Danger to humans and animals.
	Example of a practical application of the described functionality.
	Calculation example.
	Describes the key combinations for arriving at a particular screen.

Decimals

The control computer and this manual use a decimal point in values. For example: a weight is shown as 1.5 kg (not as 1,5 kg).

1.3 Fancom Sales & Service Center

For any questions and support, please contact the local Fancom Sales & Service Center.

1.4   Safety instructions and warnings

Before installing and commissioning the Aura 37, read the safety instructions, provisions and conditions carefully. This paragraph contains a number of general safety instructions. The installation of the device and remedying of any malfunctions should be performed by a certified electrical installer according to the applicable norms. The guarantee does not apply if this product is installed in any other way than is indicated by Fancom and changes have been made to the product.

⚠	Disconnect power before installation or before carrying out any maintenance to the control computer. You must be able to switch off the device using a bipolar main switch.
⚠	Take precautions against electrostatic discharge (ESD) when working on the control computer. Ensure the workplace is clean and dry.
⚠	Use the wiring/cables indicated on the connection diagrams and follow all. Only apply power after the wiring has been connected correctly. Incorrect connections can cause permanent damage. Before a new fuse is placed, the cause of the defect should be remedied by an authorized installer. Only replace a defective fuse by a fuse of the same type (see connection diagram).
⚠	Inspect the control computer regularly for any damage. Report any damage to your installer immediately. A damaged control computer is dangerous! Do not use running water (high pressure cleaners) to clean your control computer. The control computer is water resistant, but not waterproof! Do not switch off the computer when houses are unoccupied; otherwise there is the risk of condensation in the computer.
⚠	The installation, of which this product is a part, must be equipped with a reliable, independent alarm system, for example, a minimum/maximum thermostat. We advise you to test the alarm system every day for proper functioning.
⚠	Connect each Fancom device according to the applicable legislation/regulations of the local energy provider.
⚠	Check that the mains voltage and frequency, for which this computer is suitable, correspond to the mains voltage and frequency on site.
⚠	Low-voltage and high-voltage wires may not be placed parallel to each other but may cross each other.
⚠	When using metal ducts, Fancom advises grounding the ducts at the ends and at as many other places as possible.
⚠	Connect the computers to one group, from the main distributor.
!	Keep signal and power cables as short as possible.

2.   Aura 37

The Aura 37 is a control designed for mechanically ventilated poultry houses with a constant (non-growing animals) or an increasing ventilation demand (growing animals). The Aura 37 has the following features:

- Ventilation temperature control based on setpoint house
- Ventilation influences on high and low outside temperature
- Ventilation influenced on relative humidity
- Ventilation settable using a combi control matrix
- Ventilation fan control using analog output
- Ventilation sidewall and tunnel inlet using analog output
- Ventilation settings in %
- Ventilation linear or modulation control
- Ventilation by adding eight additional fan outputs
- Temperature measurement for two house sensors
- Temperature measurement for outside sensor
- Relative humidity measurement
- Curve settings on day number for set temperature, set relative humidity, min vent and max vent
- Heating output for one heater
- Cool output for one cooling
- Humidification output
- Registration of water, feed and one auxiliary registration
- Limited history of water, feed and auxiliary registration
- Alarming on temperature, RH and power fail
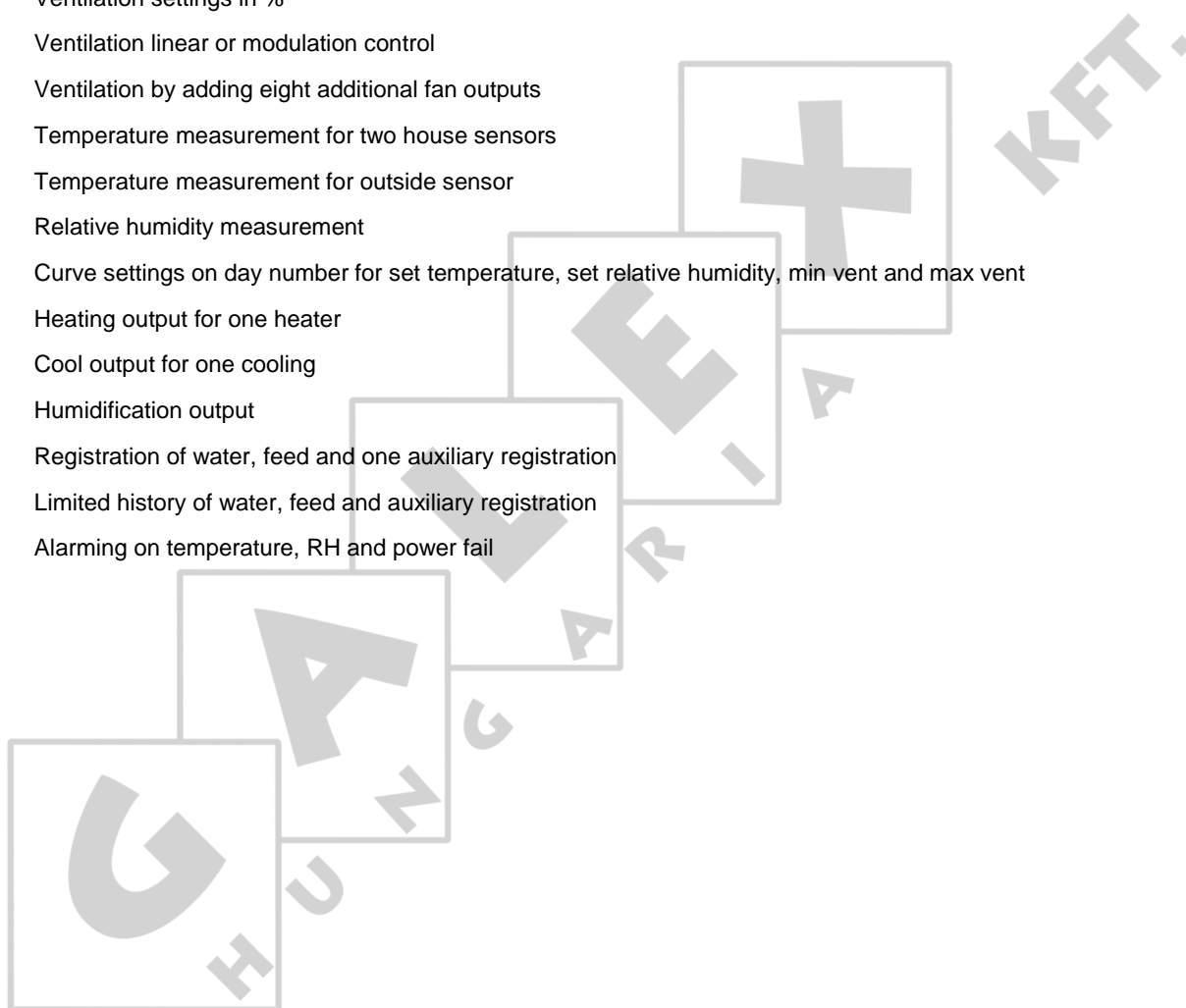
3.   Using the Aura 37

This chapter describes the main parts and the operation of the Aura 37.

3.1   Main parts

The Aura 37 can be operated on the touch screen.

1.   Touch screen

3.2   Switching on the Aura 37

The controller is automatically activated as soon as you switch on the power. The start-up progress is shown on the screen.

3.3   Working with the Aura 37

The Aura 37 screens are divided in three sections:
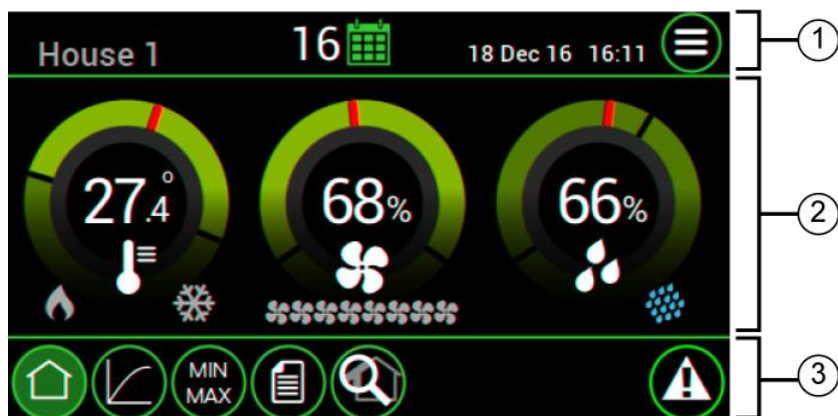
1. **Title bar**: Displays the name of the control computer, daynumber and date and time field. The button in the right corner can be used to switch between user and installer views.

2. **Working area**: Displays the data of user or installation settings of the control computer.

3. **Menu selection and alarm bar**: Provides buttons to navigate through available menus (e.g. curve) and an alarm indicator to navigate to more details.

> **!** In the Aura 37 the *Setpoint house temperature* and *Start ventilation temperature* are equal. In this manual both are used.

4. User settings

4.1 Overview screen

The Aura 37 displays the *Overview* screen by default. This screen provides the temperature, ventilation and relative humidity dials.
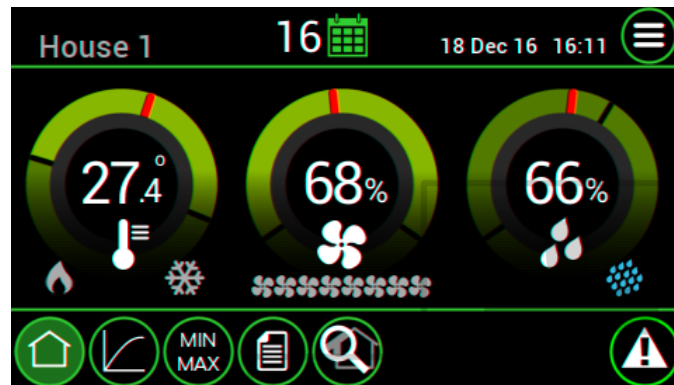
Temperature dial

Readout of the temperature values (°C/°F) in the section.

1. Lower boundary of the comfort zone
2. Actual measured temperature
3. Actual measured temperature
4. Upper boundary of the comfort zone
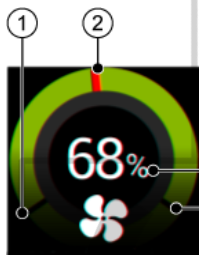
Ventilation dial

1. Minimum ventilation
2. Actual calculated ventilation
3. Calculated ventilation
4. Maximum ventilation
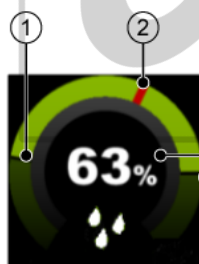
Humidity dial

1. Minimum relative humidity
2. Actual measured relative humidity
3. Actual measured relative humidity
4. Maximum relative humidity

Readout of the heating status (Yellow ON / Grey OFF).

Readout of the cooling status (Blue ON / Grey OFF).

Readout of the ventilation status (8 combi fans) (Blue ON / Grey OFF).

Readout of the relative humidity status (Blue ON / Grey OFF).

4.1.1 Using the dials

Use the dials as follows:

1. Tap the dial you want to set. A pop up of the dial appears:
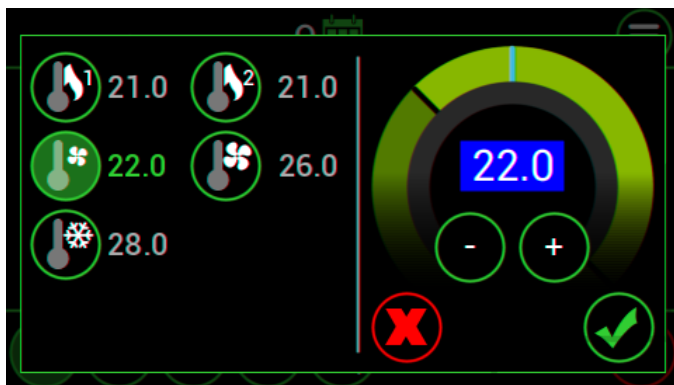
2. Set the value by tapping :

  - Tap to increase or decrease the value step by step.

  - Hold the to quickly increase or decrease the value.

3. Tap to confirm or to cancel all the settings in the popup window.

4.1.2 Temperature control

The temperature control ensures it does not become too cold in the section. If the temperature drops below the set value, the computer will make a correction.

  → **Dial**
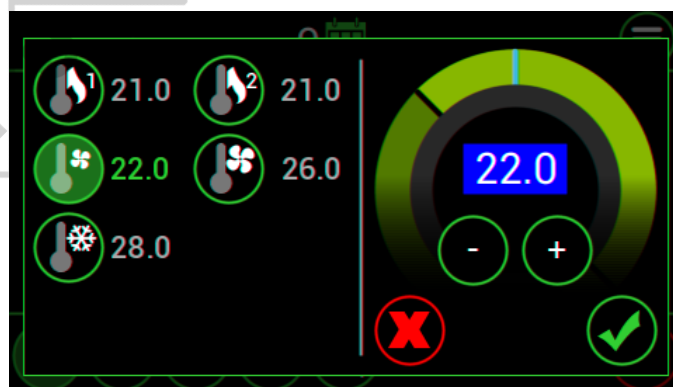
Setting the setpoint heating.

Setting the start temperature ventilation (setpoint house).

Setting the end temperature ventilation.

Setting the setpoint cooling.

!	Setpoint heating and Setpoint cooling can be linked to the Setpoint house temperature.

4.1.3   Ventilation control

The ventilation control ensures there is always a settable minimum amount of fresh air. If the temperature in the house becomes too high, the controller will provide extra ventilation.

→ **Dial**
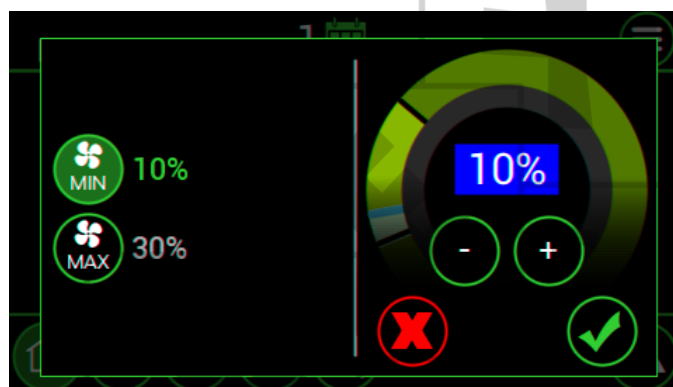
Setting of the minimum ventilation.

Setting of the maximum ventilation.

4.1.4 Relative humidity control

The relative humidity control ensures there is always a settable minimum humdity percentage. If the relative humidity in the house becomes too low, the controller will provide extra moisture.

→ **Dial**
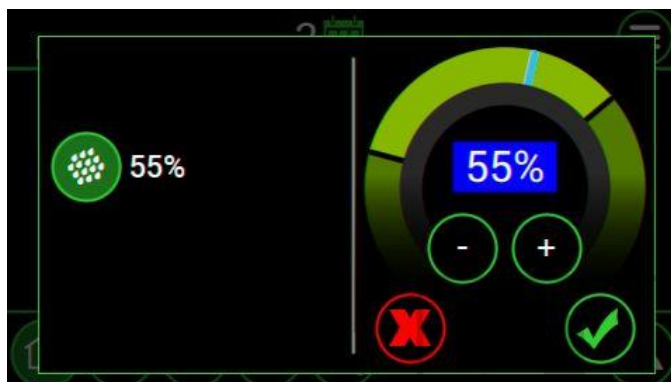
Setting of the relative humidty setpoint.

4.2 Setting the curves

It is possible to set the curve for temperature, relative humidity and ventilation. There are 10 bending points. At a bending point start by entering the day number; the settings at this bending point apply to this day number.
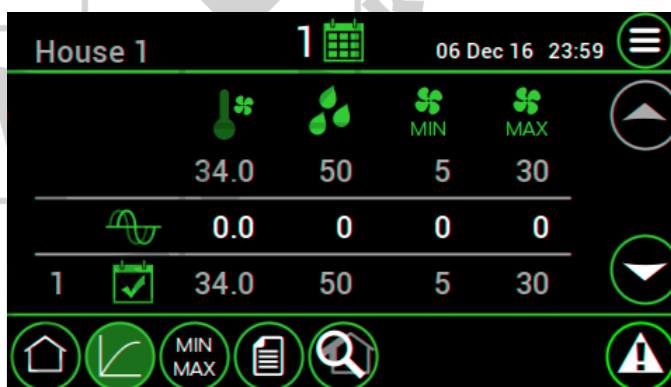
Readout of the actual control values (setpoints).

Setting to adjust the offset between setpoint and curve value.

Readout of calculated curve values of the concerning day.

	🗓	🌡	💧	MIN 🌀	MAX 🌀
1.	1	34.0	50	5	30
2.	3	33.0	55	5	50
3.	7	30.0	60	10	100

1,2,3...10   Readout of the bending points of the curve (maximum 10).

🗓   Setting of the day on which the new curve values must apply.

🌡   Setting of the curve value (ºC/ºF) for the start temperature ventilation (setpoint house).

💧   Setting of the curve value (%) for relative humidity.

🌀 MIN   Setting of the curve value (%) for minimum ventilation.

🌀 MAX   Setting of the curve value (%) for maximum ventilation.

💡 The day number is a counter increased by the controller each day at midnight by one up to a maximum of 999. If the day number is 0 it will not change. The Aura 37 then controls without the curve, even if the bending points have been set.

If a curve is used, the day number is the basis used to calculate the setpoints from the relevant curve. If a negative day number is set, the Aura 37 will control without using the curve, until the day number is a positive number. A negative day number is also increased at midnight by one, except the jump from day –1 to day +1 (a jump of 2).

4.3   Min-max
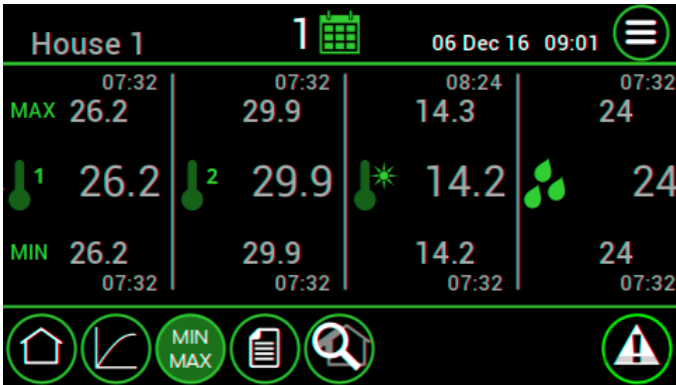
	Readout of the highest, actual and lowest measured temperatures of temperature sensor 1. Followed by the time of measurement.
	Readout of the highest, actual and lowest measured temperatures of temperature sensor 2. Followed by the time of measurement.
	Readout of the highest, actual and lowest measured temperatures of outside temperature sensor. Followed by the time of measurement.
	Readout of the highest, actual and lowest measured temperatures of relative humidity. Followed by the time of measurement.

	The highest and lowest values are measured over the last 24 hours.

4.4   Registration

Registration of water, feed and auxiliary inputs, representing the today, yesterday, day before yesterday values and the total value since last reset.
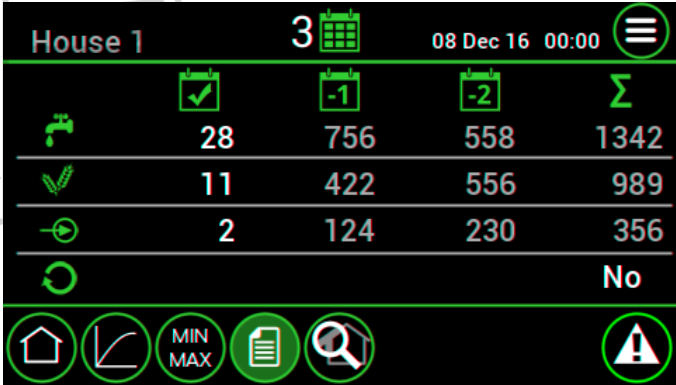
	Setting of the registration of today.
	Readout of the registration of yesterday.

📅-2	Readout of the registration of the day before yesterday.
Σ	Readout of the cumulative registration over the entire flock.
🚰	Readout of the amount of water registered.
🌾	Readout of the amount of feed registered.
⊸	Readout of the amount of auxilary registered.
↻	Setting to reset all registration data to 0.

4.5   Output status

This menu shows the status and control values of the outputs.
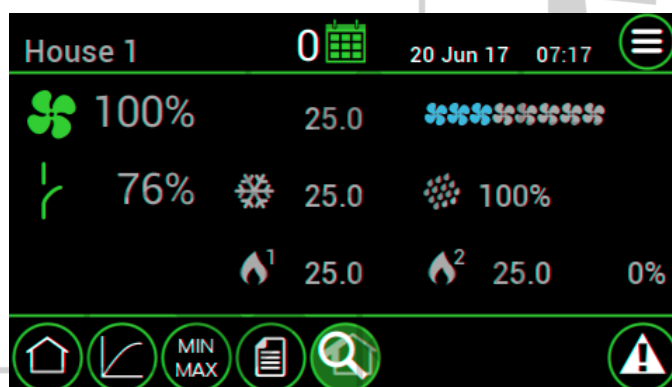
🌀	Readout of the actual calculated position of the fans and the temperature on which the fan is currently controlled.
🌀	Readout of the ventilation status (8 combi fans) (Blue ON / Grey OFF).
🔥	Readout of the heating status (Yellow ON / Grey OFF) and the temperature on which the heating is currently controlled.
❄	Readout of the cooling status (Blue ON / Grey OFF) and the temperature on which the cooling is currently controlled.
❋	Readout of the relative humidity status (Blue ON / Grey OFF) and the percentage on which the relative humidity is currently controlled.
⌇	Readout of the actual calculated position of the sidewall inlet.
⌇⌇	Readout of the actual calculated tunnel inlet position.

5.   Alarm

The Aura 37 displays the alarm overview by pressing ⚠. There are two types of alarm:

1. **Loud alarm**: An active loud alarm sounds a siren, shows an alarm message and a report on the screen. This type of alarm has a **high priority**.

2. **Silent alarm**: An active silent alarm shows an alarm message and a report on the screen. This type of alarm has a **low priority**.

5.1   Alarm overview
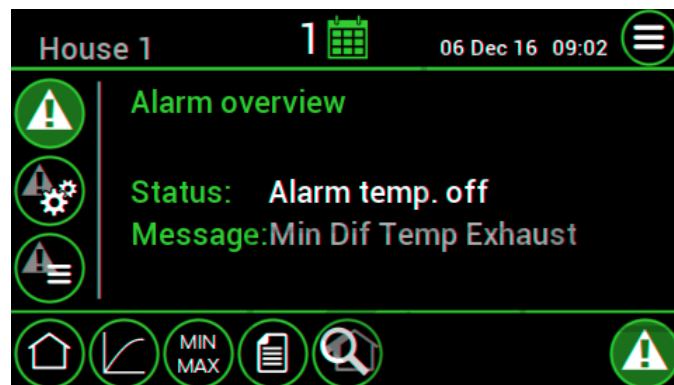
Status	Readout / setting the alarm status:

- *Alarm stand by*: no alarm (stand by mode).
- *Alarm test*: test the alarm and after reset the status will be changed to *Alarm stand by*.
- *Alarm recovered*: there was an alarm which has been recovered. The controller switches off the alarm, but the alarm status remains visible.
- *Silent alarm*: alarm message shown on screen only.
- *Alarm temp. off*: switch off the current alarm. When the alarm situation has been cancelled, this status will automatically become *Alarm stand by*. Always check that the status has reverted to *Alarm stand by*.
- *Alarm disabled*: switch off the alarm entirely. Only do this when houses are unoccupied. Do not forget to reset the status to *Alarm stand by*.
- *Alarm*: the type of alarm is shown on the screen.
- -: function not in use.

Message   Readout of the alarms (see table below).

Alarm messages

Temperature alarms	
Alarm	**Action**
Min.house temp. (abs) *Max.house temp. (abs)* *Min.house temp. (dif)* *Max.house temp. (dif)*	**Minimum alarm** • Check wiring and sensors. • Check if the heater works properly (if available). • Check minimum difference alarm settings. **Maximum alarm** • Check wiring and sensors. • Check if the cooling works correctly (if available). • Check maximum difference alarm settings. • Check absolute maximum alarm settings.

System alarms	
Alarm	**Action**
Backup alarm	The control computer will be active on factory settings. Please check the settings.
Watchdog alarm *Communication alarm* *Setting changed* *Stack overflow* *Communication assignment* *EPROM error* *System error* *Protected software*	The control computer also tests a number of functions of the control computer itself. Always warn the installer if a system alarm occurs.
Power failure	When the control is powered up, a silent alarm will be given.
Sensor failure	Sensor measurement is reliable between -9.9 and +99.9. The control computer will give an alarm when the sensor goes out of range. The control computer will continue controlling based on another sensor if connected.

5.1.1   Dealing with alarms

> If the value responsible for causing the alarm comes within the alarm limits again, the situation is considered recovered and the alarm is no longer active. The siren automatically disables and the alarm status changes into *Alarm recovered*. This message remains visible so you can see what caused the alarm. Press ⚠ to change the alarm status into *Alarm temp. off* followed by *Alarm stand by*.

If an alarm occurs the 'menu selection and alarm bar' will flash red. Perform the following actions in case of a:

Loud alarm

1. Press ⚠. The alarm overview displays the alarm status *Alarm* and shows the alarm message.
2. Press ⚠ once more. The siren will temporarily go off and the alarm status changes to *Alarm temp. off*. The alarm message remains visible to investigate what caused the problem.
3. Solve the alarm situation. When the alarm situation is solved the alarm status changes into *Alarm stand by*.

Silent alarm

1. Press ⚠. The alarm overview displays the alarm status *Alarm* and shows the alarm message.
2. Solve the alarm situation.
3. Press ⚠ once more. The alarm message will disappear and the alarm status changes into *Alarm temp. off* followed by *Alarm stand by*.

5.1.2   Disabling the alarm

> If the alarm is disabled the control computer will not generate any alarm messages (except system alarms). Never switch the alarm off during regular operation.

The alarm can be fully disabled, e.g. when the house is empty. Disable the alarm as follows:

1. Press ⚠.
2. Change the alarm status to *Alarm disabled*. The control computer will give a warning to indicate that the entire alarm system has been disabled and ⚠ will flash red.

Reactivate the alarm by changing the alarm status to *Alarm stand by*. The alarm message states that the alarm has been disabled and is active again. The message will be cleared from the alarm overview.

5.1.3   Testing the alarm

> Fancom advises testing the alarm weekly for correct functioning. During the test the control computer will give a loud alarm.

Test the alarm as follows:

1. Press ⚠.
2. Change the alarm status to *Alarm test*. The 'menu selection and alarm bar' will flash red and the control computer prepares an alarm message. The *Alarm overview* displays the alarm message.
3. Clear the alarm by pressing ⚠. The alarm status changes into *Alarm stand by*.

5.2   Alarm settings
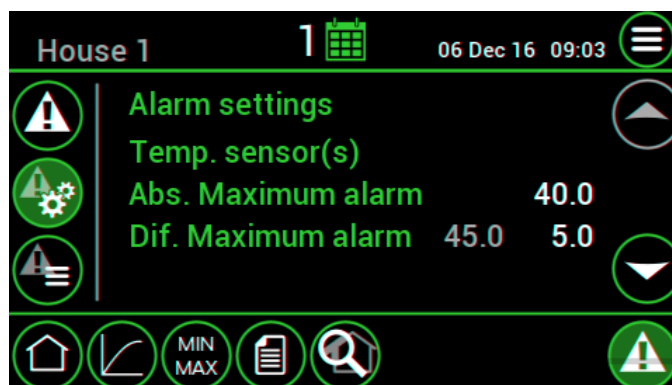
Abs. Maximum alarm	If the house temperature is higher than the set *Abs. maximum alarm*, the control computer will give a maximum temperature alarm.

Dif. Maximum alarm

The control computer gives a maximum temperature difference alarm if the house temperature is above: *Calculated end temperature ventilation* + *Dif. Maximum alarm* (the calculated temperature is shown between brackets).

	Calculated end temperature ventilation:	24ºC
	Dif. Maximum alarm:	3ºC
	Calculated alarm limit:	27ºC

An alarm will occur if a temperature becomes higher than the maximum alarm limit: 24 + 3 = 27°C.

On hot summer days the temperature in a section can be very high. This can result in a maximum alarm or the difference alarm will have to be set high. This is not desirable with lower temperatures; the maximum alarm limit would then be unnecessarily high. In order to provide effective alarms (dif. maximum alarm as small as possible) the computer increases the alarm limit parallel to the outside temperature, as soon as this is higher than the point at which ventilation is maximum.

Calculated end temperature ventilation:	24ºC
Outside temperature:	25ºC
Max. difference alarm:	3ºC
Calculated alarm limit:	28ºC

An alarm will occur if a temperature becomes higher than the maximum alarm limit: 25 + 3 = 28°C.

Calculated end temperature ventilation:	24ºC
Outside temperature:	35ºC
Max. difference alarm:	3ºC
Calculated alarm limit:	27ºC
Absolute maximum alarm:	35ºC

An alarm will occur if a temperature becomes higher than the maximum alarm limit: 24 + 3 = 27°C. The maximum alarm is however limited by the absolute maximum alarm to 35°C.

Abs. Minimum alarm	If the house temperature is lower than the set *Abs. Minimum alarm*, the control computer will give a minimum temperature alarm.

Dif. Minimum alarm   The control computer gives a minimum temperature difference alarm if the house temperature is below: *Start temperature ventilation* - *Dif. Minimum alarm*.

🔍	Start temperature ventilation:	20ºC
	Dif. Minimum alarm:	4ºC
	Calc. min. alarm limit:	16ºC
	An alarm will occur if the temperature becomes lower than 16ºC.	

Temperature sensor failure

Measurements from connected sensors (except the outside sensor) are reliable as long as measurements are between -9.9ºC and +99.9ºC. Outside these limits, the measurements are unreliable. The control computer will give an alarm. This can mean that the temperature sensor has not been correctly connected or is defective. The screen displays # at the temperature readout.

5.3   Alarm history

The control computer stores the alarm history..

💡	The computer stores the last six alarm messages.

6.   Installing the Aura 37

1.   Determine location
2.   Mount the Aura 37
3.   Connect the Aura 37

6.1   Determine location

Takes into account the following guidelines:
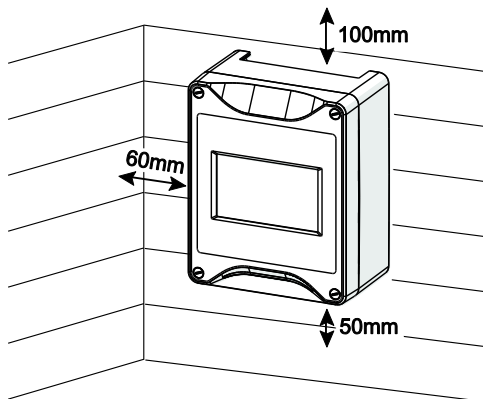
Figure 1:   required edge distances

⚠	Never place the Aura 37 in a place where the weather has direct influence (not in the sun, not in places where the temperature can rise sharply etc.).
⚠	Never mount the Aura 37 near water pipes, drainage pipes etc.
⚠	Never mount the Aura 37 in a humid and/or dusty room and certainly not in the room where the animals are present.
💡	Mount the Aura 37 at such a height that you can control the Aura 37 easily (eye level) and square on a solid backing. The swivels should be positioned at the bottom.

6.2   Mount the Aura 37

Mount the Aura 37 as follows:

1.   Mark the screw holes by using the drilling template (taking into account the required edge distances).
2.   Open the cover and fasten the control computer in the mounting holes on the corners.
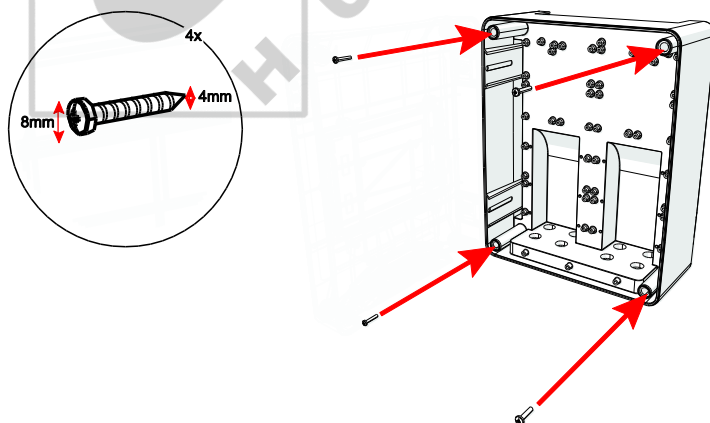
6.3   Connect the Aura 37

Connect the Aura 37 as follows:

1.   Open the cover.
2.   Connect the Aura 37 to the manual switch.
3.   Connect the manual switch to the main supply (be sure power is disconnected).
4.   Connect other (signal wires) to the Aura 37, see chapter Technical specifications.
5.   Close the cover.
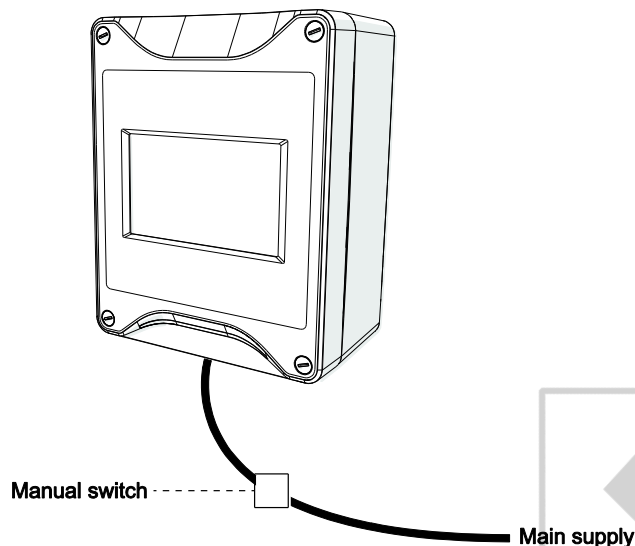
⚠️	Always use the cable swivels when connecting the Aura 37. Use the sealing discs supplied to seal off any unused swivels. Use a sealant to seal all swivels, after the computer has been connected, to prevent the entry of moisture, dust and/or aggressive gasses.
⚠️	Check that the mains voltage and frequency, for which this computer is suitable, correspond to the mains voltage and frequency on site.
⚠️	Be sure that the Aura 37 is properly grounded. When using metal cable trays, grounding at one point of the tray is recommended.
⚠️	The Aura 37 should be possible to shut down with a double pole switch.
⚠️	Connect the Aura 37 to a group from the main distributor and mount in separate cable trays.
⚠️	Limit the length of the signal wires much as possible; avoid crossing high/low voltage wires.
⚠️	To protect against lightning, place an over voltage protection device in the power supply of the Aura 37.
⚠️	Condensation should never occur in the control computer.

6.4   Connect the Aura 37 to FNet

Use of the terminal resistor depends on the location of the control computer in FNet. Control computers or end stations at the beginning of the network require a terminal resistor. Depending on the device type a 120 Ohm resistance, a jumper or a dipswitch is used to terminate the control computer.

Example: Setting the terminal resistor FNet

Four control computers connected using FNet.

| 2 = ON | 2 = OFF | 2 = OFF | 2 = ON |
| 1 | 2 | 3 | 4 |
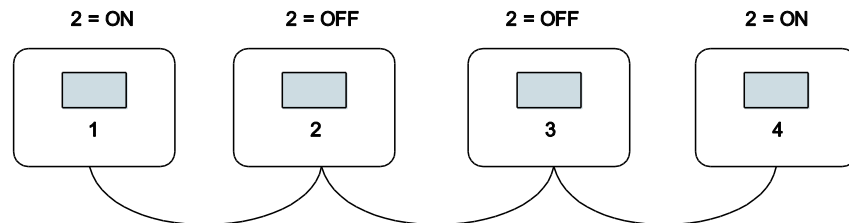
Control computers 1 and 4 are at the end of the network. These control computers must be terminated.

Control computers 2 and 3 are looped. These looped control computers do not require a terminal resistor.

The Fancom Greenlink cable (UTP 1x2x0.8mm, unshielded twisted pair) used to wire the FNET and I/O net. Maximum cable length = 1200 meters.

7. Installer settings

Menu	Description	Example
CFG	Configuration settings	Aura configuration settings (e.g. version and computer number)
SYS	System settings	System setting application (how to use the control computer)
INF	Influence settings	Influence settings (e.g. low outside temperature influence on the minimum ventilation)
IN	Input settings	Input settings (e.g. temperature sensors and water/feed sensors)
OUT	Output settings	Output settings (e.g. heating and cooling outputs)
CMB	Combi settings	Setting the combi table

7.1 CFG
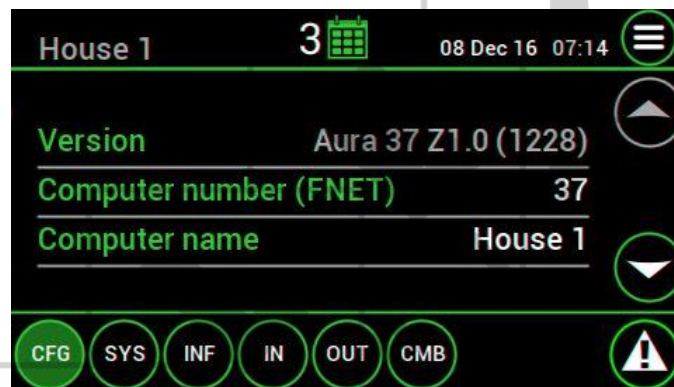
Version	Readout of the type, version and build number of this computer.
Computer number (FNET)	Setting of the unique computer number. If the computer is part of Fnet communication, it must have its own, unique number (like all the other connected computers).

> 💡 To avoid peak load on the net by several computers activating simultaneously, Fancom advises always entering a computer number.

Computer name	Setting of the computer name.
Temperature unit	Setting of the unit of temperature (*Celsius* / *Fahrenheit*).
Language	Setting of the software language.
Reset to factory settings	Setting to restore the factory settings (*YES* / *NO*). **Be carefull with this setting!**
(Re)calibrate screen	Setting to calibrate the touch screen (*YES* / *NO*). Tap on the dots to calibrate. **Be carefull with this setting!**

Change password installer　　Setting of a password to protect installer settings from use by non-authorised users.

- The password must contain four numbers.

- Enter code *0000* to deactivate the password protection.

- When the correct password has been entered, all installer screens can be accessed.

- The system will request the password again, if the controller is not used for a few minutes.

7.2　SYS
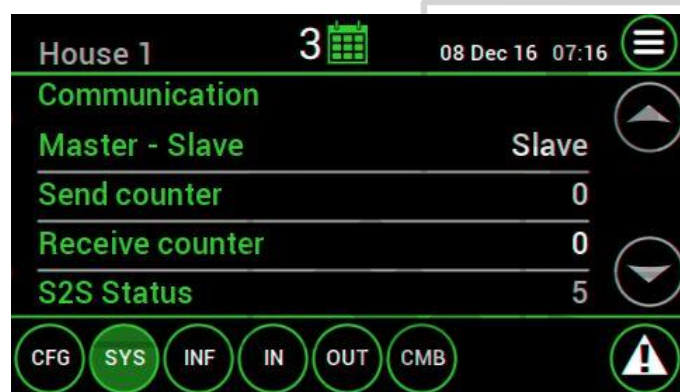
Communication

FNet is the Fancom Network. Several control computers can be linked via this network. FNet is also used to operate the connected control computers from a PC.

Master - Slave　　Master/Slave setting. If the control computer is included in a network, only one control computer in the network must be set as *MASTER*. Set all the other control computers as *SLAVE*.

Sent / receive counter　　Readout the number of transmitted messages (*Sent counter*) and readout of the number of received messages (*Receive counter*). (no PC-messages).

> These counters can be used to trace faulty communication connections. In this case set all the counters on all the computers to "0". Normally these counters increase simultaneously. Communication has failed between the last computer where the counters are increasing simultaneously, and the first computer where the counters are not increasing at the same speed.

S2S Status　　Readout if the controller is part of the Fancom network:

- <5: registering on the network

- 5: registered on the network

- 127: no network available

7.3　INF

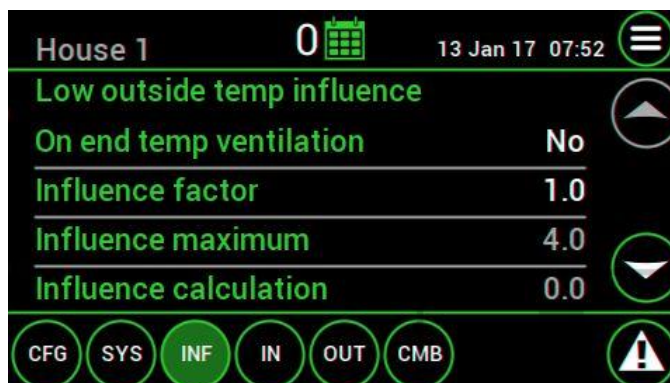|	See the book 'Aura Principles of climate management' for more information about the influences.

Influence low / high outside temperature on the end temperature ventilation

On end temp ventilation　　　Setting if the low / high outside temperature must influence the end temperature ventilation (*YES* / *NO*).

Influence factor　　　Setting of the factor used by the control computer to calculate the influence (1.0 to 2.0).

- 1.0: No effect
- 2.0: Large effect

Influence maximum　　　Readout of the maximum difference between the *Start temperature ventilation* and *End temperature ventilation* (°C).

Influence calculation　　　Readout of the actual calculated influence (°C).

	Influence factor: 　　　　　1.5
	Influence maximum: 　　　　4.0°C
	The maximum difference between *Start temperature ventilation* and *End temperature ventilation* is (1.5 x 4.0) = 6.0°C.

Influence high relative humidity on the minimum ventilation

On minimum ventilation　　　Setting if the high relative humidity must influence the minimum ventilation (*YES* / *NO*).

Influence maximum　　　Setting of the maximum influence for the minimum ventilation.

Influence calculation　　　Readout of the actual calculated influence (%).

	Minimum ventilation: 　　　　　10% (user setting)
	Influence maximum: 　　　　　5%
	The minimum ventilation can increase to maximum 15%.

Influence maximum ventilation limitation during cooling

Limit maximum ventilation   Setting if the cooling must influence the maximum ventilation limit (*YES* / *NO*).

Max ventilation during cooling (%)   Setting of the maximum ventilation percentage during cooling (0 to 100%).

Influence stop (evaporative) cooling above relative humidity percentage

Stop above RH%   Setting if the control computer must deactivate the evaporative cooling if the relative humidity becomes too high (*YES* / *NO*).

Stop evap cooling above RH (%)   Setting of the relative humidity percentage above which the evaporative cooling stops (0 to 100%).

7.4   IN

Temperature sensor 1 / temperature sensor 2 / temperature sensor outside

Input type   Setting indicating the analog control type (*NONE* / *SENSOR* / *EXTERNAL**).
* External only used for temperature sensor outside.

Input number (analog)   Readout of the sensor input number.

Correction   Setting of the difference (offset) in the measured temperature compared to the actual temperature from the sensor.

RH Sensor

Input type   Setting indicating the analog control type (*NONE* / *SENSOR*).

*Input number (analog)*   Readout of the sensor input number.

Correction   Setting of the difference (offset) in the measured relative humidity compared to the actual relative humidity from the sensor.

Water / Feed / Aux

Input type　　　　　　　Setting indicating the analog control type (*NONE* / *INPUT*).

Input number (digital)　　Readout of the sensor input number.

Amount per pulse　　　　Setting of the amount that corresponds to one pulse.

7.5　OUT

> 💡　　Tap ▶ to set more settings of the selected output.

👉　　☰ → OUT
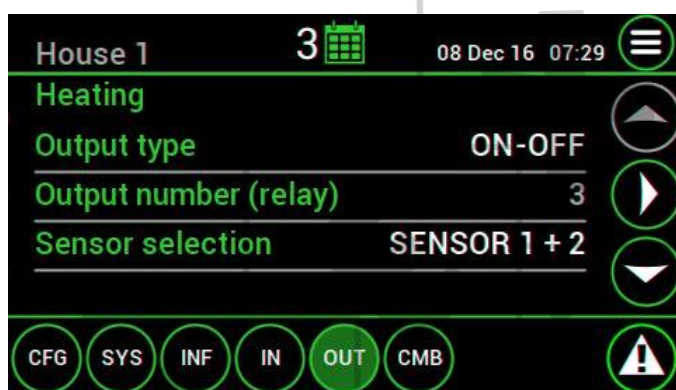
General

Output type　　　　　　Setting indicating the analog control type:

- Heating 1 (*NONE*, *ON-OFF*, *Modulating*, *Mixing valve*)
- Heating 2 (*NONE*, *10-0V*, *0-10V control*) (only settable if no tunnel-inlet is used)
- Exhaust fan, Sidewall-inlet, Tunnel-inlet (*NONE*, *10-0V control*, *0-10V control*, *Modulating 10-0V control*, *Modulating 0-10V control*) (Tunnel-inlet is only settable if no heating 2 is used)
- Cooling, Humidification (*NONE*, *ON-OFF*, *Modulating*)

Output number (analog / relay)　　Readout of the output number.

Sensor selection　　　Setting on which temperature sensor the control output will operate (*NONE* / *SENSOR 1* / *SENSOR 2* / *SENSOR 1+2*).

Repeat time (mm:ss)　　Setting of the time (minutes and seconds) after which the controller should repeat the calculating and registration between the set and measured values each time.

Heating / cooling

Temperature hysteresis   Setting of the temperature by which the control computer automatically activates the heating / cooling. This prevents the cooling being activated / deactivated with slight temperature fluctuations.

Link setpoint house   Setting to link the heating / cooling to the setpoint house. This is normally used for the standard heating / cooling control.

- *YES*: The control value heating / cooling automatically follows the house temperature, even if this is linked to the curve.

- *NO*: The control value heating / cooling is not linked to the setpoint house and have their own setpoint.

Exhaust fan

Correction factor   Setting of the amount of adjustment. A small value will lead to a small adjustment to the output.

Correction buffer (%)   Setting of the correction buffer % (by using other control types).

> Correction buffer: Each control time the computer registers the difference between the measured and control value and adds this to any previous differences. As soon as the total sum exceeds the value of the correction buffer, the computer will correct the output.

Sidewall-inlet / tunnel-inlet

Pre run time (sec)   Setting of the time in which the air inlets go to the required position, before the fans activate.

Humidification

RH hysteresis (%)   Setting of the hysteresis value which prevents the activation or deactivation of the control caused by small fluctuations.

Combi

Output 1-8   Readout of the output relais numbers.

Maximum repeat time (mm:ss)   Setting of the maximum repeat time (the repeat time can never exceed this value).

Optimal ON/OFF time (mm:ss)   Setting of the optimal repeat time for modulation.

Remaining time   Readout of the on and the off time.

7.6 CMB

In the combi-table the relationship between ventilation and air inlets for the entire ventilation course is entered.
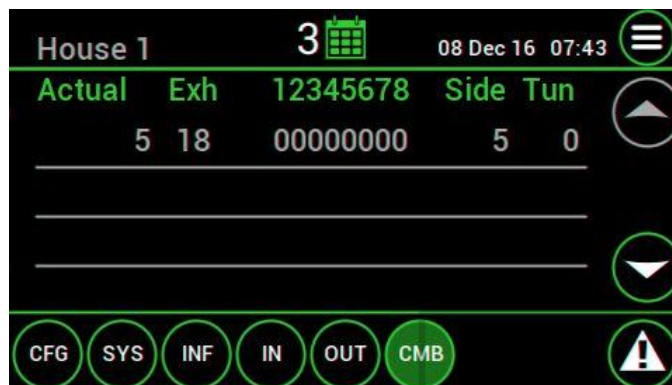
Actual	Readout of the actual combi values.
Exh.	Setting of the required exhaust positions (%).
12345678	Setting the relais.

- 0 = fan off
- 1 = fan on
- M = modulating fan (only possible if modulating fans are used and is not selectable in tunnel)

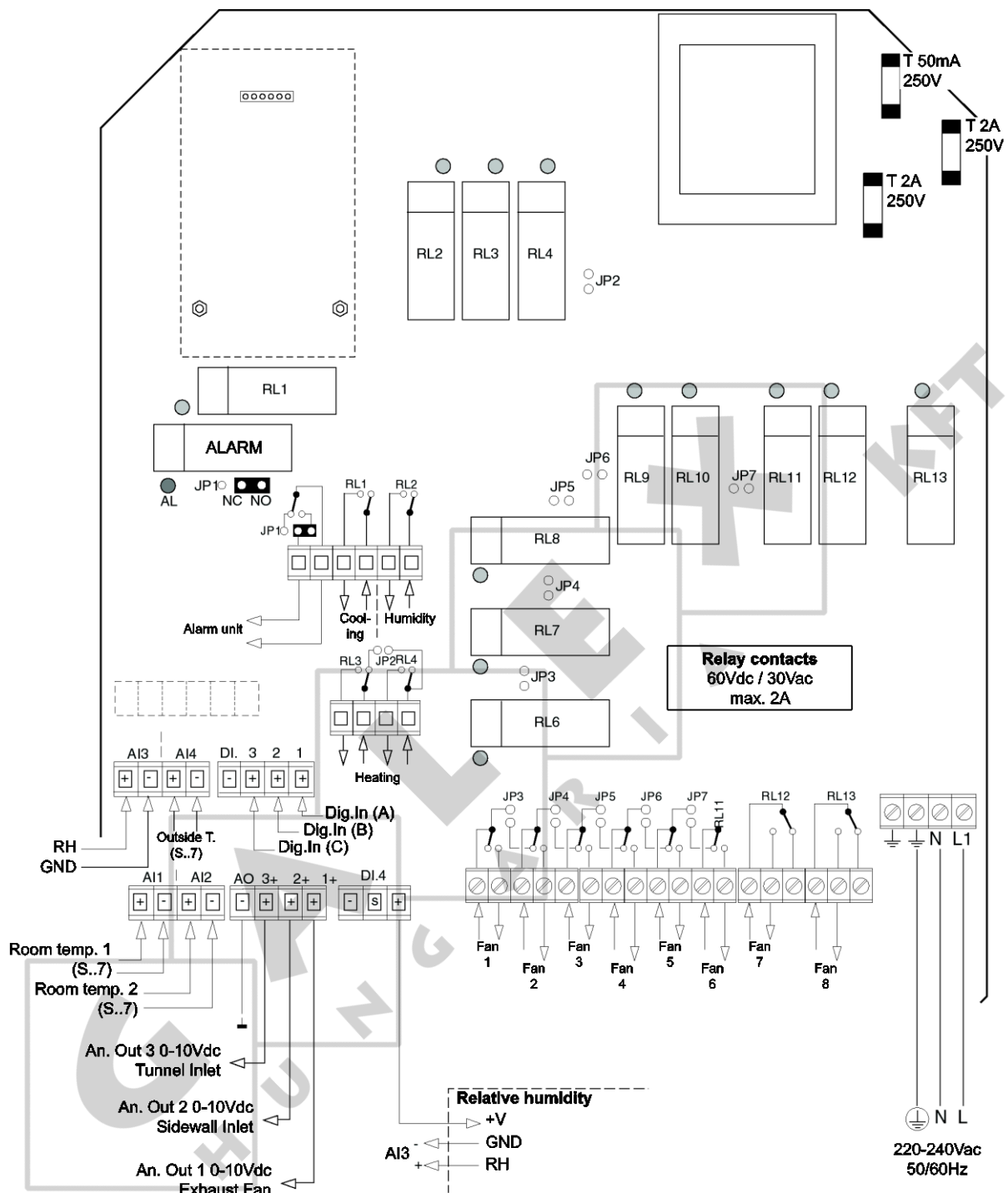|	
Side	Setting the side wall inlet position (%).
Tun	Setting of the required tunnel inlet position (%).

> **!** Modulating fans is possible when the *Exhaust fan* output is set to *None* (*OUT* menu). In the *CMB* menu the text *Exh* will be replaced by *Mod*.

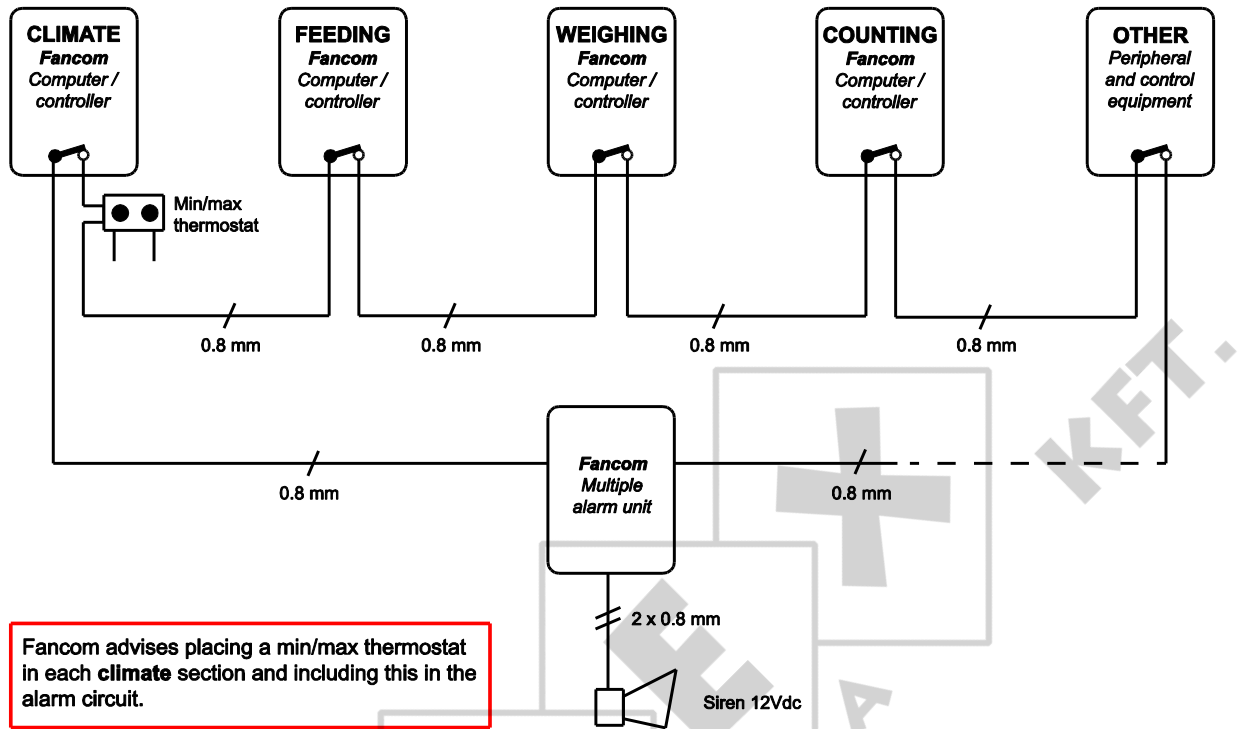# 8.　Appendix: Connection diagram Aura 37

9.   Appendix: Connection diagram for alarm

9.1   Single alarm-unit

Fancom advises placing a min/max thermostat in each **climate** section and including this in the alarm circuit.

9.2   Multiple alarm-units

Fancom advises placing a min/max thermostat in each **climate** section and including this in the alarm circuit.
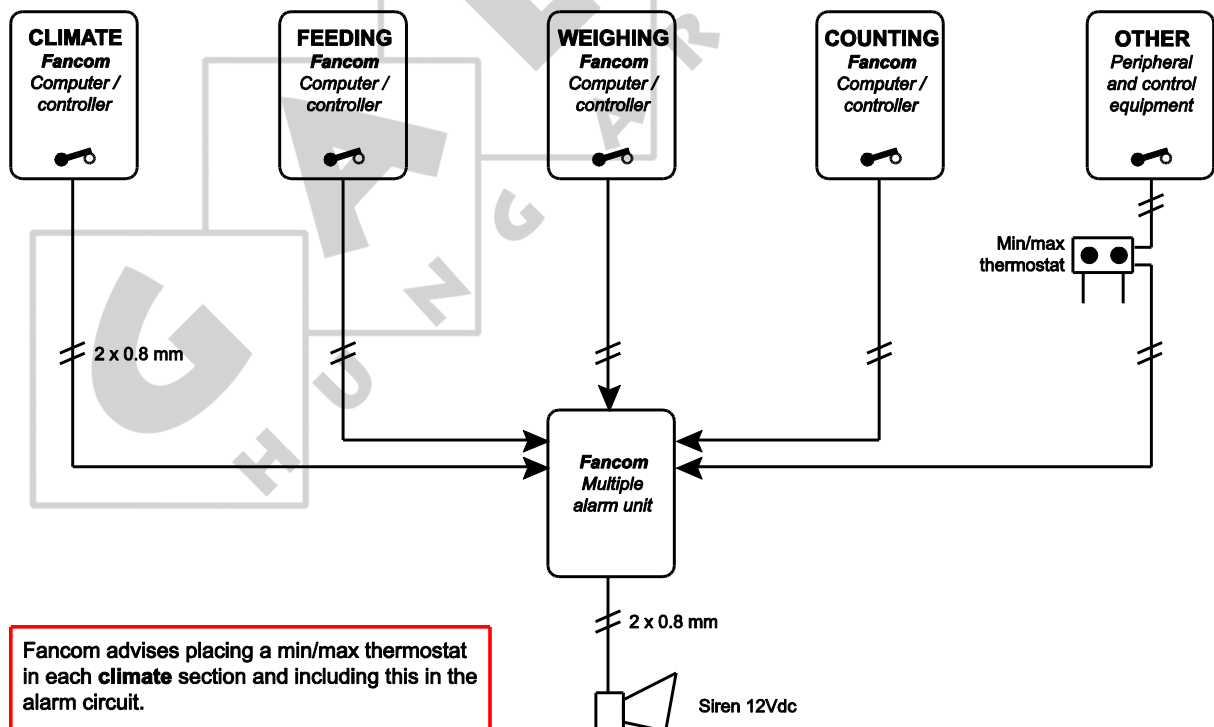
10. Technical specifications

| Mains power supply	
Mains supply	230Vac (-10% +6%)
Mains frequency	50/60 Hz
Power consumption electronics	Max. 10VA
Fuse electronics	See connection diagram

4 analog inputs	
Max. range temperature measurement sensor type S.7	-30°C to 100°C
Relative humidity input (type RHM)	0-10V

3 digital inputs, (open collector or contact)	
No-load voltage	12 Vdc
Low level	1.5 V
Frequency	0-10 Hz

13 relay outputs	
Relay (4), voltage free	Max. 2A 60Vdc/30Vac
Relay 1-8, voltage free	Max. 2A max. 240Vac
Alarm relay, voltage free	Max. 2A 60Vdc/30Vac

3 analog outputs	
Voltage range	0-10Vdc
Maximum load	1mA
Output resistance	570Ω

Housing	
Plastic housing with screw on lid	IP54
Dimensions (l x w x h)	300x240x140mm
Weight (unpacked)	3.0kg

Ambient climate	
Operating temperature range	0°C to +40°C
Storage temperature range	-10°C to +50°C
Relative humidity	<95%, uncondensed

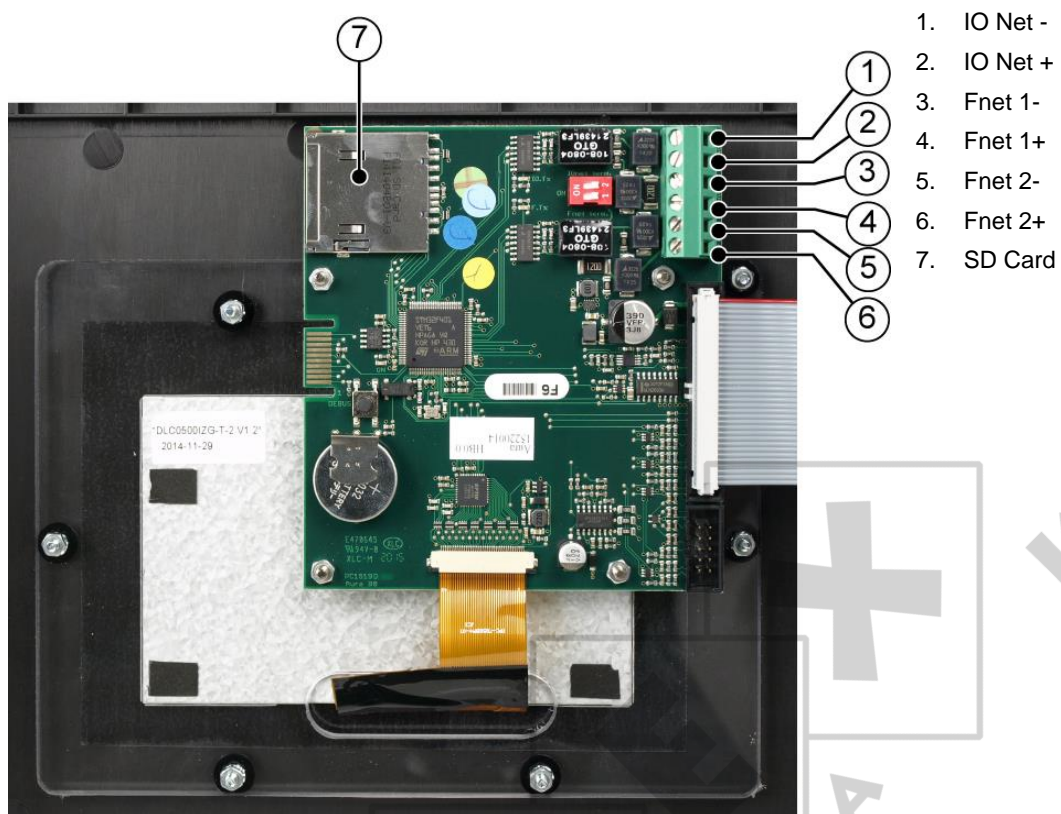| Communication |
| --- |
| Fancom FNet for inter-communication of computers and PC. |

10.1   Interior control computer

1. Aura board
2. Powerboard FC-REL13

10.2   Powerboard RC-REL13
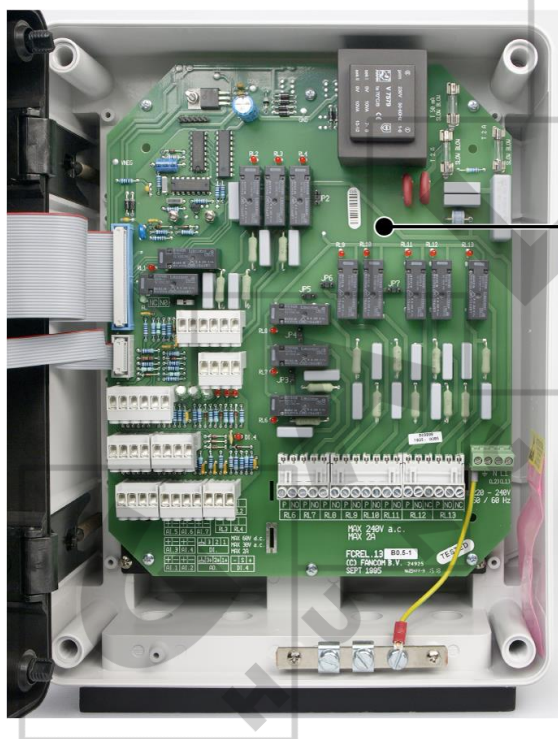
1. Powerboard RC-REL13

10.3   Aura board

1. IO Net -
2. IO Net +
3. Fnet 1-
4. Fnet 1+
5. Fnet 2-
6. Fnet 2+
7. SD Card

11. Appendix: EG-declaration of compliance

Manufacturer   Fancom B.V.

Address: Industrieterrein 34

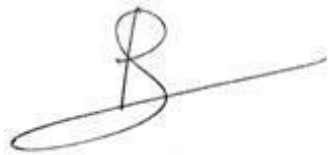Place: Panningen (the Netherlands)

Hereby declares that: **Aura 37**

Satisfies the conditions of:

1. The Low Voltage Directive 2014/35/EU according to EN-61010
2. the EMC Guideline, directive 2014/30/EU
    Emission and immunity according to NEN-EN-IEC 61326

Place: Panningen   Date: 04-1-2018

Paul Smits

Managing Director