STIENEN
AGRI AUTOMATION

CBA-2006/CBA-2012

Climate control

User manual

Table of contents

Copyright and Disclaimer

1 General introduction

The manual is intended for the user of this device. It contains all the information necessary for operating and cleaning this product. Please read all information and instructions carefully before using the product.

Symbols mark warnings, important notes, tips, etc. in this manual.

Stienen has compiled this manual with all due care. If you find any errors, please let us know.

1.1 Symbols and definitions


Risk of injury by dangerous electric shock. Danger to people and animals.


Warning indicating danger to product, people and animals if procedures are not strictly complied with.


Warning indicating damage to products if procedures are not strictly complied with.


Pressure cleaning is not allowed.


Collect as separate flows


Important note


Additional information


Example of a concrete application of the functionality described.


Example calculation


Manual control


Tips and advice


Screenshot


Application note

1.2 Customer service

If you have any questions, please contact your installer. Be sure to have all the necessary data handy. You should also always write down the cause of a fault and the circumstances that occurred during the fault. This will enable you to avoid any ambiguities and it will enable your installer to deal with any faults quickly and effectively.

2 Safety instructions and warnings

Read the general safety instructions in this chapter carefully before using the device. A certified installer must install the device and resolve any faults, in accordance with the applicable guidelines. If this product is installed and used in any other way, the warranty will not apply.

2.1 Sound, independent alarm system

Although we have designed and built our control equipment with the greatest care possible, technical faults can never be ruled out. Insurance requirements in many countries are becoming increasingly stringent. This requires the alarm contacts of the various control computers to be connected a central alarm unit.


We recommend also installing a sound independent alarm system, for example a min/max thermostat.


We advise you to manually test the alarm at least once a week.

2.2 During use

The people who operate the device have read the manual carefully. They are aware of potential hazards that may arise from improper use and maintenance of the product.


The device must only be opened by authorised personnel.


Do not switch off the control computer while the house is empty, but switch it to *Off* mode. This will prevent condensation caused by the equipment cooling down.


Check the device for any damage at regular intervals. A damaged device is unsafe. Always report any damage to your installer.


Electronic equipment is splash-proof and must not be cleaned using a pressure cleaner.

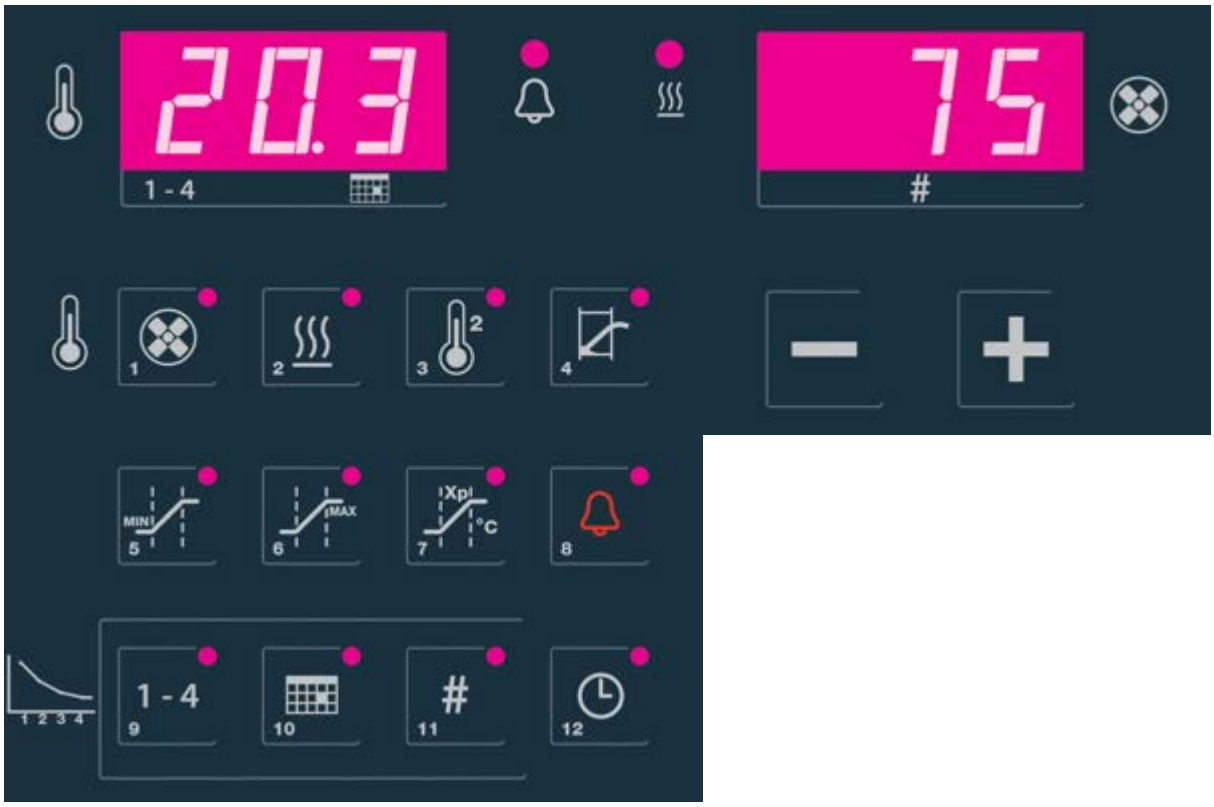

If any emergency has occurred, write down: the circumstances under which the emergency occurred, installation settings, software date, software version number and possible causes.

2.3 Disposal

The EU has set up systems for the separate collection of waste electrical and electronic equipment and batteries (Directive 20212/19/EU). If you do not dispose of the device properly, you risk a fine.


Electrical and electronic equipment must be collected separately at the end of its life.

3 Control panel



When no lamps are lighting up on the operation panel, the temperature measured in the room is shown on the left display and the current ventilation of the room on the right display.

3.1 Reading and changing measured values

If you press a key and the LED in the key is continuously ON, the display shows a measured value or calculated setting. By pressing the same key again, the LED starts flashing. You can then change the setting concerned.

You can change settings using the plus and minus keys.

! If the curve is ON, you cannot change the setting.

3.2 Set day number

Press  .
The current curve number appears in the right-hand display.
Using the plus and minus keys, you can change the day number (0=curve off).

3.3 Time

The Time key is used to set the current day number. Press  .

The left display shows the hours, the right display shows the minutes.
You can change these values using the plus and minus keys.

4 Temperature

4.1 Room temperature

After pressing this key, the set room temperature appears on the right display. The LED will be blinking. The value can be changed using the plus and minus keys. If the climate control has temperature compensation, the left display shows the corrected room temperature.

The right display shows the temperature difference compared to the room temperature prior to switching on the room heater. You can change this value using the plus and minus keys.

This key allows you to read the measured temperature of a possibly installed second temperature sensor. The LED is ON. If a second heating or a cooling is installed, you can press this key again to set the temperature for this second heating or cooling system. The LED will be blinking.

2nd heating = floor heating	With an floor heating, the compensated setting is displayed first; the LED is ON. Pressing the key again displays the setting.
2nd heating = relative	The right-hand display shows the set temperature difference based on which the second heating (cooling) controls; the LED flashes. This setting is relative to the room temperature setpoint.
2nd heating = cooling	Second heating is cooling.

After pressing this key, the measured temperature appears on the left display. The right display shows the calculated air inlet position.

By pressing the key again, you can set the temperature difference compared to the room temperature setpoint.

4.2 Outside temperature

Press  and then press  . The left display shows the current outside temperature.
See also parameter 2.07.

5 Ventilation

5.1 Room ventilation

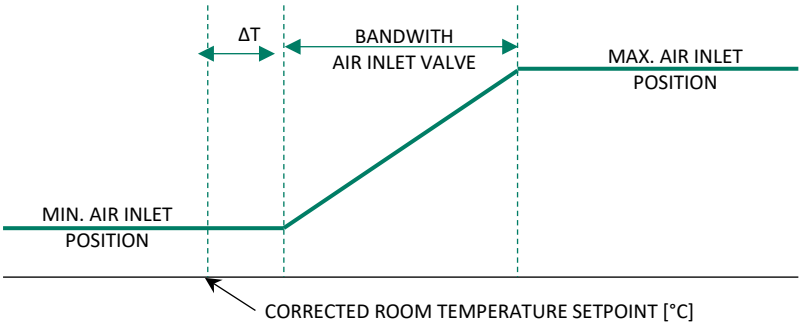
To set the minimum and maximum ventilation and the control band, several keys must be pressed in succession.

Press keys and in sequence to set the minimum room ventilation.
The LED in is ON and the LED in is flashing.

Press keys and in sequence to set the maximum room ventilation.
The LED in is ON and the LED in is flashing.

Press keys and in sequence to set the bandwidth (the temperature range within which the room ventilation is controlled from minimum to maximum). The LED in is ON and the LED in is flashing.

5.2 Inlet valve



To set the minimum and maximum air inlet positions and the bandwidth, press several buttons in succession.

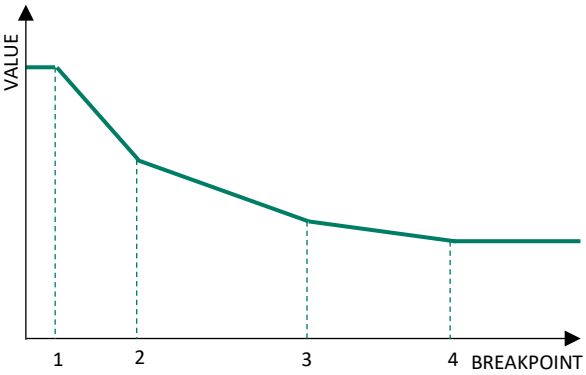
Press keys and in succession to set the minimum air inlet position.
The LED in is ON and the LED in is flashing.

Press keys and in succession to set the maximum air inlet position.
The LED in is ON and the LED in is flashing.

Press keys and in succession to set the bandwidth (the temperature range within which the air inlet position is controlled from minimum to maximum).
The LED in is ON and the LED in is flashing.

6 Growth curves

6.1 General



Curves allow you to pre-program the climate process based on the age of the animals. To set a curve (max. 4 breakpoints), several keys must be pressed in succession.

! If the curve of the setting to be modified is active, you can only change the setting concerned by changing the curve.

Within the curve, you cannot switch from relative to absolute values and vice versa.

6.2 Room temperature curve

Press keys and 1 - 4 in succession. The left display shows the last breakpoint entered; the LED in is ON and the LED in 1 - 4 is blinking. You can change the breakpoint number using the plus and minus keys.

Press keys and in succession to set the day number for the breakpoint selected; the LED in is ON and the LED in is blinking. Use the plus and minus keys to set the day number (0=curve off). If you set a day number that is lower than the previous breakpoint, this breakpoint will not be available.

Press #. The day number will be moved to the left display. The right display shows the required room temperature. Use the plus and minus keys to set the temperature.

6.3 Other curves

In the above description, replace the key by the following key(s):

to set the minimum ventilation curve.

to set the maximum ventilation curve.

to set the differential temperature curve for the room heating.

to set the (differential) temperature curve for the 2nd heating, cooling or floor heating

to set the temperature curve for the air inlet valve.

to set the minimum air inlet position curve for the air inlet valve.

to set the maximum air inlet position curve for the air inlet valve.

For example, use key combination , and 1 - 4 to set the day number of the minimum ventilation curve.

7 Alarm

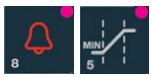
7.1 Passing or not passing alarms to the ERROR relay

After pressing the alarm button, the left display will show the current alarm code (F00 = no alarm). On the right display you can set whether the alarm should be passed on to an external device via the ERROR relay (setting = 1) or not (setting = 0). If this is set to 0, the LED in the alarm key flashes.

The alarm is only transmitted to the ERROR relay after the alarm delay time set by the installer has elapsed.

Room not in use
If the room is not in use, you set this value to 2 to switch the room off. The right-hand display then shows dashes (- - -).

7.2 Setting alarm limits



If these keys are pressed in succession, the lower limit calculated for the room temperature appears in the left display. The right-hand display shows the relative lower limit related to the room temperature setpoint. If the room temperature falls below this calculated lower limit, an alarm is triggered. You can set the difference using the plus and minus keys. The left-hand display shows the calculated lower limit during the change.

If these keys are pressed in succession, the upper limit calculated for the room temperature appears in the left display. The right-hand display shows the relative upper limit related to the room temperature setpoint. If the room temperature rises above this calculated upper limit, an alarm is triggered. You can set the difference using the plus and minus keys. The left-hand display shows the calculated upper limit during the change.

If these keys are pressed in succession, the current outside temperature appears in the left display. The right display shows the absolute upper limit. If the room temperature rises above the absolute upper limit, an alarm is triggered. The plus and minus buttons can be used to set the absolute upper limit.

If the outside temperature rises above the room temperature setpoint, the alarm is only triggered when the room temperature rises above the outside temperature + upper alarm limit setpoint.

	$T_{OUTSIDE} < T_{ROOM}$ [°C]	$T_{OUTSIDE} \geq T_{ROOM}$ [°C]	$(T_{OUTSIDE} + T_{ALARM}) > T_{ABS}$ [°C]
Absolute room temperature setpoint	35.0	35.0	35.0
Room temperature setpoint	22.0	22.0	22.0
Upper alarm limit setpoint	7,0	7.0	7.0
Measured outside temperature	18.0	25.0	34.0
Calculated alarm limit	22.0+7.0 = 29.0°C	25.0+7.0=32.0	**35.0**

With extremely high outside temperatures, the alarm upper limit can become too high due to outside temperature compensation. You can prevent this by setting an absolute limit. The alarm is triggered when the measured room temperature exceeds the absolute upper alarm limit.

7.3 Alarm codes

Alarm code	Description
F00	No malfunctions.
F01	Measured room temperature is faulty or out of limits.
F02	Temperature sensor 2 is faulty or out of limits.
F04	Outside temperature sensor is faulty.
F10	Measuring fan rotates too slowly or stands still.
F40	Installation error (dip switch set incorrectly, check the positions of the dipswitches).

The ERROR relay is normally energized. In the event of an alarm or mains power failure, the relay will be de-energized. Combinations of error messages can also be displayed: For example, F51 is a combination of faults F01, F10 and F40.

Room temperature outside limits — The difference between the room temperature setpoint and the room temperature measured exceeds the alarm limits.

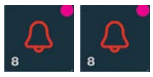
Temperature sensor 2 outside limits * — The difference between the room temperature setpoint and the temperature measured exceeds the alarm limits (2nd heating).

Measuring fan fault — The measurement is less than 2% or the deviation is equal to or greater than 40% (with respect to the calculated ventilation).

7.4 Sensor faulty

- Fan control: The fan is controlled to minimum.
- Valve on temperature: The valve is controlled to minimum.
- Heating and cooling are switched off.
- Room temperature compensation is switched off/decreased.
- Preset floor temperature compensation is switched off.

7.5 Alarm in another room



If the alarm relay is de-energized in another room and the alarm key is pressed twice in quick succession, the left display shows the letter A. The right display shows the room number concerned.

* Your installer can set the alarm limits for temperature sensor 2.

8 Manual control

8.1 Manual valve control

In normal operation the switch is in AUTOM. (automatic) position. If the switch is set to its upper position, the valve on OUT3 is fully opened. If the switch is set to its lower position, the power supply to the valve is disconnected. You can then adjust the valve manually.

8.2 Manual fan control

In normal operation the switch is in AUTOM. (automatic) position. By moving the switch to its upper position, the fan is fully actuated.

To adjust the AQC valve, place the switch in its lower position. This will disconnect the power supply to the AQC unit and allow you to adjust the valve manually. Press and hold the MANUAL OPERATION key on the AQC unit and adjust the valve by moving the lever.