

USER MANUAL

CL-5000(-i) CATTLE COMPUTER



Shut down power before opening the cattle computer!

This cattle computer contains exposed live parts!

Only to be opened by authorized personnel!



WARNING

Although utmost care has been given to the quality of this equipment during the design and manufacturing stages, technical malfunctions can never be ruled out. ***The user should provide for an adequate alarm system and/or emergency provisions to prevent a technical failure of the equipment and peripheral facilities leading to danger to persons, animals or property.***

NOTE DOWN THE FOLLOWING IN CASE OF AN EMERGENCY

- Possible causes
- Circumstances in which the emergency occurred
- Date and software version number
- Installer settings



Please contact our Customer Service Department, if you have any questions. Be sure to have all necessary data at hand. To ensure a speedy solution to the malfunction and to avoid any misunderstandings, it is advisable to note down the cause and the circumstances in which the malfunction occurred before contacting us (www.stienenbe.com).

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StienenBE cannot be held liable for any damage, loss or injury resulting from improper use or from use not in accordance with the instructions in this manual.

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If the software version of a module or peripheral device does not comply with the requirements of the operating software, you have to perform a software update for the module and/or peripheral device.

CLEANING RH-SENSOR OR MEASURING FAN WITH A HIGH-PRESSURE SPRAY GUN IS NOT ALLOWED



Remove the RH-sensor from the room and store them somewhere safe before cleaning the room. Also screw the protection cap onto the plug of the extension cables to prevent water from penetrating into the plug. When connecting the sensor via a fixed socket outlet (FSO), push on the flap of the fixed socket outlet until you hear it click (lock).

INTRODUCTION

I/O MODULES

I/O module: You can use I/O modules to extend the number of outputs of the CL-5000 cattle computer, via the MODULE bus. The control computer indicates which output must be driven by the CL-5000 cattle computer.

VENTILATION GROUPS

The CL-5000 cattle computer has a maximum of 9 ventilation groups divided into:
1x main ventilation group;
8x ventilation group;

MAIN VENTILATION GROUP

The 1st ventilation control in this group is the main ventilation; this serves as the reference for house temperature and pressure control compensation. The 2nd and 3rd ventilation controls in this group are only switched on in support of the first control and they both have their own adjustable initial percentages. All ventilation controls have an adjustable ventilation capacity (m³/h) which is combined together the total ventilation capacity.

CONTROLS

The cattle computer lets you choose from the following controls:

Ventilation controls

- For every control group, the cattle computer has various types of ventilation control to choose from:
- Main ventilation control, with or without measuring fans.
- Ventilation control with AQC units (automatic control flaps).
- Switching on a second and/or third fan, with or without measuring fans.
- Ventilation control with air inlet flaps.
- Ventilation control based on RH.
- Ventilation control based on wind direction and wind speed.

Temperature controls

A number of control functions are available for heating/cooling in every house; they can be applied as you like:

- 2x cooling.
- 4x temperature controls (for cooling/heating).
- Temperature monitoring.

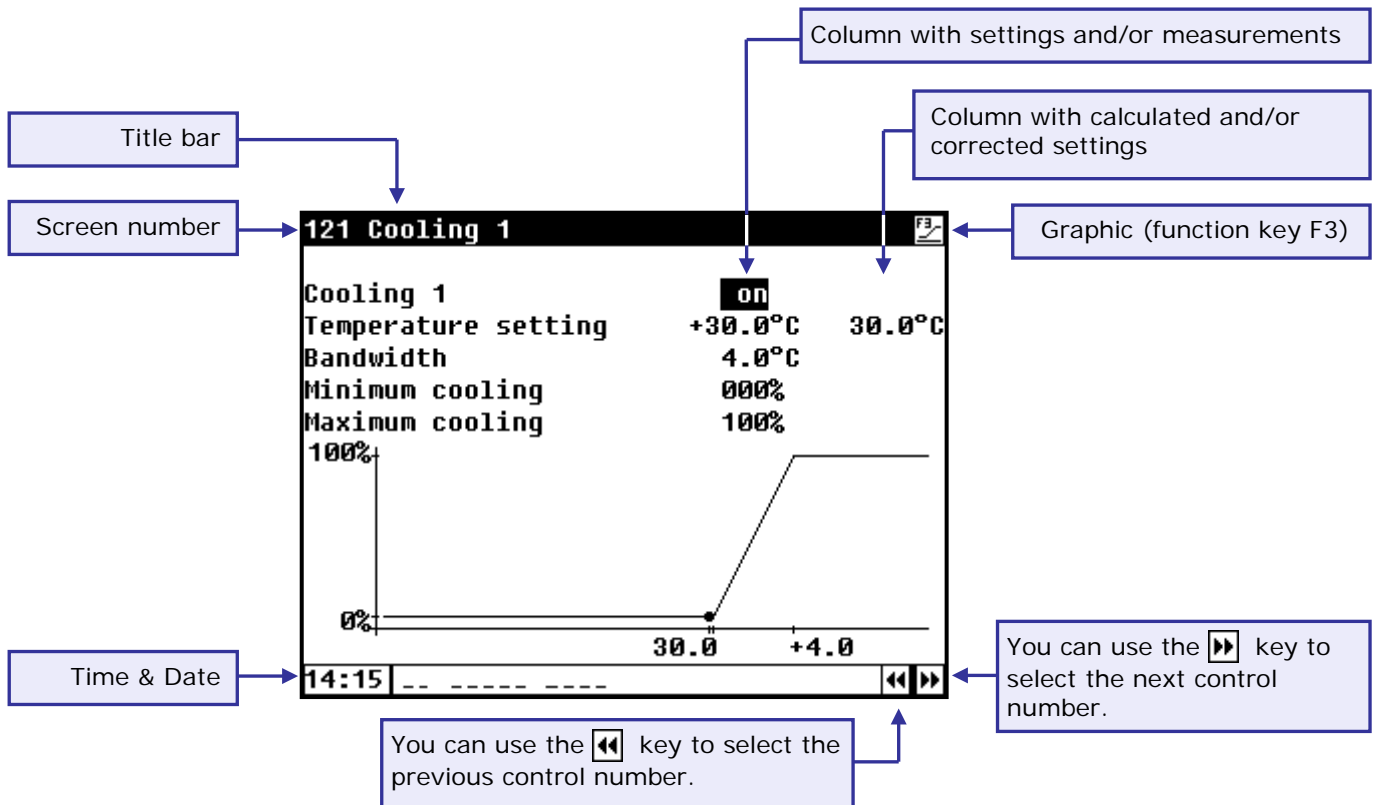
Miscellaneous controls

- 6x timers (can be configured as switched and/or controlled timers).
 - Every timer can be provided with a twilight switch.
- 1x sequential timer for brief sequential closing of the curtains ("Close curtains").
- 3x digital inputs, e.g. for twilight switches and/or counters.

The cattle computers has a memory chip which saves all settings to ensure that they are retained, even when the power is down. You will only have to set the date and time again if the power has been down for a couple of days.




Counter positions, burning hours, current day number in the curve etc. are not stored in the memory chip. These values may be lost if the power supply to the cattle computer has been down for a couple of days. You may then have to set the day number etc. again.

WINDOW

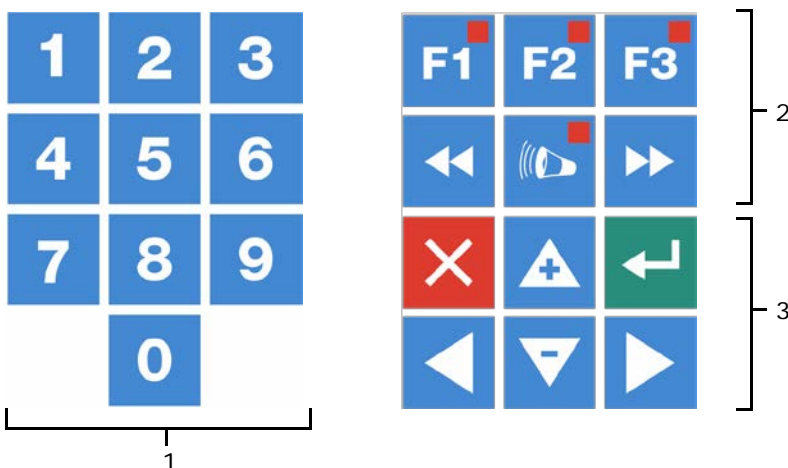


When the **F3** symbol is shown in the title bar and you press function key F3, the settings are displayed graphically with the dot (●) showing the calculated value. Press F3 again to switch off the graphic display. Whenever a key is pressed, the display will be lit for a couple of seconds so that you can also see the settings and measurements in a dark animal house.

SCROLL-WINDOW

If a window contains more lines than the screen can display, the title bar will show the  symbol. This symbol indicates that you can call up the remaining settings and/or measurements using the up and down cursor keys ( ).

KEYBOARD



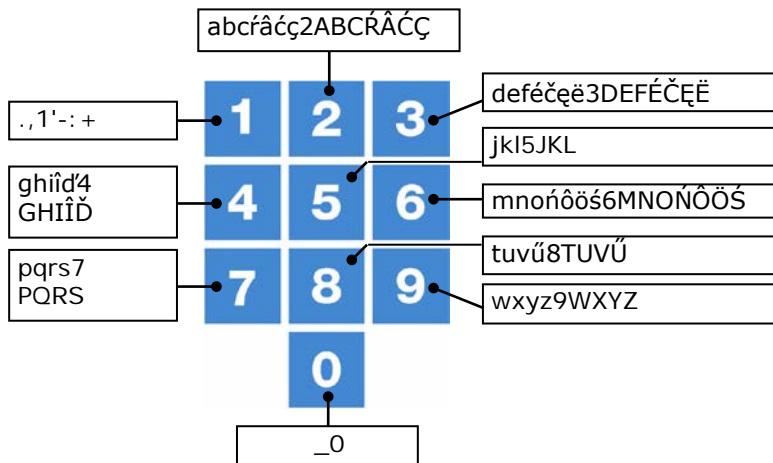
Caution:

Only press the keys with the tip of your finger. Sharp objects such as a pen, pencil or screwdriver may damage the keys!

The keyboard can be divided into four basic groups:

1. Function keys
2. Numerical keys
3. Navigation keys

3 NUMERICAL KEYS (0..9)



The numerical keys can be used to enter a screen number, a value or text

Entering text

Numerical keys 2..9 can be used to change the name of a control group (left, right, front, rear etc.), a timer or a counter. The maximum text length is 15 characters (including spaces). The character you enter is shown in a little box. Press the numerical key repeatedly until the required character is shown. You can enter a punctuation mark by repeatedly pressing numerical key 1 until the required punctuation mark is shown. You can enter a space using the 0 key.

Press once for **a**, twice for **b** etc. You can move the cursor with the and keys. Where relevant, e.g. for menu options etc., the text will automatically start with an initial capital.

2 FUNCTIETOETSEN (GRAFIEK, ALARM, VORIGE / VOLGENDE REGELING ETC.)

Function key F1 (change language)



Changing language: Hold down F1 and press on the left or right cursor key.

Function key F2 (change house status)



Use this function key to call up the house status.

Function key F3 (graphic)

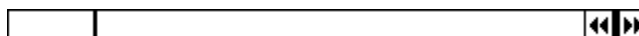


Use this function key to place a graph on a window. The "graph" function is active when the LED in the function key lights. You can switch off the "graph" function by pressing the function key again (the LED in the key is off then).

The values in a graph are linked to the window on the basis of which the graph was drawn up. The graph is updated automatically when you change the details in the window.

If the details in the window are displayed in graph form, the symbol will be displayed in the top right corner of the menu line.

Select previous / next control



Select previous / next control.

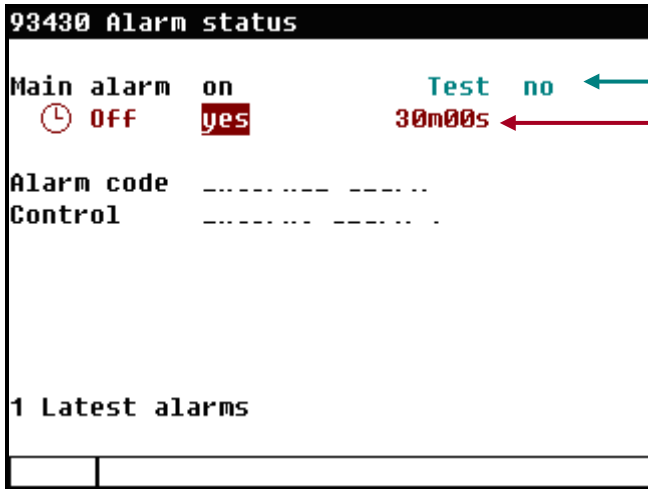
If controls of the same type, e.g. ventilation groups (left, right, recirculation etc.), are available, you can use these keys to select the previous or next control.

ALARM KEY



Hot key for alarm screen. The LED in the alarm key lights if there is an alarm on one of the controls.

Here you can switch the main alarm on and off. When the main alarm is off, the LED in the alarm key will flash to indicate that the main alarm is off. No alarm is generated anymore.



Test (alarm test)

Test "yes": This enables you to test the operation of the alarm relay (siren). If you enter "yes" in the line **Test**, the alarm relay (siren) will be switched on for 10 seconds.

You can clear the alarm test time by setting "no" in the line **Test**.

🕒 OFF 🕒 OFF (alarm temporary off)

Off "yes": This enables you to temporarily switch off the alarm (siren). This does not apply to the hardware alarms which cannot be switched off temporarily. The main alarm is switched off for 30 minutes (the lamp will blink irregularly). The main alarm is switched on automatically again after 30 minutes. The alarm relay will then de-energize again, causing an alarm, if the cause of the alarm has not been removed.

You can clear the temporary alarm deactivation time by setting "no" in the line 🕒 OFF.

If no access code has been installed or if you have already entered the correct access code, you can switch off the main alarm.

Attention: *NEVER FORGET TO SWITCH THE ALARM BACK "ON" when you have switched this feature off 'temporarily', e.g. to solve a problem. Failing to switch it back on may have adverse effects for humans, animals, equipment or property.*

Preferably use the 🕒 OFF (alarm retard) function to solve a problem.

3 NAVIGATION KEYS (MENU, CURSOR, MODE)

✕ (Cancel)



This key cancels changes or menu option selections.

Press and hold this key to select the main menu.

◀ ▶ (Move cursor)



Move cursor

Holding down: move cursor to first/last setting on the screen.



Move cursor or change value

↵ (Confirm)

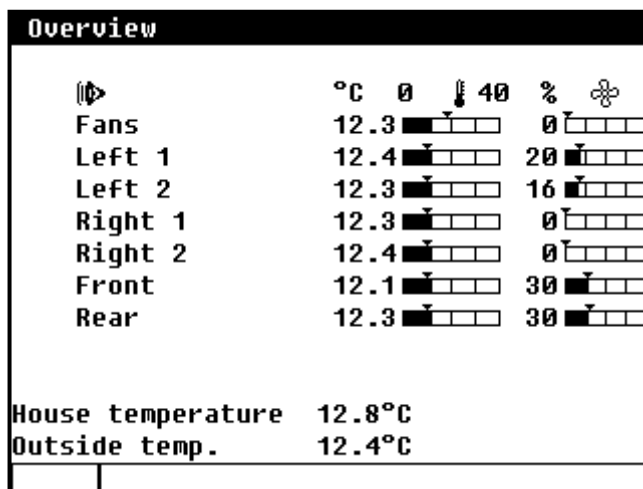


Menu option selection
Start change
Confirm change

- The cursor is displayed as a black rectangle, e.g. **19,5°C**.
- While a change is being made, the cursor is displayed as a black border, e.g. **19,5°C**.

OVERVIEW

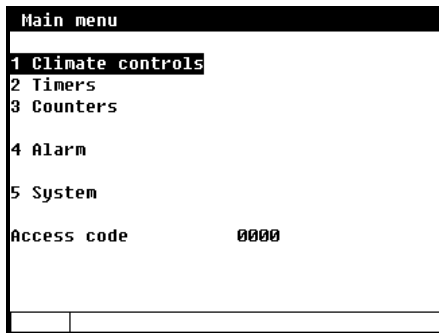
Column number	1	2	3	4	5	6
---------------	---	---	---	---	---	---



Column number	Symbol	Description
1		Alarm ventilation group (alarm delay time is not yet elapse)
1		Alarm ventilation group (alarm delay time is elapse)
1		Alarm ventilation group is switch off
2	"Left 1"	Name ventilation group
3	°C	Temperature ventilation group in °C
4		Graphic bar current temperature ventilation group
5	%	Ventilation of the ventilation group in %
6		Graphic bar current ventilation of the ventilation group

The current house temperature is shown on the display. If an outdoor sensor has been installed, the current outside temperature is also shown. If the CL-5000 has an RH sensor, the display shows the current RH.

MAIN MENU



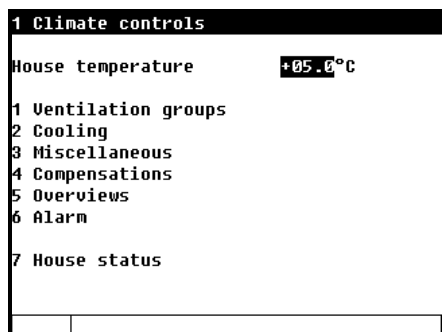
If you use access codes, it is advisable to write the code down and store it somewhere safe. If you forget the access code, you can no longer change any settings. As soon as one access code is active, you can only change the setting by entering the correct access code. The access code remains active until you select the "Overview" window. After selecting this window you will have to enter the access code again to be able to change a setting.

ACCESS CODE

You can use an access code to protect your computer against unauthorized access. If you want to prevent non-authorized users from changing settings on your cattle computer, you can have an access code set.

An access code consists of a combination of 4 figures. You can have a maximum of 2 access codes set by your installer.

CLIMATE CONTROLS



HOUSE TEMPERATURE

The temperature used as the reference value for controlling the ventilation groups, coolers and heaters is called the house temperature.



Note! If you set a low house temperature, take into account that there is a risk of the water freezing in winter.

RELATIEVE OF ABSOLUTE TEMPERATUURINSTELLING

Control	Relative setting	Absolute setting
Fans	Always relative to temperature in the house	n.a.
Ventilation groups (left/right/front/ etc.)	Always relative to temperature in the house	n.a.
Cooling 1 and 2	n.a.	These are always absolute temperature settings.
Recirculation Temperature 2 .. 4	n.a.	These are always absolute temperature settings.

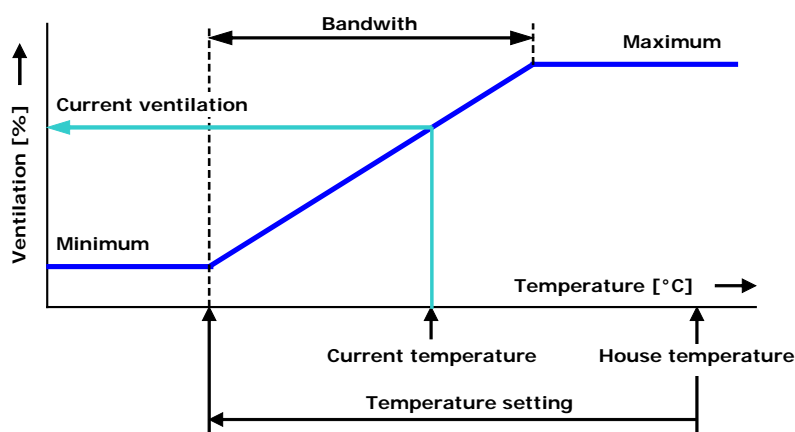
Relative : The temperature control works with a differential temperature compared to the preset house temperature. The temperature control is based on the preset house temperature. E.g. if you set a differential temperature of 5.0°C and the preset house temperature is 20.0°C, the temperature control will work as follows: 20.0°C+5.0°C = 25.0°C. If you now change the house temperature to 18.0°C, the temperature control will change the temperature as follows: 18.0°C+5.0°C = 23.0°C.

Absolute : The temperature control works with absolute temperature settings. E.g. if you set the temperature to 5.0°C, the output control operation will also be based on 5.0°C. The temperature control works independently of the preset house temperature.

VENTILATION GROUPS

With fan group

11 Ventilation groups		111 Fans		1111 Options fans	
Capacity	60,000m ³ /h	Temperature setting	+00.0°C +5.0°C	Start fan 2	050% 1:100%
1 Fans		Bandwidth	06.0°C 6.0°C	Start fan 3	066% 2: 99%
2 Left 1		Minimum ventilation	010.0% 10.0%	Proportional	100%
3 Left 2		Maximum ventilation	100.0% 100.0%	Proportional	Step 3
4 Right 1		Current temperature	19.8°C		
5 Right 2		Current ventilation	100.0%		
6 Front		Capacity	60,000m ³ /h		
7 Rear					
		1 Options			



TEMPERATURE SETTING

The temperature on the basis of which the main ventilation group controls; this setting is relative to the house temperature. The calculated temperature on the basis of which the ventilation group controls is shown behind the temperature setting.

BANDWIDTH

The bandwidth determines the 'sensitivity' of the fan. A short bandwidth will cause the fan to react to a rise in temperature very quickly. This is not good for the climate in the house, since it will result in too many ventilation variations.

MINIMUM VENTILATION

You set the lower limit for ventilation in the "Minimum ventilation" line.

MAXIMUM VENTILATION

You set the upper limit for ventilation in the "Maximum ventilation" line.

CURRENT TEMPERATURE

This line shows the current temperature on the basis of which the ventilation group is controlling.

CURRENT VENTILATION

If the fans are controlled using a measuring fan, the measured and calculated ventilation values will be shown in this line. If the fans do not have measuring fans or if a measuring fan is defective, the calculated ventilation will be equal to the "measured" ventilation.

The current ventilation is calculated on the basis of the bandwidth and the minimum and maximum ventilation settings.

CAPACITEIT

The calculated ventilation is expressed here in m³/h.

OPTIONS

1111 Options fans		
Start fan 2	050%	1:100%
Start fan 3	066%	2: 99%
Proportional	100%	
Proportional Step	3	

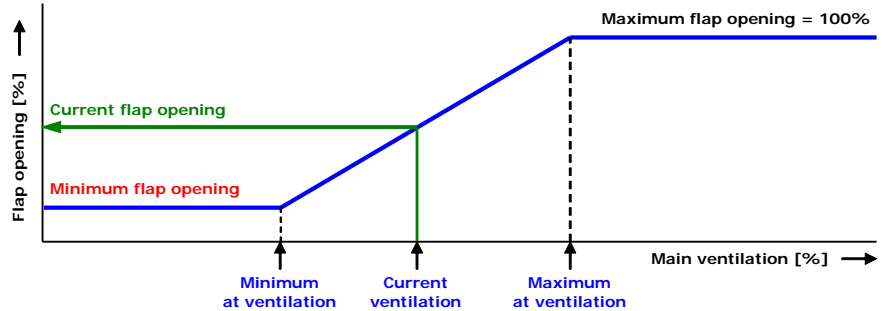
START FAN 2 / FAN 3

If the fan group consists of multiple fan controls, you have to set the percentage at which the 2nd / 3rd fan control have to be switched on (switch-on percentage relative to the total capacity of the controlled fan group) behind "Start fan 2" and/or "Start fan 3".

Behind "Proportional Step" the number of the fan controls which is currently switched on (1 = 1st fan control, 2 = 1st and 2nd fan control, 3 = 1st, 2nd and 3rd fan control) is displayed.

AQC-FLAP

1112 AQC-Flap	
Minimum at ventilation	10%
Maximum at ventilation	055%
Minimum flap opening	030%
Current flap opening	100%
Output fan	100%



The AQC flap controls on the basis of the *calculated* ventilation of the 1st fan control. The maximum flap position is 100% and is not adjustable.

Without fan group

11 Ventilation groups	
1 Left 1	
2 Left 2	
3 Right 1	
4 Right 2	
5 Front	
6 Rear	

111 Left 1	
Temperature setting	-08,0°C +10,0°C
Bandwidth	08,0°C 8,0°C
Minimum flap opening	000%
Maximum flap opening	100%
Current temperature	12,4°C
Calculated flap opening	20%
Current flap opening	20%

111 Left 1	
Temperature setting	-08,0°C +10,0°C
Bandwidth	08,0°C 8,0°C
Minimum flap opening	000%
Maximum flap opening	100%
Current temperature	12,4°C
Calculated flap opening	20%▲
Current flap opening	20%

▲ Emergency stop active

TEMPERATURE SETTING

The temperature on the basis of which the ventilation group controls; this setting is always relative to the house temperature. The calculated temperature on the basis of which the ventilation group controls is shown behind the temperature setting.

BANDWIDTH

The bandwidth determines the 'sensitivity' of the control. A short bandwidth will cause the control to react to a rise in temperature very quickly. This is not good for the climate in the house, since it will result in too many ventilation variations.

MINIMUM AND MAXIMUM FLAP OPENING

The minimum and maximum flap opening can be set here.

CURRENT TEMPERATURE

The flap opening requirement is calculated on the basis of the temperature measured, the bandwidth, the minimum and maximum flap opening.

CALCULATED FLAP OPENING

The flap opening requirement is calculated on the basis of the temperature measured, the bandwidth, the minimum and maximum flap opening

CURRENT FLAP OPENING

The current flap opening of the ventilation group is shown in this line.

The ventilation groups "Left/Right/Front and Rear" are identical as regards their settings and they are all set in a similar manner.

COOLING

12 Cooling		
1 Cooling 1	19.8°C	off
2 Cooling 2	19.8°C	-0%

121 Cooling 1		
Cooling 1	<input checked="" type="checkbox"/>	
Temperature setting	+06.0°C	24.0°C
Maximum RH	100%	
Current RH	0%	
Current temperature	19.8°C	
Current cooling	off	
1 Running hours		

On/Off cooling

121 Cooling 1		
Cooling 1	<input checked="" type="checkbox"/>	
Temperature setting	+06.0°C	24.0°C
Bandwidth	6.0°C	
Minimum cooling	000%	
Maximum cooling	100%	
Maximum RH	100%	
Current RH	0%	
Current temperature	19.8°C	
Current cooling	off	-0%

Proportional cooling

COOLING

This line enables you to switch the cooling on or off.

TEMPERATURE SETTING

The temperature setting is relative to the house temperature if the setting is below 10.0°C. If a temperature equal to or higher than 10.0°C is set, this will be an absolute temperature setting.

BANDWIDTH

The bandwidth determines the 'sensitivity' of the cooling. A short bandwidth will cause the cooling to react to a rise in temperature very quickly. This is not good for the climate in the house, since it will result in too many temperature variations.

MINIMUM AND MAXIMUM COOLING

You set the lower limit for the cooling at "Minimum cooling" and you set the upper limit at "Maximum cooling".

MAXIMUM/CURRENT RH

To prevent the humidity in the house from becoming too high due to cooling, the cooling can be switched off by the RH. If the relative humidity rises to above the preset value, the cooling will be switched off. If the relative humidity rises to above the preset value + hysteresis, the cooling will be switched off. If the RH falls to below the preset value afterwards, the cooling will be switched on again. The default hysteresis setting is 2%.

CURRENT TEMPERATURE

The current average cooling control temperature is shown in this line.

Current cooling

This line displays the current status, on / off, of the cooling. The current cooling rate is also shown in this line. If -0% is calculated for the current cooling rate, the drive signal generated will be 0V instead of the minimum voltage setting.

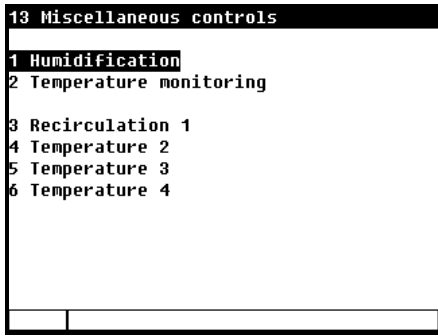
Running hours

1211 Running hours cooling 1	
Today	0:00
Thursday	0:00
Wednesday	0:00
Tuesday	0:00
Monday	0:00
Sunday	0:00
Saturday	0:00
Friday	0:00
Total	0 hours
Clear running hours	<input type="checkbox"/> no

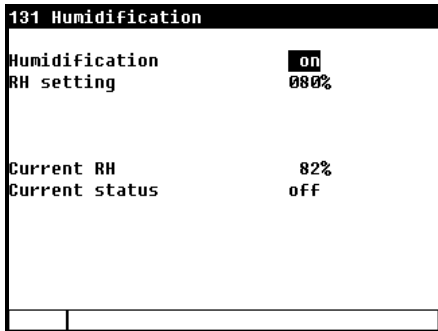
At an on/off controlled (not modulating) cooling it is possible to get an overview of the running hours (time cooling on). Beside the hours of today the running hours of the past 7 days and the total number of hours is shown.

If you changed the setting "Clear running hours" to "yes", the running hours of the selected cooling will be cleared.

MISCELLANEOUS



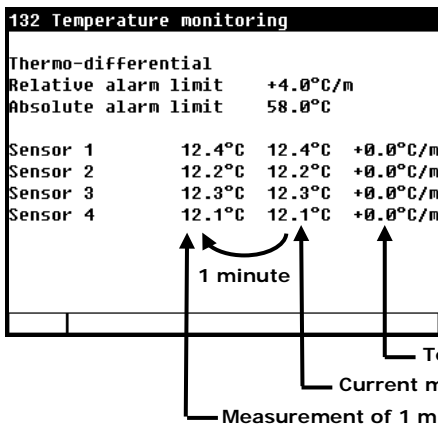
HUMIDIFICATION



This window enables you to switch the humidification control on or off and to set the relative humidity percentage. Below this percentage the humidification control is active.

TEMPERATURE MONITORING (THERMO-DIFFERENTIAL)

The temperature monitoring function is activated by your installer (max. 4 sensors).

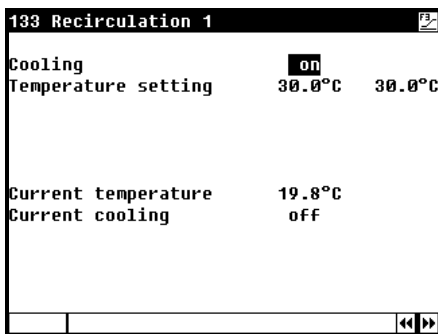


The current measurement of each sensor is compared with the measurement of one minute ago. Is the temperature increase in that minute greater or equal than the relative limits an alarm is given. If the measurement is within the limits, the previous measurement is made equal to the current measurement and a new measurement is started.

Increases the temperature of the sensor above the absolute limit, then there is also alarm.

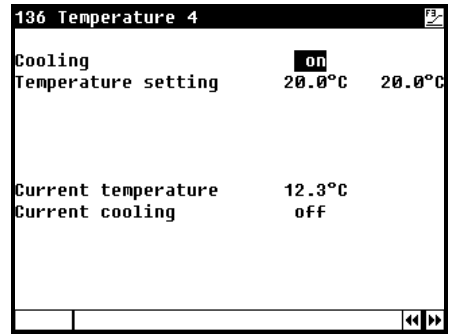
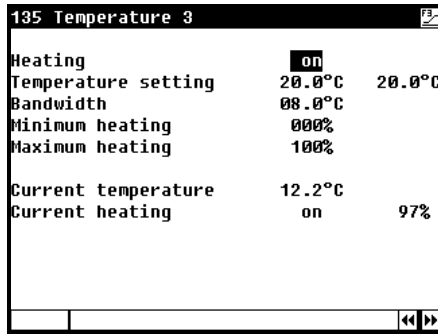
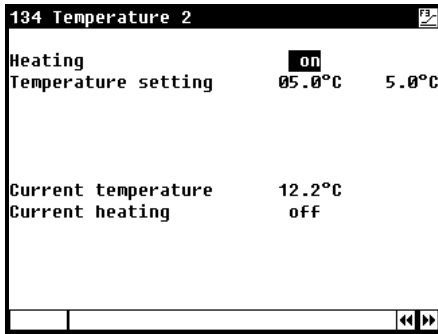
The temperature monitor alarm occurs only when a positive difference is detected (not when the temperature drops down).

RECIRCULATION



One of the purposes of using the recirculation control is to cool the house. If the temperature rises to above the temperature setting, the recirculation control will be switched on. If the temperature then drops to below the pre-set value – the hysteresis setting -, the recirculation control will be switched off again (your installer can set a switching hysteresis of a maximum of 5.0 °C).

TEMPERATURE 2/3/4



Heating/cooling

You can switch the heating/cooling On/Off here.

Temperature setting

This is the temperature at which the heating/cooling controls. This setting is always an absolute setting.

Bandwidth

The bandwidth determines the 'sensitivity' of the heating/cooling. A short bandwidth will cause the heating/cooling to react to a rise in temperature very quickly. This is not good for the climate in the house, since it will result in too many temperature variations.

Minimum/maximum

Heating: You can use the "Minimum heating" setting to limit the minimum force (heating capacity) of a controlled heating to a minimum percentage. You can use the "Maximum heating" setting to limit the maximum force (heating capacity) of a controlled heating to a maximum percentage.

Cooling: You can use the "Minimum cooling" setting to limit the minimum force (cooling capacity) of a controlled cooling to a minimum percentage. You can use the "Maximum cooling" setting to limit the maximum force (cooling capacity) of a controlled cooling to a maximum percentage.

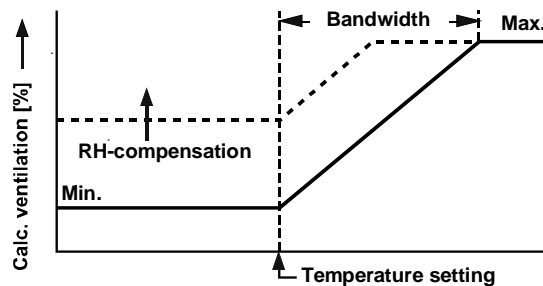
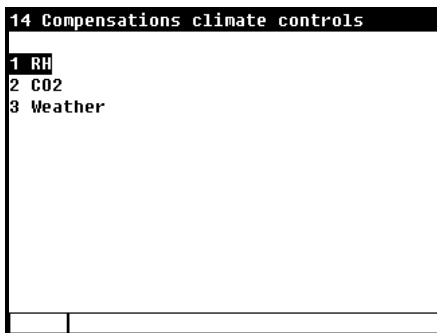
Current temperature

The current average heating/cooling temperature is shown in this line.

Current heating/cooling

The current status of the heating/cooling is displayed. If -0% is calculated for the current heating/cooling, the drive signal generated will be 0V instead of the minimum voltage setting. This line is only shown with 0-10V controlled cooling/heating.

COMPENSATIONS



If both RH compensation and CO₂ compensation are active, the highest compensation value is used for ventilation correction.

RH

RH compensation only influences ventilation/flap position. This means that the ventilation/flap position effort will be greater if the value measured is higher than the value set for "RH compensation".

141 RH-compensation	
RH-compensation	070%
Current RH	80%
1 Ventilation groups	

1411 RH-compensation factor		
RH-compensation factor	Max.	100.0%
Links	1.0	10.0%
Rechts	1.0	10.0%
Voor	1.0	10.0%
Achter	1.0	10.0%

If 0.0 is set, this means that RH compensation does not affect the ventilation and/or the flap position. If 9.9 is set, RH compensation has a maximum effect on the ventilation and/or the flap position.

The corrected ventilation and/or the flap position is limited by the pre-set maximum (Max.).

Compensation = (((current RH – RH compensation start) * RH-compensation factor) / 100%) * calculated ventilation

CO2

CO2 compensation only influences ventilation/flap position. This means that the ventilation/flap position effort will be greater if the value measured is higher than the value set for "CO2 compensation".

142 CO2 compensation	
CO2 compensation	1500ppm
Current CO2	2005ppm
1 Ventilation groups	

1421 CO2 compensation factor		
CO2 compensation factor	Max.	100.0%
Links	1.0	5.1%
Rechts	1.0	5.1%
Voor	1.0	5.1%
Achter	1.0	5.1%

If 0.0 is set, this means that CO2 compensation does not affect the ventilation and/or the flap position. If 9.9 is set, CO2 compensation has a maximum effect on the ventilation and/or the flap position.

The corrected ventilation and/or the flap position is limited by the pre-set maximum (Max.).

Compensation = (((current RH – RH compensation start) * factor * (current absolute air humidity house air - current absolute air humidity outside air)) / 100%) * calculated ventilation.



Before cleaning the room, remove the HR and or CO2 sensor and screw the protection cap onto the extension cables

METEO

143 Weather	
1 Influence wind	
2 Influence rain	

With weather station (wind sensor)

143 Weather	
1 -----	
2 Influence rain	

Without weather station (wind sensor)

Wind compensation takes place after RH compensation, if applicable.

Wind influence (default)

1431 Influence wind		
Influence wind start		3.0m/s
Wind speed		0.0m/s
Wind direction		rear
Influence wind outside temp.		yes
Max. influence below		+05.0°C
No influence above		+20.0°C
Outside temperature		19.4°C
Influence wind		
Windward side	6	+0%
Leeward side	2	+0%
Crosswind	2	+0%

Wind influence from

The ventilation/flap positions are not influenced until the wind exceeds this value.

Wind speed

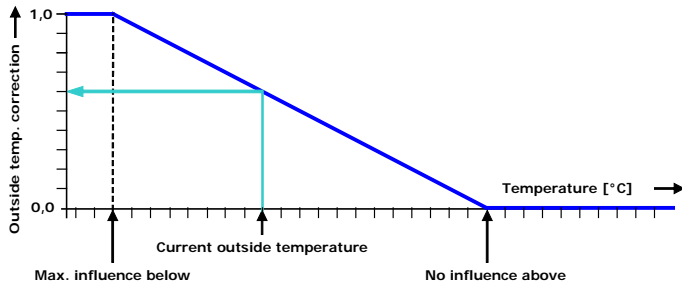
This line shows the current wind speed.

Wind direction

This shows the current wind direction.

Wind influence of outside temp.

Here you can set whether the outside temperature should influence the wind compensation.



Max. influence below

Ventilation/flap positions will experience maximum influence of the wind if the actual outside temperature is lower than this value.

No influence above

Ventilation/flap positions will not experience any influence of the wind if the actual outside temperature is higher than this value.

Outside temperature: Current outside temperature.

Wind influence (for all ventilation groups)

The wind influence can be adjusted from 0 to 9 (0 = no influence, 9 = maximum influence). You can set specific factors for the individual sides (wind side, sheltered side and perpendicular side). The wind influence can be corrected by the outside temperature.

Wind influence (can be set for every individual ventilation group)

```
1431 Influence wind
Influence wind start      3.0m/s
Wind speed                7.5m/s
Wind direction            36°
Influence wind outside temp. yes
Max. influence below     -10.0°C
No influence above       +10.0°C
Outside temperature      -2.0°C

1 Influence meteo ventilation group
```

```
14311 Influence meteo ventilation group
1 Left 1
2 Left 2      No influence
3 Left 3      Flap closes
4 Right 1
5 Right 2
6 Right 3
7 Front
8 Rear
```

```
143111 Influence wind left 1
Influence wind
Windward side           6      -39%
Leeward side           2      -13%
Crosswind               2      -13%

Wind speed              7.5m/s
Wind direction Crosswind 36°
```

You can set the influence of the wind on the ventilation per ventilation group. You can only set the "Influence wind per ventilation group" if your installer has activate this option.

Influence of wind (absolute)

The influence of the wind is adjustable between 0..9 per ventilation group (0 = no influence, 9 = maximum influence). You can set a factor for each side (Windward side, Leeward side and Crosswind). The wind influence can be corrected by the outside temperature (see "Influence of wind outside temp." on previous page).

Example:

Calculated ventilation on the left:	30%	
Calculated ventilation on the right:	30%	
Calculated ventilation front:	5%	
Calculated ventilation rear:	5%	
Wind influence from:	3.0 m/s	
Current wind speed:	7.5 m/s	
Current wind direction	right	
Wind influence (factor)		
Wind side:	6	$((7.5-3.0) / (10-3.0)) * 6.0 * 10 = \mathbf{39\%}$ (38.57%)
Sheltered side:	2	$((7.5-3.0) / (10-3.0)) * 2.0 * 10 = \mathbf{13\%}$ (12.86%)
Perpendicular side:	2	$((7.5-3.0) / (10-3.0)) * 2.0 * 10 = \mathbf{13\%}$ (12.86%)

Corrected ventilation on the left:	30 - 13 = 17%
Corrected ventilation on the right:	30 - 39 = -9% becomes 0%
Corrected ventilation front:	5 - 13 = -8% becomes 0%
Corrected ventilation rear:	5 - 13 = -8% becomes 0%

Influence of outside temperature:	yes
Current outside temperature:	-2.0 °C
Max. influence below:	-10.0 °C
No influence above:	+10.0 °C
<i>Outside temperature correction:</i>	$(10.0 - -2.0) / (10.0 - -10.0) = \mathbf{0.6}$
Corrected ventilation on the left:	30 - (12,86 * 0,6) = 22,3% becomes 22%
Corrected ventilation on the right:	30 - (38,57 * 0,6) = 6,86% becomes 7%

Corrected ventilation front: $5 - (12,86 * 0,6) = -2,72\%$ becomes **0%**
 Corrected ventilation rear: $5 - (12,86 * 0,6) = -2,72\%$ becomes **0%**

Wind compensation (absolute) = ((Cur. wind speed – Wind influence from) / (10 – Wind influence from)) * 10 * factor

Influence of outside temperature = (No influence above – Cur. outside temp.) / (No influence above – Max. influence below)

Influence wind (relative)

Example:

Calculated ventilation on the left: **30%**
 Calculated ventilation on the right: **30%**
 Calculated ventilation front: **5%**
 Calculated ventilation rear: **5%**
 Wind influence from: 3.0 m/s
 Current wind speed: 7.5 m/s
 Current wind direction: right

Wind influence (factor)

Wind side:	6	$((7.5-3.0) / (10-3.0)) * 6.0 * 10 = \mathbf{39\%}$ (38.57%)
Sheltered side:	2	$((7.5-3.0) / (10-3.0)) * 2.0 * 10 = \mathbf{13\%}$ (12.86%)
Perpendicular side:	2	$((7.5-3.0) / (10-3.0)) * 2.0 * 10 = \mathbf{13\%}$ (12.86%)

Corrected ventilation on the left: $30 - ((30 * 12,86) / 100) = 30 - 3,86$ becomes **26%**
 Corrected ventilation on the right: $30 - ((30 * 38,57) / 100) = 30 - 11,57$ becomes **18%**
 Corrected ventilation front: $5 - ((5 * 12,86) / 100) = 5 - 0,63$ becomes **4%**
 Corrected ventilation rear: $5 - ((5 * 12,86) / 100) = 5 - 0,63$ becomes **4%**

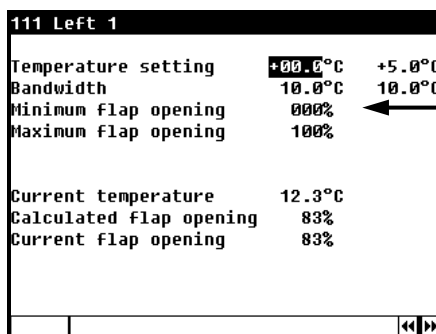
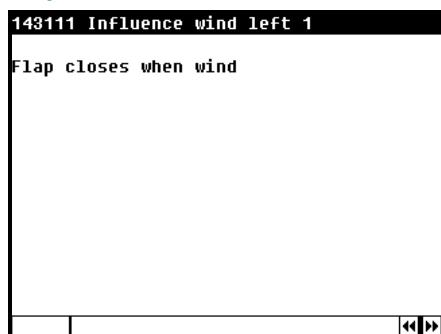
Influence of outside temperature: yes
 Current outside temperature: -2.0 °C
 Max. influence below: -10.0 °C
 No influence above: +10.0 °C

Outside temperature correction: $(10.0 - -2.0) / (10.0 - -10.0) = \mathbf{0.6}$
 Corrected ventilation on the left: $30 - (3,86 * 0,6) = 27,7\%$ becomes **28%**
 Corrected ventilation on the right: $30 - (11,57 * 0,6) = 23,1\%$ becomes **23%**
 Corrected ventilation front: $5 - (0,63 * 0,6) = -4,6\%$ becomes **5%**
 Corrected ventilation rear: $5 - (0,63 * 0,6) = -4,6\%$ becomes **5%**

Wind compensation (relative) = Calculated flap position - ((ABS(((Current wind speed – Wind influence from) / (10 – Wind influence from)) * 10 * factor) * Calculated flap position) / 100

Influence of outside temperature = (No influence above – Cur. outside temp.) / (No influence above – Max. influence below)

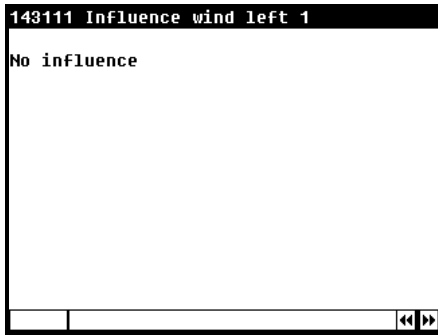
Flap closes when wind



If it blows more than the set value, the flap (curtain) is sent to the set "Minimum flap opening" (default value is 000%).

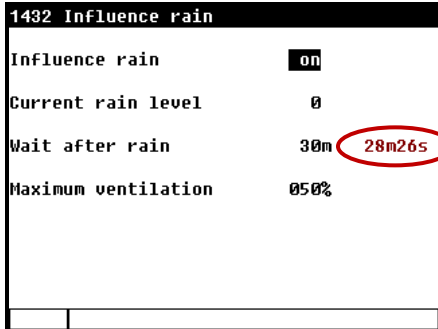
If the installer has set at the selected flap (curtain) to close if it is blowing more than behind "Wind influence from", the text "Flap closes when wind" appears on the screen.

No influence

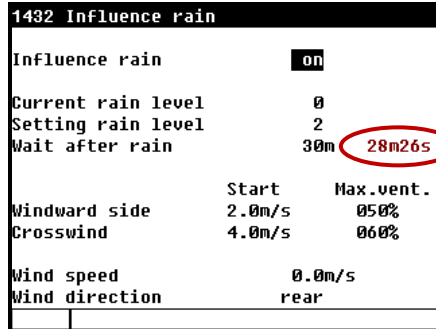


If the installer has disabled the ventilation group compensation, the text "No influence" is displayed.

Rain influence (can not be adjusted per ventilation group)



Without an anemometer (weather station)



With an anemometer (weather station)

If the rain influence has been activated by the installer and the current rain level increases to above the rain level setting, the calculated flap position will be made equal to "Max. vent." (the desired flap position when it rains). This is only done if the rain flap position is lower than the current calculated flap position based on temperature.

Rain influence

This control limits the curtain openings (ventilation) on the rain and perpendicular sides to prevent rain entering. You can activate/deactivate the influence of the rain on the curtain opening in this line.

Current rain level

This line shows the current rain level.

Rain level setting

Here you set the rain level at which the control should become active (1 = minor rain, 9 = heavy downpour).

Wait after rain

After rain, the CL-5000 will wait for a certain time before the flaps are sent a control signal again, based on temperature. You can enter this waiting time in this line. The remaining waiting time is shown next to this (is only shown after rain).

Wind side / perpendicular side

Enter the maximum flap position for the wind side during rain here. When the rain level exceeds the pre-set threshold ("rain level setting") and the wind speed exceeds the pre-set value ("From"), the maximum flap position is limited to the pre-set value ("Max.vent."). You can set separate values for the wind side and for the perpendicular side.

From

Enter the wind speed at which the curtains should go to their "maximum rain position".

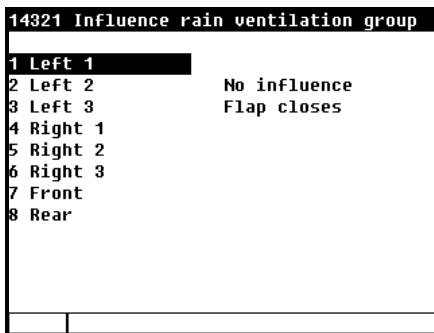
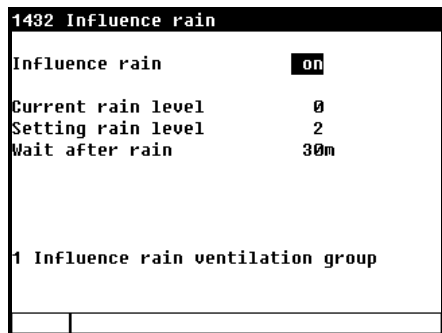
Maximum vent.

Enter the maximum position when it rains here.

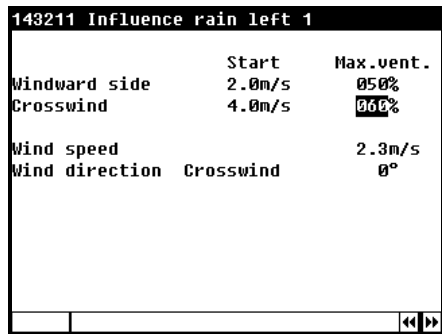
Maximum ventilation

If no wind sensor (weather station) has been activated, you can set the maximum position of the curtains here.

Rain influence (adjusted per ventilation group)



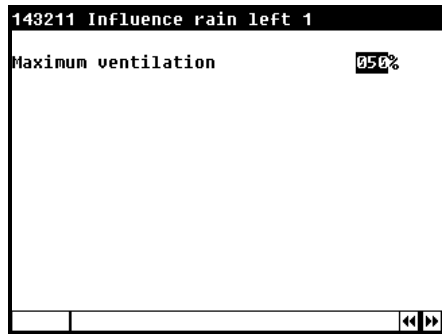
With meteo station



Wind side / perpendicular side

Enter the maximum flap position for the wind side during rain here. When the rain level exceeds the pre-set threshold ("rain level setting") and the wind speed exceeds the pre-set value ("From"), the maximum flap position is limited to the pre-set value ("Max.vent."). You can set separate values for the wind side and for the perpendicular side.

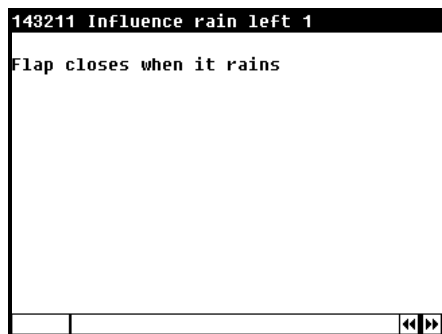
Without meteo station but with separate rain sensor



Maximum vent.

Enter the maximum position when it rains here.

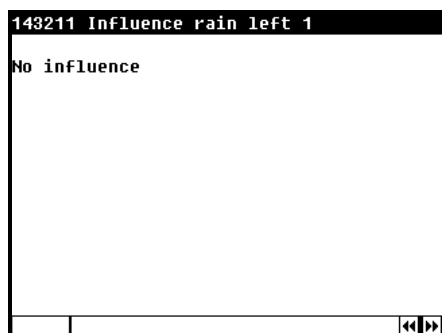
Flap closes when it rains



If the installer has set at the selected flap (curtain) to close if it is raining more than behind "Setting rain level", the text "Flap closes when it rains" appears on the screen.

If it rains more than the set value, the flap (curtain) is sent to the set "Minimum flap opening" (default value is 000%).

No influence



If the installer has disabled the ventilation group compensation, the text "No influence" is displayed.

OVERVIEWS

15 Overviews	
1	House temperature
2	Outside temperature
3	Cooling
4	Sensors
Reset min/max temp. no	

A table with the minimum and maximum temperatures of the past week, of the selected option, will be shown. In addition, the table will show the times when the minimum and maximum values occurred on the relevant days.

-99,9 °C Temperature sensor failure
 ???.? °C Invalid room temperature

RESET MIN/MAX TEMP.

You can use the "Reset min/max temp." setting to clear the min/max measurements in all temperature listings of "Today" are cleared

HOUSE TEMPERATURE

151 Overview house temperature				
House temperature		12.9°C		
Day	Min. °C	Time	Max. °C	Time
Today	12.3	6:26	12.9	15:09
Thursday	12.8	6:23	12.1	15:28
Wednesday	12.7	6:43	12.0	15:21
Tuesday	12.9	6:39	12.2	15:17
Monday	12.6	6:32	12.0	15:01
Sunday	12.8	6:24	12.2	15:06
Saturday	12.9	6:19	12.7	15:11
Friday	12.6	6:14	12.3	15:26

An overview of the house temperature is shown.

OUTSIDE TEMPERATURE

152 Overview outside temperature				
Outside temperature		12.2°C		
Day	Min. °C	Time	Max. °C	Time
Today	12.2	6:26	13.1	15:09
Thursday	12.2	6:23	12.8	15:28
Wednesday	12.0	6:43	12.7	15:21
Tuesday	12.2	6:39	13.1	15:17
Monday	12.8	6:32	13.0	15:01
Sunday	12.6	6:24	13.2	15:06
Saturday	12.9	6:19	12.7	15:11
Friday	12.6	6:14	13.3	15:26

An overview of the outside temperature is shown.

COOLING

153 Overview cooling	
1	Cooling 1
2	Cooling 2

1531 Running hours cooling 1	
Today	0:00
Thursday	0:00
Wednesday	0:00
Tuesday	0:00
Monday	0:00
Sunday	0:00
Saturday	0:00
Friday	0:00
Total	0 hours
Clear running hours	no

1532 Running hours cooling 2	
Today	0:00
Thursday	0:00
Wednesday	0:00
Tuesday	0:00
Monday	0:00
Sunday	0:00
Saturday	0:00
Friday	0:00
Total	0 hours
Clear running hours	no

If the cooling consists of on/off (non-modulating) cooling, you can call up the operating hours of the cooling. In addition to today's operating hours, the operating hours of the past 7 days and the total number of operating hours are shown as well.

Enter "yes" behind "Clear running hours" to erase the operating hours of the cooling displayed.

SENSORS

154 Sensors	
Sensor 1	12.4°C
Sensor 2	12.2°C
Sensor 3	12.3°C
Sensor 4	12.1°C
1 Overview	

1541 Overview sensor 1				
Day	Min. °C	Time	Max. °C	Time
Today	12.2	6:26	13.1	15:09
Thursday	12.2	6:23	12.8	15:28
Wednesday	12.0	6:43	12.7	15:21
Tuesday	12.2	6:39	13.1	15:17
Monday	12.8	6:32	13.0	15:01
Sunday	12.6	6:24	13.2	15:06
Saturday	12.9	6:19	12.7	15:11
Friday	12.6	6:14	13.3	15:26

The overview of "Sensor 2" to "Sensor 4" can be retrieved similarly (by pressing the **◀▶**.keys).

ALARM

```

16 Alarm climate controls
1 House temperature
2 Groups temperature
3 Groups ventilation
4 Cooling
5 Miscellaneous
    
```

ALARM HOUSE TEMPERATURE

```

161 Alarm house temperature
Minimum alarm limit    -35.0°C
Maximum alarm limit    +10.0°C
Absolute alarm limit    35.0°C
    
```

The temperature limits apply to **all** ventilation groups.

GROUPS TEMPERATURE

```

162 Alarm groups temperature
1 Fans
2 Left 1
3 Left 2
4 Right 1
5 Right 2
6 Front
7 Rear
    
```

```

1621 Alarm fans
Alarm temperature      on
Minimum alarm limit    -23.2°C
Maximum alarm limit    21.8°C
Absolute alarm limit    35.0°C

Outside temperature    10.7°C
Temperature setting    +11.8°C
Current temperature    12.3°C

Alarm status           No alarm
    
```

```

1622 Alarm left 1
Alarm temperature      on
Minimum alarm limit    10.0°C
Maximum alarm limit    20.0°C
Absolute alarm limit    35.0°C

Outside temperature    -2.0°C
Temperature setting    +5.0°C
Current temperature    12.3°C

Alarm status 1        No alarm
    
```

Groups: Left/right/front/rear

Wind compensation takes place after RH compensation, if applicable.

You can only switch the alarm on/off in these screens. The alarm limits shown are the calculated alarm limits and depend on such factors as the preset house temperature limits and the preset temperature of the control itself.

GROUPS VENTILATION

```

163 Alarm groups ventilation
1 Fans
2 Left 1
3 Left 2
4 Right 1
5 Right 2
6 Front
7 Rear
    
```

```

1631 Alarm fans
Measuring fan          1   2   3
                       on  on  on
Current ventilation    22  0   0

Calculated ventilation 23%
Minimum alarm limit    13%
Maximum alarm limit    33%


Alarm status 1        No alarm
Alarm status 2        No alarm
Alarm status 3        No alarm
    
```

```

1632 Alarm left 1
Ventilation alarm      on
Current flap opening    18%

Calculated flap opening 18%
Minimum alarm limit     8%
Maximum alarm limit     28%

Alarm status 1        No alarm
    
```

 The above screen appears only if one or more measuring fans are installed.

If the measuring fan is switched off it no longer influences the control and alarm functions of the ventilation group. You can only switch the ventilation alarm on/off for flaps connected to a DMS module.

COOLING

164 Alarm cooling	
1 Cooling 1	on
2 Cooling 2	on

1641 Alarm cooling 1	
Alarm temperature	on
Maximum alarm limit	+05.0°C 29.0°C
Absolute alarm limit	35.0°C
Current temperature	12.3°C
Alarm status	No alarm

1642 Alarm cooling 2	
Alarm temperature	on
Maximum alarm limit	+05.0°C 35.0°C
Absolute alarm limit	35.0°C
Current temperature	12.4°C
Alarm status	No alarm

The alarm limits can be set separately for every individual cooling.

MISCELLANEOUS

165 Alarm miscellaneous controls	
1 RH	on
2 CO2	on
3 Weather	on
4 Temperature controls	
5 Outside temperature	on
6 Temperature monitoring	on
7 Emergency stop	

Alarm RH

1651 Alarm RH	
Alarm RH	on
Minimum alarm limit	020%
Maximum alarm limit	100%
Current RH	72%
Alarm status	No alarm

This window enables you to switch on/off the alarm of the humidification control. The minimum and maximum alarm limits cannot be set to less than 20%.

Alarm CO2

1652 Alarm CO2	
Alarm CO2	on
Minimum alarm limit	0000ppm
Maximum alarm limit	5000ppm
Current CO2	2005ppm
Alarm status	No alarm

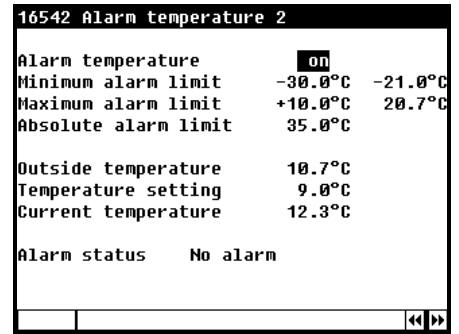
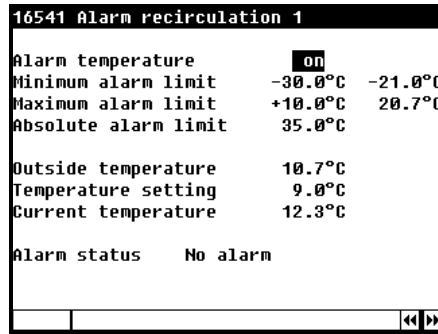
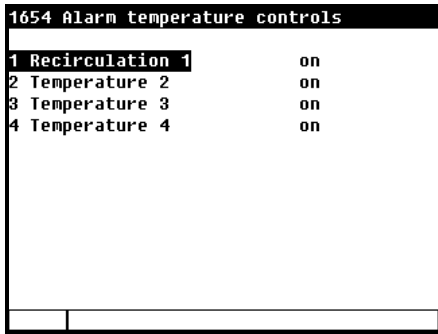
This window enables you to switch on/off the alarm of the CO2 control.

Alarm weather station

1653 Alarm weather	
Alarm Weather	on
Wind speed	2.3m/s
Wind direction	rear
Rain level	0
Alarm status	No alarm

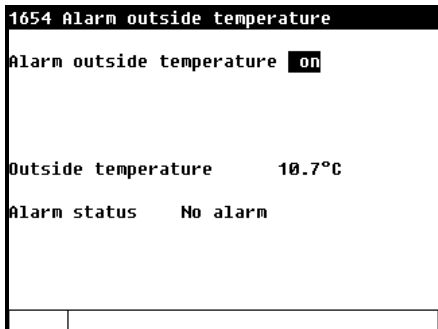
You can switch the weather station alarm on or off in this screen. This screen also shows the current wind speed, wind direction, rain level, and the current alarm status of the weather station.

Alarm temperature controls



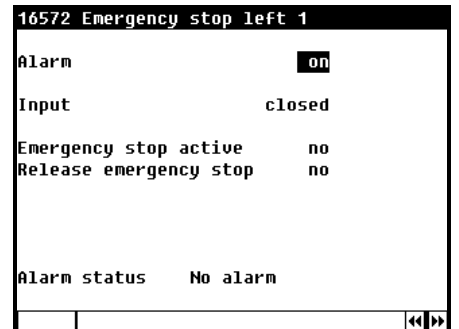
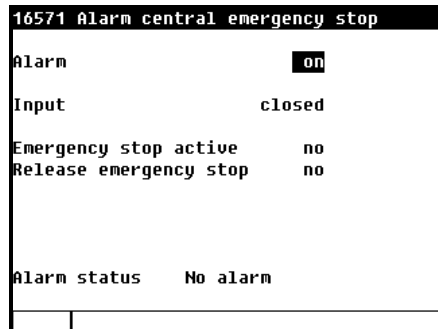
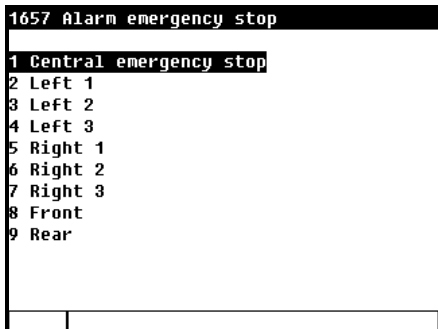
Here you can set the alarm limits for temperature controls. You can switch the temperature alarm on or off in this screen. In addition, the current temperature of the temperature control and the current outside temperature are displayed. Behind "Alarm status" the current alarm status of the control is shown.

Alarm outside temperature



You can switch the outside temperature alarm on or off in this screen. This screen also shows the current outside temperature and the current alarm status of the outside temperature alarm.

Emergency stop alarm



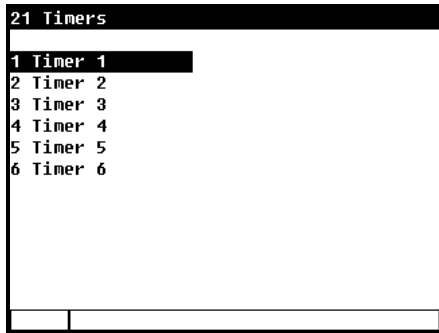
Central emergency stop: All the controls that are fitted with an emergency stop are stopped (frozen) as soon as the central emergency stop is active. If the emergency stop for a specific control is activated, only the control where the emergency stop was activated will stop.

"Input" is followed by the physical current status of the input. "Emergency stop active" states whether the emergency stop is active or is not.

If the emergency stop has been active, you can deactivate the alarm by entering "yes" at "Release emergency stop" (the alarm is cleared and the text then automatically changes back to "no").

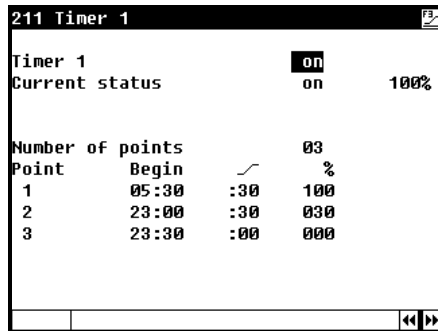
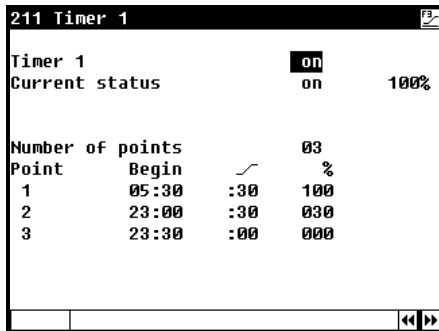
"Alarm status" is followed by the current alarm status.

TIMERS



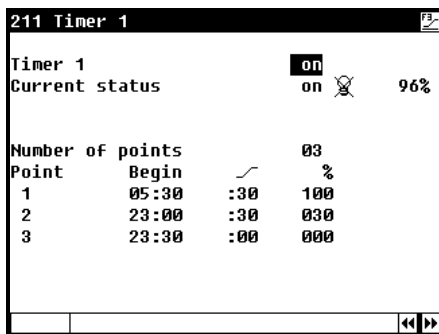
CONTROLLED TIMER

Controlled timers enable a light regulation to be used, so that the lights are gradually switched on/off. A light regulation enables you to create ideal day and night conditions (dawn program).

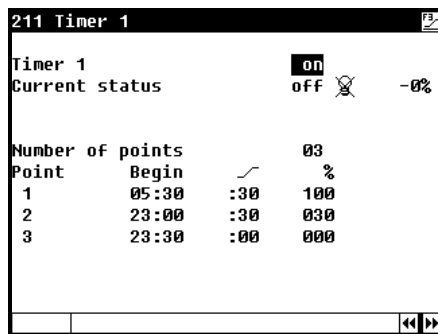


1. The lights are switched on at the time set at point 1 (05:30) and their intensity is controlled to 100% in a time of 30 minutes (⤴ :30).
2. The lights are dimmed, starting at the time set at point 2, and their intensity is decreased to 30% in a time of 30 minutes (⤴ :30); the lighting delay then starts.
3. The lights switch off at the time set at point 3.

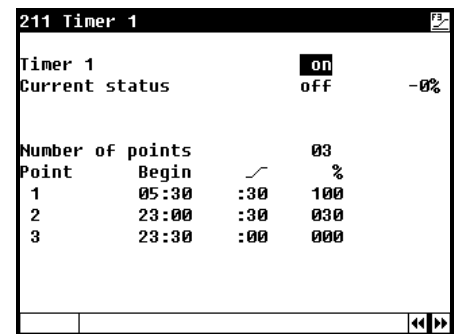
Time-controlled "on" or Time-controlled "on" and twilight switch "on".



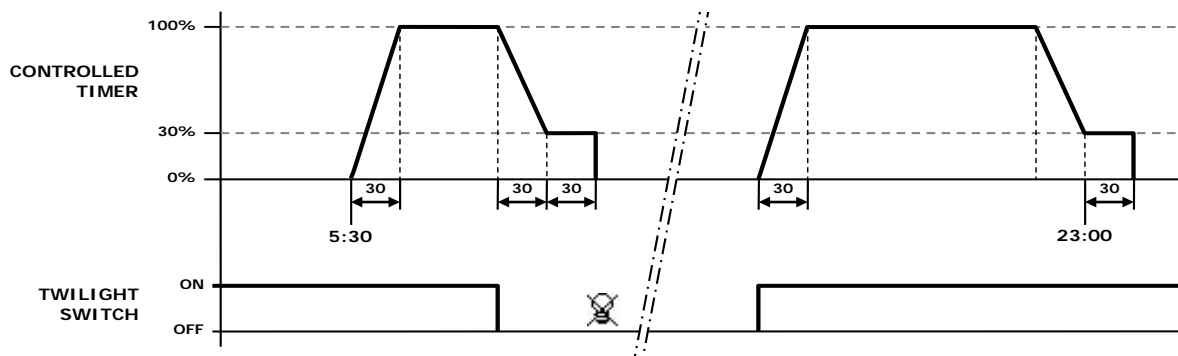
⤴ "on": decrease the light intensity based on the twilight switch.



⤴ "off" by twilight switch.

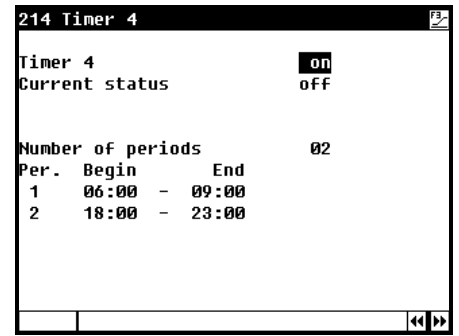
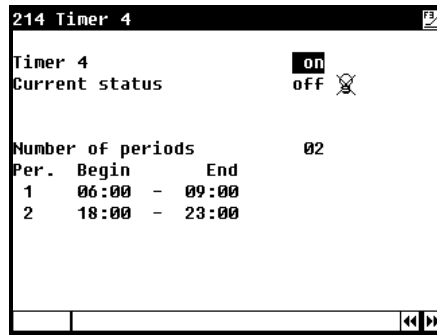
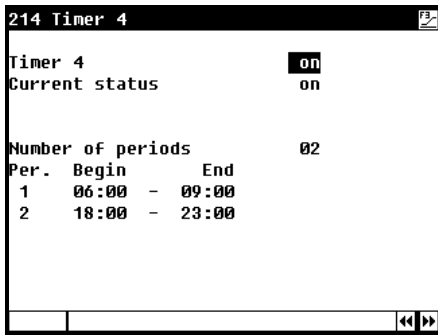


Time-controlled "off".



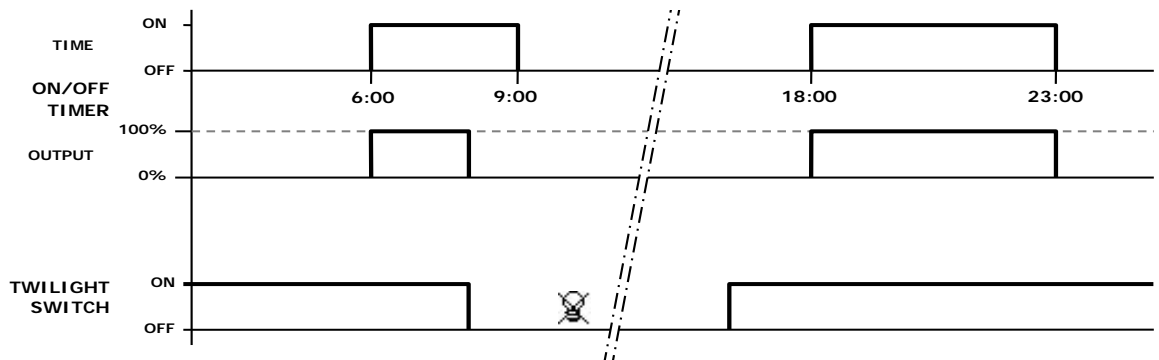
A twilight switch can be used to control the lights, i.e. switch them on or off, in the meantime.

ON/OFF TIMER

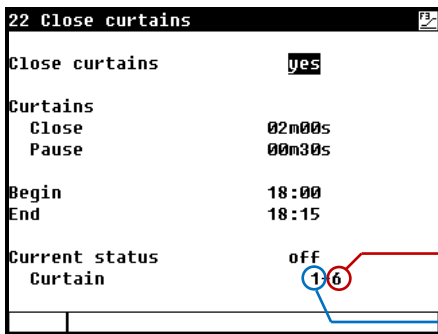


🐛 "off" by twilight switch.

Time-controlled "off".



CLOSE CURTAINS

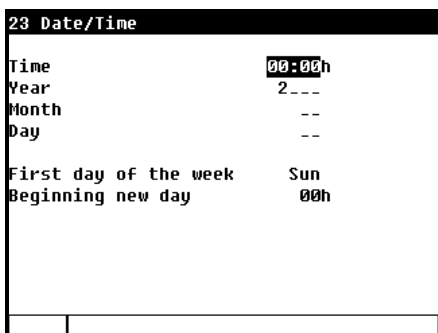


To prevent mice or other pests from nesting between the curtains, you can have the curtains open and close a bit every day. All curtains are then sent open a short distance one by one (in turns) to then resume their previous positions.

→ Max. number of curtains.

→ Current curtain.

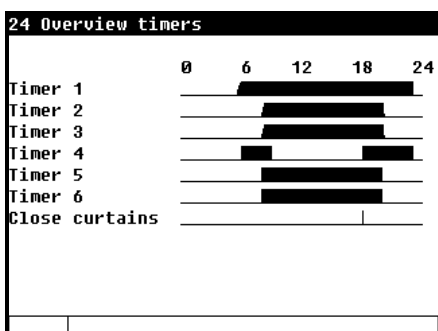
DATE/TIME



In addition to date and time you can set the "First day of the week". The "First day of the week" is used to determine the weekly totals. If, for example, you set "First day of the week" to **Su** (Sunday) the week totals will be calculated on Sunday (a week total is the sum of Sunday, Saturday, Friday etc. to Monday)

Additionally, you can set the start time (beginning) of a new day. Enter behind "Beginning new day" the time you want to start a new day. At "Beginning new day" all day dependent data will shift one day further (overviews, counters, etc.), then the data of today will be deleted.

OVERVIEW



A graphic overview of the timers is displayed on the screen. Only the on/off times of the timers which have been activated are shown. If a "Close curtains" has been installed, it will be displayed on the screen.

COUNTERS

3 Counters	
1	Water counter
2	Feed counter
3	Counter 3
4	Overview
5	Alarm
Clear all counters	no

CLEAR ALL COUNTERS

All counter readings are erased, contrary to the setting "Clear counter" for the individual counters, where only the counter readings of the selected counter are erased.



Caution! When the counter is cleared the data for today is also **deleted**. In addition, the overviews of the **amounts** fed and the **feeding times** of the selected counters or of all counters are deleted.

WATER COUNTER

31 Water counter	
Today	0,002,699 l
Monday	2,480 l
Sunday	2,625 l
Saturday	2,187 l
Friday	2,200 l
Thursday	2,037 l
Wednesday	2,171 l
Tuesday	2,183 l
Week total	32,833 l
Total	40,637 l
Clear counter	no

FEED COUNTER

32 Feed counter	
Today	0,001,285 kg
Monday	1,240 kg
Sunday	1,193 kg
Saturday	1,151 kg
Friday	1,100 kg
Thursday	1,072 kg
Wednesday	1,034 kg
Tuesday	1,157 kg
Week total	15,512 kg
Total	19,230 kg
Clear counter	no

COUNTER 3

32 Counter 3	
Today	0,000,185
Monday	124
Sunday	193
Saturday	115
Friday	110
Thursday	172
Wednesday	134
Tuesday	113
Week total	2,592
Total	3,094
Clear counter	no

If a counter is installed it is possible to get an overview of the amount (counting's). Beside the amount of today the amount of the past 7 days and the total amount is shown. You can change the value of today. If you changed the setting "Clear counter" to "yes", the counter readings will be cleared.

OVERVIEW

34 Overview counters total			
	Water	Feed	Misc.
	[l]	[kg]	
Today	2,699	1,285	185
Monday	2,480	1,240	124
Sunday	2,625	1,193	193
Saturday	2,187	1,151	115
Friday	2,200	1,100	110
Thursday	2,037	1,072	172
Wednesday	2,171	1,034	134
Tuesday	2,183	1,157	113
Week total	32,833	15,512	2,592
Total	40,637	19,230	3,094

An overview of the counters is displayed on the screen.

ALARM

```
35 Alarm counters
1 Water counter      on
2 Feed counter      on
3 Counter 3         on
```

To be able to signal possible broken pipes or leaks in time, this screen enables you to set the maximum amount of water/feed that can flow through the pipes during the preset period before an alarm is generated.

```
351 Alarm water counter
Alarm                on
Maximum              1000 l
in                  60 minutes
Alarm status        No alarm
```

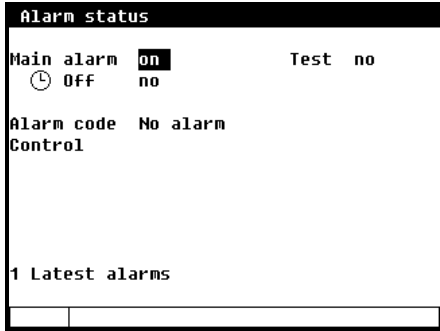
```
352 Alarm feed counter
Alarm                on
Maximum              1000 kg
in                  60 minutes
Alarm status        No alarm
```

```
353 Alarm counter 3
Alarm                on
Maximum              1000
in                  60 minutes
Alarm status        No alarm
```

You can set a dose alarm for each counter.

ALARM

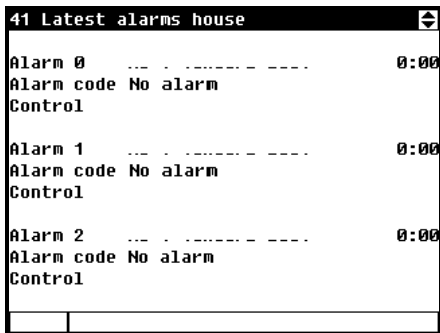
ALARM STATUS



If the alarm relay is de-energized (alarm delay time has lapsed) the cause of the alarm relay being de-energized will be displayed. In addition, you can switch the main alarm on and off. When the main alarm is off, the LED in the alarm key will flash to indicate that the main alarm is off. The LED in the alarm key lights if there is an alarm in one of the rooms and/or central controls.

In addition to the cause of the alarm will be displayed.

LATEST ALARMS



The last 5 alarm causes which caused the alarm relay to de-energize will be stored. The date and time of the alarm are displayed in addition to its cause.

Alarm 0: The cause of the *alarm that occurred the last* is shown behind "Alarm 0". In addition, the time until which the alarm is/was active is shown

You can call up the data of the previous alarms by pressing the Arrow down key.

Attention: *NEVER FORGET TO SWITCH THE ALARM BACK "ON"* when you have switched this feature off 'temporarily', e.g. to solve a problem. Failing to switch it back on may have adverse effects for humans, animals, equipment or property.

Preferably use the ⌚ Off (*alarm retard*) function to solve a problem.

Installation errors such as "Output already assigned", "Incorrect output type", "Input already assigned" etc. have to be solved first before putting the system into operation.

COMMUNICATION ALARM

A communication alarm can only occur at a main station if the main station has not received any data from a device which forms a part of the same RS-485 data communication loop.

ALARM CODES

Alarm code	Description
Alarm unknown (xxx)	An unknown and non-documented alarm code has occurred. Note down the number that is displayed and contact your supplier.
Configuration changed	Module configuration (type) changed. Read the module number into the system again.
Counter already assigned	The counter has been assigned to two or more controls.
Input already assigned	The input has been assigned to two or more controls.
Invalid wind direction Vg:x	The wind directions angles should not overlap. If an overlap is detected the error message "Invalid wind direction Vg:x" (eg. Vg:1 = ventilation group 1) is displayed.
Module not installed	<ul style="list-style-type: none"> The module number set for the terminal does not exist Poor or no connection between CL-5000 and module.
Module not responding	Module address not found, check the settings on the module
Module reset alarm	Module continues to reset due to a fault, check the module
No communication address	Device address CL-5000 missing.
No input assigned	No input terminal number entered
No output assigned	No output terminal number entered
No outside sensor	The control installed requires an outdoor sensor but no sensor has been installed
Not a valid input	The input number does not exist on the module.
Not a valid output	The output number does not exist on the module.
Not a valid period (x)	<ul style="list-style-type: none"> The times set for a timer must be ascending and the difference between "Begin" and "End" must be at least 1 minute. The starting time (Begin) + the running time (Propagation time) of a lighting control must not be after the next starting time (the time can be <i>simultaneous</i> with the next starting time) <p>X = period number</p>
Output already assigned	The output has been assigned to two or more controls.
Outside sensor faulty	Value measured by outside temperature sensor < -50.0°C or > +50.0°C
Potentiometer faulty	The value measured by the potentiometer is outside the limits (EGM 100P, winch motors etc.)
RH sensor faulty	The RH sensor value measured is outside the preset limits
RH too high	The RH measured is higher than the maximum alarm limit calculated
RH too low	The RH measured is below the minimum alarm limit calculated
CO2 sensor faulty	The CO ₂ sensor value measured is outside the preset limits
CO2 too low	The CO ₂ measured is below the minimum alarm limit calculated
CO2 too high	The CO ₂ measured is higher than the maximum alarm limit calculated
Sensor faulty	The values measured by the sensor (temperature, RH, rain etc.) are outside the preset limits
Temperature sensor faulty	Value measured by temperature sensor < -50.0°C or > +100.0°C
Temperature too high	The temperature measured is higher than the maximum alarm limit calculated
Temperature too low	The temperature measured is below the minimum alarm limit calculated
Thermo-differential Sensor x	The temperature difference between the last two measurements by the sensor is greater than the maximum difference allowed or the sensor temperature is higher than the absolute limit, see page 15.
Unknown terminal type	This type of terminal does not exist
Ventilation 0%	The measuring fan has stopped.
Ventilation too high ¹	The ventilation measured is higher than the maximum alarm limit calculated
Ventilation too low ¹	The ventilation measured is below the minimum alarm limit calculated
Weather station faulty	The result measured by the weather station (wind direction, wind speed and/or rain level) is outside the preset limits (these limits depend on the type of sensor ME-54 or PL-MWA).
Wrong input type	The type of input set does not comply with the type of input which the control can use for its control operation
Wrong output type	The type of output set does not comply with the type of output which the control can drive
Wrong terminal setting	Faulty allocation. The function you have assigned to the terminal is not supported by the module.

¹ At a flap control; first check if the flap is not in manual operation mode.

SYSTEM

This screen shows the device name and type (140=CL-5000) as well as the software program version and software date.

DEVICE DATA

5 System	
Device	CL-5000
Type	140
Software version	2.
Software date	--/.. /20..
Language / Taal / Sprache	
Langue / Язык / Język	
Mylu / Lenguaje / Jazyk	
	ENG
Fahrenheit	no
1 Display	

Language: You can set the language of the screen texts here. The language in this example is set to ENG (English). You can also change the language by pressing and holding functional key F1 while simultaneously pressing the cursor key pointing to the right.

FAHRENHEIT

The default temperature reading is in °C. If you enter "yes" for "Fahrenheit", the temperatures will be shown in °F.

DISPLAY

51 Display	
Contrast	48
Brightness	100%
on-time	300s
Cursor left	yes

Contrast Indicates the ratio between the "colors" white and black.

Brightness You can set the light intensity of the background lighting here.

on time Number of seconds that the background lighting stays on after the last time a key was pressed. If you set the on-time to 0 seconds the background lighting stays on forever.

Cursor left "Yes" when you are going to change a setting, the cursor is placed on the digit which is the furthest to the left.

"No" when you are going to change a setting the cursor is placed on the digit which is the furthest to the right.