

User manual

AMACS (V 3.4.0) - General operation

Code No. 99-94-0420 GB

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Overview of changes / updates

Name of chapter	Type of change / update	Product information / Code of the person in charge	Date of edition	Page
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6.1.2 "Time"	Chapter updated (setting the time only without NTP server)	PI-121 <i>AMa</i>	06/2023	88

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Update to software version 3.0.0

Entire manual	Update to software version 3.0.0	<i>RSi</i>	08/2019	-
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1 About this manual

Observe the instructions in this manual to ensure correct and safe use of the system.

Keep this manual safe for future use.

The documentation for AMACS (V 3.4.0) - General operation must be used together with the following documents:

Code no.	Description
99-94-0447	AMACS safety regulations

Program version

The product described in this manual is computer-based, and most functions are realised by software. This manual corresponds to:

Software version: V 3.4.0

This version is compatible with **BFN Fusion**. For more information, refer to the **BFN Fusion** documentation.

NOTICE!

Communication with BFN Fusion requires an OrbitX gateway that retrieves data from AMACS and transmits them to BFN.

IMPORTANT

Notes concerning the alarm system

Dysfunctions, malfunctions or faulty settings in climate-controlled livestock houses may cause substantial damage and financial losses. It is therefore **essential to install a separate, independent alarm system** that monitors the house concurrently with the climate control system. Please note that the product liability clause of the **BIG DUTCHMAN** terms and conditions of sale and delivery specifies that an alarm system **must be installed**.

Observe the valid law of the respective country regarding the minimum requirements for emergency and alarm systems.

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We are constantly working on further developing the computer and the software and also consider user preferences. Please let us know if you have ideas or suggestions for improvement and modification.

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2 Login screen

After having started the FarmController, the login screen of the **AMACS** system appears automatically.

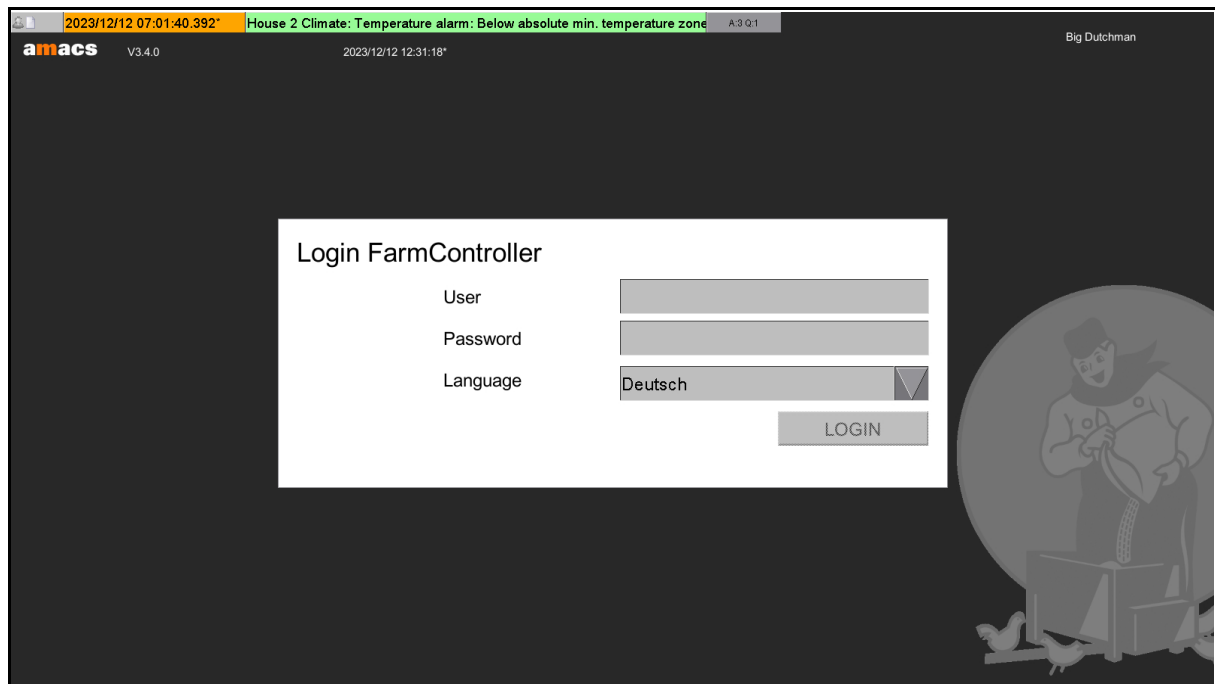


Figure 2-1: Login screen

- The current software version is displayed in the top left corner of the screen. This display is for information only and can be of help in case of service issues.
- Next to the software version, the current date and time are shown, including the information of whether this time is winter time (*) or summer time (~). The time can be changed as described in chapter 6.1.2 "Time".
- The name of the farm, here **Big Dutchman**, is displayed on the right, at the same height as the date. The farm name can be changed as described in chapter 6.1.1 "System".

2.1 Login

Up to 50 users can be created and managed with the **AMACS** user management. Every user can be assigned individual rights for each house or house area. Changes a user makes to an area to which they have access are logged in **AMACS**. These logged changes can be tracked in the logging of the user setup.

Chapter 5.1 "User management" describes how the user management can be configured.

To log in, enter your user "code". If the "code" is correct, confirm you input by pressing the  key. The language changes to the language defined for this user and the cursor jumps into the field for password input.

After having entered and confirmed the password, you are logged in as user in the **AMACS** system. The areas released to you are now displayed.

NOTICE!

Improper operation of **AMACS** by unauthorised persons may endanger the life of your birds.

Only make passwords accessible to authorised persons!

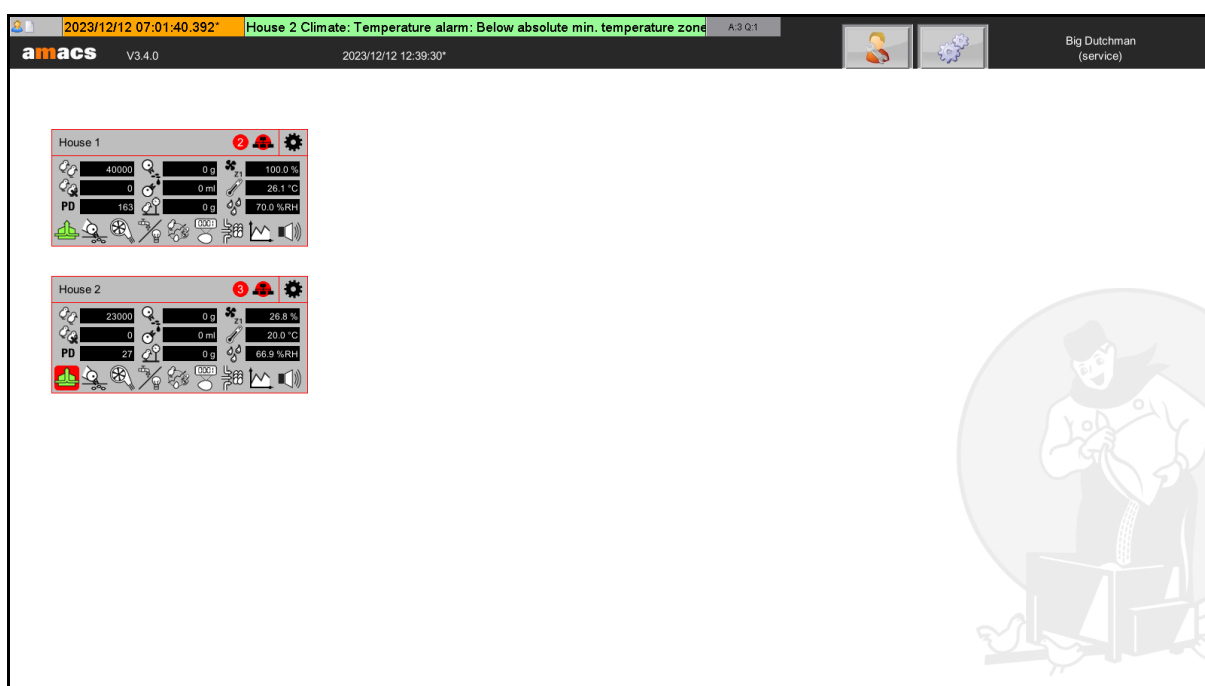


Figure 2-2: AMACS main screen

2.2 Changing the language

If the language of your system is not set as required, you can change the language by pressing the function key **F11**, provided you are logged in.

A window appears at the top of the screen, indicating the currently selected language. Click into the upper black bar and hold the mouse key to move the window in case it covers important information.

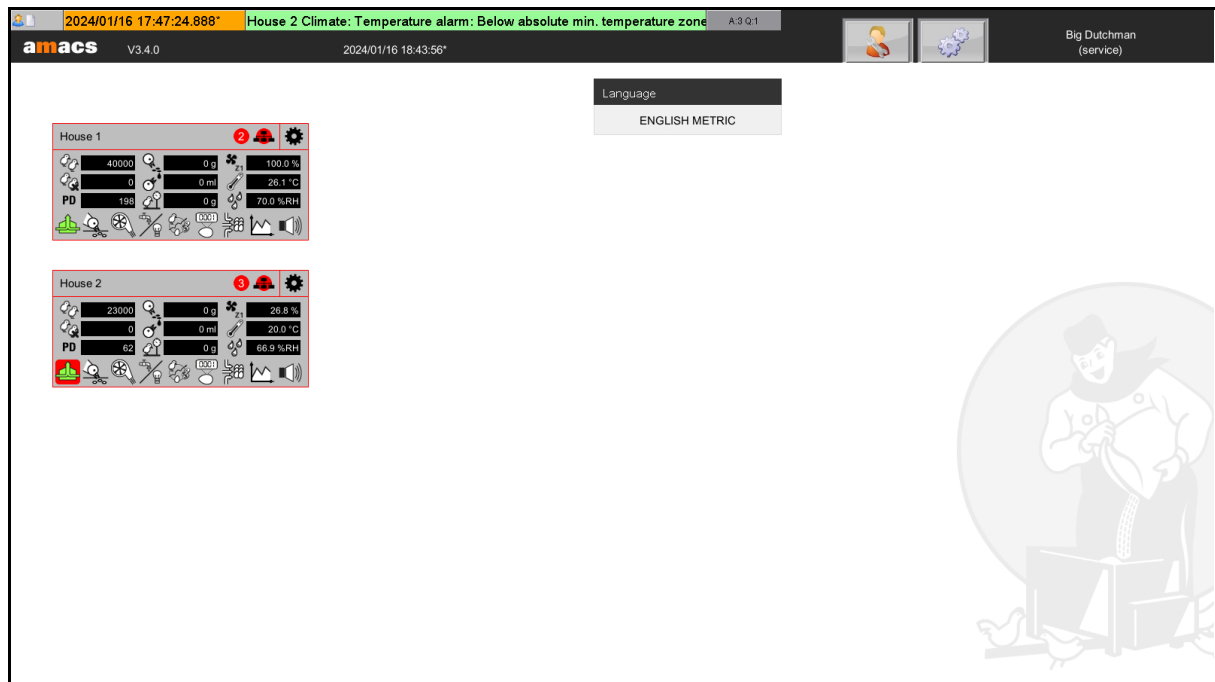


Figure 2-3: Changing the language

2.3 User rights insufficient

If the logged user does not have the rights to open a menu, an area or the settings of the area, a corresponding message of the user management appears when clicking on the inaccessible area (chapter 5.1 "User management").

This message indicates that the user has not been granted the necessary rights. It also explains which rights need to be granted to the user for access to this area.

In this example, the missing right is **SYSTEM – USER MANAGEMENT**.

This right is explained in more detail in the user management section, chapter 5.1.6.1 "Rights - Assigning". It can be assigned by the "admin".

If you click on the **Logout** button in the message, the login screen appears. You may now switch users.

If you click on the **X** in the top right corner, the message closes.

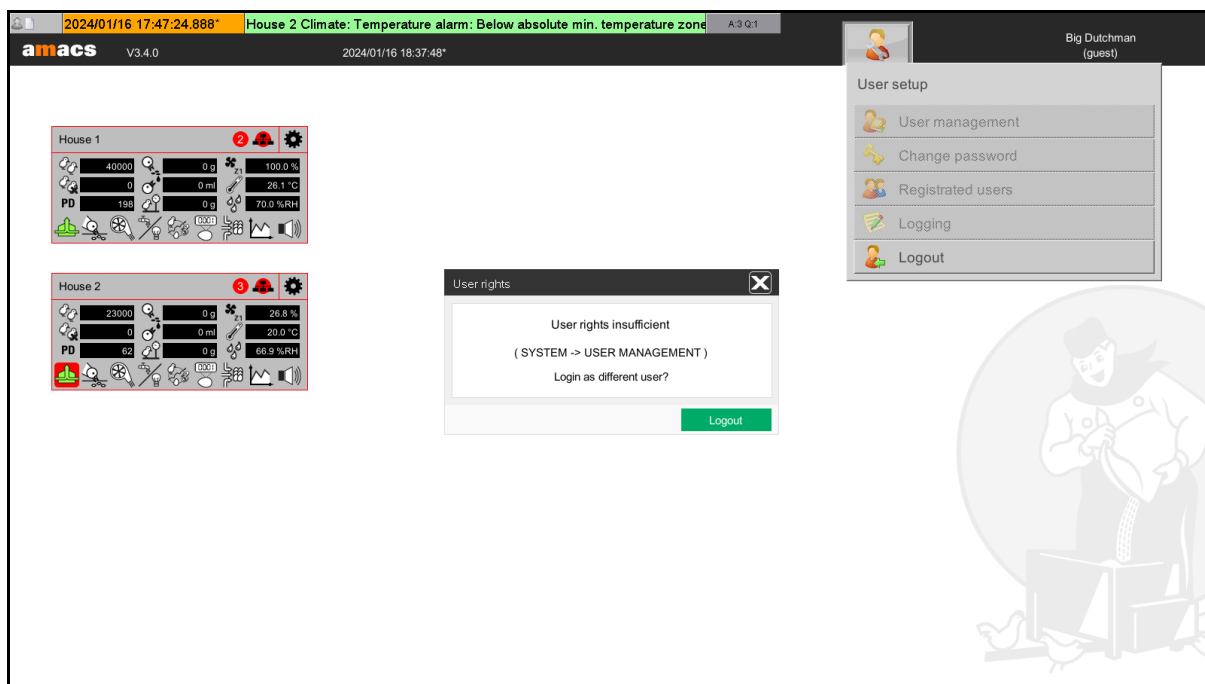


Figure 2-4: User rights insufficient

2.4 Wrong password

If a wrong password has been entered, the message "**Wrong password**" is displayed at the first attempt. Before entering the password once again, you have to wait 5 seconds for the second attempt, 10 seconds for the third attempt etc. After every wrong entry, you will have to wait 20 seconds maximally.

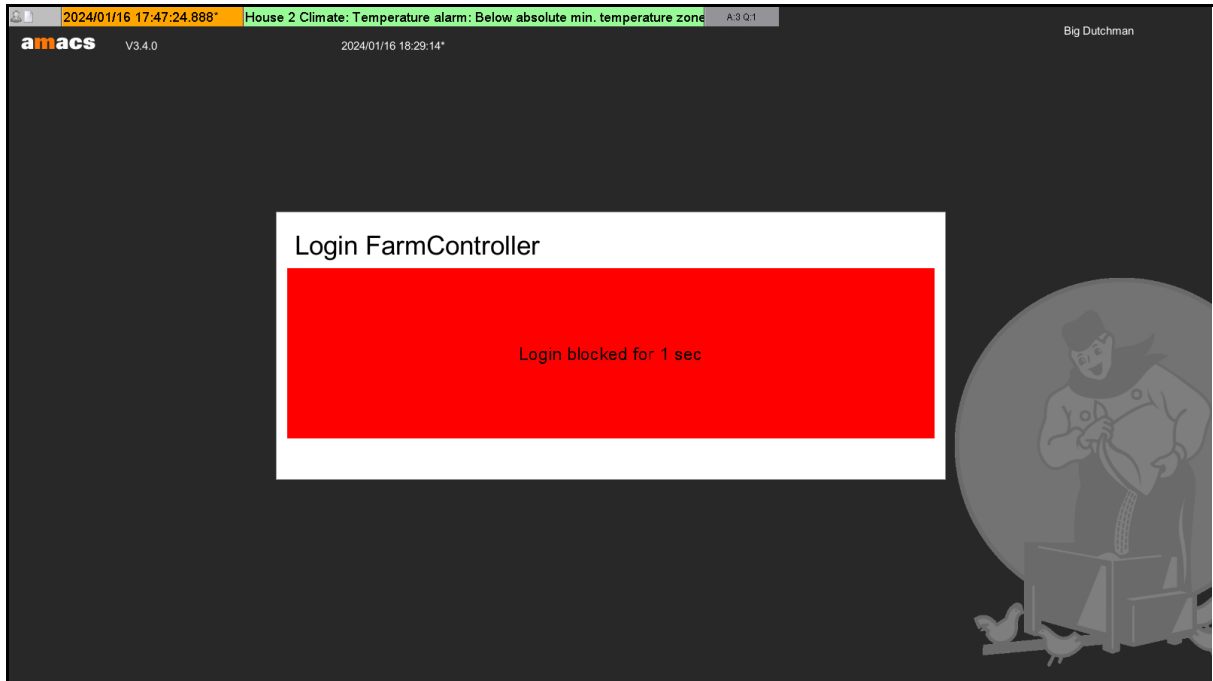


Figure 2-5: Wrong password entered

2.5 Opening the program

If the window with the **AMACS** program surface is no longer open (the desktop background is visible and no window is stored in the task bar (figure 2-6)), you can start the **Farmmanager** via the left push-button "**Program**".

Make sure that the program is not started twice.



Figure 2-6: Task bar

NOTICE!

To fade in the task bar, move the cursor to the lower part of the screen.

2.6 Terminal in use

It is possible to start the program twice via the task bar.

Message: "Terminal in use!"

If the first started program is to be closed, click on the **"Reload"** button or confirm by using the  key.

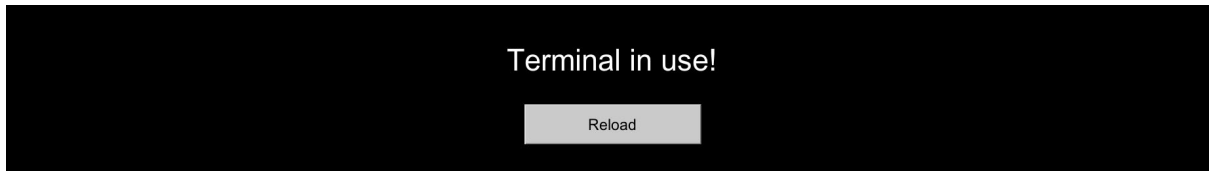


Figure 2-7: Terminal in use

2.7 Terminal data not applied

In certain circumstances it may happen that the terminal data are not applied after a restart of the FarmController.

Message: "Terminal data not applied! Attach and restart!"

To return to the login screen, click on the button **"Generate"** or confirm by pressing the  key.

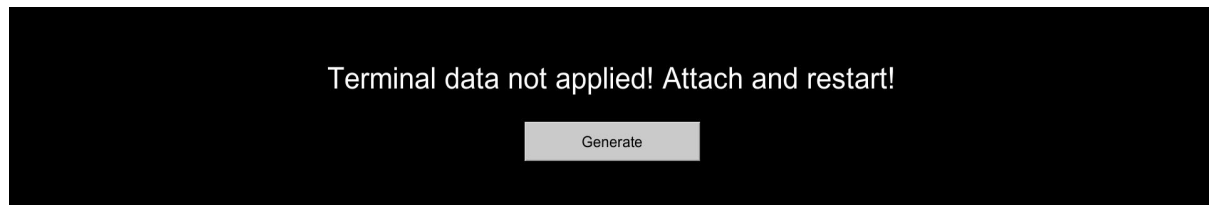


Figure 2-8: Terminal data not applied

3 Menu bar

The top menu bar of the main screen shows information of which some is also visible in the login screen.

- The alarm line is part of the top menu bar. For information on how to use the alarm line, refer to chapter 10 "Alarm line".
- The currently installed software version is indicated on the left below the alarm line. Clicking on the version number opens the service tool and shows all installed updates of the current version. More information about the service tool is available in the corresponding manual.
- Next to the software version, the current date and time are shown, including the information of whether this time is winter time (*) or summer time (~). The time can be changed as described in chapter 6.1.2 "Time".
- The right side of the menu bar displays the menus for user setup and system control. The contents and functions of these menus are described in the respective chapters.
- On the far right, the name of the farm is displayed, here **"Big Dutchman"**. The farm name can be changed as described in chapter 6.1.1 "System".
- Below the farm name, the code of the currently logged user is shown in brackets, here **"service"**.

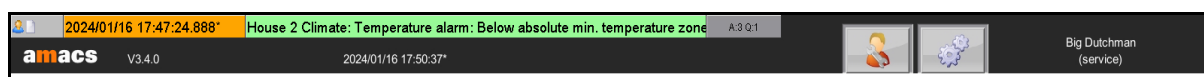


Figure 3-1: Menu bar

4 House view

Below the menu bar, an overview of the houses is displayed. This overview contains information regarding the individual house, the specific areas and the status of the areas.

The house view can be adjusted individually and changed for personal requirements as needed. The design can be changed via the settings of the house depiction. Click on the gear icon in the top right corner of the individual window (see chapter 4.4.2 "Setting house view").

For adjusting the house depiction, the additional right **"OVERVIEW"** can be assigned for every house.

Each house can be placed anywhere on the desktop:

1. Left-click on the house into the area with the house name.
2. Hold the mouse button and drag the house to the correct position on the screen.
3. Release the left mouse button.

For moving the house depiction, the additional system right **"OVERVIEW"** can be assigned.

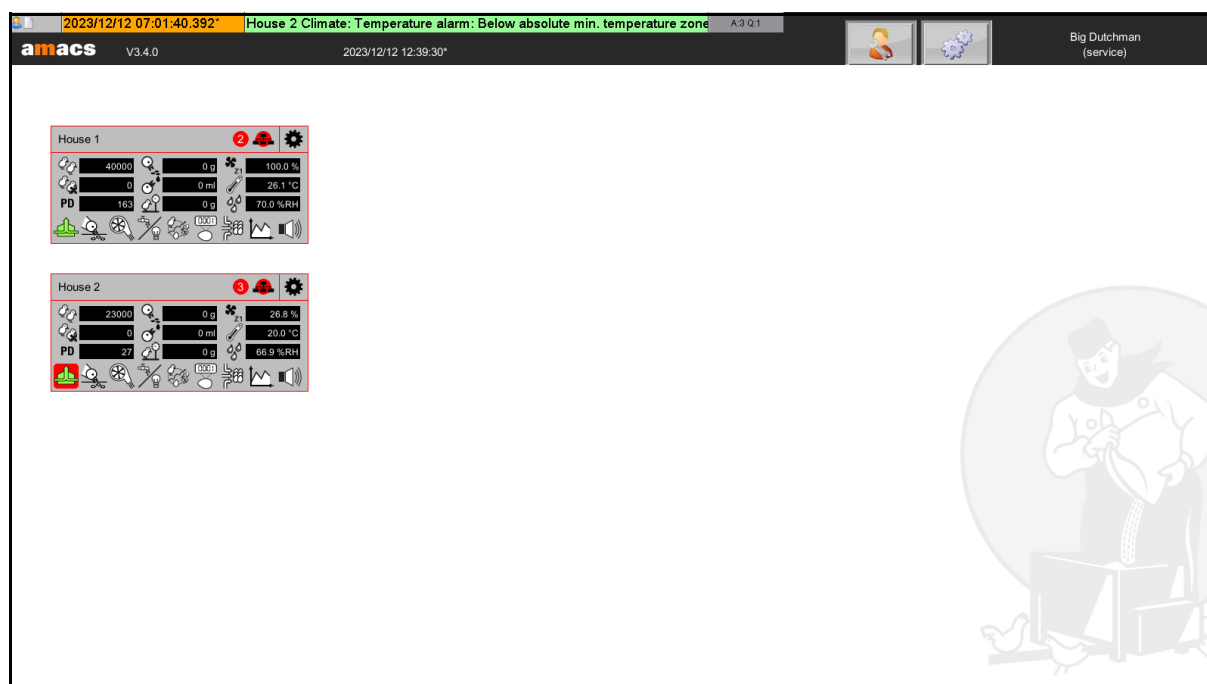


Figure 4-1: House overview

- **Target status**

A circle with a chequered pattern indicates that the broiler house is currently in moving-out mode. The settings for the moving-out function can be found in the Production Broiler / Breeder manual.

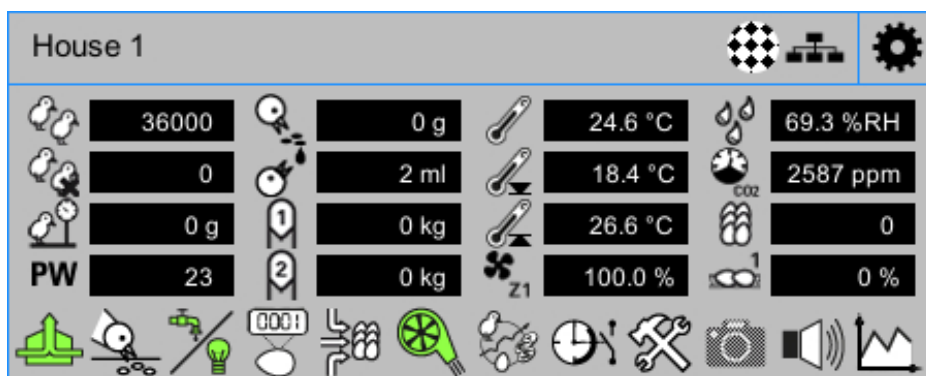


Figure 4-5: Moving-out function

- **White status**

A white circle means that no production is currently active. Check the Production manual for information on how a production cycle is completed / started.

NOTICE!

All controlled mechanisms, including ventilation, are stopped when production has been completed.

Remember to switch the house to **pause mode**, if necessary, so the values entered for **House in pause** remain active.

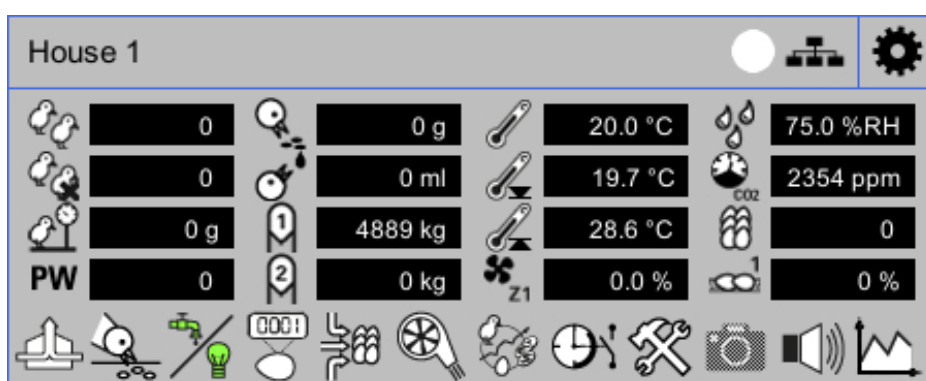


Figure 4-6: Production completed

- **Yellow status**

A yellow circle indicates that the pause mode has been activated. With this function, ventilation or heating remain active at a value set beforehand in the climate module, "Ventilation at house in pause" or "Heating at house in pause". The Production manual explains in further detail how to activate the pause mode.

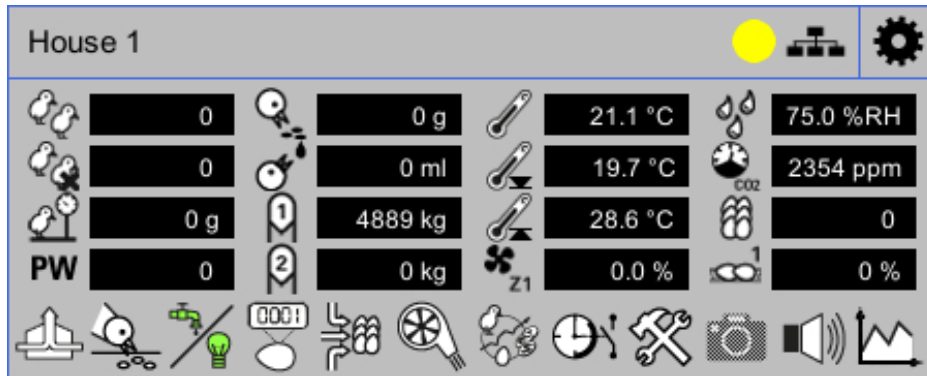


Figure 4-7: House in pause

WARNING!

Risk of asphyxiation for humans and birds

If production is stopped and there are still birds in the house, large concentrations of harmful gases may accumulate.

- Ensure adequate fresh air supply to prevent the accumulation of harmful gases.
- Do **not** enter the house or use an adequate breathing apparatus in case harmful gases have accumulated.

4.3 Status control



To the right of the house status, the icon for the status of the control unit is displayed. In case the control unit has registered an alarm, the icon has a red background.

If there is no active alarm, but the icon is still displayed for the house, a registered alarm has not yet been acknowledged in the alarm line.

Chapter 10 "Alarm line" describes how to acknowledge an alarm in the alarm line. Clicking on the icon opens the **Status control units** menu.

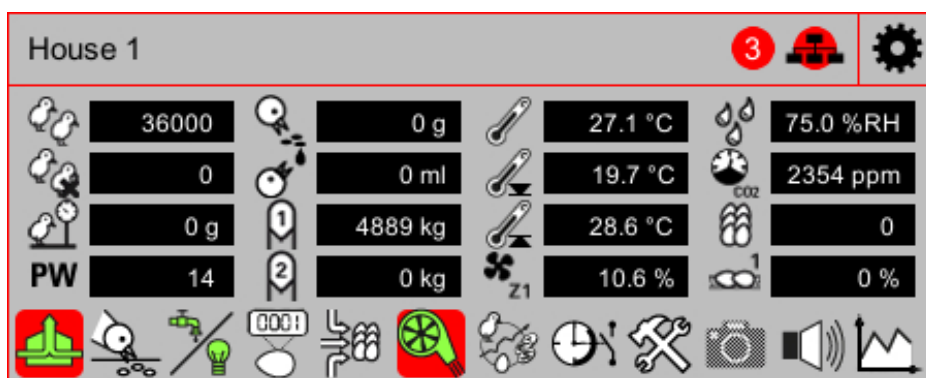


Figure 4-8: Status control units



NOTICE!

A fault in the connection may affect the functionality of the control unit.

4.3.1 Messages of the control unit

The control unit's status menu shows different information regarding the control unit, the CAN (controller area network), the UPS (uninterruptible power supply) and the individual CAN modules as well as the performance of the control unit itself.

Use the tabs **Control** and **Performance** to switch between menus.

Next to the tabs, the current time and date of the control unit are displayed.



NOTICE!

The components shown here are necessary to control and monitor the house. It is therefore **very important** that **alarms** listed in this menu are eliminated as quickly as possible.



ID	Status	Module	Address	Soft reset	Hard reset
10	Status: OK	DIO1	0724	Soft reset	Hard reset
20	Status: OK	AIO	0824	Soft reset	Hard reset
40	Status: OK	WA2	0924	Soft reset	Hard reset

Figure 4-9: Overview status control unit

4.3.1.1 Control unit

The first field in the menu shows the status of the control unit in the house. If the control unit is switched off or there is no connection to the control unit, an error message appears here and in the alarm line.

- **Control unit: OK**

If the field is green and the text **Control unit: OK** appears, the control unit in the house is accessible and communicates with the FarmController.



Figure 4-10: Control unit OK

- **Reboot control unit**

If the green field has a red border and the text **Reboot control unit** is displayed, this means that the control unit in the house must be restarted due to a time change, or due to a too large time difference between FarmController and control unit.



Figure 4-11: Rebooting the control unit

The following error message is displayed after a time change:

- **PlcXX HouseXX: Restart of control unit required**

The following error message is displayed in case of a too large time difference:

- **PlcXX HouseXX: Restart of control unit required (positive time lag)**

Check chapter 6.1.2 "Time" for more information on how to change the time.

- **Flash backup failed**

In case of a flash backup, the system checks internally whether the backup is okay or must be discarded.

If a backup is discarded, the old backup for the day of the week or slot is re-created at the same time. However, the user is not informed whether a backup was discarded in case of the automatic backup, differing from the manual backup. Error messages indicating the current status are displayed until the next FarmController backup or restart.



Figure 4-12: Flash backup failed

An error message and the display in the **Status control units** menu indicate the failure.

Error backup control:

1. **Flash backup failed, data incorrect!**

The checksum of the data saved on the FarmController does not match the checksum of the base computer's data.

2. **Flash backup failed, file system defective!**

The file system check during starting of the base computer failed.

3. **Flash backup failed, data outdated!**

The comparison between the current date and the date of the programmable logic controller (PLC) failed.

4. **Flash backup failed!**

No backup was transmitted.

5. **Flash backup failed, cannot reach server!**

It was not possible to create the backup on the base computer.

- **No connection to control unit**

If the field is red and the message **Control unit: no connection** appears, the control unit in the house is switched off or communication is interrupted.

Control unit: no connection

Failure of CAN driver

Fault power supply

Figure 4-13: Control unit error

The following error message is displayed:

- **PlcXX HouseXX: No connection to control unit**

The fields **CAN: OK** and **UPS: OK** are also highlighted in red. The text changes to **Failure of CAN driver** for the CAN drive and to **Fault power supply** for the UPS. The CAN modules change their colour from green to red.



WARNING!

Risk of asphyxiation for humans and birds

If the connection to the control or the CAN is lost, it is possible that the house climate is no longer controlled. High concentrations of harmful gases may accumulate!

- ▶ Eliminate the error immediately and switch the control unit on again or re-establish the connection.
- ▶ Ensure adequate fresh air supply to prevent the accumulation of harmful gases.
- ▶ Do **not** enter the house or use an adequate breathing apparatus in case harmful gases have accumulated.



NOTICE!

If communication between FarmController and control unit in the house is interrupted, the control unit in the house will continue working, but it can no longer be operated via the FarmController.

Changes can only be made using the local visualisation directly in the house. Without a local visualisation, operation is not possible, which will cause data loss.

This error must therefore be treated with the same priority as a control unit failure.

4.3.1.2 CAN (Controller Area Network)

The second field in the menu shows the status of the CAN driver / the CAN card in the control unit. The CAN controls the communication between the control unit and the CAN modules. In the case of an error, an error message appears here and in the alarm line.

- **CAN: OK**

If the field is green and the text **CAN: OK** appears, the CAN driver is loaded and the CAN card ready.



Figure 4-14: CAN OK

- **Failure of CAN card**

If the field is red and the text **Failure of CAN card** appears, the CAN driver was not able to find the integrated CAN card. The connection to the CAN modules in the control cabinet is interrupted.



Figure 4-15: Failure of CAN card

The following error message is displayed:

- **PlcXX CAN X: Failure of CAN card**

The CAN modules are no longer displayed.

- **Failure of CAN driver**

If the field is red and the text **Failure of CAN driver** appears, the CAN driver could not be loaded. The connection to the CAN modules in the control cabinet is interrupted.



Figure 4-16: Failure of CAN driver

The following error message is displayed:

- **PlcXX CAN X: Failure of CAN driver**

The CAN modules change their colour from green to red.

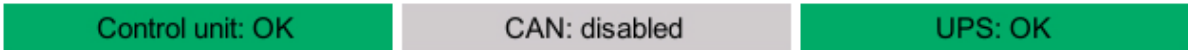
**WARNING!****Risk of asphyxiation for humans and birds**

If the connection to the control or the CAN is lost, it is possible that the house climate is no longer controlled. High concentrations of harmful gases may accumulate!

- ▶ Eliminate the error immediately and switch the control unit on again or re-establish the connection.
- ▶ Ensure adequate fresh air supply to prevent the accumulation of harmful gases.
- ▶ Do **not** enter the house or use an adequate breathing apparatus in case harmful gases have accumulated.

- **CAN: disabled**

If the field is grey and the text **CAN: disabled** appears, no CAN has been configured.

Control unit: OK

CAN: disabled

UPS: OK

Figure 4-17: CAN disabled



4.3.1.3 Bus information

The bus information on the right-hand side of the figure shows information and status messages regarding the CAN driver and CAN card.

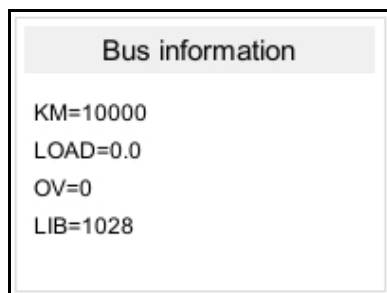


Figure 4-18: Bus information

- **KM**

If the CAN card was detected, the KM value indicates the version of the proprietary kernel module or the type of the external kernel module.

- **LOAD**

The LOAD value indicates the load of the proprietary kernel module.

- **OV**

The OV value indicates the number of overflowing CAN frames of the proprietary kernel module.

- **LIB**

The LIB value indicates the version of the library provided for the kernel module.

4.3.1.4 UPS

The third field in the menu shows the status of the UPS (uninterruptible power supply). If the power supply to the UPS has been interrupted or communication does not work, an error message appears here and in the alarm line.

- **UPS: OK**

If the field is green and the text **UPS: OK** appears, the UPS in the house is supplied by power and communicates with the control unit.



Figure 4-19: UPS OK

- **Fault power supply**

If the field is red and the text **Fault power supply** appears, various errors may have occurred. The error messages and their meanings are listed below.



Figure 4-20: Failure of UPS

The following error messages may be displayed:

- **PlcXX: UPS reports power failure**

Power supply to the UPS has been interrupted. The control unit will wait for the power to return for 5 seconds before it switches off.

If power returns after the control unit has switched off, the control unit will restart automatically.

- **PlcXX: UPS reports empty battery**

If the UPS reports that the battery is empty, the control unit is switched off immediately. The control unit restarts automatically when the battery has been charged again. If the battery is not charged but the control unit has power, the control unit restarts automatically after a waiting time of 60 seconds.

- **PlcXX: UPS reports power failure and battery empty**

If all contacts of the communication cable have been separated (connection separated), the UPS reports a **power failure** and an **empty battery**. The control unit is switched off immediately.

If communication is not re-established within 60 seconds, the control unit restarts automatically with the error message **No connection to UPS**.

- **PlcXX: No connection to UPS**

If the control unit restarts after 60 seconds without a signal from the UPS, the message **No connection to UPS** appears.

This error can only be eliminated by checking the communication cable of the UPS and restarting the control unit.

- **PlcXX: UPS reports error**

A general error is reported if the UPS has been configured incorrectly.

Check the UPS settings in this case.

- **UPS: disabled**

If the field is grey and the text **UPS: disabled** appears, no UPS has been configured.



Figure 4-21: UPS disabled

- **Internal error**

If the grey field has a red border, this means that the CAN module is supplied by power and communicates with the control unit, but has an internal error. The error is displayed on the right below the module information (see chapter 4.3.1.7 "Status: Bits").

- **No connection**

If the field is red, the CAN module failed and no longer works.

**WARNING!****Risk of asphyxiation for humans and birds**

If the connection to the control or the CAN is lost, it is possible that the house climate is no longer controlled. High concentrations of harmful gases may accumulate!

- ▶ Eliminate the error immediately and switch the control unit on again or re-establish the connection.
- ▶ Ensure adequate fresh air supply to prevent the accumulation of harmful gases.
- ▶ Do **not** enter the house or use an adequate breathing apparatus in case harmful gases have accumulated.

- **NAME**

The name of the modules indicates whether the module has digital or analogue inputs and outputs.

- **Software version (SW)**

This column indicates the module's firmware version.

To update the firmware version, see chapter 4.3.2 "Updating the firmware of the CAN modules", page 30.

- **Soft reset**

Clicking on this field causes a software reset of the selected module. The module's software restarts.

- **Hard reset**

Clicking on this field causes a hardware reset of the selected module. The module is no longer supplied by power.



4.3.1.6 Module information

Module information

ID=10
NAME=DIO1
HW=
SW=0724
GUARD=0
STATUS=0
GENERIC=0
FATAL=0

Status

0 1 2 3 4 5 6 7

Clicking on the selected CAN module in the module information field on the right of the screen shows the selected CAN module's settings, information and status messages.

The displayed information differs from module to module. Most are described in chapter 4.3.1.5 "CAN modules".

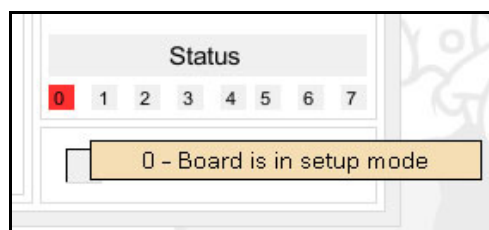
4.3.1.7 Status: Bits

The status line provides detailed information about the values displayed under STATUS (bits 0-7). If a number field is grey, no error bit has been set. If a field is red, the module has an error at this bit.

When hovering above the respective number field with the mouse pointer, the status line appears and shows information about the bit.

See table on page 27

Figure 4-23: Status line: Bits



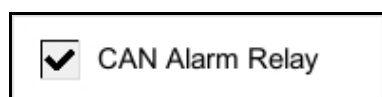
Description of the status messages: bits

Bit	Name	Description
0	AIO/WA2/DI1/DIO1	Board is in setup mode DIP switch 1 (setup mode) on the CAN module board is set to on (normal = off / S = on).
1	AIO/WA2	Board is in calibration mode DIP switch 2 (calibration mode) on the CAN module board is set to on (normal = off / C = on).
	DI1 / DIO1	No status info available
2	AIO/WA2/DI1/DIO1	Fatal error The CAN module is not ready to operate.
3	AIO/WA2/DI1/DIO1	Reset or watchdog active The CAN module's software restarts.
4	AIO/WA2/DI1/DIO1	Low power detected There is an error in the 24 V power supply of the CAN module.
5	AIO1	No valid setup data Settings or calibrations of the CAN module contain errors.
	WA2	Output overload The power supply of the analogue outputs is overloaded.
	DI1 / DIO	Counter checksum is invalid Error of the counter inputs on the CAN module.
6	AIO1	Analogue output overload or out of range The power supply of the analogue outputs is overloaded or not connected (4 – 20 mA).
	WA	Channel 1 out of range The signal of the first analogue input is outside of the measuring range. The sensor is defective or not connected.
	DI1 / DIO1	No status info available

Bit	Name	Description
7	AIO1	Analogue input overload or out of range The value of the analogue input is outside of the measuring range or the reference voltage is overloaded.
	WA	Channel 2 out of range The signal of the second analogue input is outside of the measuring range. The sensor is defective or not connected.
	DI1 / DIO1	No status info available

Table 4-1: Status: Bits

4.3.1.8 CAN alarm relay



In addition to the alarm message displayed in case a CAN module fails or the connection is interrupted, the alarm is switched to the alarm relay.

Alarming can be activated or deactivated in the "Status control units" overview menu using the option "CAN Alarm Relays".

If there is an active alarm, the corresponding node in the list is red. This field is also highlighted in red when the CAN alarm relay is activated.

The pending alarm can be released either in this menu using the button for release of the alarm relay or in the functional areas per house, i.e. the alarm relay can then be activated for subsequent alarms.

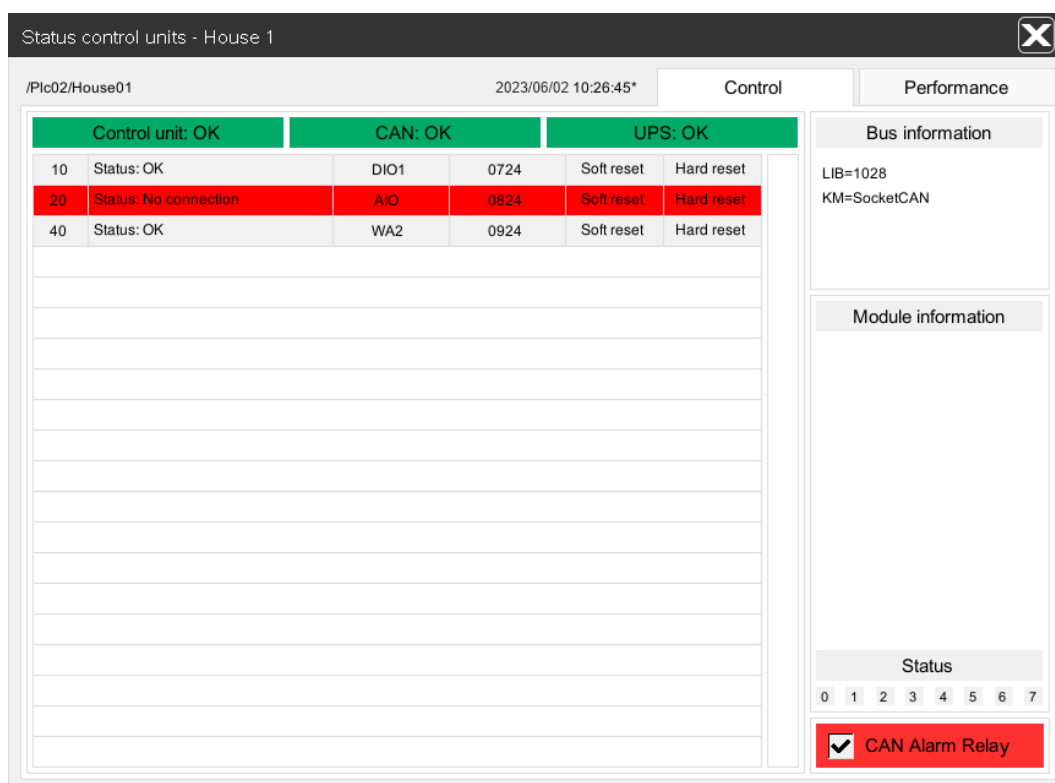


Figure 4-24: CAN alarm relay

WARNING!

Risk of asphyxiation for humans and birds

If the connection to the control or the CAN is lost, it is possible that the house climate is no longer controlled. High concentrations of harmful gases may accumulate!

- ▶ Eliminate the error immediately and switch the control unit on again or re-establish the connection.
- ▶ Ensure adequate fresh air supply to prevent the accumulation of harmful gases.
- ▶ Do **not** enter the house or use an adequate breathing apparatus in case harmful gases have accumulated.

4.3.2 Updating the firmware of the CAN modules

The tab **Control** in the **Status control units** window allows updating the firmware of the Nano IO and UniScale CAN modules using the CAN bus.

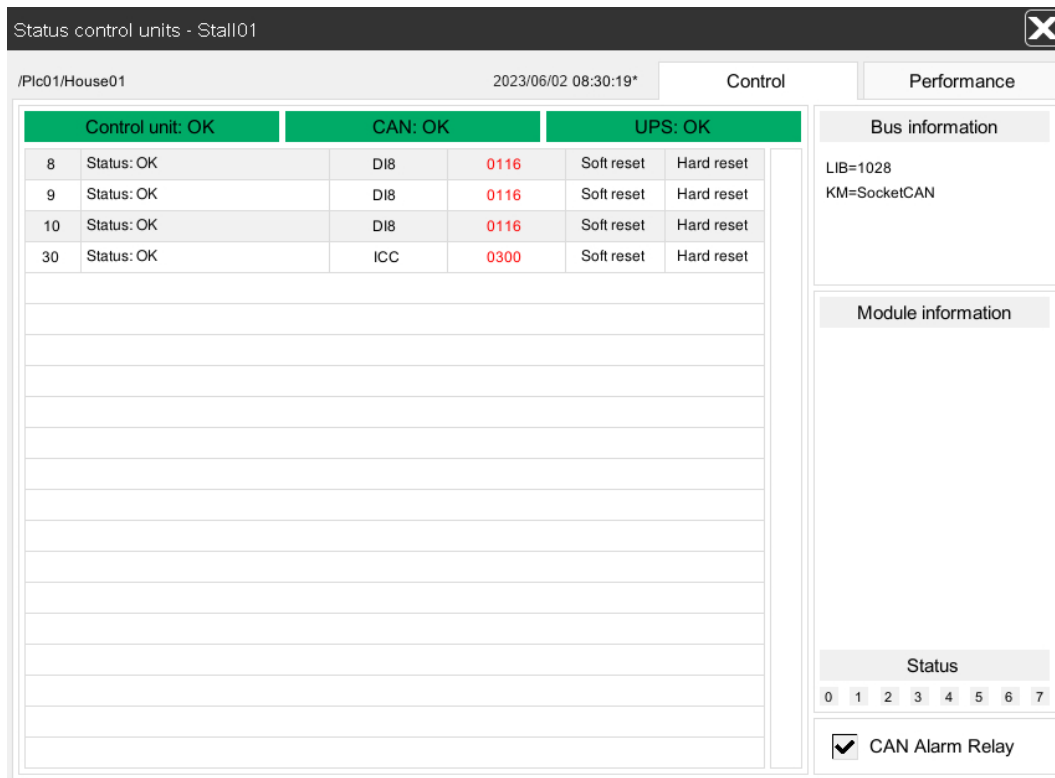
WARNING!

Damage to the CAN modules is possible if power is disconnected or if the control unit is switched off during the update. Never switch off the CAN modules or disconnect them from power supply or the CAN bus during the update.

4.3.2.1 Firmware version

The **Control** tab shows the firmware version of every CAN module.

The firmware versions of the Nano IO and UniScale modules are checked automatically. If the CAN module has an old firmware version, this is marked **red**.



Status control units - Stall01					
Control unit: OK		CAN: OK		UPS: OK	
8	Status: OK	DI8	0116	Soft reset	Hard reset
9	Status: OK	DI8	0116	Soft reset	Hard reset
10	Status: OK	DI8	0116	Soft reset	Hard reset
30	Status: OK	ICC	0300	Soft reset	Hard reset

Bus information
LIB=1028
KM=SocketCAN

Module information

Status
0 1 2 3 4 5 6 7

☒ CAN Alarm Relay

Figure 4-25: CAN modules: old firmware version

4.3.2.2 Status of the modules and the internal CAN

To access the **Firmware update** menu, click on the correct **firmware version** in the CAN module list.

NOTICE!

The **Firmware update** menu can only be operated and configured by the "service" user.

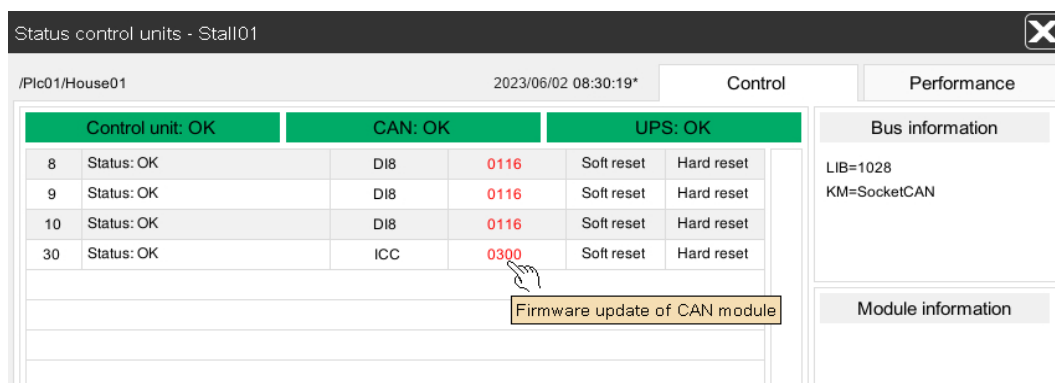


Figure 4-26: CAN modules: firmware update (1)

The **firmware update** menu shows the firmware version (**SW**) of the CAN modules. If there is a new firmware version available, this is indicated in **red**. The new firmware version is stated in brackets.

Since the firmware version must be compatible with the hardware version (**HW**), the hardware version is also considered.

If in the background of the CAN module there is an **internal CAN** with its own CAN modules (e.g. for ICC and W300) which are not listed under **Status control units**, these modules are indicated under "Internal CAN". When opening the menu, the internal CAN checks the modules and then displays them.

If the firmware is up-to-date, the version is also shown in **black**. If there is a newer firmware version, the number is indicated in **red**.

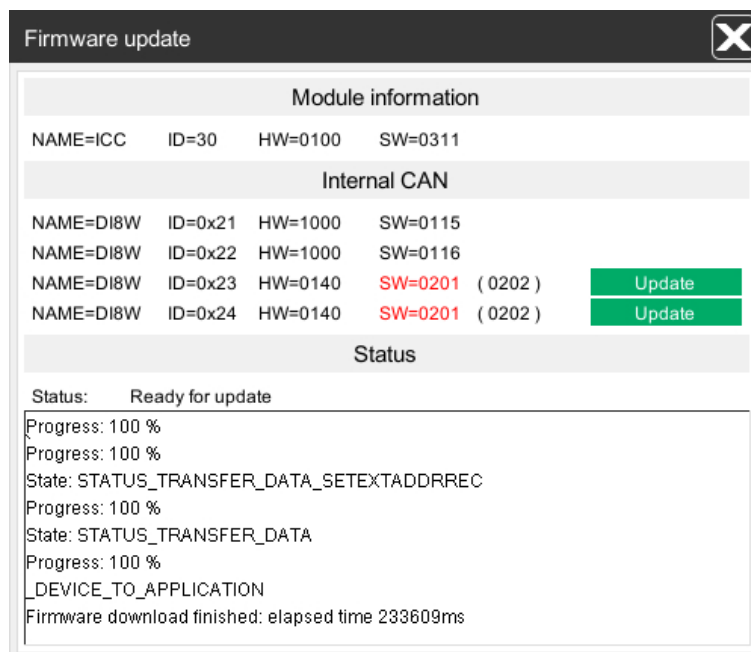


Figure 4-27: CAN modules: firmware update (2)

4.3.2.3 Updating modules and the local bus

Pressing the **Update** button updates the CAN module automatically. During the update, the status window provides additional information about the update and the current progress.

The following messages may appear:	The bar may show one of the following messages:
• Firmware up-to-date The CAN module has the current firmware version. • Update not possible An error occurred (e.g. no connection to the base unit). • Ready for update A CAN module with old firmware that is ready for updating was detected. • Starting update An update was started. • Updating An update is active.	• Update not possible An error occurred (e.g. no connection to the base unit). • Update not permitted. A different CAN module is updated. A different CAN module is currently being updated. • Update not permitted. Firmware on CAN module too old. The firmware update for the CAN modules DI8, DI8W, DO8, RK8, AI8 and AO8 is not possible before version 0115.

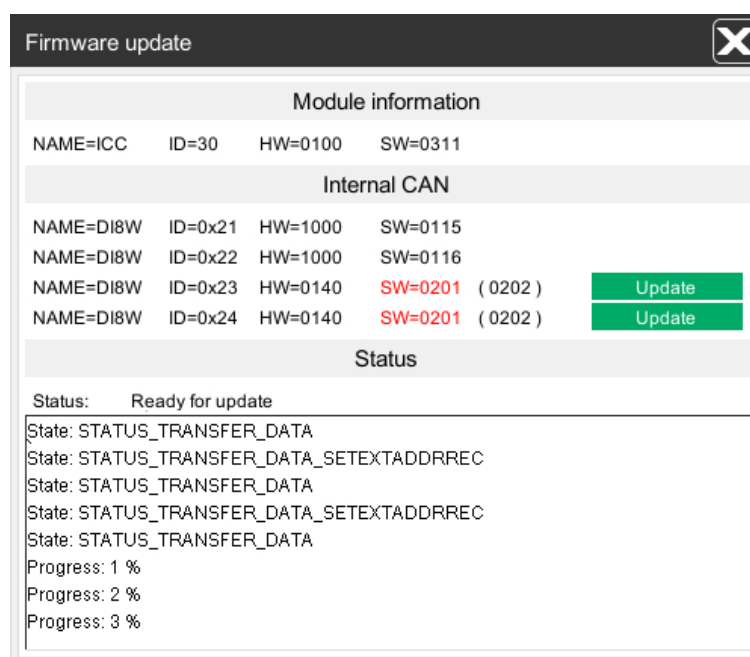


Figure 4-28: CAN modules: firmware update (3)

4.3.2.4 Uploading new firmware

New firmware files can be uploaded to the FarmController via web browser. When the **Status control units** window opens, the firmware files are synchronised with the corresponding base unit.



Figure 4-29: CAN modules: uploading new firmware



WARNING!

It is absolutely necessary that all released firmware files are uploaded to the FarmController according to this process!

The name of the files must not be changed.

The name of the firmware file is separated by underscores and means the following:

a
b
c
d
e
f
YYYYMMDD_Vxxx_Bxx_HWxxx_DEVNAME_IOKARTE.hex

- a) Release date: 4 figures for the year, 2 figures for the month, 2 figures for the day
- b) Release version: "V" followed by 2 characters major release and 2 characters minor release
- c) Release build: "B" followed by 2 build figures
- d) Minimum hardware version: "HW" followed by 2 characters major release and 2 characters minor release
- e) DEVNAME consisting of max. 4 ASCII characters
- f) Card name: No character limit



4.3.3 Performance

The tab **Performance** allows viewing the control unit's system performance. This information is provided for system analysis only and cannot be changed.

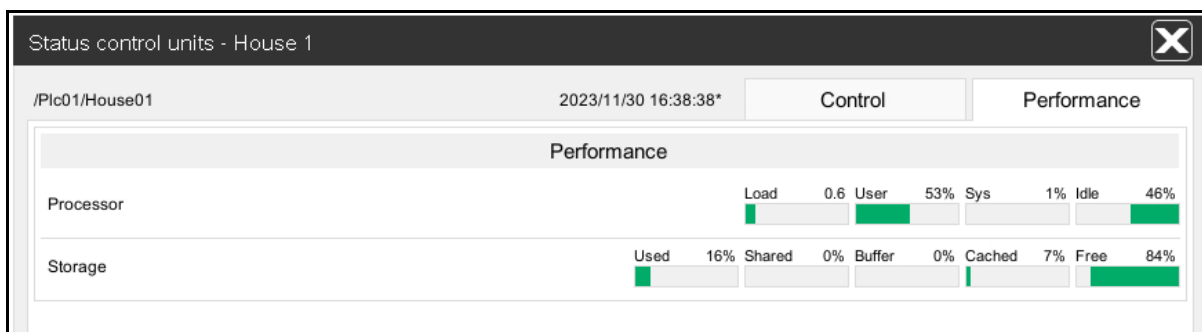


Figure 4-30: Information system performance

4.3.3.1 CPU

- **Idle**

The available processing power is indicated in percent. It describes how much processing power of the CPU is still available. The bar graph shows the available processing power in green. If less than 15 % of the processing power are available, a red exclamation mark appears.

- **User**

The used processing power (User) is indicated in percent. It describes to what extent the user applications utilise the CPU. The bar graph shows the used processing power (User) in red.

- **Sys**

The used processing power (Sys) is indicated in percent. It describes to what extent the system processes utilise the CPU. The bar graph shows the used processing power (Sys) in orange.

- **Load**

The process load is indicated as a factor. It describes to what extent processes on the control unit utilise the CPU. If the process load is greater than 1.5, a red exclamation mark appears.

4.3.3.2 Storage

- **Existing**

The available working memory integrated in the control is indicated in KB.

- **Free**

The free working memory is indicated in KB. It describes how much working memory is still free. The bar graph shows the free working memory in green. If less than 10 % working memory is available, a red exclamation mark will be indicated.

- **Used**

The used working memory is indicated in KB. It describes how much working memory is currently used. The bar graph shows the used working memory in red. If less than 10% working memory is available, a red exclamation mark will be indicated.

- **Shared**

The shared working memory is indicated in KB. It describes how much working memory is shared by several processes. The bar graph shows the shared working memory in red/orange.

- **Buffer**

The memory buffer register is indicated in KB. It describes how much working memory is used for caching. The bar graph shows the memory buffer register in red/dark green.

- **Cached**

The cache memory is indicated in KB. It describes how much working memory is used for the contents already opened. The bar graph shows the cache memory in red/light green.

4.4 House depiction



Click on the settings icon in the top right corner of the house depiction to change the look of the overview.

This opens a settings menu. Its centre shows a preview of the house depiction.

The right **OVERVIEW** is required for every house to change the house depiction.

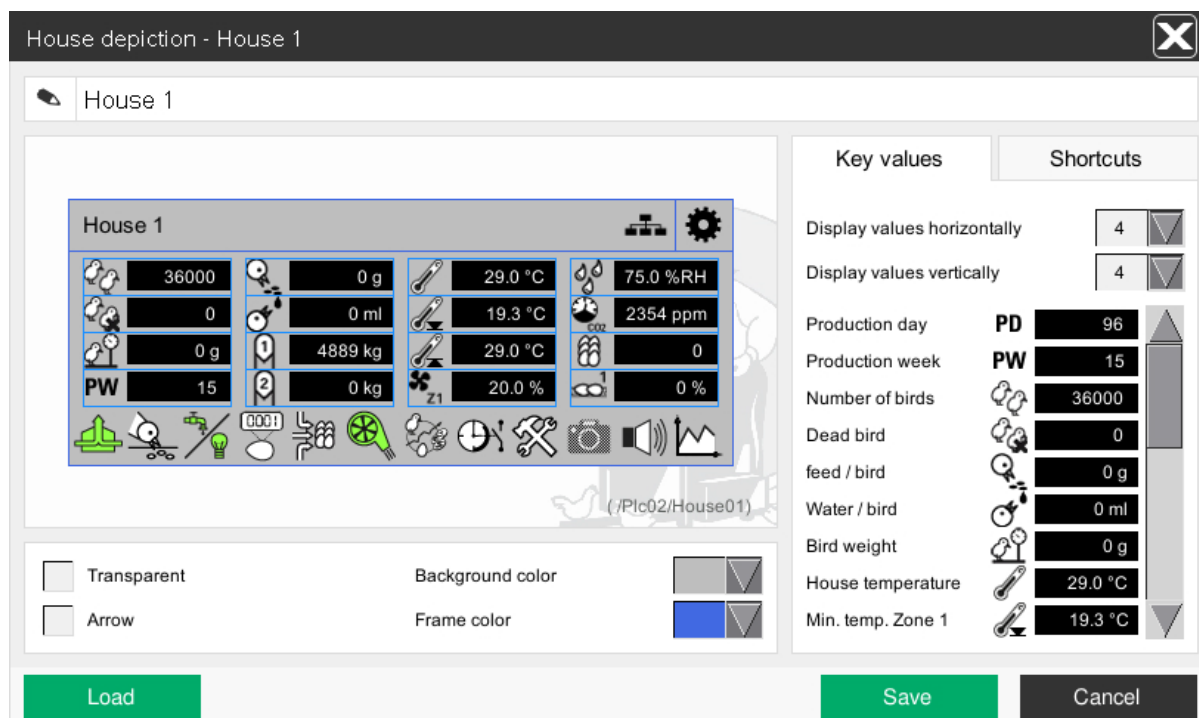


Figure 4-31: House depiction

4.4.1 Setting house name

The house name displayed in the overview can be changed as required. Click on the house name at the top of the screen (on the right next to the pencil icon). Change the name and confirm the change by pressing the **Enter** key.

The name is displayed in the preview window. Confirm by clicking on the **Save** button to transfer the new name to the house depiction.

The set house name will be displayed with alarms and messages. When the house name is changed, the description of active alarms in the alarm line does not change. The new name is displayed in the alarm line and in the alarm history for new alarms, however.

4.4.2 Setting house view

The colour design of the house can be changed using the settings transparent, background color and frame color. Additionally, a position arrow can be activated.

☐ Transparent	Background color	
☐ Arrow	Frame color	

- Check the box **Transparent** to make the background colour transparent. A loaded background image is used as a watermark in the background of the house.
- Use the selection menu to change the **Background color**.
- The **Frame color** can be changed like the background color and added for the preview window. If an alarm is active or has not yet been acknowledged, the frame of the house is red and can therefore not be selected here.
- Check the **Arrow** box to see a connecting arrow in the house depiction. This connecting arrow can be positioned freely on the background, e.g. on a house on the farm photo of the background image.

All settings can be transferred to the house overview by clicking on the **Save** button.

4.4.3 Setting key values

Important house data (e.g. number of birds, house temperature, etc.) can be displayed directly on the main screen using the tab **Key values**. If you have the correct rights, clicking on one of the icons below immediately leads you to the corresponding settings.

The key values can be positioned freely in the information area, where the positions have a light blue frame.

Follow these steps to position key values:

1. Left-click on the correct **key value** (e.g. house temperature).
2. Hold the mouse button and drag the **key value** to the correct area.
3. Release the left mouse button.

All changes can be transferred to the house overview by clicking on the **Save** button.

The number of key values horizontally (2 – 4) and key values vertically (0 – 4) can be set here using a drop-down menu.

The horizontal display fields also affect the number of **shortcuts** and allows between 2 rows, i.e. 6 shortcuts, and up to 4 rows, i.e. 12 shortcuts.

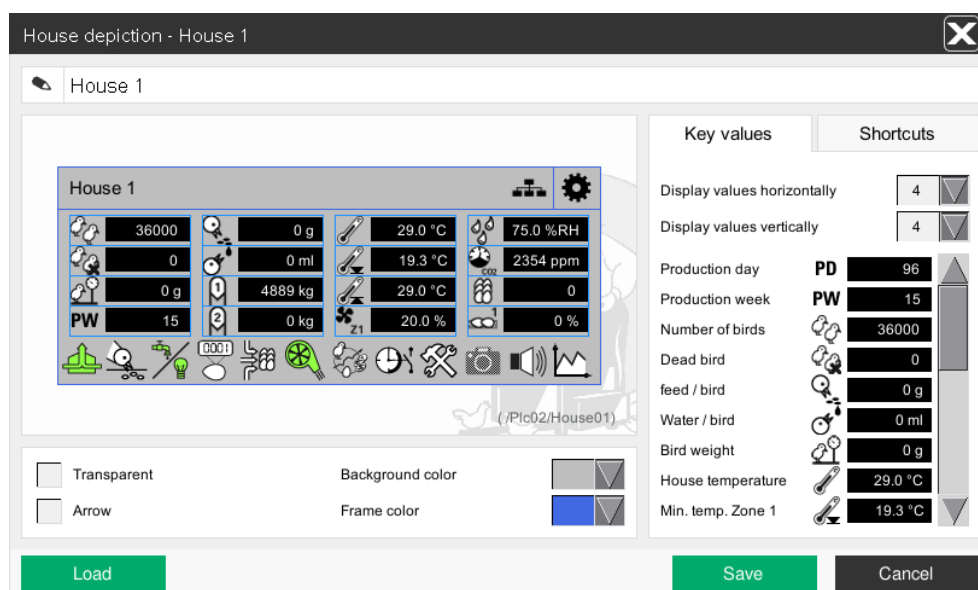


Figure 4-32: Key values

NOTICE!

Depending on the structure of the house, only specific key values are displayed.

4.4.4 Setting shortcuts

Under the tab **Shortcuts**, clicking on a shortcut guides you to the respective area (climate, feeding, etc.) if you have the correct rights.

The **shortcuts** can be positioned freely in the area selection, where the respective area is marked by a light blue frame.

Follow these steps to position shortcuts:

1. Left-click on the correct **shortcut** (e.g. climate).
2. Hold the mouse button and drag the **shortcut** to the correct area.
3. Release the left mouse button.

All changes can be transferred to the house overview by clicking on the **Save** button.

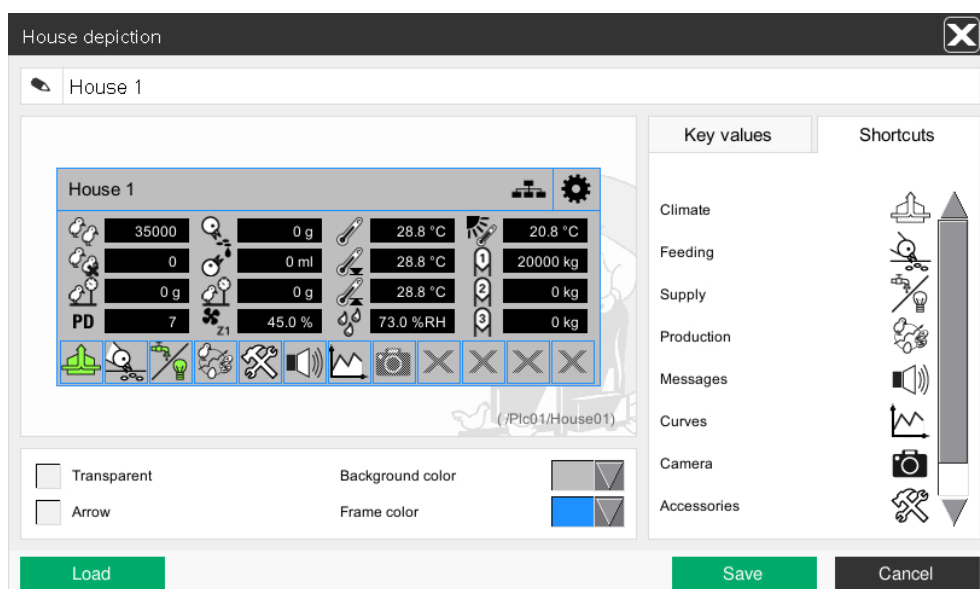


Figure 4-33: Shortcuts

NOTICE!

Depending on the structure of the house, only specific shortcuts are displayed.

4.4.5 Loading and saving a house depiction

Multiple houses can be depicted in the same way without having to change colours, key values and shortcuts individually.

The **Load** function can load house depictions saved in this menu in one of the five saving areas under "Save" and display them in the preview.

The loaded settings can be transferred to the house overview by clicking on the **Save** button.

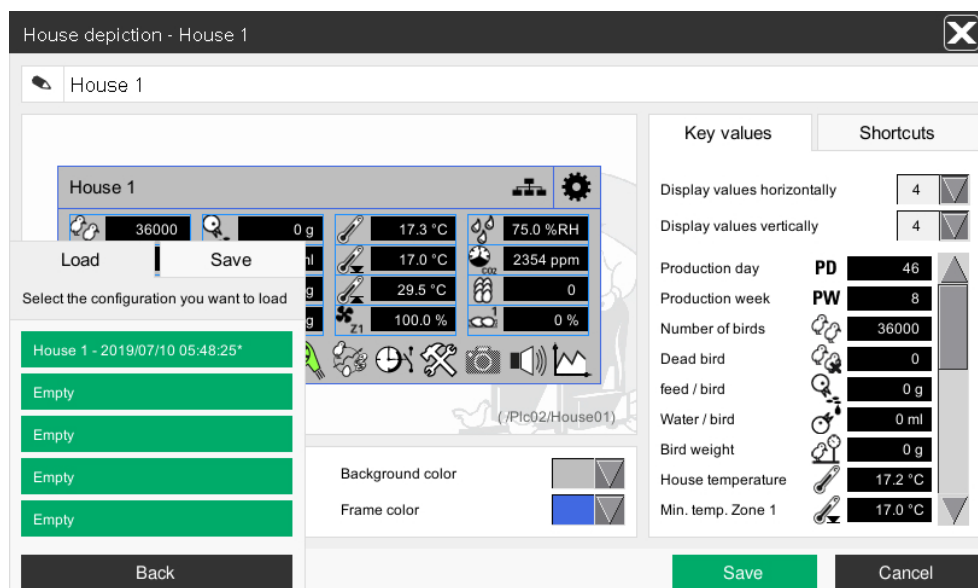


Figure 4-34: Loading a house depiction

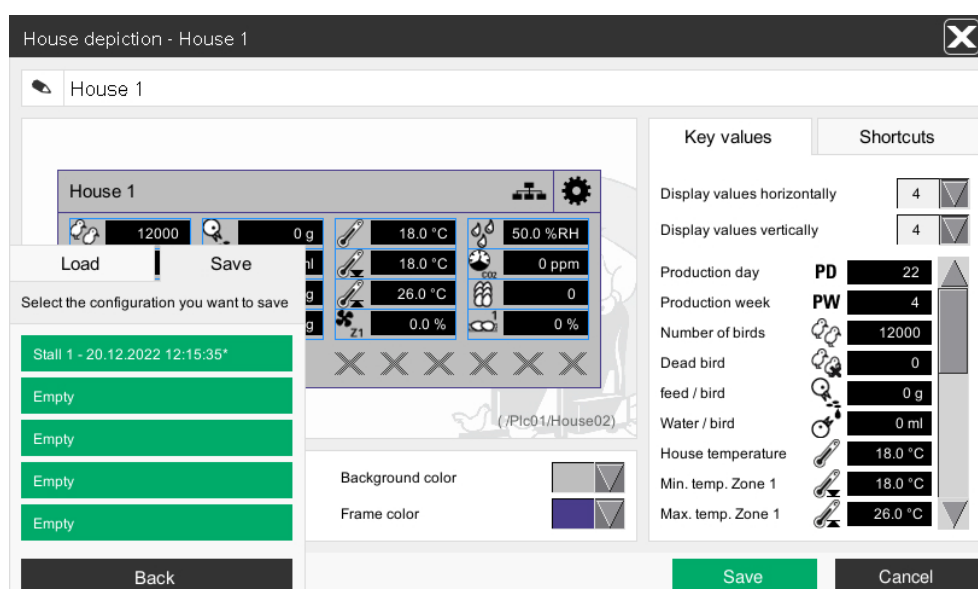


Figure 4-35: Saving a house depiction

4.5 Key values

The key values are displayed in the centre of the house depiction.

Important house data (e.g. number of birds, house temperature, etc.) can be displayed directly on the main screen using the key values.

If you have the correct rights, clicking on one of the icons below immediately leads you to the corresponding settings.

The key values can be selected and positioned freely in the settings menu of the house depiction (see chapter 4.4.3 "Setting key values").

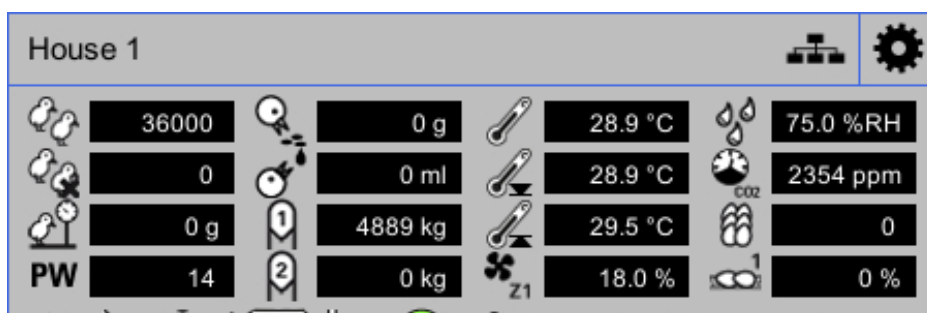


Figure 4-36: Key values

NOTICE!

Depending on the structure of the house, only specific key values are displayed.

4.6 Shortcuts

The shortcuts are displayed in the lower part of the house depiction. If you have the correct rights, clicking on a shortcut leads you to the corresponding area (climate, feeding, etc.).

Shortcuts can be positioned freely in the area selection, where the respective area is marked by a light blue frame (see chapter 4.4.4 "Setting shortcuts").



Figure 4-37: Shortcuts

The icon colours indicate the status of the individual areas.

Icon colour	Meaning
white	No active control in this area
green	Active control in this area
red	Active alarm in this area

Table 4-2: Colours of the shortcut icons



NOTICE!

Depending on the structure of the house, only specific shortcuts are displayed.



5 User setup

You can access the menu selection of the **user setup** via the first button in the upper line of the main screen. Here you can...

... open the user management

... change the password for the currently logged user

... show the list of the logged in users

... look up the logging

... log out the logged in user

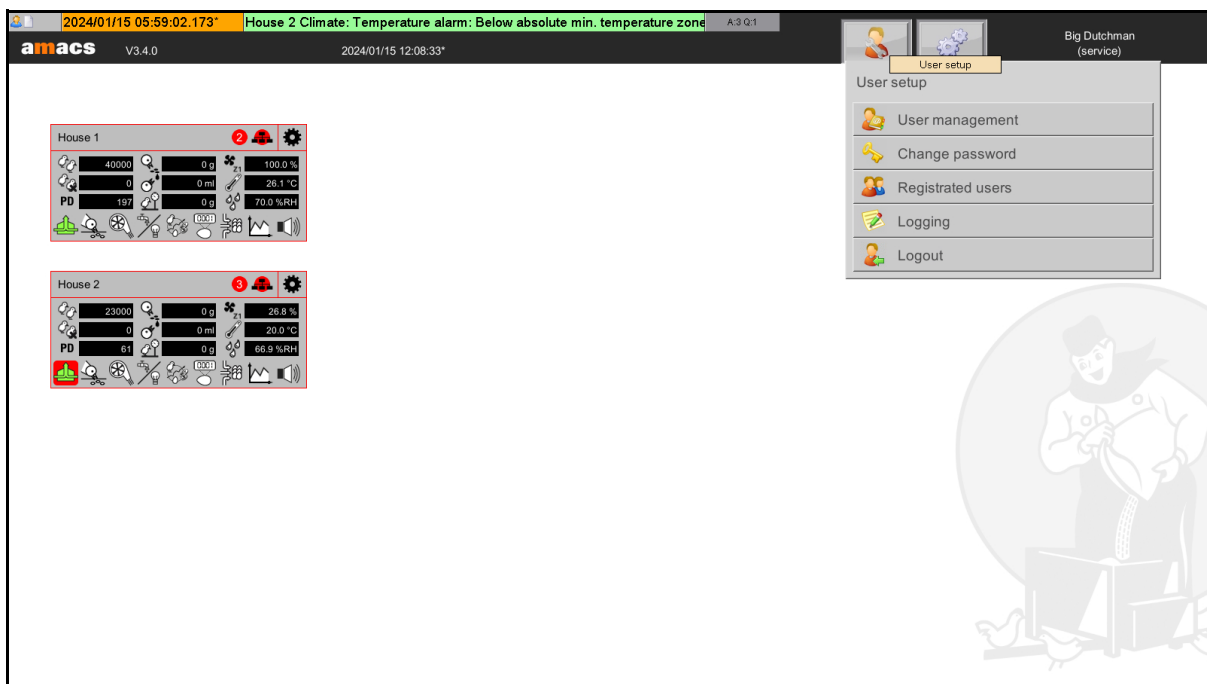


Figure 5-1: User setup

5.1 User management



Up to 50 **users** can be created and managed in the **AMACS** user management. Every user can be assigned rights for every house or house area.

Changes a user makes to an area to which they have access are documented and can thus be retraced at any time.

The standard license every customer receives allows creating these 50 users.

Two users ("**admin**" and "**guest**") are configured by default. There is an additional user called "**service**".

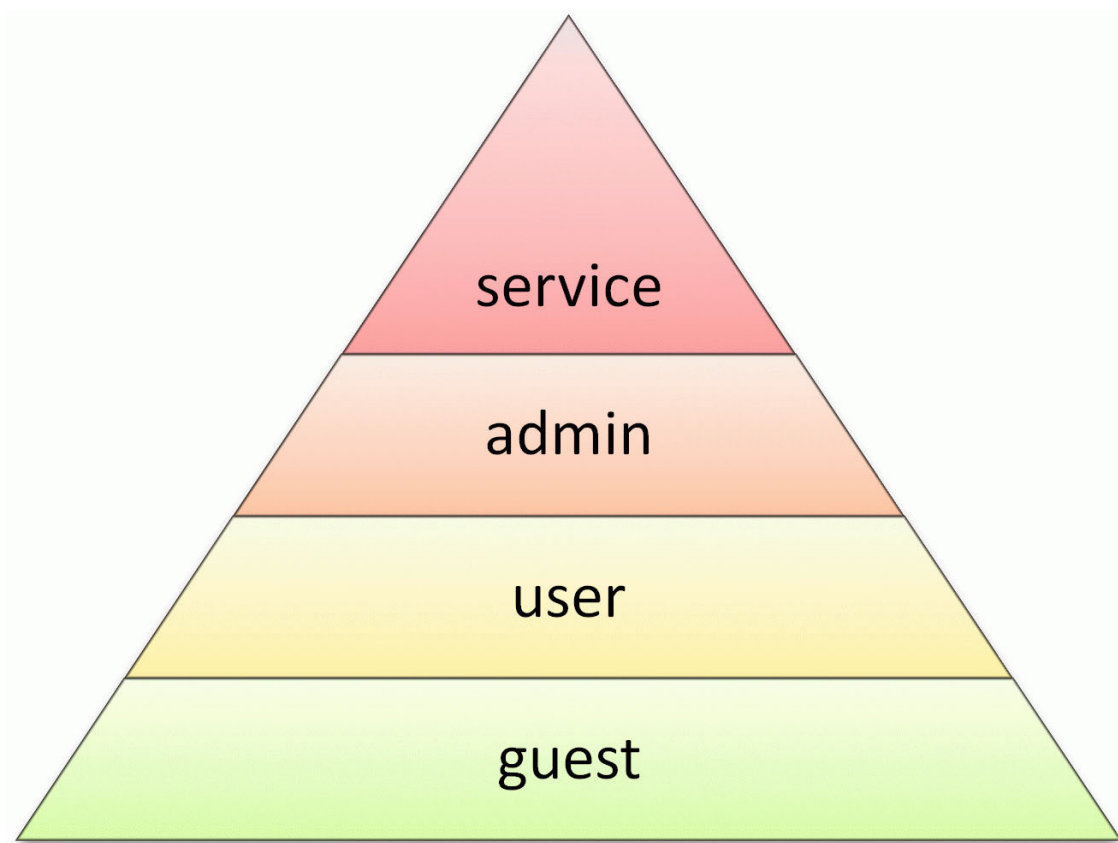


Figure 5-2: User and user levels

- **service**

The user "service" is the most privileged user in the system. They essentially have all rights required to create or modify an AMACS configuration.

- **admin**

This user can privilege other employees and manage the own system. By default, the admin user's purpose is to assign rights in the user management and to configure specific system settings, for example.

- **user**

You may configure 50 users as required by default with **AMACS**. As "admin", you may assign rights to these users according to their requirements. Users on this level may also be assigned rights that are usually reserved for the admin.

- **guest**

The "guest" user is the only user who can sign on without logging in. By default, this user can view all areas, but is not allowed to configure any settings. If this is not desired, the user account can be adjusted accordingly in the user management. It is possible to assign more extensive rights to the "guest" user, but this includes a potential safety risk. **Big Dutchman** strongly advise against this option.

The top right part of the user management screen shows how many additional users can still be created (**Released users:**) and how many have already been created and are not blocked (**Used:**), (see chapter 5.1.5.2 "Data - Release").

If you can only create two users, your license has not been loaded. Licenses can be loaded in the **Amacs licenses menu** (see chapter 6.1.3 "Licenses").

The screenshot shows the 'User management' window with the 'Data' tab selected. At the top, it says 'Released users: 50 Used: 0'. The 'Select user:' dropdown is set to 'amacs'. The form is divided into three sections: 'Access data' with fields for 'Password:' and 'Password (Repeat):'; 'Release' with a 'Block user:' checkbox and 'Employee as of:'/'Employee until:' date pickers; and 'System data' with 'Screen saver after:' (10 min) and 'Logout automatically after:' (20 min). The 'User data' section on the right includes 'Language:' (Deutsch), 'First name:' (Max), 'Last name:' (Musterman), 'Position:' (Farmleiter), and 'E-mail address:'. At the bottom are 'Delete', 'Save', and 'Cancel' buttons.

Figure 5-3: User management: personal data

The user management menu contains two areas.

One area shows the user's **data**, such as name, password, language, etc., and the other area indicates the **rights** assigned to the respective user.

Switch from one area to the other by clicking on the tabs **Data** or **Rights** in the top right corner of the screen.

5.1.1 Selecting a user

Select the user from the drop-down menu **Select user**. Clicking on the arrow opens a list of available users.

If you select a specific user, their data will be displayed.

This screenshot shows the 'Select user:' dropdown menu open, displaying a list of users: 'amacs', 'New user', 'admin (Administrator)', 'guest (Gast)', and 'service (Techniker Service)'. The 'Access data' and 'User data' sections are partially visible in the background.

Figure 5-4: Selecting a user

5.1.2 Creating a user

To create a new user, enter the new user's code into the field **Select user**.

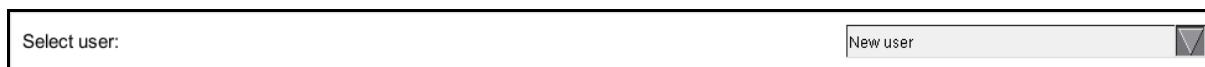

 A screenshot of a software interface showing a text input field labeled 'Select user:'. To the right of the field is a dropdown menu with 'New user' selected.

Figure 5-5: Creating a user

5.1.3 Copying a user

If a user shall be copied, you first have to select the user to be copied. Then you can enter the identification code of the new user in the field **Select user**. All settings will be taken over at the storage, **except for the password** (see chapter 5.1.7 "Saving the settings").

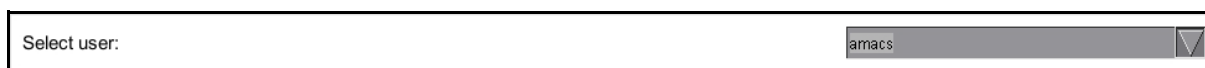

 A screenshot of a software interface showing a text input field labeled 'Select user:'. To the right of the field is a dropdown menu with 'amacs' selected.

Figure 5-6: Copying a user

5.1.4 Deleting a user

Delete If a user account is no longer required, it can be removed by clicking on the **Delete** button.

If you click on the **Delete** button again in the menu that opens, the selected user is deleted. If you click on the **Cancel** button, the process is interrupted and the menu closes without deleting the user.

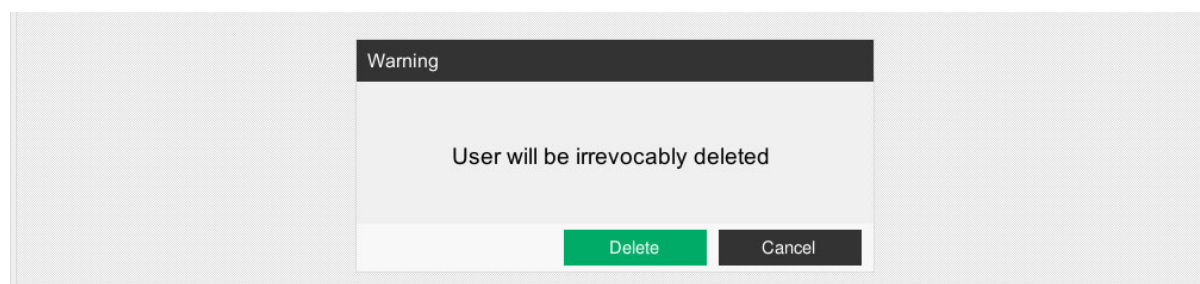


Figure 5-7: Deleting a user

NOTICE!

The settings cannot be restored after the deletion.

5.1.5 Data

5.1.5.1 Data - Access data

Under access data you can enter the password of the user. Each password can be changed here with the right **USERMANAGEMENT**.

To this end, you have to enter the new password in the field **Password** and **Password (Repeat)**.

Access data	
Password:	Keep password
Password (Repeat):	Keep password

Figure 5-8: Access data

If the user does not have the right **USERMANAGEMENT**, he may also change his password via the function **Change password** (chapter 5.2 "Changing the password").

NOTICE!

The entered password must consist of at least 5 characters.

NOTICE!

Please keep in mind that this entry is very sensitive. Lost or forgotten passwords cannot be reactivated without the right **USERMANAGEMENT**.

5.1.5.2 Data - Release

In the area **Release**, a user's account can be blocked or released. You can block a user by checking the box **Block user** or by entering a period for which the user may log into **AMACS** under **Employee as of / until**. Outside of the set period, the user will not be able to log in.

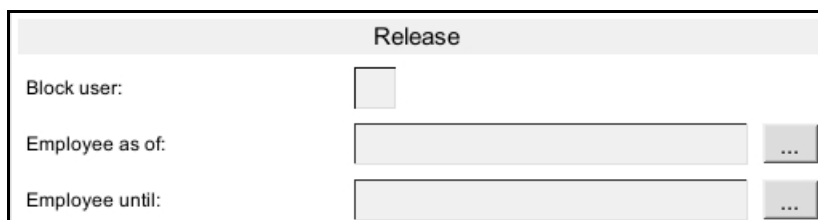


Figure 5-9: Release

NOTICE!

A blocked user cannot log on any more!

NOTICE!

You can also create several users as released in the user management. However, the new user has to be blocked for this.

- **Block user**

User accounts can be deactivated very quickly using the **Block user** function.

NOTICE!

The users **admin** and **service** cannot be blocked.

- **Employee**

If users only work on the system within a certain period, it is possible to activate or deactivate the account for a certain period via the calendar function.

1. Enter the date from which the account should be automatically active by clicking on the button next to the field **Employee as of**.
2. Clicking on the button next to the field **Employee until**, you can indicate the date from which the account should be deactivated automatically.

NOTICE!

The users **admin**, **guest** and **service** cannot be blocked based on employment time.

5.1.5.3 Data - System data

System data	
Screen saver after:	10 min
Logout automatically after:	20 min

Figure 5-10: System data

- **Screen saver after**

Here you can enter the time in minutes after which the screen shaver shall be activated - 999 minutes maximally. If you enter 0, a sign or a negative figure, the screen saver will be deactivated.

- **Logout automatically after**

A time can be entered in minutes after which the user is logged out automatically. You can enter a time of 999 minutes maximally. If you enter 0, a sign or a negative figure, this function will be deactivated.

5.1.5.4 Data - User data

User data	
Language:	English (metric) 
First name:	Max
Last name:	Mustermann
Position:	farm manager
E-mail address:	

Figure 5-11: User data

- **Language**

If the user was assigned a **language** in the user management menu, the system switches automatically to the **language** set for the user after entering their code in the login screen.

- **First name**

Enter the **first name** of the user here. The name is indicated in some areas of the system to simplify identification.

- **Last name**

Enter the **last name** of the user here. The name is indicated in some areas of the system to simplify identification.

- **Position**

Here you can enter the **Position** which the user holds on the farm. This entry only serves for information and is not used in the system.

- **E-mail address**

Alarms can be sent to the user's e-mail address when the address has been entered in the field **E-mail address**. The e-mail address must have the following structure:

mustermann@example.com



NOTICE!

For more information regarding e-mail alarms, refer to chapter 13.2 "Email message groups".

5.1.6 Rights

Rights can be assigned to the selected user for the houses, areas and the system under the tab **Rights**.

5.1.6.1 Rights - Assigning

User management

Released users: 2 Used: 1

Data Rights

Select user: amacs

Rights	System	House 1	House 2	House 3
CLIMATE		OK	OK	
CLIMATE -> CURVES		2	1	
CLIMATE -> MESSAGES		2	1	
CLIMATE -> SENSORS		2	1	
CLIMATE -> EXHAUST AIR		2	1	
CLIMATE -> AIR INLET		2	1	
CLIMATE -> HEATING		2	1	
CLIMATE -> COOLING		2	1	
CLIMATE -> THERMOSTAT		2	1	
CLIMATE -> MEASURING FAN		2	1	
FEEDING		OK	OK	
FEEDING -> CURVES		2		
FEEDING -> MESSAGES		2		
FEEDING -> GROUPING		2		
FEEDING -> FEEDING		2		
FEEDING -> WEIGHING		2		
FEEDING -> SILO		2		
MANURE DRYING		OK	OK	
MANURE DRYING -> CURVES		2		
MANURE DRYING -> MESSAGES		2		

Legend:

- OK Range unlocked
- View only
- 1 Operation
- 2 Operation and parametrisation

Delete Save Cancel

Figure 5-12: User management: Rights

There are different rights as can be seen in the right area of the screen:

- **Range unlocked**

With this right, the user may view the main screens of the different areas (CLIMATE, FEEDING, MANURE DRYING, SUPPLY, EGG COUNTING, EGG FLOW, PRODUCTION, TIME SWITCHES, EXTRAS, MESSAGES, CURVES, CAMERA or SYSTEM).

Users also need this right if they want to operate the corresponding area or make changes to the settings.

To grant them the rights for the correct house, click on the dark grey field of the area. The field changes its colour to green and the word **OK** appears.

- **View only**

If a user holds the right **Range unlocked**, they are automatically granted the right **View only** for the sub areas.

The user can only view the main screen with this right. The sub areas change their colour from white to light grey.

- **Operation**

The right **Operation** allows the user to switch different sub area motors on the main screen to **manual or automatic** mode.

Clicking once on the sub area is sufficient to change the field's colour from white to yellow. A **1** appears.

**NOTICE!**

Additionally, the right **Range unlocked** is required.

- **Operation and parametrisation**

With the right **Operation and parametrisation**, the user can switch all motors at once to **manual or automatic** mode, similarly to the right **Operation**. Additionally, this right releases settings options for the sub areas.

Clicking on the sub area is sufficient to switch the field from yellow to orange. A **2** appears.

**NOTICE!**

Additionally, the right **Range unlocked** is required.



5.1.6.2 Rights - House sector

The rights of a house sector can be changed with a mouse click.

Figure 5-13: House sector

1. Right-click into the sector of the house for which you want to change the rights. The context menu opens.
2. Click on **House sector ... full access**, **House sector ... only operator** or **House sector ... no access**.
3. The rights of the house sector are shown in **orange**, **yellow** or **white** according to the selection.



5.1.6.3 Rights - House

The rights of the house can also be changed with a mouse click.

Figure 5-14: House rights

1. Right-click into a sector of the house for which you want to change the rights. The context menu opens.
2. Click on **House ... full access**, **House ... only operator** or **House ... no access**.
3. **All** rights of the house are shown in **orange**, **yellow** or **white**.



5.1.6.4 Rights - Copy

It is possible to copy the rights from one house to another so that you do not have to release every range or sub range with a mouse click.



Figure 5-15: Copying house rights from

1. Right-click into a sector of the house to which you want to copy the rights. The context menu opens.
2. Move the mouse pointer to **Copy from** Another context menu opens.
3. Select and click on the house from which you want to copy the rights. The house to which the rights will be copied is shaded.
4. The rights of the house are transferred.

NOTICE!

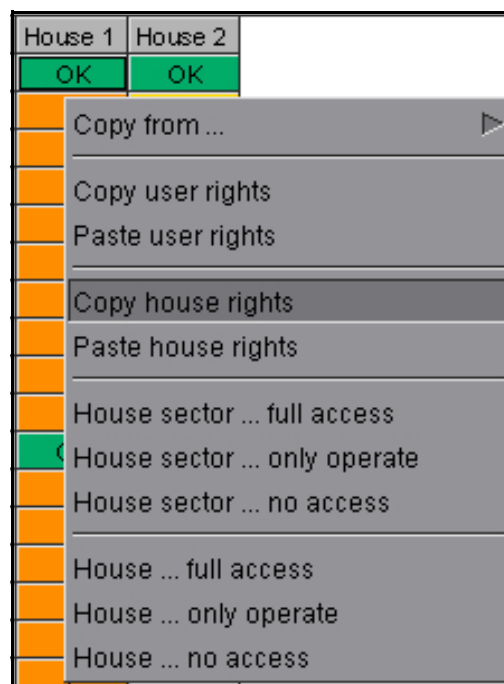
All rights of the house are copied.

5.1.6.5 Rights - Copy house rights

Apart from the function **Copy from ...** (chapter 5.1.6.4 "Rights - Copy") you can also use the function **Copy house rights** to copy the rights from one house to another.

Figure 5-16: Copying house rights

1. Right-click into a sector of the house from which you want to copy the rights. The context menu opens.
2. Click on **Copy house rights**. The house rights are copied to the clipboard.
3. Right-click into a sector of the house to which you want to copy the rights. The context menu opens.
4. Click on **Paste house rights**. The house rights are pasted from the clipboard.



NOTICE!

All rights of the house are copied.

5.1.6.6 Rights - Copy user rights

It is possible to copy whole user rights and paste them.

Figure 5-17: Copying user rights

1. The user whose user rights shall be copied can be selected and displayed via the function **Select user** (chapter 5.1.1 "Selecting a user").
2. Click into an area of the house by using the right mouse button. Now the context menu opens.
3. Click on **Copy user rights**. The user rights are copied to the clipboard.
4. With the function **Select user** (chapter 5.1.1 "Selecting a user") the user can be displayed to whom the rights shall be copied.
5. Click into a house area by using the right mouse button. The context menu now opens.
6. Click on **Paste user rights**. The user rights are pasted from the clipboard.



NOTICE!

All rights of the user are copied.



5.1.7 Saving the settings



Save the changes you made by clicking on the **Save** button. As indication that the changes have been made but are not saved yet, the button is blue.



In the menu that opens, click on **Save** again. The settings / changes are saved now. If you click on **Cancel**, the window closes without saving the changes.

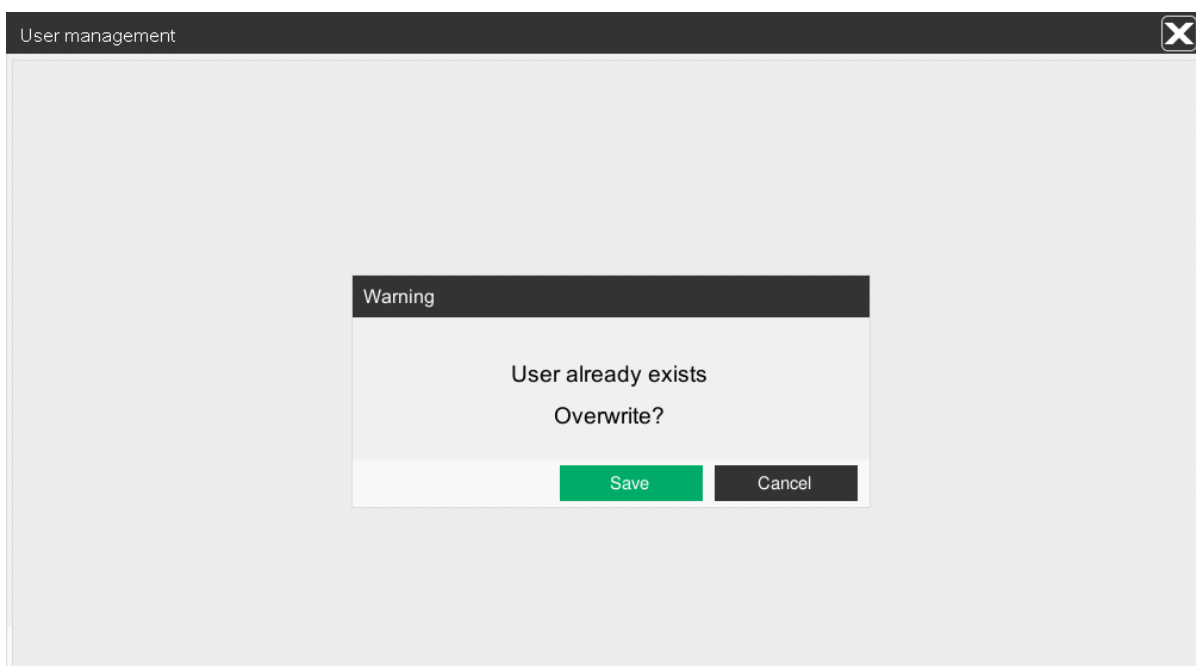


Figure 5-18: Saving a user

NOTICE!

The settings cannot be restored.

5.1.8 Discarding the settings

Cancel

To discard settings, leave the menu by clicking on the **Cancel** button, or select a different user (see chapter 5.1.1

"Selecting a user").

In the menu that opens, click on the **Discard** button to discard the settings / changes.

If you click on **Cancel**, you return to the user management.

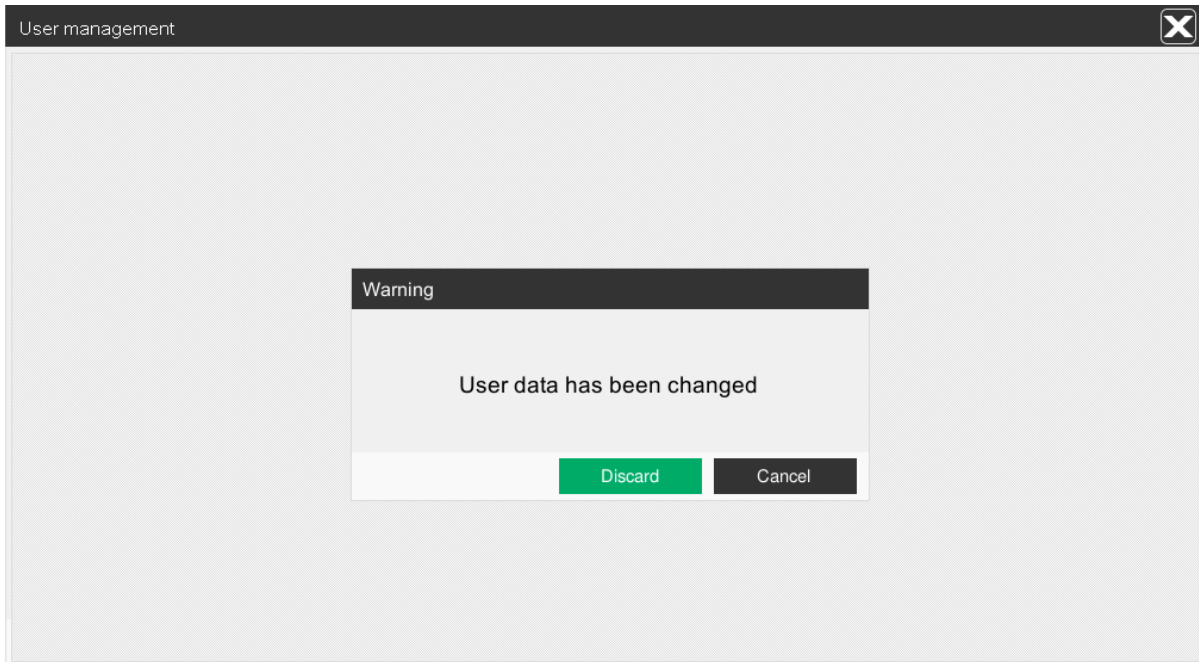


Figure 5-19: Discarding the settings



NOTICE!

The settings cannot be restored.



5.2 Changing the password



To change your password, set up a new password in the menu **Change password**.

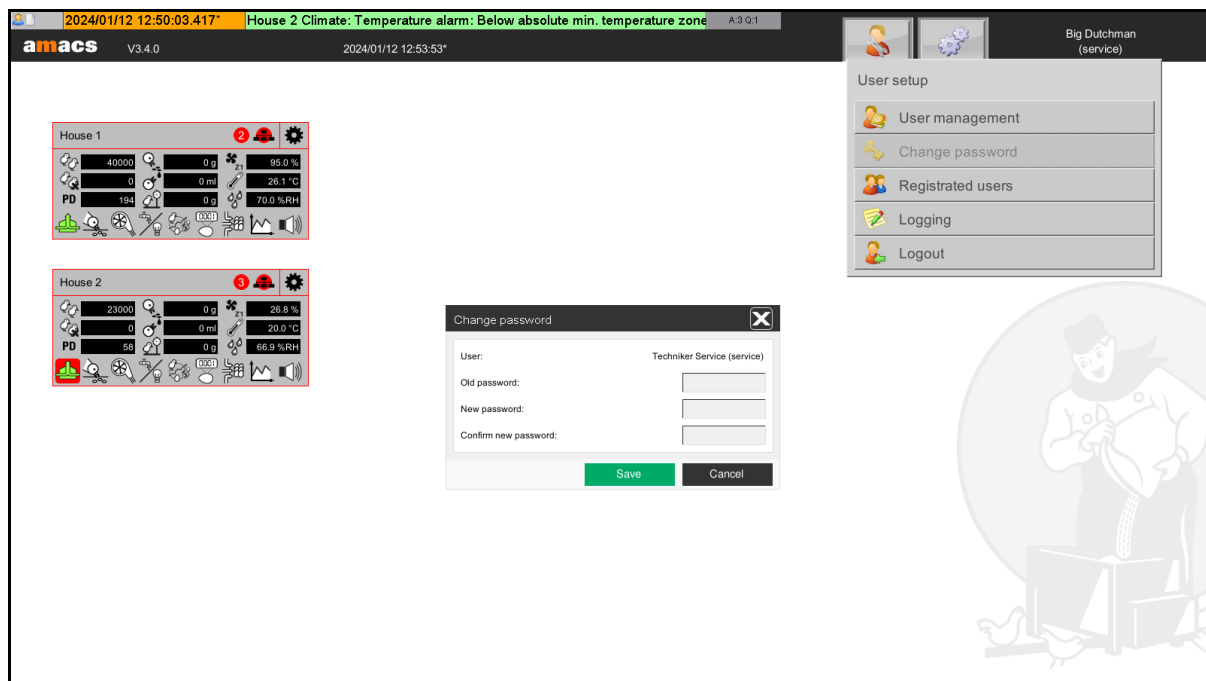


Figure 5-20: Changing the password

1. To ensure that the correct password is changed, the full name and the code of the logged user are displayed at the top of the menu.
2. Enter the old password first into the field **Old password** and confirm it by pressing the **Enter** key.
3. Enter the new password twice (fields: **New password** and **Confirm new password**) and confirm both inputs by pressing the **Enter** key.
4. Confirm these inputs again by clicking on the **Save** button.



NOTICE!

The entered password must consist of at least 5 characters.



NOTICE!

Please keep in mind that this entry is very sensitive. Lost or forgotten passwords cannot be reactivated without the right **USERMANAGEMENT**.



5.3 Logged users



This menu point shows a list of all users logged into the FarmController and the farm terminals.

- The first column shows the consecutive number of the logged users.
- The second column indicates on which terminal (FarmController, ServiceTerminal or FarmTerminal) the user is logged in.
- The third column shows which users (code, first and last name) are logged in.
- The fourth column displays the IP addresses of the respective terminal.
- The fifth column indicates in which area ("Range") this user is active.

Registered users ✕				
No.	Terminal	User	IP	Range
1	FarmController	service	192.168.22.220	
2	Service	service	192.168.22.220	
3	FarmTerminal	guest	10.80.0.23	

Figure 5-21: Logged users



NOTICE!

A maximum of 20 users can log into the system and work at the same time without issues.

5.4 Logging



The logging shows the last 30,000 changes made by the users. In order to keep track of the changes, each setting is filed with time stamp. The changes are sorted by time of change when opening the menu. This sorting, however, can be changed by clicking on the column buttons. In this way, each change made in the system can easily be found by selecting the display and setting the filter.

Logging							
Display	Filter	Reload	Export	Print	Logging		
Time	House	Range	Value (new)	Unit	Message	Comment	
☐	2022-12-13 13:49:59	SERVER	SYSTEM - SERVICE		IO opened		
☐	2022-12-13 13:49:42	LOGIN	USER - LOGIN		User logged in		
☐	2022-12-13 13:49:19	LOGIN	USER - LOGOUT		User logged out		
☐	2022-12-09 16:52:09	LOGIN	USER - LOGOUT		User logged out		
☐	2022-12-09 16:47:46	SERVER	SYSTEM - SERVICE		IO opened		
☐	2022-12-09 16:47:26	Stall 1	FEEDING - FEEDING	1	Feed chain group 1: Automatic operation		
☐	2022-12-09 16:46:40	LOGIN	USER - LOGIN		User logged in		
☐	2022-12-09 16:30:31	LOGIN	USER - LOGOUT		User logged out		
☐	2022-12-09 16:30:28	LOGIN	USER - LOGOUT		User logged out automatically		
☒	2022-12-09 15:50:57	Stall 1	CLIMATE		Target temperature zone 1		
☐	2022-12-09 15:46:02	Stall 1	CLIMATE - EXHAUST AIR	1	Group 5: Automatic operation		
☐	2022-12-09 15:46:01	Stall 1	CLIMATE - EXHAUST AIR	1	Group 5: Automatic operation		
☐	2022-12-09 15:45:34	Stall 1	CLIMATE - EXHAUST AIR	1	Damper 1: Automatic operation		
☐	2022-12-09 15:43:26	SERVER	SYSTEM - SERVICE		ConfigGenerator opened		
☐	2022-12-09 15:42:10	Stall 1	CLIMATE - EXHAUST AIR	5.000000	Damper 1: Set value		
☐	2022-12-09 15:42:05	Stall 1	CLIMATE - EXHAUST AIR	1	Damper 1: Manual operation		
☒	2022-12-09 15:41:50	Stall 1	CLIMATE		Fan and damper stepless 1		
☐	2022-12-09 15:40:02	LOGIN	USER - LOGIN		User logged in		
☐	2022-12-09 15:39:55	LOGIN	USER - LOGOUT		User logged out		
☐	2022-12-09 15:37:39	SERVER	SYSTEM - SERVICE		ConfigGenerator opened		
☐	2022-12-09 15:36:37	Stall 1	CLIMATE - EXHAUST AIR	1	Group 5: Automatic operation		
☐	2022-12-09 15:36:34	Stall 1	CLIMATE - EXHAUST AIR	1	Group 5: switched on		
☐	2022-12-09 15:36:32	Stall 1	CLIMATE - EXHAUST AIR	1	Group 5: Automatic operation		
☐	2022-12-09 15:35:19	SERVER	SYSTEM - SERVICE		IO opened		
☐	2022-12-09 15:24:36	SERVER	SYSTEM - SERVICE		ConfigGenerator opened		
☐	2022-12-09 15:24:15	LOGIN	USER - LOGIN		User logged in		
☐	2022-12-09 14:47:55	LOGIN	USER - LOGOUT		User logged out		
☐	2022-12-09 14:19:25	LOGIN	USER - LOGOUT		User logged out		
☐	2022-12-08 15:36:01	Stall 1	OVERVIEW		House depiction changed		
☐	2022-12-08 15:17:27	SERVER	SYSTEM - SERVICE		ConfigGenerator opened		
☐	2022-12-08 15:17:23	Stall 1	OVERVIEW		House depiction changed		
☐	2022-12-08 15:15:03	Stall 1	OVERVIEW		House depiction changed		
☐	2022-12-08 15:13:00	LOGIN	USER - LOGIN		User logged in		

Figure 5-22: Logging



5.4.1 Changing set curves

For every change of a curve, a screenshot of the new setting is stored. To see the setting, click on the **X** in front of the time. This opens the graphic.

To close the menu, left-click on the screen once.

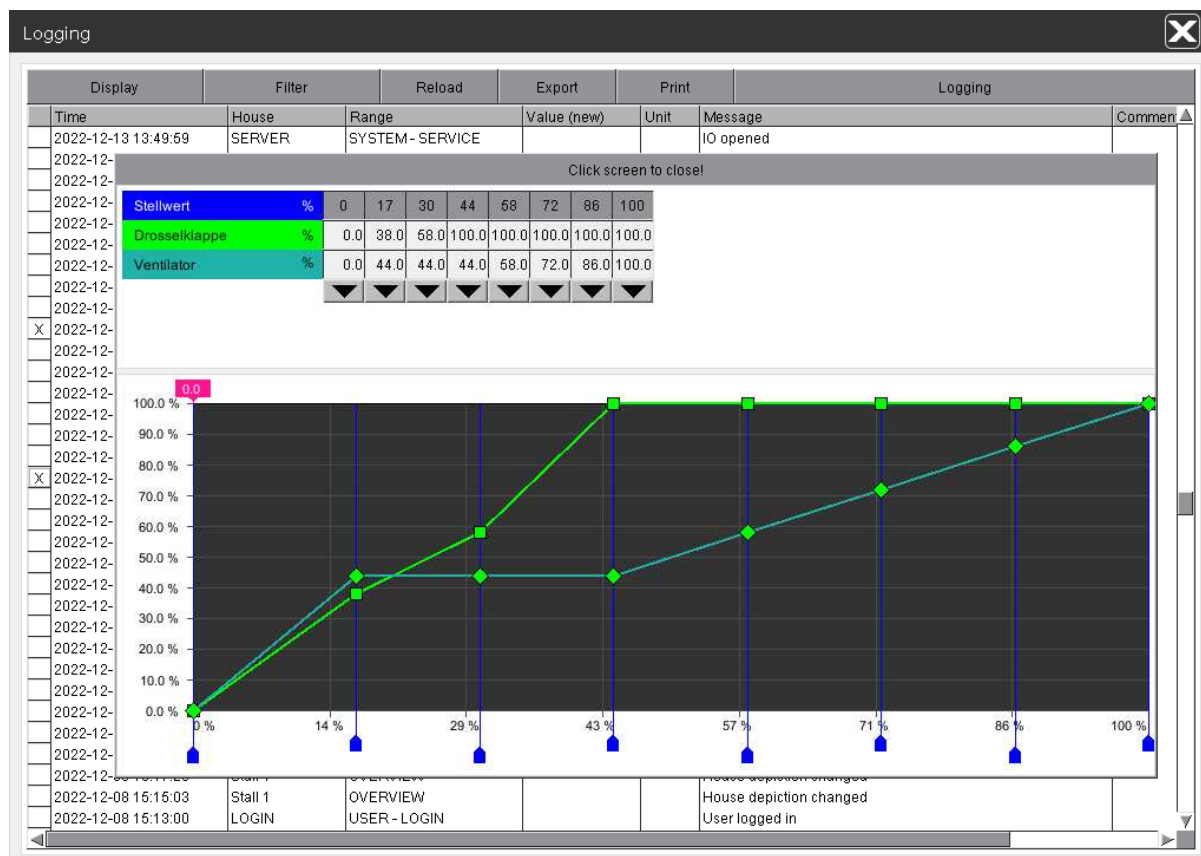


Figure 5-23: Changing set curves

5.4.2 Comment

In addition to each entry, a comment can be created and displayed. Click on the entry to which you want to add a comment. In the menu that opens, add your comment and confirm the input by clicking on **OK**.

The input is stored in the comment field with the entry. If you want to change or remove the comment, click on the entry again. The menu with the comment opens and you can confirm the new comment by clicking on **OK** again.

NOTICE!

In order to make a comment, the user must hold the right for the respective area.

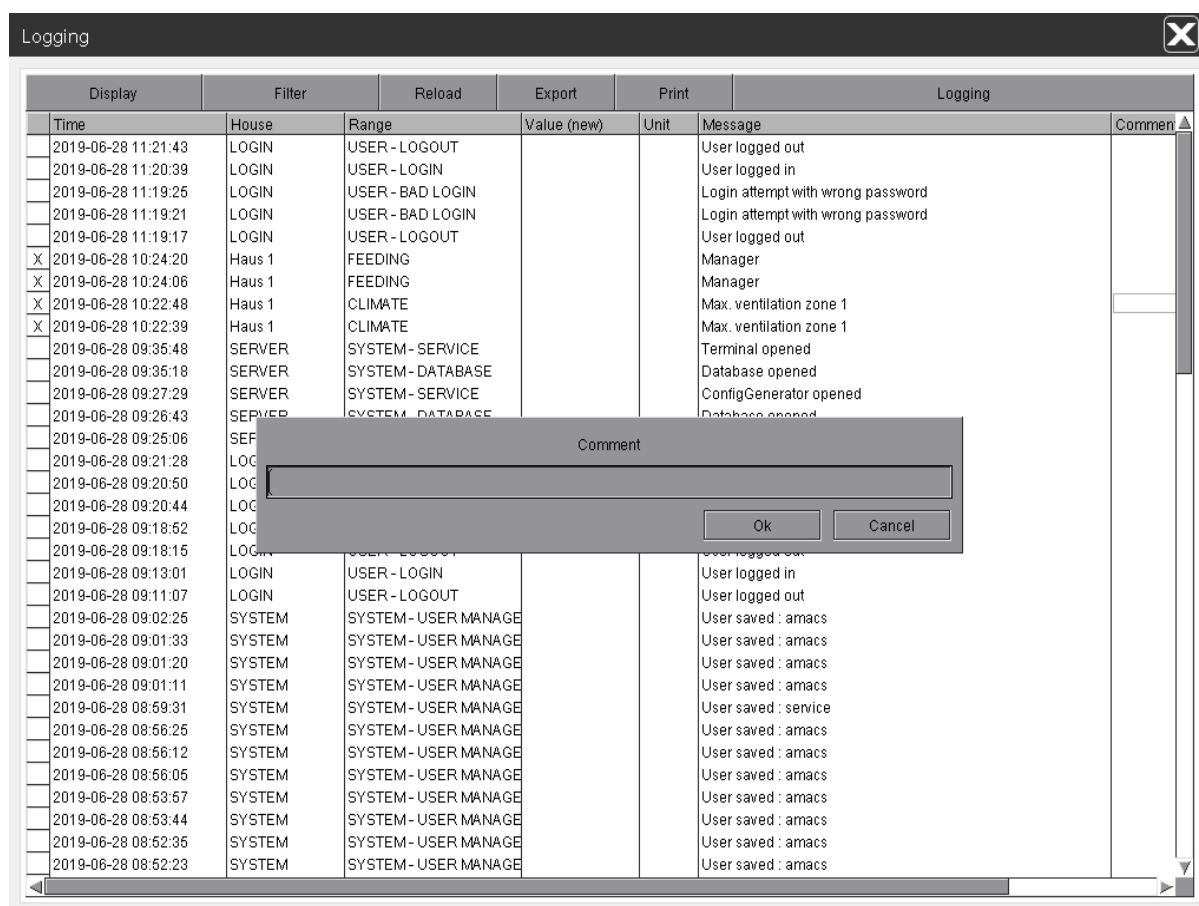


Figure 5-24: Comment

5.4.3 Display

Display	Filter	Reload	Export	Print	Logging
---------	--------	--------	--------	-------	---------

Clicking on the button **Display** hides and shows different fields.

The following fields are available:

- **Time**
Date and time when the change was made.
- **Terminal**
Device at which the change was made (FarmController, FarmTerminal, Service, BaseUnit, etc.).
- **IP**
IP address of the device at which the change was made.
- **User**
Identification code of the user who has made the change.
- **First name**
First name of the user who has made the change.
- **Last name**
Last name of the user who has made the change.
- **House**
House or system range where the change was made.
- **Range**
Range of the house where the change was made.
- **ID**
The kind of change (system, safety, ranges, exceeding of the time, control, switch, value, warnings, config or process sequence).
- **Priority**
Priority of the setting
- **Value (old)**
The setting which was entered before the change.
- **Value (new)**
New changed setting

- **Unit**

Unit of the set value

- **Message**

Description of the setting

- **Variable**

Variable description of the value in the control unit.

- **Comment**

The comment regarding the setting stored by the user in this menu.

If the changes shall be taken over, click on the button **Display** once again. Now the text of the field changes to **Take over display**.

Logging						
Take over display	Filter	Reload	Export	Print	Logging	
☒ Time ☐ Terminal ☐ IP ☐ User ☐ First name ☐ Last name ☒ House ☒ Range ☐ ID ☐ Prio ☐ Value (old) ☒ Value (new) ☒ Unit ☒ Message ☐ Variable ☒ Comment	House	Range	Value (new)	Unit	Message	Comment
	LOGIN	USER - LOGOUT			User logged out	
	LOGIN	USER - LOGIN			User logged in	
	LOGIN	USER - BAD LOGIN			Login attempt with wrong password	
	LOGIN	USER - BAD LOGIN			Login attempt with wrong password	
	LOGIN	USER - LOGOUT			User logged out	
	Haus 1	FEEDING			Manager	
	Haus 1	FEEDING			Manager	
	Haus 1	CLIMATE			Max. ventilation zone 1	
	Haus 1	CLIMATE			Max. ventilation zone 1	
	SERVER	SYSTEM - SERVICE			Terminal opened	
	SERVER	SYSTEM - DATABASE			Database opened	
	SERVER	SYSTEM - SERVICE			ConfigGenerator opened	
	SERVER	SYSTEM - DATABASE			Database opened	
	SERVER	SYSTEM - SERVICE			ConfigGenerator opened	
	LOGIN	USER - LOGOUT			User logged out	
	LOGIN	USER - LOGIN			User logged in	
	LOGIN	USER - LOGOUT			User logged out	
	LOGIN	USER - LOGIN			User logged in	
	LOGIN	USER - LOGOUT			User logged out	
	LOGIN	USER - LOGIN			User logged in	
	LOGIN	USER - LOGOUT			User logged out	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : service	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	
	SYSTEM	SYSTEM - USER MANAGE			User saved : amacs	

Figure 5-25: Taking over the display

5.4.4 Filter

Display	Filter	Reload	Export	Print	Logging
---------	--------	--------	--------	-------	---------

You can search for specific entries using the **Filter** function. In the menu that opens, hide and show filters by clicking on the respective functions.

The following functions can be selected:

- **Date from**

The date with which the display shall start can be entered directly in the field (YYYY-MM-DD) or via the calendar function which appears when clicking on the button behind the date.

- **Date to**

The date to which the display shall go can be entered directly in the field (YYYY-MM-DD) or via the calendar function which appears when clicking on the button behind the date.

- **Terminal**

The terminal from which the change was made (FarmController, FarmTerminal, Service, BaseUnit, etc.) can be entered directly in the field.

- **IP**

The IP address of the device at which the change was made can be entered directly in the field.

- **User**

The identification code of the user who has made the change can be selected via the menu.

- **First name**

The first name of the user who has made the change can be entered directly in the field.

- **Last name**

The last name of the user who has made the changes can be entered directly in the field.

- **House**

The house or the system area where the change was made can be selected via the menu.

- **Range**

The area of the house where the change was made can be selected via the menu.

- **Sign**

The kind of change (system, safety, ranges, exceeding of the time, control, switch, value, config or process sequence) can be selected via the menu.

- **Preference**

The priority of the setting can be selected via the menu.

- **Message**

The description of the setting can be entered directly in the field.

- **Comment**

The comment regarding the setting stored by the user in this menu can be entered directly in the field.

If the changes shall be taken over, click again on the button **Filter**. The text of the field changes to **Take over filter**.

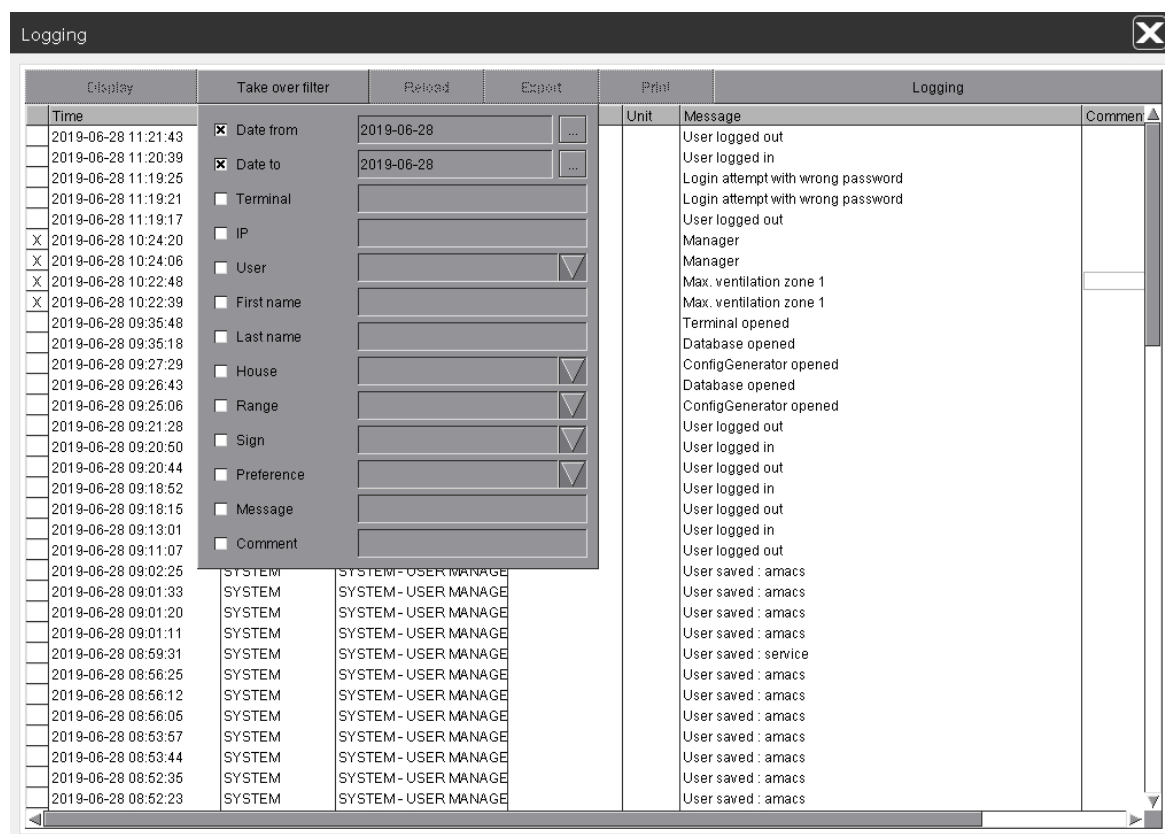


Figure 5-26: Taking over the filter

5.4.5 Reload

If you want to see the changes made from e.g. the FarmTerminal or BaseUnit while the menu was open, you can activate the function **Reload**. The data base will then be searched for new entries and updated in order to display this afterwards in the logging.

Logging							
Display	Filter	Reload	Export	Print	Logging		
Time	House	Range	Value (new)	Unit	Message	Comment	
☐ 2022-12-13 14:19:11	Stall 1	MANURE DRYING - AMBA	1		AMBA-02.03: Automatic operation		
☐ 2022-12-13 14:19:08	Stall 1	MANURE DRYING - AMBA	1		AMBA-02.03: Manual operation		
☐ 2022-12-13 14:14:24	Stall 1	FEEDING - FEEDING			Silo 1: Feed sensor free - Message acknowledged		
☐ 2022-12-13 14:12:51	Stall 1	CLIMATE - EXHAUST AIR	1		Group 2: Automatic operation		
☐ 2022-12-13 14:12:50	Stall 1	CLIMATE - EXHAUST AIR	1		Group 2: switched on		
☐ 2022-12-13 14:12:48	Stall 1	CLIMATE - EXHAUST AIR	0		Group 2: switched off		
☐ 2022-12-13 14:12:47	Stall 1	CLIMATE - EXHAUST AIR	1		Group 2: Manual operation		
☐ 2022-12-13 14:12:27	Stall 1	CLIMATE - MESSAGES	1		Alarm inversion on : - Free alarm		
☐ 2022-12-13 14:12:27	Stall 1	CLIMATE - MESSAGES	1		Alarm inversion on : - Free alarm		
☐ 2022-12-13 14:11:36	Stall 1	CLIMATE - AIR INLET	1		Fresh air flap 1: Automatic operation		
☐ 2022-12-13 14:11:20	Stall 1	CLIMATE - AIR INLET	1		Fresh air flap 1: Manual operation		
☐ 2022-12-13 14:10:45	Stall 1	CLIMATE - MESSAGES	0		Alarm inversion off : - Free alarm		
☐ 2022-12-13 14:10:44	Stall 1	CLIMATE - MESSAGES	1		Alarm inversion on : - Free alarm		
☐ 2022-12-13 14:10:37	Stall 1	CLIMATE - MESSAGES	10		Alarm maximum to 10 : - Setting Emergency opening Maximum d		
☐ 2022-12-13 14:09:56	Stall 1	CLIMATE - MESSAGES	7		Alarm maximum to 7 : - Setting Emergency opening Maximum d		
☐ 2022-12-13 14:08:12	Stall 1	CLIMATE - MESSAGES	8		Alarm maximum to 8 : - Setting Emergency opening Maximum d		
☐ 2022-12-13 14:08:06	Stall 1	CLIMATE - MESSAGES	10		Alarm maximum to 10 : - Setting Emergency opening Maximum d		
☐ 2022-12-13 14:07:59	Stall 1	CLIMATE - MESSAGES	4		Alarm maximum to 4 : - Setting Emergency opening Maximum d		
☐ 2022-12-13 14:07:55	Stall 1	CLIMATE - MESSAGES	8		Alarm maximum to 8 : - Setting Emergency opening Maximum d		
☐ 2022-12-13 14:07:08	Stall 1	CLIMATE - MESSAGES	5		Alarm maximum to 5 : - Max. deviation of temperature zone 1 ex		
☐ 2022-12-13 14:04:56	Stall 1	CLIMATE - MESSAGES	8		Alarm maximum to 8 : - Max. deviation of temperature zone 1 ex		
☐ 2022-12-13 14:01:32	Stall 1	MANURE DRYING - AMBA	1		Manure removal group 01: Automatic operation		
☐ 2022-12-13 14:01:31	Stall 1	MANURE DRYING - AMBA	0		Manure removal group 01: Switched off		
☐ 2022-12-13 14:01:28	Stall 1	MANURE DRYING - AMBA	1		Manure removal group 01: Manual operation		
☐ 2022-12-13 14:01:28	Stall 1	MANURE DRYING - AMBA	1		Manure removal group 01: Switched on		
☒ 2022-12-13 14:01:15	Stall 1	MANURE DRYING - AMBA			Assignment manure belt drives		
☒ 2022-12-13 14:01:14	Stall 1	MANURE DRYING - AMBA			Assignment manure belt drives		
☒ 2022-12-13 14:01:13	Stall 1	MANURE DRYING - AMBA			Assignment manure belt drives		
☒ 2022-12-13 14:01:11	Stall 1	MANURE DRYING - AMBA			Grouping manure removal		
☒ 2022-12-13 14:01:10	Stall 1	MANURE DRYING - AMBA			Grouping manure removal		
☐ 2022-12-13 14:00:52	Stall 1	MANURE DRYING	1		not found		
☐ 2022-12-13 14:00:20	SERVER	SYSTEM - SERVICE			PLC opened		
☐ 2022-12-13 13:58:24	SERVER	SYSTEM - SERVICE			IO opened		

Figure 5-27: Reloading

5.4.6 Export



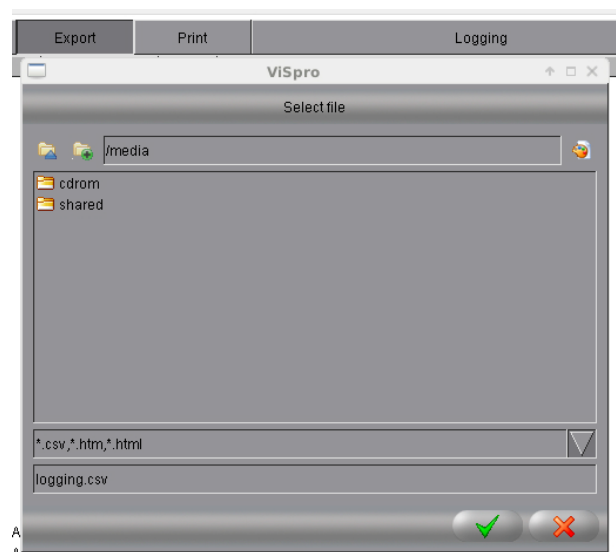
The **Export** function makes the logging available for analyses. A save dialogue appears when the open is opened. Select the storage medium and export the displayed logging.

NOTICE!

To save the logging to be exported, insert a USB flash drive with FAT32 formatting into the FarmController. The USB flash drive is shown under the path **/media**.

Figure 5-28: Exporting

1. Click on the first button in the upper part of the menu to go **back one folder**.
2. Click on the second button to **create a new folder**. Enter the name of the new folder into the field to the right of the button.
3. If no new folder is created, the field shows the **current folder**.
4. The central part of the menu shows a **list of folders and files**. Double-click on these folders to open them.
5. The lower part of the menu shows the supported formats (***.csv, *.htm, *.html**).
6. Enter the name of the file to be saved below the field. The default name of the exported file is **logging.csv**.
7. Save a file by clicking on the **green checkmark**. Click on the **red X** to close the menu without saving.



5.4.7 Printing



You can print entries on a connected printer from the logging. Use the function **Print** to define the appearance of the printout, select the printer and submit the print job.

NOTICE!

If more columns are selected than fit on the print, the surplus columns are cut off and are not represented on the print (data are not printed).

1. The set **Printer** must be selected in the first field. In the standard setting, **Standard** is selected.
2. Use the function **Layout** to define whether only the current **View** with lines should be printed, or a **Frame** with index.
3. Use the functions **Landscape** and **Portrait** to select whether an image should be printed in landscape or portrait format.

The standard setting is **Landscape**.

4. Use the function **Print visible columns only** so columns hidden due to **Display** (chapter 5.4.3 "Display") are not printed.

This function is activated by default.

5. Use the function **Print visible row only** so entries hidden due to the **filter** (chapter 5.4.4 "Filter") are not printed.

This function is deactivated by default.

6. Start the print job by clicking on the **green checkmark**, or cancel it by clicking on the **red X**. If you select "Cancel", the menu is closed.

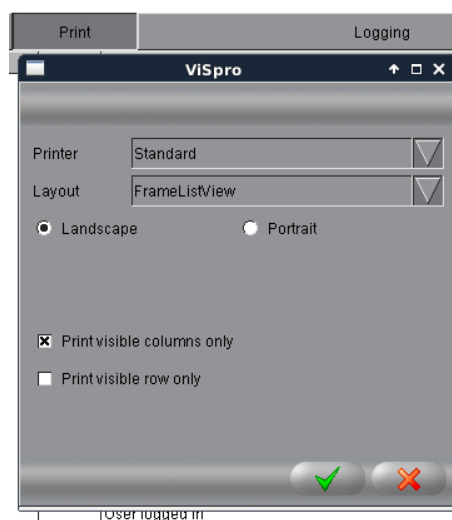


Figure 5-29: Printing

5.4.8 Logging

When you move the mouse pointer over the **Logging** field, the **SELECT** command is displayed. The command scans the database.

It consists of the settings in **Display** (chapter 5.4.3 "Display") and in **Filter** (chapter 5.4.4 "Filter"). This function is only an information. No changes can be made.

Logging

Display	Filter	Reload	Export	Print	Logging	
Time	House	Range	Value (new)	Unit	Message	Comment
"VALNEW";"UNIT";"MESSAGE";"PV";"COMMENT";"ID";length('DATA') from 'Logging' where ('TIME' >= '2019-07-04 00:00:00') and ('TIME' <= '2019-07-04 23:59:59')						
☐	2019-07-04 12:02:40	LOGIN	USER - LOGOUT		User logged out	
☐	2019-07-04 12:02:28	SERVER	SYSTEM - ADMINISTRATIO		Licenses removed	
☐	2019-07-04 11:29:46	LOGIN	USER - LOGIN		User logged in	
☐	2019-07-04 11:26:38	LOGIN	USER - LOGOUT		User logged out	
☐	2019-07-04 11:26:30	LOGIN	USER - LOGOUT		User logged out automatically	
☒	2019-07-04 10:29:41	Haus 1	FEEDING		Manager	
☒	2019-07-04 10:28:49	Haus 1	FEEDING		Manager	
☒	2019-07-04 10:16:52	Haus 1	FEEDING - FEEDING		Feedings	
☒	2019-07-04 10:16:48	Haus 1	FEEDING - FEEDING		Feedings	
☒	2019-07-04 10:16:12	Haus 1	FEEDING - FEEDING		Feedings	
☐	2019-07-04 08:55:51	SERVER	SYSTEM - SERVICE		PLC opened	
☐	2019-07-04 08:53:57	SERVER	SYSTEM - SERVICE		ConfigGenerator opened	
☐	2019-07-04 08:33:30	Haus 1	PRODUCTION - BIRD NUM	Lohmann Brown-4	Importing reference data	
☐	2019-07-04 08:33:17	Haus 1	PRODUCTION - BIRD NUM	—	Delete reference file	
☐	2019-07-04 08:18:16	Haus 1	MANURE DRYING - MESS 1		Alarm hardware and software on : - Temperature sensor defect	
☐	2019-07-04 08:18:13	Haus 1	MANURE DRYING - MESS 0		Alarm hardware and software off : - Temperature sensor defect	
☐	2019-07-04 08:17:36	Haus 3	TIME SWITCHES - MESSA		Alarm relay acknowledged	
☐	2019-07-04 07:58:01	Haus 1	SYSTEM - BACKUP		Load setup no. 9	
☐	2019-07-04 07:54:11	Haus 1	EXTRAS - MESSAGES		Alarm relay acknowledged	
☐	2019-07-04 07:20:48	Haus 1	PRODUCTION - BIRD NUM	Lohmann Brown-4	Importing reference data	
☐	2019-07-04 07:20:12	Haus 1	PRODUCTION - BIRD NUM	04.07.2019	Hatching date	
☒	2019-07-04 07:07:15	Haus 1	PRODUCTION		Bird weighing 1: First bird weight: Searched weight	
☒	2019-07-04 07:05:32	Haus 1	PRODUCTION		Bird weighing 1: First bird weight: Searched weight	
☒	2019-07-04 07:03:45	Haus 1	PRODUCTION		Bird weighing 1: First bird weight: Searched weight	
☒	2019-07-04 06:59:54	Haus 1	PRODUCTION		Bird weighing 1: First bird weight: Searched weight	
☒	2019-07-04 06:57:06	Haus 1	PRODUCTION		Bird weighing 1: First bird weight: Searched weight	
☒	2019-07-04 06:31:07	Haus 1	PRODUCTION		Bird weighing 1: First bird weight: Searched weight	
☐	2019-07-04 05:47:14	Haus 1	PRODUCTION - PRODUCT		Start production	
☐	2019-07-04 05:46:41	Haus 1	PRODUCTION - BIRD NUM	25.05.2019	Birds moved in on	
☐	2019-07-04 05:45:17	Haus 1	PRODUCTION - PRODUCT		Stop production	
☐	2019-07-04 04:51:53	LOGIN	USER - LOGIN		User logged in	
☐	2019-07-04 04:51:26	LOGIN	USER - LOGOUT		User logged out	

Figure 5-30: SELECT command

5.5 Logging out



If you want to log out of **AMACS** or log in as a different user, click on the button **Logout** and the login screen will appear.



NOTICE!

In the user management, you can enter a period after which each user is automatically logged out if he has not moved the mouse for x minutes (see chapter 5.1 "User management").



6 System control



Use the second button (with the gears) in the top bar of the main screen to reach the system control's menu selection. Here you can...

... see the server settings freely accessible for the user.

... open the data base.

... create the project cache for the FarmTerminal.

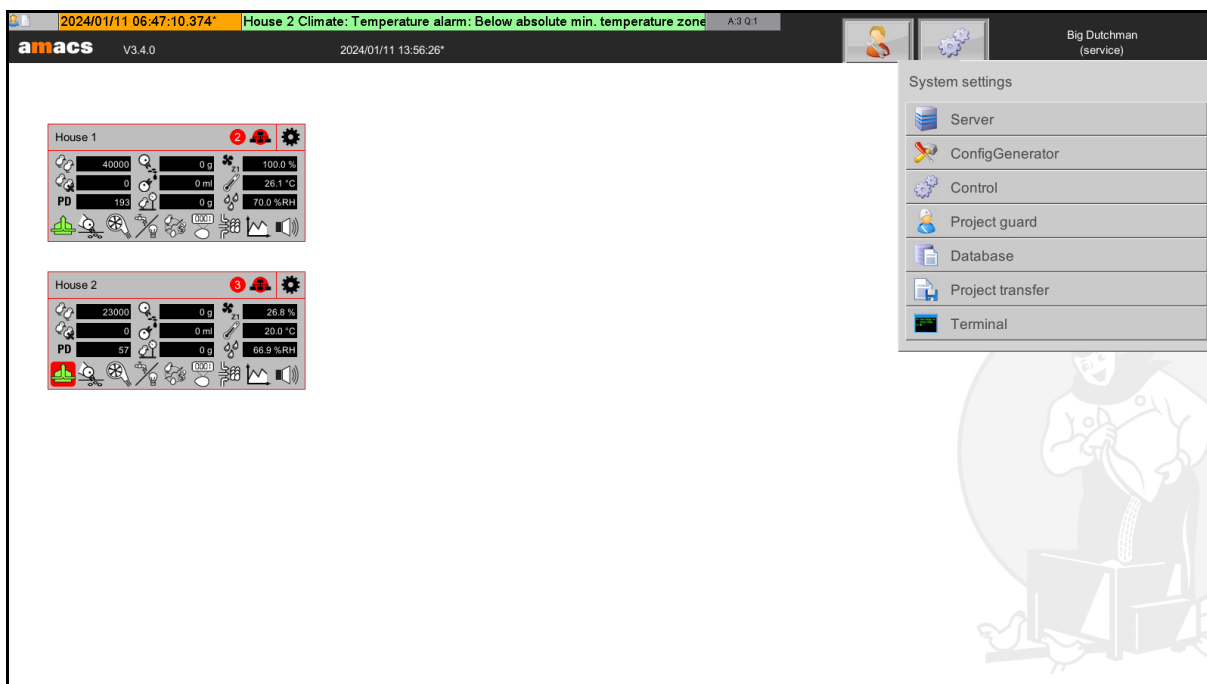


Figure 6-1: System control

6.1 Server



Under the **Server** settings, you can view the system's performance, similar to the control unit information (chapter 4.3.3 "Performance"), change the time and load customer licenses.

6.1.1 System

You can view the general status information of the FarmController in the **System** tab of the **Server** menu. You can also enter a farm name, select a background image or change the resolution and the keyboard layout here.

All other information is provided for system analysis and cannot be changed.

Figure 6-2: System control – Server – System

6.1.1.1 Desktop – Farm name

Enter the name of the farm here. The farm name is used to identify the system.

It is displayed at the top of the menu and on the login screen. The farm name is furthermore used in the FarmTerminal to compare project data with the MAC (media access control) address.

The farm name should therefore not be changed without good reason. If one ore more farm terminals are used, the project data must be compared anew.

6.1.1.2 Desktop – Desktop

In addition to the known settings, the display screen on the desktop can be adjusted.

The resolution of the display multiplies according to the **Factor width** and the **Factor height**, in the example 1920 x 1080 px.

The resolution is limited at a maximum resolution of 8192 x 6144 px. It is reduced when a larger resolution would be calculated due to a too high factor.

Follow these steps to move the screens on the desktop:

1. Left-click into the background.
2. Hold the mouse button and drag the screen into the correct direction.
3. Release the left mouse button.

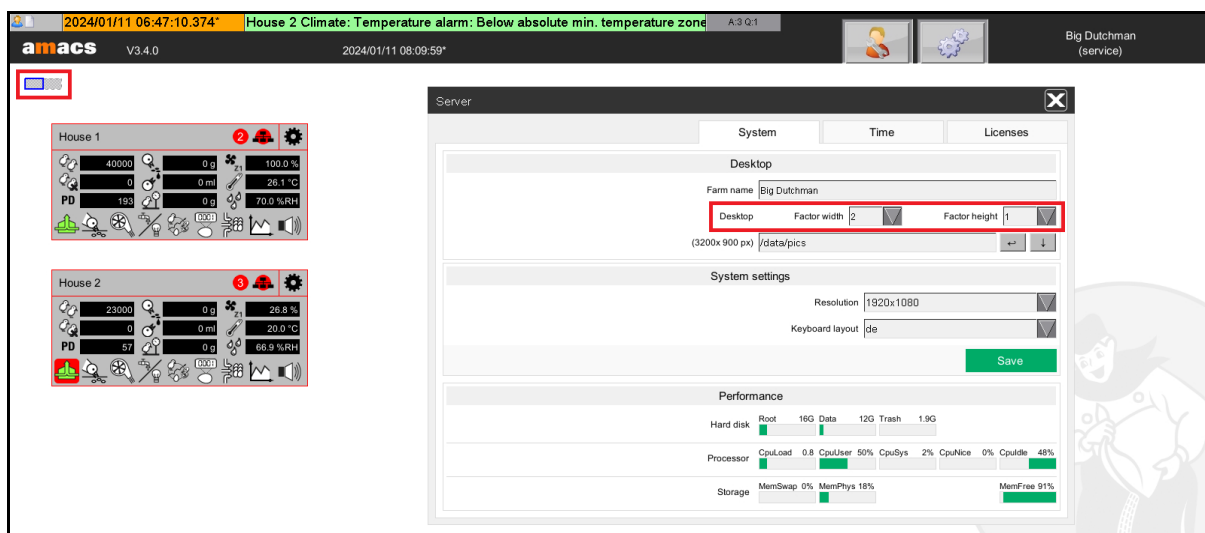


Figure 6-3: Desktop

With a larger display screen, the top left-hand area of the desktop shows a small information field that indicates the size of the grid (grey) and the current position of the image on the grid (blue).

6.1.1.3 Desktop – Background image

A background image can be integrated on the desktop and as watermark on the FarmController's login screen in AMACS.

The corresponding image must be copied to the FarmController and selected.

The screenshot shows the 'Server' window with the 'Desktop' tab selected. The 'Farm name' is 'Big Dutchman'. Under the 'Desktop' section, 'Factor width' and 'Factor height' are both set to 1. A red box highlights the 'Background image' field, which contains the text '(1846x 1017 px)' and a file selection icon. Below this is the 'System settings' section with 'Resolution' set to 'Auto' and 'Keyboard layout' set to 'gb'. A green 'Save' button is at the bottom right. The 'Performance' section shows various system metrics with progress bars.

Figure 6-4: System – Desktop – Background image

Import the background image into the FarmController. Use either a storage medium or the network for this import.

NOTICE!

Ideally, the document loaded onto the FarmController should have the indicated resolution of **1920 x 1080 px**. The file name must not contain any spaces or the image cannot be loaded. The file formats **JPG**, **PNG** and **GIF** are supported.

– Copying the image with a storage medium

NOTICE!

The storage medium must have a name, e.g. Amacs, and support the file system FAT or FAT32.

1. Connect the storage medium to which the background image shall be copied with the PC.
2. Open the storage medium, in this case **AMACS**.

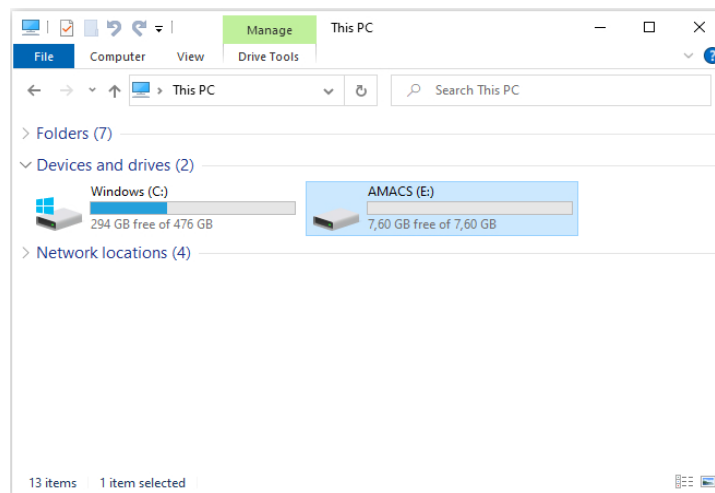


Figure 6-5: Opening the storage medium

3. Copy the image from the PC to the **AMACS** storage medium.

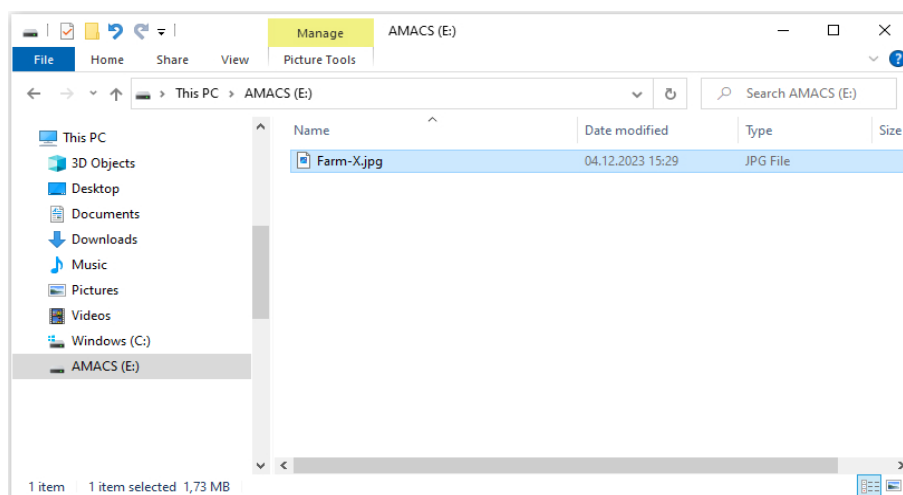


Figure 6-6: Copying the image to a storage medium

4. Remove the storage medium from the PC and connect it with the FarmController.
5. Press the button with the arrow pointing downwards  ("Add background image") at the FarmController.

6. Open the storage medium by clicking on the grey dot in front of the name.

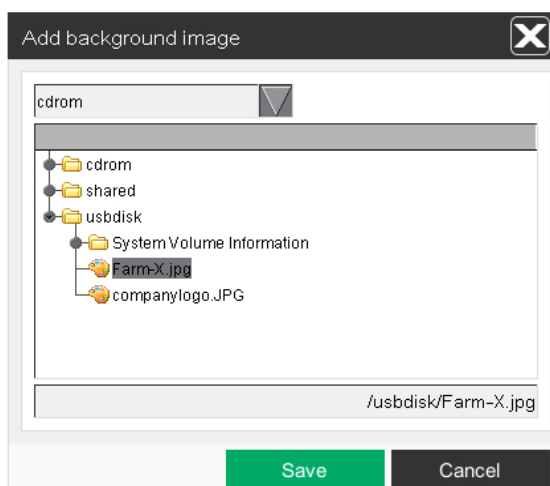


Figure 6-7: Adding a background image using a storage medium

7. Select the image and confirm your input by clicking on the **Save** button.
8. Remove the storage medium from the FarmController.

– Copying the image using the network

1. The PC from which the image should be copied must be part of the same network as the FarmController.
2. Open the explorer on the PC from which the graphic shall be copied.
3. Enter the path **\\FarmController** in the explorer.

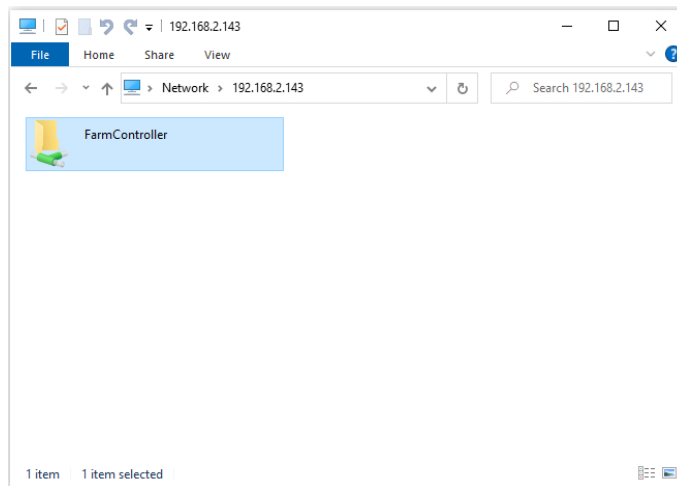


Figure 6-8: Opening the network

4. Open the folder **FarmController**.
5. Copy the image into the "FarmController" folder.

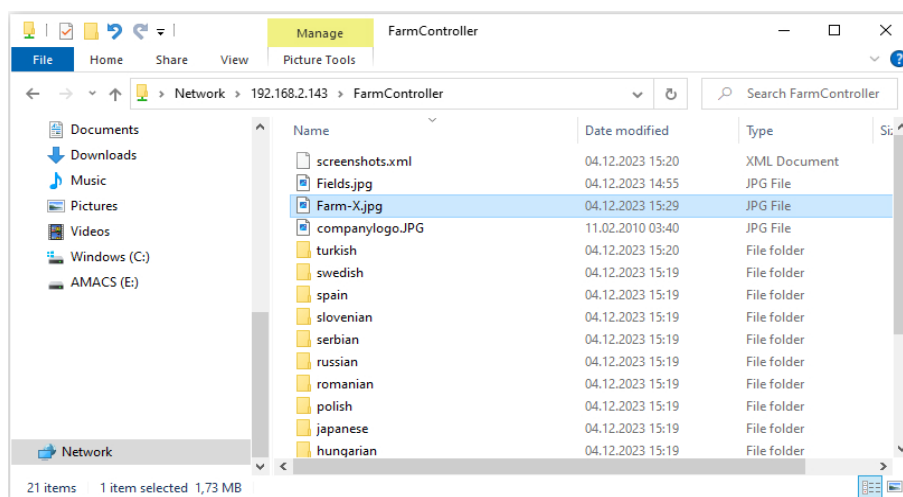


Figure 6-9: Copying the image using the network

6. Press the button with the arrow pointing downwards  ("Add background image") at the FarmController.

7. Open the **shared** folder with the grey dot in front of the name.

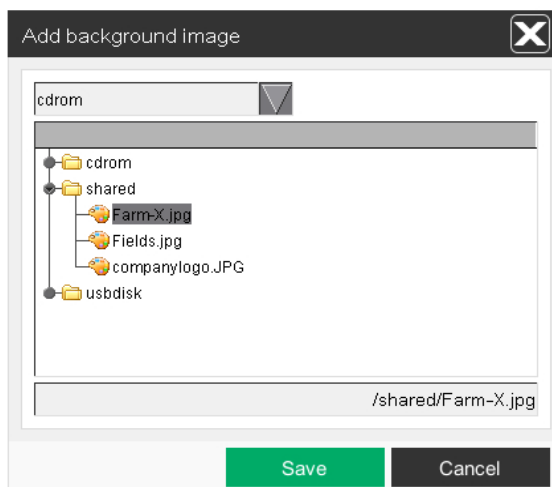


Figure 6-10: Adding a background image using the network

8. Select the image and confirm your input by clicking on the **Save** button.

NOTICE!

To view the image, either activate it through the menu **Select background image** or write the path directly into the field.

– **Selecting the background image using the menu**

1. Press the **Enter** button  (Select background image) at the FarmController.
2. Select the previously loaded image and confirm your input by clicking on the **Save** button.

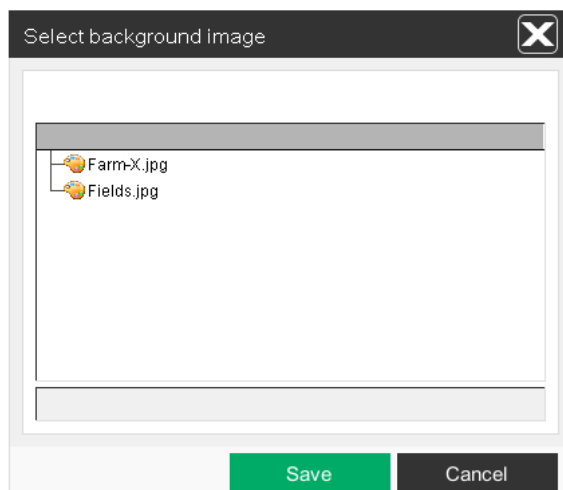


Figure 6-11: Selecting the background image

3. The background image appears on the desktop.

– **Directly entering the path**

1. If you know in which folder the background image is stored, enter the path with file name and file format directly into the field.
2. The input is accepted and the background image is displayed on the desktop.

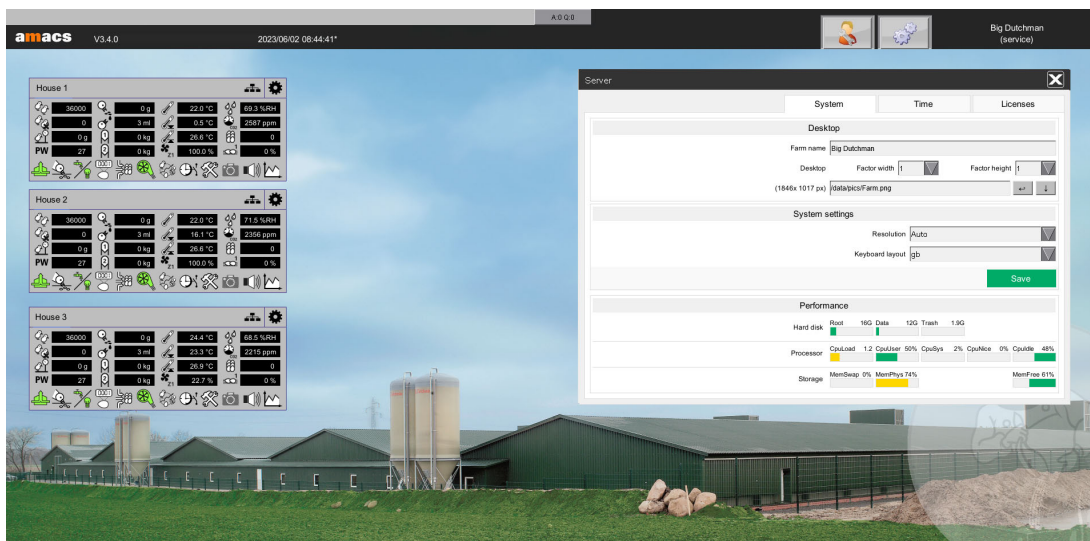


Figure 6-12: Background image on the main screen

NOTICE!

To remove the background image, simply remove the path from the field.

6.1.1.4 System settings – Resolution

Change the resolution of the display from Auto (default) to any desired resolution here.

Figure 6-13: System settings: display resolution

1. Use the selection field **Resolution** to select a new resolution for the display.

NOTICE!

The list of suggested resolutions is generated based on the resolutions supported by the connected display.

2. Clicking on the **Save** button accepts the selected resolution. The screen may go dark for a moment.

NOTICE!

The resolution must have been changed for the **Save** button to appear.

3. Clicking on the **X** button in the top right corner discards the setting and closes the menu.

6.1.1.5 System settings – Keyboard layout

The **keyboard layout** can be changed from English ("gb", default) to German ("de") here.

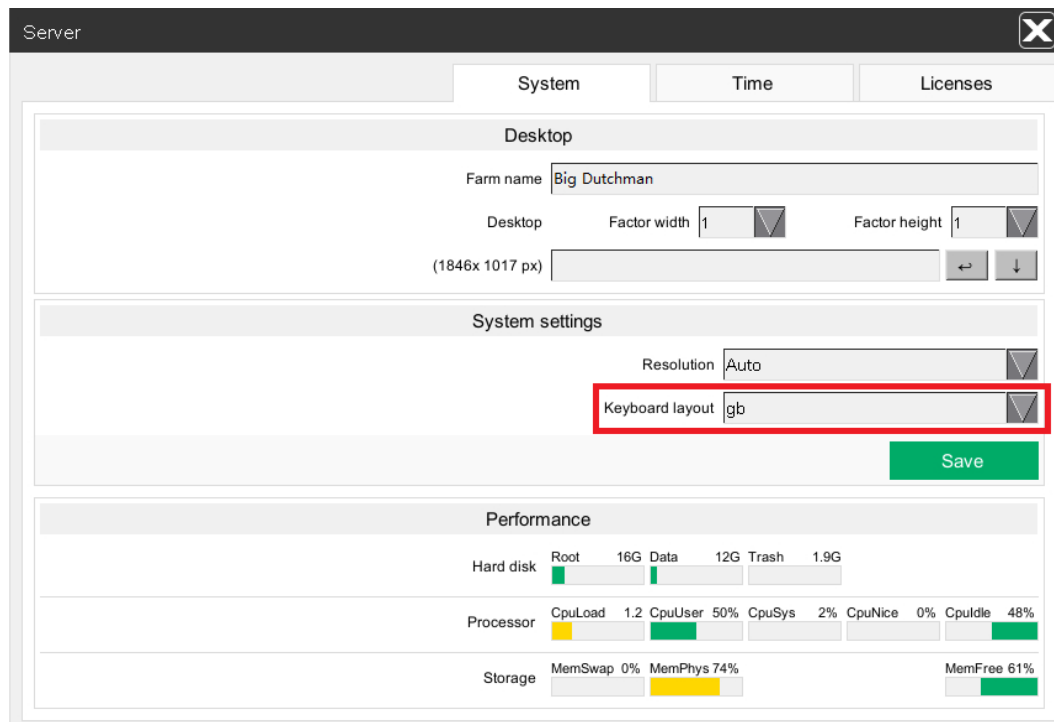


Figure 6-14: System settings: keyboard layout

1. Use the selection field **Keyboard layout** to select a new keyboard layout.
2. Clicking on the **Save** button accepts the selected layout. The screen may go dark for a moment.



NOTICE!

The keyboard layout must have been changed for the **Save** button to appear.

3. Clicking on the **X** button in the top right corner discards the setting and closes the menu.

6.1.1.6 Performance – Hard disk

The hard disk capacity of the three partitions (**Root**, **Data** and **Trash**) is displayed as a bar graph. The bar graph is **green** at a load of up to 69 %, **yellow** at a load of up to 79 %, and **red** from a load of 80 %.

Above the bar graph you can see the name as well as the size of the partition in GB (Gigabyte).



**NOTICE!**

If the **Data** or **Root** partition is full, an error message appears.

HDD: Data/Root Partition full

6.1.1.7 Performance – Processor

The processor load of the FarmController is indicated as a bar graph. Different limits apply to the values.

- **CpuLoad**

The CpuLoad is indicated as a factor from 0.0 to 5.0. It describes to what extent processes on the FarmController utilise the CPU. The bar graph is **green** up to 0.9, **yellow** up to 1.4 and **red** from 1.5.

- **CpuUser**

The CpuUser is indicated in percent from 0 % to 100 %. It describes to what extent the user applications utilise the CPU. The bar graph is **green** up to 69 %, **yellow** up to 79 % and **red** from 80 %.

- **CpuSys**

The CpuSys is indicated in percent from 0 % to 100 %. It describes to what extent the system processes utilise the CPU. The bar graph is **green** up to 69 %, **yellow** up to 79 % and **red** from 80 %.

- **CpuNice**

The CpuNice is indicated in percent from 0 % to 100 %. It describes to what extent the process utilises the CPU. The bar graph is **green** up to 69 %, **yellow** up to 79 % and **red** from 80 %.

- **CpuIdle**

The CpuIdle is indicated in percent from 100 % to 0 %. It describes how much processing power of the CPU is still available. The bar graph is **red** up to 4 %, **yellow** up to 19 % and **green** from 20 %.



6.1.1.8 Performance – Storage

The load of the FarmController's working memory is indicated as a bar graph. The limit values are similar to those of the processor.

- **MemSwap**

The MemSwap is indicated in percent from 0 % to 100 %. It indicates whether there is sufficient memory or how many processes have been swapped. The bar graph is **green** up to 69 %, **yellow** up to 79 % and **red** from 80 %.

- **MemPhys**

The MemPhys is indicated in percent from 0 % to 100 %. It indicates how much of the memory has been allocated in percent. The bar graph is **green** up to 69 %, **yellow** up to 79 % and **red** from 80 %.

- **MemFree**

The MemFree is indicated in percent from 100 % to 0 %. It indicates how much of the memory capacity is free. The bar graph is **red** up to 4 %, **yellow** up to 19 % and **green** from 20 %.

6.1.2 Time

Under the server settings, you can change the time zone and the time of the FarmController.

Remember that the controllers may have to be restarted if the time zone changes or the time difference is too large.

This restart is necessary to ensure that the new settings are also transferred to the controllers.

NOTICE!

For the creation of a data base it is very important that the correct date is set. **Therefore the time / date should not be changed without reason in this menu.**

Switch between the actual time **setting**, the page with **information** regarding the time change, and a list of **error messages** that may appear during the change, in the left-hand menu selection.

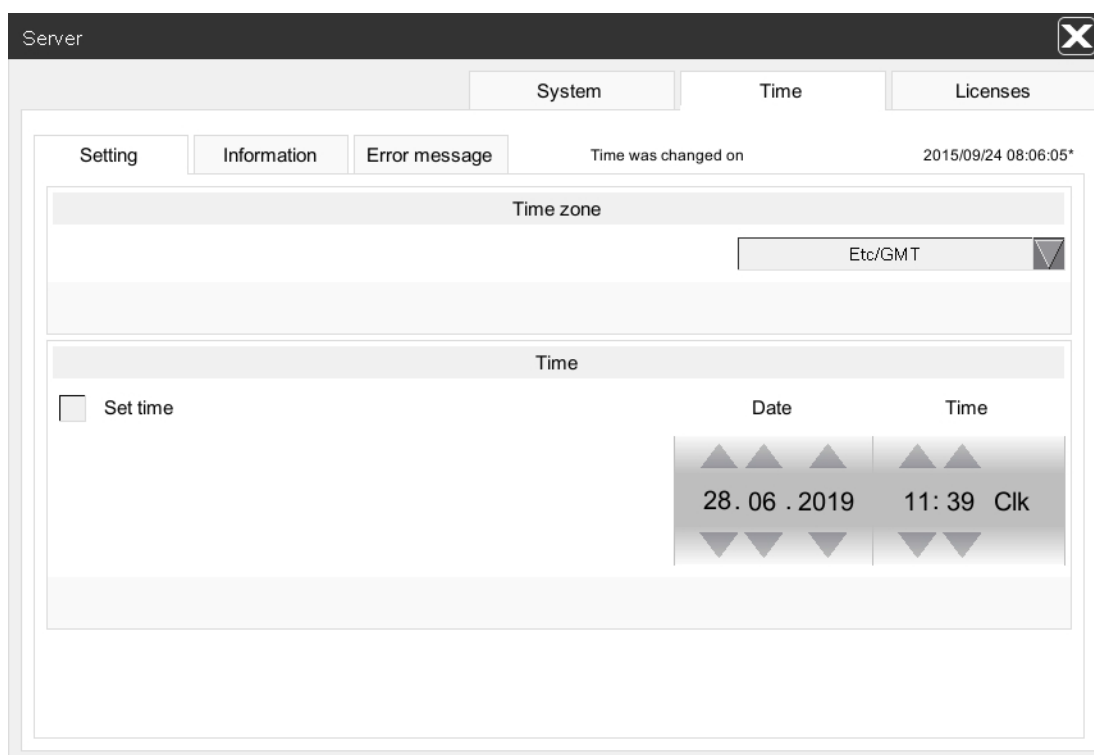


Figure 6-15: Time settings

NOTICE!

Setting the time at the FarmController is only necessary when no NTP server in the network responds. If this is not the case, simply select the correct time zone to see the current and correct time at the farm.

6.1.2.1 Setting – Time zone

The time zone indicates in which region you are. You can thus find out whether the system will switch from summer time to winter time.

If no continent/country, but "UTC" (Universal Time Coordinated) or "GMT" (Greenwich Mean Time) are displayed, this means that there is no automatic clock change.



Figure 6-16: Saving the time zone

Observe the following when changing the time zone:

1. Time zone selection

Change the time zone here using the selection menu. The list shows all time zones. If you are in a region with clock change but do not want this change, select **"Etc/GMT-/+X"** at the very bottom of the list.

With this selection, the system will not switch from summer time to winter time or vice versa.

The time zone must have been changed for the **Save button** to appear.

2. Save / Discard



Press the **Save button** to accept the set time zone. The screen may go dark for a moment.

To discard the settings, leave the menu by clicking on the **X** in the top right corner.

NOTICE!

The following error message will appear in the alarm line after changing the time zone:

PlcXX HouseXX: Restart of control unit required

Restart all controllers so they also switch to the new time zone.

6.1.2.2 Setting – Time

NOTICE!

To prevent incorrect settings, the time settings options are blocked when there is an active connection to an NTP server. A context menu shows **"NTP server active"** when hovering the mouse pointer over the settings.

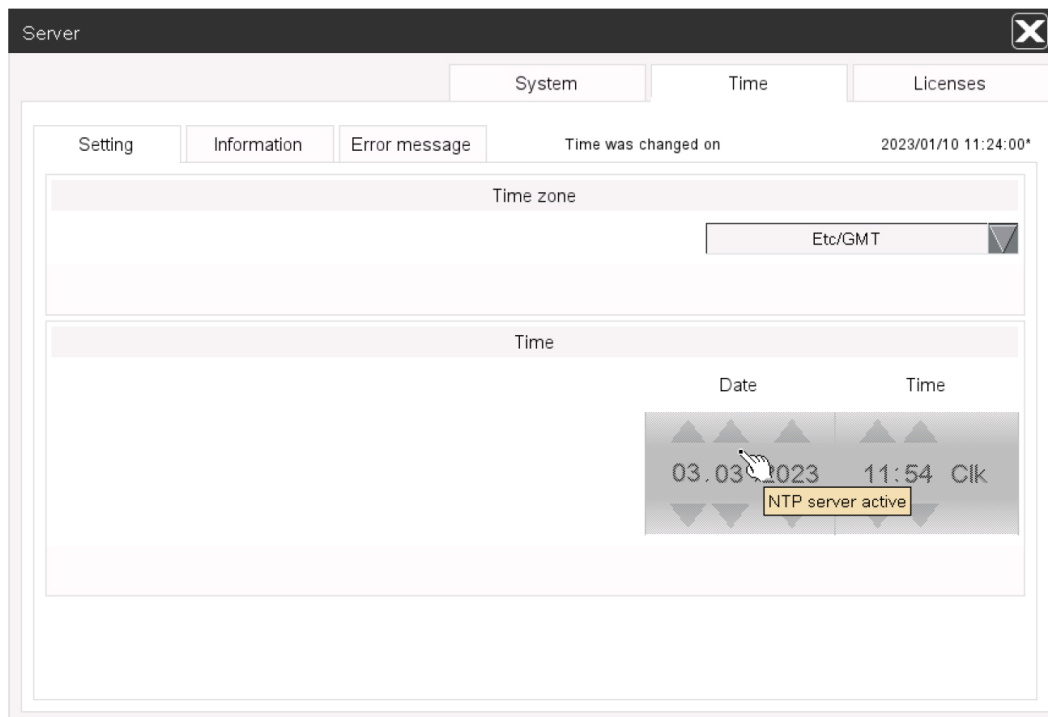


Figure 6-17: Setting the time only possible without NTP server

To make changing the time as easy as possible, you can indicate during the change how the time should be adjusted.

There are three different options of changing the time (see the next point 3, a to c).

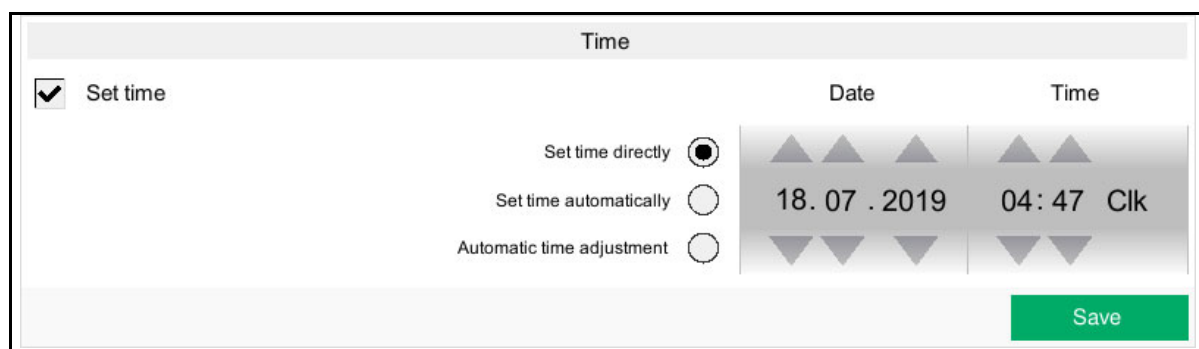


Figure 6-18: Saving the time

The following points have to be observed for the time setting:

1. Date

In order to change the date, the day (DD), month (MM) or year (YYYY) can be changed with one number up or down with the arrow keys until the desired date appears.

2. Time

In order to change the time, the hour (hh) or the minute (mm) can be set with one number up or down with the arrow keys until the desired time appears.

3. Set time

Check the box **Set time** to be able to set the time. The **Save button** appears.

On the right of the screen, you may now select whether the time should be **set directly**, or **set automatically** or whether it should be **adjusted automatically**.

a) Setting the time directly

If the difference is greater than 1 hour, calculation must be reset and the time set anew.

The pulse of the BIOS clock is reset in this case.

The controllers may also have to be restarted.

b) Setting the time automatically

If the difference is smaller than 1 hour, the time can be set immediately. The pulse of the BIOS clock is adjusted in this case.

If the difference is smaller than 25 minutes, the time of the controllers is adjusted slowly. If it is greater than 25 minutes, the controllers must be restarted so the time can be adjusted.

c) Adjusting the time automatically

The time is adjusted automatically if the difference is smaller than 25 minutes.

The pulse of the BIOS clock and the display time are adjusted within 24 hours.

The controllers may also have to be restarted.

The display **Time was changed on** switches to **Time is automatically adjusted until** and the settings are hidden. During the adjustment time, the settings are blocked.

4. Save / Discard



Press the **Save** button to accept the set time. The screen may go dark for a moment.

To discard the settings, leave the menu by clicking on the X in the top right corner.

**NOTICE!**

If the error message

PlcXX HouseXX: Restart of the controllers necessary

appears in the alarm line, the time difference between FarmController and controller is greater than 25 minutes after the change. In order to adjust the time, the controller must be restarted.



6.1.2.3 Information

Under **Information**, find a short explanation on how the time is changed and what is important for the change.

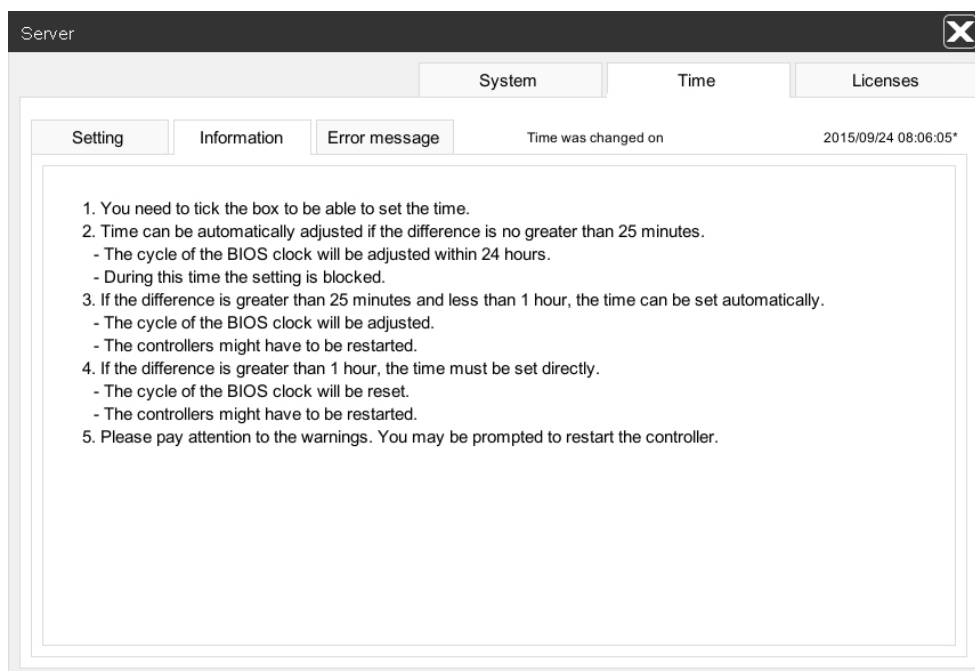


Figure 6-19: Time: Information

6.1.2.4 Error message

Under **Error message**, find a short explanation on which errors may occur during the time change and what you need to do to eliminate these errors.

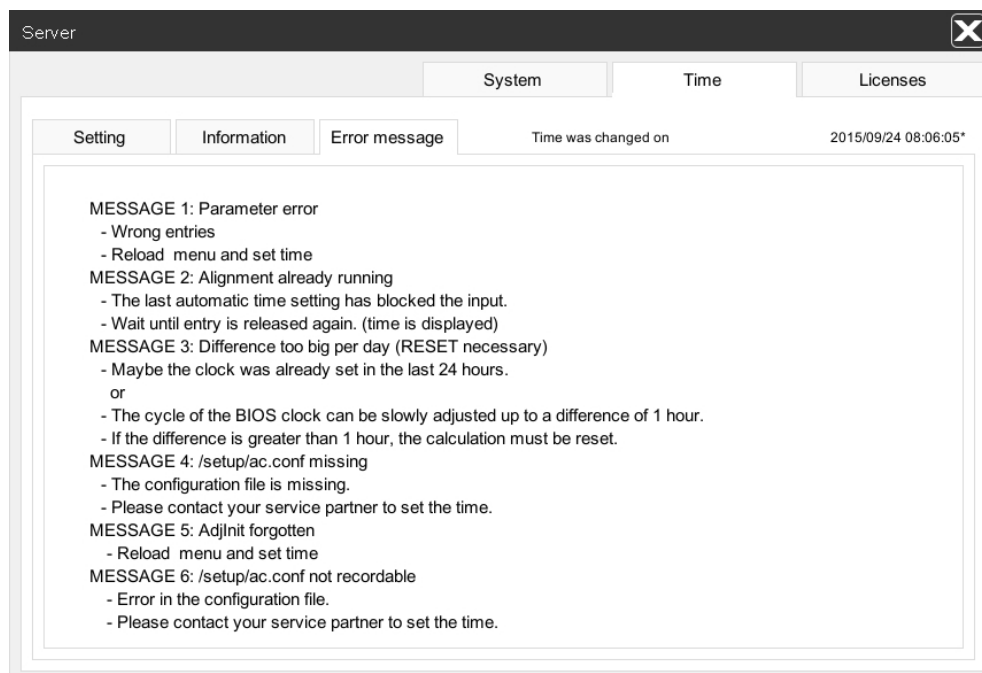


Figure 6-20: Time: Error message

6.1.3 Licenses

In this menu, you can load licenses during initial operation, delete licenses, update licenses if new functional areas have been purchased or check licenses.

List of available AMACS functional areas			
1	Climate	8	Feeding Layers
2	Egg counting	9	Supply Layers
3	Manure drying	10	Time switch
4	Egg collection	11	Bird weighing
5	Feeding Breeders	12	HelixX
6	Feeding Broilers	13	MagixX-B
7	Supply Broilers/Breeders	14	Energy registration



NOTICE!

The loading or deleting of licenses causes a user log-out.

Current license shows which license is currently loaded. Below the license name, the number of currently activated users is indicated in itemized form.

The license name comprises the following information:

Example of a license number: 19-05-11010001110000-50-XXXXXX-001-01

Set of numbers	Meaning
19	Year in which the license was created
05	Month in which the license was created
110100011110000	Released functional areas 1 = released / 0 = not released
50	Number of released users
XXXXXX	Customer number
001	0: Farm number 01: Current license number
01	Code of the customer in case of a distributor

Table 6-1: License description



NOTICE!

If no licence is loaded, **No licence** is indicated here.

6.1.3.1 Loading a license

Server

System Time Licenses

Current license

License name No license

Number of users 2

Delete

Load licenses

From CD-ROM ☒

From memory stick ☐

From local path ☐

Loading or deleting of licenses causes a user logout!

Load

Figure 6-21: Loading licenses

1. To be able to load licenses, insert the storage medium (**CD-ROM or memory stick**).

If the licenses were stored in a local directory, they can also be loaded from there.

2. Select the storage medium by clicking on the radio button next to the correct option (**CD-ROM, memory stick or local path**).

3. To load the licenses or to activate them, click on the **Save** button.



The following messages can occur:

- **The loading or deleting of licenses causes a user log-out!**

The Save button has not been actuated.

- **Licenses loaded! Logout user...**

The licenses have been loaded. The user is logged out to activate the licences.

- **Cannot find licenses!**

The storage medium with the license file has not been inserted correctly or is defective.

- **Further messages**

The messages **Cannot correct license! (Reading)**, **Cannot correct license! (Writing)**, **Cannot load license!** and **Cannot open command file!** report a system error. Restart the FarmController or contact service.

6.1.3.2 Deleting a license

Server

System Time Licenses

Current license

License name 13-01-11111111111111-05-DVa-003

Number of users 5

Delete

Load licenses

From CD-ROM ☒

From memory stick ☐

From local path ☐

Loading or deleting of licenses causes a user logout!

Load

Figure 6-22: Deleting a license

To delete licenses in the system, click on the **Delete** button.

Figure 6-23: Deleting licenses



The following messages can occur:

- **The loading or deleting of licenses causes a user log-out!**
The Save button has not been actuated.
- **Licenses deleted! Logout user...**
The licenses have been deleted. The user is logged out to activate the licences.

6.2 Data base



In the data base you can see the stored production data as raw data.



NOTICE!

If changes are made in this menu, this may lead to a data base failure and data loss.

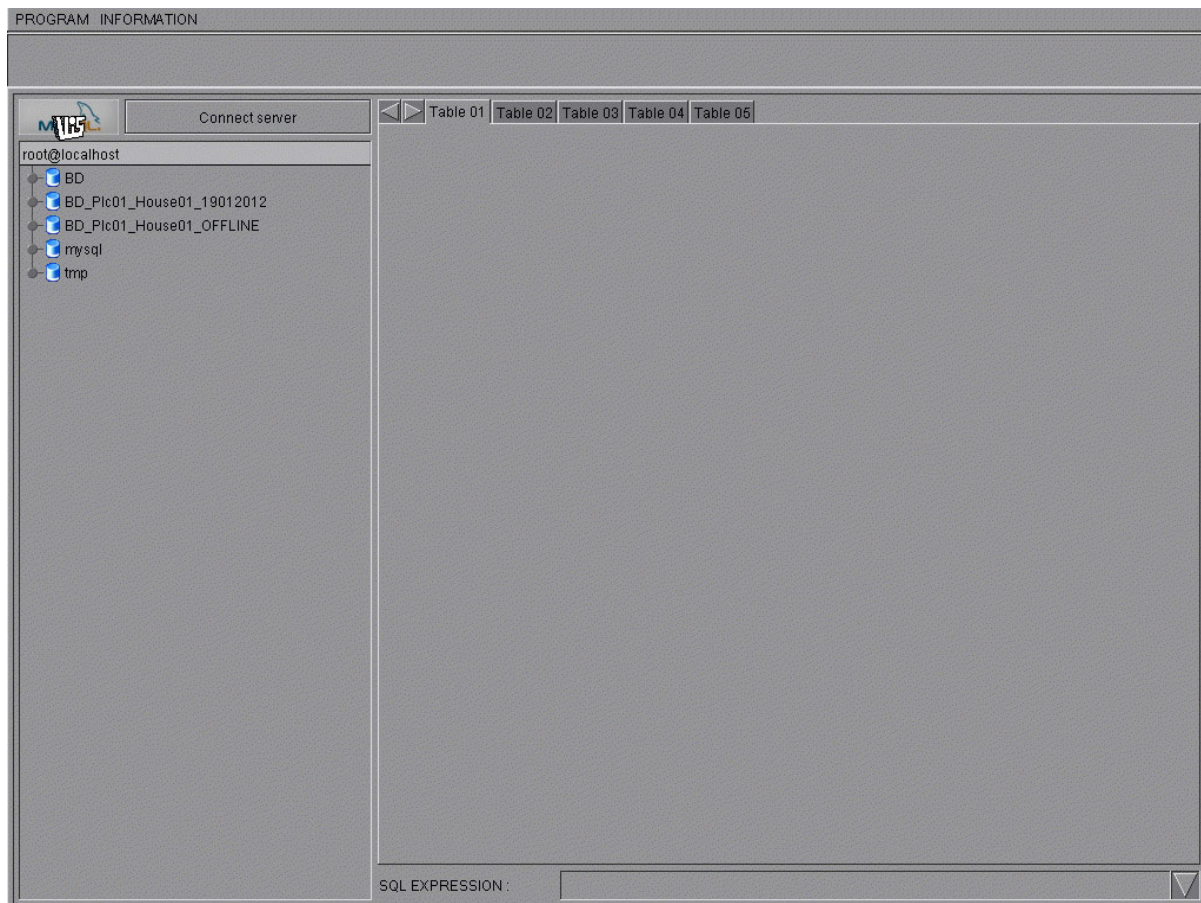


Figure 6-24: Data base

6.3 Project transfer



The project transfer option can be used to create the cache for the FarmTerminal and to save it on a storage medium.



NOTICE!

The storage medium must have a name, e.g. Amacs, and support the file system FAT or FAT32.

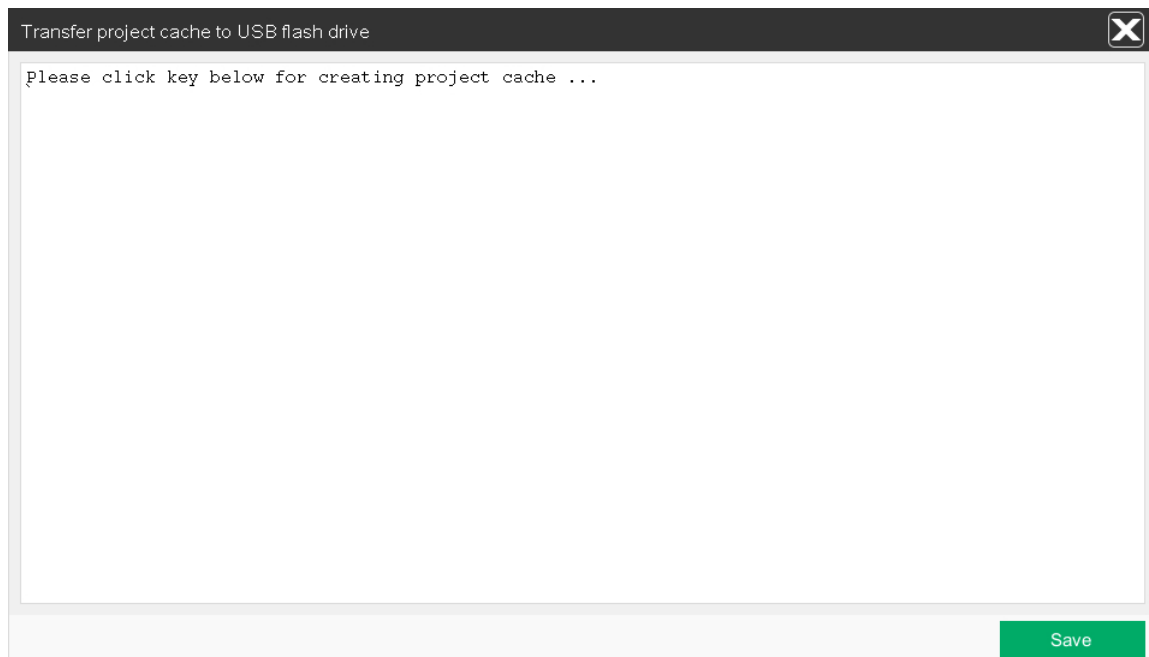


Figure 6-25: Project transfer

1. Insert the storage medium to which the project cache shall be copied into the FarmController.
2. Click on the **Save** button at the FarmController to copy the project cache.
3. If the project cache has been copied successfully, the following text appears:
Creation of project cache successful. Remove USB flash drive.

If the storage medium was not found, the following text appears:

Cannot find USB flash drive in directory.

4. The storage medium can be removed from the FarmController and inserted into the FarmTerminal for loading.

7 Manual

By pressing the function key  you can open the help menu. Via this menu, you can view the manuals for the system.

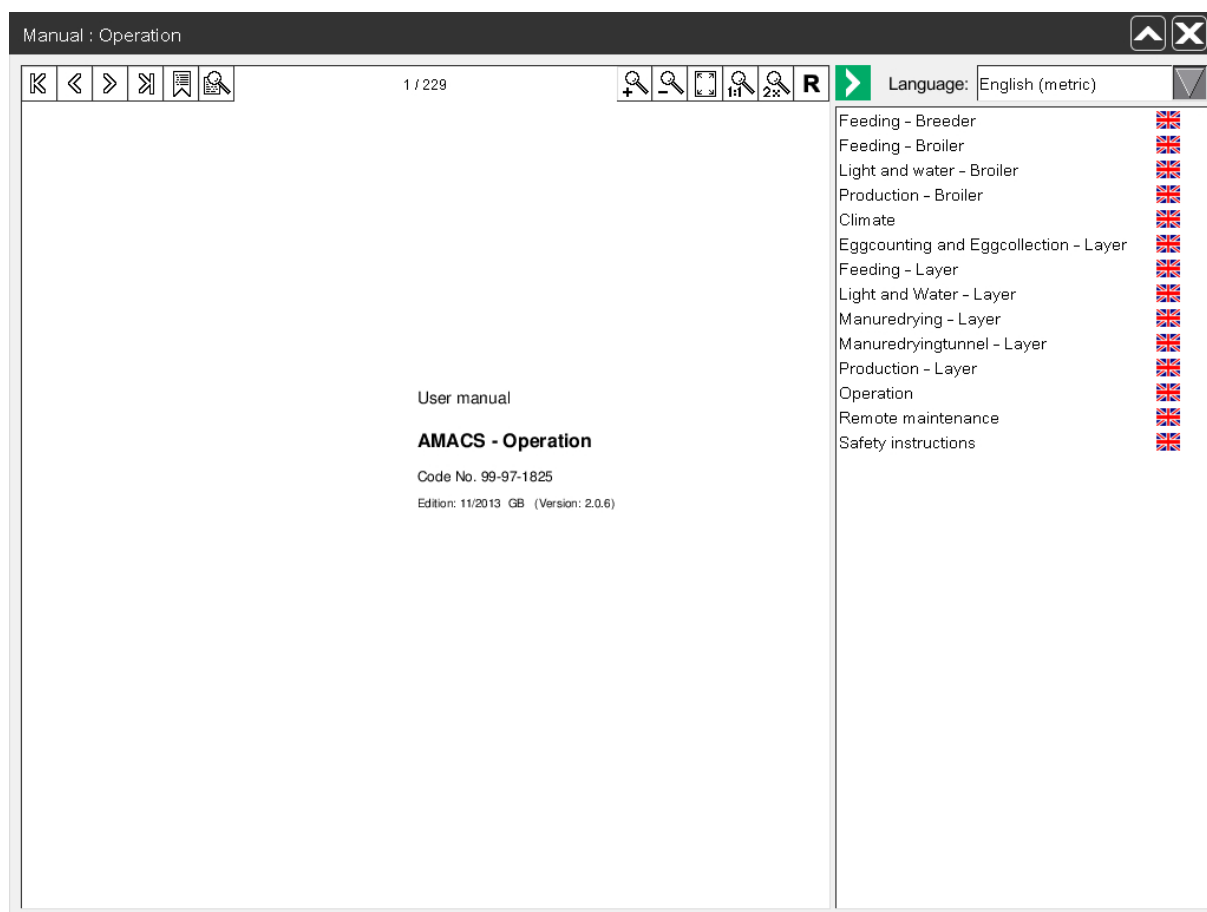


Figure 7-1: Manual

7.1 Menu structure

- **Title bar**

The **title bar** displays the name of the currently opened manual (e.g. Manual: Operation). This menu can be moved by clicking into the title bar and holding the mouse key in case functions need to be compared.



Figure 7-2: Title bar



If you want to continue using the system but not yet close the manual, you can hide the menu towards the top by clicking on the button **Minimise**.



Figure 7-3: Minimised manual



To reopen the menu, press the button **Maximise** or the function key . The menu is restored in its original size.



To close the menu, click on the button with the **X (Close)**.

- **Menu bar**

The menu bar is used for navigating the menu and adjusting the view. The buttons and their meaning are described in the following.

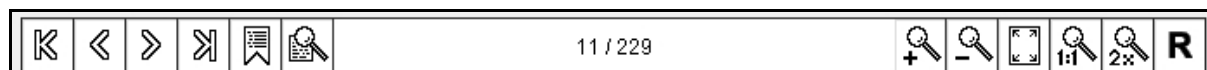


Figure 7-4: Menu bar

	First page
	Previous page
	Next page
	Last page
	Table of contents
	Search
19 / 216	Current page / of total pages
	Zoom in
	Zoom out
	Adjust reading area to current page
	Zoom 100 %
	Zoom 200 %
	Align page

- **Language selection**

With the language selection option, the manuals can be displayed in the required language. If the language set in the system is not the language required for the manual, it can be changed here.

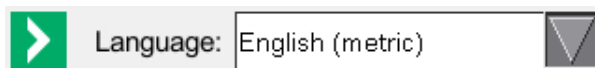


Figure 7-5: Language

- **Document list**

The document list shows all available manuals.

Clicking on a manual opens it in the reading area. The manual's name is displayed in the title bar.

The language of the displayed manual depends on the language set for the system. If the manual is not available in a specific language, an alternative language is offered. The manual language is indicated by a flag in the document list behind the manual title.

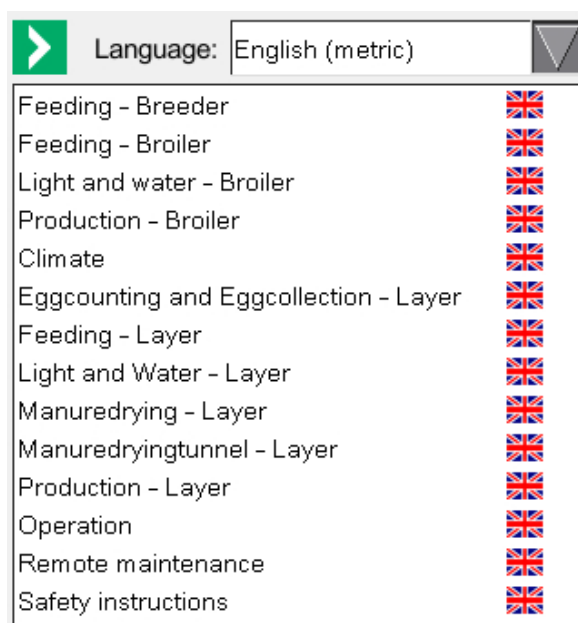


Figure 7-6: Document list



To enlarge the reading area, the document list and language selection can be hidden on the right-hand side with the button **Hide**.



To select a different manual or to change the language, the document list and the language selection can be displayed again by clicking the button **Fade in**.



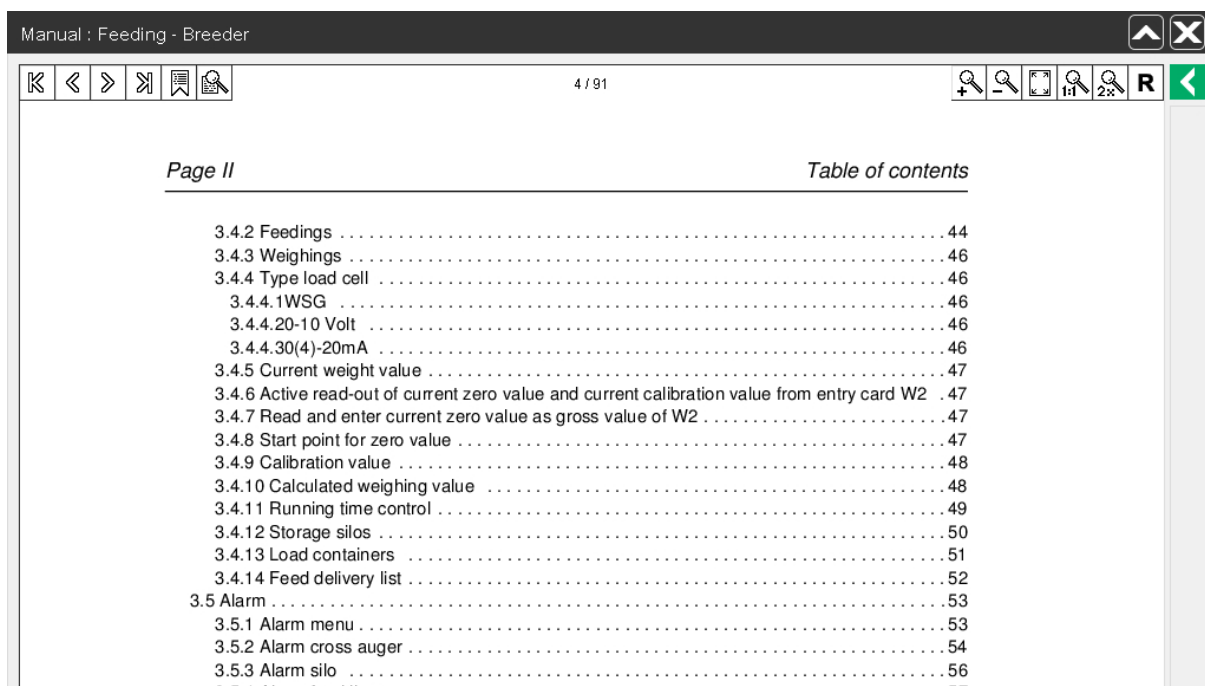


Figure 7-7: Full screen

- **Reading area**

The opened manual is displayed in the reading area. The menu bar described above is used for navigating the manual and to change the view. The manual language can be changed via the language selection. The manual itself can be changed via the document selection. Hold the mouse key for scrolling on the current page.

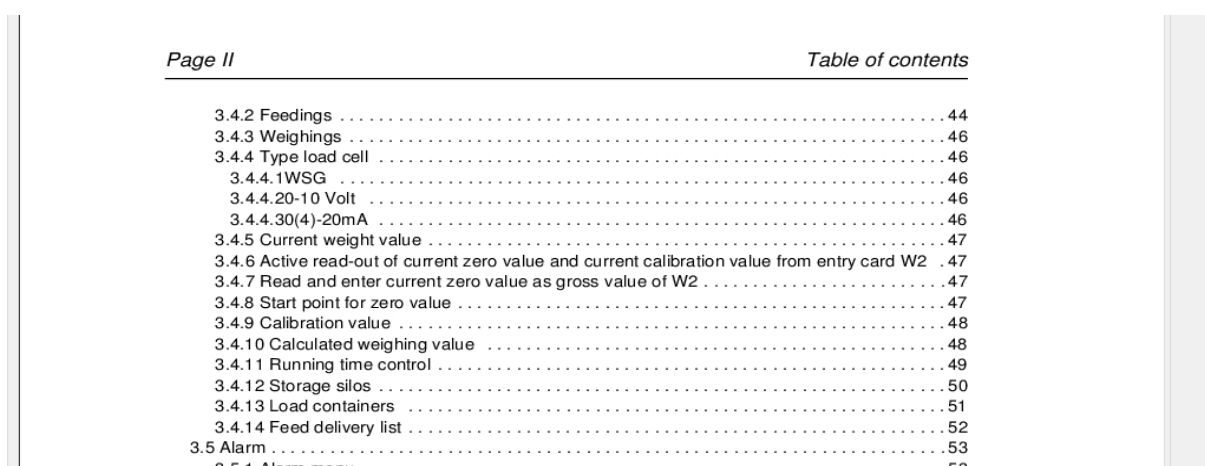


Figure 7-8: Reading area

7.2 Installing manuals

To install or update manuals, the manual CD (91-04-6113 AMACS ManualDisk) must be inserted into the FarmController drive and the following program must be run (see figure below):

NOTICE!

To show the task bar, move the mouse into the lower right corner of the screen.



Figure 7-9: Installing a manual

Clicking on the **Help** icon shown in the previous figure opens a menu with which manuals can be installed, updated and opened.

NOTICE!

Only English and German manuals are installed on the system upon delivery.

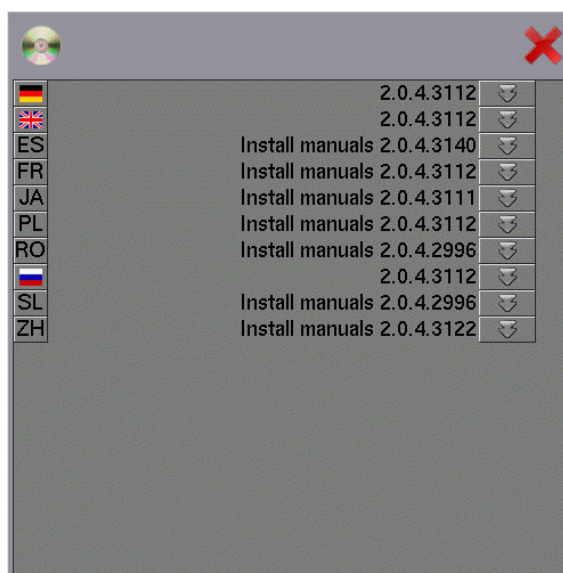


Figure 7-10: Installation menu



The CD icon in the upper left corner of the menu indicates whether the manual disk has been inserted. If the icon is not displayed, check if the correct disk is in the drive. Afterwards, the menu must be opened again.



The menu can be closed with the **red X** in the upper right corner.

The document list indicates already installed manuals (marked with a flag) and the manuals available on the CD (marked by the language abbreviations according to ISO 639).

The digit sequence, here e.g. **2.0.4.3112**, displays the corresponding version number of the system (2.0.4) and the revision number of the language version (3112).

If **Install manuals** is displayed in front of the digit sequence, this language has not yet been installed. If **Update manuals** is displayed in front of the digit sequence, there is a new manual version for this language.

Clicking on **Install manual** or **Update manual** installs or updates the language version after a prompt. The manual is then available by clicking the function key . No other actions can be carried out within this time.

The language can be opened via the arrows pointing up or down. Clicking on one of the manuals opens a PDF viewer displaying the respective manual. If the manual is not installed, an error message appears.

8 Chat

By pressing the function key  you can open a messenger service. Via this messenger service you can communicate / chat with other users logged on the FarmController.

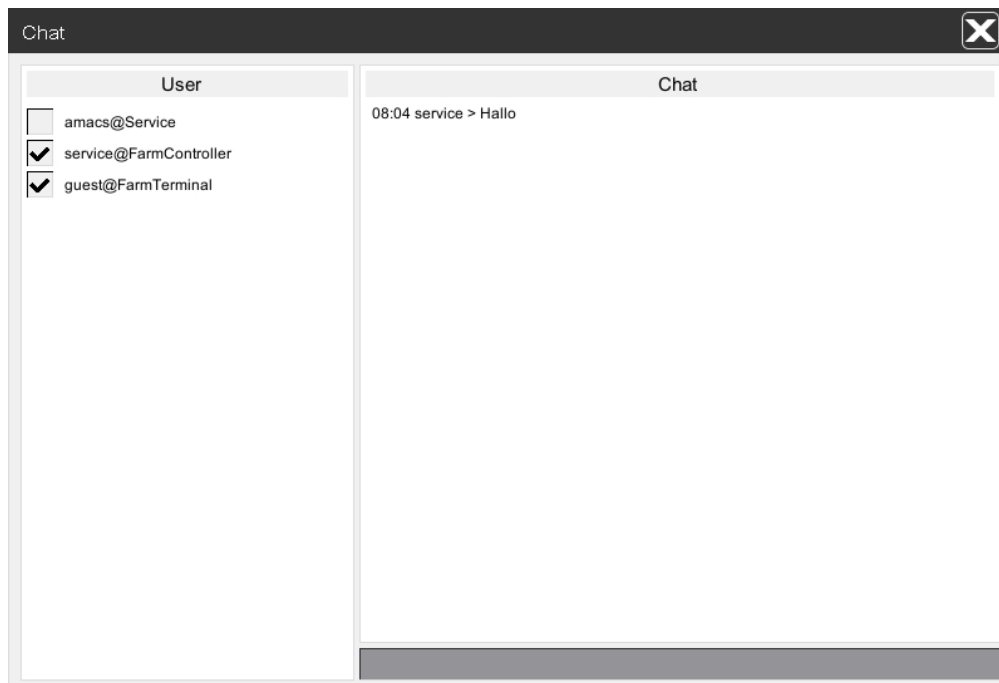


Figure 8-1: Chat

- **Selecting a user**

The field on the left shows the users with service logged into the FarmController. If you want to send a message to a user, check the box next to their name (click into the box). The chat function allows sending a message to multiple users.

- **Entering text**

Enter the text you want to send at the bottom of the menu and confirm with .

- **Chat window**

In the chat window itself you can see the message with time and user (writer of the message). Following messages are added below the last message.

- **Closing**

To close the messenger service, leave the menu by clicking on the **X**.

9 Remote access

Remote access via VNC (Virtual Network Computing) can be used to create a connection to the house and to service the system or to support a person on site with the settings. The advantage of this type of remote access is that you see exactly what the FarmController displays. However, the images are automatically reloaded again and again, which requires time and resources.

If you want to use remote access to configure settings via a quick connection to the FarmController (even from multiple locations), we recommend the FarmTerminal. Here, the images are stored in advance so only the raw values need to be transmitted afterwards.



NOTICE!

Installation and operation of the FarmTerminal are described in a separate manual.



WARNING!

Danger for persons and stock in case of remote access

You are solely responsible when using remote access. Remote access tempts to make sensitive settings which should be configured directly at the FarmController or in the house. This comprises e.g. the switching on of drive units, which may be serviced at that moment. Improper use of remote access risks a safe operating state, production losses and/or life and limb of persons and stock.

- ▶ Note that technical defects may cause connection problems. It is possible that the operating state of the system can only be changed on site.
- ▶ Remote access is only recommended for error detection and assistance. **Do not use remote access for the active control of house parameters.**
- ▶ Only change critical settings when you are on site and can see the effects of your settings.
- ▶ Actions which are carried out at the system via remote access should be calculated carefully and discussed with the staff on site, if applicable.
- ▶ For maintenance of drive units, turn the M-0-A switch to 0 and deactivate the protective motor switch as well. If applicable, actuate the respective emergency stop button. This prevents the drive from starting inadvertently.
- ▶ Also inform your employees and colleagues.

9.1 Requirements

To establish a connection to the FarmController, the local conditions must be checked first. There are two general differences.

1. If you want to access the house from another location or via the mobile network, establish remote access first (see the manual "AMACS Remote maintenance").
2. If the computer to be used for access to the FarmController is part of the same network, the VNC Viewer can be used to access the FarmController. The following describes how to establish a connection as well as the access requirements.

A VNC viewer is used for remote maintenance. It can be downloaded from the Internet and installed on the system. Possible VNC viewers for different platforms are:

- **TightVNC**

for Windows and UNIX

(www.tightvnc.com)

- **Apple Remote Desktop**

for Mac OS X

(www.apple.com/remotedesktop/)

- **Mocha VNC Lite**

for Windows Mobile, BlackBerry, Android, iPhone / iPad and Palm OS

(www.mochasoft.dk)

- **etc.**



NOTICE!

The documentation regarding the installation of the individual programs can be found on the corresponding websites.



NOTICE!

If a VNC viewer is not available, a web browser (Internet Explorer, Firefox, etc.) can be used.

Java Runtime must be installed.



9.2 Establishing a connection

In order to establish a connection between processor and FarmController, some steps must be observed.

NOTICE!

Since there are different VNC viewers, all of which are based on the same principle, this section describes connecting the FarmController using only the example program **TightVNC**.

1. Open the VNC viewer / web browser.
2. Enter the IP address of the FarmController.

a) VNC viewer

Enter the IP address of the FarmController as VNC server under which the FarmController can be reached in the network.

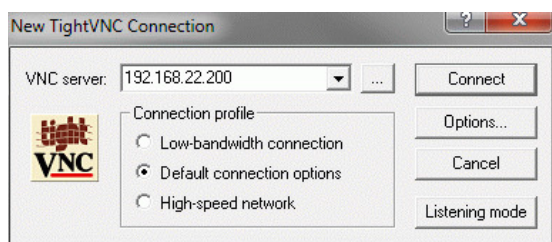


Figure 9-1: VNC viewer

b) Web browser

Enter the IP address of the VNC server as follows into the address box:

http://192.168.22.200:/vnc/

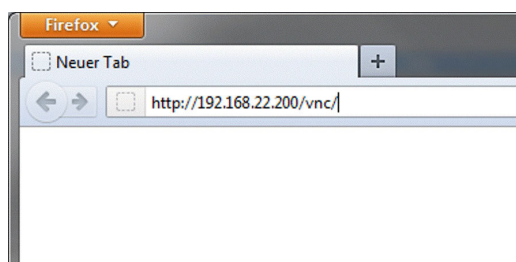


Figure 9-2: Web browser

NOTICE!

Request the IP address and the password from the service partner.

3. After confirming the IP address by clicking on the **Connect** button / pressing the  key, a message with the question of whether a connection is allowed may appear in case a firewall is installed. Allow this connection.
4. During connecting, the system checks whether anyone is logged into the FarmController.

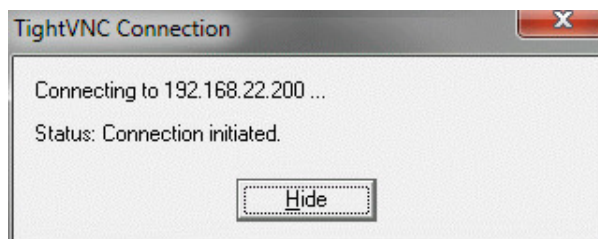


Figure 9-3: Connect VNC

a) Somebody is logged in

If someone is logged into the FarmController, this user receives a request displaying the VNC viewer's IP address. The user can decide whether they want to accept the connection by clicking on **Allow** or **Deny**, as required.

If nothing happens on site, the connection ends automatically after 15 seconds. In this case, someone needs to either log out on site or wait until the user management automatically logs out all logged users.

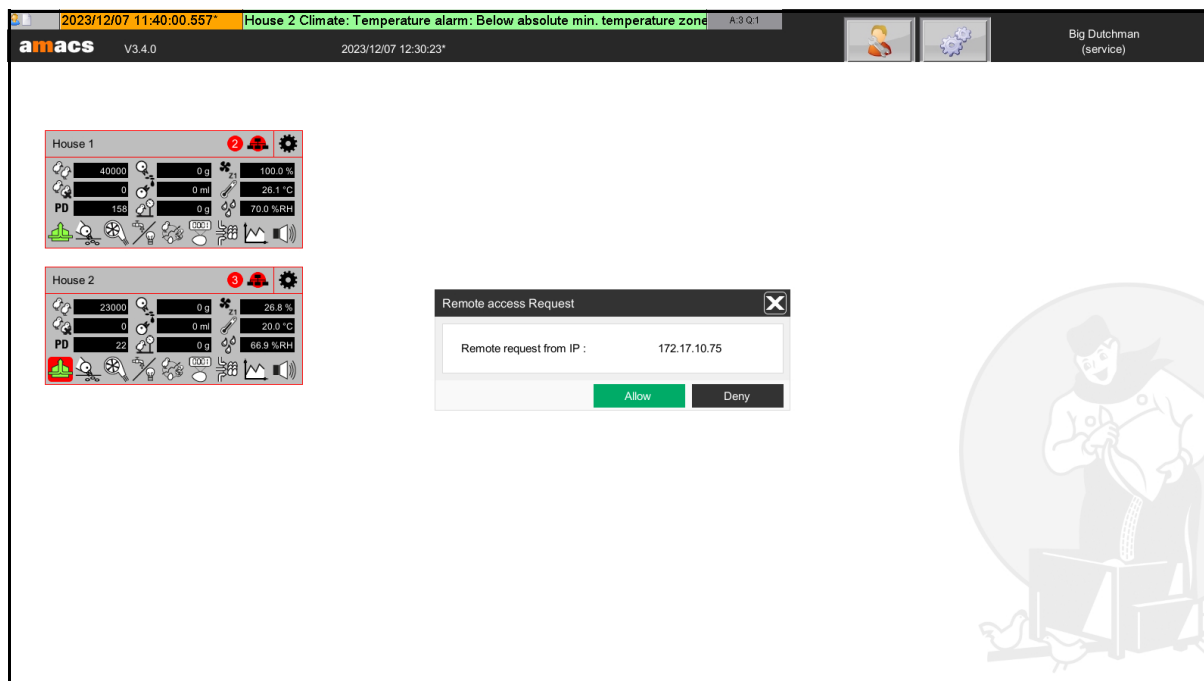


Figure 9-4: Remote access request

NOTICE!

This query is necessary to make sure that the changed settings are correctly assigned in the logging and to avoid that areas are released which are protected by the user administration.

b) **Nobody is logged in**

If nobody is logged in, the VNC viewer connects with the FarmController and the password request appears.

5. In the next window of the VNC viewer, enter the password for the VNC server on the FarmController.



Figure 9-5: VNC password

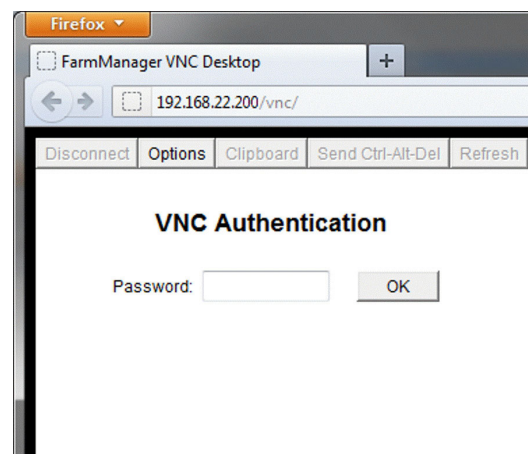


Figure 9-6: Web browser password

6. After having confirmed the password with **OK**, the screen of the computer is displayed depending on the connection.

a) **Somebody is logged in**

If someone is logged into the FarmController, a window with the information **Remote access active** appears in the lower right part of the screen. This window shows the VNC viewer's IP address and a blue door. Clicking on this door interrupts the connection. If the window hides information, it can be moved with the mouse pointer by clicking on the top orange border.

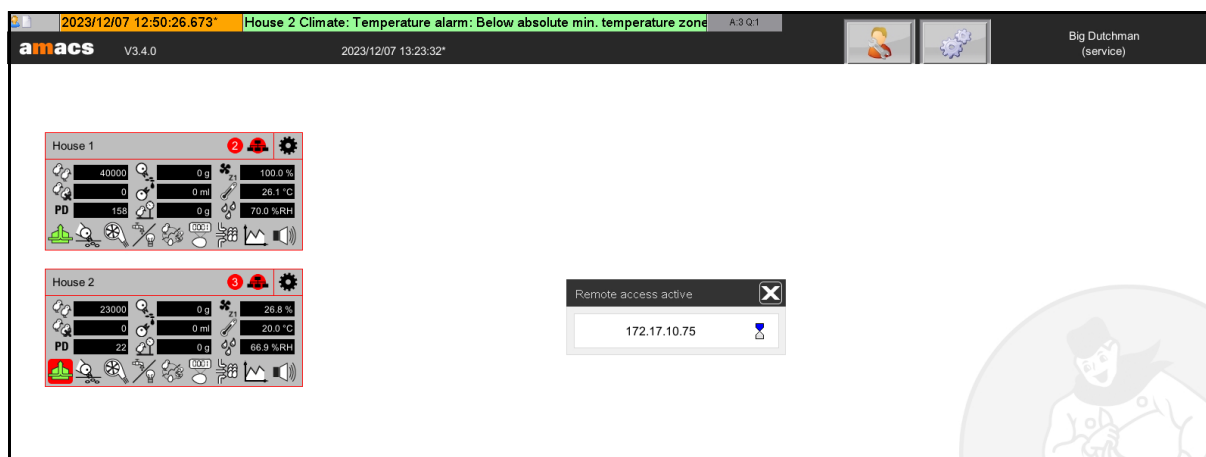


Figure 9-7: VNC viewer on the main screen

b) Nobody is logged in

If nobody is logged in, the login window appears. In the lower left corner of the window, the VNC viewer's IP address is displayed with the information **Remote access active**.

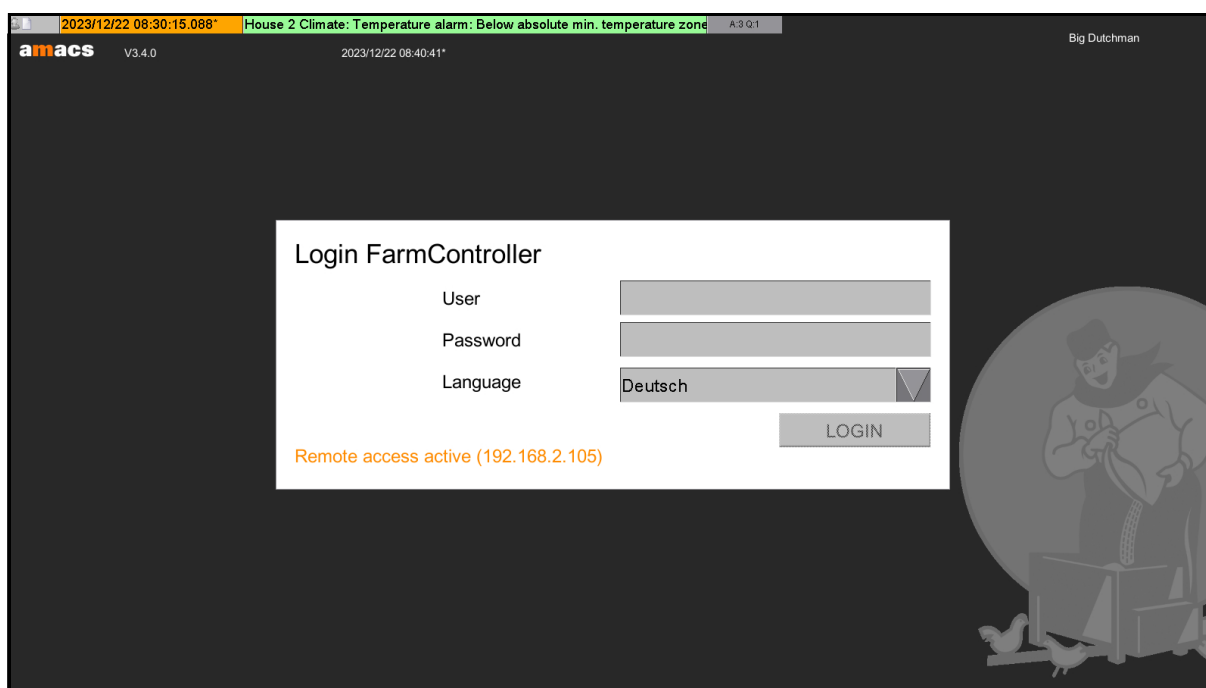


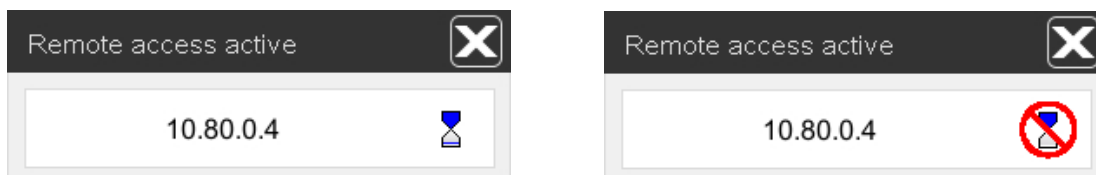
Figure 9-8: VNC viewer login

7. The VNC connection has now been established, allowing work on the system.

NOTICE!

If the VNC viewer was started in full screen mode, the task bar can be made visible again with the keyboard shortcut  +  .

8. Where mobile end user devices are used for remote maintenance of AMACS, the VNC server may not register the interruption of the mobile data connection. In the context menu of the active VNC connection, an activity monitoring is displayed as an hourglass for these cases. This activity monitoring recognizes the movements of the mouse pointer. If the mouse pointer is not used for 60 seconds, the hourglass starts flashing in red to indicate that the connection will be interrupted automatically after 15 more seconds.



If this monitoring is not desired, it can be switched off by clicking on the hourglass.



NOTICE!

Make sure that the setting "Use local mouse pointer" is activated in the VNC viewer (e.g. Mocha-VNC).

9.3 Interrupting a connection

If you want to interrupt the VNC connection, observe the following details.

a) Somebody was logged in

If someone is logged into the FarmController, the connection can be interrupted by closing the program or by clicking on the blue door in the window. The user will not be logged out at the FarmController.

b) Nobody was logged in

If nobody was logged in, the connection can also be interrupted by closing the program or clicking on the blue door in the window. The user is then automatically logged out by the user administration.



NOTICE!

Logging out is necessary so the changed settings can be assigned correctly in the logging and to make sure that no areas that are protected by the user management are released.

10 Alarm line

The alarm line is displayed above all menus. It shows current house alarms, system-specific alarms and alarms that require acknowledging but have not been acknowledged yet.

House alarms can be set in the alarm menu (chapter 13 "Alarm settings") of the areas. System alarms (alarms from the FarmController or control unit) cannot be changed for safety reasons. The purpose of older alarms that require acknowledging is checking whether everything is okay. Such alarms still need to be acknowledged.

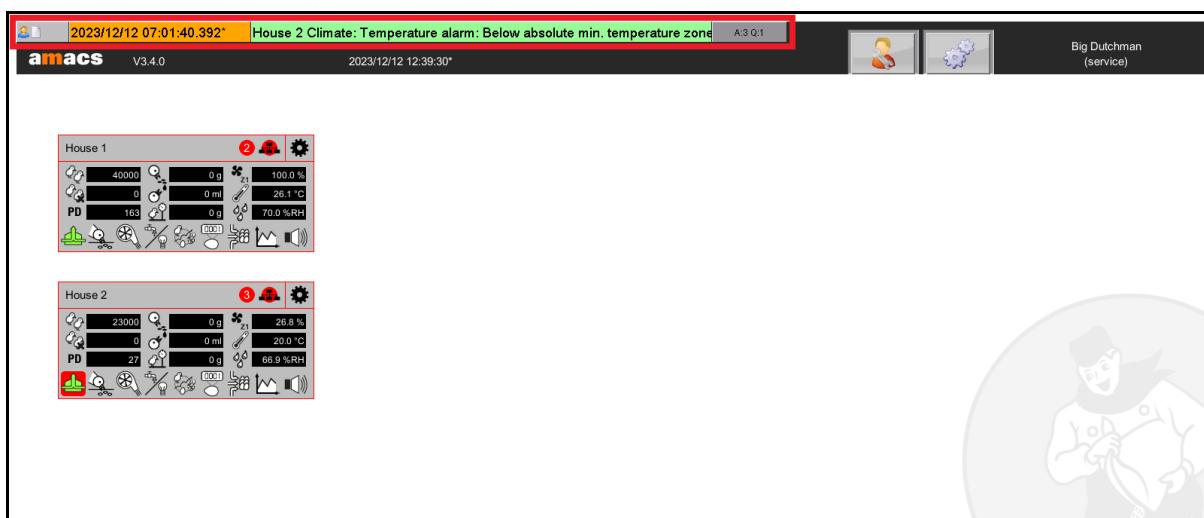


Figure 10-1: Alarm line

NOTICE!

Treat the alarms indicated here with the highest priority. Ignoring climate alarms, for example, can endanger the life of your birds.

- **Opening the alarm line**

The button to the right of the alarm line shows the number of all alarms (e.g. A: 4) as well as not yet acknowledged alarms (e.g. Q: 2).

NOTICE!

If the background of the field is red, the active alarms cannot be retrieved.

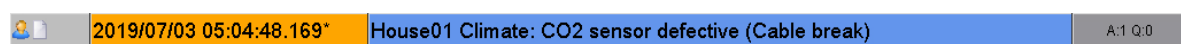


Figure 10-2: Opening the alarm line

Clicking on the button opens the alarm line. All active and not yet acknowledged alarms are displayed.

2019/07/03 05:50:16.704*		House03 Climate: Humidity sensor 1 defective (Cable break)		A:7 Q:0
	Time	Group	Message	
	03.07.2019 05:50:16.704*	CLIMATE - SENSORS	House03 Climate: Humidity sensor 1 defective (Cable break)	
	03.07.2019 05:50:14.689*	CLIMATE - SENSORS	House03 Climate: CO2 sensor defective (Cable break)	
	03.07.2019 05:50:08.197*	CLIMATE - SENSORS	House02 Climate: Humidity sensor 1 defective (Cable break)	
	03.07.2019 05:50:07.185*	CLIMATE - SENSORS	House02 Climate: CO2 sensor defective (Cable break)	
	03.07.2019 05:49:49.143*	CLIMATE - SENSORS	House01 Climate: Neg. pressure sensor defective (Cable break)	
	03.07.2019 05:48:51.040*	CLIMATE - SENSORS	House01 Climate: Humidity sensor 1 defective (Cable break)	
	03.07.2019 05:48:36.016*	CLIMATE - SENSORS	House01 Climate: CO2 sensor defective (Cable break)	

Figure 10-3: Opened alarm line

- Closing the alarm line**



To close the alarm line, leave the menu by clicking on the round blue button with the white arrow.

10.1 Structure of the alarm line

The alarm line always has the same structure. When the alarm line is open, you can re-structure it by clicking on the corresponding column head. The most recent alarm is at the top by default.

- **User right**



The first column indicates whether you have the necessary rights to acknowledge the alarm. If the person is coloured, you hold the necessary rights.

If the person is grey, you cannot acknowledge the alarm.

- **Compulsory acknowledgement**



The second column indicates whether the alarm must be acknowledged and whether it has already been acknowledged.

A white sheet means that acknowledgement of this alarm is not compulsory. However, the alarm can be acknowledged to indicate that it has been noted. A green checkmark will appear on the white sheet in this case.

A red sheet with a pencil means that acknowledgement of this alarm is compulsory. The alarm remains in the alarm line until the user acknowledges it. If the alarm has been acknowledged but its cause not eliminated, a green checkmark will appear on the red sheet instead of the pencil.

- **Multiflag**



The third column indicates whether an alarm that requires acknowledging has been generated several times. If an alarm is active and must be acknowledged, it is displayed in the alarm line. When this alarm ends, it remains in the alarm line until the user acknowledges it. If the alarm is triggered again, it must be listed a second time. In case of a defective contact, this procedure would lead to a great number of alarms if they are not acknowledged. For this reason, every alarm is only displayed once in the alarm line, even if it was generated and has ended multiple times without being acknowledged.

- **Repeater flag**



An alarm may end with a delay. The fourth column indicates whether the alarm was generated multiple times within this delay time. It is possible that the alarm is no longer active, but is triggered again within the delay. In this case, the message is not removed from the list. However, this would mean that the user is not able to recognize that the alarm has occurred multiple times already. To indicate this, a red **i** is displayed.

- **Time**

The fifth column indicates when the alarm was generated and when it has ended in case of alarms that require acknowledging. If the alarm is still active, the field is orange. If the alarm has ended but still requires acknowledging, the field turns light blue.

Time
13.06.2011 03:45:31.291~
13.06.2011 03:45:14.164~
12.06.2011 22:41:27.818~
12.06.2011 22:00:49.932~

Figure 10-4: Time

- **Group**

The sixth column indicates from which area the alarm originates. To acknowledge the alarm, the user must at least have the right **Operation** for the group. For information on how rights are assigned, refer to chapter 5.1.6.1 "Rights - Assigning".

Group
CLIMATE - SENSORS
CLIMATE - SENSORS
SYSTEM - MESSAGES
SYSTEM - MESSAGES

Figure 10-5: Group

- **Message**

In the seventh column the alarm text is indicated. In front of the text you can see to which system it refers (FarmController, control unit, house, UPS, CAN, etc.). The alarm line may vary in terms of colour. This is preset by the colour allocation of the priority of the message and can be seen as a temperature colour scale.

Message
House01 Climate: Min. deviation of temperature fell below
House01 Climate: Temperature sensor 1 defective (Broken cable)
Plc01 : UPS announced power failure
UPS : Service not working

Figure 10-6: Message

10.2 Filtering alarms

By default, the alarm line shows alarms of all areas. If you are looking for specific alarms, there are several options for filtering the area (+AREA) you want to see. Additionally, you can filter for priorities (++ PRIORITIES) via the areas.

All filters are reset when selecting a new area, the standard mask or full access.

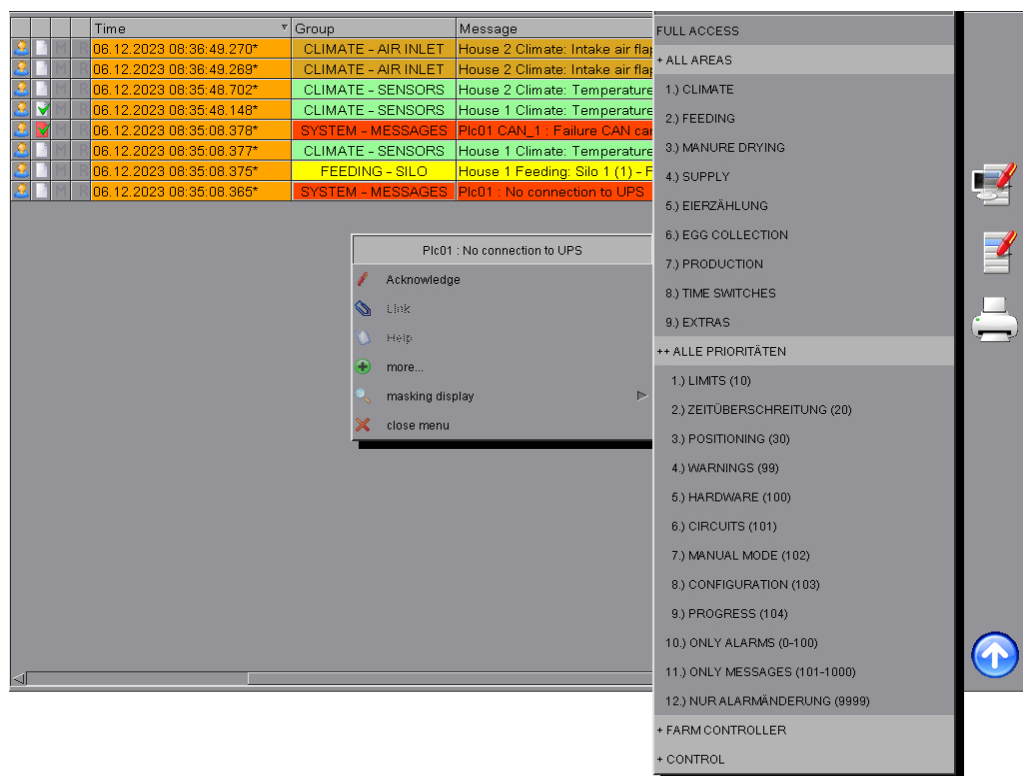


Figure 10-7: Filtering alarms

1. To activate a filter, click on an alarm or into the grey area when the alarm line is open.

NOTICE!

To leave the menu, click on the menu entry **Close menu**.

2. Move the cursor to the menu **Masking display**.
3. Select the requested priority or the area which shall be displayed.

NOTICE!

If a filter is activated in the alarm line, new alarms triggered from hidden areas are not indicated. The filter can be deactivated with the standard mask.

NOTICE!

If you log out, the filter is reset automatically to the standard mask.

10.3 Acknowledging alarms

In the alarm line, you can confirm pending alarms or acknowledge alarms that are no longer active.

NOTICE!

If an alarm was acknowledged, you have only confirmed the message. The alarm is active as long as the error exists. In order to remove the alarm, you have to find the cause for the alarm.

- **Acknowledging single alarms**

Clicking on the alarm opens a window in which the active alarm can be confirmed by clicking on the option "Acknowledge". If an alarm that is no longer active is acknowledged, it will be removed from the alarm line.

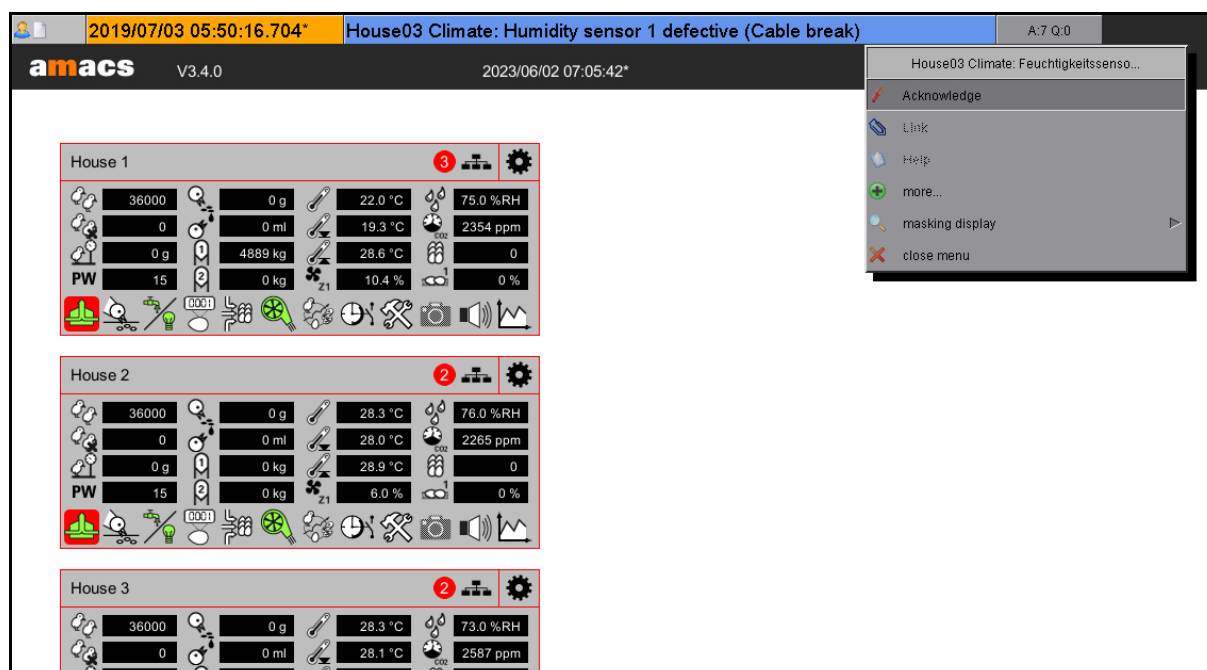


Figure 10-8: Acknowledging single alarms

- **Group acknowledgement of all visible alarms**



In the open alarm line, you can click on the button **Group acknowledgement of all visible alarms** to acknowledge all alarms that have not been acknowledged yet and that are currently being displayed in the alarm line (i.e. that have not be filtered) at once. A security query appears, asking whether this process should really be carried out to prevent you from acknowledging all alarms by accident. You can still cancel the process at this step.

- **Group acknowledgement of all alarms**



In the open alarm line, you can click on the button **Group acknowledgement of all alarms** to acknowledge all pending alarms in the alarm line at once. This means that all alarms not yet acknowledged will be acknowledged (even if they are not visible due to a filter). A security query prevents the accidental acknowledgement of alarms.

10.4 Printing



The alarm list can be printed using a connected printer. Click on **Print alarm list**, which appears in the open alarm line, to define the appearance of the printout, select the printer and submit the print job.

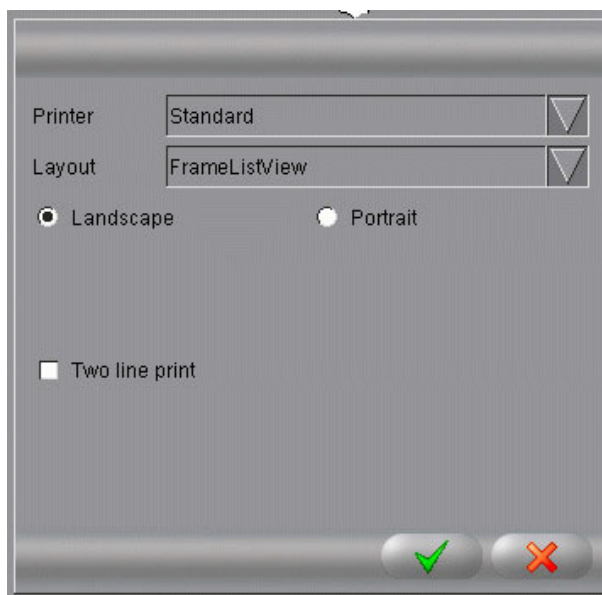


Figure 10-9: Print

1. The set **Printer** must be selected in the first field. In the standard setting, **Standard** is selected.
2. Use the function **Layout** to define whether only the current **ListView** with lines should be printed, or a **FrameListView** with index.
3. Use the functions **Landscape** and **Portrait** to select whether an image should be printed in landscape or portrait format.

The standard setting is **Landscape**.

4. Use the function **Two line print** to print additional information about the alarm.
This function is deactivated by default.
5. Start the print job by clicking on the **green checkmark**, or cancel it by clicking on the **red X**. If you select "Cancel", the menu is closed.

11 Standard menu of the functional areas

The overview for individual modules such as climate, feeding, production, etc., can be reached by left-clicking on the respective shortcut.

Because the Amacs display is not limited to a specific resolution, the module overview opens in one or, if several module areas are selected, multiple separate windows.

All menus have the same structure. The following describes the components of the title bar in the upper, dark part from right to left.

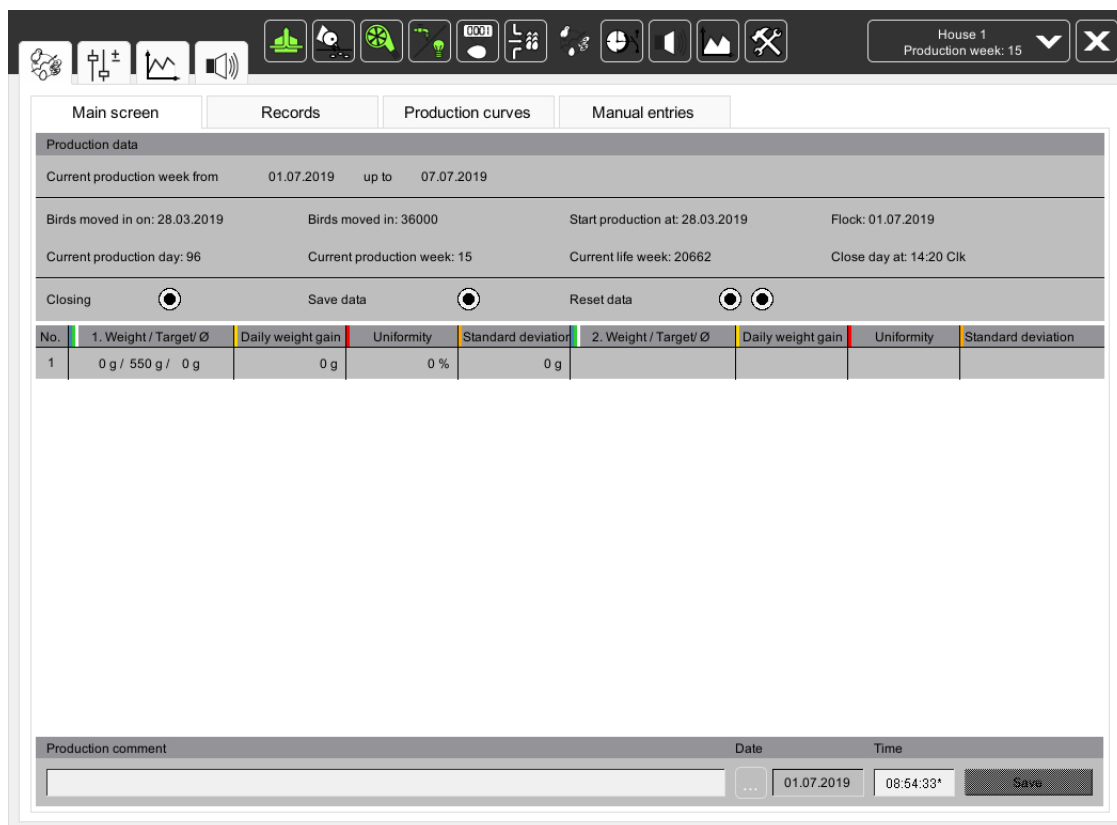


Figure 11-1: Area overview

11.1 Closing the module window

Close the respective window by clicking on the button

11.2 House selection

Switch from the current house to another house using the drop-down menu that opens when you click on the field with the house name and the arrow pointing downwards. The module in which you currently are does not change.

Below the house name, specific production data of the house, e.g. production day, production week, number of birds, flock identification, day of life and week of life are indicated in turn.

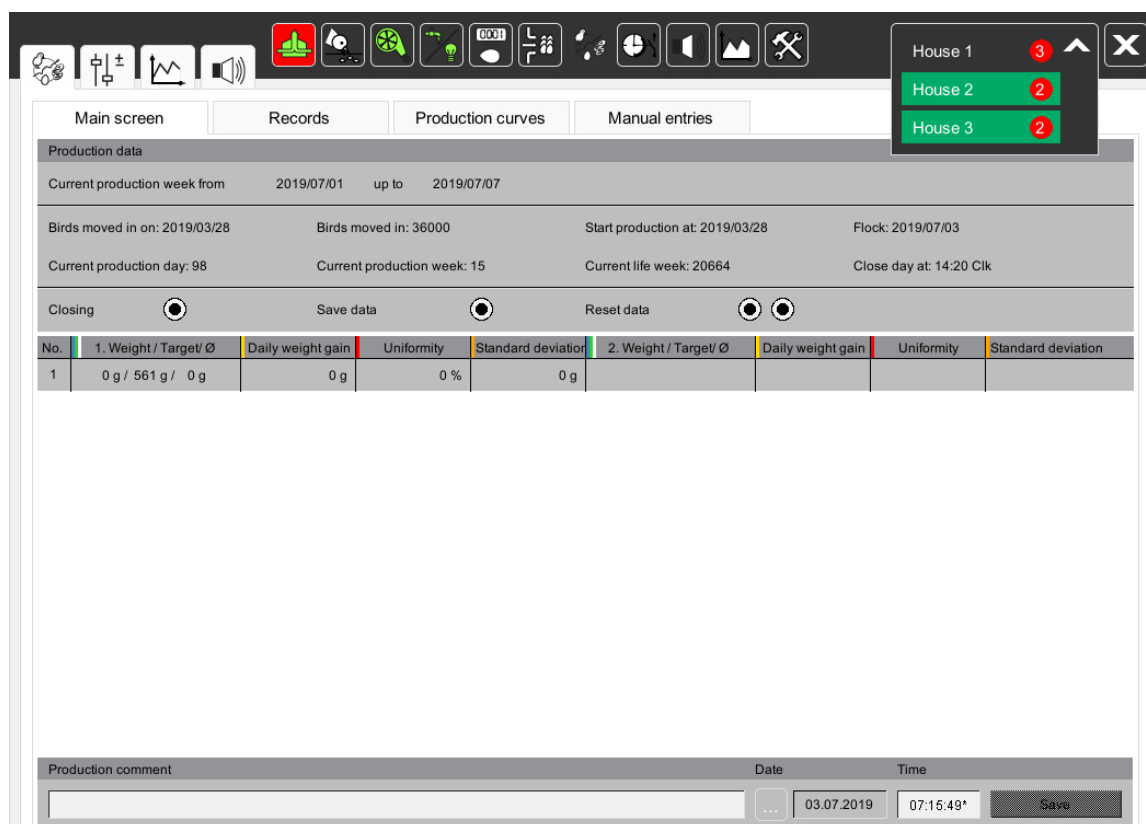
If you hover over a field with the mouse pointer, a context menu will provide a summary of this data.

If you click into the field with the house name and the production data, a window appears, listing all houses on the farm.

If you select a different house than the one currently displayed, you will see the new house.

NOTICE!

The window also shows status information regarding the specific house. The meaning of the icons is described in chapter 4.2 "Status house".



The screenshot shows the AMACS software interface. At the top, there is a toolbar with various icons. Below the toolbar, there are tabs for "Main screen", "Records", "Production curves", and "Manual entries". The "Main screen" tab is active. The main area displays production data for a selected house. A dropdown menu is open, showing three options: "House 1" (3), "House 2" (2), and "House 3" (2). The production data section includes fields for "Current production week from" (2019/07/01) and "up to" (2019/07/07). Below this, there are four rows of data: "Birds moved in on: 2019/03/28", "Birds moved in: 36000", "Start production at: 2019/03/28", and "Flock: 2019/07/03". The next row shows "Current production day: 98", "Current production week: 15", "Current life week: 20664", and "Close day at: 14:20 Clk". Below this, there are three radio buttons for "Closing", "Save data", and "Reset data". The bottom section contains a table with production data for one house.

No.	1. Weight / Target/ Ø	Daily weight gain	Uniformity	Standard deviation	2. Weight / Target/ Ø	Daily weight gain	Uniformity	Standard deviation
1	0 g / 561 g / 0 g	0 g	0 %	0 g				

At the bottom, there is a "Production comment" field, a "Date" field (03.07.2019), a "Time" field (07:15:49*), and a "Save" button.

Figure 11-2: House selection in the area

11.3 Area selection

Next to the house selection, the shortcuts are displayed. Using these icons, the user can directly switch from the climate module to the feeding module of the house, for example.

The colour codes of the icons are identical with those in the house depiction. Additionally, an orange dot is displayed to indicate manual operation.

The white frame around the shortcuts shows that this is a button you can click on. If there is no frame, this means that you are already in the module, i.e. clicking is no longer possible.

The shortcuts cannot be moved in this menu. All available shortcuts are always displayed in the same order.



Figure 11-3: Area selection

11.4 Settings in the different functional areas

To the left of the shortcuts, icons leading to the settings and data of the corresponding area are displayed.

The following describes the meaning of each icon.

11.4.1 Overview screen



The first icon, which is the same icon as that of the current functional area, opens the main screen of the module. This icon appears in every menu for fast navigation.



NOTICE!

Before leaving the menu, you should make sure that the components possibly switched to manual operation (eg. fans or motors) are switched to automatic operation again.

11.4.2 Settings



This icon leads to the settings that are available in every functional area. They allow for an adjustment of feed quantities, temperatures etc., or enable you to enter or monitor production data, such as egg numbers.

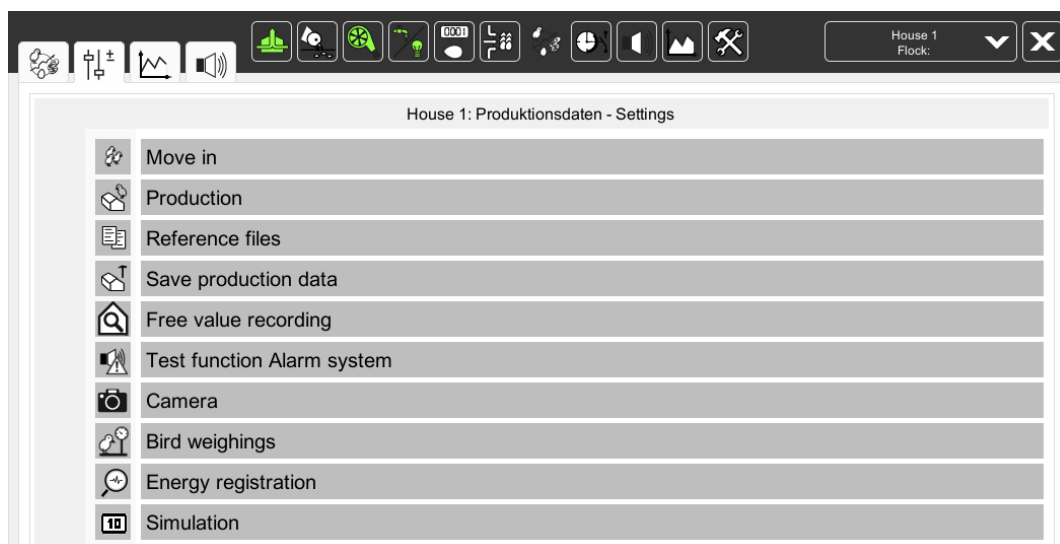


Figure 11-4: Settings: areas

Clicking on a menu entry opens the settings menu for this entry.

The names of the other menu entries are hidden by the opened settings menu. The icons of the individual menu entries are still visible on the left-hand side.

The icon for the open settings menu is replaced by an arrow pointing to the left.



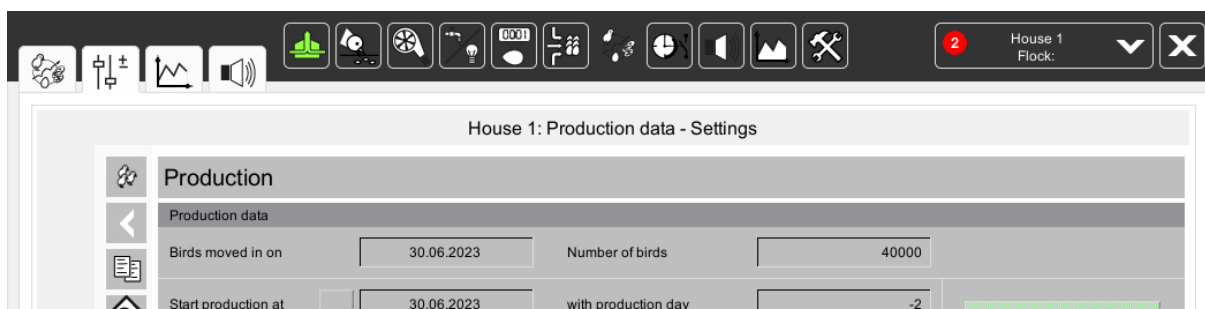
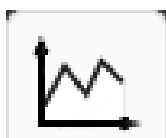


Figure 11-5: Settings: navigation function for areas

Clicking on the arrow returns you to the menu selection. Clicking on one of the other settings menu icons leads you directly to the respective menu.

Hovering above the icon for a short while with the mouse pointer displays the name of the current settings menu.

11.4.3 Curves



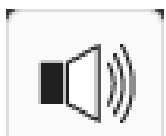
This icon opens a menu with which e.g. temperatures or silo levels can be displayed as curves. All data of **AMACS** can be linked via these graphical displays. The menu of the curve overview is described in chapter 12 "Curve overview".



NOTICE!

Clicking on the button with the described icon in the top bar leads you to the selection of all saved house curves. For more information, check chapter 15 "Curve summary".

11.4.4 Alarms



Via the icon with the alarm symbol you can enter the settings for each area which trigger an alarm, e.g. safety times for feed chains or min./max. values for temperature in the climate area. The menu with the alarm settings is defined further in chapter 13 "Alarm settings".



NOTICE!

Clicking on the button with the described icon in the top bar leads you to the message and alarm history. For more information, check chapter 14 "Message history".

12 Curve overview

A good way to analyse errors and problems in the house is the option to create individual views with trend graphs of temperatures, counters or weights. The graphics show different curves, including for multiple houses, on one screen.



Figure 12-1: Curve overview

12.1 Selecting a curve overview

To be able to perform multiple evaluations per functional area, select one of ten curve overviews by clicking on one of the figures 1 to 10 at the bottom of the window.

The number of the selected curve overview changes its colour from white to black.



Figure 12-2: Selecting a curve overview

12.2 Configuring a curve overview

Via both push buttons at the left edge of the screen you can select all house curves and drag them into the window. The curves are displayed in a clear tree structure which facilitates the searching.



The first button only shows the curves of the currently open house for a better overview. You can open the curves from all areas of the house.



The second button shows the curves of all available houses. This makes it easier to compare houses so they can be optimised.

For an overview of the required curves, left-click on the correct curve, hold the mouse button, drag the curve into the overview and release the mouse button. You may also click on the folder to see all curves of a function, an area or a house. Close the menu by clicking on the **red X** after you have selected all curves.

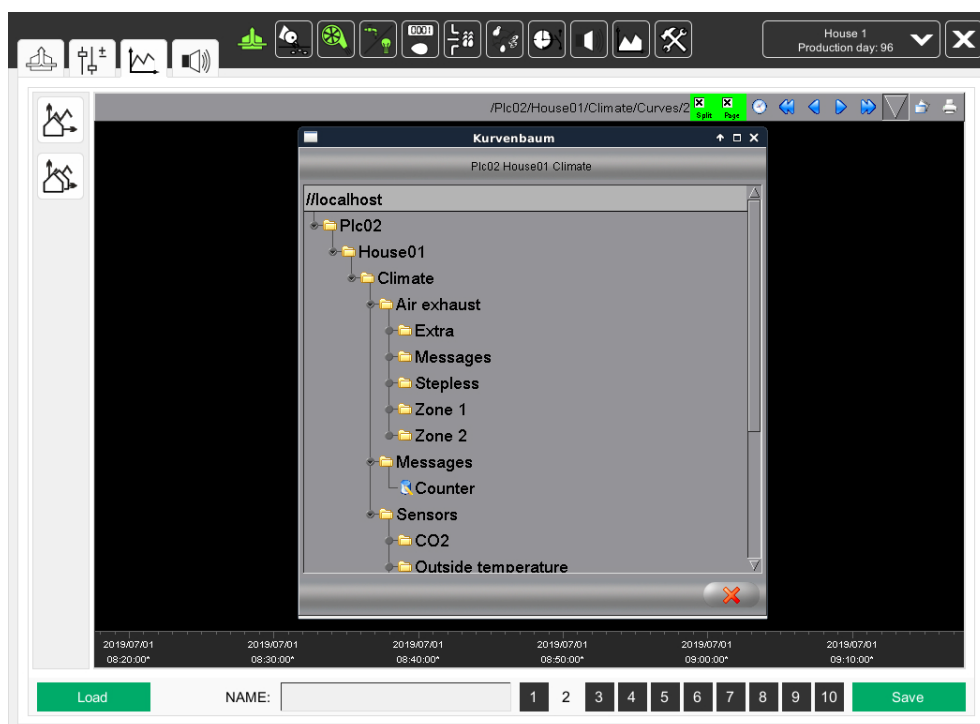


Figure 12-3: Configuring a curve overview

12.3 Curve view

In the headline of the curve you will find information about the value. In addition, it is also possible to change the view for a better analysis.

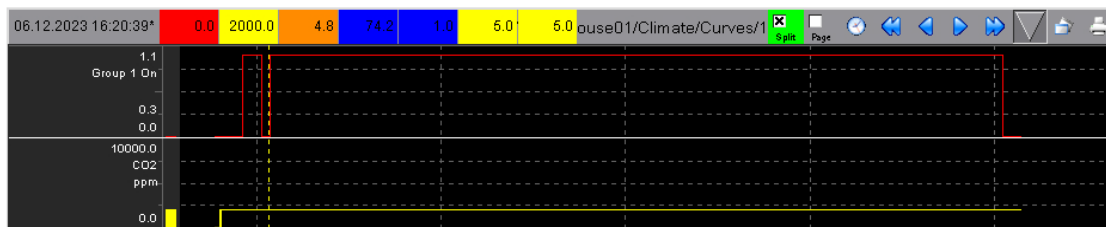


Figure 12-4: Curve view

12.3.1 Ruler value

The ruler function is activated automatically as soon as the mouse pointer hovers over the curve. A coloured patch is shown for each curve in the headline. The colour of the patch corresponds to the colour of the curve below. The patch itself shows the current status or value of the curve. The curve's value is determined based on the current position of the mouse pointer. The time of the position is indicated in front of the coloured patch. This makes it possible to analyse the value of curve trends at specific times.

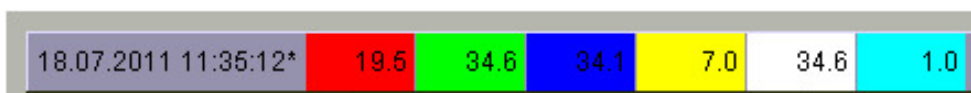


Figure 12-5: Ruler value



While the curve values are read from the data base, **READ** is displayed in the color patch.



If there is no curve value at the position of the cursor, **NO VALUE** is displayed.



If the cursor is not in the display area, **OK** is displayed in the colour patch.

12.3.2 Curve menu

Each curve can be set via the corresponding colour patch in the heading line. A click with the right mouse button on the color patch will open the context menu with the setting options of the respective curve.

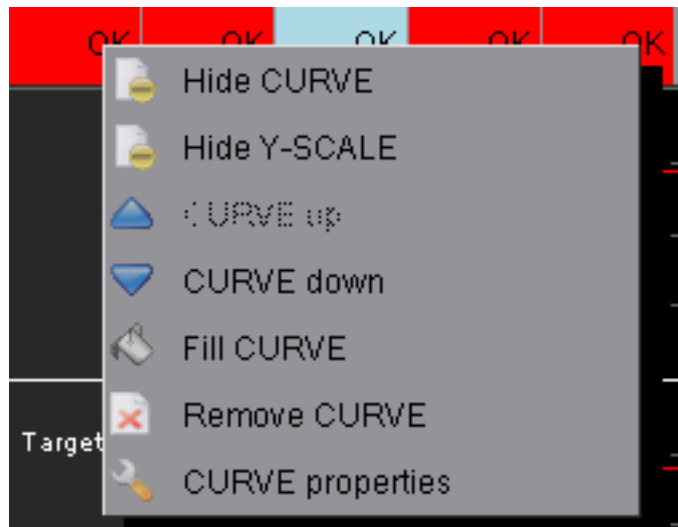


Figure 12-6: Curve menu

- **Hide / display curve**

With this function you can hide or show single curves in the display area. If several curves are displayed, hiding one curve may improve clarity without having to delete a curve.

- **Hide / display Y-scale**

With this function you can hide and display the Y-scale of the curve. Normally the Y-scales of the curves are set in line. This may limit the presentation area of the curves if several curves are displayed.

- **Curve up / down**

This function allows a change of the sequence of the curves in the display area. The colour patch of a curve is moved up to the left or down to the right. In the split view the curves are moved up or down correspondingly.

- **Fill curve**

This function allows showing the curve as a filled area in the display. The fill colour can be defined in the menu **Curve attributes: Presentation**. The curve is filled up to the zero line of the display area.

- **Remove curve**

This function allows removing the curve from the current configuration. This has no effect on the curve recording itself.

- **Curve properties**

With this function you can open the setting of the curve properties. Further information can be found in chapter 12.3.3 "Curve properties".

12.3.3 Curve properties

You can change the view, dimensioning and scaling of the curve here. To open the curve attributes, left-click on the coloured patch of the curve. Alternatively, right-click on the coloured patch and select the function **Curve properties** from the context menu.

12.3.3.1 Data

Below the tab **Data** the following settings can be made:

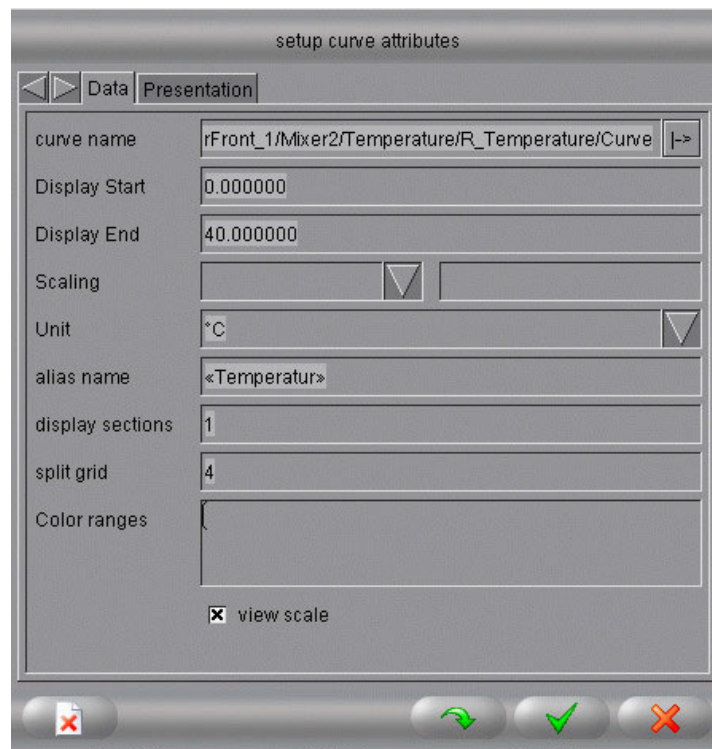


Figure 12-7: Curve attributes: data

- **Curve name**

The curve name indicates the address of the corresponding curve recording object. Use the arrow key next to the address to switch from the relative to the absolute address and back. If the address is relative upon saving, the curve is displayed for the house in which it is loaded. If the address is absolute, the curve is loaded from the saved house.

- **Display Start / End**

Display Start and **Display End** define the start and end value of the Y-scale of the curve. The Y-scale can also be changed via the display. When you click on the Y-scale with the left mouse button and now move the cursor up or down, the display is moved by the way made by the cursor.

- **Scaling**

Use the combo box "Scaling" to show the curve more stretched or more narrow. The options **Zoom** and **Glass** are available in the list for this purpose.

- **Unit**

In the standard setting, the unit of each curve is already set, however, it can be adjusted as desired. The unit is shown at the Y-scale.

- **Alias name**

In the standard setting, an alias name is already set for each curve. However, it is possible to change this here. The alias name is shown at the Y-scale above the unit.

The signs «» (shortcut:  + e) in front and behind the alias have the effect that a standard translation is searched for the text.

- **Display sections**

The parameter "Display sections" defines the height of the display area in the split view. The display areas of all shown curves are added together and considered 100 %. Based on this value, the height of each curve in percent is determined according to the applicable display section. The curve with the largest display sections is assigned the largest display areas. This can be useful when the display area of digital curves should be decreased or the display area of analogue curves increased.

If you enter the value 0, the curve moves up into the next higher display area. This makes it possible to show multiple curves in one display area even with the split view.

- **Split grid**

The split grid defines how many grid parts are displayed as ledger lines in the Y-range of the curve.

- **Colour ranges**

Using the colour ranges, you can assign a colour to specific sections of the Y-range. For example, if you want to see the range between 40 and 60 in yellow, and the range from 70 to 80 in red for a better overview, enter the following information:

40,60,yellow

70,80,red

The first two values describe the start and end value of the range, and the third value indicates the colour. A comma is used as separator. Add additional ranges in a new line.

- **Display scale**

With this function the Y-scale of the curve can be displayed and hidden.

12.3.3.2 Presentation

You can configure the following settings under the tab **Presentation**:

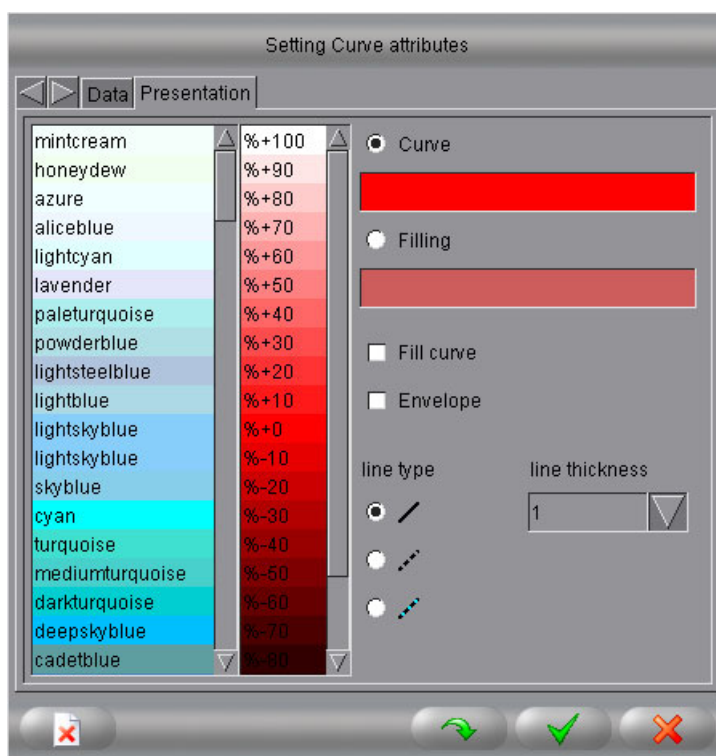


Figure 12-8: Curve attributes: Presentation

- **Colour selection curve / filling**

Before changing the colour settings, define whether you want to change the curve's line colour or its filling colour. Use the radio buttons **Curve** and **Filling** for this purpose.

For the colour selection of the curves, a colour palette with pre-defined colours is available in the left-hand part of the menu. Use the colour list next to the colour palette to define the colour's intensity. Click on the correct colour to select it. The selected colour is then used for the curve, the coloured patch in the headline and the bar in the Y-scale.

- **Fill curve**

Check the **Fill curve** box to define whether the curve should be shown as a line or filled.

- **Envelope**

If this function is activated, the curve filling is limited by the other displayed curves. Only the area between the curves will be filled.

- **Line type**

The line type of the curve is predefined via the option field. The options **continuous line**, **broken line** and **colour change line** are available. The first two options are both presented in the curve colour, whereas a continuous line is drawn in the colour change of the curve colour and curve filling if a colour change line is selected.

- **Line thickness**

This drop-down menu allows setting a line thickness between 1 and 9 pixels.

12.3.3.3 Taking over



In order to control changes at the settings without closing the dialog field, you can use the push button **Take over**.

12.3.3.4 Saving



Click on the **Save** button to accept all changes and to close the dialog field.

12.3.3.5 Cancelling



If you want to close the dialog field without accepting the changes, click on **Cancel**.

12.3.3.6 Deleting



To remove the curve from the curve overview, click on the **Delete** button.

12.3.4 Presentation types

The curves can be presented in two different ways: a simple presentation of all curves in one window, or a split representation.

To switch from one type of presentation to the other, check the box "Split" in the head line or press the function key .

- **Simple presentation**



In case of this type of presentation, a higher precision of the curves is reached since there is a larger display range.

- **Split representation**



In case of this type of presentation, the curves are not overlaid so that this presentation type may possibly be more clear. In order to achieve an optimal overview, it is possible to adjust the height of the single presentation areas.

- **Line layout**

In connection with the curve presentation, the line layout also needs to be mentioned. It is possible to switch from a stepped curve to a point-to-point connection and back. To switch between the line layouts, press the  key (TAB key) on the keyboard. The stepped curve should be preferred because it provides a more accurate presentation of the curve in case of digital trends.

12.3.5 Browsing automatically

Another useful function for the time setting of the curves is the automatic browsing of the curves. This function can be activated via the check box in the headline or via the function key .

- **Automatic browsing activated**



If the display area is activated, the system automatically moves forward as soon as the current time is no longer within the window. The size of the time period remains the same.

- **Automatic browsing deactivated**



The function **Automatic browsing** is deactivated automatically if the time range is changed manually.

12.3.6 Setting the time

A division into 10 units is pre-defined for the time scale. The date and the time are displayed below every division by default.

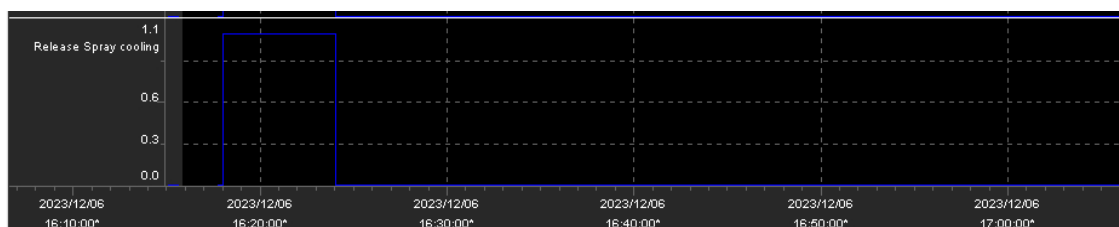


Figure 12-9: Time scale

The headline contains some icons that allow navigation in the time scale.



Figure 12-10: Time setting

- **Determining a time period in the calendar**



The calendar function can be used to set a free time period. Click on the clock icon in the headline. After activating the time and calendar, the standard dialogue window for setting a time period is displayed.

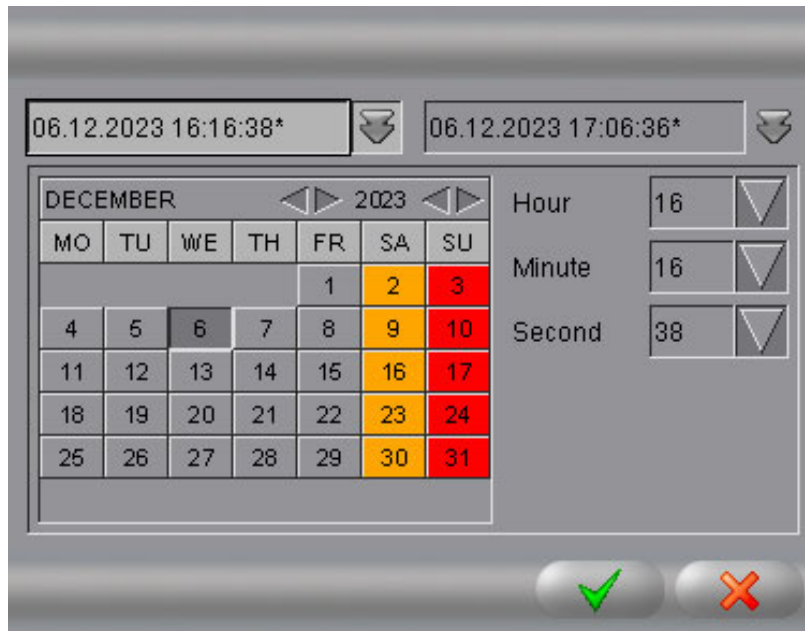


Figure 12-11: Calendar function

1. Use the two combo boxes in the top area of the calendar to define the start and end time of a time period. Click on the arrow buttons of the combo boxes to see the calendar for the start and end time.
2. The date is set on the left in the calendar
 - a) Use the arrow buttons to select the month and year.
 - b) These days will then be updated for the corresponding month.
 - c) Click on a day in the calendar to select it.
3. To the right of the calendar you will find the time setting. The combination fields serve for setting hour, minute and second. To change the time, you must open the corresponding selection menu via the arrow keys. Now you can set the hour, minute and second.
4. After having changed the settings, these can be taken over by activating the button with the **green check mark**. The curves are then loaded for the new period.
5. To discard the setting, click on the **red X** to cancel the action.

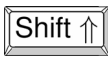
- **Moving a time period**

**One pack backward**

The time period is moved back one entire display page to the left, i.e. into the past. This function can also be performed by pressing the **Page down** key ().

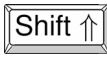
**Backward**

The time period is moved back into the past one tenth of a display page, which corresponds to one grid section.

This function can also be performed by pressing the **Shift** key and the **Page down** key ( + ) simultaneously.

**Forward**

The time period is moved forward into the future one tenth of a display page, which corresponds to one grid section.

This function can also be performed by pressing the **Shift** key and the **Page up** key ( + ) simultaneously.

**One page forward**

The time period is moved forward one entire display page to the right, i.e. into the future. This function can also be performed by pressing the **Page up** key ().



- **Fixed time periods**

In the curve view you can change the period via the symbol **Time periods** in the headline. The button displays a menu with predefined periods. Here you can select the requested area with a mouse click.

The curves are then reloaded in this time period with the current time as end time.

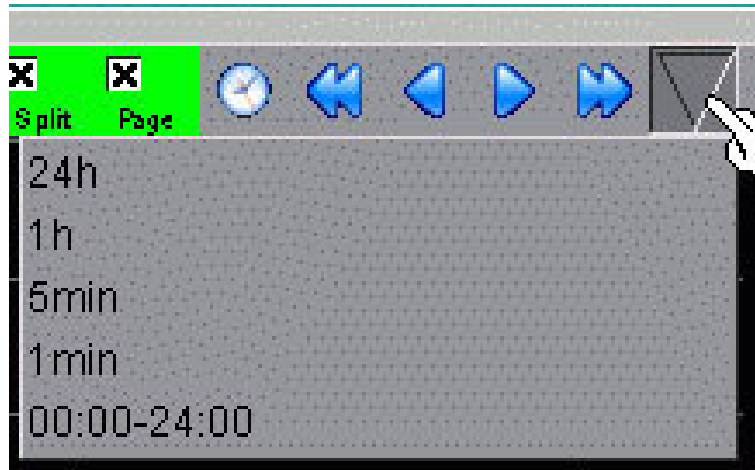


Figure 12-12: Time periods

- **Moving a time period with the mouse**

The time period can also be changed directly via the time scale. Left-clicking on the time scale and moving the mouse to the right or to the left, the time period will change by the distance the mouse pointer has travelled on the screen.

- **Zooming a time period**

Different areas can be zoomed in the curve overview. This applies to the time period (time scale). The ruler, which is added to the mouse pointer as a vertical, dashed line, serves as orientation aid when defining the time period's start and end points.

1. To zoom the time period, just click with the left mouse button on the point in the curve view where the Zoom range shall start.
2. The line type of the ruler changes from dashed to continuous line.
3. Push and hold the mouse button and drag the cursor to the position in the curve view where the Zoom range shall end. The Zoom range has to be drawn from the left to the right.
4. Release the left mouse button when the end point has been reached. The selected area is zoomed on the time scale.

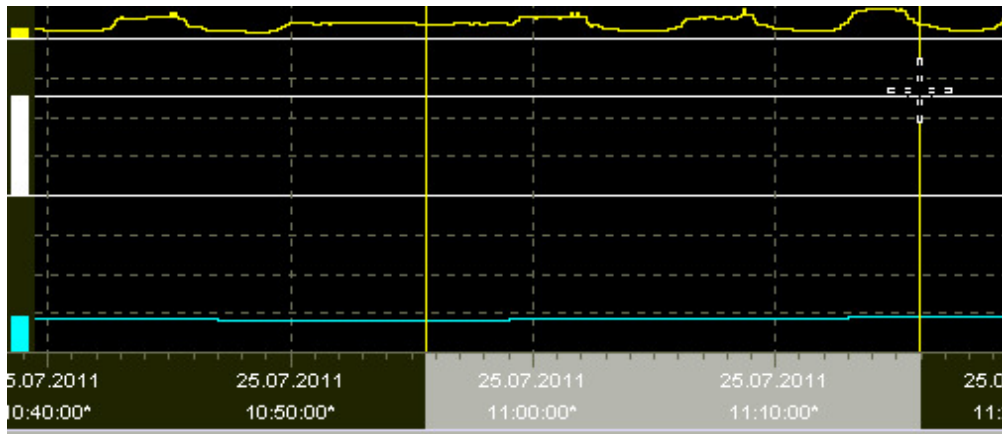


Figure 12-13: Zoom

- **Zooming a measuring range**

Similarly to the time period, the measuring range can also be zoomed. The ruler, which is added to the mouse pointer as a horizontal, dashed line, serves as orientation aid when defining the measuring range's start and end points.

1. To zoom the measuring range, push the  button on the keyboard and hold it down. Set the starting point of the zoom area by clicking with the mouse into the curve view. Make sure that the Y-scale is drawn from the bottom up.
2. The line type of the ruler changes from dashed to continuous line.
3. Keep the mouse button pressed and drag the cursor to the position in the curve view where the zoom range shall end.
4. Release the left mouse button when the end point has been reached. The selected area is zoomed on the measuring range.

- **Zooming time period and measuring range**

1. In order to zoom in both ranges, press the  button on the keyboard and hold it down. Set the starting point of the zoom area by clicking with the mouse in the curve view. Make sure that the Y-scale is drawn from the bottom up.
2. Keep the mouse button pressed and drag the cursor to the position in the curve view where the zoom range shall end.
3. At the drawing the zoom area is displayed by two horizontal lines and a marking on the Y-scale.
4. Release the left mouse button when the end point has been reached. The selected area is zoomed.

**NOTICE!**

When the split view is active, zooming is not possible in any of the two curve areas. If the split view is activated, deactivate it.



Figure 12-14: Zooming

- **Zooming back**

Both zoom ranges can also be reduced gradually. In order to reduce the zoom on the time bar, press the **backspace key** () on the keyboard. Keep the  pressed at the same time and zoom back gradually on the Y-scale.

12.3.7 Showing the curve list



For a better overview of the currently displayed curves of a curve view, fade in the configuration table. Click on the **Show curve list** icon in the headline. The dialogue window **Curve list** opens.

curve list							
Trend	AB-Begin	AB-End	Unit	Status	Tdiff		
././AirExhaust/Relais_1/R_VentON/Curve	0.00	1.10		OK	0.000	Export	
././Sensors/CO2_1/R_CO2/Curve	0.00	10000.00	ppm	OK	0.000	Export	
././AirInlet/Flap_1/Flap/R_ActValue/Curve	0.00	10.00	V	OK	0.000	Export	
././Cooling/Nozzle_1/R_ActCooling/Curve	0.00	100.00	%	OK	0.000	Export	
././Cooling/Nozzle_1/R_CoolingOn/Curve	0.00	1.10		OK	0.000	Export	
././Cooling/Nozzle_1/R_CoolingBandwidth/Curve	0.00	40.00	°C	OK	0.000	Export	
././Cooling/Nozzle_1/R_HumidityBandwidth/Curve	0.00	100.00	%RH	OK	0.000	Export	
☐ MYSQL-INFO							

Figure 12-15: Curve list

In this dialogue window, you can view the configuration of all curves in this curve view. The curve name with the previously selected address (relative or absolute) is displayed. Clicking on a value within this list opens the dialogue window **Setting Curve attributes**, in which you can make changes. These changes are immediately applied to the curve list.

12.3.8 Printing



The curve overview can be printed by the connected printer. Use the function **Print Curve overview**, which appears at the top right in the headline and which allows defining the appearance of the printout, selecting the printer and submitting the print job.

1. The set **Printer** must be selected in the first field. In the standard setting, **Standard** is selected.
2. The function **Layout** defines whether only the current **CurveView** shall be printed with lines or a **CurveFullView** with index.
3. Use the functions **Landscape** and **Portrait** to select whether an image should be printed in landscape or portrait format.

The standard setting is **Landscape**.

4. Start the print job by clicking on the **green checkmark**, or cancel it by clicking on the **red X**. If you select "Cancel", the menu is closed.

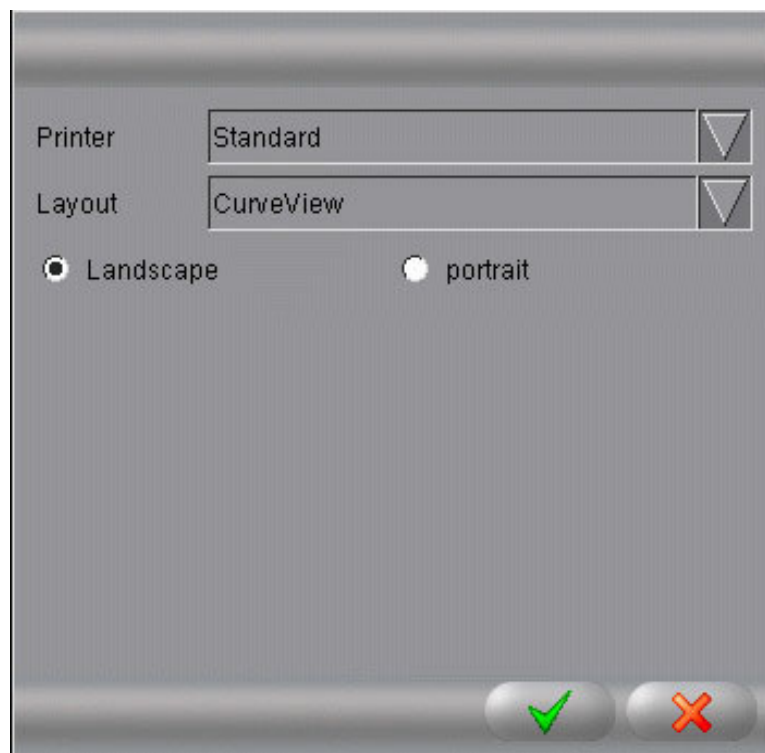


Figure 12-16: Printing

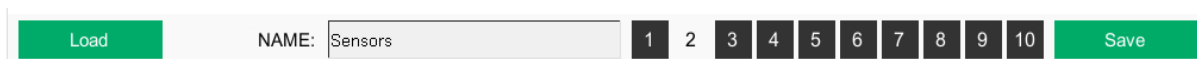


NOTICE!

For the printout, a different background colour is used automatically for the display area to reduce colour consumption during printing.

12.4 Saving the curve overview

To be able to observe the composed curve views continuously, it is possible to store the configurations.



The screenshot shows a horizontal bar with a green 'Load' button on the left. To its right is a text input field labeled 'NAME:' containing the text 'Sensors'. Further right is a row of ten buttons numbered 1 through 10. Buttons 1, 2, and 3 are dark grey, while buttons 4 through 10 are light grey. On the far right of the bar is a green 'Save' button.

Figure 12-17: Saving a curve

1. Select the correct curve overview using numbers 1 to 10 (at the bottom of the window).
2. Create a curve view
3. To assign the curve overview to a topic, enter a name for the composition into the field to the left of the **Save** button and confirm with .
4. After you have configured all settings, click on the **Save** button.

12.5 Storing a curve overview

In order to load the stored curve view for other houses, it is possible to store the curve views of a range of 1-10 and to reload them.

Load curve views that have been saved in this menu using the function **Load**.

- **Load**

The saved composition of a functional area can be loaded for every house. Click on the button **Load** in the curve overview into which you want to load the composition.

The composition you want to load can then be loaded by clicking on it.

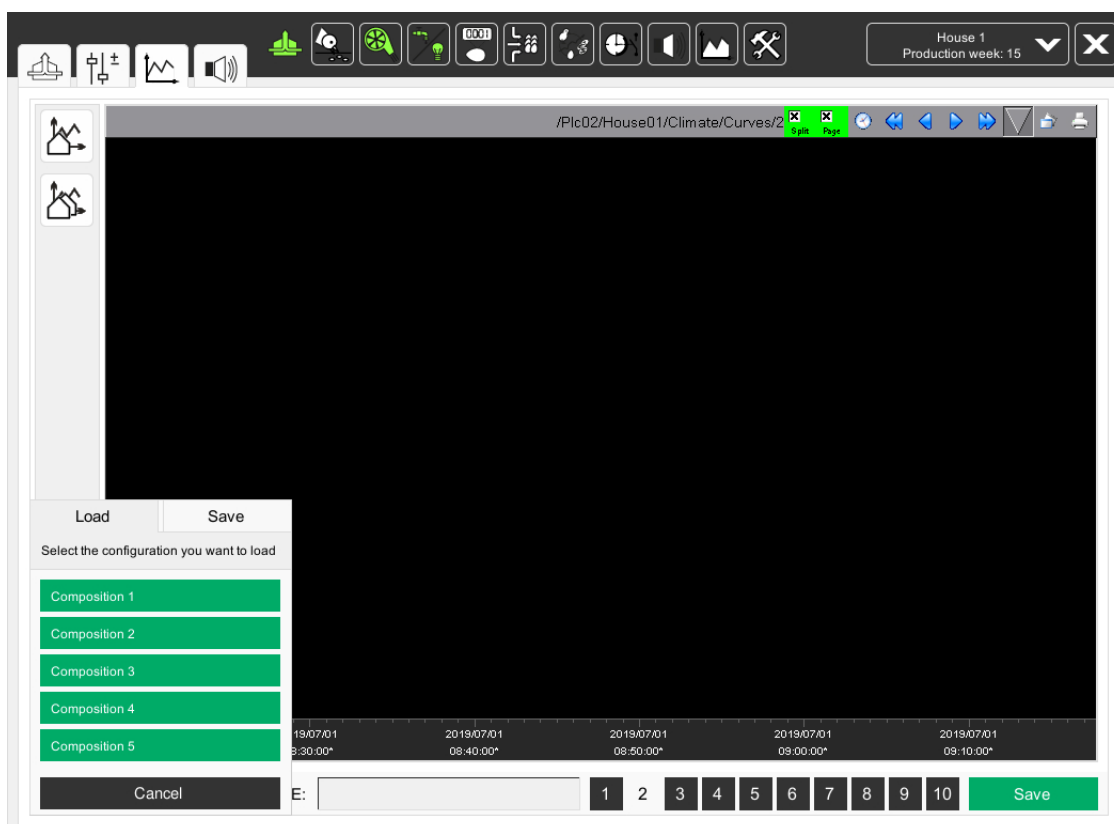


Figure 12-18: Loading a composition

- **Save**

In the curve overview, the curves can be saved in five different areas. Click on the button **Load**. In the submenu **Save**, select one of five saving areas and save the composition by clicking on the correct one.

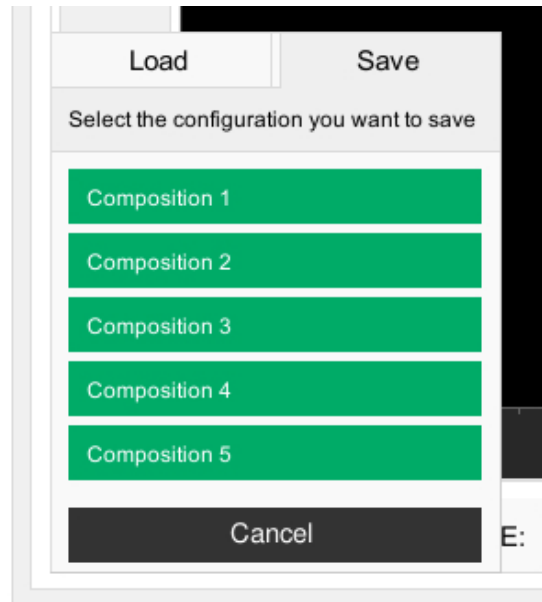


Figure 12-19: Saving a composition

NOTICE!

The existing curve settings are overwritten.

13 Alarm settings

In the alarm settings of the respective area, you can select which alarm are wanted and when they should appear.

Moreover, you can define under "Message groups" whether the alarm should be sent by the alarm device or also via email to the users.



NOTICE!

By default, all alarms are activated.

Before deactivating an alarm, check whether this alarm is truly not required.

Alarms help you find issues that may endanger the health of your birds early on. Do not think of alarms as a nuisance, but see them as a chance to keep the productivity of your house at the same high level.

Active	Alarm text	Alarm	Starting day	Delay	Mail
☐	1 Max. deviation of temperature zone 1 exceeded	Maximum 5.00	☐	-2	0 s MAIL1
☐	2 Below min. deviation of temperature zone 1	Minimum 5.00	☐	-2	0 s MAIL1
☐	3 Max. deviation of temperature zone 2 exceeded	Maximum 5.00	☐	-2	0 s MAIL1
☐	4 Below min. deviation of temperature zone 2	Minimum 5.00	☐	-2	0 s MAIL1
☒	5 Difference house temperatures exceeded	☒	-2	0 s MAIL1	
☒	6 CO2 sensor defective (Cable break)	☒	-2	0 s MAIL1	
☐	7 CO2 too high	Maximum 10000.00	☐	-2	1 s MAIL1
☒	8 Outside temperature sensor defective (Cable break)	☒	-2	0 s MAIL1	
☒	9 Outside temperature sensor wrong position	☒	-2	0 s MAIL1	
☒	10 Outside temperature too high	Maximum 60.00	☒	-2	1 s MAIL1
☒	11 Outside temperature too low	Minimum -40.00	☒	-2	1 s MAIL1
☐	12 Humidity sensor 1 defective (Cable break)	☐	-2	0 s MAIL1	
☒	13 Humidity above set humidity (Humidity sensor 1)	Maximum 30.00	☒	-2	60 s MAIL1
☒	14 Humidity below target humidity (Humidity sensor 1)	Maximum 30.00	☒	-2	60 s MAIL1
☐	15 Neg. pressure sensor defective (Cable break)	☐	-2	0 s MAIL1	
☒	16 Neg. pressure too high	Maximum 100.00	☒	-2	1 s MAIL1
☒	17 Neg. pressure too low	Minimum 0.00	☒	-2	1 s MAIL1

Figure 13-1: Alarm settings



13.1 Settings

Every area has different alarms that can be entered in this list. To make sure you do not lose track, every alarm is assigned a number. If there are more than 17 alarms in the area, a scroll bar appears on the right. Use this bar to scroll up and down in the alarm list.

Every alarm in the list has the same structure and the same settings options.

☒	5	Difference house temperatures exceeded	☒	-2	0 s	MAIL1	
☒	6	CO2 sensor defective (Cable break)	☒	-2	0 s	MAIL1	

Figure 13-2: Setting alarms

- **Active**

Activate the alarm by checking the box in the column **Active**. Removing the checkmark deactivates the alarm.

When checking the box in the column **Active**, the box in the column **Alarm** is also activated.

NOTICE!

Before deactivating the alarm, remember that the alarm device will **no longer send you a message** after deactivation.

You should therefore only deactivate alarms that do **not endanger** the life of the birds and the system's functionality.

- **Alarm text**

This column shows the consecutive number of the alarm. Next to it, the area of the alarm is displayed, including the information which component is affected.

NOTICE!

If the field is red, as shown in the example, the alarm is active. The alarm and the description appear in the alarm line.

If the field is grey, the alarm is inactive.

- **Alarm limits**

The alarm limit can also be entered into the column with the alarm text if it has not already been defined in the settings. The displayed settings options depend on the specific alarm.

- a) **Minimum and Maximum**

The minimum and maximum limits are set to trigger an alarm if e.g. the house temperature is exceeded by a certain temperature value or if the value falls below the set value.

 NOTICE!

Make sure that the values are valid, otherwise an alarm can never be triggered.

- b) **Inverting**

Free alarms can be inverted. Free alarms display customer-specific alarms, e.g. "Door open".

Since digital alarms are activated either by a positive signal (not inverted) or a negative signal (inverted), this option allows defining which signal (positive or negative) should be analysed.

 NOTICE!

The inverting of an alarm is set up during initial operation and therefore does not have to be changed.

- **Alarm behaviour**

Define in the column **Alarm** whether the alarm is indicated by a message with the alarm text in the alarm line only, or whether the alarm relay should also be switched on.

A checked box means that message **and** alarm relay are activated.

An unchecked box means that only the message is activated.



With this setting, the alarm relay is triggered and sends the error to the alarm device. The alarm menu icon at the top of the screen is replaced by a red, crossed-out alarm icon.

If the alarm cannot be eliminated, the alarm relay must be released for new alarms. Press the button for this purpose. If the alarm relay has been released again, this is indicated by the icon of the alarm menu being neither red nor crossed out.

**NOTICE!**

If an alarm was triggered, the alarm relay must be released again so that new alarms can be transmitted to the alarm device.

- **Starting day**

Indicate in the column **Starting day** from which production day onwards the alarm should be active.

- **Delay**

Use the column **Delay** to define a delay time (e.g. 300 seconds) for each alarm. The alarm becomes active after this delay.

- **Mail**

Using the selection menu in the column **Mail**, each alarm can be assigned a message group.

The alarm is forwarded to defined email recipients via the message group (see chapter 13.2 "Email message groups").



13.2 Email message groups

The purpose of email message groups is notifying a user working at the PC or carrying his smartphone about an alarm displayed in the alarm line.

In the menu **Message groups**, you can define which user belongs to which message group and should receive an alarm email.

To send the email, the account data of the sender's email address must be entered into the FarmController's system. This setting should be configured by a service technician.

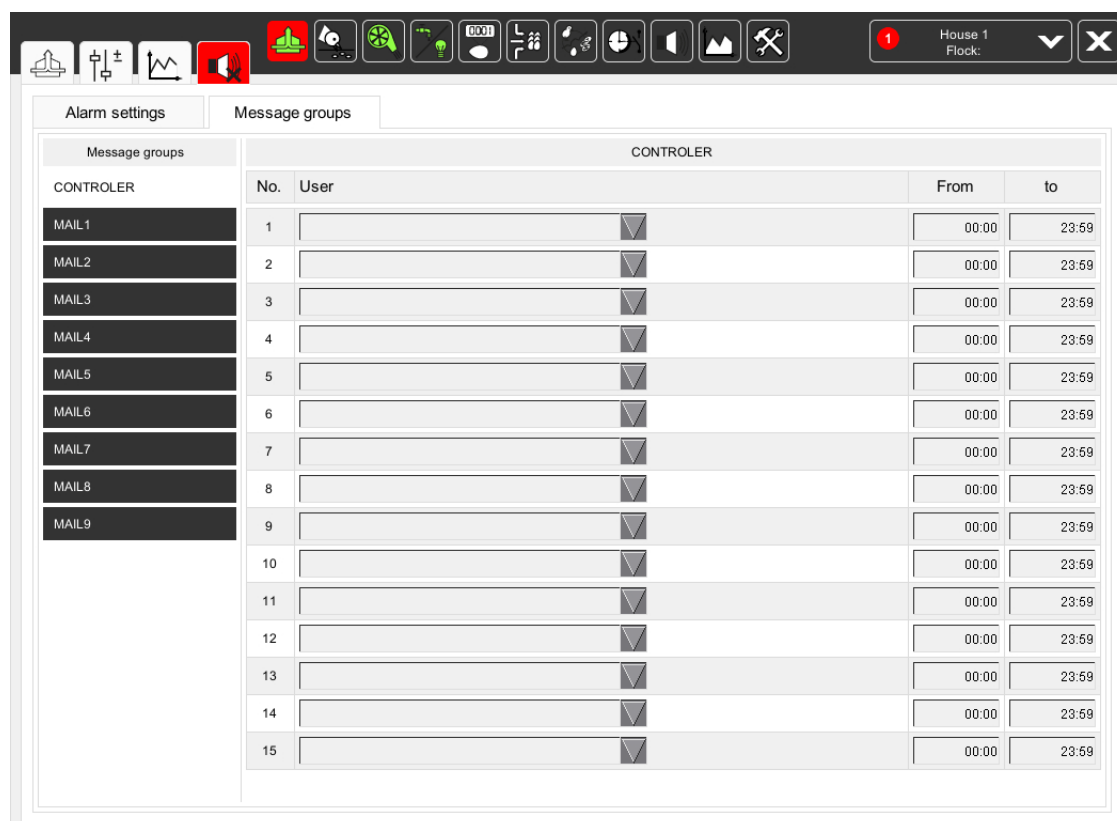


Figure 13-3: E-mail alarm



NOTICE!

An e-mail alarm does not replace an alarm device or an autodialler. The e-mail alarm is only an information about the alarm that has been reported.

13.2.1 Message group

Using the message groups, which can be assigned to each alarm in the alarm settings with the message field, you can notify different users about alarms.

If you change the message group via the corresponding tab, the user's settings are also changed.

- **User**

If the user management has an e-mail address for a user (chapter 5.1.5.4 "Data - User data"), this user can be selected by clicking on the field **User**. In this manner, you can assign 16 users to each message group.

- **Time period**

Use the time period to define from when (hh:mm) to when (hh:mm) the user should receive an e-mail. This means that a message group can consist of different users with different shifts.

13.2.2 E-mail format

The format of the e-mails that are sent is always the same and very clearly structured:

- **Subject**

The subject comprises the farm name, house name and functional area.

- **Header**

The header indicates that the e-mail was sent by "Farm Manager – Mail Messaging".

- **Farm**

The flag indicates the farm and stable name.

- **User**

The hand indicates the name of the receiver according to the user administration.

- **Time**

The clock indicates when the alarm was triggered.

- **Area**

The looped square indicates the area in which the alarm was triggered.

- **Message**

The warning sign indicates the alarm message which is also displayed in the alarm line.

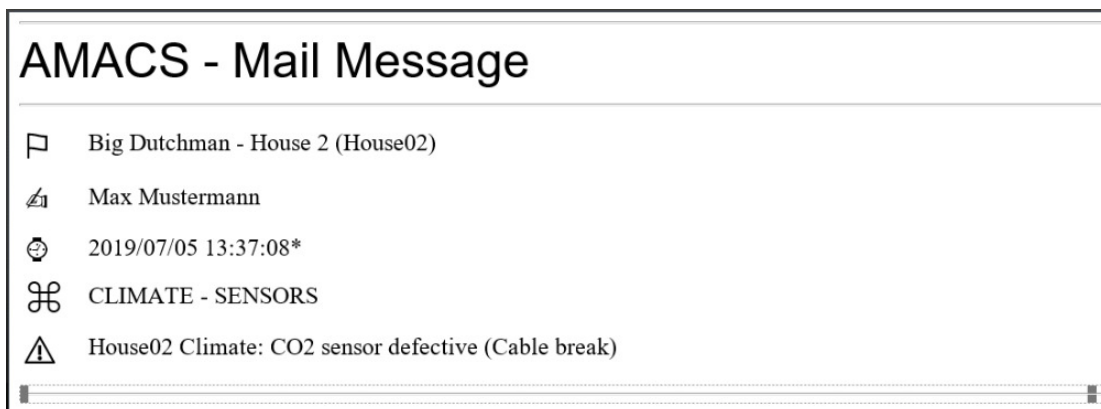
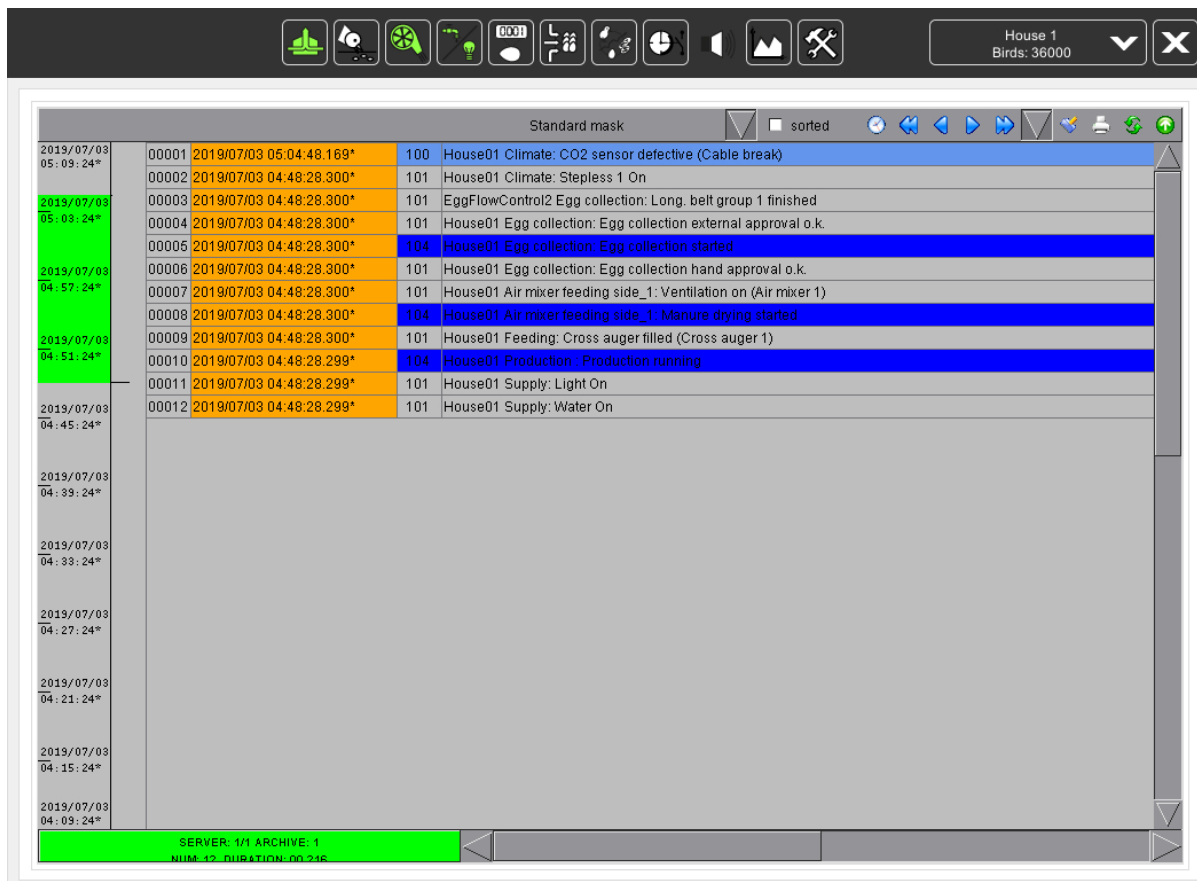


Figure 13-4: E-mail format

14 Message history

The message history is used to show the logged messages and alarms. Open the menu by clicking on the **Alarms/Messages** button at the top edge of the screen.

After opening the list, the logged messages of the past hour are displayed.



Date/Time	ID	Status	Description
2019/07/03 05:09:24*	00001	2019/07/03 05:04:48.169*	100 House01 Climate: CO2 sensor defective (Cable break)
	00002	2019/07/03 04:48:28.300*	101 House01 Climate: Stepless 1 On
2019/07/03 05:03:24*	00003	2019/07/03 04:48:28.300*	101 EggFlowControl2 Egg collection: Long. belt group 1 finished
	00004	2019/07/03 04:48:28.300*	101 House01 Egg collection: Egg collection external approval o.k.
	00005	2019/07/03 04:48:28.300*	104 House01 Egg collection: Egg collection started
2019/07/03 04:57:24*	00006	2019/07/03 04:48:28.300*	101 House01 Egg collection: Egg collection hand approval o.k.
	00007	2019/07/03 04:48:28.300*	101 House01 Air mixer feeding side_1: Ventilation on (Air mixer 1)
	00008	2019/07/03 04:48:28.300*	104 House01 Air mixer feeding side_1: Manure drying started
2019/07/03 04:51:24*	00009	2019/07/03 04:48:28.300*	101 House01 Feeding: Cross auger filled (Cross auger 1)
	00010	2019/07/03 04:48:28.299*	104 House01 Production: Production running
	00011	2019/07/03 04:48:28.299*	101 House01 Supply: Light On
2019/07/03 04:45:24*	00012	2019/07/03 04:48:28.299*	101 House01 Supply: Water On
2019/07/03 04:39:24*			
2019/07/03 04:33:24*			
2019/07/03 04:27:24*			
2019/07/03 04:21:24*			
2019/07/03 04:15:24*			
2019/07/03 04:09:24*			

SERVER: 1/1 ARCHIVE: 1
NUM: 12 DURATION: 00:236

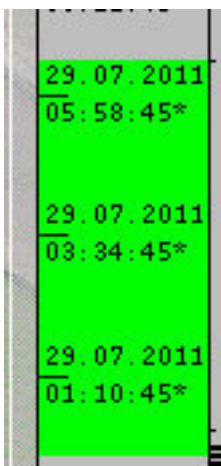
Figure 14-1: Messages

14.1 Structure of the message history

- **Time scale**

The left part of the message history shows the time scale, which displays the time period for the messages. The start time of the set period is shown at the top, and the end times at the bottom.

- **Visible area**



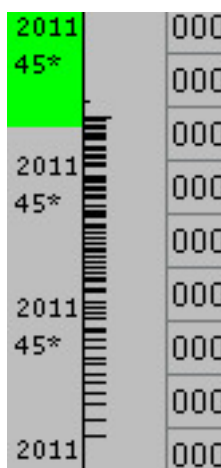
Since the messages are displayed in a list, seeing the entire list is not possible when there is a larger number of messages. Use the scroll bar at the right edge of the screen to move the list downward with the mouse pointer. The currently visible messages of the list comprise a certain time period. This period is indicated in green on the time scale. The larger the area is, the smaller the number of messages that appeared within the period. When many messages appear in a time period, the area is correspondingly smaller.



NOTICE!

In the online view of the list (online mode), the visible area is not displayed.

- **Distribution bar**



Next to the time scale there is a diagram for the distribution of the loaded messages in the selected time range. The baseline of the diagram represents the left side. The more messages appear in a certain time, the longer the distribution bar at this point. Via this distribution diagram you can see in which time periods a great many respectively only few messages occurred.



NOTICE!

In the online view of the list (online mode), the distribution is not displayed.

- **Numbering**

00005	29.0
00006	29.0
00007	29.0
00008	29.0
00009	29.0
00010	29.0
00011	29.0
00012	29.0
00013	28.0

The field to the right of the distribution diagram does not refer to the entire time scale, but only to the currently visible part of the list. When loading the page, every message displayed in the time period is assigned a number. This helps you keep track if there is a large number of visible messages.

- **Time indication**

The next part of the structure indicates the time when a message appeared. The messages **Comes** and **Goes** are shown separately in this list. For a better overview of the messages, different message types have different colours.

03.07.2011 19:50:27.549~
06.07.2011 15:27:41.172~
03.07.2011 19:50:28.089~
03.07.2011 19:50:31.102~

Comes: messages (orange)

Comment: messages (dark blue)

Goes: messages (light blue)

Acknowledged: messages (beige)

- **Message**

Next to the column with the time indication, two further columns show the priority and the message text. The priority also defines which background colour the message has.

101	House01 manure drying tunnel: tunnel belts Off
101	House01 manure drying tunnel: dosing On
101	House01 manure drying tunnel: dosing Off
101	House01 manure drying tunnel: conveyor belt a1.1 On
101	House01 manure drying tunnel: conveyor belt a1.1 Off
101	House01 manure drying tunnel: conveyor belt a2 On
101	House01 manure drying tunnel: conveyor belt a2 Off
101	House01 manure drying tunnel: conveyor belt b On
101	House01 manure drying tunnel: conveyor belt b Off

Figure 14-2: Message

14.2 Message view

The view of the message headline can be changed to make analysis easier.

14.2.1 Filtering messages

In the standard setting, the message history shows the messages of all areas (standard mask). If you want to look for certain messages, you can filter the area which you would like to see.

To activate **individual** filters, click on the arrow next to the **active filter** (here: standard mask). Under **+ALL AREAS**, you can now select the correct area (e.g. climate). All climate alarms are then listed.

To see alarms in the selected area that have to do with the priority "Hardware" only, for example, additionally click on the entry "Hardware" below **++ALL PRIORITIES**.

To activate **all** filters, click on **+ALL AREAS** for the areas, and/or on **++ALL PRIORITIES** for the priorities.

All filters are reset when selecting a **new area**, the **standard mask** or the entry **FULL ACCESS**.

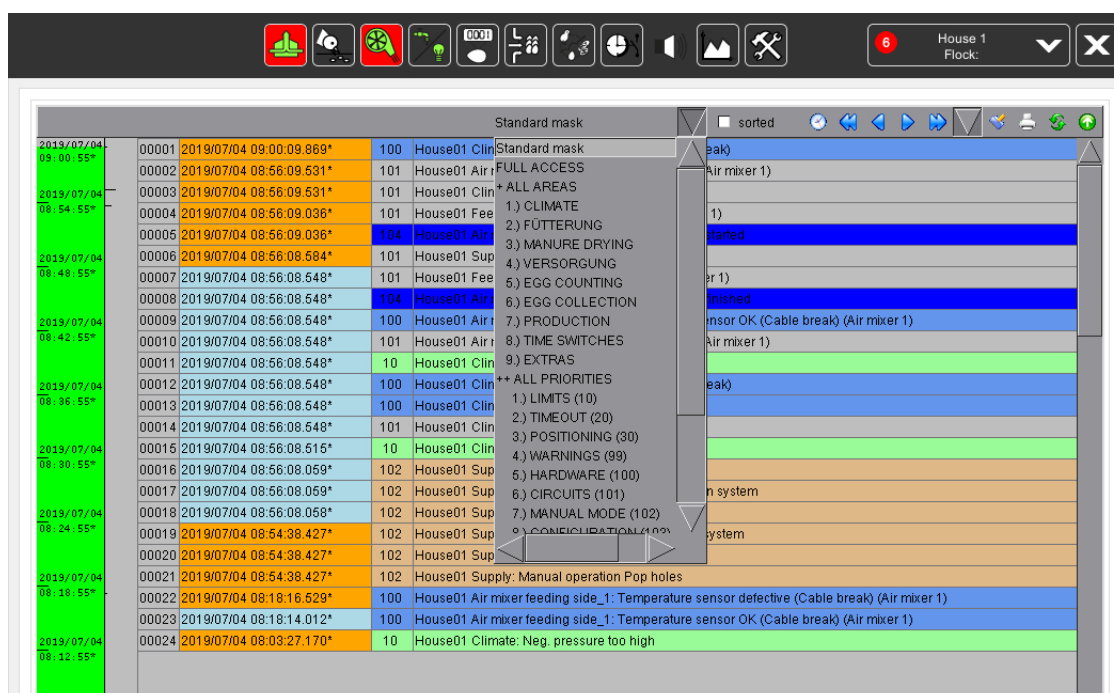


Figure 14-3: Filtering a message

14.2.2 Sorting

The message history shows the messages one after another. It is possible that more message appear between the **Comes**, **Comment**, **Goes** and **Acknowledged** message after a certain time so message are not displayed together. Use the function **Sorted** to group messages that belong together.



Figure 14-4: Sorting

14.2.3 Setting the time

A division into 10 units is pre-defined for the time scale. The date and the time are displayed below every division by default.



Figure 14-5: Time setting

The headline contains some icons that allow navigation in the time scale.

- **Determining a time period in the calendar**



The calendar function can be used to set a free time period. Click on the clock icon in the headline. After activating the time and calendar, the standard dialogue window for setting a time period is displayed.

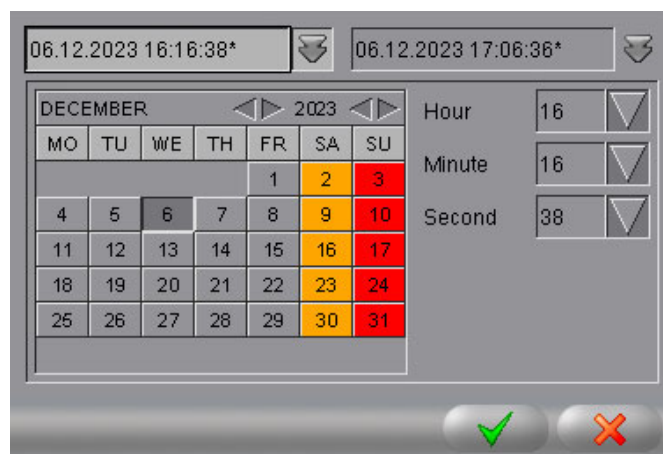


Figure 14-6: Calendar function

1. Use the two combo boxes in the top area of the calendar to define the start and end time of a time period. Click on the arrow buttons of the combo boxes to see the calendar for the start and end time.

2. The date is set on the left in the calendar
 - a) Use the arrow buttons to select the month and year.
 - b) These days will then be updated for the corresponding month.
 - c) Click on a day in the calendar to select it.
 3. To the right of the calendar you will find the time setting. The combination fields serve for setting hour, minute and second. To change the time, you must open the corresponding selection menu via the arrow keys. Now you can set the hour, minute and second.
 4. After having changed the settings, these can be taken over by activating the button with the **green check mark**. The curves are then loaded for the new period.
 5. To discard the setting, click on the **red X** to cancel the action.
- **Moving a time period**

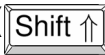


One page back

In this case the time range is moved down into the past by a whole display page. This function can also be activated by pressing the key **Picture down** ().

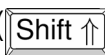


Backward

The time range is moved to the past by one-tenth of the display page, this corresponds to a grid grading. This function can also be activated by pressing the **shift key** and **Picture up key** ( + ) at the same time.



Forward

The time range is moved into the future by one-tenth of the display page, this corresponds to a grid grading. This function can also be activated by pressing the **shift key** and **Picture up key** ( + ) at the same time.

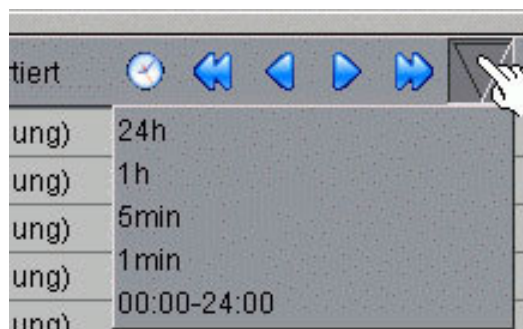


One page forward

In this case, the time range is moved up into the future by a whole display page. This function can also be activated by pressing the key **Picture up** ().

- **Fixed time ranges**

In the message history, the time period can be changed via the time range icon in the head line. Clicking on the button opens a menu with pre-defined time periods. Click on the correct period to select it.

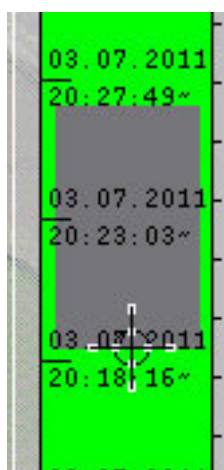


The messages are then re-loaded with the current time as starting point in this time range.

- **Skipping a time period**

The message list can be moved using the scroll bar or the mouse's scroll wheel. You can also adjust the time period in the list directly using the time scale. Left-click on the correct time in the time scale. The list will then move to this time period of the scale.

- **Zooming a time period**



Zooming within the time period is also possible. To define a zoom range, use the middle mouse button to click on the beginning of the correct area of the time scale. Hold the middle mouse button and drag the pointer to the end of the desired area. Release the mouse button. When drawing the zoom area, the area is highlighted in colour. The selected area is then loaded as the new display area.

NOTICE!

Zooming of the time area on the time scale is not possible in the online view of the list (online mode).

14.2.4 Showing statistics



Message that have occurred are listed in a table. The runtime and frequency of these messages are determined in this table. Click on the button **Show statistics** in the headline to view the table.

Server state / Statistics of display time					
message server	time diff.	Archive	configuration offset	Prio	Groups
localhost	0.000 s	1	..		

	Message Text	Number	Duration	
	House01 manure drying tunnel: (A200) - (A220) Fault pulse monitoring tier	000001	1:03:20	>>
	House01 manure drying tunnel: Chopper Off	000001	01:53	
	House01 manure drying tunnel: tunnel belts Off	000002	45	
	House01 manure drying tunnel: conveyor belt d Off	000001	01:54	
	House01 manure drying tunnel: dosing Off	000002	46	
	House01 manure drying tunnel: (A209) Fault pulse monitoring tier 9	000001	1:03:20	>>
	House01 manure drying tunnel: (A208) Fault pulse monitoring tier 8	000001	1:03:20	>>
	House01 manure drying tunnel: (A207) Fault pulse monitoring tier 7	000001	1:03:20	>>
	House01 manure drying tunnel: (A206) Fault pulse monitoring tier 6	000001	1:03:20	>>
	House01 manure drying tunnel: (A205) Fault pulse monitoring tier 5	000001	1:03:20	>>
	House01 manure drying tunnel: (A204) Fault pulse monitoring tier 4	000001	1:03:20	>>
	House01 manure drying tunnel: (A203) Fault pulse monitoring tier 3	000001	1:03:20	>>
	House01 manure drying tunnel: (A202) Fault pulse monitoring tier 2	000001	1:03:20	>>
	House01 manure drying tunnel: (A201) Fault pulse monitoring tier 1	000001	1:03:20	>>
	House01 manure drying tunnel: (A210) Fault pulse monitoring tier 10	000001	1:03:20	>>
	House01 manure drying tunnel: conveyor belt b Off	000002	01:23	
	House01 manure drying tunnel: conveyor belt a2 Off	000002	01:21	
	House01 manure drying tunnel: conveyor belt a1.1 Off	000002	01:19	

Figure 14-7: Showing statistics

- **Server status**

In the upper part of the statistics you can see from which message server the messages were retrieved and how long this has taken.

- **Status of display time**

In the lower part of the statistics you can see information about the individual messages.

- At the beginning of each table row, you will find two arrow buttons. Clicking on these buttons moves the list of messages to the last or next entry of this message in the list. This includes jumps from **Comes** messages to **Goes** messages. You can thus find the **Comes** message that belongs to a **Goes** message, for example.
- The field **Message Text** shows the text which is also indicated in the message history.

- The field **Number** shows the frequency of a message within the period. The most frequent messages in the table are coloured orange, the least frequent ones green.
- The **Duration** field shows the entire runtime of the message within the period. The oldest message is coloured orange, the most recent one green.
- To the left and to the right of the field **Duration** there is a field showing a double arrow. The arrows can only be seen if the message occurred already before the display time or if the message was still activated at the end of the display time.

- **Printing**



The statistics can be printed by the connected printer. Clicking the **Print statistic** button, which appears at the bottom left, allows defining the appearance of the printout, selecting the printer and submitting the print job.

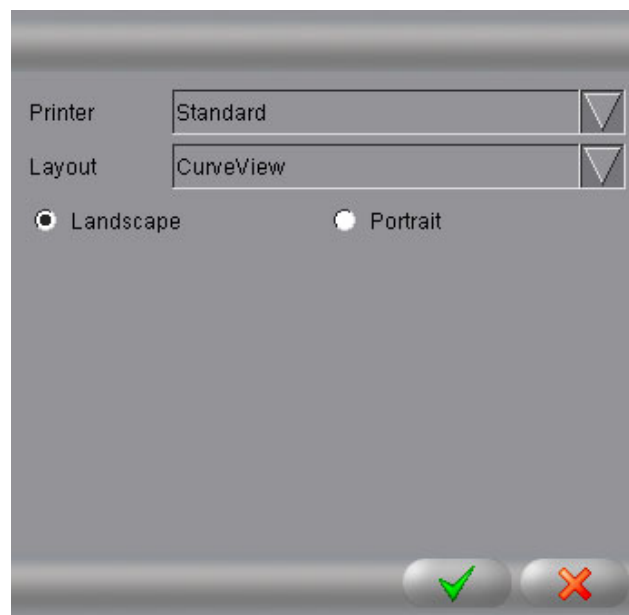


Figure 14-8: Printing

1. The set **Printer** must be selected in the first field. In the standard setting, **Standard** is selected.
2. Use the function **Layout** to define whether only the current **ListView** with lines should be printed, or a **FrameListView** with index.
3. Use the functions **Landscape** and **Portrait** to select whether an image should be printed in landscape or portrait format.

The standard setting is **Landscape**.

4. Start the print job by clicking on the **green checkmark**, or cancel it by clicking on the **red X**. If you select "Cancel", the menu is closed.

- **Address**

Checking the box **Address** shows the address of the message in the tree instead of the message text.

- **Closing**

Close the statistics by clicking on the **red X**.

14.2.5 Printing



The message history can be printed by the connected printer. Use the function **Print list**, which appears at the bottom left, to define the appearance of the printout, select the printer and submit the print job.

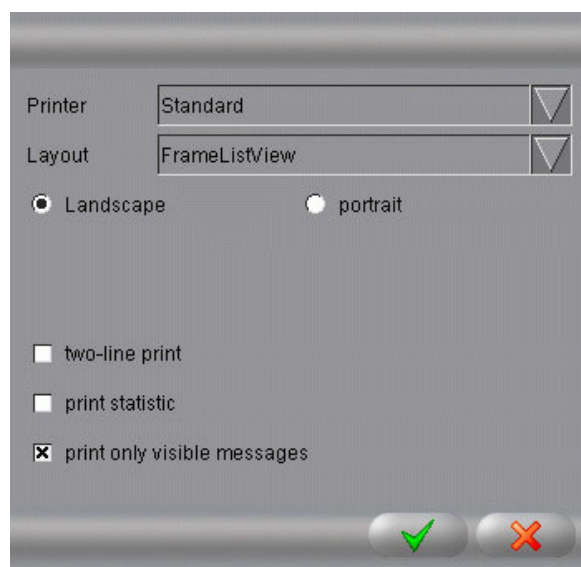


Figure 14-9: Printing

1. The set **Printer** must be selected in the first field. In the standard setting, **Standard** is selected.
2. Use the function **Layout** to define whether only the current **ListView** with lines should be printed, or a **FrameListView** with index.
3. Use the functions **Landscape** and **Portrait** to select whether an image should be printed in landscape or portrait format.

The standard setting is **Landscape**.

4. Use the function **Two line print** to print additional information about the alarm.
This function is deactivated by default.

5. The statistics can be printed via the function **print statistic** as already explained in chapter 14.2.4 "Showing statistics".
6. With the function **print only visible messages** it is possible not to print the messages hidden by the display (see chapter 14.2.1 "Filtering messages"). In the standard setting, this function is activated.
7. Start the print job by clicking on the **green checkmark**, or cancel it by clicking on the **red X**. If you select "Cancel", the menu is closed.

14.2.6 Reloading the list



Since the view only shows logged messages, it is not updated so the analysis is not mixed up. Clicking on **Reload list** updates the list without closing the message history so you can see the current messages.

14.2.7 Online list



Click on the button **Online list** in the headline to switch to online mode. This function turns the online list on and off. If the normal history is displayed, the system therefore switches to online mode.



When the online mode is activated, clicking on the button switches to the normal history.

The online view is a list of messages at the current time that is permanently updated. Upon switching, the 1000 most recent messages are read and displayed. When new messages arrive, they are added to the top of the list while older messages are removed from the list so there are always 1000 messages in the list. The period of the time scale is determined automatically.

The search for the 1000 messages can include all archives of the message data base when using a search screen. To avoid this elaborate data base retrieval, the search is limited to the past 24 hours and stopped even if less than 1000 messages have been found.

When reading the messages, the same screens are used in this mode as for the normal message history.



NOTICE!

When switching to the online view, the buttons for browsing and time setting as well as the statistics are hidden. In the bottom left area, a field with the information "Online mode" is displayed instead of the number of read messages.



14.3 Editing messages

You can select and comment on individual messages of the message history. Right-click on the corresponding message to open a selection menu.



Figure 14-10: Editing messages

- **Single message**

The function **Single message** opens another message history in a separate window. Here only the selected message **Comes**, **Comment**, **Goes** or **Acknowledged** are displayed.

- **Adding a comment**

Use the function **Insert comment** to comment on messages. The comment is added to the message including time stamp and user name. Enter the comment into the opening window and confirm by clicking on the **green checkmark**.

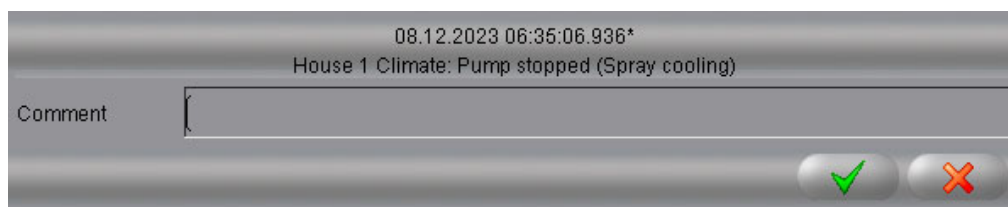


Figure 14-11: Adding a comment

14.4 Message statistics

When all messages of the set time period have been loaded, a statistic is created. Track the loading of the message by watching the green field in the bottom left corner. It indicates how many messages have been loaded from which archive and how long this process took.

Below, the messages that occurred in this period are analysed first. Only these messages are then listed in the statistics. Messages which appeared before the selected period but which disappeared after the period or which are still pending are not considered.

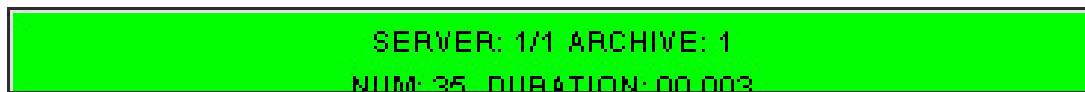


Figure 14-12: Loading time periods

If the field is yellow, messages are still loaded.



Figure 14-13: Time range loads

The field displays **ONLINE MODE** for the online view.

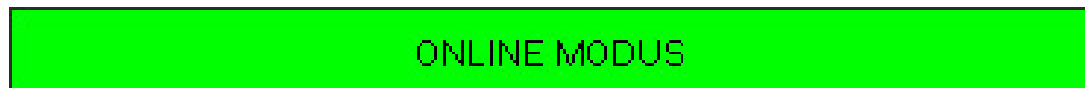


Figure 14-14: Online mode

15 Curve summary



The curve summary is used as an overview of all created curves in the curve overview (chapter 12 "Curve overview"). Open the menu by clicking on the button **Curves** in the top bar.

After opening the list, the curves are displayed and sorted according to areas.

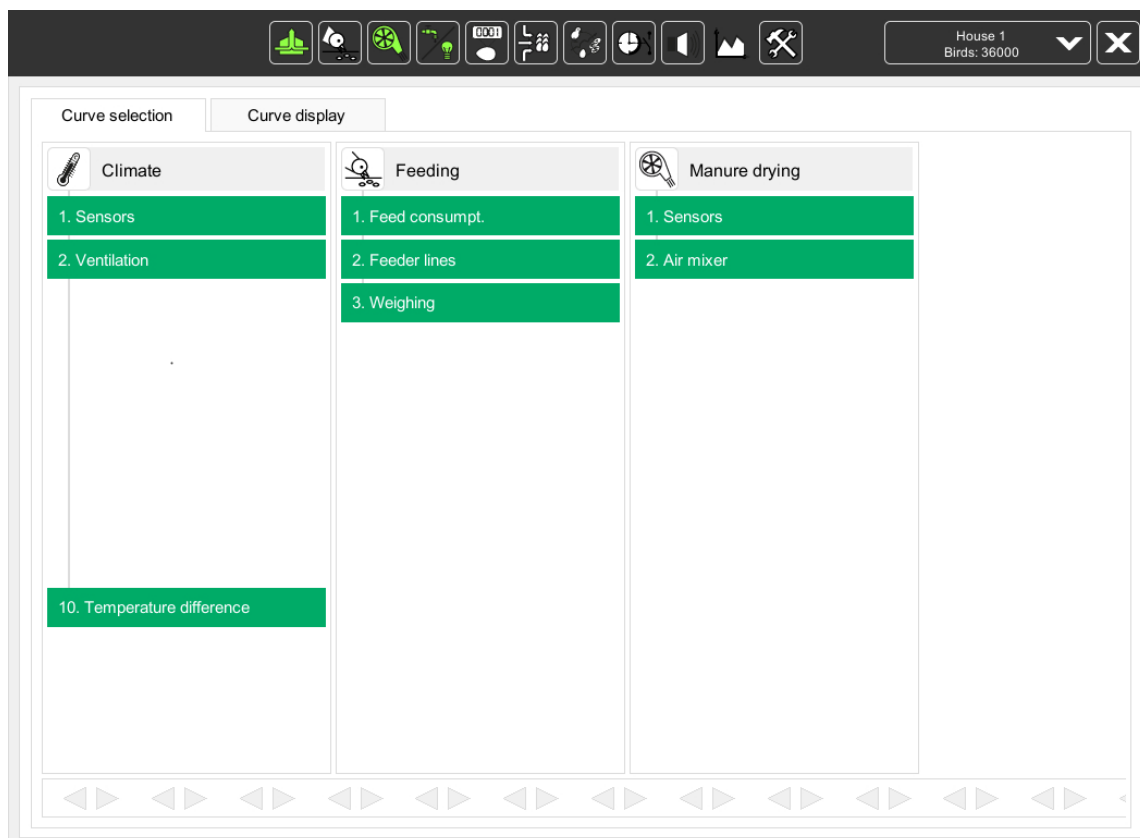


Figure 15-1: Curve summary

15.1 Opening a curve

To open a curve, click on one of the saved curve presentations in the curve selection. The selected curves are displayed above the list. The display of the current curves can be changed as described in chapter 12 "Curve overview".



NOTICE!

Changes at the appearance of the curve summary can only be stored in the curve view (chapter 12 "Curve overview"). The changes made in this menu are deleted when closing the menu.



Figure 15-2: Curve

15.2 Closing a curve

To return to the curve summary, click on the tab **Curve selection** in the top left corner of the menu.

16 Set curves



Using the example module "Bird weighing", this chapter will explain how to adjust set curves. Set curves are generally opened in the respective menu by clicking on the icon displayed here.

NOTICE!

The operation of the menu shown in the following is identical for each set curve (set temperature, set feed, searched weight, etc.).

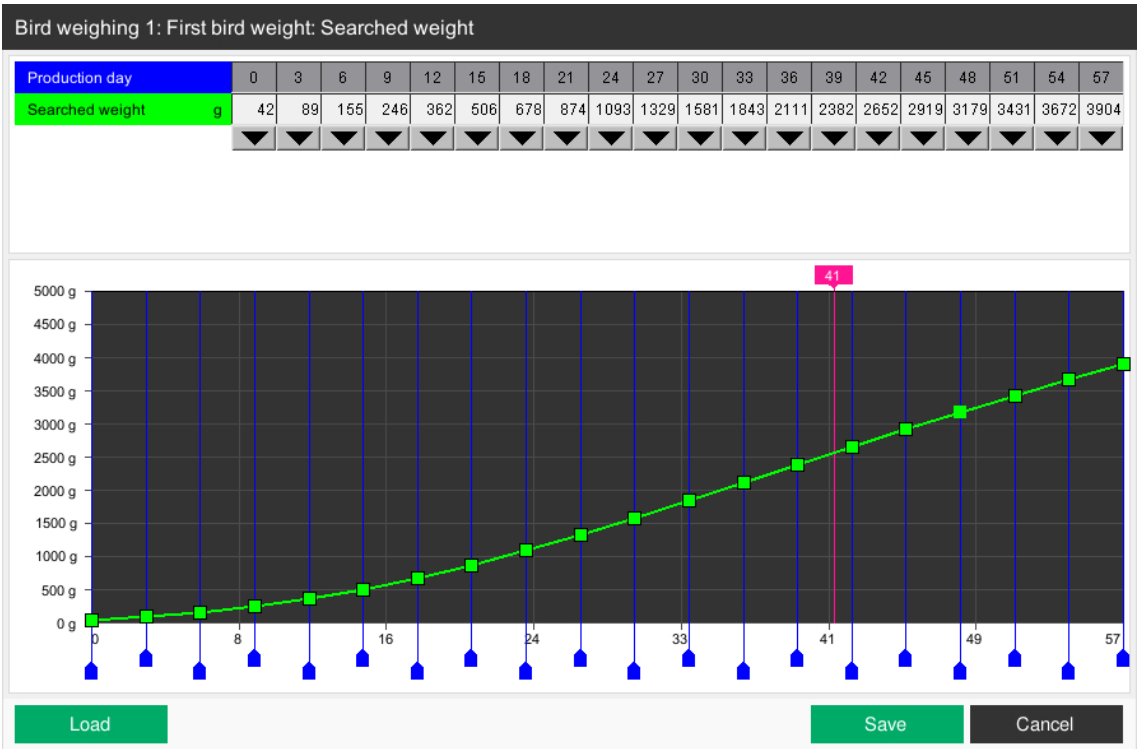


Figure 16-1: Bird weighing: searched weight

16.1 Adjusting a curve

In the standard setting, the set curves are not adjusted. The curves only have a trend starting and end point. To make sure that the curve transmits the correct values to the control unit, supporting points can be created and set.



NOTICE!

The values for the day-dependent set curves are not only recalculated for every new day, but every four hours. This means that the temperature is adjusted every four hours if e.g. the set temperature decreases in accordance with the bird age. This means that the temperature difference is not too extreme from day to day.



Figure 16-2: Adjusting a curve

16.1.1 Creating supporting points

Production day	0	27	57
Searched weight g	0	1952	2000
	▼	▲	▼
	◀	✖	▶

To add supporting points to the curve, click on one of the black arrows pointing downwards. Three buttons now appear below the arrow you clicked. Click on the green arrows to the left and right of the red X to add a new supporting point for the curve. Clicking on the left arrow creates a supporting point before the initial supporting point, and clicking on the right arrow one after the initial supporting point. Up to 20 supporting points can be created in this manner.



NOTICE!

No additional supporting point can be added before the first and after the last supporting point.

16.1.2 Deleting supporting points

Production day	0	27	57
Searched weight g	0	1952	2000
	▼	▲	▼
	◀	✖	▶

To delete a supporting point, click on the black arrow below the supporting point you want to delete.

Three buttons are displayed below the arrow. Clicking on the **red X** deletes the supporting point.



NOTICE!

The first and last supporting point cannot be deleted.



NOTICE!

Deleting of a supporting point can only be undone if you close the menu by clicking on **Cancel**.

16.1.3 Editing numbers of supporting points

In the upper area of the menu you can see the coordinates of the supporting points. If you would like to change a value, you just have to click on this value using the left mouse button, then enter the new value and confirm with the  key. The new value is directly taken into the curve.

Production day	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57
Searched weight g	42	89	155	246	362	506	678	874	1093	1329	1581	1843	2111	2382	2652	2919	3179	3431	3672	3904
	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼

Figure 16-3: Coordinates

– Vertical dislocation

The first row shows the X-coordinates (production day, temperature, etc.). The initial value of the curve is determined via these points.

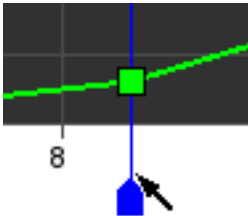
– Horizontal dislocation

In the following rows, the Y-coordinates are indicated (bird weight, ventilation value, etc.). From these values the set value results which is given by the set curve.

16.1.4 Editing graphics of supporting points

In addition to the numerical entry it is also possible to change the supporting points directly in the curve graphic. For this, a supporting point is created and dislocated via the curve to the position which the supporting point shall take.

– Vertical dislocation



By clicking on the blue flag and holding down the mouse button you can vertically drag this point in the curve.

In the numerical view, the column which is changed is highlighted in blue. The current value is shown in the table when dislocating the point.

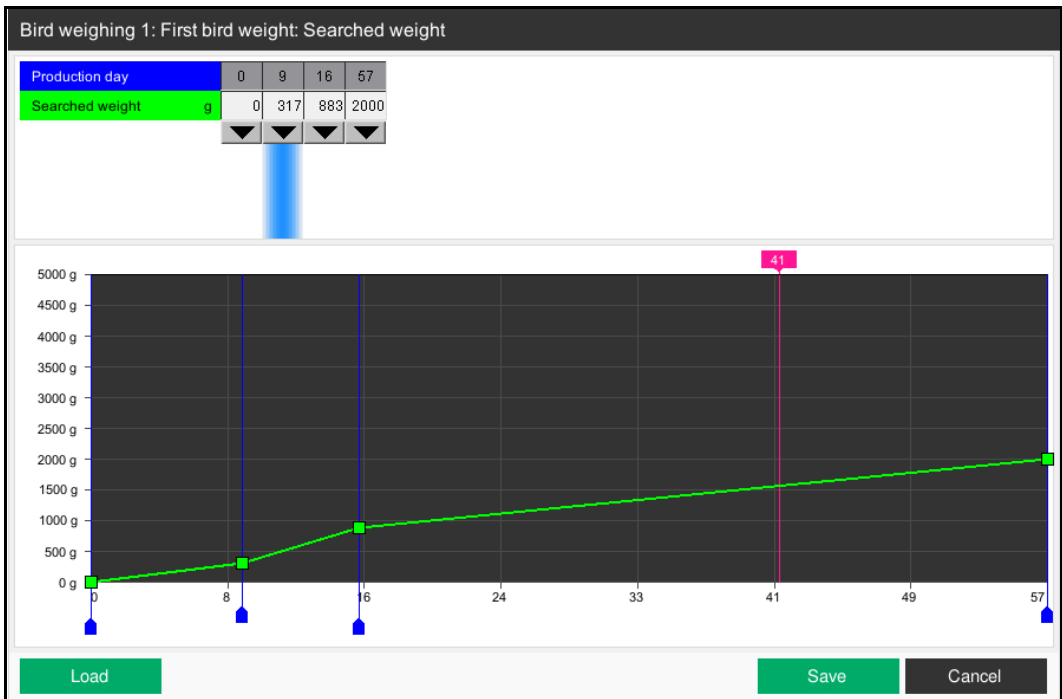
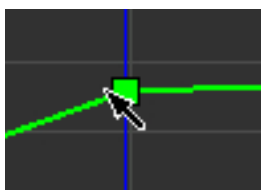


Figure 16-4: Vertical dislocation of supporting points

– Horizontal dislocation



The point can be dislocated horizontally by clicking on the green box and holding down the mouse button. In the numerical view, the column which is changed is highlighted in blue. The current value is shown in the table when dislocating the point.

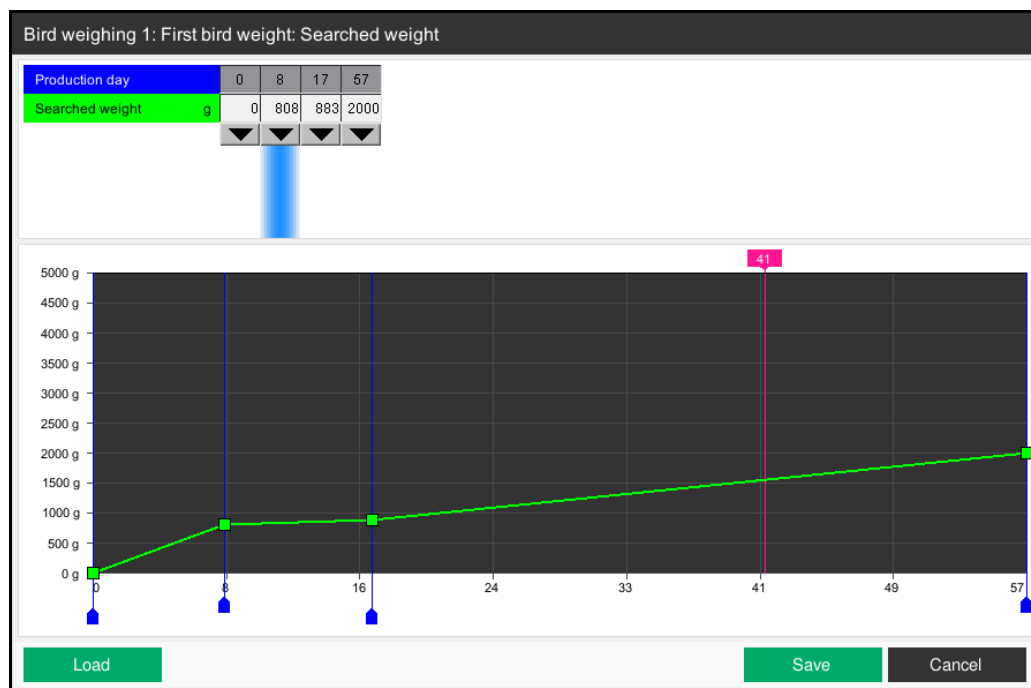
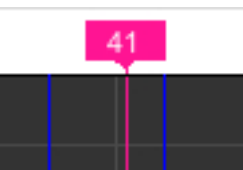


Figure 16-5: Horizontal dislocation of supporting points

16.2 Current value



In order to see with which values the calculation is currently carried out in case of changes at the curve, there is a pink line in the curve which shows the currently active value. This is written into the flag at the upper end of the line.

16.3 Saving a curve

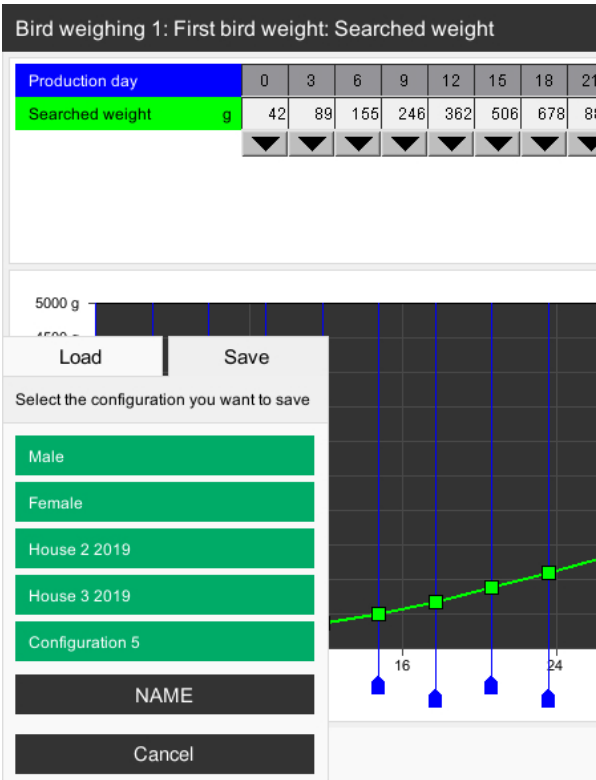
If a set curve is set, this can be used as sample curve for other houses. For this the curve has to be saved. Five set curves can be saved in this way, e.g. with the date as name.

- 1. To open the "Save" menu, click on the button **Load** after editing a curve.



- 2. Click on the tab **Save** in the next menu.

Figure 16-6: Menu with the "Save" tab



3. In order to assign the set curve to a subject, you can enter a name for it.
 - a) By pressing the button **Name** the five selection fields change to input fields.
 - b) Select the required saving location with a mouse click.
 - c) Enter the name and confirm with .
 - d) Leave the menu by clicking on the button **Back**.
4. The set curve is saved by clicking on the button with the saving location.
5. Leave the menu by clicking on the **Cancel** button.



Figure 16-7: Saving a curve

16.4 Loading a curve

To avoid that a prepared set curve has to be entered once again, saved set curves can be loaded.

16.4.1 Curve from sample curves

Set curves which were saved as described in chapter 16.3 "Saving a curve" can be loaded here.

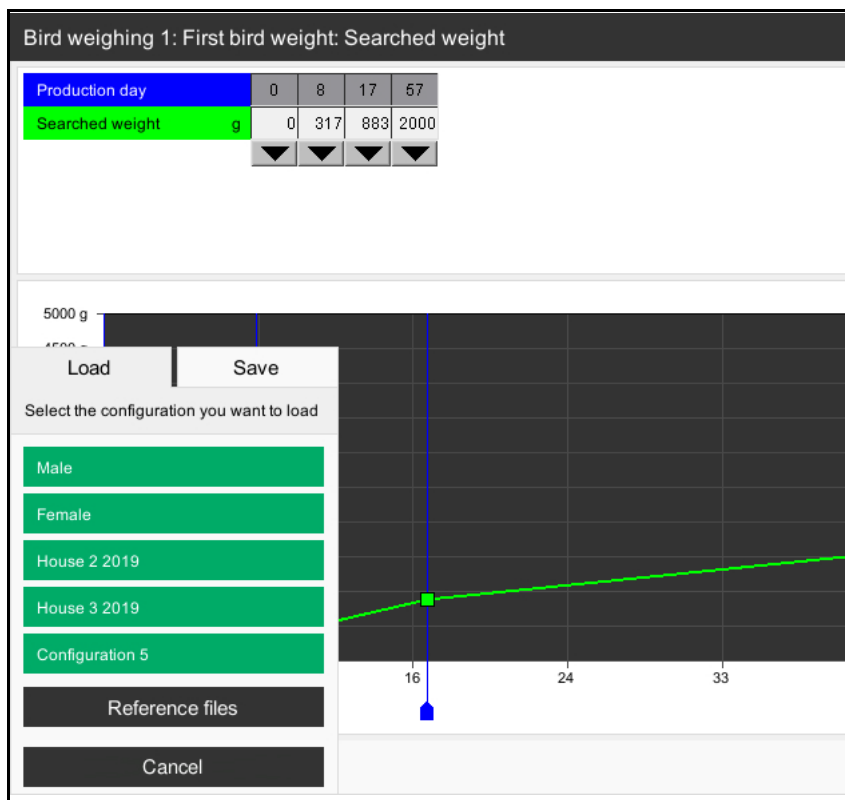


Figure 16-8: Sample curve

1. To open the menu, click on the button **Load**.



2. Load the selected set curve by pressing the button with the storage location.
3. Leave the menu by clicking on the **Cancel** button.

16.4.2 Curve from reference file

If there is a reference file from the breeder or producer for the function which serves the set curve, this can be loaded as well. The reference files can be loaded via the button **Reference files** (the button **Name** is not shown).

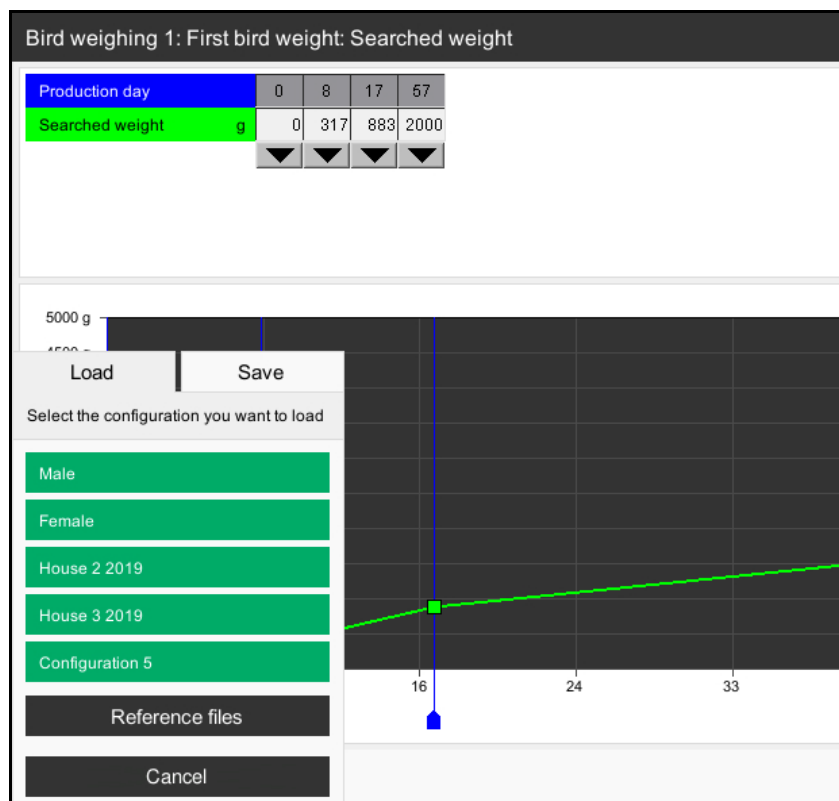


Figure 16-9: Curve from reference file

1. To open the menu, click on the button **Load**.



2. By pressing the button **Reference files** which hides the button name, the available reference curves are displayed.
3. By pressing the saving location button, the selected reference curve is loaded.
4. The menu can be left via the button **Back**.

 NOTICE!

To select a reference file from a breeder, load the file first in the production.



Figure 16-10: References

16.5 Saving

If you want to take over the edited curve, close the menu by clicking on the button **Save**. The set values are accepted.



Figure 16-11: Saving

16.6 Cancelling

To discard the curve you created, close the menu by clicking on the button **Cancel**. The set values are discarded and the old settings remain valid.

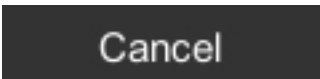


Figure 16-12: Cancelling

17 Production curves

In the production manager, you can enter the times for switching on and off the light, water, feed, animation feeding, nests, flap grids and pop holes (if applicable) based on the birds age.

The advantage of the production manager is that all times are displayed in a curve view as a summary. This makes it easier to keep track of management processes that depend on one another and to configure cross-process settings.

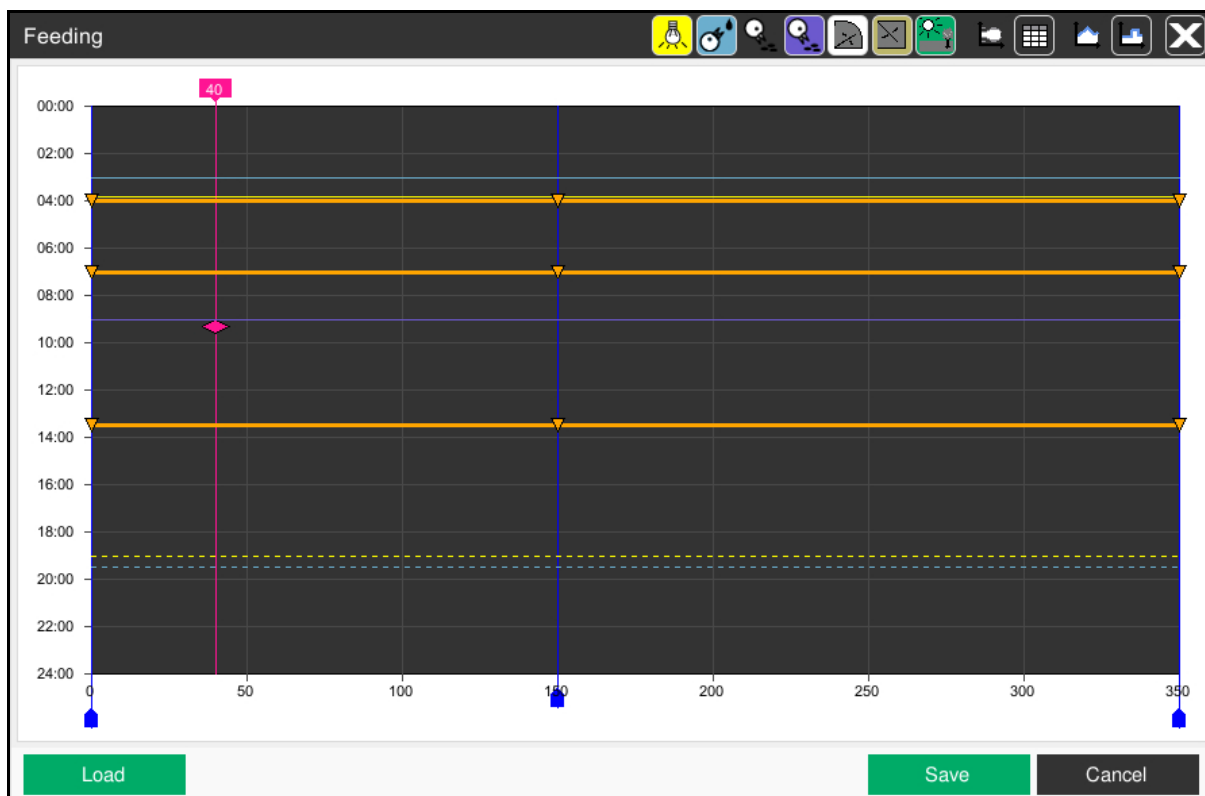


Figure 17-1: Production manager

17.1 Area selection

The area selection in the headline allows selecting the individual functions that can be set in the production manager. Clicking on one of the fields opens the corresponding window, for example feeding in this case.



Figure 17-2: Area selection bar: Production curves

NOTICE!

The borders of the selection fields are displayed in the same colour as the corresponding curves.

You can identify the selected function based on different characteristics. The most obvious is the function's name that appears in the top left corner. Additionally, the lines of the function are bolded in the curve view and an icon is displayed at the supporting points.

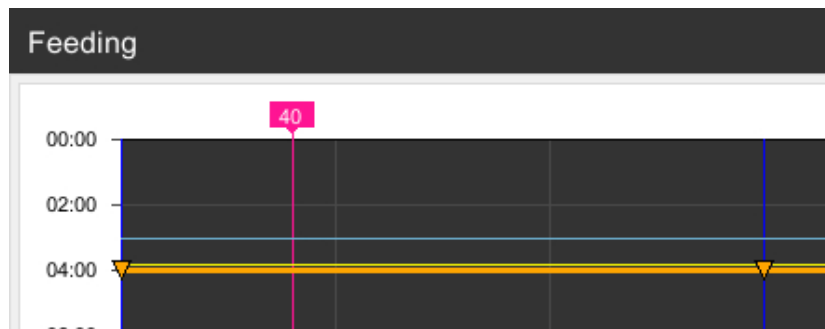


Figure 17-3: Selected function

17.2 Adjusting a curve



Curve points can be created and adjusted depending on whether you prefer a numerical input or a graphical interface. Clicking on one of the two buttons opens the curve menu or the table, respectively.

NOTICE!

The production manager starts with the graphical interface by default. If no start or stop times are selected, the production manager starts with the numerical interface.

17.2.1.3 Editing supporting points

If you would like to change a value, just click on it with the left mouse button, then enter the new value and confirm with the  key.

	Production day	0	150	350
✓	Feeding on 1	04:00	04:00	04:00
✓	Feeding on 2	07:00	07:00	07:00
✓	Feeding on 3	13:30	13:30	13:30
	Feeding on 4	00:00	00:00	00:00
	Feeding on 5	00:00	00:00	00:00
	Feeding on 6	00:00	00:00	00:00
	Feeding on 7	00:00	00:00	00:00
	Feeding on 8	00:00	00:00	00:00
	Feeding on 9	00:00	00:00	00:00
	Feeding on 10	00:00	00:00	00:00
	Feeding on 11	00:00	00:00	00:00
	Feeding on 12	00:00	00:00	00:00
				
				

Figure 17-5: Coordinates

- **Vertical move (production day)**

The first row shows the production day (x-coordinates). These points are the basis for the curve's initial value.

- **Horizontal move (times)**

The following rows show the start times or the start and stop times (Y-coordinates). For curves with start and stop times, an additional row appears in which stop times can be entered.

17.2.2 Graphical interface

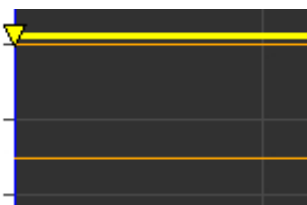


Figure 17-6: Graphical interface

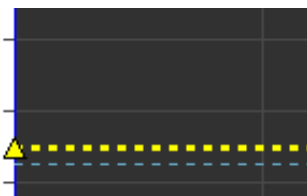
17.2.2.1 Selecting a curve



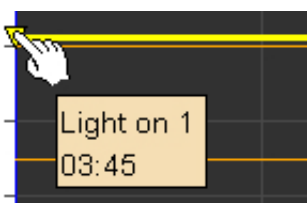
To select a certain curve, you can move the cursor over a curve. The context menu which appears now indicates the name of the curve.



Once you click on a curve, you select it. The curve is bolded and has triangles at the intersections of the supporting points. Lines and triangles are especially important.



A triangle directed downward and a continuous line represent the start time.



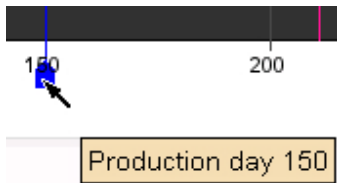
A triangle directed upward and a dashed line represent the stop time.

If the cursor points to one of the triangles, the set time is displayed in addition to the curve name.

17.2.2.2 Editing graphics of supporting points

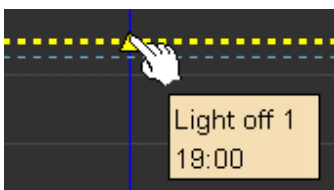
In addition to the numerical entry it is also possible to change the supporting points directly in the curve graphic. For this, a supporting point is created and dislocated via the curve to the position which the supporting point shall take.

– Horizontal dislocation (production day)



Click on the blue flag and hold the mouse button to move the point horizontally along the curve to the desired day. If you stop with the mouse on the button for a moment, the production day of the supporting point is displayed.

–Vertical dislocation (times)



Click on the triangles and hold the mouse button to move the point vertically along the curve to the desired time. If you stop with the mouse on the button for a moment, the function and the starting time the supporting point are displayed.

17.2.2.3 Current value



To see with which values the calculation is currently carried out in case of changes at the curve, there is a pink line in the curve showing the production day and time. The production day is written into the flag at the upper end of the line. The hash sign represents the current time of day.

17.2.3 Interpolating curves



The production manager allows an interpolation of the curves from supporting point to supporting point. The method can be used to configure the transitions from one supporting point to another more smooth. To interpolate the curves, press the button with the jagged curve. If you want to show the curve not interpolated, click on the button with the stepped curve.



Figure 17-7: Curve interpolated

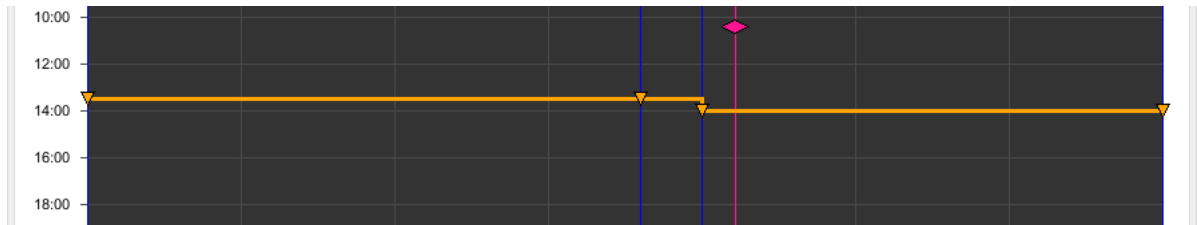


Figure 17-8: Curve not interpolated

17.3 Saving curves

If the production curves are defined, these can be used as original for other houses. For this purpose the curves are saved. In this way you can store five curve summaries, e.g. with the date as name.



NOTICE!

The production curves can only be stored and loaded in the graphical surface.



NOTICE!

When saving the production curves, the curves of all areas will be saved.

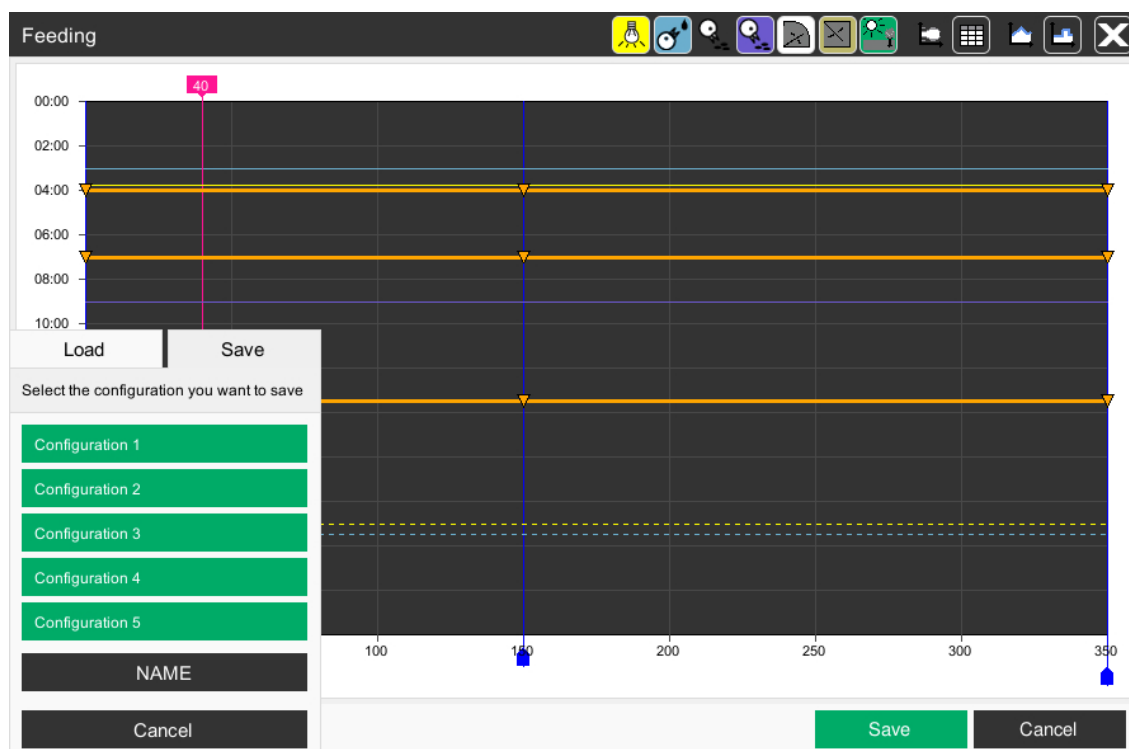


Figure 17-9: Saving curves

1. To open the "Save" menu, click on the button **Load** after editing a curve.



Click on the tab **Save** in the next menu.

2. In order to assign the production curves to a subject, you can give them a name.
 - a) By pressing the button **Name** the five selection fields change to input fields.
 - b) Select the required saving location with a mouse click.
 - c) Enter the name and confirm with .
 - d) Leave the menu by clicking on the button **Back**.
3. The production curve is stored by pressing the button with the saving location.
4. Leave the menu by clicking on the **Cancel** button.

17.4 Loading a curve

Production curves which were saved before as explained in chapter 17.3 "Saving curves" can be loaded as follows.

NOTICE!

The production curves can only be stored and loaded in the graphical surface.

NOTICE!

When loading the production curves, the curves of all areas will be overwritten.

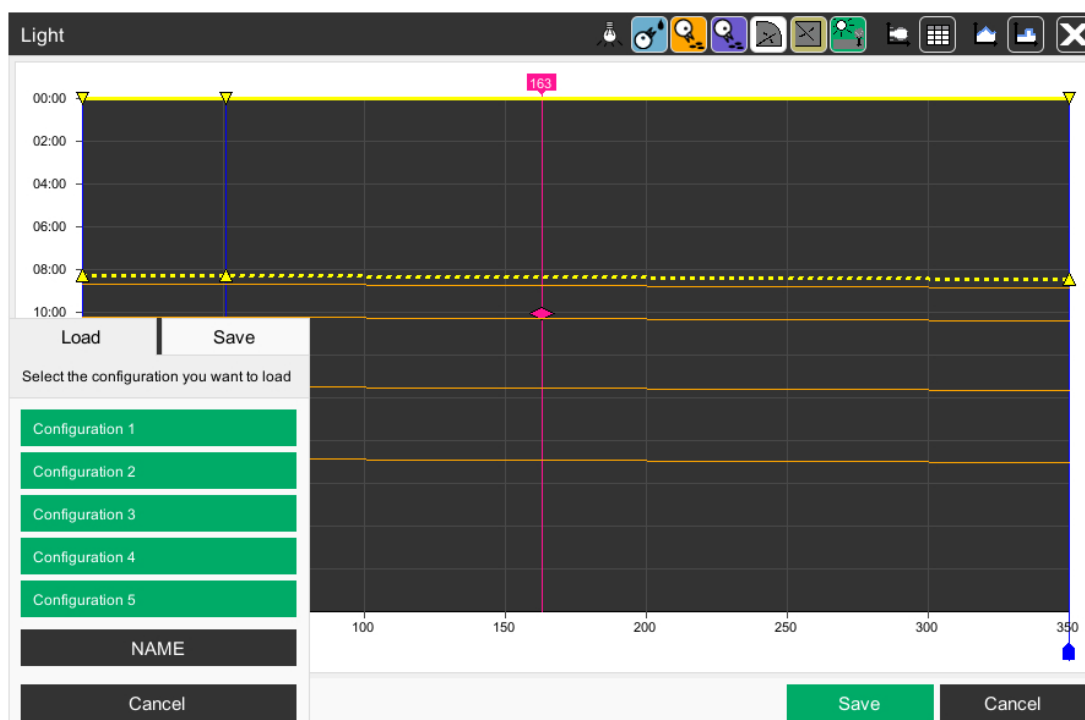


Figure 17-10: Sample curves

1. To open the menu, click on the button **Load**.



2. The selected production curve is loaded by pressing the button with the saving location.
3. Leave the menu by clicking on the **Cancel** button.

17.5 Taking over

If you want to take over the edited production curves, close the menu by clicking on the button **Save**.

The set values are accepted.



Figure 17-11: Saving

NOTICE!

The production curves can only be stored and loaded in the graphical surface.

17.6 Cancelling

To discard the curves you created, close the menu by clicking on the button **Cancel**.

The set values are discarded.

NOTICE!

The production curves can only be stored and loaded in the graphical surface.

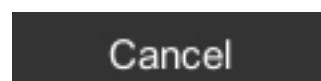


Figure 17-12: Cancelling

18 Creating screenshots automatically

Pressing the **F8 key** opens the screenshot dialogue. This dialogue allows creating screenshots in any desired language.

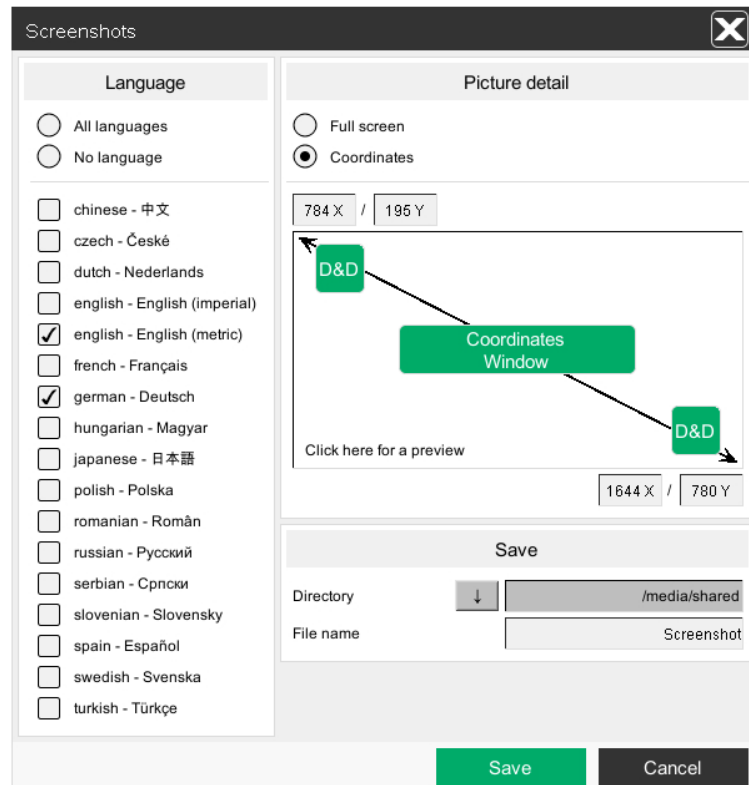


Figure 18-1: Creating screenshots automatically

- **Language**

Selecting **No language** or **All languages** deactivates or activates all languages. In addition, the desired languages can be activated by checking the corresponding box at the bottom of the menu.

- **Picture detail**

- **Full screen**

When **Full screen** is selected, the coordinates are hidden and a screenshot of the entire screen is taken.

- **Coordinates**

Selecting **Coordinates** displays coordinates (X / Y values of the upper left corner and of the lower right corner). A screenshot will be taken of this area. The coordinates can also be entered manually via the respective input fields.

- **D&D** (drag & drop)

By clicking on and holding the **D&D** button, moving the mouse pointer to the desired position and releasing it, the coordinates are read automatically. This process must be carried out for both the upper left and the lower right corner.

- **Coordinates Window**

When you click on the **Coordinates Window** button, a small cross appears. This cross can be used to select a main window. The coordinates of the window are read automatically.

- **Preview**

Clicking into the **Click here for a preview** window opens a preview of the screenshot.

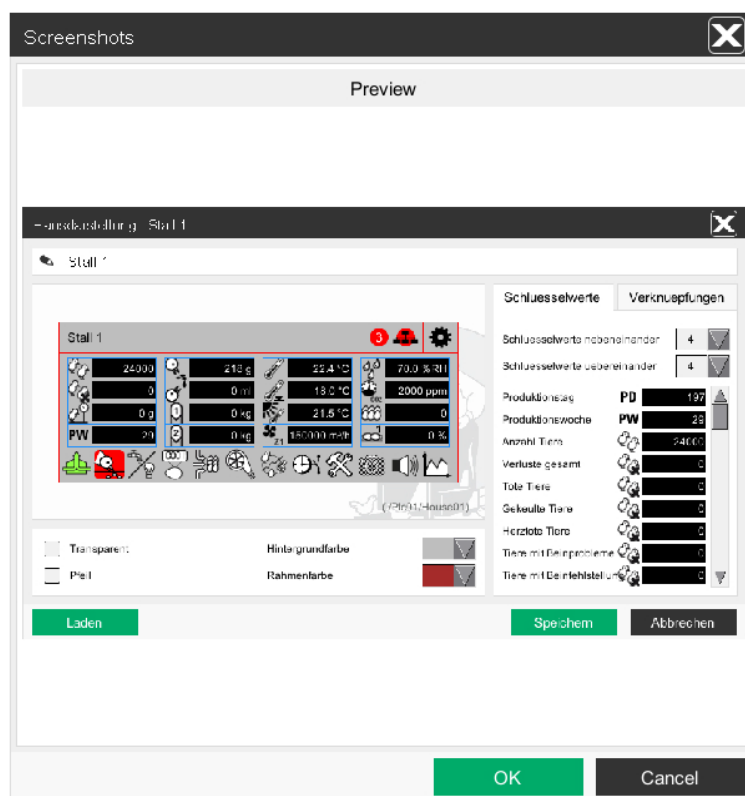


Figure 18-2: Creating a screenshot automatically: preview

- **Saving**

- **Storage location**

The storage location is defined here. By default, all files are stored in */media/shared*. In addition, USB flash drives can be selected as storage location.

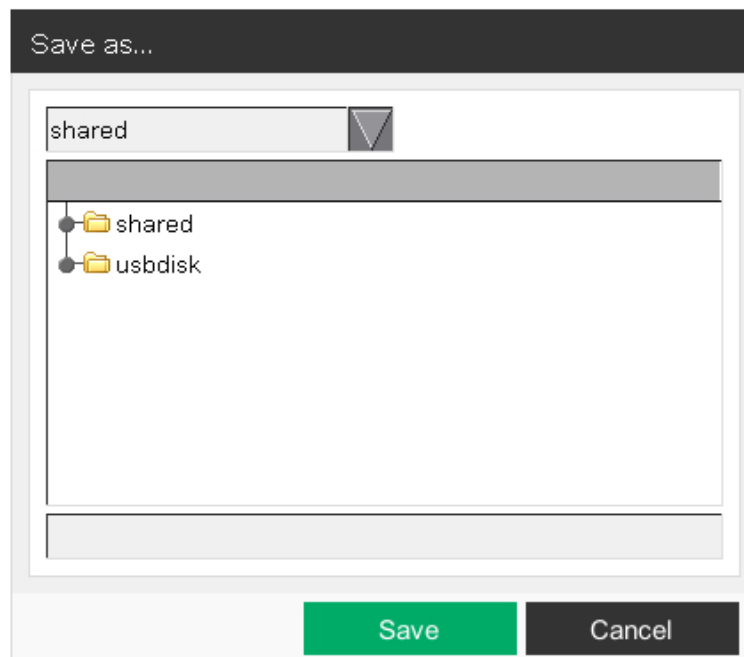


Figure 18-3: Creating a screenshot automatically: saving

- **File name**

The file name is compiled based on the name entered here.

/<storage location>/<language>/<file name>_<software version>.png

For each language, a separate folder is created, in which the generated screenshots are saved.

- **Saving**

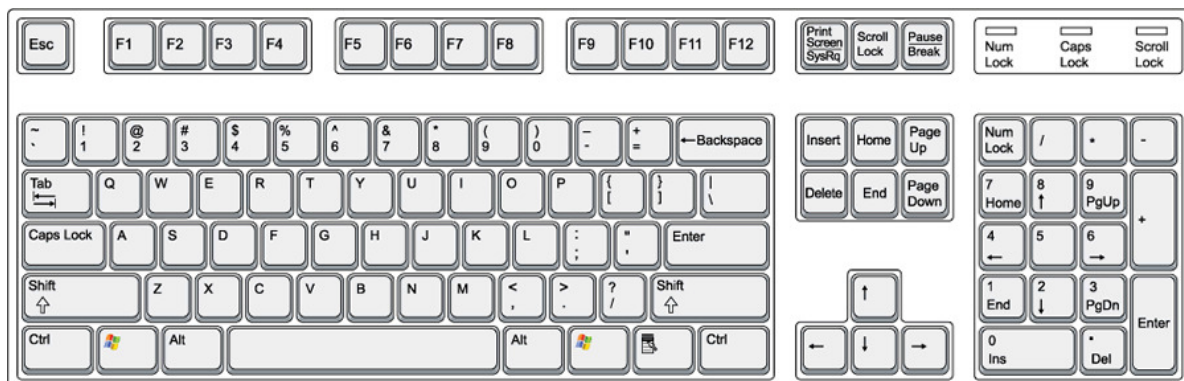
Clicking on **Save** starts a countdown of three seconds. Position the mouse pointer over an object with a context menu within this time, for example, or move it out of the picture. All screenshots for the selected languages are then created automatically. The mouse pointer itself is not visible in the screenshot. When all screenshots have been taken, a dialogue window previewing the final screenshot appears.

- **Cancelling**

Clicking on **Cancel** closes the menu window.

19 Shortcuts

A keyboard with English keyboard layout is supplied together with the Amacs system.



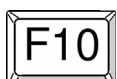
19.1 General keys

	Open help
	Open chat window
	New login
	Print current picture
	Open screenshot dialogue
	Change language
	Reload visualisation

19.2 Curve overview

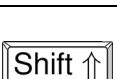
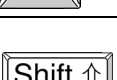
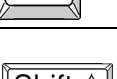
19.2.1 The function buttons

A plus (+) means that you need to press the indicated keys simultaneously.

			Print current curve overview
			Deactivate or activate the min./max. display in the curve overview.
			Deactivate or activate the split representation in the curve view
			Deactivate or activate automatic scrolling in the curve view

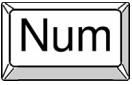
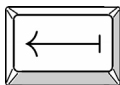
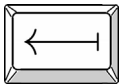
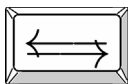
19.2.2 Arrow keys

A plus (+) means that you need to press the indicated keys simultaneously.

			One page up in the curve view
			Up in the curve view
			One page down in the curve view
			Down in the curve view
			With this key the ruler can be moved pixelwise to the left.
			With this shortcut the ruler can be moved to the left by 10 pixels.
			With this key the ruler can be moved pixelwise to the right.
			With this shortcut the ruler can be moved to the right by 10 pixels.

19.2.3 Further keys

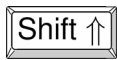
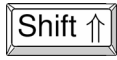
A plus (+) means that you need to press the indicated keys simultaneously.

			Activate and deactivate numeric keypad
			Reload curve overview
			Jump to the current time in the curve overview
			If you first zoomed out of the Y area of the display, use this key to zoom back in step by step up to one step before the origin.
			If you first zoomed out of the time period of the display, use this key combination to zoom back in step by step up to one step before the origin.
			Stepped curve or point-to-point connection in the curve overview
			Use this key to increase the thickness of all curve lines by one pixel. The maximum line thickness is 10.
			Use this key to decrease the thickness of all curve lines by one pixel. The minimum line thickness is 1.

19.3 Message history

19.3.1 Arrow keys

A plus (+) means that you need to press the indicated keys simultaneously.

			One page up in the message history
			Up in the message history
			One page down in the message history
			Down in the message history