BigFarmNet manager

CallMatic*pro* / Call-Inn*pro*

Code No. 99-97-3921 GB

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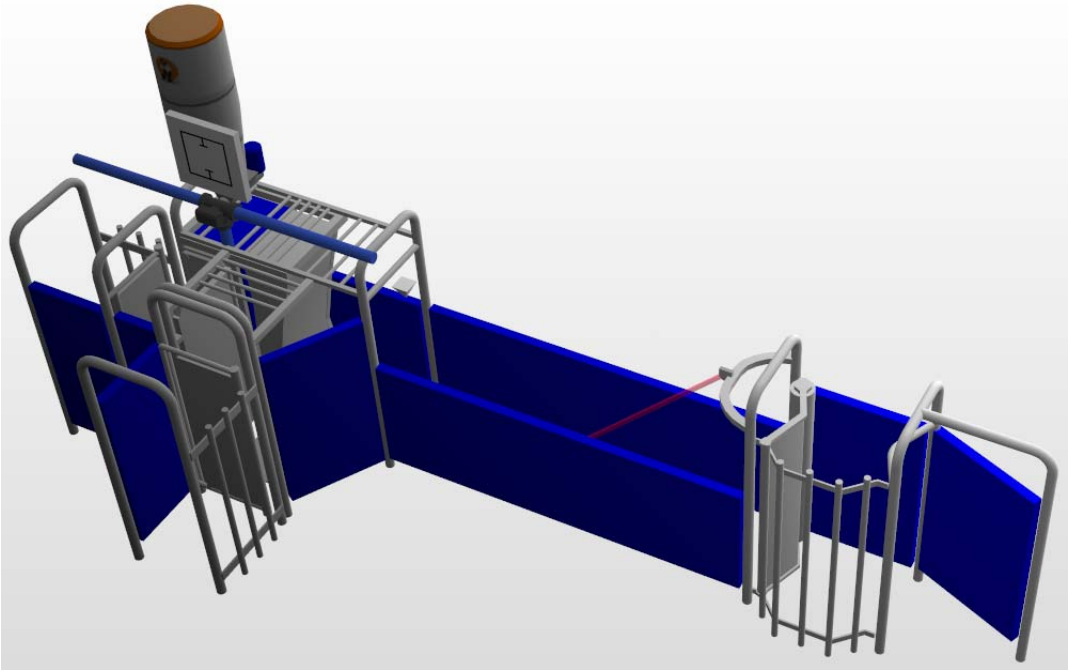
1 System description

This manual describes how to install the control software for the CallMatic and Call-Inn electronic sow feeding (ESF) stations. The installation process for both stations is virtually the same. All instructions as well as the screenshots in this manual are based on CallMatic. They also apply to Call-Inn, however. Specific settings for CallMatic and Call-Inn are marked correspondingly and described separately.

☝	The instructions including screenshots in this manual apply to both systems: CallMatic and Call-Inn. System-specific settings are described separately.



Electronic sow feeding (ESF) systems are used to feed group-housed sows individually while they are pregnant. All sows are tagged with an ear tag (also called transponder). Each ear tag has a unique number. The software assigns this number to the sow number. Each sow receives a daily feed ration based on the feed curve.

The station is thus occupied for the dosing time, the after-feeding time and the set-up time (sow enters and leaves the station). For an optimal resting time for the group, we recommend an idle time of no less than two hours.

It is possible to connect several ESF stations in one pen to supply a large group. All ESF stations receive the sow and feeding data of this group.

The CallMatic ESF station can be equipped with a selection unit as an option. This unit sorts single sows or groups into a separate area. A "selection order" must be defined in the software so animals can be sorted. When a sow enters the ESF station and a specific characteristic marking it for selection is detected, the selection gate in the station swings around, thus preventing the sow from returning to the group and instead allowing her to move into the selection pen. At the end of the feeding day, all sows assigned for selection are in the selection pen and do not have to be singled out manually.

1.1 Requirements to install the CallMatic*pro* application

The CallMatic*pro* application uses the 510*pro* control computer. One 510*pro* can control up to 10 ESF stations.

The following software licenses are **required** to run the CallMatic*pro* application:

Code no.	**BigFarmNet Manager license**	**Use**
91-02-6606	License MC510 – BigFarmNet CallMatic	1 per control computer
91-02-6500	BigFarmNet Manager – Basic installation software	1 per BigFarmNet network
91-02-6555	BigFarmNet Manager – Sow Manager	1 per BigFarmNet network

The following software licenses are **optional**:

Code no.	**BigFarmNet Manager license**	**Use**
91-02-6551	BigFarmNet Manager per additional PC/ MC700	In case animal and system data in the BigFarmNet Manager is to be available on additional computers
91-02-6558	BigFarmNet Manager – Sow management < 1000 sows	1 per BigFarmNet network
91-02-6566	BigFarmNet Manager – Sow management 1000 - 3000 sows	
91-02-6567	BigFarmNet Manager – Sow management > 3000 sows	
91-02-6564	BigFarmNet Manager – Web Access Pig	Access via the app (smartphone or tablet)

1.2 Requirements to install the Call-Inn*pro* application

The Call-Inn*pro* application uses the 510*pro* control computer. One 510*pro* can control up to 10 ESF stations.

The following software licenses are **required** to run the Call-Inn*pro* application:

Code no.	**BigFarmNet Manager license**	**Use**
91-02-6608	License MC510 – BigFarmNet Call-Inn	1 per control computer
91-02-6500	BigFarmNet Manager – Basic installation software	1 per BigFarmNet network
91-02-6555	BigFarmNet Manager – Sow Manager	1 per BigFarmNet network

The following software licenses are **optional**:

Code no.	**BigFarmNet Manager license**	**Use**
91-02-6551	BigFarmNet Manager per additional PC/ MC700	In case animal and system data in the BigFarmNet Manager is to be available on additional computers
91-02-6558	BigFarmNet Manager – Sow management < 1000 sows	1 per BigFarmNet network
91-02-6566	BigFarmNet Manager – Sow management 1000 - 3000 sows	
91-02-6567	BigFarmNet Manager – Sow management > 3000 sows	
91-02-6564	BigFarmNet Manager – Web Access Pig	Access via the app (smartphone or tablet)

1.3 System limits

1.3.1 CallMatic*pro*

30,000	Sows
256	Feeding stations
2	Feed types per station (dry)
1	Feed types per station (liquid)
1	Mineral proportioner per station
3	Color sprayers per station
1	Selection per station
50	Feed curves
1,000	Ingredients
50	Recipes

1.3.2 Call-Inn*pro*

30,000	Sows
256	Feeding stations
1	Feed types per station (dry)
1	Color sprayers per station
50	Feed curves
1,000	Ingredients
50	Recipes

1.4 Example installation

BigFarmNet Manager allows you to access the control computers inside the house. One 510*pro* control computer can control up to 10 ESF stations.

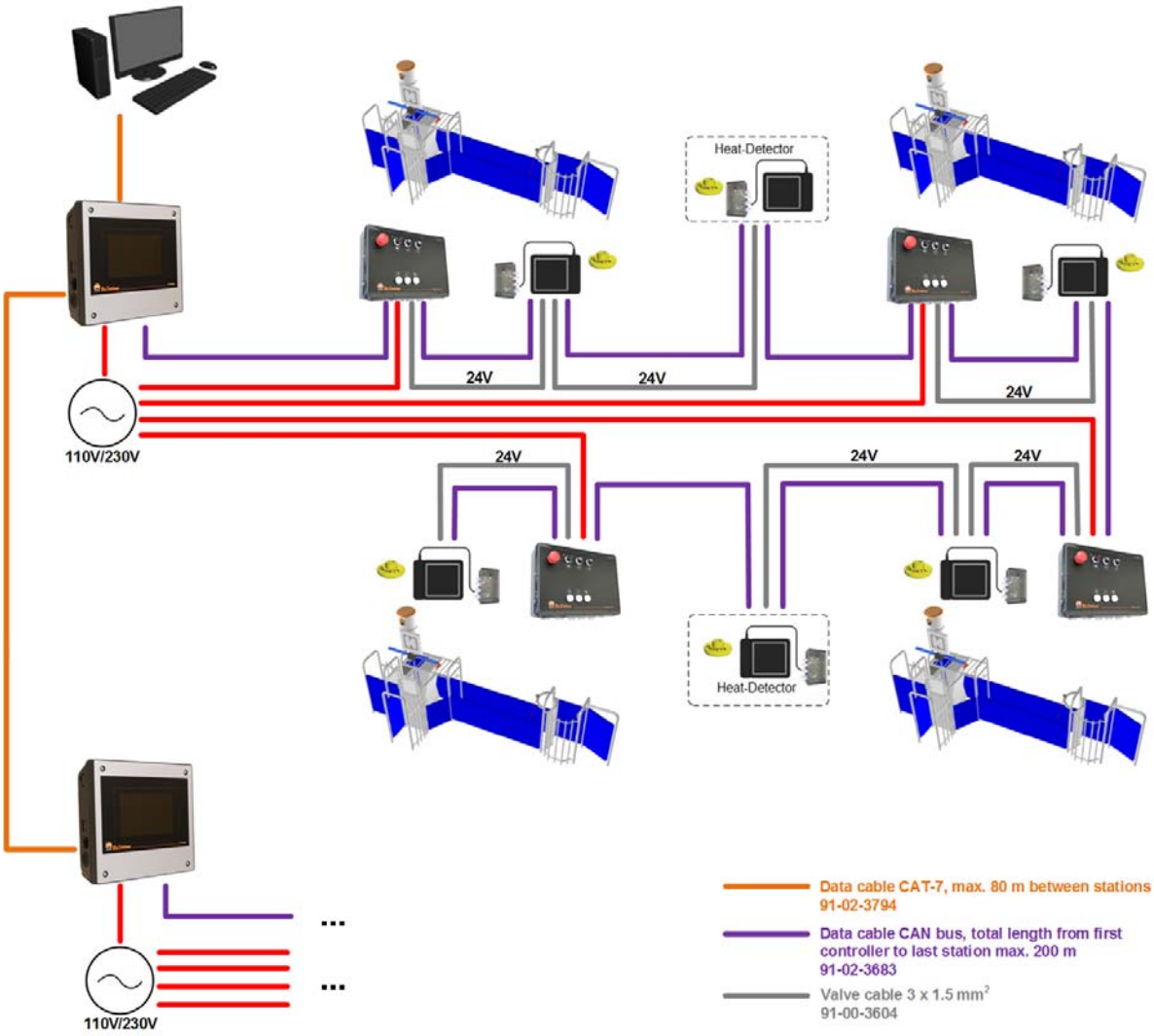


Figure 1-1: Central control 510*pro* with 4 CallMatic stations and 2 heat detectors

1.4.1 CallMatic and Call-Inn as dry feeding systems

Each ESF station is equipped with two hoppers which are supplied by the respective silos. A sensor is installed in each hopper. If the feed level drops below a set minimum value, the sensor transmits a signal to the control.

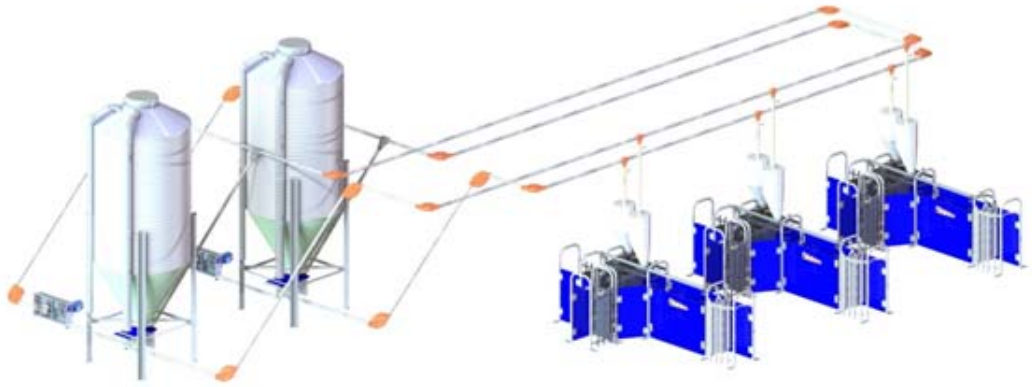


Figure 1-2: Functional diagram of a CallMatic as dry feeding system, using two types of feed

1.4.2 CallMatic as liquid feeding system

The ESF system requests feed from the WetMix system, which in turn prepares the requested feed ration and pumps it into the storage tank of the ESF system. The liquid feed circulates through a pipeline system installed above the ESF stations. If a sow entitled to receive feed is identified, feed is dispensed into the trough.

For more system-specific settings, please consult the "BigFarmNet Manager HydroMix CallMatic" manual (only available in German), code number 99-97-4248.

1.5 Electronic identification system

An electronic identification system identifies the sow and collects data from the ESF station. The identification system consists of an antenna and passive transmitters. The transmitters work without batteries and are attached to the sow in form of an ear tag (also called transponder). Select the ear pointing away from the exit when the sow stands in front of the trough when attaching the tag. The sows are identified by an antenna in the trough area of the station.

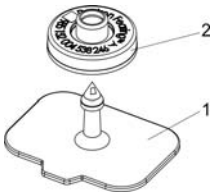


Figure 1-3: Ear tag

1.6 Selection (optional)

The selection unit is an optional, pneumatically operated assembly unit. The selection gate swings back immediately when the next sow enters the feeding station and is identified by the light barrier.

1.7 Heat detector (optional)

The heat detector identifies sows returning to heat. It includes an opening which allows the sow to have contact to the boar. An antenna at the heat detector calculates the number of visits and the duration of the sows' stay. The software analyses this information. If the heat detector is equipped with a color marking device, sows in heat can be color-marked directly and/or selected at the ESF station. Sows returning to heat are shown in special lists in the software and can be sorted into the selection pen during their next visit to the ESF station (if applicable).

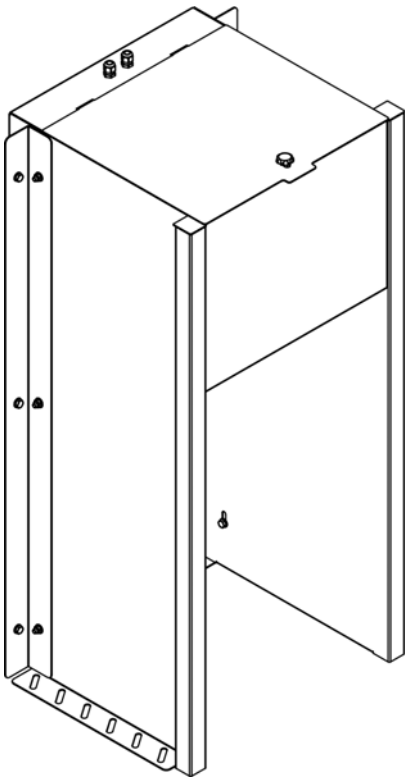


Figure 1-4: Heat detector

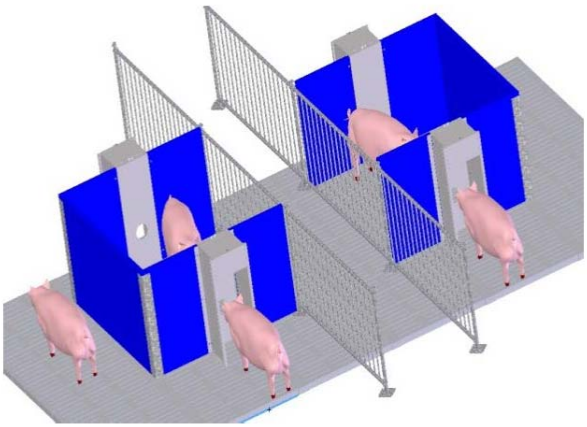
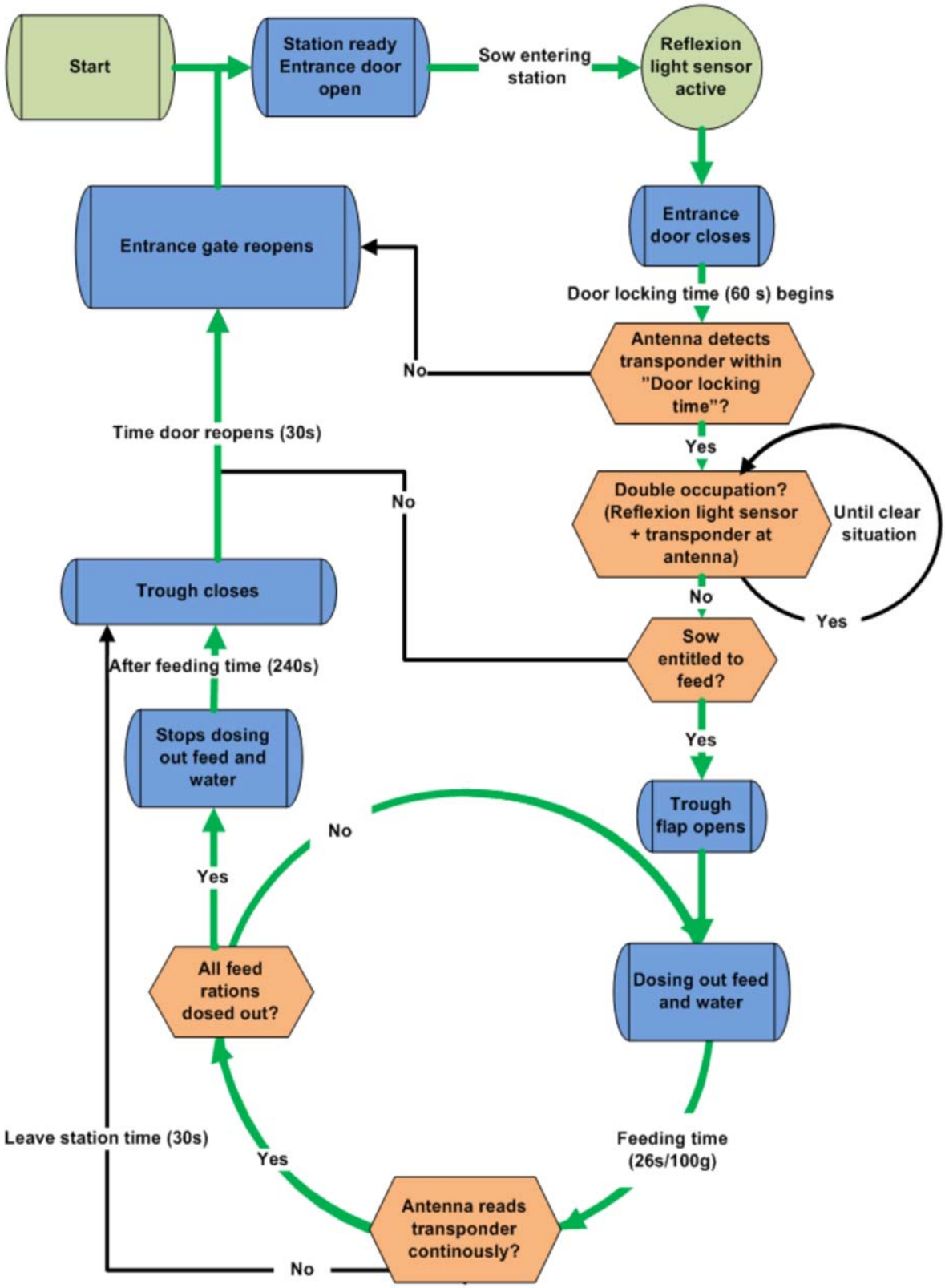


Figure 1-5: Boar pen with two heat detectors for two groups

1.8 Feeding cycle

During normal use, the station's entrance door is open. The entrance door closes when a sow enters the station. The antenna in the trough area identifies the sow by means of its ear tag transponder. The trough flap will only open if the sow is entitled to feed. By default, the trough is closed. The feed is metered in intervals and by volume and can be set individually per sow by an electric motor. Feed is metered until the sow is no longer entitled to receive feed. With every metering of dry feed, a small amount of water is added so that the feed can be ingested in as gruel. If the daily feed ration has been metered completely, the after-feeding time begins. The sow can finish eating the feed quantity remaining in the trough during this time. Afterwards, the trough flap closes automatically. The sow has to leave the station on her own by pushing open the exit doors. After an adjustable time, the entrance door opens again, thus allowing the next sow to enter the station and to drive out the previous sow if necessary.


Start
Station ready Entrance door open
Sow entering station
Reflexion light sensor active
Entrance door closes
Door locking time (60 s) begins
Antenna detects transponder within "Door locking time"?
No
Yes
Entrance gate reopens
Time door reopens (30s)
Double occupation? (Reflexion light sensor + transponder at antenna)
Until clear situation
No
Yes
Trough closes
Sow entitled to feed?
After feeding time (240s)
Yes
Stops dosing out feed and water
Trough flap opens
No
Yes
All feed rations dosed out?
Dosing out feed and water
Leave station time (30s)
Yes
Feeding time (26s/100g)
Antenna reads transponder continously?
No

2 Installation and configuration of the control computer

	Only service technicians may install and configure the control computer.

Figure 2-1: Control computer 510*pro*

Carry out the following steps to install and configure the control computer:

1. Wiring, see the enclosed wiring diagram
2. Assigning a static IP address to the control computer, see chapter 2.1
3. Assigning a static IP address to the Manager computer, see chapter 2.2
4. Assigning a network card to the control computer, see chapter 2.3
5. Testing the connection to the control computer, see chapter 2.4
6. Installing the software on the control computer, see chapter 2.5

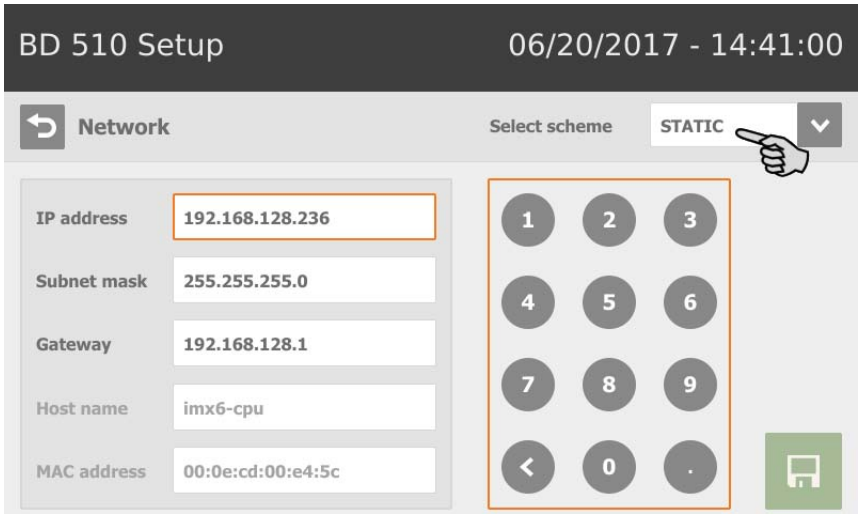
	Please contact the customer's IT administrator to determine the IP addresses in the network.

2.1 Control computer: assigning a static IP address

1. Start the control computer.
2. Tap on the configuration button on the start screen.

3. Tap on "Network".

4. Enter the IP address, the subnet mask and the gateway.
5. Make sure that you have selected "STATIC" for a static IP address under "Select scheme".

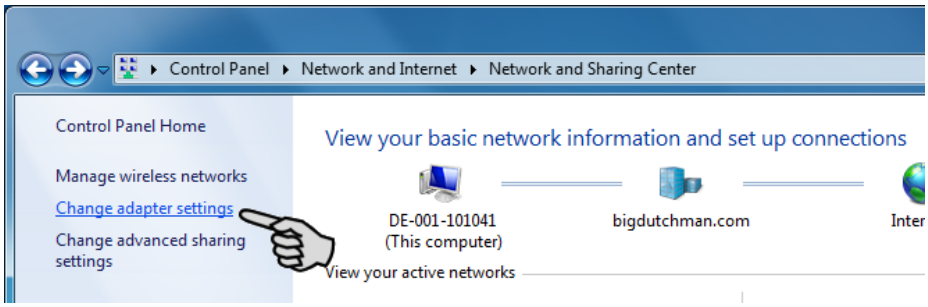


6. Save your inputs by tapping on .

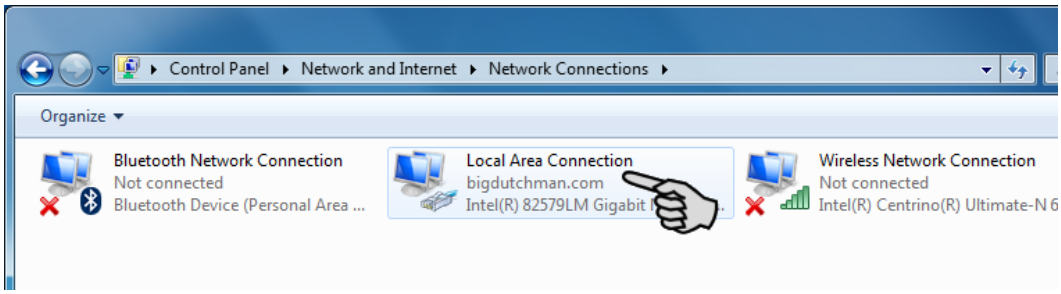
2.2 Manager computer: assigning a static IP address

Assign a static IP address to the computer on which BigFarmNet Manager is installed. The following steps correspond to the Windows 7 operating system.

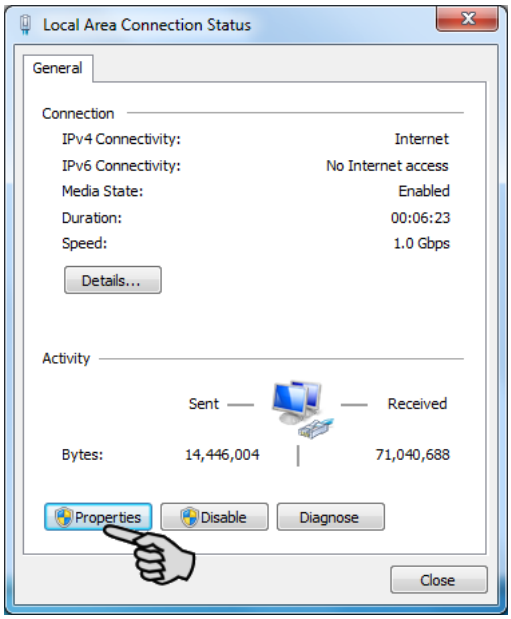
1. Click on "Control Panel" in the start menu.
2. Click on "Network and Internet" > "Network and Sharing Center".
3. Click on "Change adapter settings".



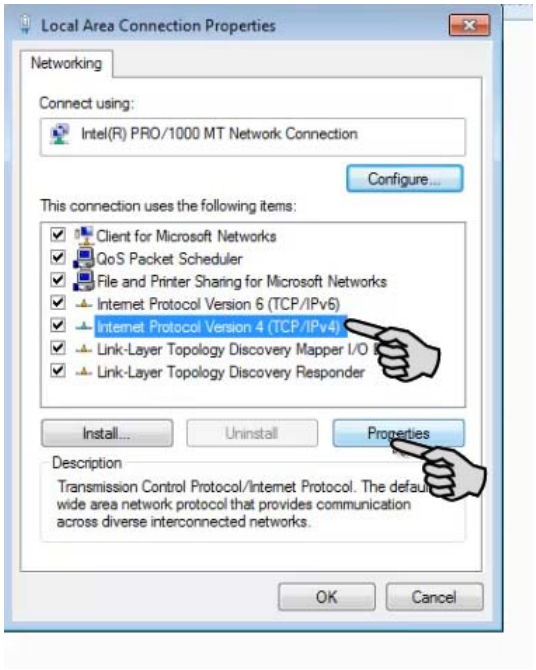
4. Double-click on "Local Area Connection".



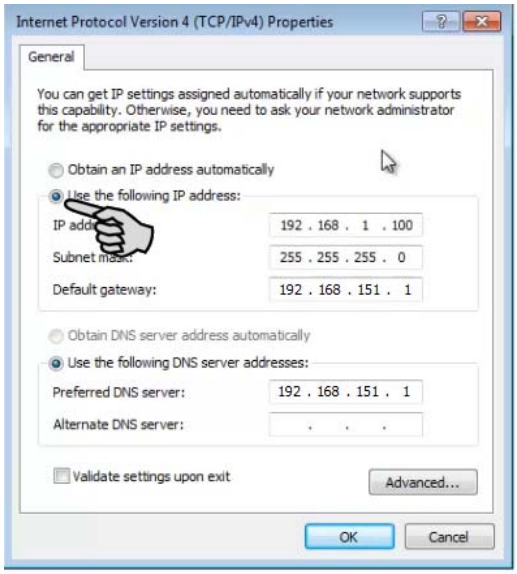
5. Click on "Properties".



6. Select "Internet Protocol Version 4 (TCP/IPv4)" and click on "Properties".



7. Enter a static IP address.

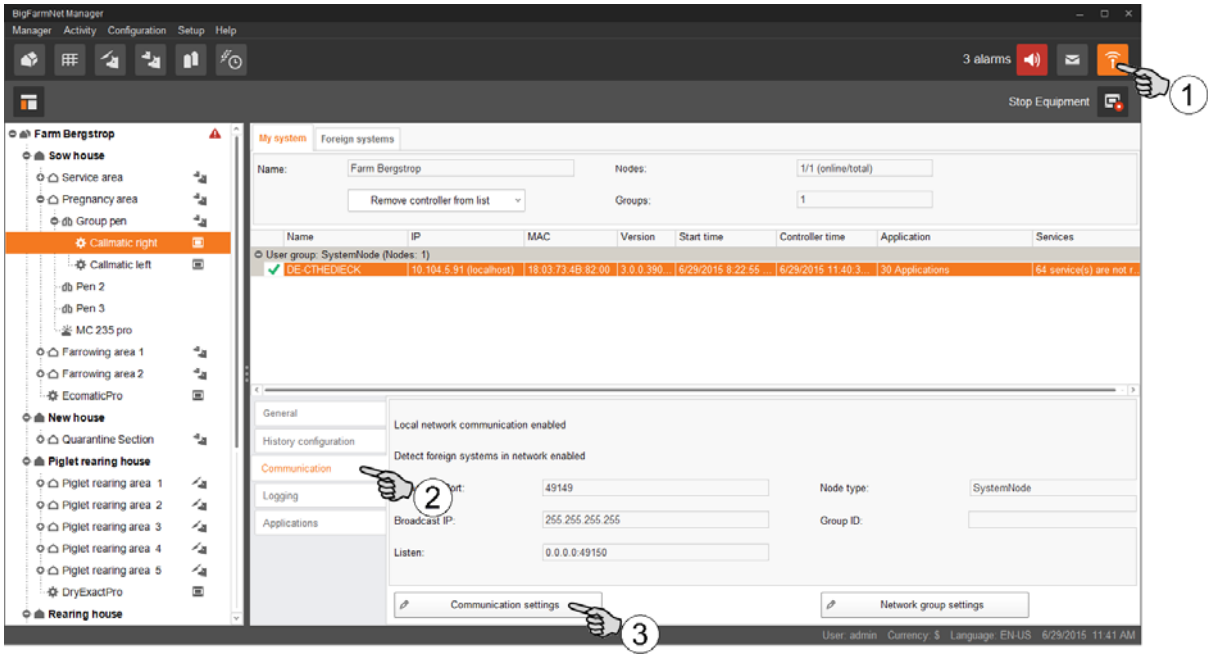


8. Accept these inputs by clicking on "OK".

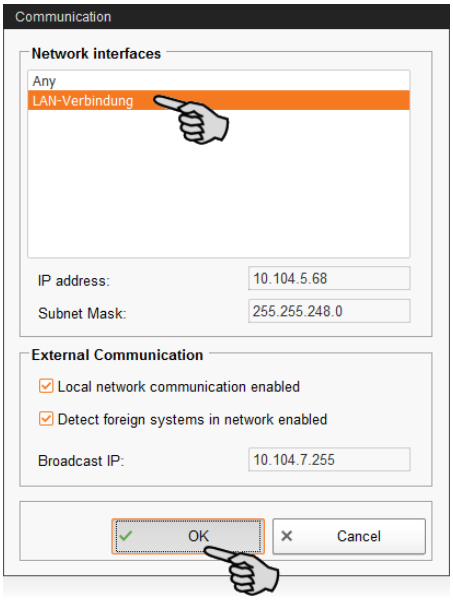
2.3 Assigning a network card

Assign the network card in BigFarmNet Manager. Install BigFarmNet Manager on your PC first, see the "BigFarmNet Manager – Installation/Configuration" manual.

Carry out the following steps to assign the network card to the BigFarmNet Manager PC:



1. Click on the network icon.
2. Click on "Communication".
3. Click on "Communication settings".
4. Select the network interface in the next window and click on OK.



2.4 Checking the connection to the control computer

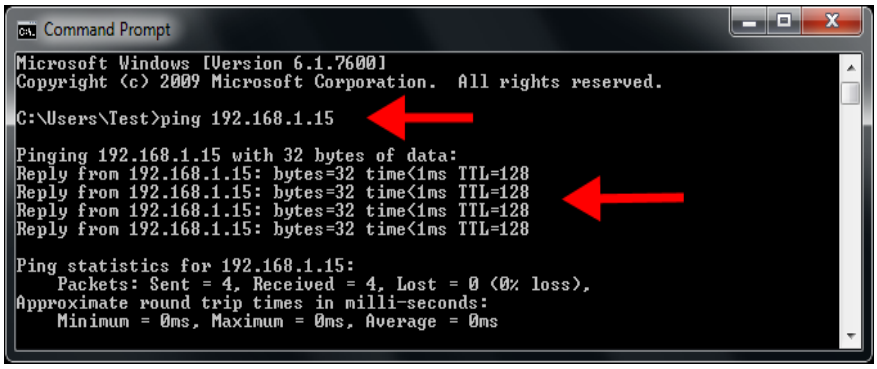
	Use the "ping" command to check the connection to the control computer.

Enter the command into the console as follows: ping <IP address>

Example in the screenshot: ping 192.168.128.15

If the control computer replies, our lines with the following information will appear:

- IP address;
- packet size;
- required time;
- TTL (time to live).



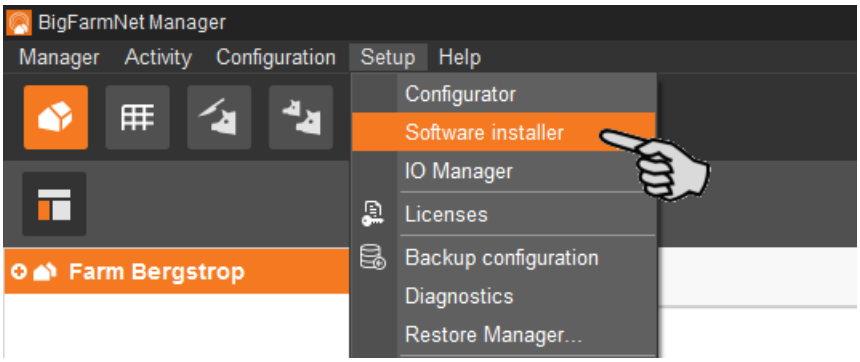
If the control computer replies, the software can be installed.

If the "ping" command fails and the control computer does not reply, contact the customer's IT administrator.

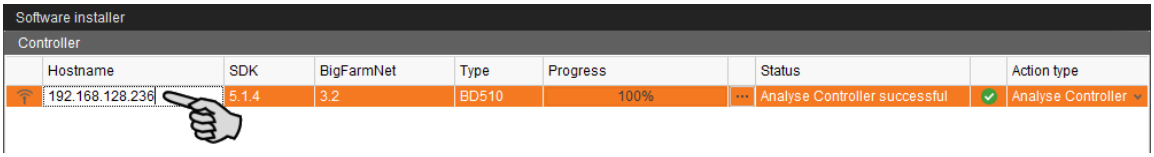
2.5 Installing the software on the control computer

Upon delivery, the control computer has an operating system pre-installed. The corresponding BigFarmNet software must be installed additionally.

1. Click on "Software installer" in the "Setup" menu.

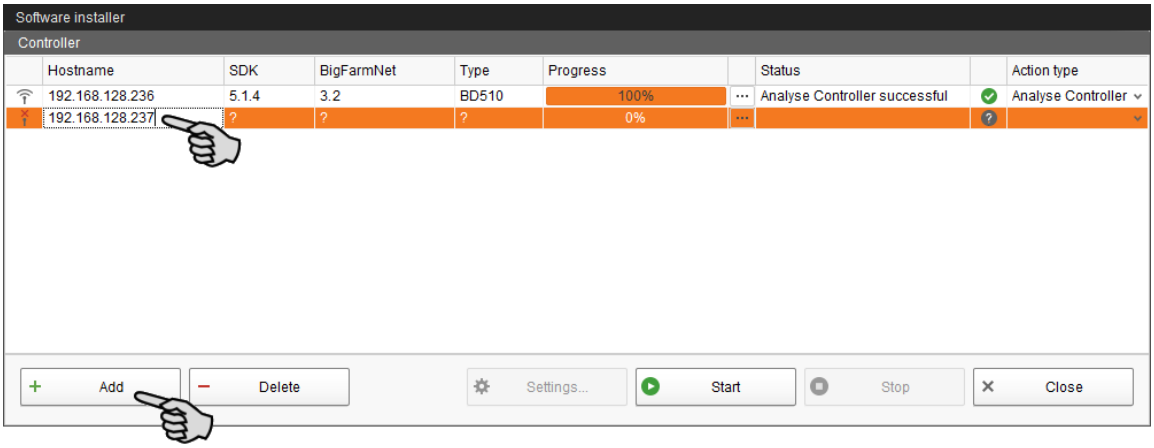


2. Enter the IP address of the control computer on which you want to install the software.

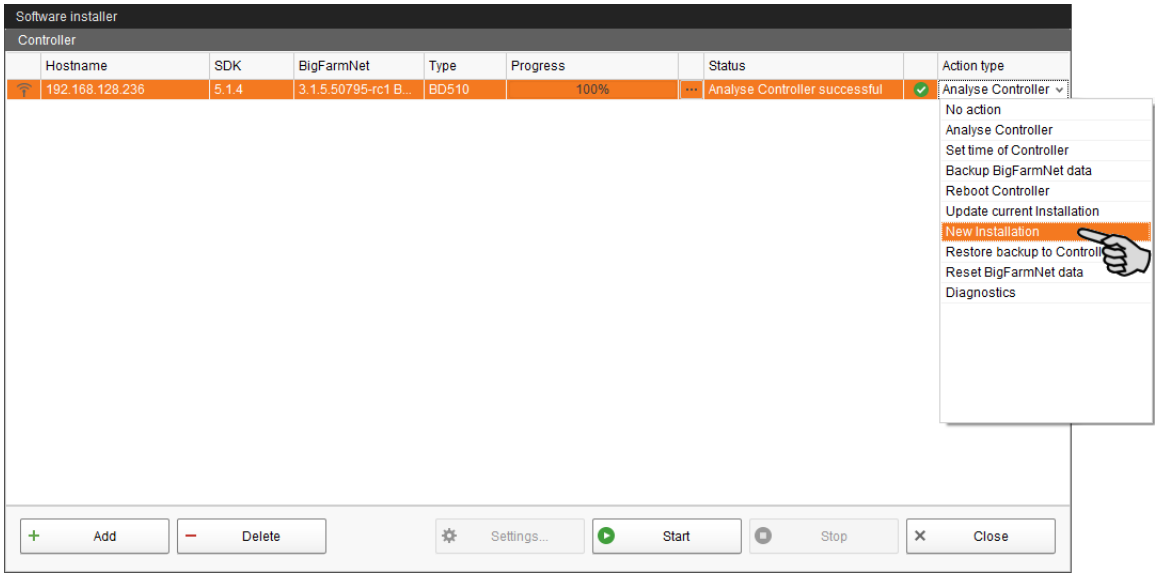


3. If necessary, add the desired number of control computers by clicking on "Add".

   This feature allows you to install the software simultaneously on multiple control computers. Each click on "Add" adds another control computer and the IP address increases by 1. However, you may change the IP address according to your wishes.

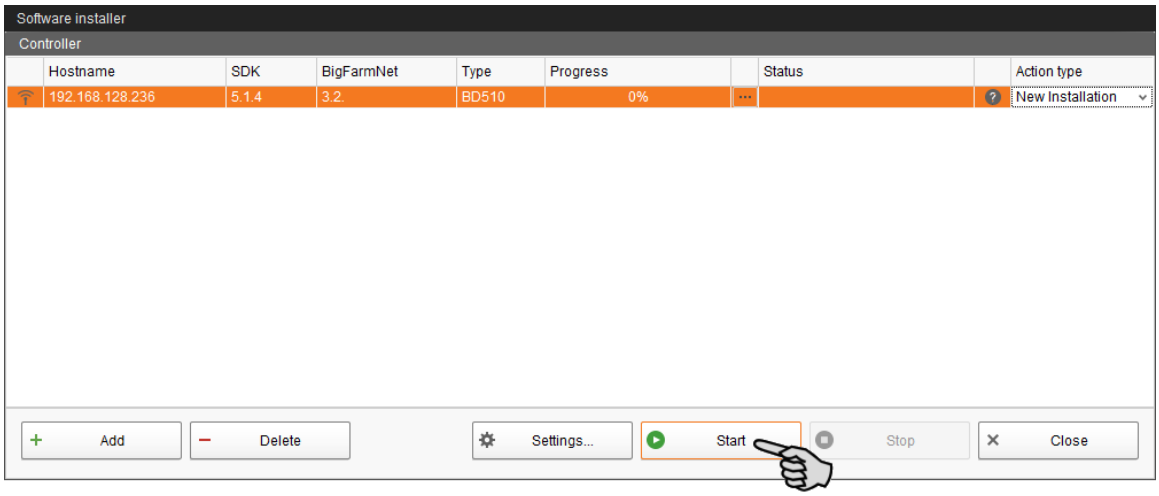


4. Click on a control computer to select it.
5. Click into the respective input field under "Action type" and select "New Installation".

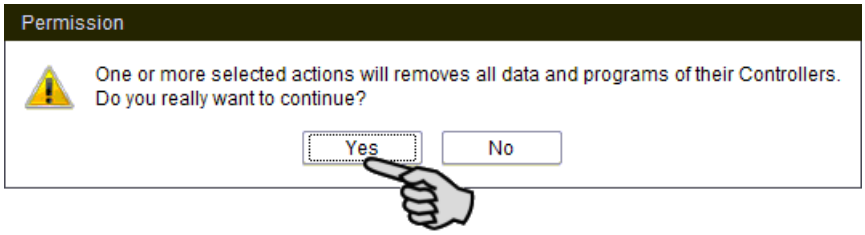


6. Click on "Settings" in the lower command bar of the dialog window.
7. Under "Software package", check whether the setup for the 510*pro* control computer is stored under the indicated path.

8. Confirm the dialog by clicking on "OK".
9. Click on "Start".

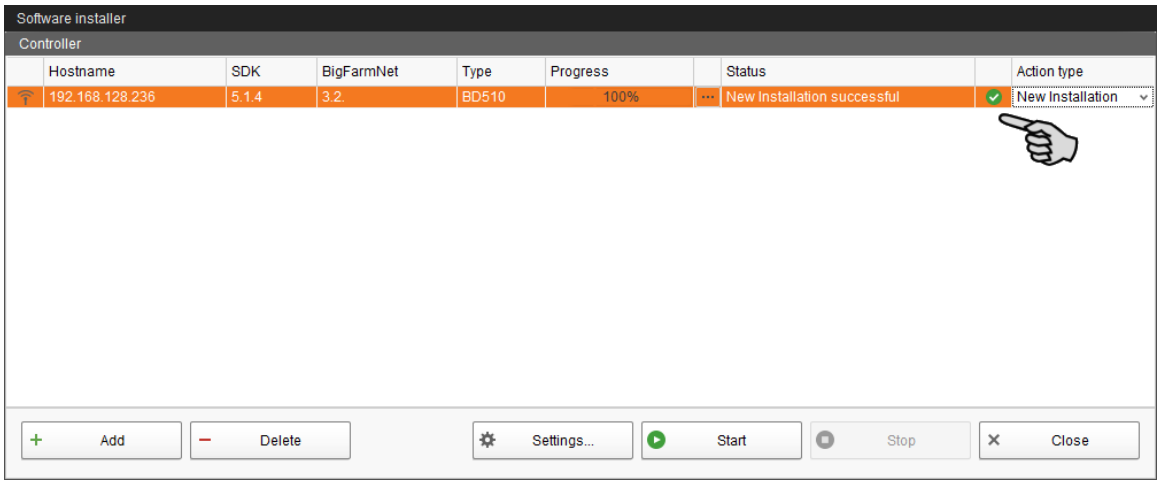


10. Confirm the prompt for confirmation.



The installation process may take a few minutes. Click on ··· to receive more information on the progress.

Successful installation is indicated by a checkmark in the "Status" column.



3 Configuration of the system

3.1 Adding and configuring a control computer

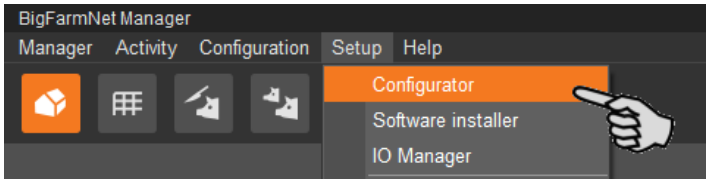
	To add a control computer, create a farm structure with houses, sections and pens first, see the "BigFarmNet Manager – Installation/Configuration" manual.

These instructions describe the following steps in chronological order:

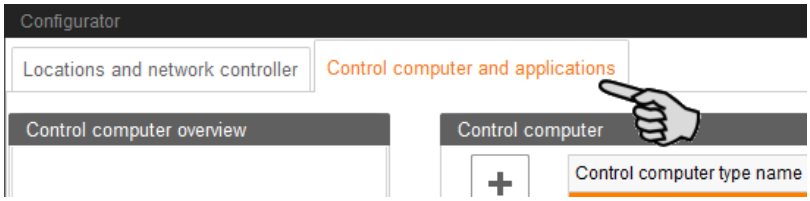
- Adding the control computer and the application
- Defining system components and functions in the Composer
- Copying configurations for ESF stations with identical functions

1. Click on "Configurator" in the "Setup" menu.

   This opens the "'Configurator" window.

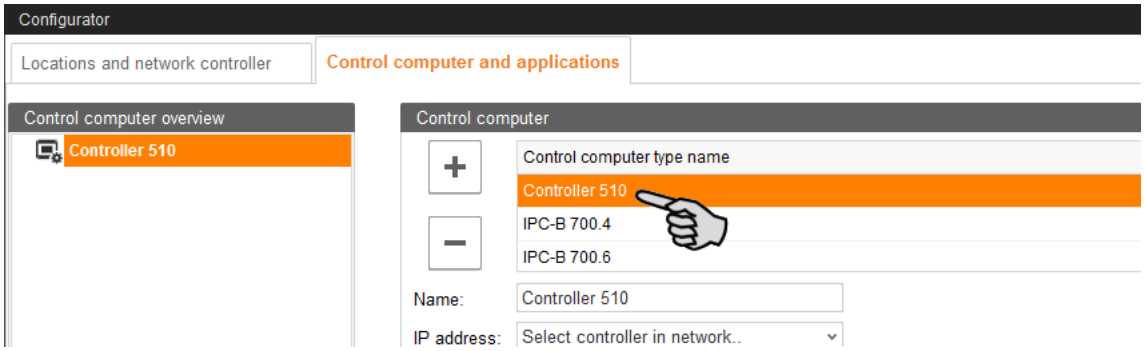


2. Click on the "Control computer and applications" tab.

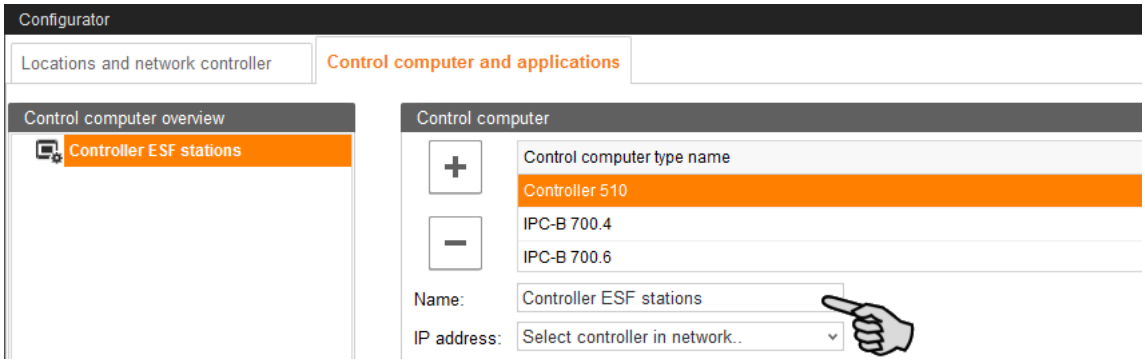


3. Select the correct control computer in the upper part of the window under "Control computer" and click on the plus button.

   The control computer is now added on the left under "Control computer overview".



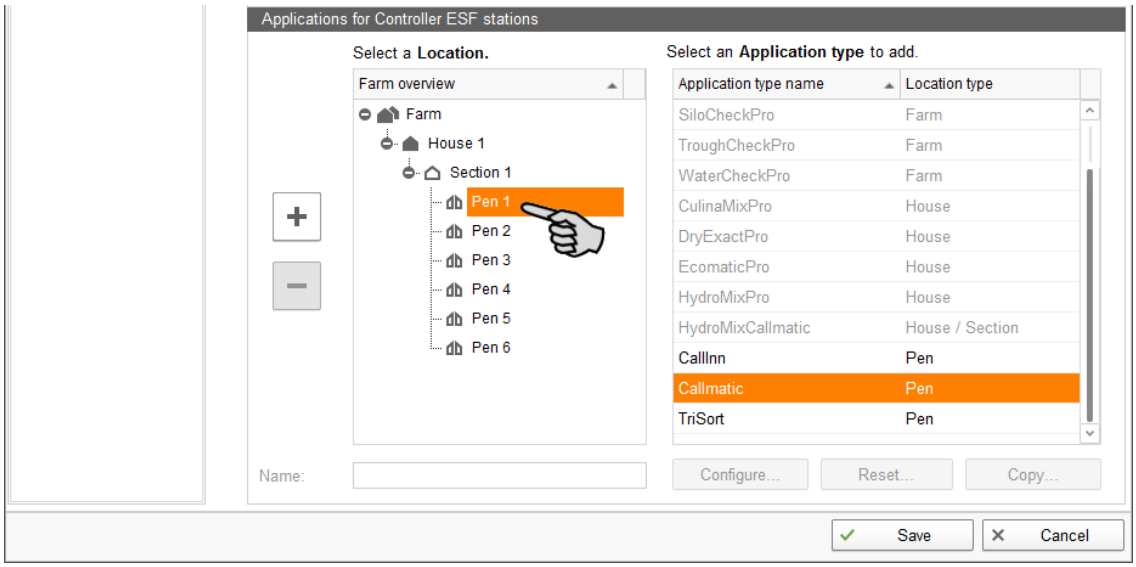
4. Enter a name for the control computer.



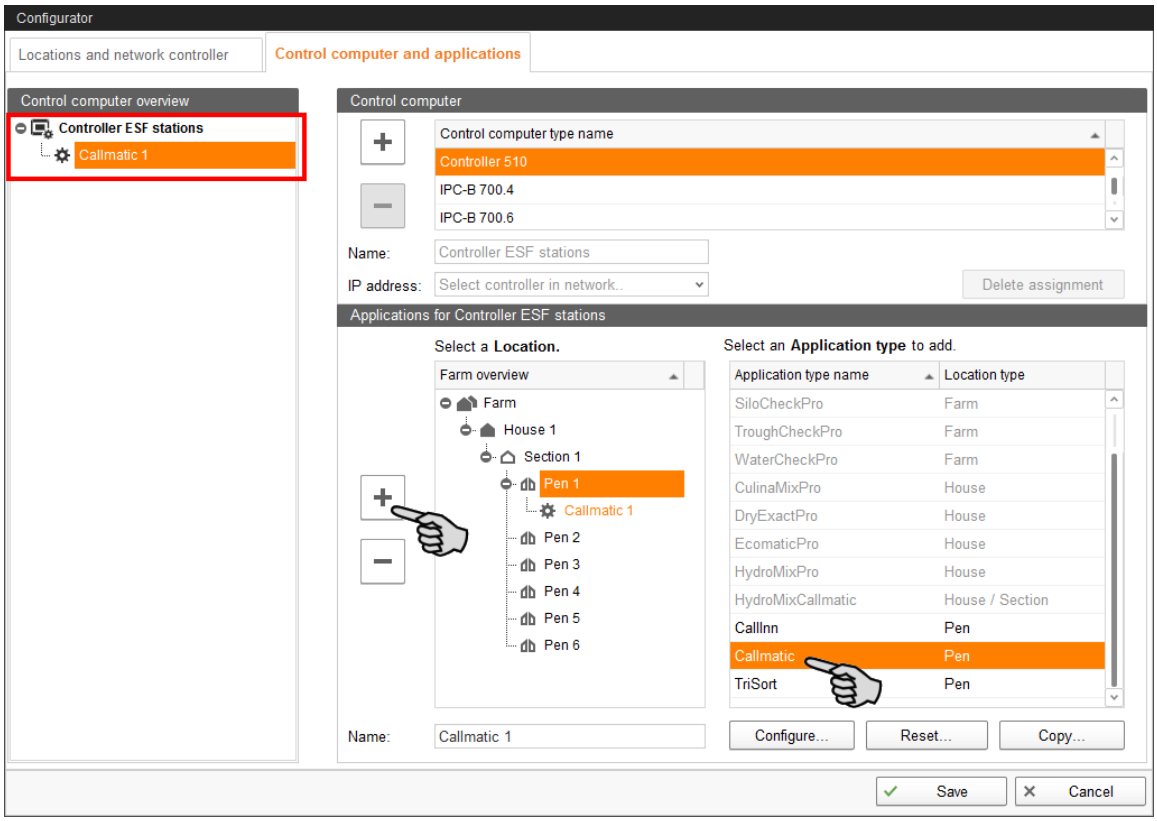
5. From the lower part of the window under "Applications for...", select the location where the ESF station is to be operated.

   The applications available for selection depend on the selected location.

   The CallMatic*pro* / Call-Inn*pro* applications can only be added to the "Pen" level.

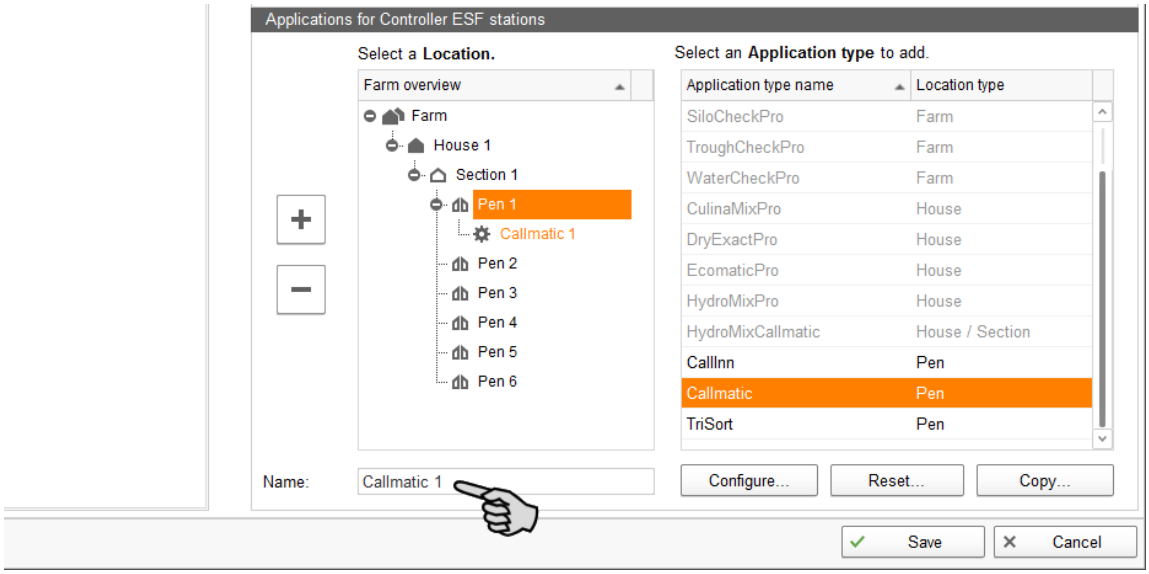


6. Select the correct application in the table on the right and click on the plus button to the left.



The selected application is assigned to the control computer on the left under "Control computer overview". In the structure, the control computer is displayed on the upper level and the respective application on the lower level.

7. Enter a name for the application.



8. Add further applications to the control computer, if necessary.

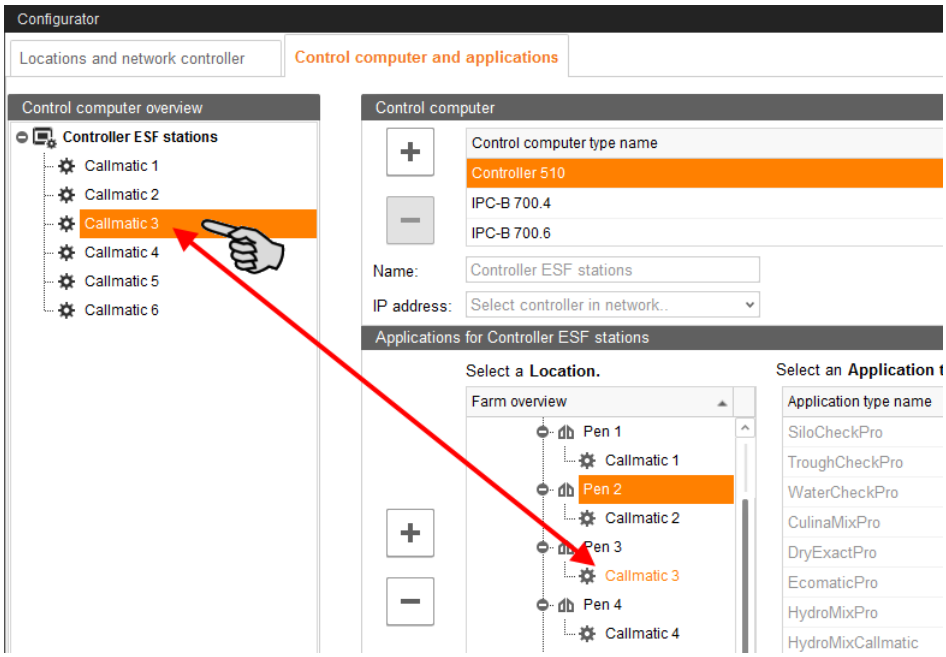
   An application means a CallMatic station or a Call-Inn station. Up to 10 stations (CallMatic and/or Call-Inn) can be assigned to one control computer.

   a) Select a new pen.

   b) If the correct application is still selected, click on the plus button.

   c) Enter a name for the application.

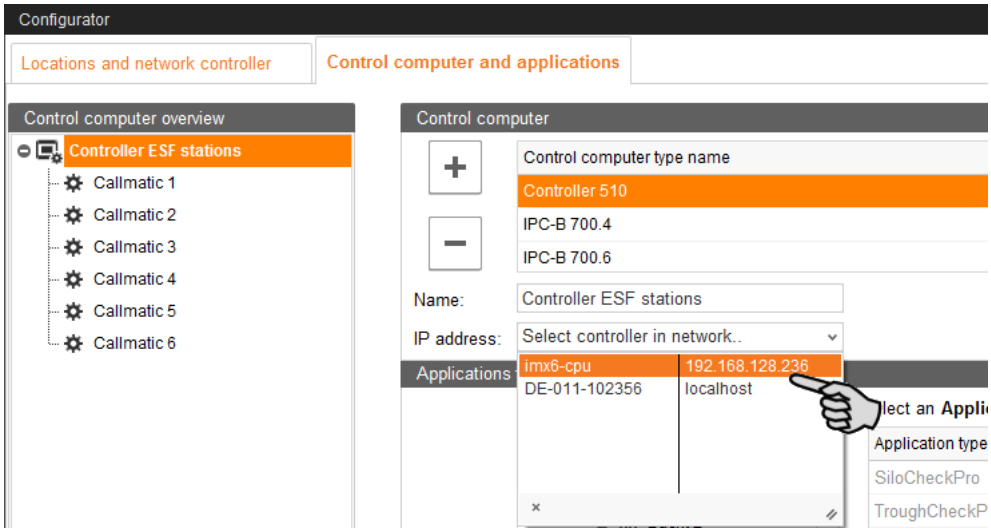
   An application you select in the "Control computer overview" is marked by color below the assigned location.



9. Click on the level of the control computer in the left-hand part of the window under "Control computer overview".

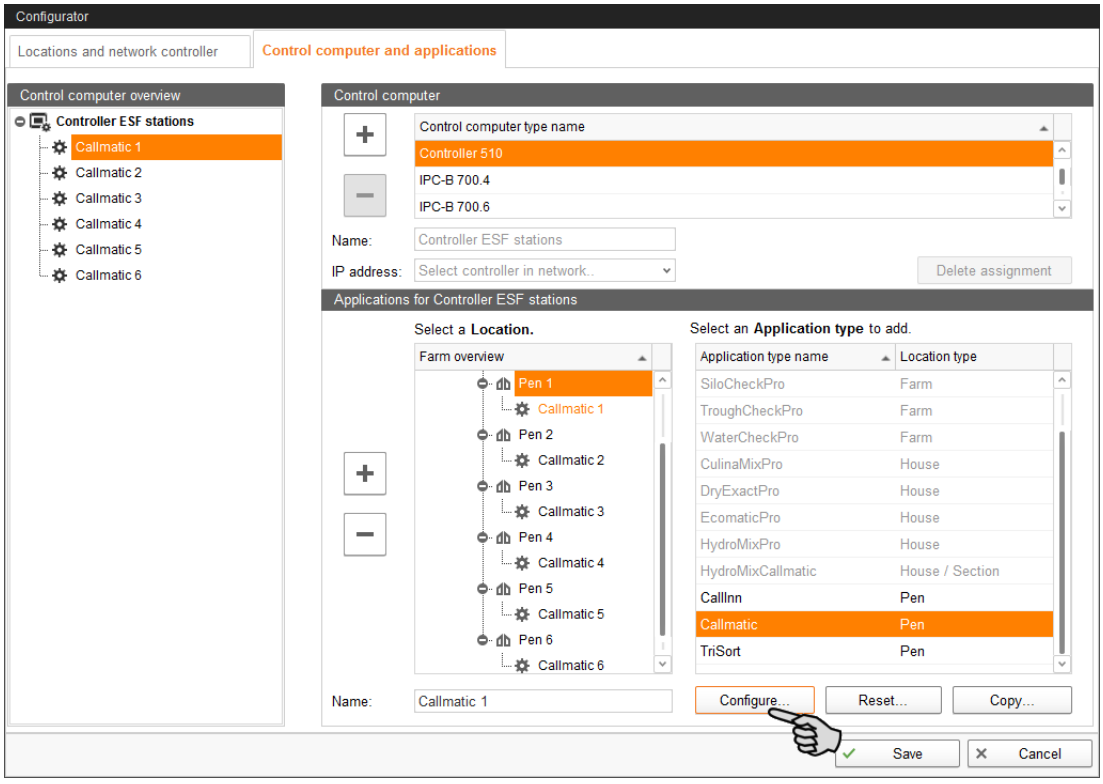
10. Assign the corresponding IP address to the control computer, if known.

    If the IP address has not been set up yet, you will need to add it later on.



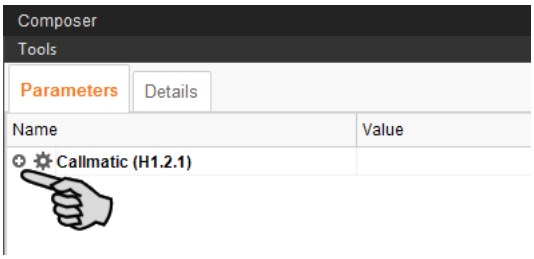
11. Select an application from the "Control computer overview" to configure it based on the system's functions.
12. Click on "Configure".

    This opens the dialog for the Composer.



13. Click on the plus icon to see the different parameters.

    a) Also open subordinate parameters by clicking on the respective plus icon.



14. Configure the settings in accordance with the functions of your CallMatic/Call-Inn station. Change pre-set values, if necessary.

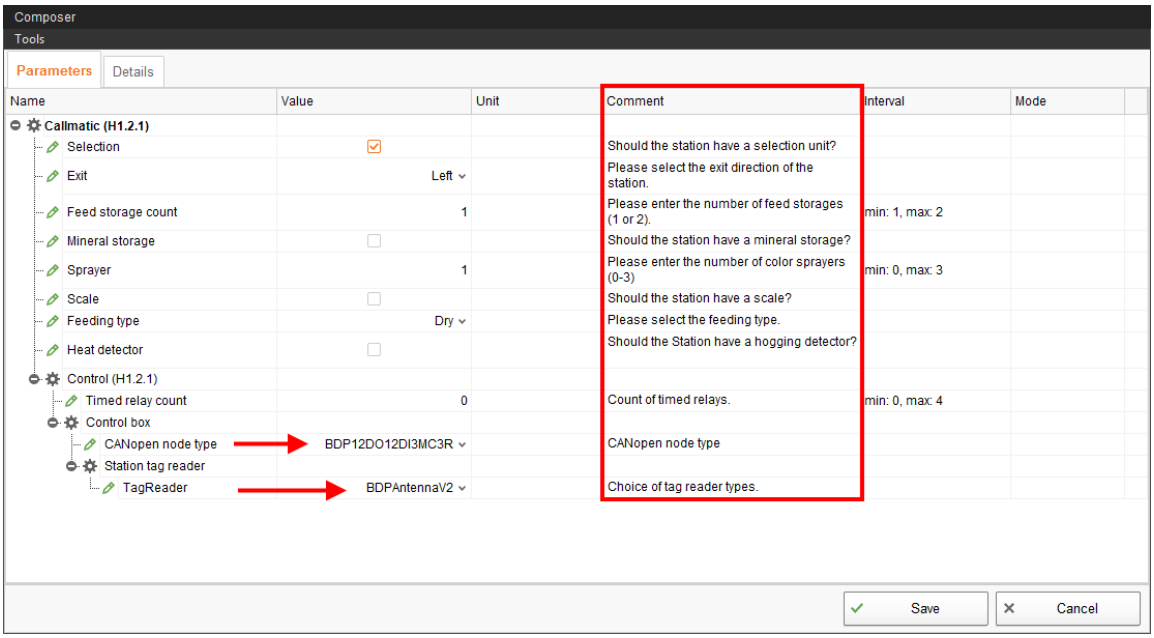
    The "Comment" column provides additional information on the respective setting.

    Make sure the following settings are correct:

    – CANopen node type = BDP12DO12DI3MC3R

    – TagReader = BDPAntennaV2

    These settings do not apply where an antenna or station control that differ from the standard are used.

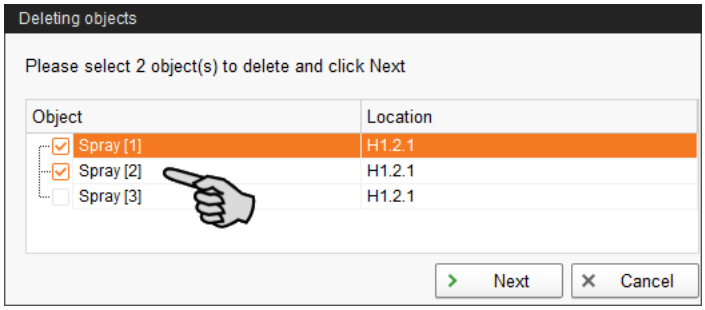


15. Proceed as follows to delete system components:

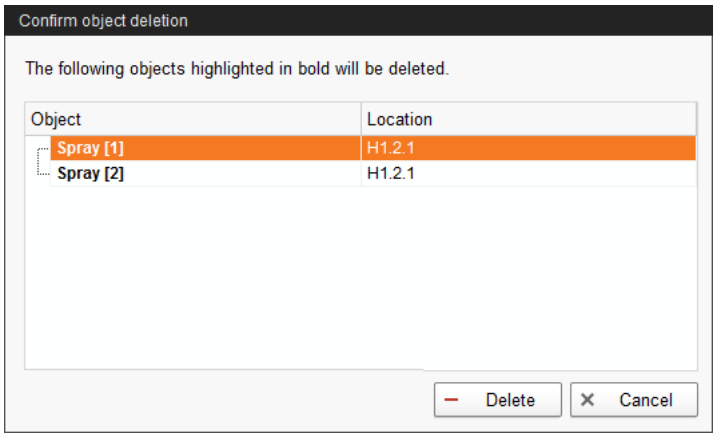
    a) Enter the new quantity (a lower number or 0) and press Enter.

    This opens a new dialog window that shows the system components with their assigned locations.

    b) Select the object(s) you wish to delete and click on "Next".



    c) In the next window, confirm that you want to delete the object(s) shown by clicking on "Delete".

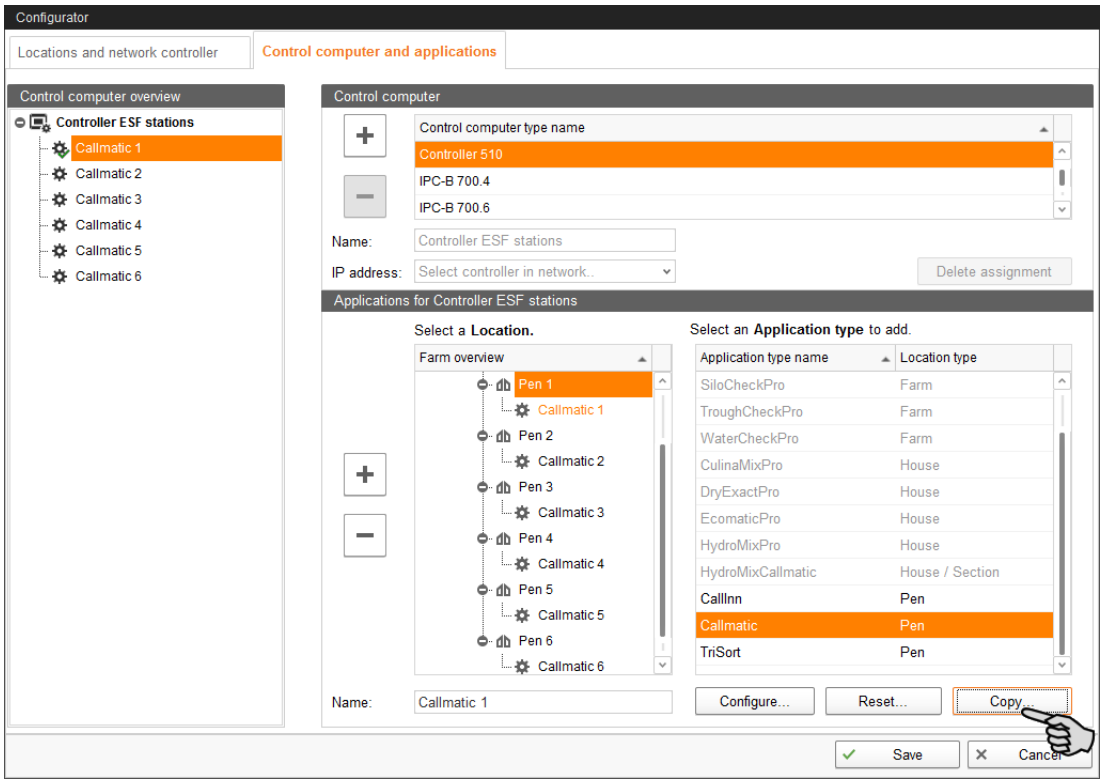


16. Click on "Save" to accept all settings for the Composer.

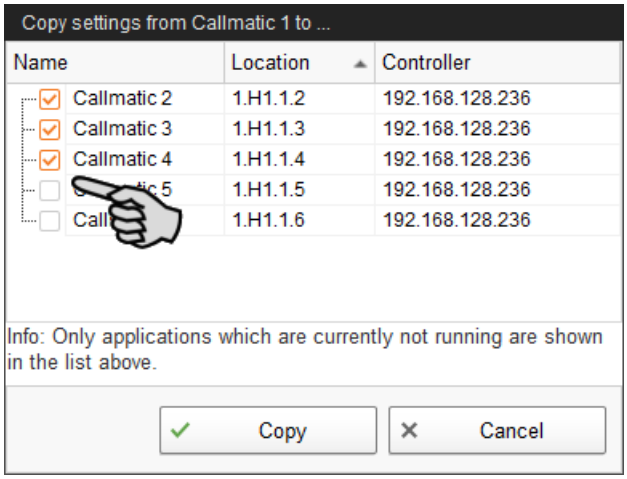
17. Copy the configuration defined in the Composer and transfer it to the other ESF stations (applications), provided the ESF stations have identical functions.

    A configured application is marked by .

    a) Select the configured application and click on "Copy".



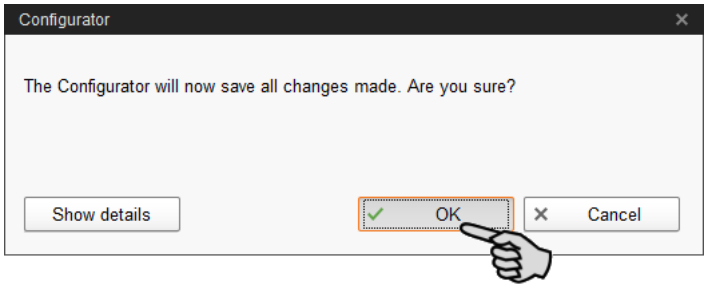
    b) Select the applications (ESF stations) to which you want to transfer the defined configuration.



    c) Click on "Copy".

18. Click on "Save" in the bottom command bar of the "Configurator" window after having configured all settings.

19. Confirm these settings by clicking on "OK".

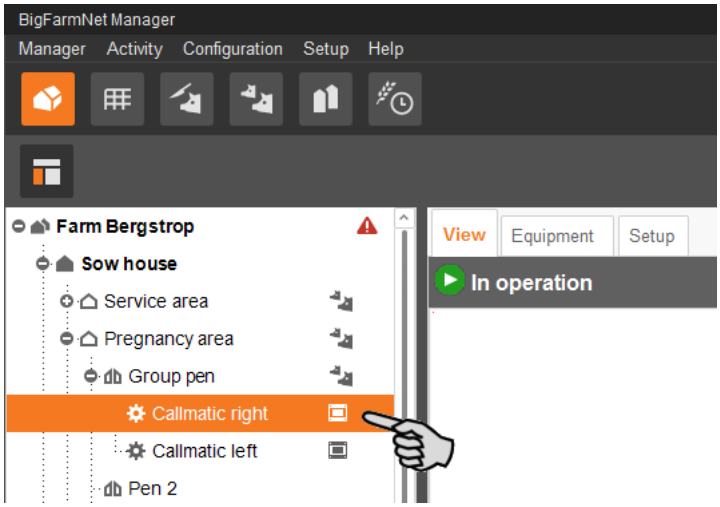


20. Confirm these settings again by clicking on "OK" in the next window.

3.2 Changing settings in the Composer

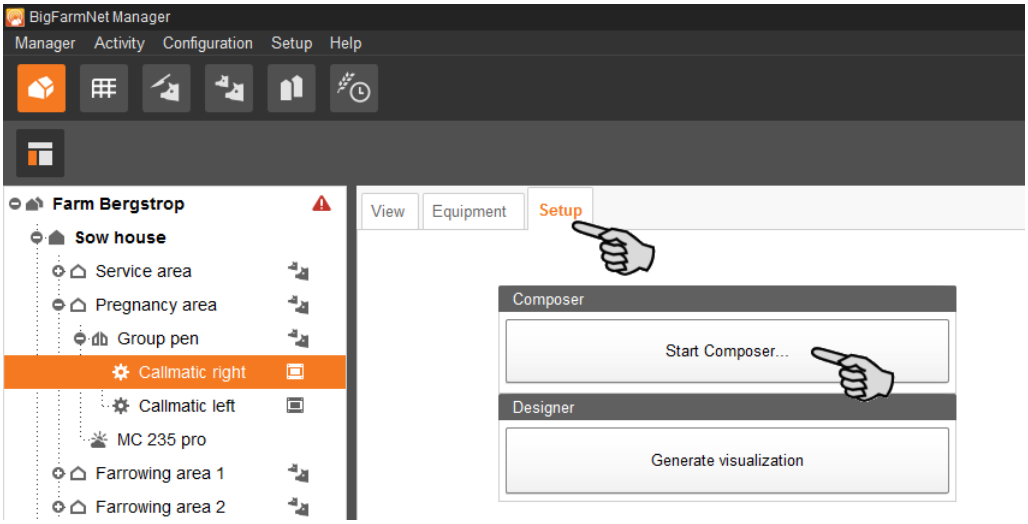
Usually, all functions of the installed system are defined once in the Composer. If necessary, the Composer can be opened as follows for subsequent modifications:

1. In the farm structure, click on the controller icon of the system you want to edit.



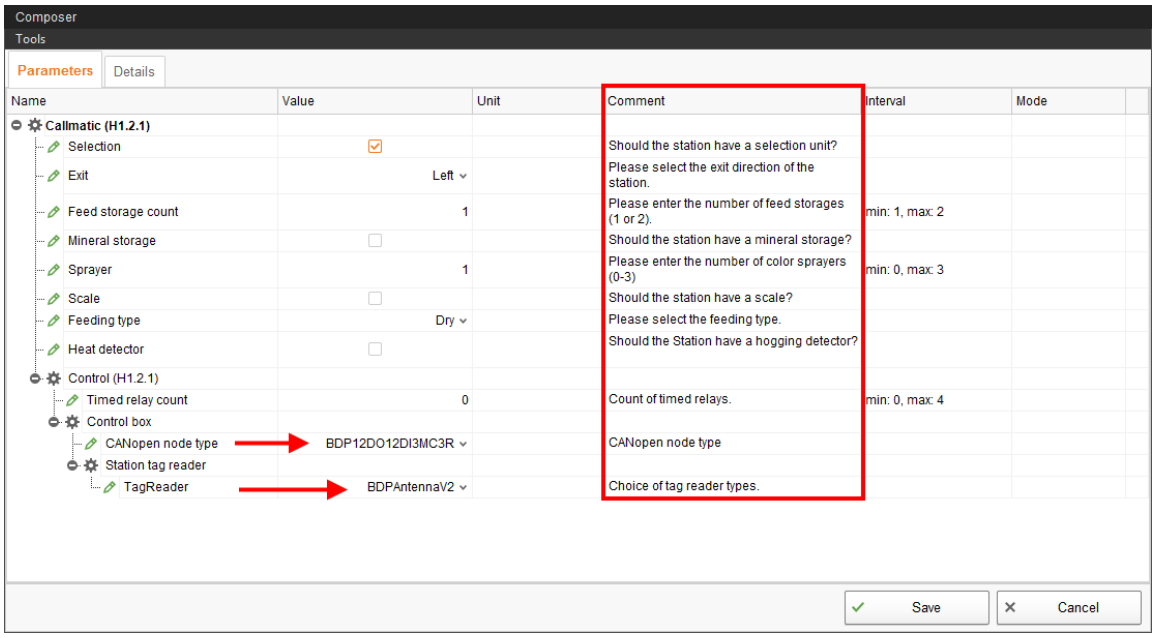
Check whether the application is running. If necessary, stop the application in BigFarmNet Manager by clicking on the "Stop" button.

2. In the "Setup" tab, click on the "Start Composer" button.



3. Configure the settings in accordance with the functions of your CallMatic/Call-Inn station.

   The "Comment" column provides additional information on the respective setting.

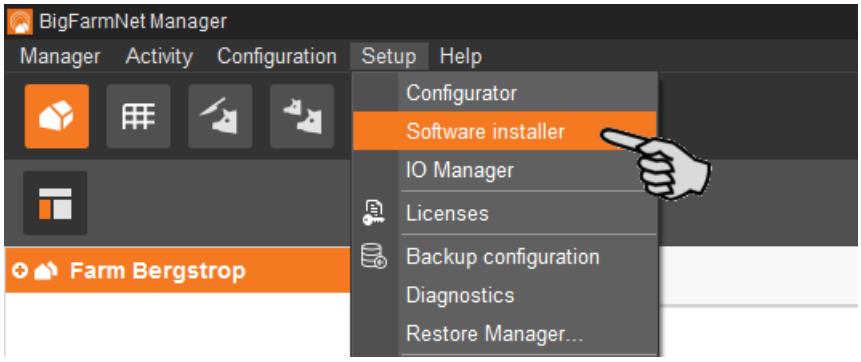


4. Click on "Save" to accept all settings for the Composer.

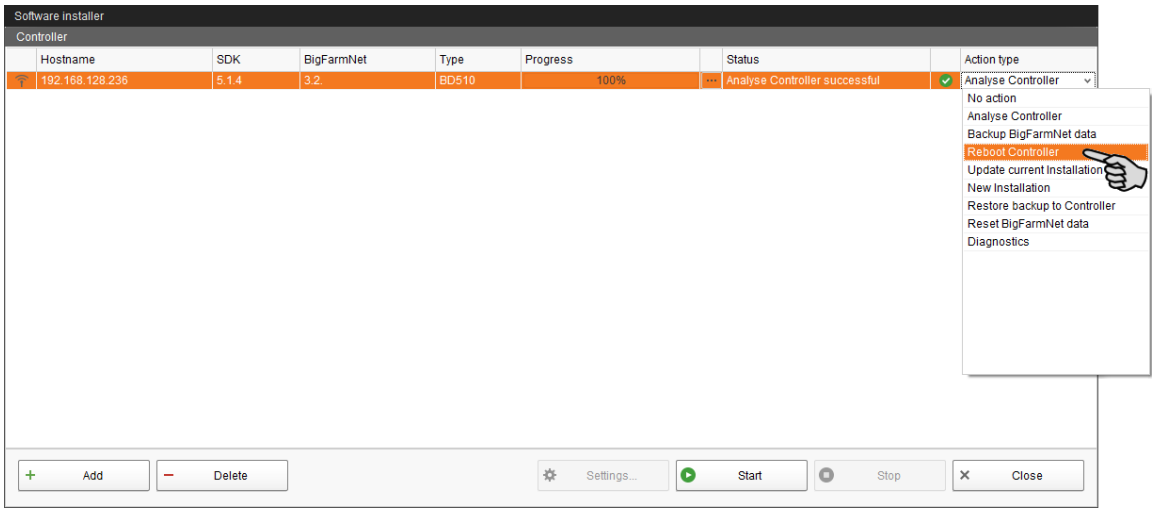
   The next dialog window prompts you to restart the control computer.

5. Confirm the dialog by clicking on "OK".

6. Click on "Software installer" in the "Setup" menu.



7. Click on the control computer to select it.
8. Click into the corresponding input field under "Action Type" and select "Reboot Controller".



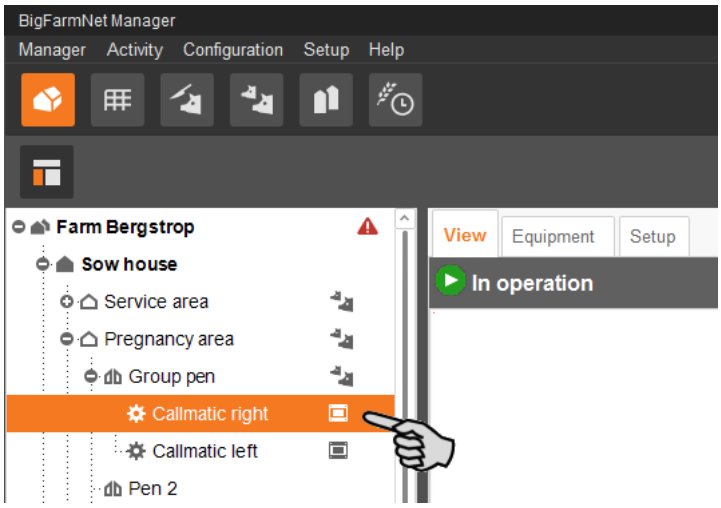
9. Click on "Start".

	This process may take a few minutes!

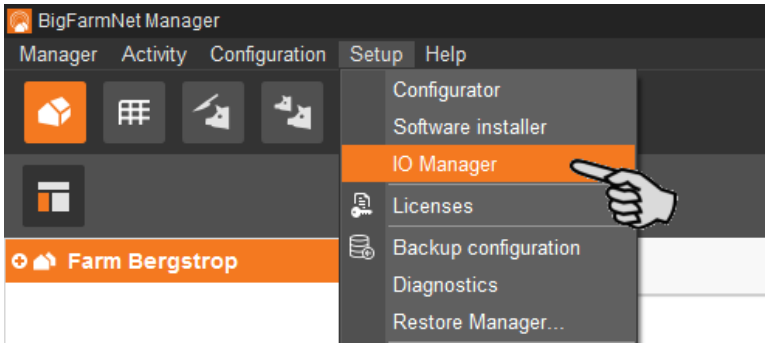
3.3 Configuring the IO Manager

The control is set up in the IO Manager. Assign the functions of the system that were defined in the Composer in the previous step to the IO cards.

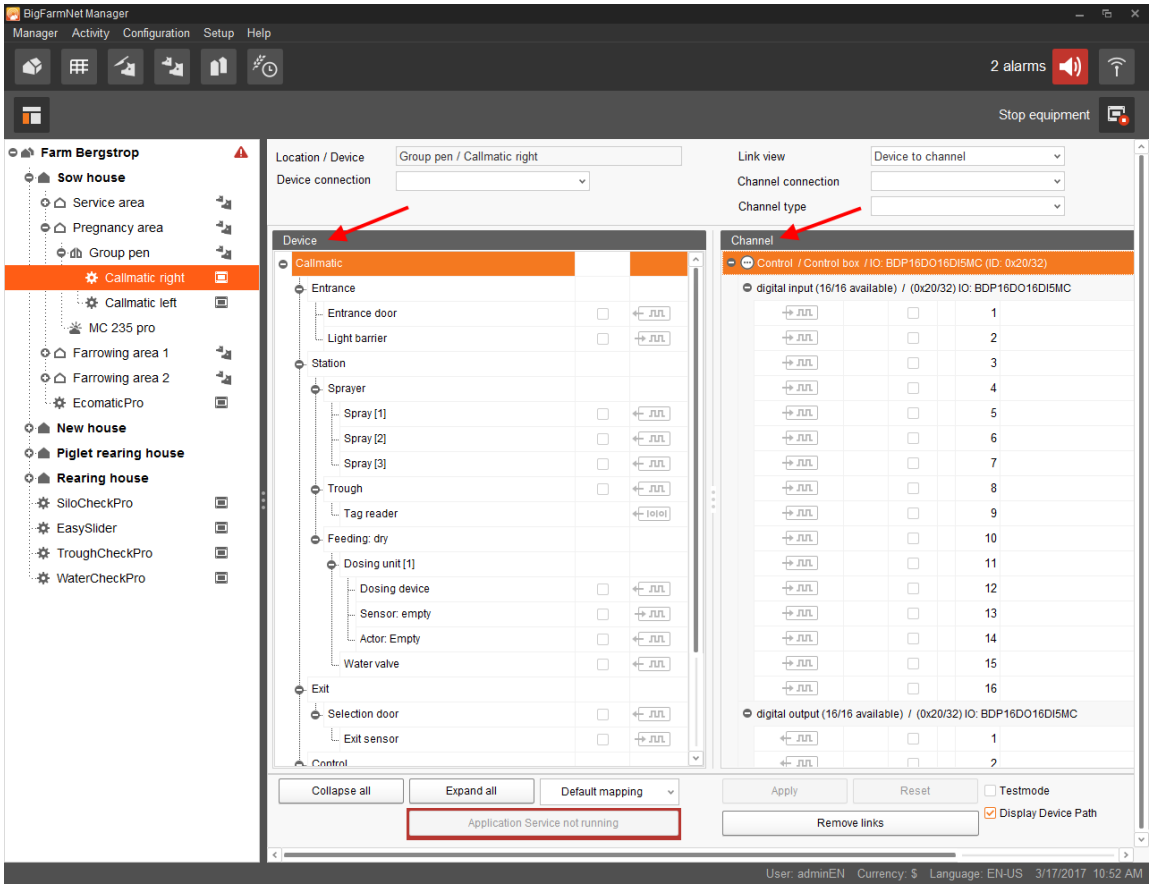
1. In the farm structure, click on the controller icon of the system you want to edit.



2. Click on "IO Manager" in the "Setup" menu.



The IO Manager opens in the application window. The left-hand part of the window shows the individual devices of the system under "Device". The right-hand part of the window displays the channels of the IO cards under "Channel".



The interfaces of the devices and the IO cards are indicated by the following icons:

– Digital output
– Digital input
– Analog output
– Analog input
– Counter input
– Serial interface

Connected devices and channels are indicated by dark gray icons and a green arrow. Example:

Devices and channels that are not connected are grayed out. Example:

3.3.1 Changing the node ID

The CallMatic / Call-Inn control is supplied together with the CAN IO module. Upon supply, the CAN IO module has the CAN address 20 (hex) and the RFID reader (antenna) has the address 60 (hex). These addresses are not changed usually. The addresses are only changed in the following situations:

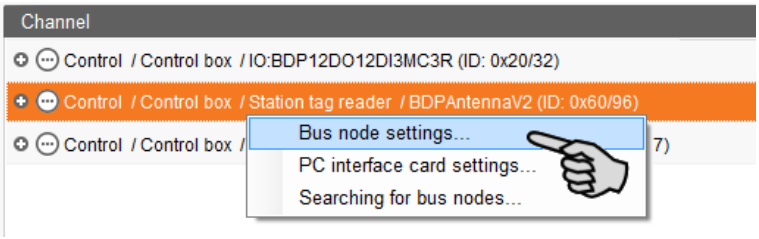
- If multiple ESF stations are assigned to one control computer, the CAN addresses and the addresses of the antenna are changed. This means: Each station is assigned its own consecutive address based on the CAN address 20 (hex) and the antenna address 60 (hex), e.g. 21 (hex) and 61 (hex).
- If an additional antenna for heat detection is to be operated at an ESF station, the antenna address is changed. This means: Each heat detector is assigned its own consecutive address based on the antenna address 60 (hex), e.g. 61 (hex).

There may also be combinations of these situations.

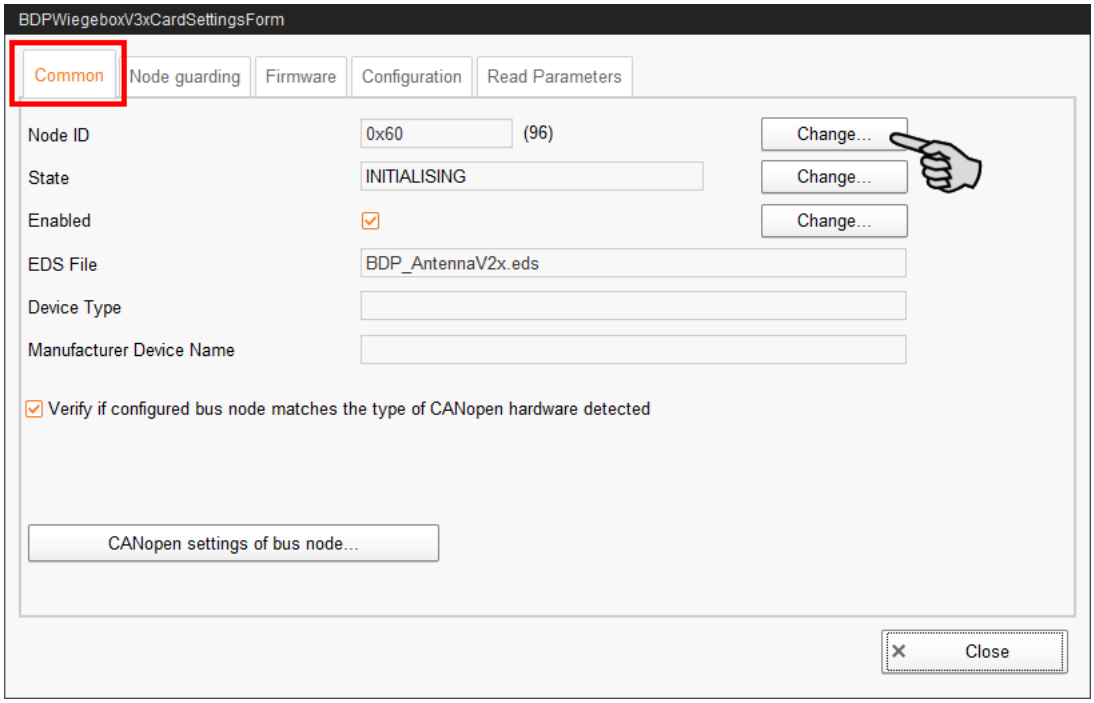
Antenna: changing the node ID

1. First disconnect the antenna for the trough area and connect the antenna for the heat detection to the CAN-IO module DIO5-16-16.
2. Open the context menu by right-clicking on the antenna control (top level) and click on "Bus node settings...".

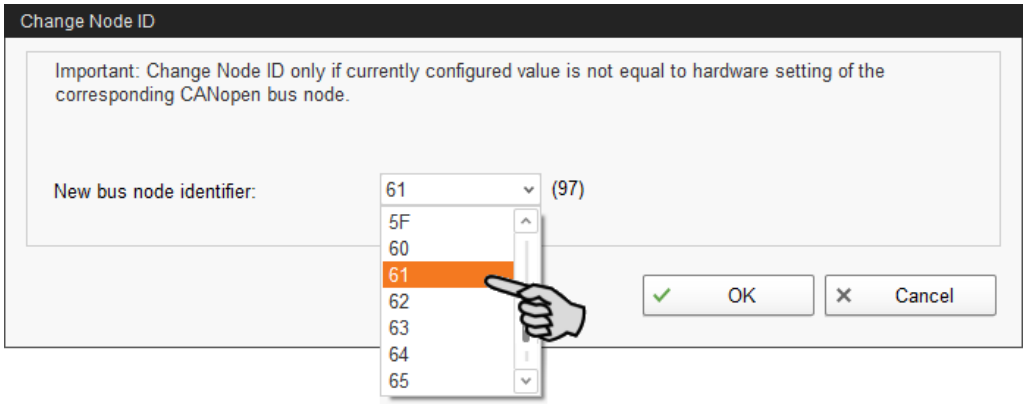
   This opens a new dialog.



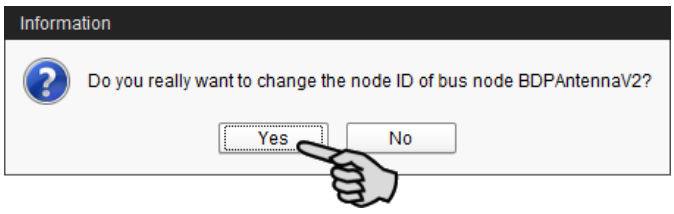
3. In the first tab, click on "Change..." next to "Node ID".



4. Select the new node ID and click on "OK".



5. Confirm the prompt for confirmation.



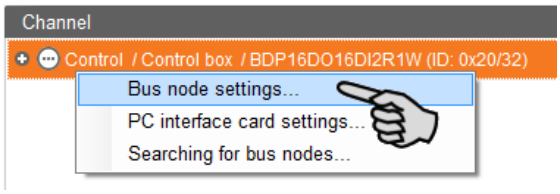
6. Click on "Close" to close the dialog.
7. Re-connect the antenna for the trough area. The antenna for the trough area still has the CAN address 60 (hex), while the antenna for the heat detector now has the address 61 (hex).

IO card: changing the node ID

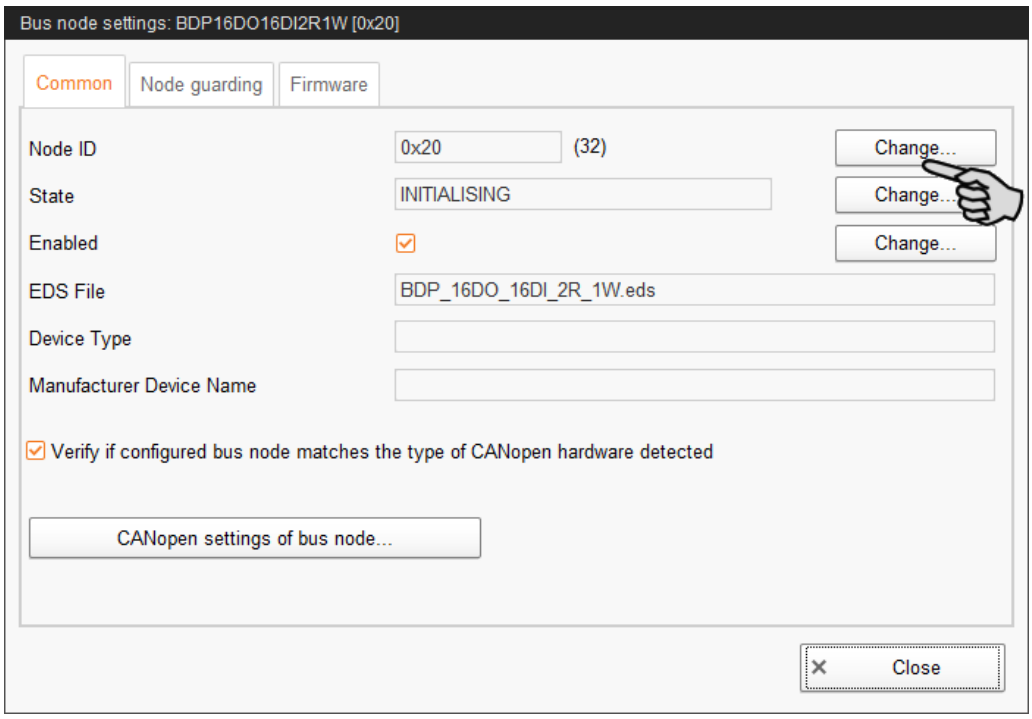
Please refer to the enclosed wiring diagram for information on the devices' CAN addresses. Assign the CAN addresses in accordance with the wiring diagram.

1. On the IO cards to be assigned, check to which CAN ID the rotary switch of each card is set (in the control box).
2. Open the context menu by right-clicking on the IO card (top level) and click on "Bus node settings...".

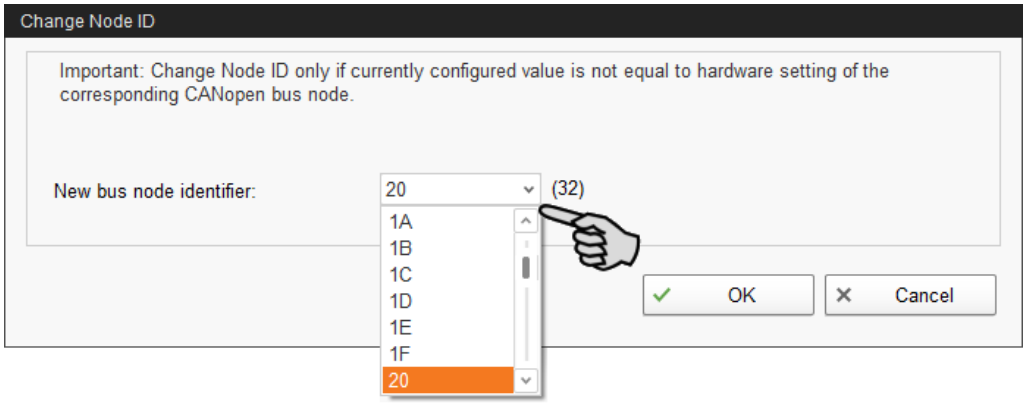
   This opens a new dialog.



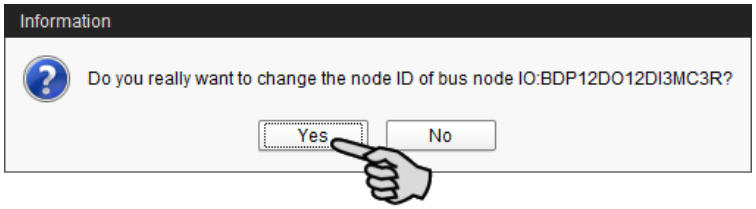
3. In the first tab, click on "Change..." next to "Node ID".



4. Select the new node ID and click on "OK".



5. Confirm the prompt for confirmation.



6. Click on "Close" to close the dialog.

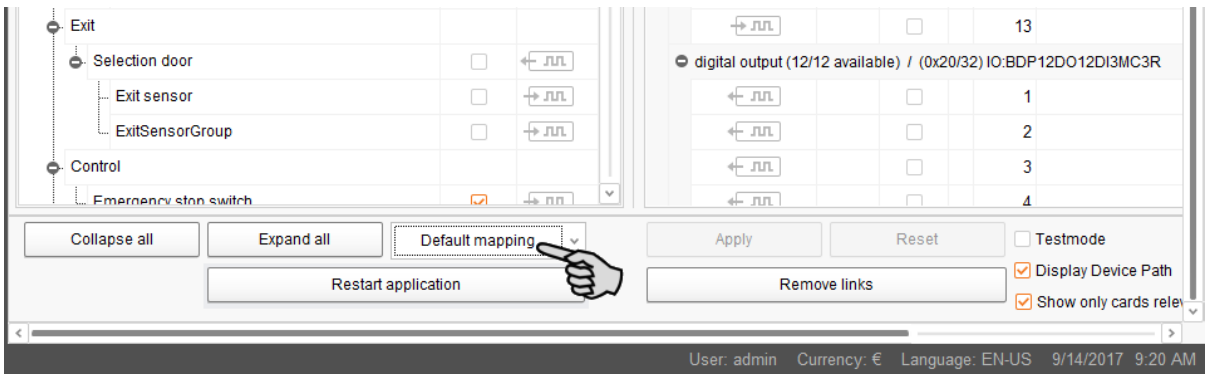
3.3.2 Creating links

To set up the required IO links, it is possible to either load the default mapping or to define all connections manually.

Default mapping

If wiring has been carried out according to the wiring diagram, click on "Default mapping" in the lower command bar.

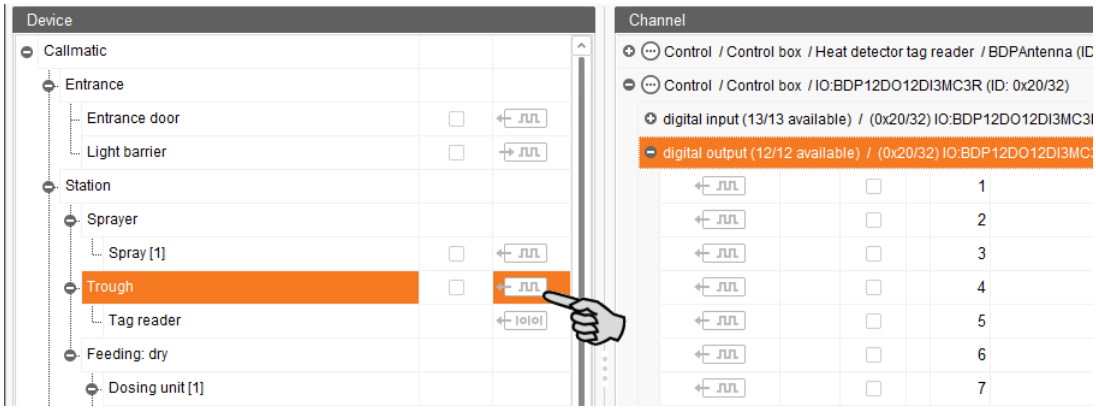
The system now loads the default mapping saved according to the wiring diagram. The functions of the system are automatically assigned to the IO cards.



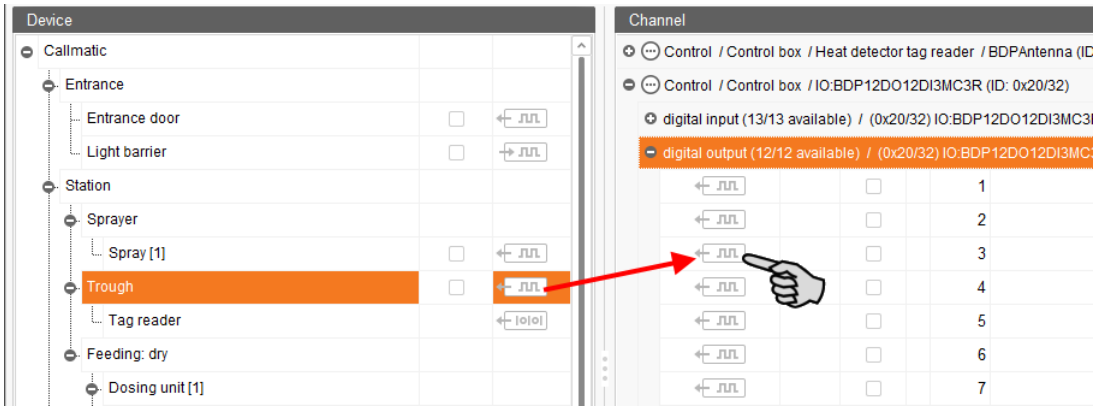
	Make sure to check the established links by referring to the supplied wiring diagram.

Manual assignment

1. In the "Device" part of the window, click on the linking icon of the system component and hold the mouse button.

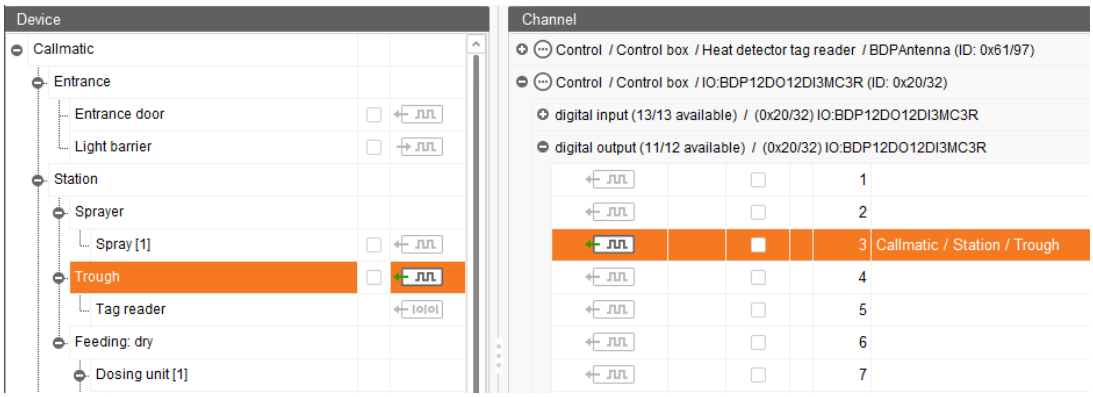


2. Drag the mouse to the linking icon of the desired channel in the "Channel" part of the window on the right.



3. Release the mouse button.

   The system component and the channel are now linked.

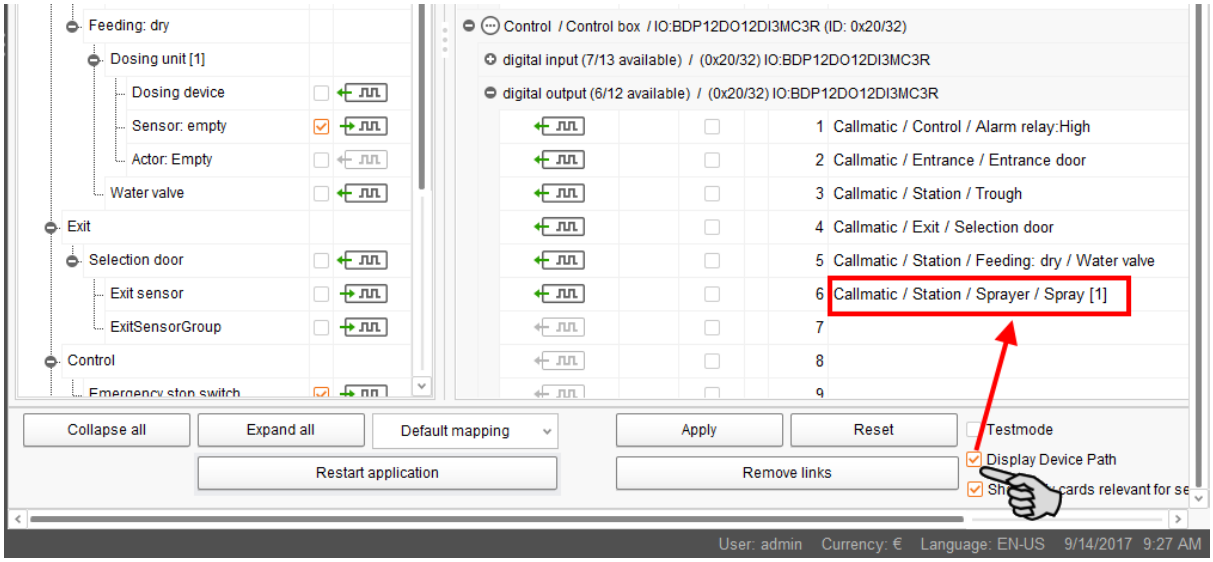


4. If you have created an incorrect link, right-click on the corresponding linking icon. Click on "Delete connection" in the context menu.

	Checking links: Double-click on the respective device to mark the linked channel.

5. Click on "Save" in the bottom command bar after having established all links.
6. Click on "Restart application" in the bottom command bar to start the control.

3.3.3 Displaying the device path



Check this box to see the device path of all devices.

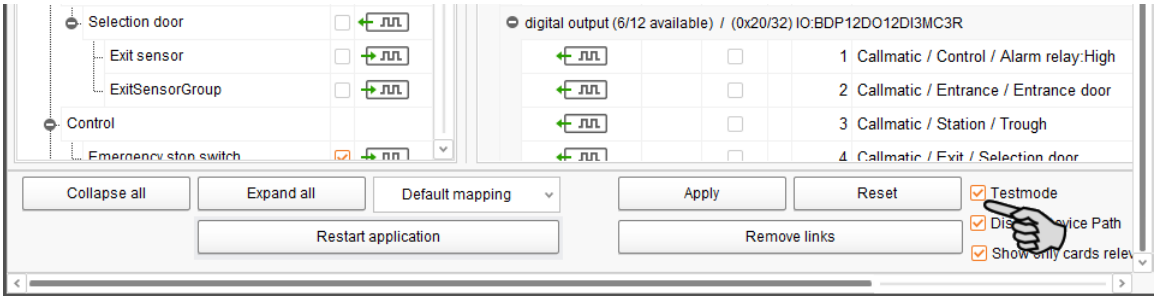
3.3.4 Using the test mode

In the test mode of the IO Manager, all devices can be turned on and off to check the correct setup of the control before starting to operate the system.

Proceed as follows:

	Only service technicians may use the test mode. Devices may start in case the system is connected. Make sure that no persons or animals are located in or around the station while using the test mode. Deactivate the test mode when finished.

1. Check the "Test mode" box in the bottom command bar.



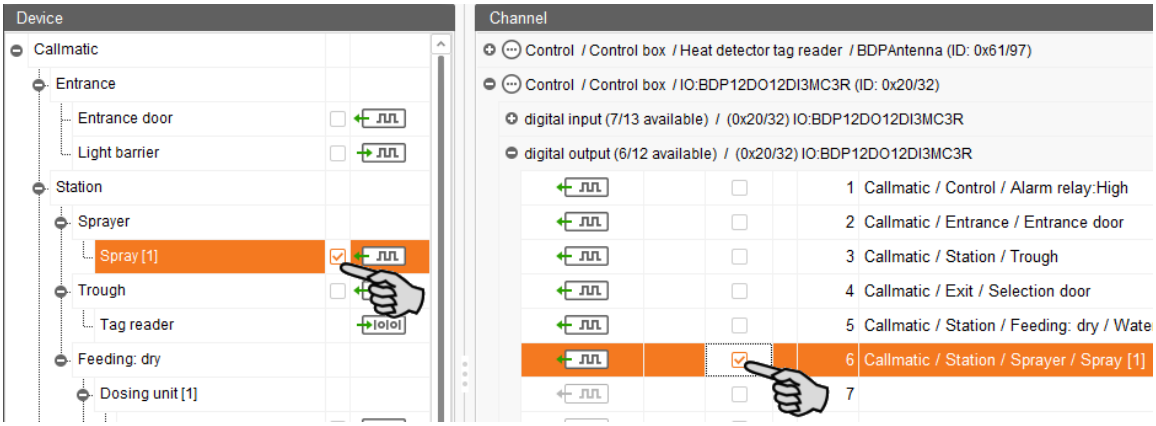
2. In the "Device" part of the window, double-click on the linking icon of the device you want to turn on.

   This marks the linked channel in the "Channel" part of the window on the right.

3. Click on the check boxes of the selected device and respective channel to activate them.

   The actual device is now turned on.

   If the actual device does not turn on or if another actual device is running instead, correct the links in the IO Manager or reconnect the outputs of the IO card. Always refer to the overview drawing of the IO card attached to the wiring diagram.



4. Turn off the device by deactivating the check box.
5. Exit the test mode by deactivating the check box "Test mode" in the bottom command bar.

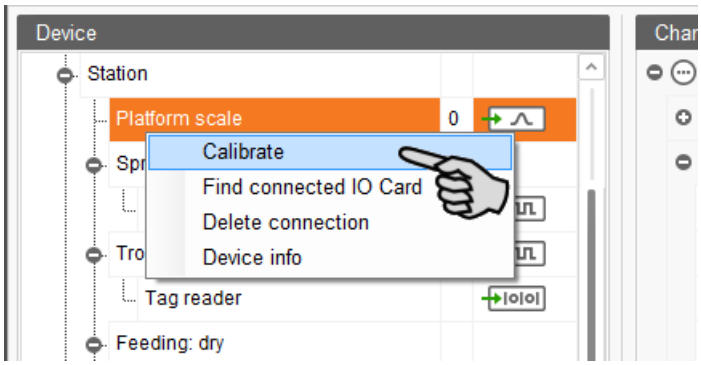
3.3.5 Calibrating the scale

You may calibrate a scale as soon as you have created a link between the weighing bars and the respective weighing box.

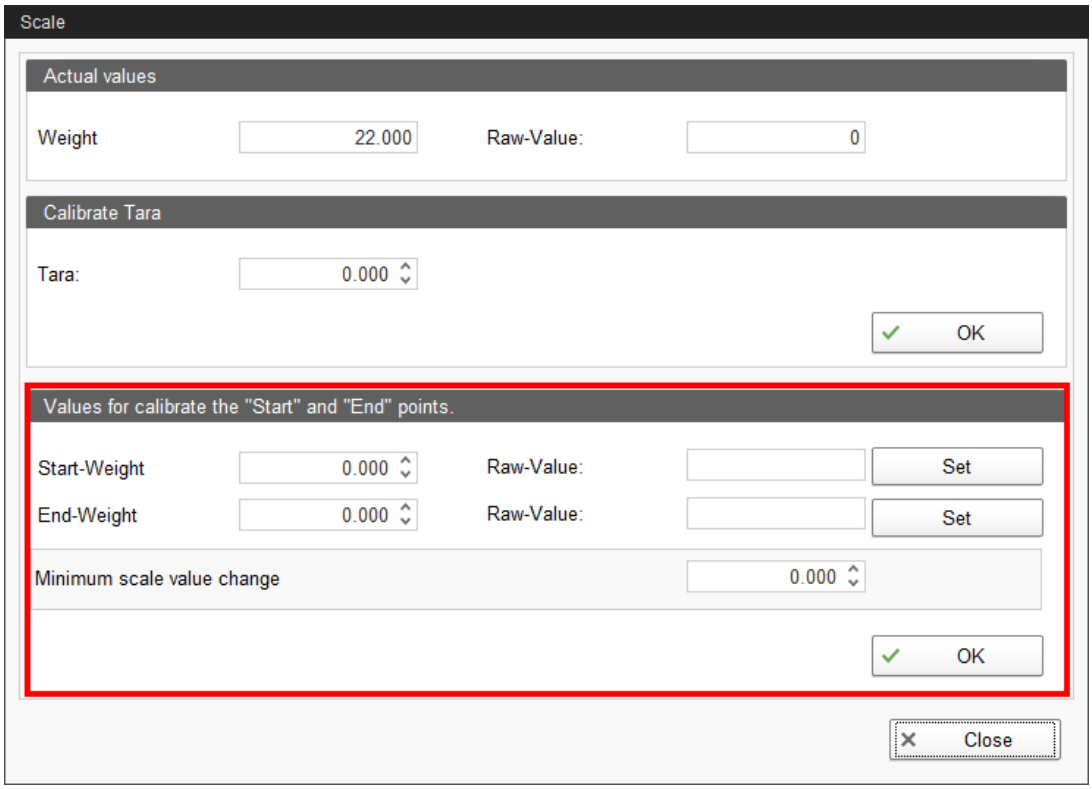
1. In the "Device" area, right-click on "Weighing bar".

2. In the context menu, click on "Calibrate".

   This opens a new dialog window.



3. In the section "Values to calibrate the start and end points", define the corresponding values.



   a) Enter the value "0" in the input field next to "Start weight" and click on "Set".

   b) Enter the used calibration weight into the input field next to "End weight".

   c) Put the calibration weight on the scale.

   d) Click on "Set" in the row with the end weight.

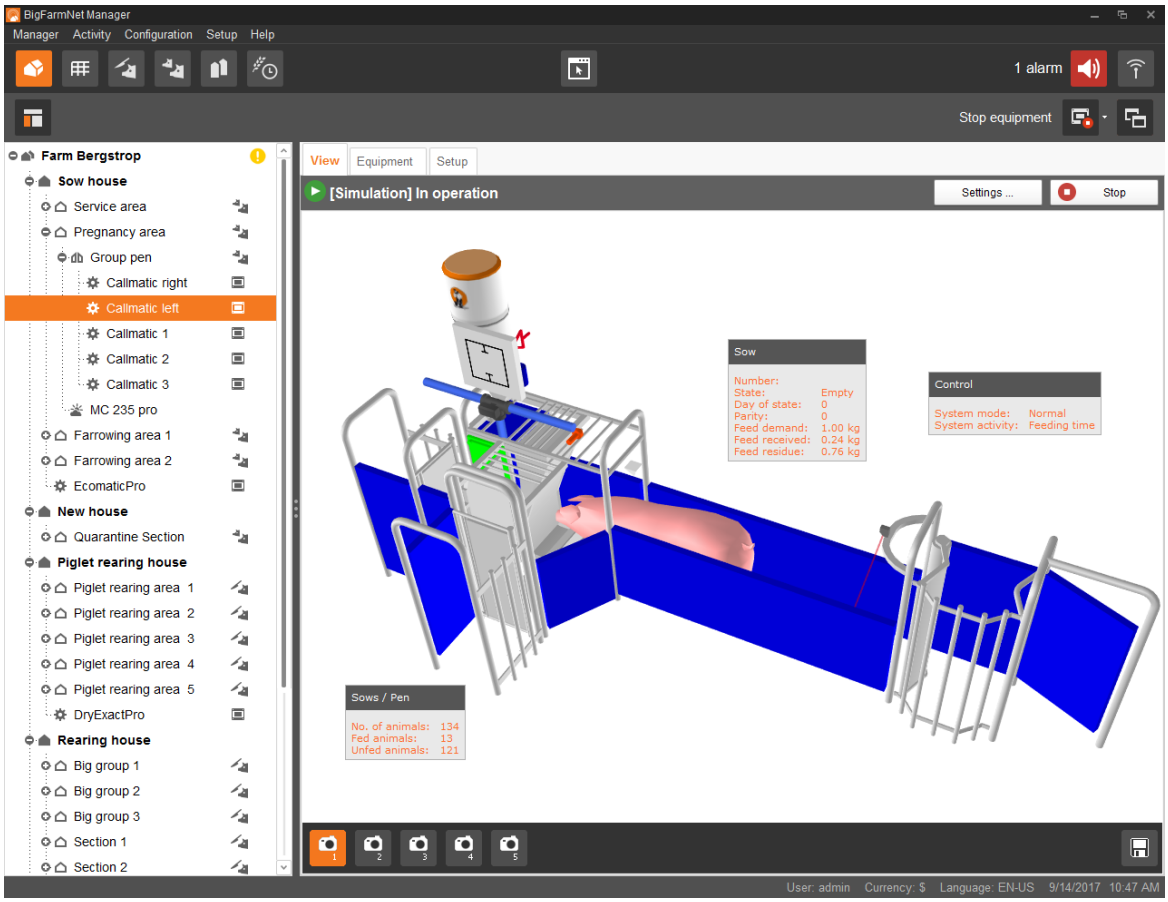
4. Accept your inputs by clicking on "OK".

5. Click on "Close" to complete the calibration process.

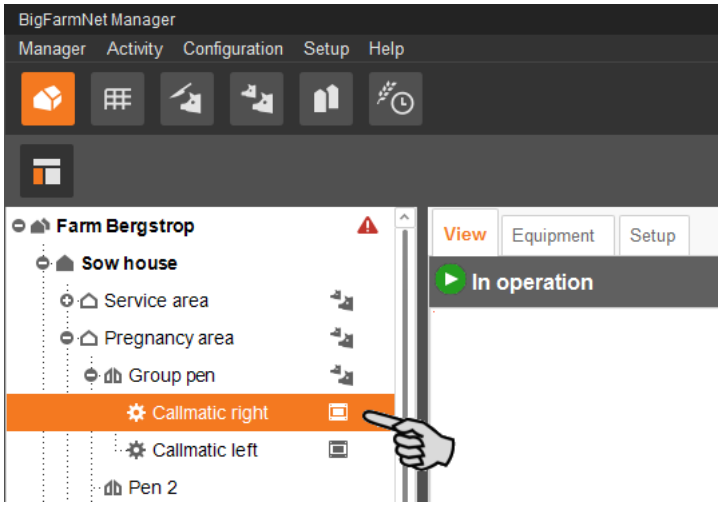
3.4 Depicting the system in the Designer

The Designer visualizes your system by providing a 3D image. The 3D image is created based on the system components you defined in the Composer beforehand and displayed under the new "View" tab.

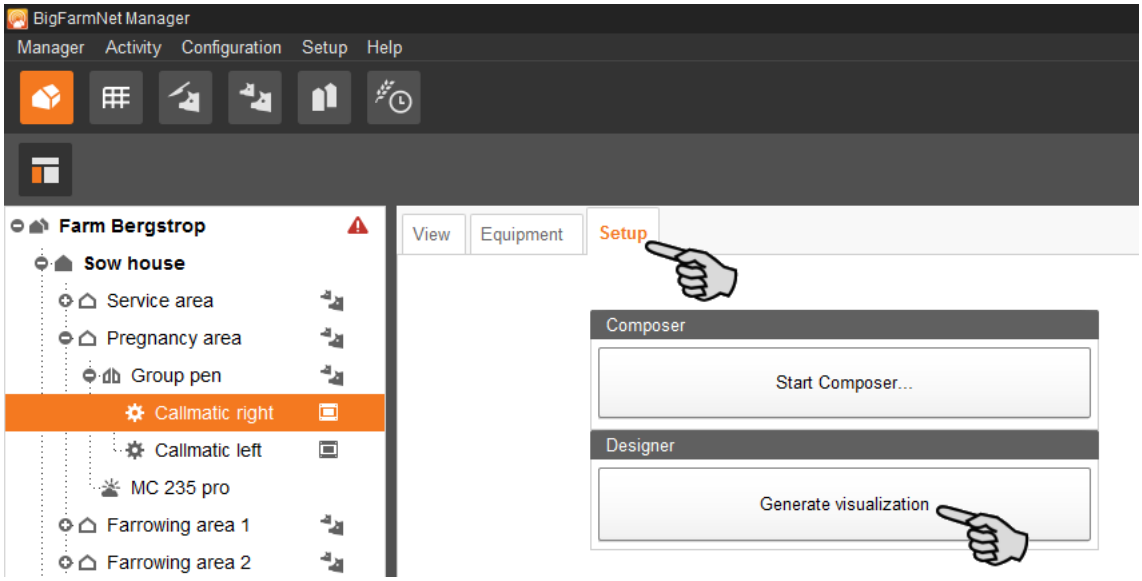
The 3D image shows all active system components during operation, e.g. whether there is currently an animal inside the station.



1. In the farm structure, click on the controller icon of the system you want to edit.



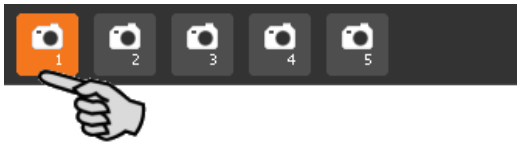
2. In the "Setup" tab, click on the "Generate visualization" button.



3.4.1 Adjusting views

Set specific views of the 3D image, e.g. of certain system functions you want to watch more closely during operation. You can save up to 5 views using the camera icons. Saved views can be retrieved later on.

1. Click on one of the camera icons in the lower bar.



2. Adjust the desired view as follows:
   - **Zooming in and out:** Roll the scroll wheel of your mouse.
   - **Changing the perspective:** Left-click into an empty area of the window and hold the mouse button. This adds a camera icon to the mouse pointer. Move the mouse to change the perspective.
   - **Moving to the left and to the right:** Hold down the Shift key while rolling the scroll wheel of your mouse.
   - **Moving up and down:** Hold down the Control (Ctrl) key while rolling the scroll wheel of your mouse.

3. Save the view by clicking on the floppy disc icon in the right-hand corner of the lower bar.

4. If you would like to retrieve the saved view later on, click on the corresponding camera icon.

3.5 Manually controlling the system components

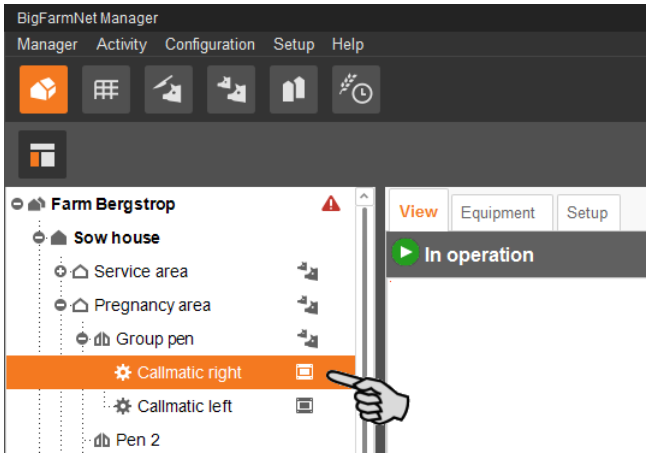
After you have created the 3D image in the Designer, see chapter 3.4, you have access to manual control. The system usually runs automatically, based on the configured settings. From the "View" tab, you can operate the system manually with BigFarmNet Manager. This means that you can manually activate or deactivate individual system components.

Manual control can be used e.g. to check whether actively controlled system components such as doors and sprayers function. Transponders cannot be read, however.

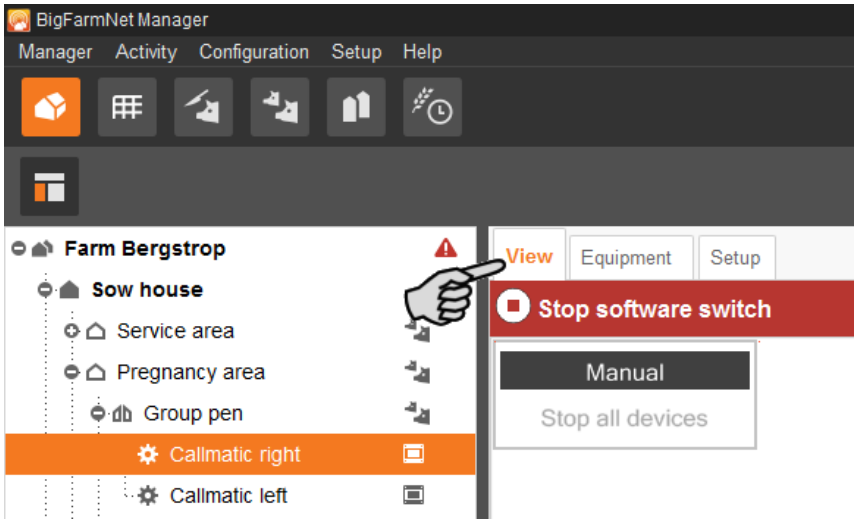
☝	Manual control of system components is done at your own risk and you are liable for any subsequent damage. The control software (application) no longer operates the system when using manual control!

☝	Be extremely careful when manually controlling system components: • Make sure that no persons or animals are located in or around the system! • Do not actuate sprayers, dosing units and water valves for too long. There is no time limit in the active / open mode! • Never open entrance door and selection gate at the same time and never permanently! Otherwise, you risk overcrowding of the selection pen.

1. In the farm structure, click on the controller icon of the system you want to edit.



2. Click on the "View" tab.

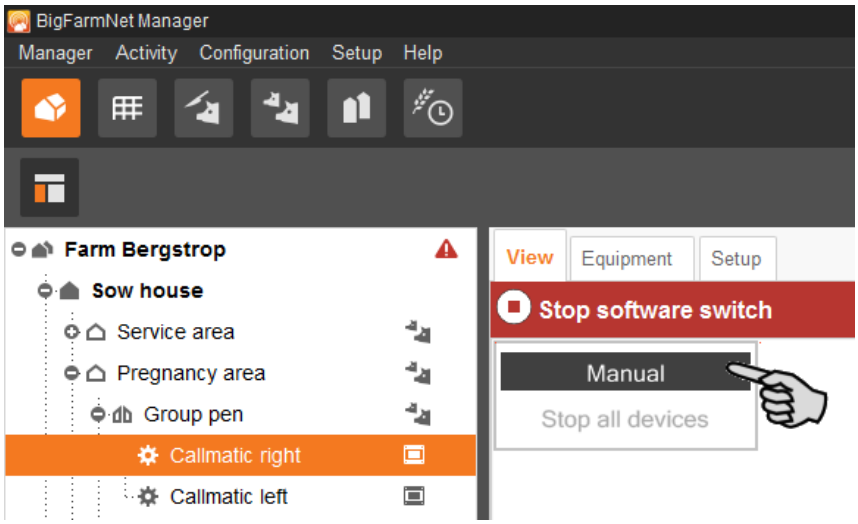


	Check whether the application is running. If necessary, stop the application in BigFarmNet Manager by clicking on the "Stop" button.

3. Adjust the view, if necessary, see chapter 3.4.1, or retrieve one of your saved views using the camera icons.

4. Click on "Manual" in the upper left corner.

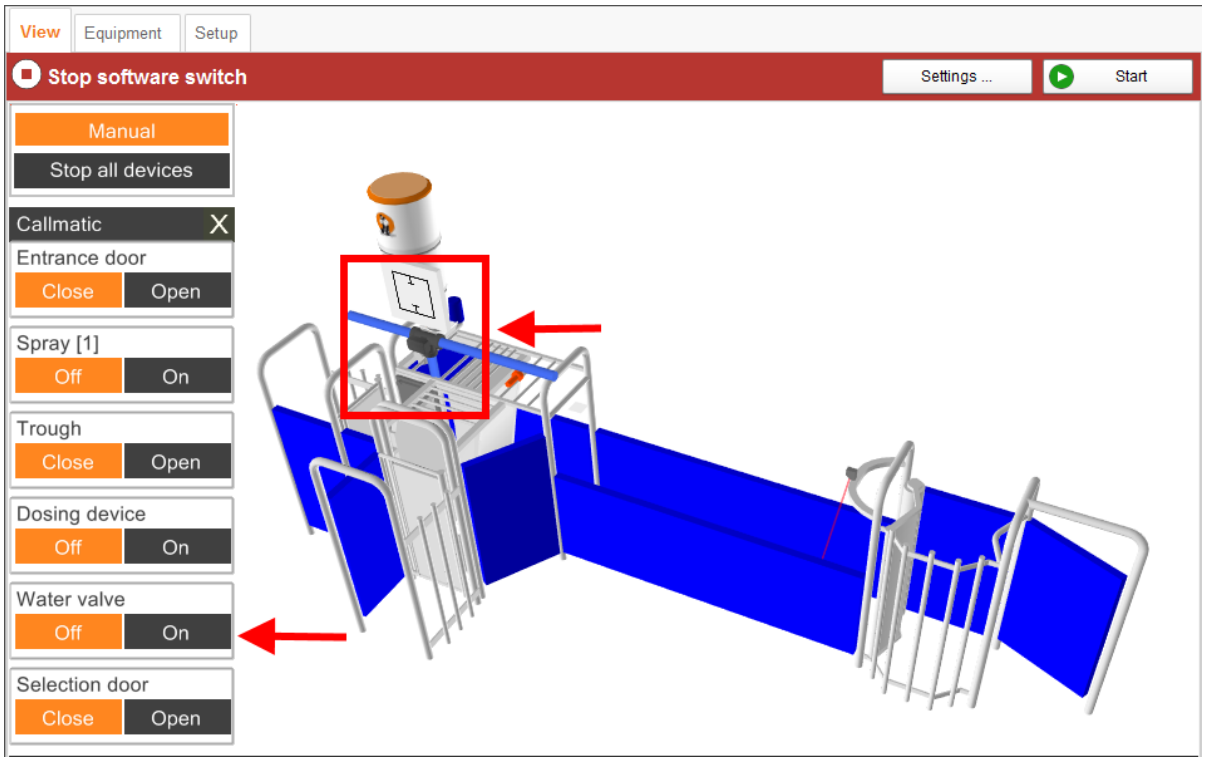
   Manual control is now active.

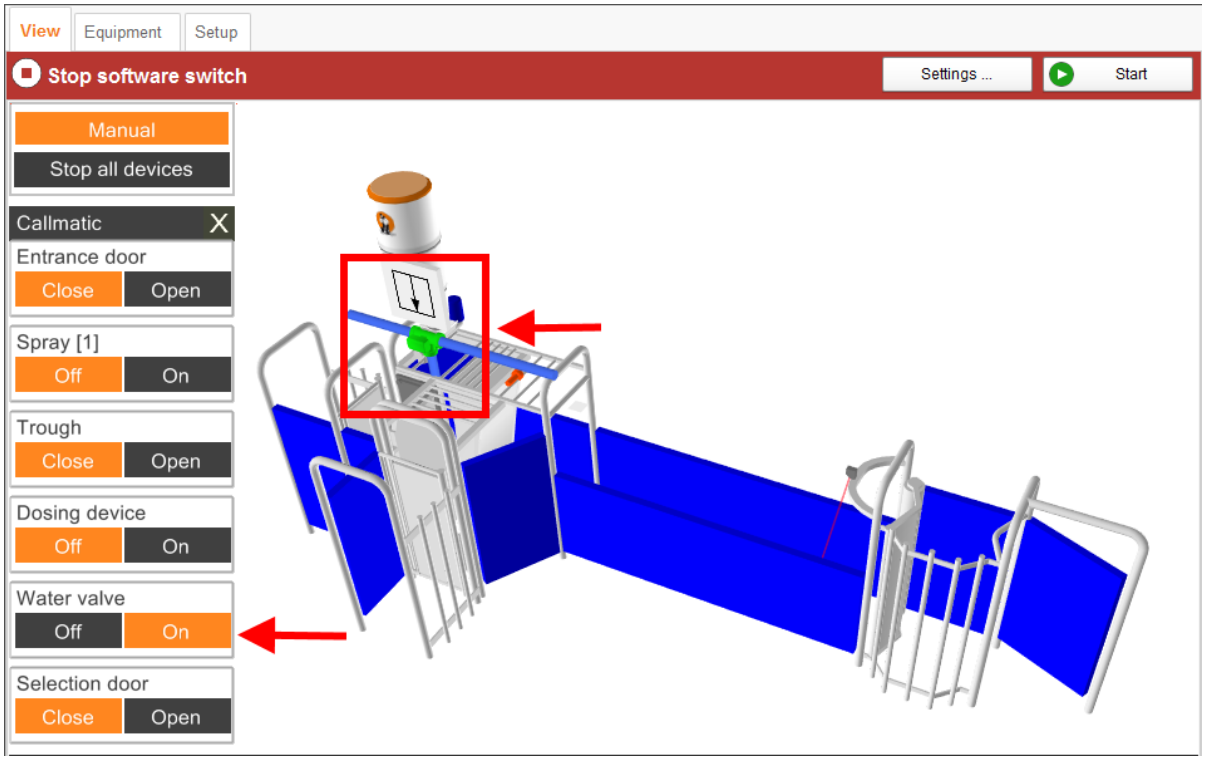


5. Click into the 3D image. All system components that can be controlled manually now appear in the left-hand part of the application window.

6. Activate and/or deactivate the desired system components using the corresponding button.

   A system component in manual mode is indicated accordingly in the 3D mage, if applicable by marking the component with a specific color. The following screenshots show e.g. the settings for a closed and an open water valve.




View
Equipment
Setup
Stop software switch
Settings ...
Start
Manual
Stop all devices
Callmatic
Entrance door
Close
Open
Spray [1]
Off
On
Trough
Close
Open
Dosing device
Off
On
Water valve
Off
On
Selection door
Close
Open

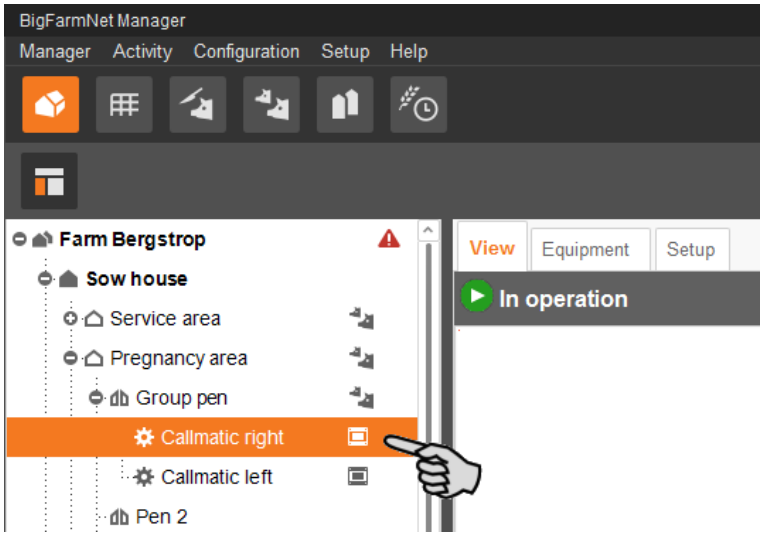
4 Configuration of the application

Settings regarding the application are configured under the "Equipment" tab. Use this tab to set parameters for feeding and idle times as well as the feed amount to be dispensed at each dosing, for example. Parameter values can be changed as required at any time.

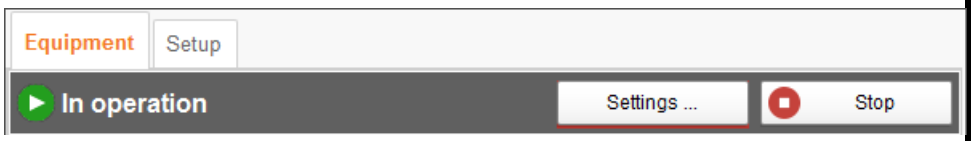
	Applicable for initial operation: Most parameter values are pre-set by the system. We recommend working with these pre-set values. The following parameters must be set for initial operation of the system: • **Day change-over**, see chapter 4.2 ”General”. • **Idle time beginning, idle time end**, see chapter 4.2 ”General”. • **Default feed curve**, see chapter 4.2 ”General”. • **Amount per pulse**, see chapter 4.4 ”Dosing”. Start the system as soon as you have set these parameters. All other parameters, including pre-set ones, can be optimised later on to adjust them to the system's actions.

Open the setting parameters as follows:

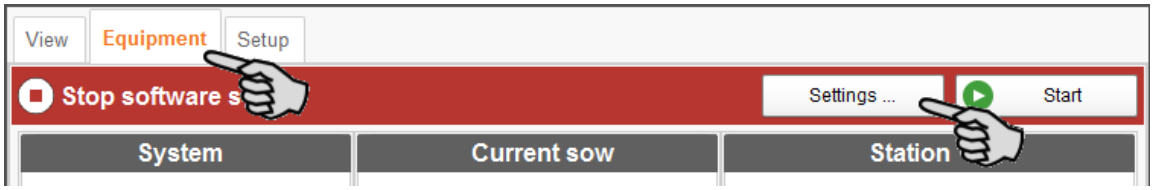
1. In the farm structure, click on the controller icon of the system you want to edit.



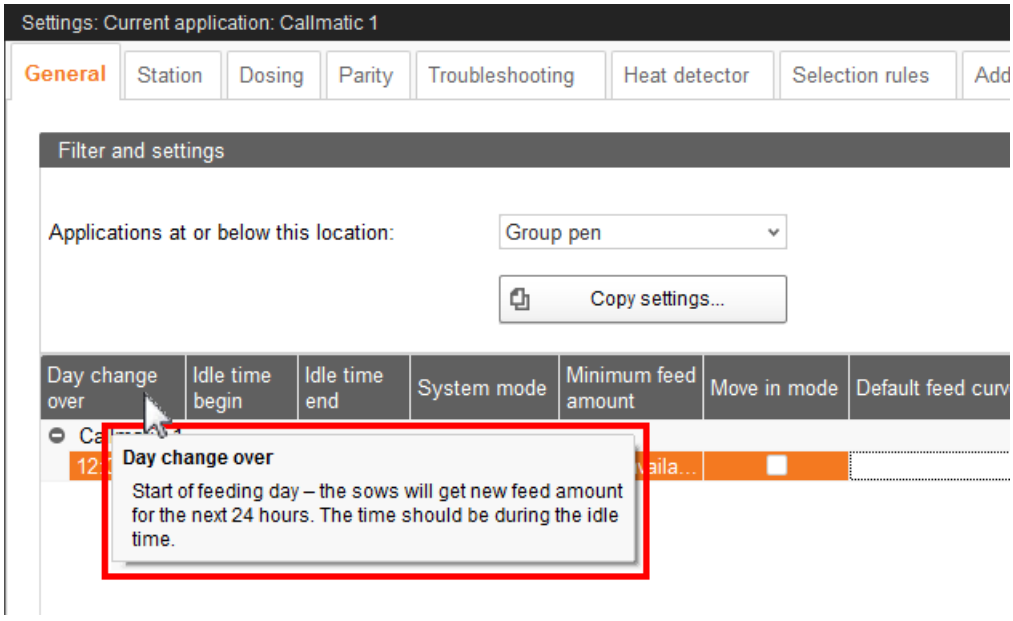
Check whether the application is running. If necessary, stop the application in BigFarmNet Manager by clicking on the "Stop" button.



2. In the upper right corner under the "Equipment" tab, click on "Settings...".



The settings dialog opens with multiple tabs. The first open tab is called "General". All parameters for the functions of the system components you created beforehand in the Composer become active in the different tabs. These parameters are described in the following chapters. Define the corresponding values for the parameters. Change pre-set values, if required.



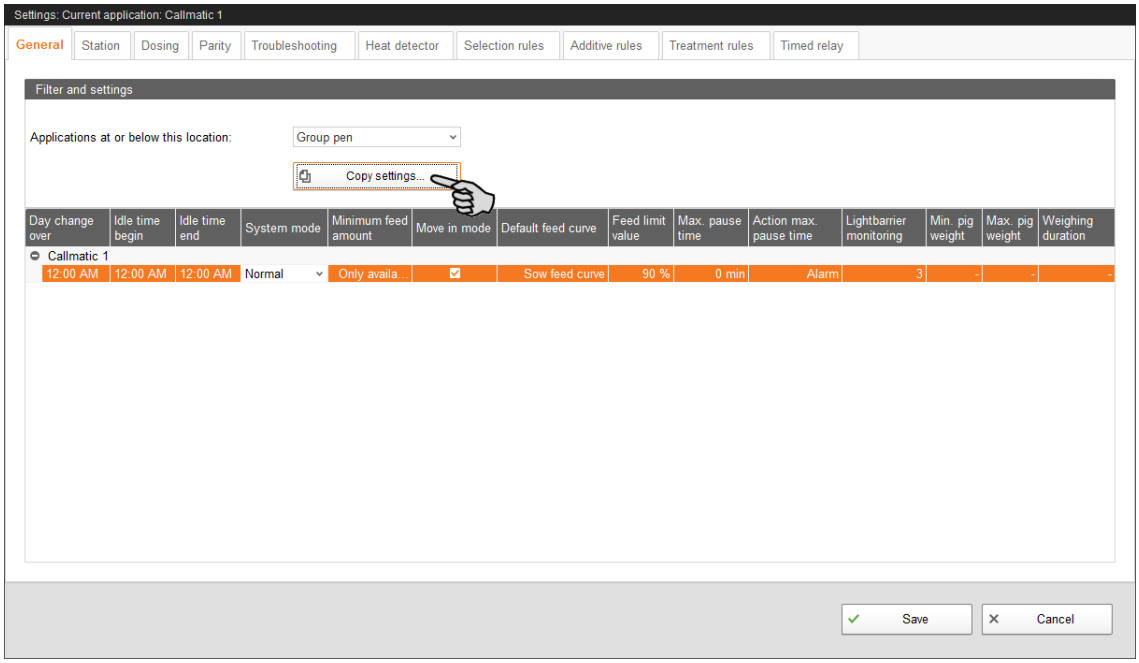
Tooltips available! Move the mouse pointer over input fields or parameters in tables to see detailed descriptions for this parameter.

4.1 Copying the settings of an ESF station

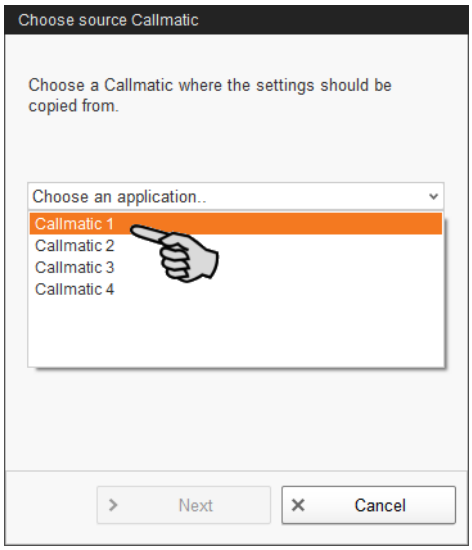
To use identical settings for multiple ESF stations, you may define the settings for one station and transfer these to all other stations. This function is available for all settings in the different tabs of the settings dialog.

Proceed as follows:

1. Configure the settings for one ESF station.
2. Click on the button "Copy settings" in the top part of the window.



3. In the next dialog window, select the station whose settings you want to copy.



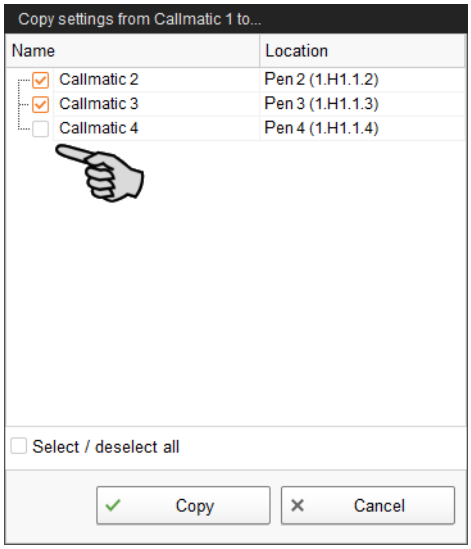
4. Click on "Next".

5. Select all stations to which you want to transfer these settings in the next dialog window:

   a) Check the corresponding boxes.

      Or:

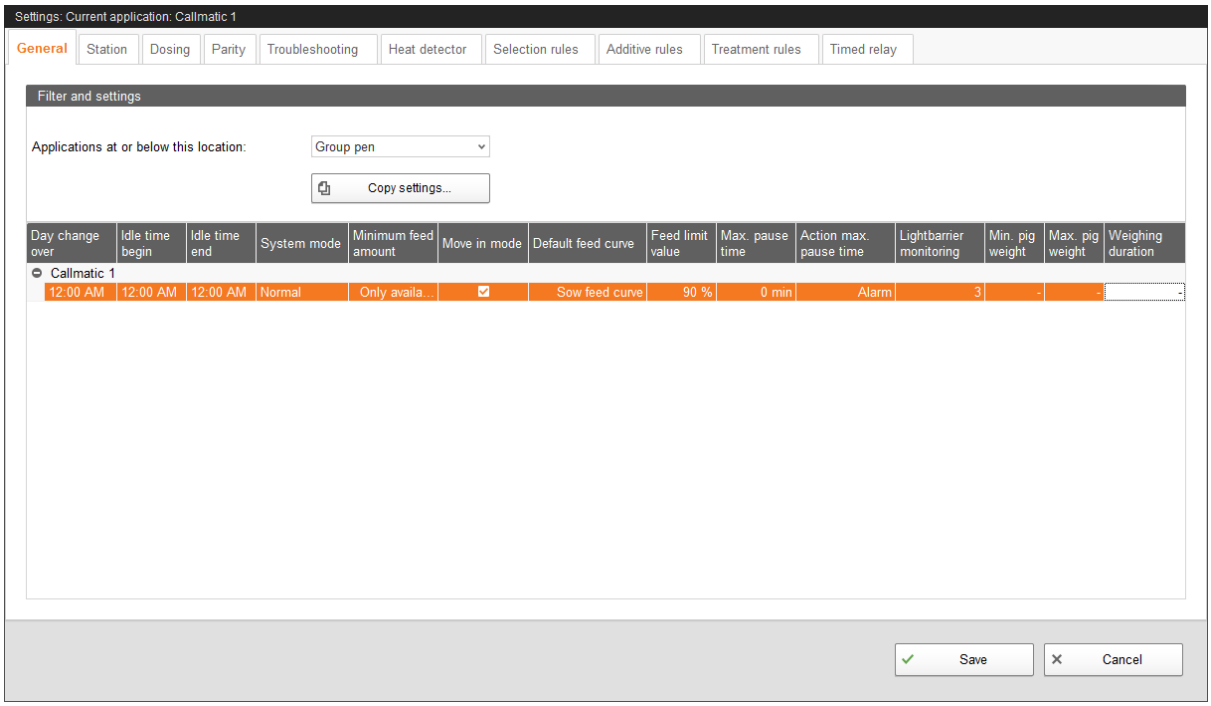
      Check the box "Select / deselect all" if the action should apply to all stations.



6. Click on "Copy". The settings are now transferred to all selected stations.

	Only click on the "Save" button after having set all necessary parameters in the available tabs. Clicking on the "Save" button closes the entire settings dialog, which must be reopened to make further edits. Saved changes are immediately applied to the station(s)!

4.2 General



- **Day change-over:** The time of the day change-over defines the start of a new feeding day. With each new feeding day, the sows are entitled to the next daily ration for the following 24 hours. By default, the day change-over takes place at midnight. Change this time, if necessary.

	The day change-over should take place during an idle time. When using multiple ESF station, define the same idle times and day change-overs for all stations.

  The following values are re-calculated based on the time of day change-over:

  – Sows fed
  – Feed consumed
  – Feed open
  – Selection

- **Idle time beginning** and **Idle time end** define the pause during which the station remains closed.
- **System mode:** Define the mode in which the ESF station should operate using the system mode. To help sows get used to the station, it can be helpful to operate the station in training mode for the first one or two days.

	Only operate the station in the "Training" mode when the station is supervised. Differing functions in the training mode, e.g. open trough or later locking time of the entrance door, pose a risk of injury for the sows.

The following modes are available:

– "Normal"

– "Training"

– "Select trainee" (addition for training: if a sow does not eat the "minimum feed amount", she is assigned to the selection pen)

Special functions in training mode:

– The "door locking time" is twice as long.

– The "after-feeding time" is twice as long.

– The "door opening time" is twice as long.

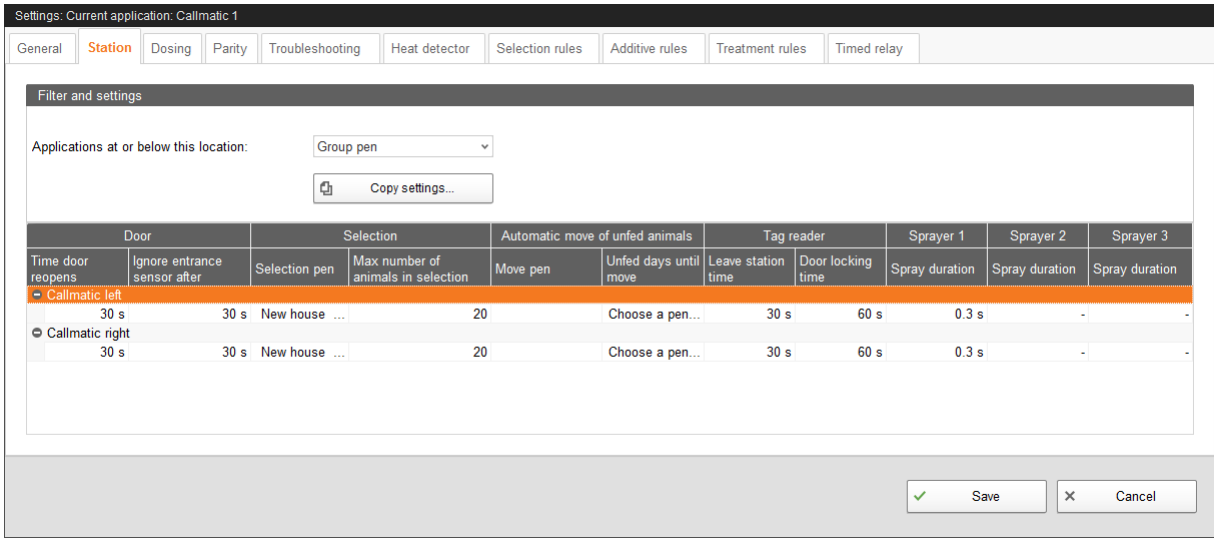
– The entrance door only closes after a transponder has been identified.

– The trough flap opens and the sow receives feed when a sow interrupts the light barrier.

- **Minimum feed amount:** Share of the daily portion a sow must eat in the system mode "Select trainee" to avoid being selected. This setting is only available in the system mode "Select trainee".
- **Move-in mode:** The station is open in move-in mode, even if the entire amount of feed has already been distributed. Sows with an unknown transponder can enter the station. During idle times the station stays closed.
- **Default feed curve:** If a sow has not been registered during moving-in (unknown transponder) and thus does not have a feed curve assigned, the system supplies feed based on the default feed curve selected here.
- **Feed limit value:** Sows who have at least eaten the percentage of their daily ration determined here are considered fed.
- **Maximum pause time:** If the application does not run for a time longer than set here (pause or error), an alarm or a warning (depending on what is set for "Action maximum pause time") is issued. If the time is set to 0 minutes, there is no maximum pause time.
- **Action maximum pause time** can be set to be either an alarm, a warning or no action at all ("No").

- **Light barrier monitoring:** Define the number of sows that must be not identified by the entrance sensor for a warning to be generated.
- **Minimum pig weight:** The minimum animal weight at which the scale starts measuring.
- **Maximum pig weight:** The maximum animal weight the scale is able to measure.
- **Weighing duration:** The duration for which a sow needs to stand on the scale before the weight is registered.

4.3 Station



- **Door**

  Time door reopens: The door opening time starts when the trough flap closes once the after-feeding time has expired. After the door opening time is up, the entrance door opens and the next sow can enter the station. This allows the sow to leave the station unhurriedly after she is done eating, see chapter 1.8 ”Feeding cycle”.

  Enter the after-feeding time and the eating speed in the "Parity" tab, see chapter 4.5 ”Parity”.

  Ignore entrance sensor after: After the time set here, the entrance sensor will be ignored. The light barrier at the station entrance does not react if the sow in the station walks backwards. Time is counted from the first dosing onwards.

- **Selection**

  Selection pen: This is the pen into which a selected sow is guided. The station must be equipped with a selection unit for this purpose.

  Maximum number of animals in selection pen: To prevent overcrowding in the selection pen, enter a maximum number of animals for the selection pen here. Define measures for sows which cannot be selected due to a full selection pen under "Selection not possible",see chapter 4.6 ”Troubleshooting”.

- **Automatic move of unfed animals**

  Move pen: This is the pen into which a sow is moved if she did not eat for the defined number of days ("Unfed days until move").

  Unfed days until move: This is the number of days on which a sow does not eat, with the consequence of the respective sow being moved into the "move pen".

- **Tag reader**

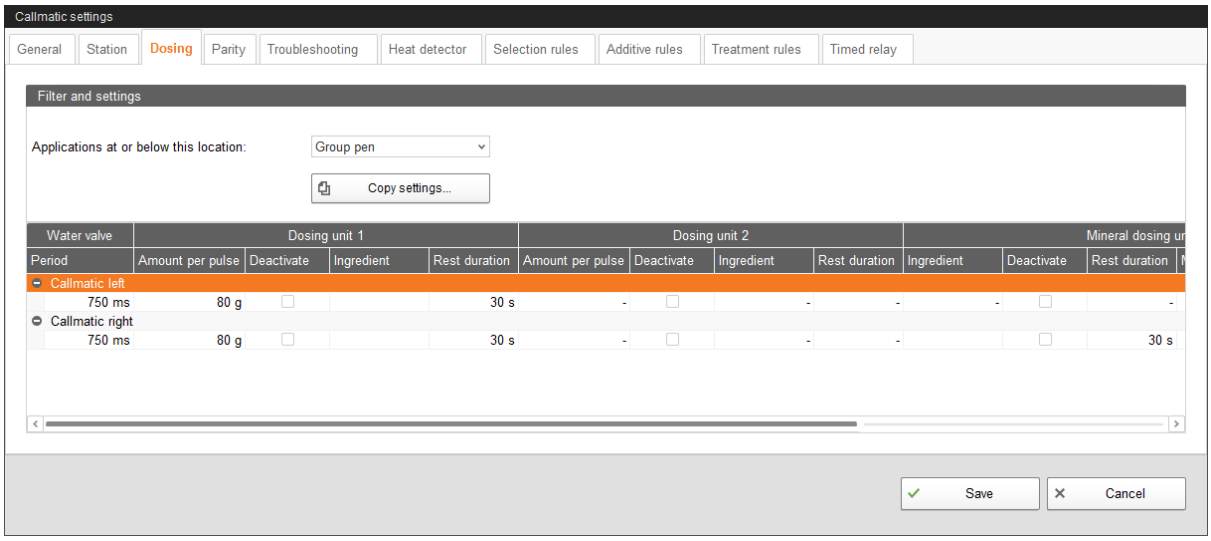
  Leave station time: This time starts if no transponder is identified during the feeding time or the after-feeding time. After the "leave station time", the control assumes that there is no longer a sow in the station, and opens the entrance door for the next sow. If the transponder is identified again within the "leave station time", time is reset and started again based on the same conditions, see chapter 1.8 ”Feeding cycle”.

  Door locking time: The sow enters the station and interrupts the light barrier in the entrance area. The entrance door closes. Once the light barrier is no longer interrupted, the door locking time starts. The system must identify a transponder within this time. If this does not happen, the door opening time starts.

- **Sprayer**

  Spray duration: Use this parameter to set the spray duration of the individual sprayers for color marking in seconds.

4.4 Dosing



- **Water valve**

  Period: The opening period of the water valve determines how much water is added to the dry feed.

- **Dosing unit**

  Enter the amount of feed dispensed into the trough from the feed hopper under **Amount per pulse**.

  Deactivate: Check the box below this parameter to deactivate the hopper as soon as it is empty.

  Ingredient is the feed component supplied by the hopper. This information must be identical with the feed component given in the feed curve.

- **Mineral dosing unit**

  Ingredient is the component in the mineral dosing unit. Define when dosing of minerals is activated based on the feed curve or in the "Activity" category in the Sow Manager, see the "BigFarmNet Manager – Sow Manager" manual.

  Deactivate: Check the box below this parameter to deactivate the hopper as soon as it is empty.

  Minimum dosing time: Define under "minimum dosing time" below which too-short duration of a dosing two dosing impulses should be grouped as one.

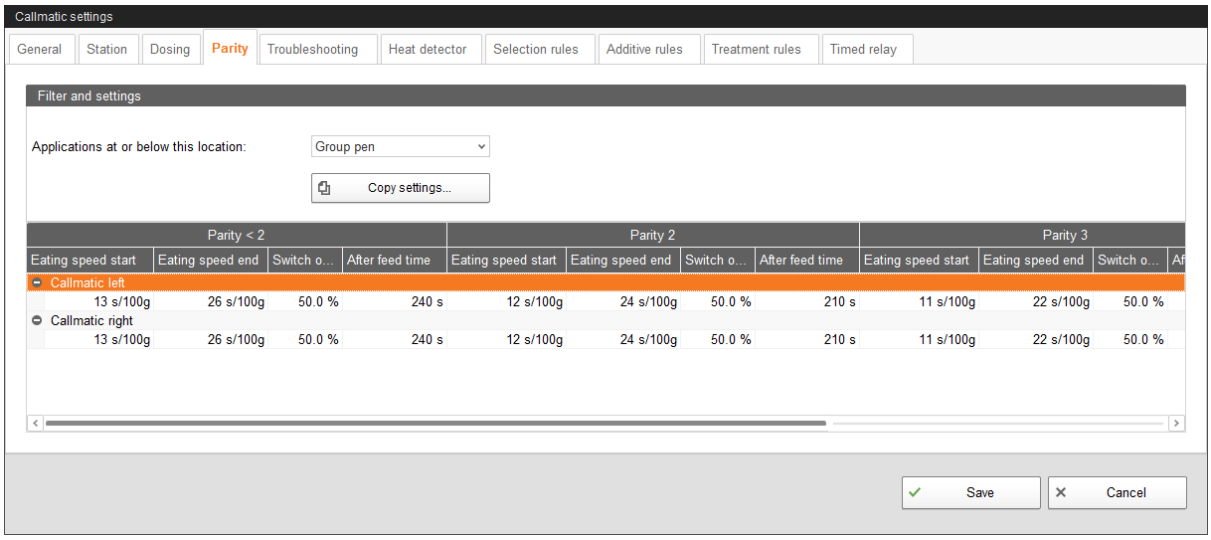
  Speed: Define under "speed" at which speed the mineral should be dispensed.

- **HydroMix Callmatic**

  HydroMix ingredient means the ingredient that is dispensed.

  Sensor check: The first dosing only takes place if the trough sensor reports "empty".

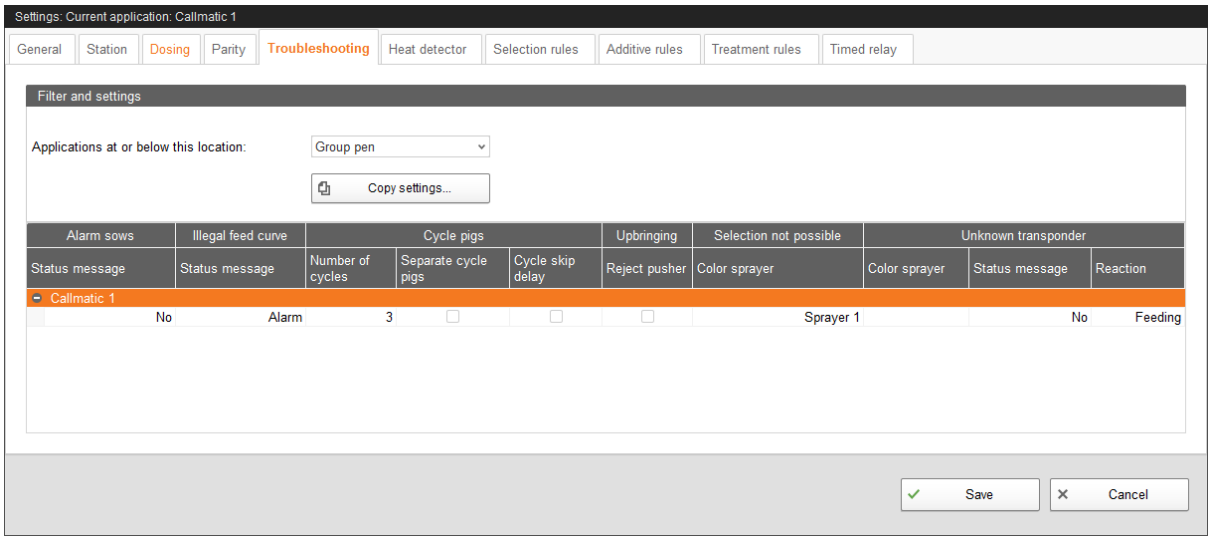
4.5 Parity



Use this tab to define the eating speed and the after-feeding time based on the parity (number of litters). A sow's eating speed usually increases with the number of litters. Younger sows should thus be given have more time to eat than older sows.

In the example above, sows with less than two litters (parity < 2) receive an amount of feed of 100 g per 13 seconds in the beginning (**Eating speed start**). Feed distribution slows down continuously to 100 g per 26 seconds (**Eating speed end**) until 50 % of the determined feed amount has been dispensed (**Switch-over time**). The **after-feeding time** starts after the entire amount of feed has been dispensed. This time must thus be long enough to allow the sows to empty the trough. After the after-feeding time, the trough closes and the entrance door opens for the next sow.

4.6 Troubleshooting



- **Alarm sows**

  Alarms sows are sows that have not eaten their assigned daily ration.

  Feed limit: If the sow remains below the feed limit at the end of the feeding day, she is considered an alarm sow. Define under "status message" which type of message is to be issued for alarm sows.

  Status message can be set to be either an alarm, a warning or no action at all ("No").

- **Ilegal feed curve**

  This problem occurs if a sow is fed based on a feed curve that is not defined at all or not defined correctly. A feed type (component) that cannot be dispensed at the station for technical reasons is defined in the feed curve in this case. For example, the component may not be available in the station's hopper.

  Please consult the "BigFarmNet Manager – Sow Manager" manual for instructions on how to define feed curves.

  Status message can be set to be either an alarm, a warning or no action at all ("No").

- **Cycle pigs**

  Cycle pigs are sows that keep on returning to the station even though they are no longer entitled to receive feed.

  Define cycle pigs based on the **number of cycles** (visits).

  You may **separate cycle pigs** if a selection unit is installed.

  Cycle skip delay: The entrance door opens immediately when a cycle pig enters the station. If this option is not activated, the door opens after the door opening time has expired.

- **Upbringing**

  Reject pusher: If a sow pushes another sow out of the ESF station, this "pusher sow" does not receive feed.

- **Selection not possible**

  If a sow cannot be selected due to a full selection pen, it can instead be marked by a **color sprayer**, see the parameter "Selection" in chapter 4.3 ”Station”.

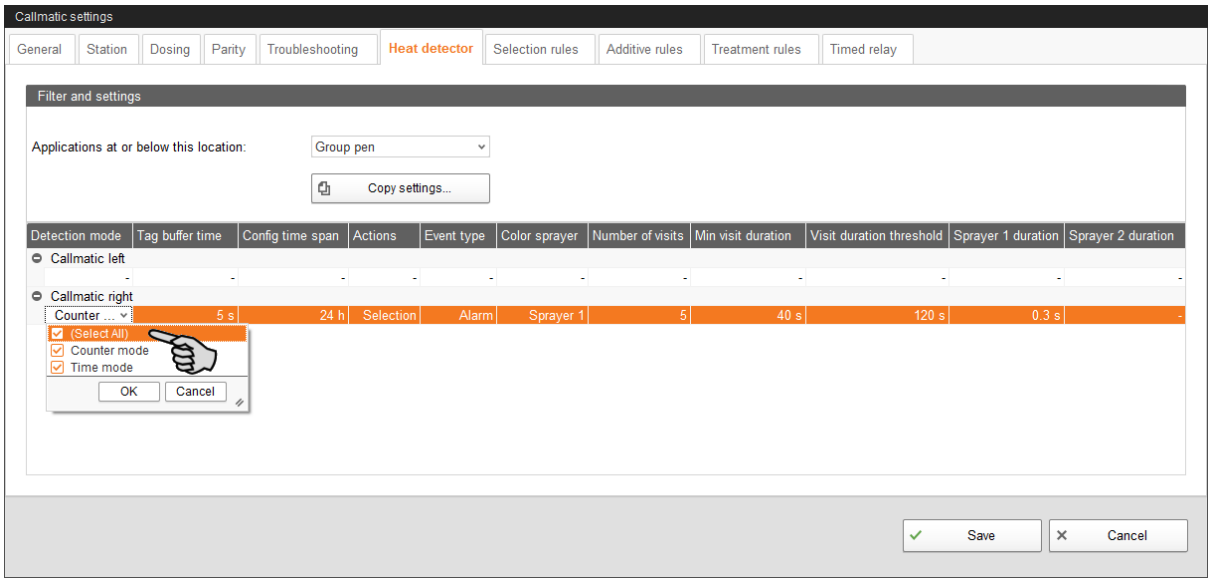
- **Unknown transponder**

  If a sow and its transponder are not listed in the Sow Manager, the station considers this transponder to be unknown. The following options are available for sows with unknown transponder:

  – marking the sow with a **color sprayer**;
  – defining the type of message (alarm, warning or no message "No") under **Status message**;
  – selecting whether a sow should be selected and/or fed based on the default feed curve under **Reaction**.

	The message type "Alarm" should be selected for errors which may have fatal consequences.

4.7 Heat detector



- **Detection mode**

  The following options are available to detect a sow returning to heat:

  – "Counter mode": The heat detector must identify the sow multiple times a day.

  – "Time mode": The heat detector's antenna must identify the sow for a specific duration.

  – "Select all": Both the "counter mode" and the "time mode" are activated.

- **Tag buffer time:** If a transponder is read twice during this time, the system counts this as one visit or one time span.
- **Configuration time span:** The parameters that identify a sow returning to heat must be recognized within this time.
- **Actions** define what should happen with a sow returning to heat:

  – "Information": The Sow Manager creates an activity. After heat detection, sows can be filtered by the "Activity" filter.

  – "Color": A color sprayer in the heat detector marks the sow.

  – "Selection": The sow is selected at the next visit to the ESF station.

  – "Select all": All actions are activated.

- **Event type** can be set to be either an alarm, a warning or no action at all ("No").
- **Color sprayer:** Select one or all available sprayers to be used.
- **Number of visits:** If the heat detector identifies a higher number of visits than defined within a specific time period, the sow has probably returned to heat.

- **Minimum visit duration:** If a sows remains in the station for longer than the minimum visit duration, this is considered a visit.
- **Visit duration threshold:** If the heat detector identifies a sow for longer than the set "visit duration threshold", this sow has probably returned to heat.
- **Sprayer duration**

Example of identification of a sow returning to heat

The following parameters have been defined:

- Detection mode = both (counter mode and time mode)
- Tag buffer time = 5 seconds
- Configuration time span = 24 hours
- Number of visits = 5 visits
- Minimum visit duration = 40 seconds
- Visit duration threshold = 260 seconds

Date	Time	Sow	Read time (seconds)	Software calculation	Evaluation
01-01	00:10:05	100	4	1 visit, 15 seconds	No, minimum visit duration not reached
01-01	00:10:12	100	8		
01:01	00:10:26	100	30	1 visit, 30 seconds	No, minimum visit duration not reached
01-01	00:11:01	100	8	1 visit, 48 seconds	Yes, minimum visit duration reached
01-01	00:11:12	100	22		
01-01	00:11:37	100	12		
Check: visit duration threshold: 49 seconds –> no; number of visits: 1 –> no					
01-01	06:33:33	100	10	1 visit, 56 seconds	Yes, minimum visit duration reached
01-01	06:33:36	100	20		
01-01	06:33:59	100	30		
Check: visit duration threshold: 104 seconds –> no; number of visits: 2 –> no					
01-01	11:30:30	100	5	1 visit, 5 seconds	No, minimum visit duration not reached
01-01	11:30:41	100	20	1 visit, 20 seconds	
01-01	11:31:30	100	10	1 visit, 10 seconds	
01-01	12:45:45	100	30	1 visit, 64 seconds	Yes, minimum visit duration reached
01-01	12:46:19	100	30		
Check: visit duration threshold: 208 seconds –> no; number of visits: 3 –> no					

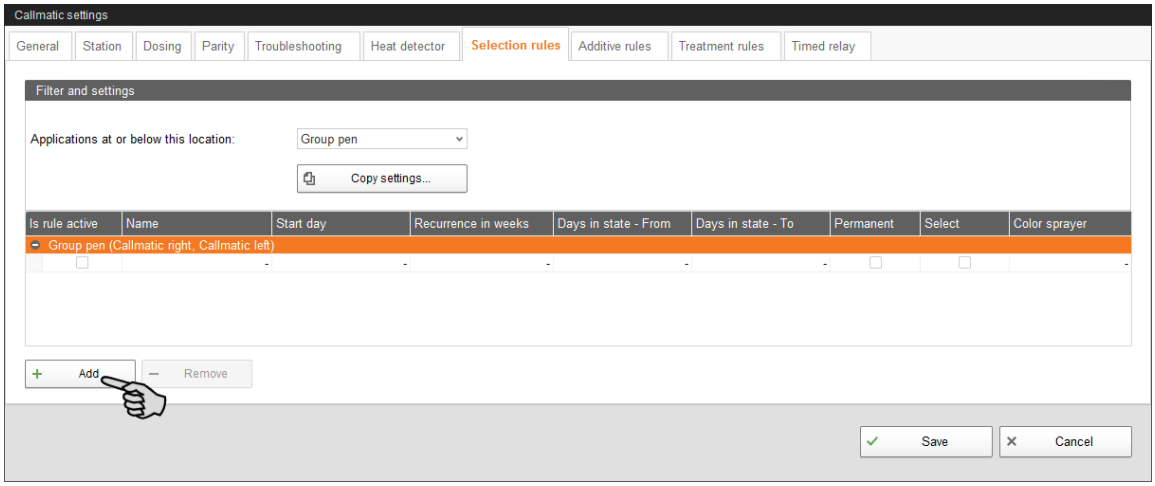
01-01	16:06:20	100	30	1 visit,	Yes, minimum visit duration reached
01-01	16:06:54	100	20	54 seconds	
Check: visit duration threshold: 262 seconds –> yes; number of visits: 4 –> no Criteria for visit duration met = sow is in heat					

4.8 Selection rules

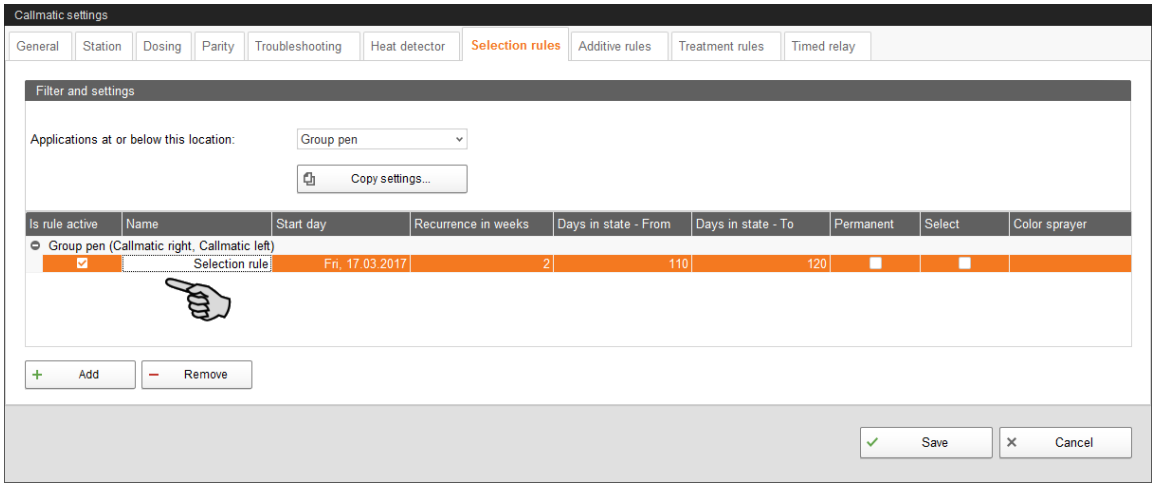
Configure settings to select sows regularly based on specific criteria under the "Selection rules" tab. Selection rules apply to pregnant sows exclusively.

1. Click on "Add".

   The input fields for a selection rule now become active.



2. Configure the settings by clicking directly into the input fields of the corresponding parameters:



   a) Activate the rule by checking the box below **Is rule active**.

   b) Enter a **name** for the rule.

   c) Set a date (**Start day**) from which the rule shall apply.

d) Enter the number of **recurrences in weeks**, starting with the start day.

e) Define the period (**From – To**) of the **days in state** in which the sows must currently be to be selected.

f) If you check the box below **Permanent**, the sow will be selected at each visit. If you do not check the box or remove the check mark, the sow is only selected at her first visit.

g) If you check the box below **Select**, the sow is selected. Sows can also be marked only.

h) Select one or more **color sprayers** to mark the sows. The number of color sprayers must be defined in the Composer beforehand, see chapter 3.1 ”Adding and configuring a control computer”.

3. To deactivate a rule, remove the check mark from the box below "Is rule active".
4. To remove a rule entirely from the list, click on the rule to select it and then click on "Remove".

Example of a selection rule

Sows that meet specific criteria should be selected from the group in regular, weekly intervals for vaccination:

- on Wednesdays, i.e. the date for the vaccination (**Start day**);
- every other weeks (**Recurrence in weeks**);
- between day 65 and 79 of pregnancy / insemination (**Days in state From – To**).

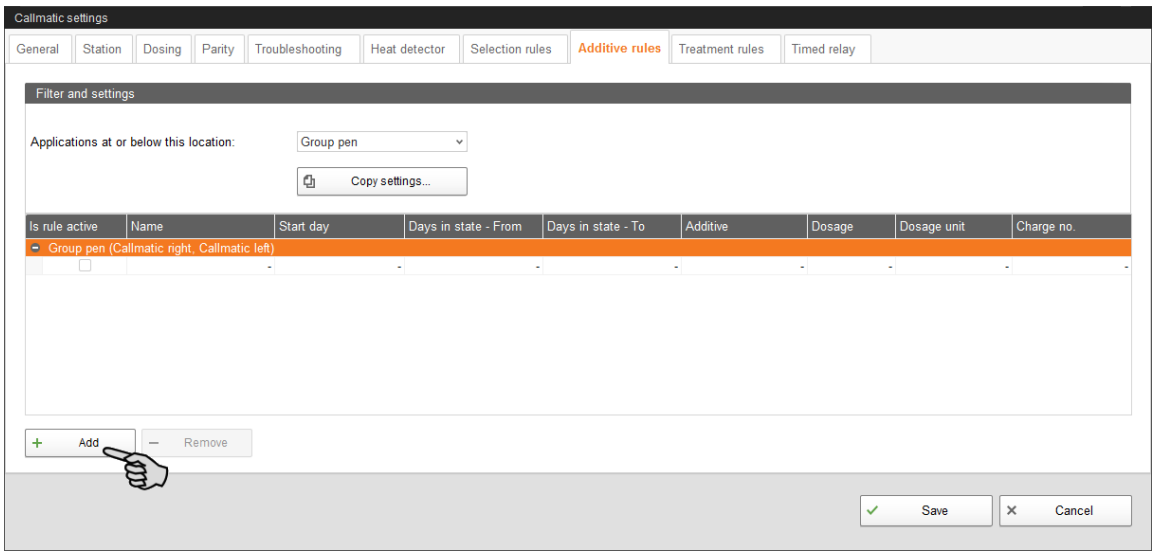
After all parameters have been set, the software checks the sow list for sows between status days 65 and 79, starting on the start day and then every two weeks, and selects sows that meet these criteria. No additional selection orders are necessary in the Sow Manager for these sows.

4.9 Additive rules

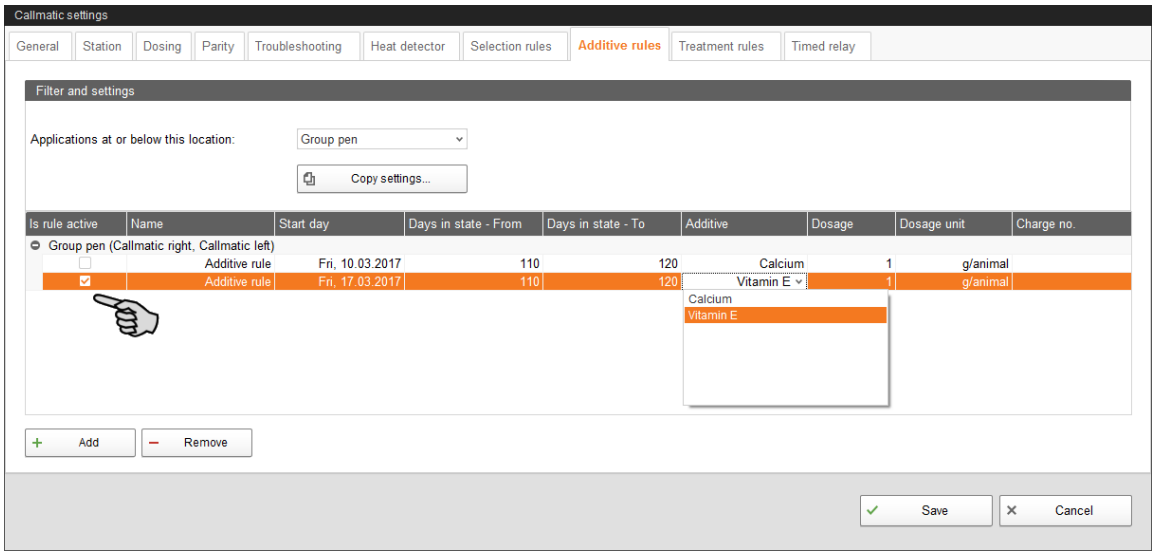
Configure settings for the administration of additives under the "Additive rules" tab.

1. Click on "Add".

   The input fields for an additive rule now become active.



2. Configure the settings by clicking directly into the input fields of the corresponding parameters:



   a) Activate the rule by checking the box below **Is rule active**.

   b) Enter a **name** for the rule.

   c) Set the date (**Start day**) on which the rule shall apply.

   d) Define the period (**From – To**) of the **days in state** of the shows that shall receive the additive.

e) Select the **additive**. The additive must have been added as component beforehand.

f) Define the number of doses (**Dosage**) and the **dosage unit**.

g) Also enter the **charge number** of the additive, if applicable.

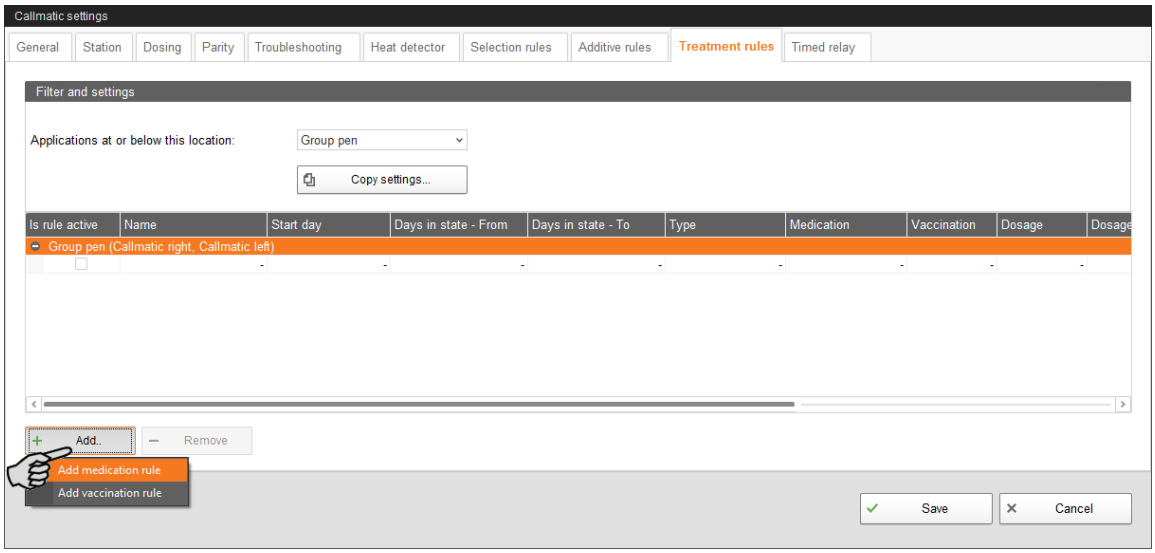
3. To deactivate a rule, remove the check mark from the box below "Is rule active".
4. To remove a rule entirely from the list, click on the rule to select it and then click on "Remove".

4.10 Treatment rules

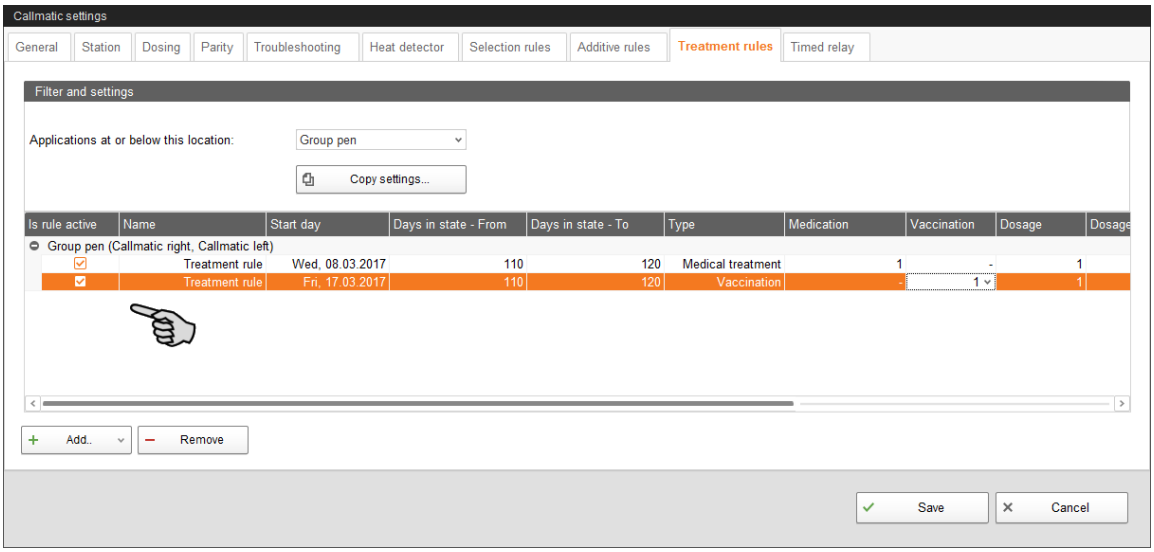
Configure settings for the administration of medication and/or a vaccination under the "Treatment rules" tab.

1. Click on "Add" and select whether you want to create a medication rule or a vaccination rule.

   The selected rule is created and the corresponding input fields become active. You may also create multiple rules.



2. Configure the settings by clicking directly into the input fields of the corresponding parameters. Move the scroll bar at the bottom to see additional parameters.



a) Activate the rule by checking the box below **Is rule active**.

b) Enter a **name** for the rule.

c) Set the date (**Start day**) on which the rule shall apply.

d) Define the period (**From – To**) of the **days in state** of the sows to be treated.

e) Change the type of treatment under **Type**, if necessary.

f) For a medical treatment, select the medicine under **Medication**.

For a vaccination, select the vaccine under **Vaccination**.

Medicines and vaccines must have been created beforehand, see the chapter "General master data" in the "BigFarmNet Manager – Sow Manager" manual.

g) Define the number of doses (**Dosage**) and the **dosage unit**.

h) Also enter the **charge number** of the medicine or vaccine, if applicable.

i) Enter a **waiting time** if a blocking period is necessary after the medication was administered before further activities can be created for the sow. This waiting time is displayed in the "Treatment" activity. In case of several treatments, the longest blocking period is listed.

j) Enter the **document number**, if applicable.

k) Enter the **veterinarian**, if applicable.

3. To deactivate a rule, remove the check mark from the box below "Is rule active".

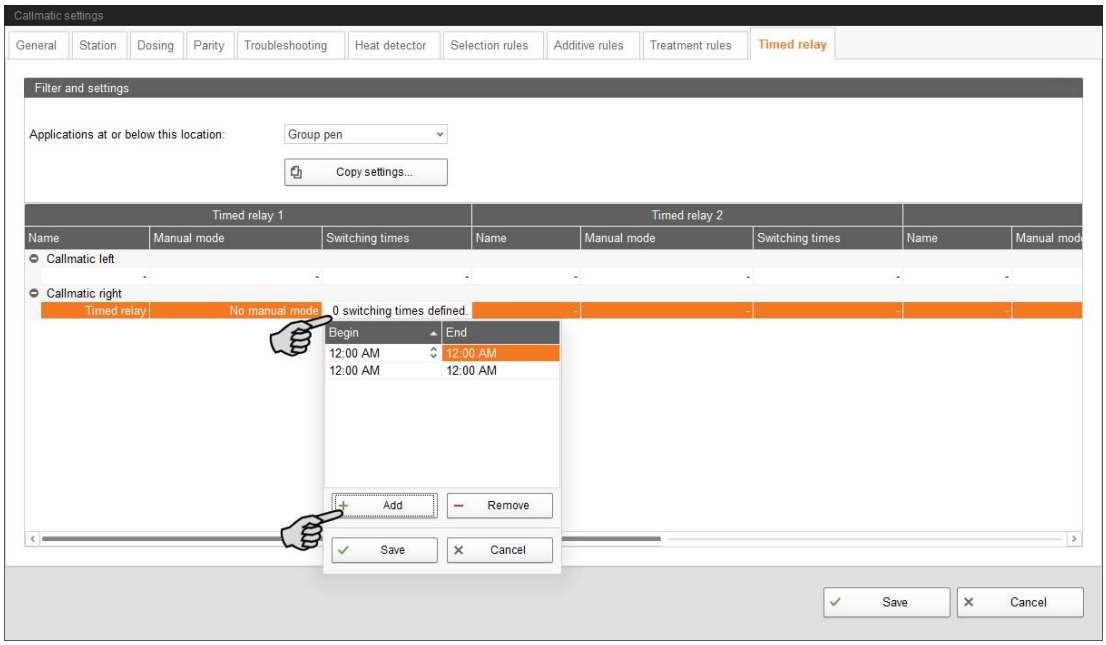
4. To remove a rule entirely from the list, click on the rule to select it and then click on "Remove".

4.11 Timed relay

Configure the settings for the created number of timed relays under the "Timed relay" tab.

1. Enter a **name** for the timed relay.
2. Select a **mode** to control the relay manually:
   – No manual mode;
   – Switch relay permanently on;
   – Switch relay permanently off.

   These settings are accepted immediately.
3. Define the **switching times**:



a) Click into the input field below "Switching times".

   This opens a drop-down list.

b) Click on "Add".

c) Enter the time for the pause time "beginning" and "end".

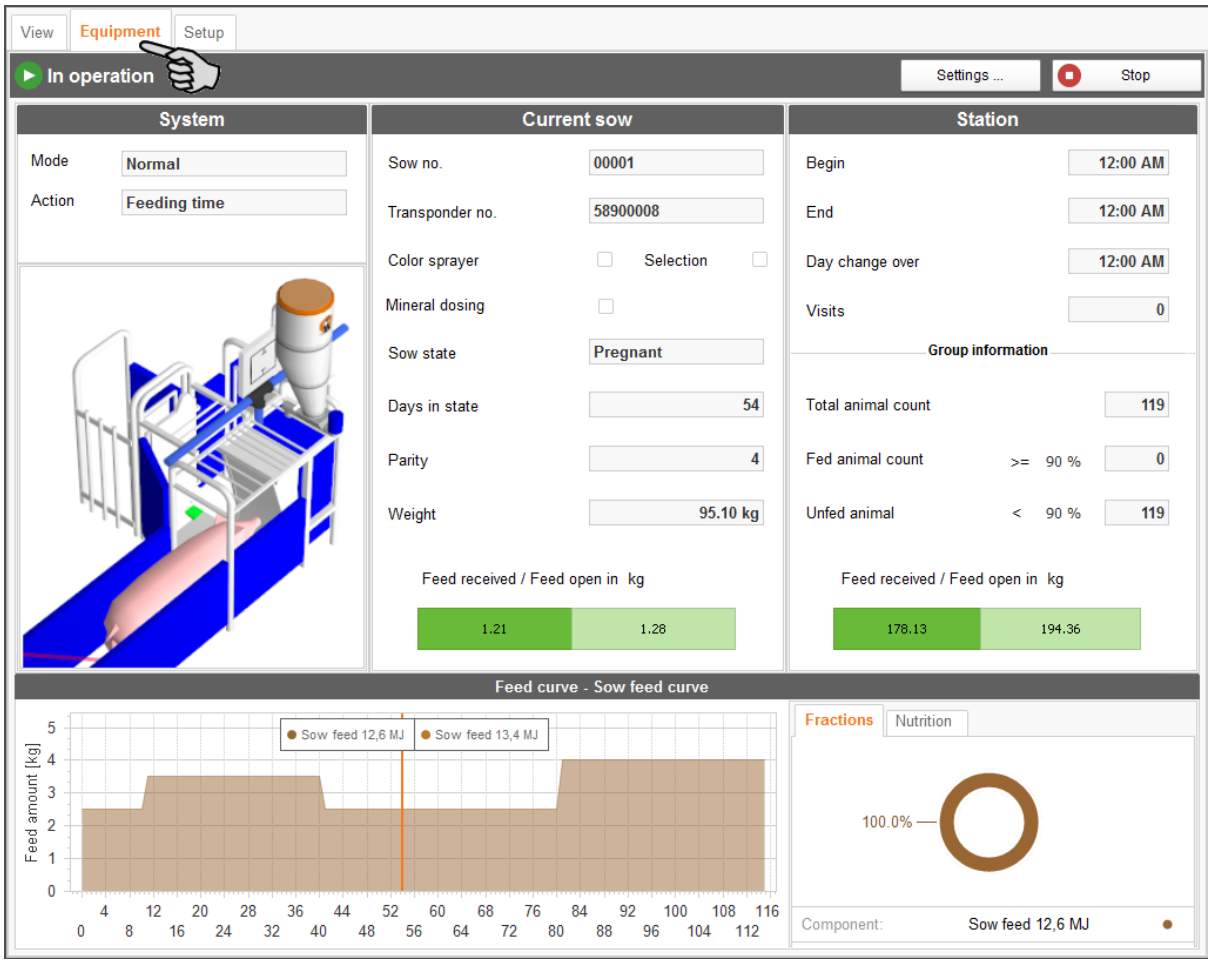
d) Add further switching times, if necessary.

e) Click on "Save" to save these settings.

4.12 View in the "Equipment" tab

The "Equipment" tab provides views with selected information on the station and the sow currently inside the station. All displayed data has been defined beforehand in different settings menus, e.g. settings dialog, feed curves or move-in dialog.

The displayed data is thus shown for informational purposes only and cannot be edited in this view.



4.12.1 System

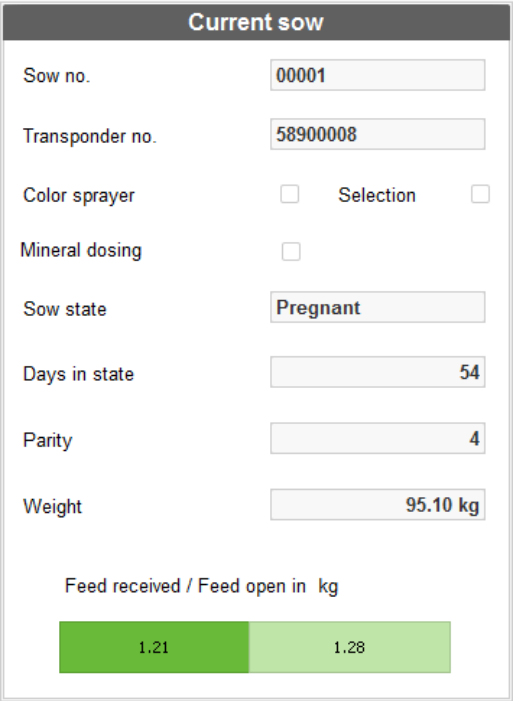
The ESF station can be operated in "normal" mode or in "training" mode.

To help sows get used to the station, it can be helpful to operate the station in training mode for the first one or two days. Only use the training mode until the first sows enter the station on their own. Otherwise, injuries caused by double occupancy or open trough flaps are possible. This is because in the training mode, the trough flap opens when the light barrier is interrupted, and the door only closes when a sow has been identified at the trough.

Special functions in training mode:

– The "door locking time" is twice as long.
– The "after-feeding time" is twice as long.
– The "door opening time" is twice as long.
– The entrance door only closes after a transponder has been identified.
– The trough flap opens and the sow receives feed when a sow interrupts the light barrier.

4.12.2 Current sow in the station

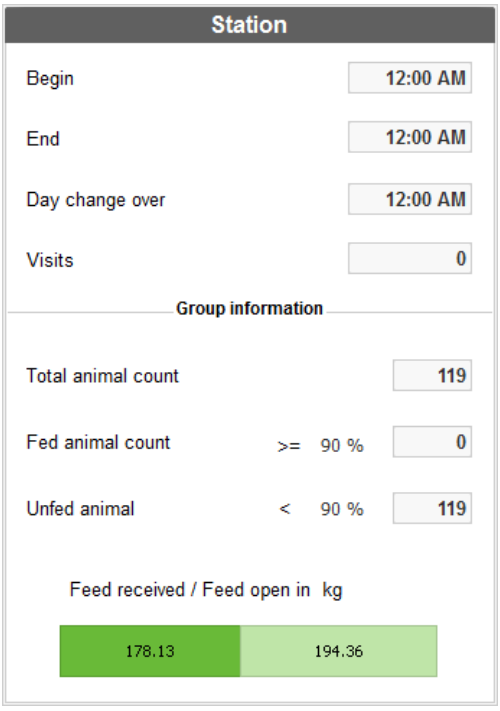


The data of the sow currently occupying the station is displayed under "Current sow". If no transponder number is displayed, this means that the antenna does not identify any transponder at the moment. All other information refers to the current or last visit.

- The **sow number** is assigned when the animals are moved in. Each sow has a unique sow number.
- The **transponder number** is assigned when the animals are moved in. Each sow has a unique transponder number. The antenna identifies the sow based on the transponder.
- If the box next to **Color sprayer** is checked, the sow is scheduled to be marked. Reasons for color marking include a selection rule based on the days in state, see chapter 4.8 ”Selection rules”, or heat detection, see chapter 4.7 ”Heat detector”.
- If the box next to **Selection** is checked, the sow will be selected after eating, see chapter 4.8 ”Selection rules”.

- If the box next to **Mineral dosing** is checked, the sow is scheduled to receive minerals.
- The **sow state** is the state the sow is currently in, e.g. "Pregnant".
- **Day of state** indicates for how long the sow has been in this specific state.
- The **parity** indicates the sow's number of litters. A gilt starts with the value 0, which is changed to 1 with the first insemination. Afterwards, the figure is increased by 1 after every weaning.
- **Weight** of the sow
- The colored bar indicates the entire **daily ration** of feed defined for the sow. The amount is based on the settings in the feed curve. The colored bar consists of two parts: The dark green part indicates the feed the sow has already received, while the light green part shows how much feed is still "open", i.e. must still be dispensed.

4.12.3 Station



The "Station" part of the window contains the feeding data of all sows assigned to the group of this particular station.

- **Beginning / End (of the idle time):** The entrance door remains closed during the idle time. Sows are neither fed nor selected. A defined idle time can be used to achieve more calmness in the group at certain times.

- **Day change-over:** The time of the day change-over defines the start of a new feeding day.

  At this point in time, the following values are newly determined:

  – Sows fed

  – Feed consumed

  – Feed open

  – Selection

- **Visits:** This value indicates how many sows have already visited the station.
- **Group information**

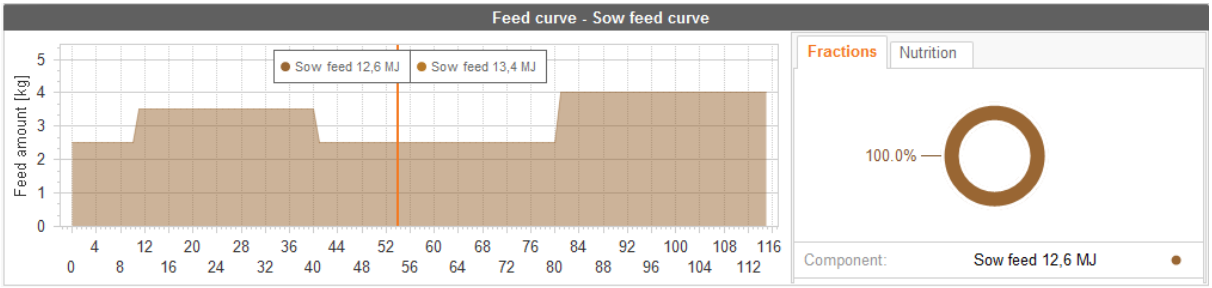
  – **Total animal count** is the total number of sows in the group.

  – **Fed animal count** is the number of sows that have eaten at least the pre-set percentage of their daily ration. Define this percentage using the parameter "Feed limit value", see chapter 4.2 ”General”. The information always refers to the current feeding day.

  – **Unfed animal** is the number of sows that have not yet eaten their daily ration, i.e. they have not yet reached the pre-set feed limit value in percent. The information always refers to the current feeding day.

  – The colored bar indicates the entire **daily ration** of feed defined for the entire group. The amount is based on the settings in the feed curve. The colored bar consists of two parts: The dark green part indicates the feed that has already been requested, while the light green part shows how much feed is still "open", i.e. must still be dispensed.

4.12.4 Information regarding feeding



The "Feed curve" part of the window shows the corresponding diagram, the composition of the feed and the nutritional values. The red line indicates the current curve day and thus the daily ration.

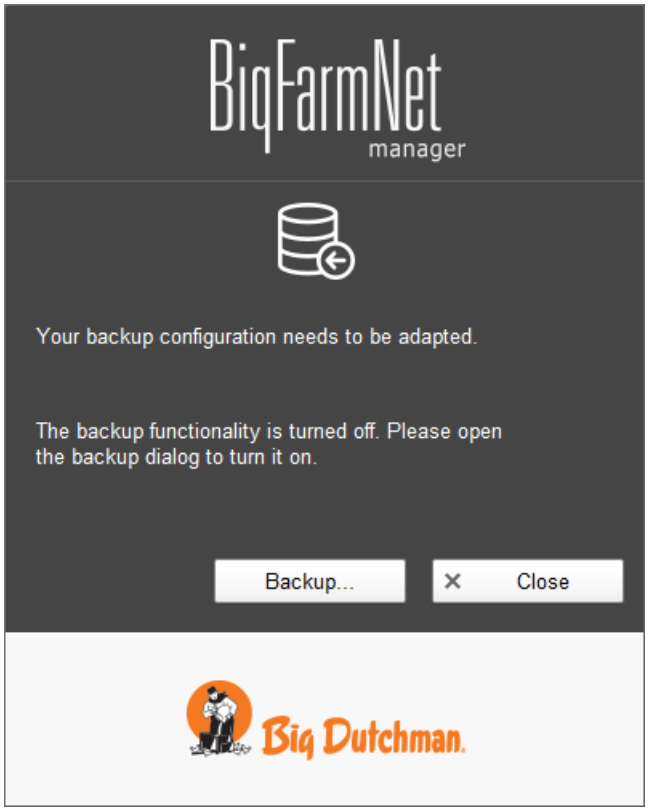
Please consult the "BigFarmNet Manager – Sow Manager" manual for instructions on how to define a feed curve.

4.13 Data backup

From BigFarmNet Manager version 3.2.0, the following message regarding data backup configuration appears after installation or an update. If you only close this message, it will reappear after a short time.

☝	The system requires an external storage location for data backup, e.g. a network drive, an external hard drive or a USB flash drive. As soon as an external storage location has been indicated, the message no longer appears, irrespective of whether automatic data backup has been enabled or disabled.

If an external storage location has already been defined before updating to version 3.2.0, the message does not appear at all.



We recommend data backups in regular intervals. In case of a data loss, the backup can then be used to retrieve saved data.

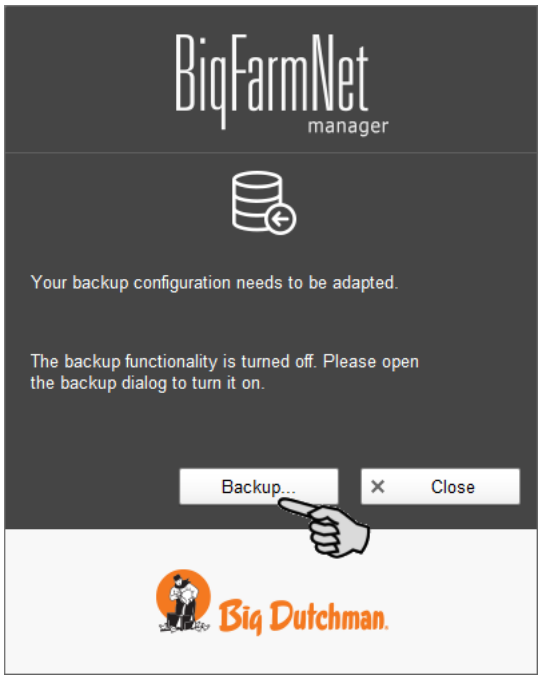
Remember that you can only retrieve the last data backup. Everything you have created or changed since then is not included in this backup. This means that the backup period should be determined depending on the amount of data you produce. You should find the ideal compromise between acceptable data loss and frequency of backups based on your individual needs.

The BigFarmNet Manager provides the following options for data backups:

- Manual backup, which you may carry out at any time when necessary.
- Automatic backup, for which you define a fixed backup period. The data is then backed up automatically according to the settings.

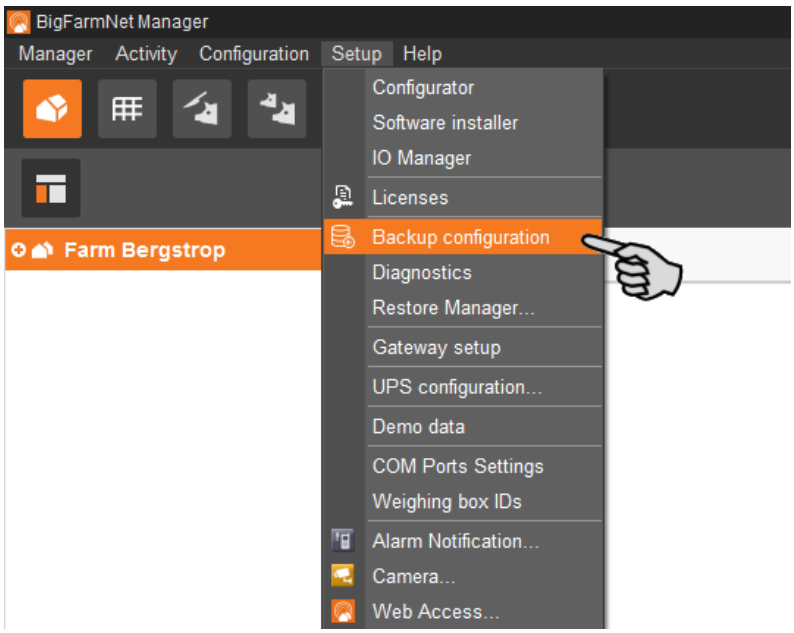
Open the settings dialog as follows:

1. Click on "Backup...".



OR

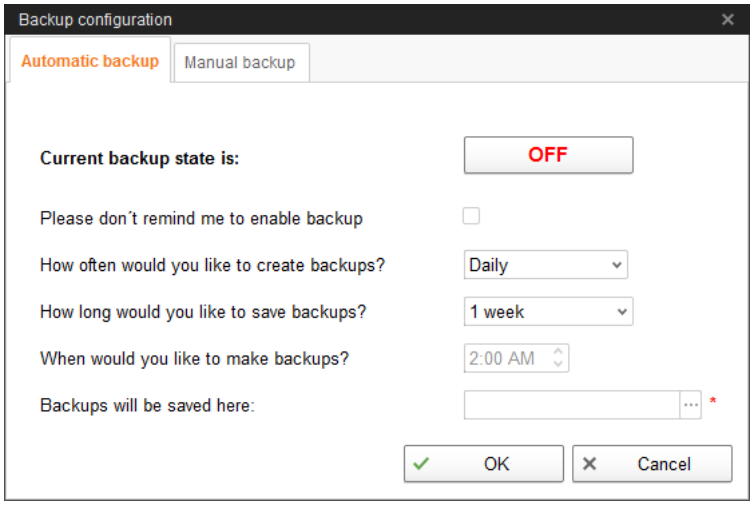
1. Click on "Backup configuration" in the "Setup" menu.



2. In the window "Backup configuration", select the desired process using one of the two tabs:

   Automatic backup

   The automatic backup is pre-set to "OFF".



   a) Click on "OFF" to turn off the deactivation.

      The button then switches to "ON".

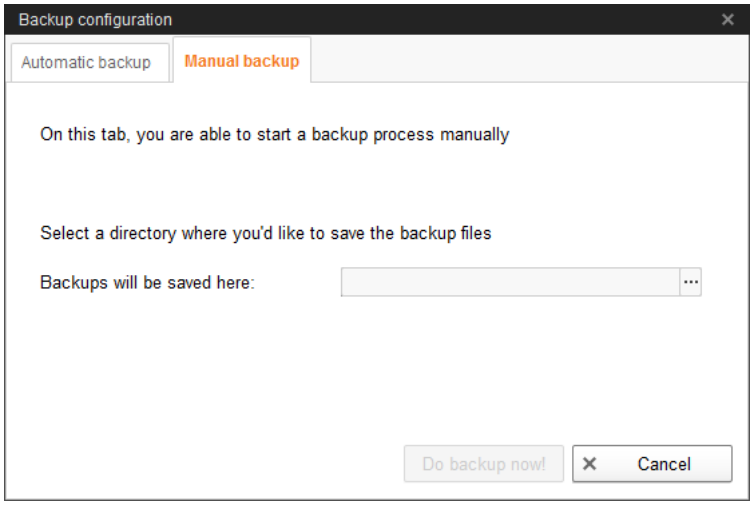
   b) Determine the backup period.

   c) Select an external storage location.

   d) Click on "OK" to accept these settings.

Or:

   Manual backup



   a) Select an external storage location.

   b) Click on the now active button "Create backup now!"

5 Operation of the control computer

The ESF station (CallMatic / Call-Inn) is controlled by the control computer 510*pro* with touch screen. The control computer can be operated either centrally through BigFarmNet Manager or locally. One control computer can control up to 10 ESF stations. All important settings of the corresponding ESF stations, the group's most important animal data and the current control status are displayed. Many settings can be configured directly at the control computer.

All control computer data is transferred to the Manager PC in the farm office. The control computer and the Manager PC are connected through the BigFarmNet software to ensure constant data exchange. The ESF station can continue feeding the sows individually even if the connection to the network is interrupted. As soon as the connection is re-established, the updated data is exchanged automatically.

5.1 Technical data

Dimensions (H x W x D)	381 mm x 400 mm x 170 mm
Protection degree according to EN60529	IP 54
Supply voltage	115 V, 200 V and 230 V/240 V AC +/- 10 %
Supply frequency	50/60 Hz
Power consumption	75 VA
Network	2 network interfaces, 10/100 BASE+TX RJ 45
USB	2 USB interfaces, USB 2.0 type A, max. 4 GB
Ambient temperature	-10 to +45 °C (+14 to +113 °F)
30 punch holes for metric cable gland M 25 x 1.5	
Code no.	91-02-4041

5.2 Icons

	Overview / Start screen Colored: You are currently in the overview.
	Settings menu Colored: You are currently in the settings menu.
	Alarm Colored: An alarm is active.
	Sow statistics / Selection Colored: You are currently in the detailed sow statistics.
	Feeding statistics Colored: You are currently in the detailed feeding statistics.
	Logout
	Information on the settings parameter
	Return to previous view
	Open additional information or settings

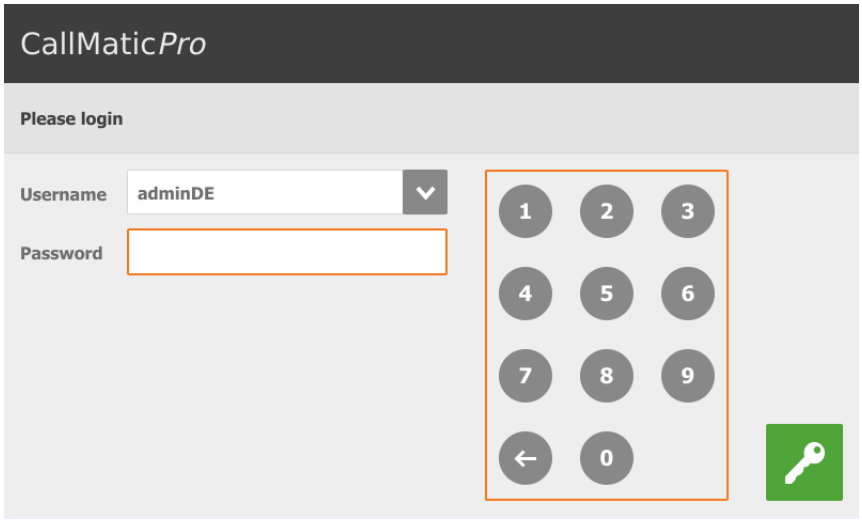
	Scroll up / down in selection
	Expand structure
	Collapse structure
	Network settings
	Confirm selection for further settings
	Save input
	Login

5.3 Login

Log into the control computer using the login dialog.

The login dialog appears

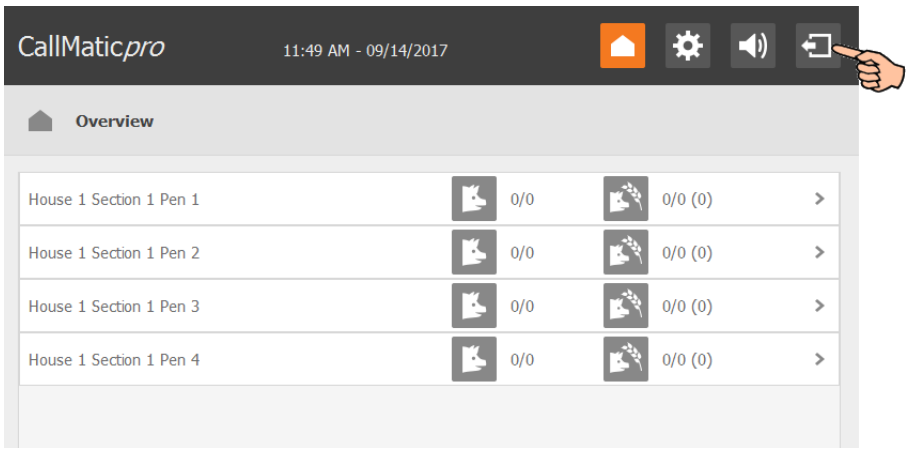
- automatically after the software has been installed successfully, when the application starts;
- automatically after a specific time without activity (automatic logout); or
- if you actively log out of the control computer.



	The user name and the password are the same as when logging into BigFarmNet Manager.

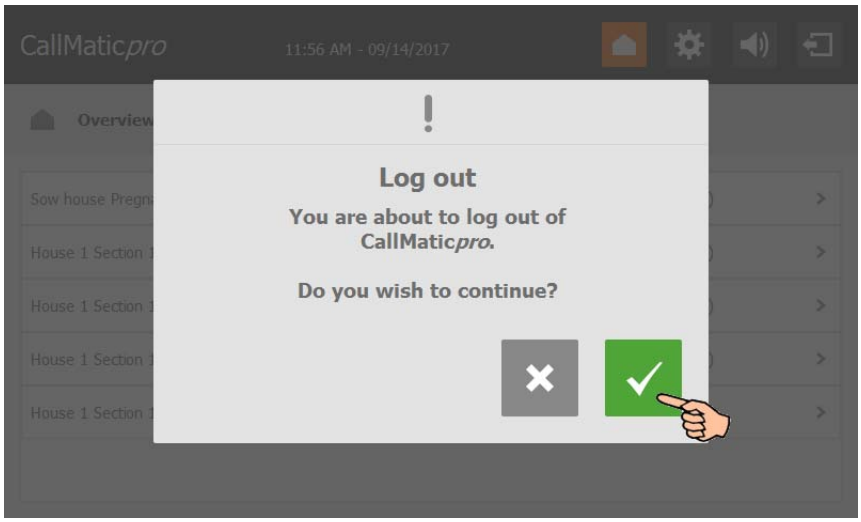
5.4 Logout

1. Tap on the "Logout" icon to log out.



2. Confirm that you are logging out.

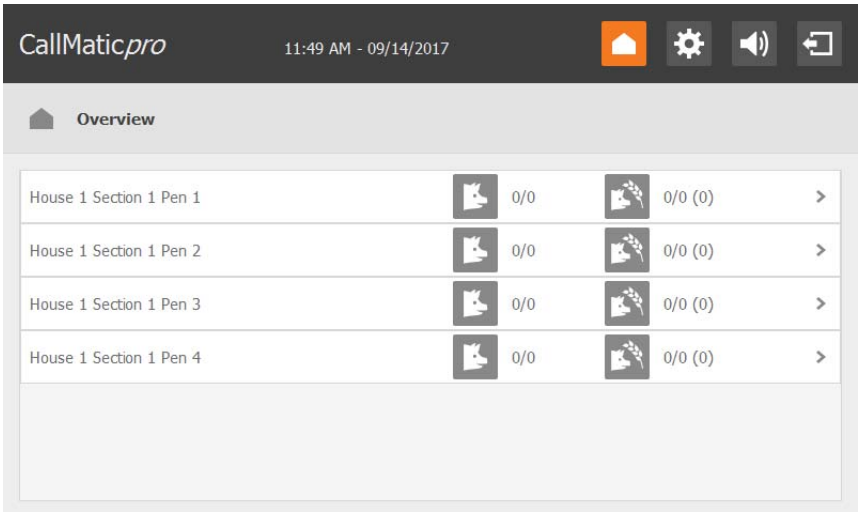
   The login dialog appears on the display again.



5.5 Start screen

After logging in, an overview of the assigned ESF stations appears as start screen. For each individual ESF station, the following information is displayed:

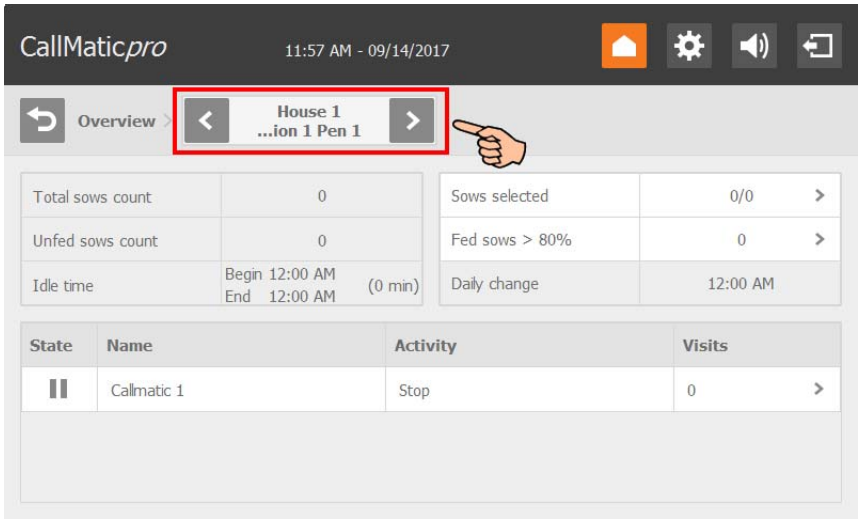
- the station's location;
- the number of selected sows / to be selected sows;
- the number of fed sows / to be fed sows.



5.6 ESF station data

Tap on the correct ESF station on the start screen to open an overview of this station's data.

The ESF station's location is displayed at the top. Use the arrows pointing to the left and to the right to switch from one station to the next.

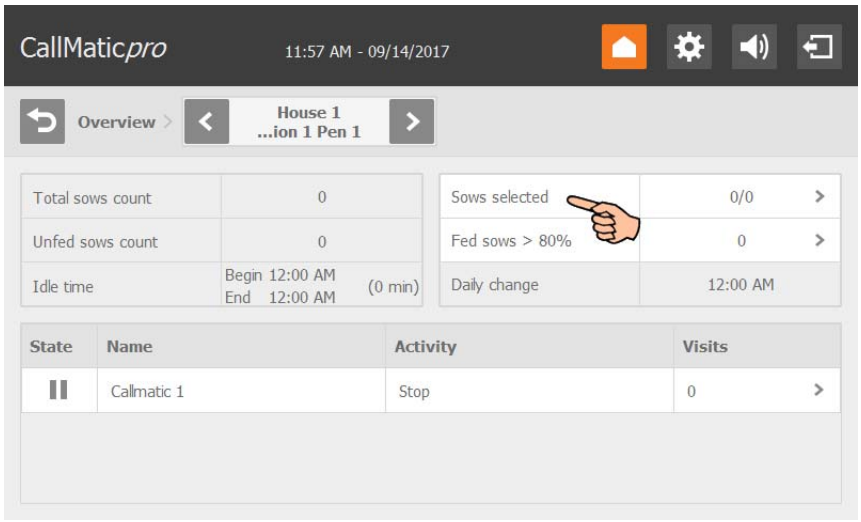


Parameters with an arrow pointing to the right > provide more information or settings options.

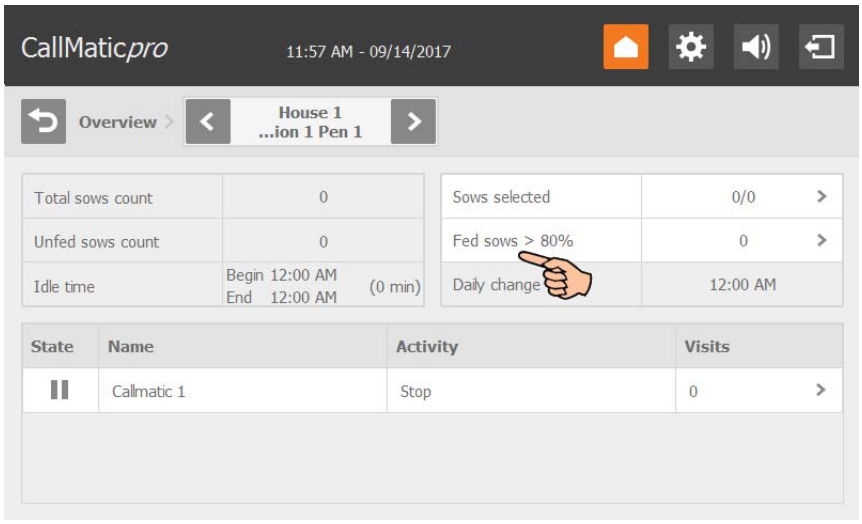
Tap on to return to the previous overview or the start screen.

5.6.1 Sows statistics and feeding statistics

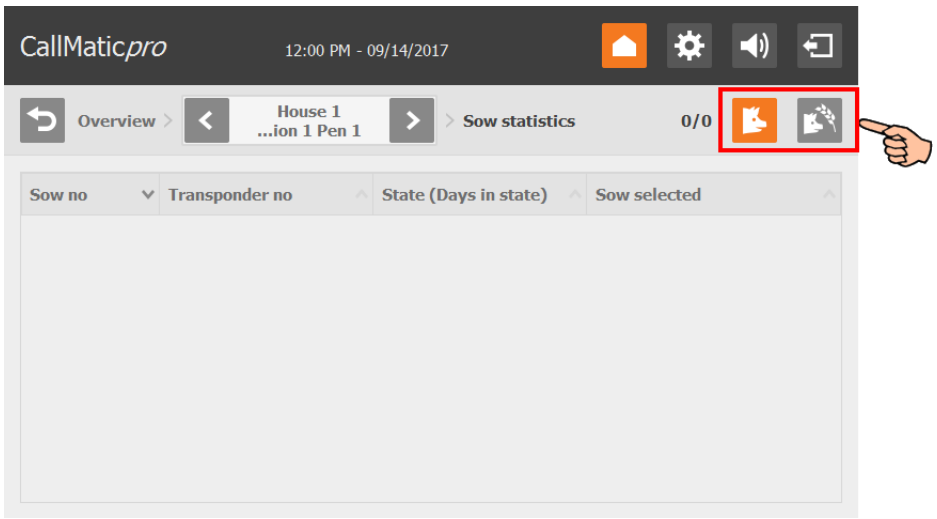
Open the "Sow statistics" by tapping on "Sows selected" in the data overview of an ESF station.



Open the "Feeding statistics" by tapping on "Fed sows..." in the data overview of an ESF station.

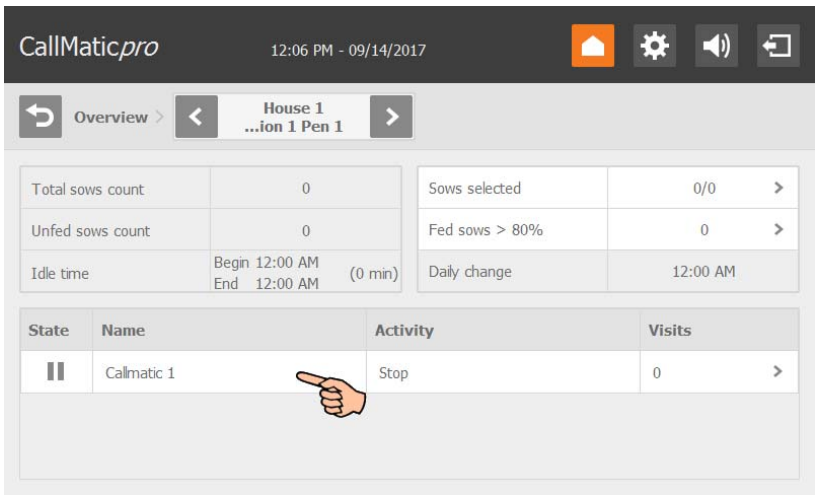


The colored icon indicates which of the two statistics is open, see chapter 5.2 ”Icons”. Tap on the icons to switch from the sow statistics to the feeding statistics and vice versa.



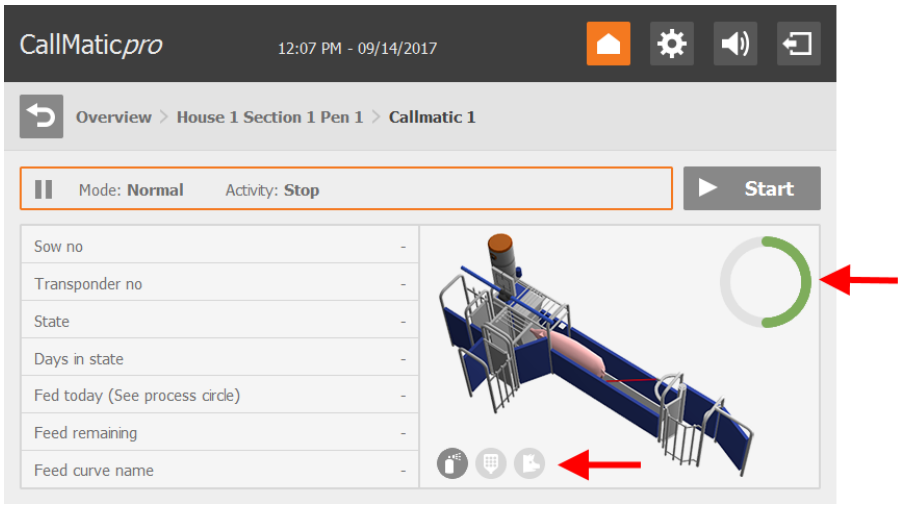
5.6.2 ESF station state

Open the current state in the data overview of the corresponding ESF station.



The state view provides specific information regarding the sow currently inside the ESF station. This data cannot be edited from the state view. The state view is similar to the "View" tab in BigFarmNet Manager, see chapter 4.12.

Tap on ▶ Start or ❚❚ Stop to start or stop the ESF station.



The following icons mean that the sow in the ESF station

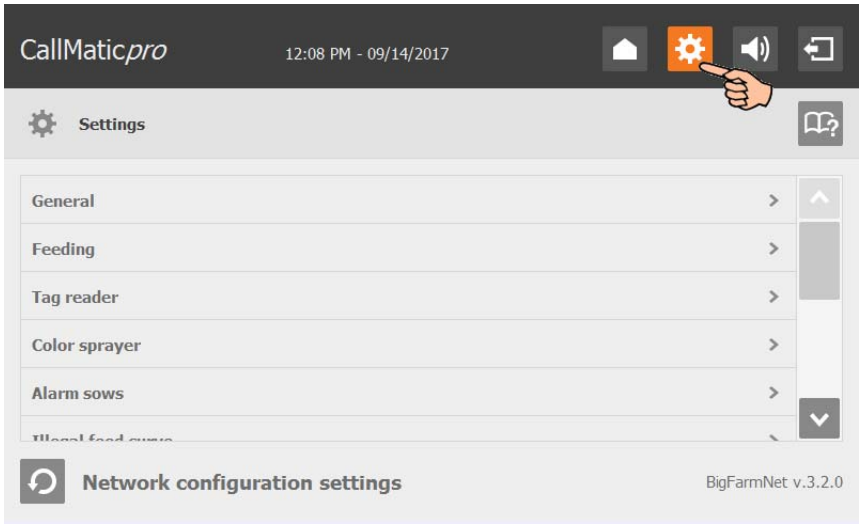
- will be marked by color.
- receives minerals.
- will be selected into another pen.

The circle indicates how much of the daily portion has already been dispensed, e.g. if half the circle is colored, 50 % of the daily portion have already been dispensed.

5.7 Settings

You may configure settings directly at the control computer. However, only parameters from "Settings" in the BigFarmNet Manager are available, see chapter 4.

The specific parameters are defined in the corresponding chapters. A short explanation regarding the respective parameter is also displayed when you tap on .

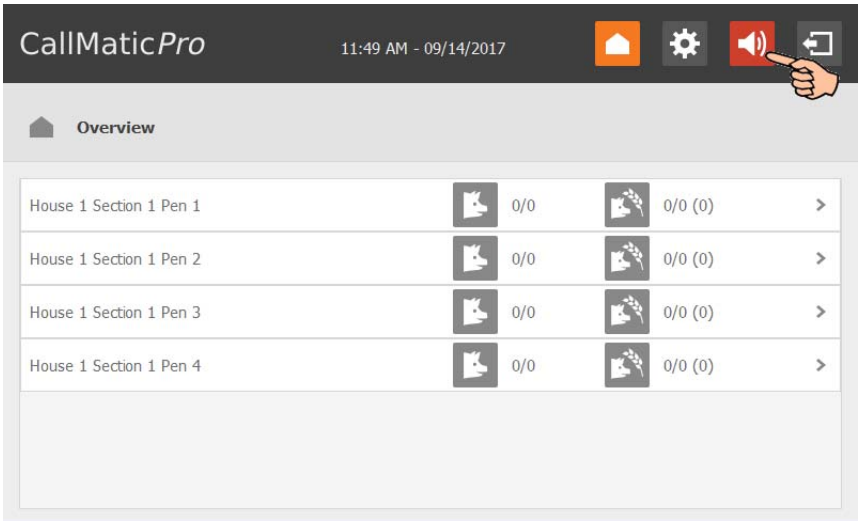


- **General**, see chapter 4.2 and 4.3
- **Feeding**
  - Idle time, see chapter 4.2
  - Default feed curve, see chapter 4.2
  - Time door reopens, Ignore entrance sensor after, see chapter 4.3
  - Dry feeding settings, see chapter 4.4
  - Parity-specific settings, see chapter 4.5
- **Tag reader**, see chapter 4.3
- **Color sprayer**, see chapter 4.3
- **Alarm sows**, see chapter 4.6
- **Illegal feed curve**, see chapter 4.6
- **Cycle pigs**, see chapter 4.6
- **Selection not possible**, see chapter 4.6
- **Unknown transponder**, see chapter 4.6

5.8 Alarms

If there is an active alarm or warning, the alarm icon is colored.

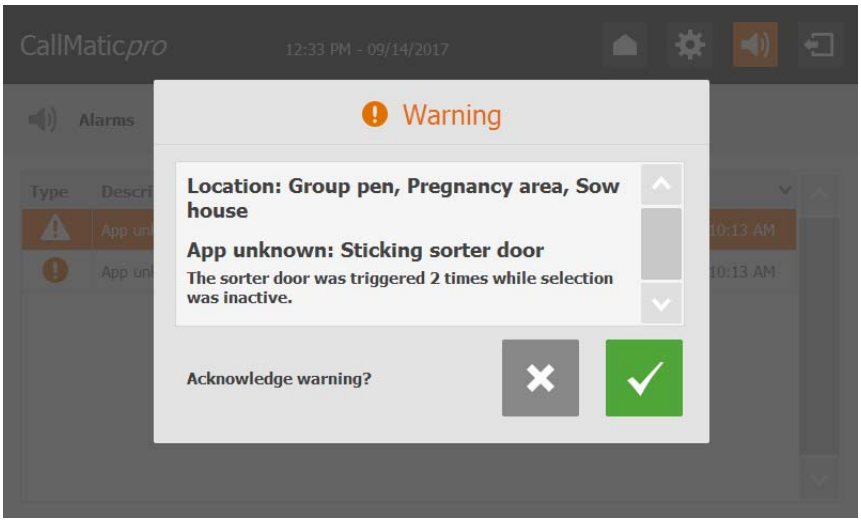
1. Tap on the icon to open the alarm menu.



The different alarms and warnings are shown in a list and ordered depending on when they occurred. The table columns contain the following information:

– alarm type, see chapter 7 ”Alarms”
– alarm description
– time of occurrence

2. Tap on the correct alarm to read the full description and to confirm / acknowledge the alarm by tapping on ✓, if necessary.



6 Station control

6.1 Basic delivery condition

All controllable system components can be operated manually at the ESF station using the station control. Upon delivery, functions for the following system components are available:

- Alarm
- Entrance door
- Trough flap
- Hopper 1
- Water
- Color sprayer 1

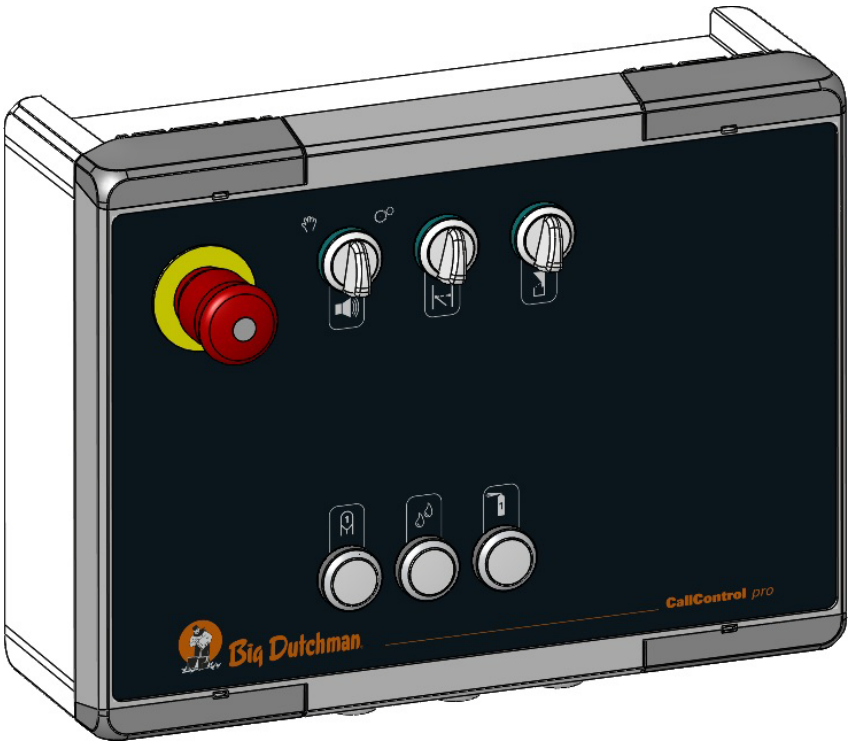


Figure 6-1: Station control central Basic

Qty.	Code no.	Description
1	91-02-4206	Station control CallMatic central Basic
1	91-02-4208	Station control Call-Inn central Basic

6.2 Extension

The control unit of a CallMatic station can be extended, if necessary, for functions such as selection, hopper 2 or mineral dosing. The cover has pre-punched holes for new buttons and switches. Use adhesive labels to identify additionally installed functions.

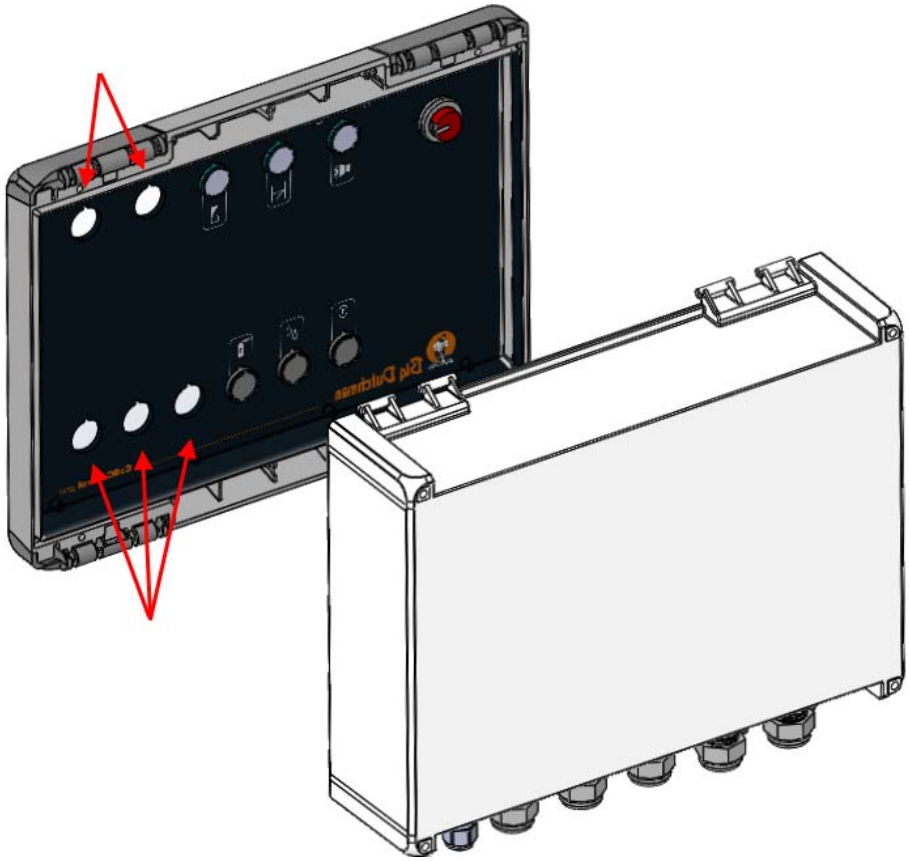


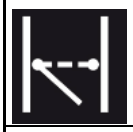
Figure 6-2: Station control – pre-punched holes for extension

Figure 6-3: Station control – adhesive labels for extension

Qty.	Code no.	Description
1	91-02-4207	Station control CallMatic central with extension for selection

6.3 Icons

Table 6-1: Description of the icons

	Alarm		Water
	Entrance door		Mineral
	Trough flap		Color sprayer 1
	Selection		Color sprayer 2
	Hopper 1		Color sprayer 3
	Hopper 2		

6.4 Electrical connection

Please find information on the electrical connection in the wiring diagram 22-00068-01, station control CallMatic BFN. This wiring diagram is supplied with the station control unit.

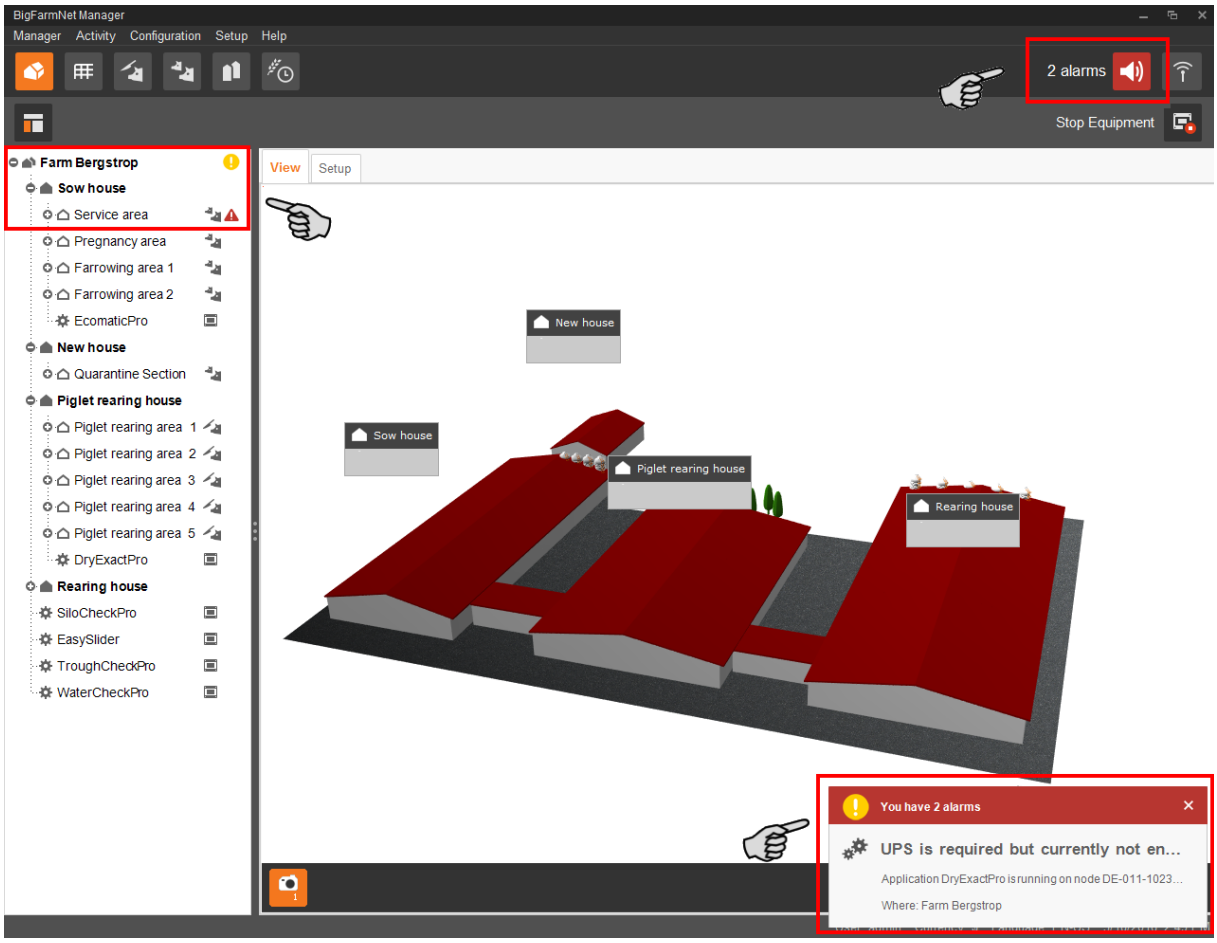
	Installations and work on the electric components/structural groups may only be carried out by qualified personnel according to electro-technical regulations (e.g. EN 60204, DIN VDE 0100/0113/0160).
	Dangerous electric tensions are bare in case of open control equipment. Please be aware of the danger and keep workers of other professions away from the danger zone!

7 Alarms

An alarm is triggered when the set values are not met during operation or when there are malfunctions. Warnings are also counted as alarms. Alarms are first registered by the control computer. The control computer then sends the alarm message to the BigFarmNet Manager.

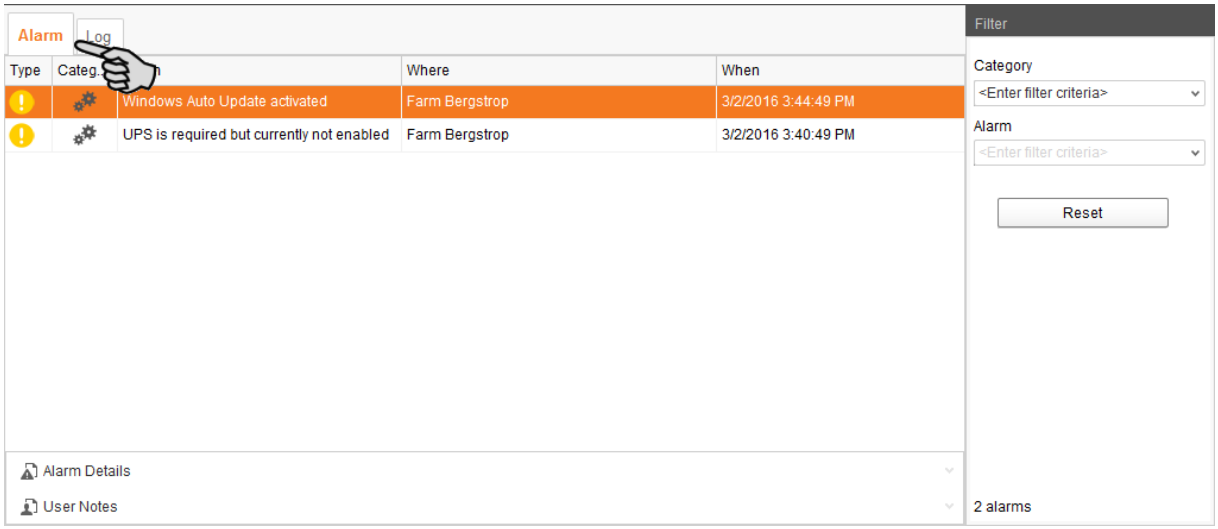
The BigFarmNet Manager indicates alarms as follows:

- Pop-up window: The window appears as soon as an alarm is registered, irrespective of the application the user is currently working in.
- Farm structure: Locations with a current problem are marked with a triangle in case of an alarm and with a circle in case of a warning.
- Tool bar: The number of alarms is shown next to the alarm icon.



Click on the pop-up window or the alarm icon in the tool bar to open the "Alarm" tab in the application window. The "Alarm" tab lists all active alarms and warnings.

If you click on a location with alarm or warning icon in the farm structure, the "Alarm" tab only shows problems active in the respective location.



The different alarms and warnings are shown in a list and ordered depending on when they occurred. The table columns contain the following information:

- Type: Alarm type
- Category: Alarm category
- Alarm: Alarm cause
- Where: Location of the alarm
- When: Time of occurrence

Alarm types

Icon	Status	Description
	Active alarm	Not acknowledged: Cause still exists.
	Inactive alarm	Not acknowledged: Cause no longer exists.
	Deactivated alarm	Acknowledged: Cause still exists.
	Ended alarm	Acknowledged: Cause no longer exists.
	Active warning	Not acknowledged: Cause still exists.
	Ended warning	Acknowledged: Cause no longer exists.
	Info	Information about an incident that has occurred.

Alarm categories

Icon	Category
	Climate: temperature, humidity
	Control, IO connection or test (system-specific)
	BigFarmNet system or CAN bus
	Dry feeding
	Liquid feeding
	SiloCheck system
	WaterCheck system

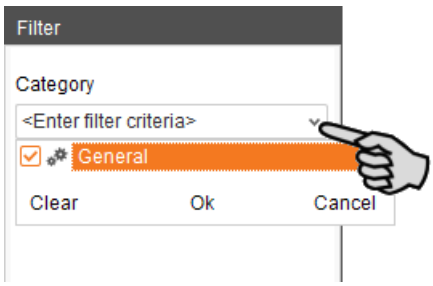
	Always eliminate causes for alarms in the "Climate" category first.

7.1 Filtering alarms

Alarms can be filtered according to category as well as cause.

1. In the right-hand part of the window under "Filter", open the drop-down menu listing categories.

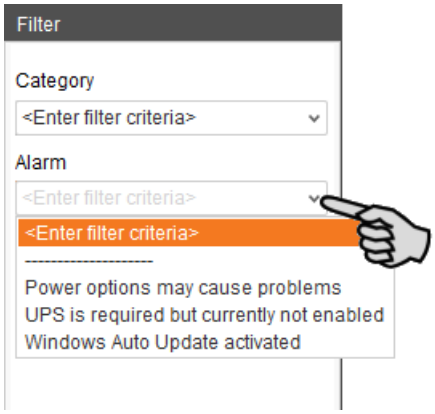
   By default, all categories are selected.



2. Click on "Clear" to delete all check marks.
3. Check the boxes of the correct categories.

4. Click on "OK" to accept this selection.
5. Under "Alarm", select the desired alarm cause from the drop-down menu.

   The table then shows the desired alarms.



6. To deselect the alarms, click on "Reset".

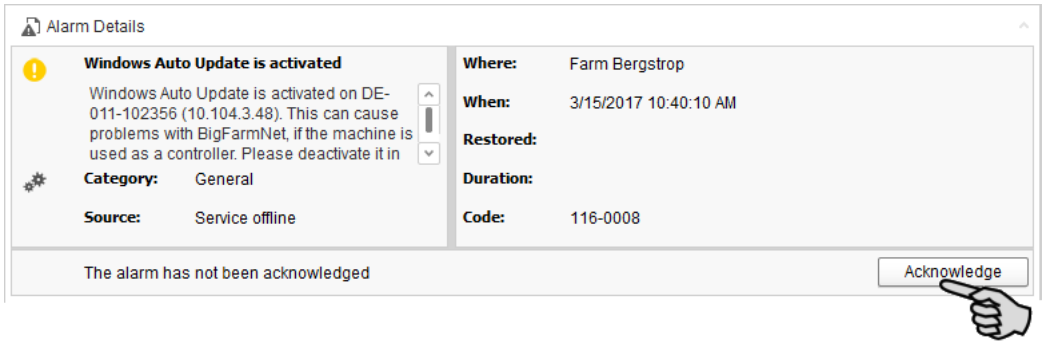
   The table now lists all alarms.

7.2 Acknowledging an alarm

Alarms can be acknowledged their cause has been eliminated. The alarm is marked with the corresponding icon (see alarm types) in the table and the system no longer requires action from the user.

1. Click on the alarm you want to acknowledge to mark it.
2. Click on "Alarm details" in the bottom part of the application window.

3. Click on "Acknowledge".



4. Click on "Acknowledge" again in the next window.

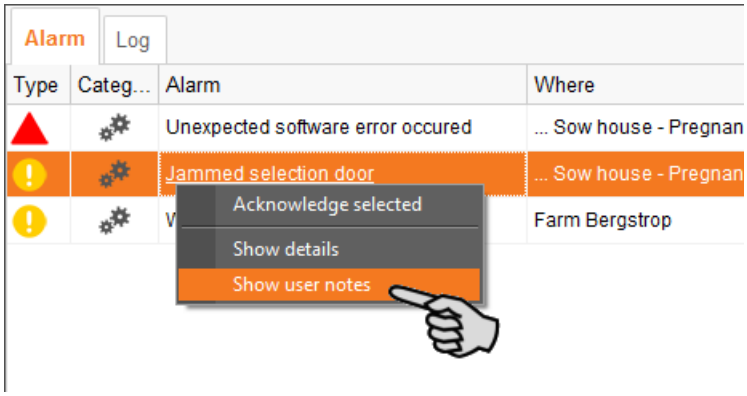
5. If necessary, leave a note on the alarm.

   This note may be helpful to later eliminate similar alarms.

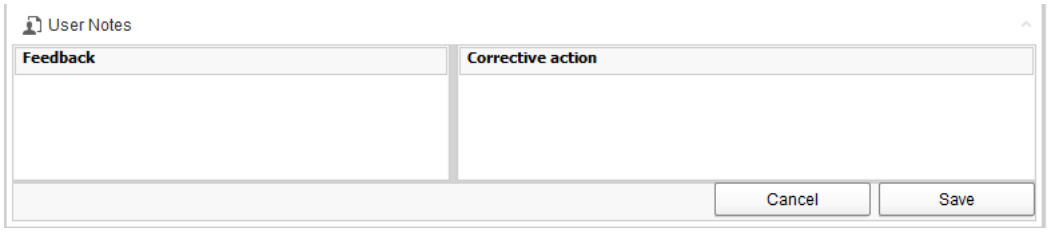
   a) Click on the alarm for which you want to leave a note to mark it.

   b) Right-click to open the context menu and click on "Show user notes".

   The window "User notes" opens in the lower part of the application window.



   c) Enter your note into the field "Feedback" or "Corrective action".

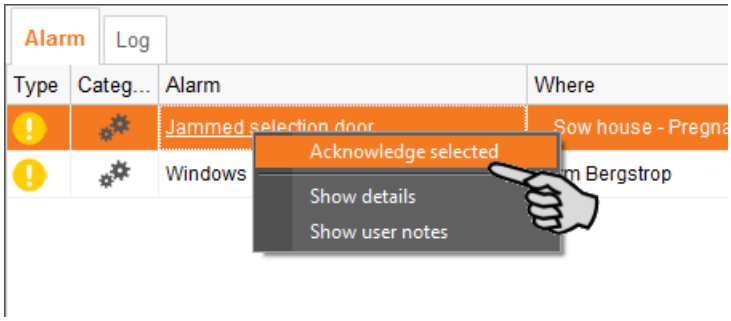


   d) Click on "Save".

Or:

	You can also acknowledge multiple alarms at the same time. Use the following key combination to select the respective alarms: • To select a group of consecutive alarms: Click on the first alarm, press and hold the Shift key and then click on the last alarm you want to select. • To select multiple alarms individually: Press and hold Ctrl and click on each alarm you want to select. • To select all alarms: Press and hold Ctrl and then press A.

1. Select one or more alarms.
2. Right-click to open the context menu and click on "Acknowledge selected".



3. Click on "Acknowledge" in the next window.

7.3 Alarm log

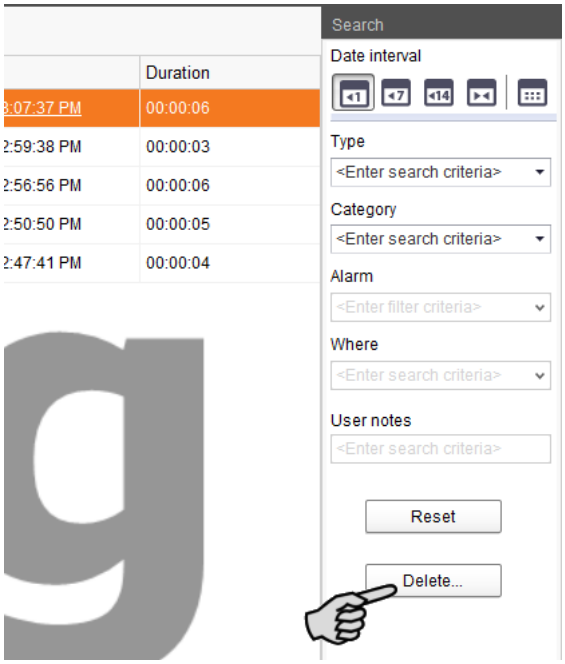
The "Log" tab shows all alarms which have occurred since initial operation of the BigFarmNet Manager on your farm.

Use the search function to view selected alarms in this tab. The following search options are available in the right-hand part of the window under "Search":

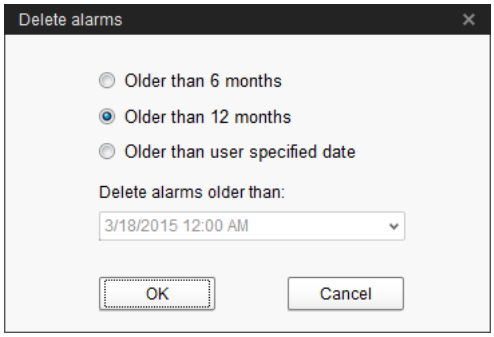
- Date interval: Time periods during which alarms may have occurred
- Type: Alarm type
- Category: Alarm category
- Alarm: Alarm cause
- Where: Location of the alarm
- User notes: provided user notes have been left

Deleting alarms

1. Click on "Delete..." in the right-hand part of the "Log" tab.



2. Click on the desired time period or enter a date.



	Only alarms older than six months can be deleted.

3. Click on "OK".

   All alarms of the selected time period are deleted, irrespective of whether specific alarms are currently selected via the search function.

7.4 Alarm Notification

Alarm Notification is a service that sends alarms via email. Alarm notification via SMS is currently not supported.

To use the Alarm Notification service via email, configure the service in BigFarmNet Manager. The following technical conditions must be met for email notifications:

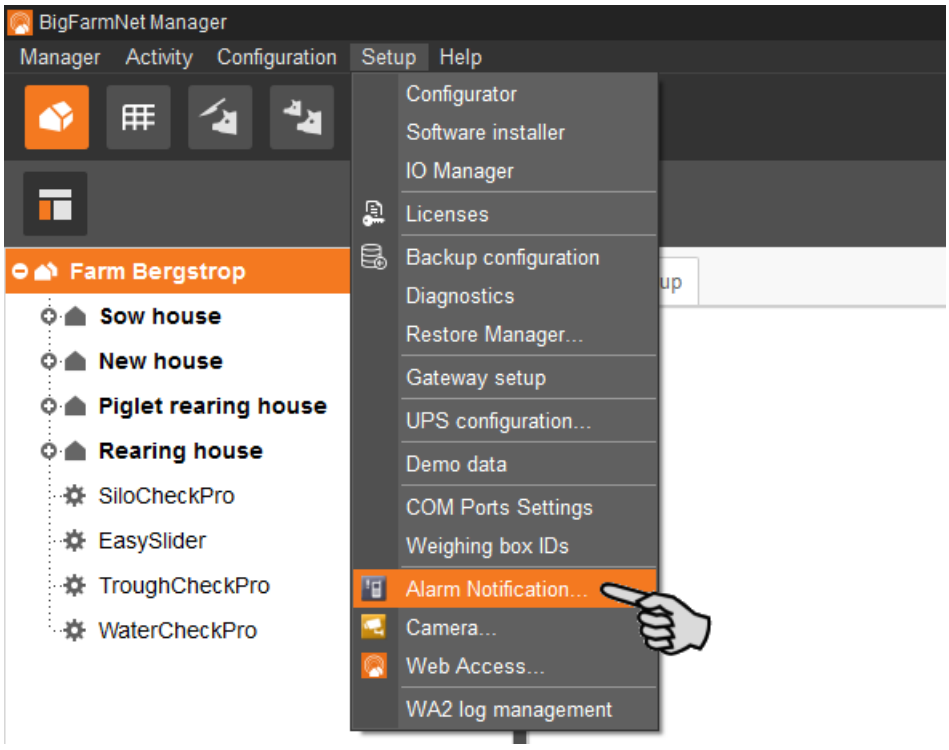
- Internet connection
- running BigFarmNet Manager

	The Alarm Notification service cannot replace an autocaller! The service is merely an additional help.

Carry out the following steps to set up the Alarm Notification service:

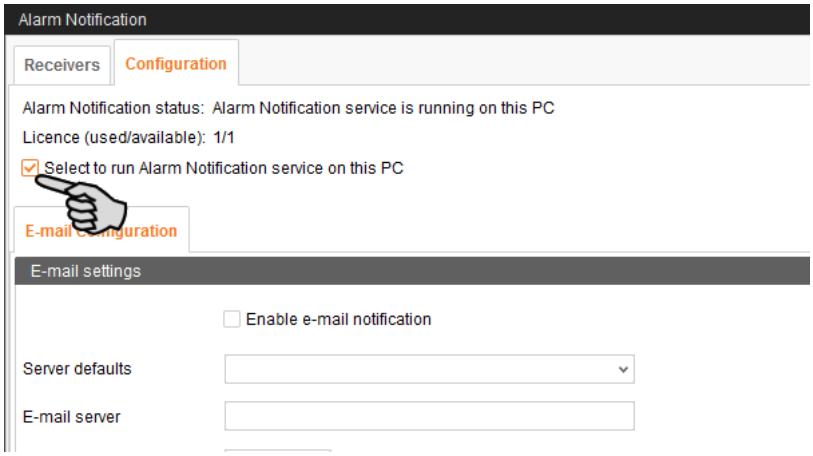
1. Click on "Alarm Notification" in the "Setup" menu.

   This opens the dialog window "Alarm Notification".

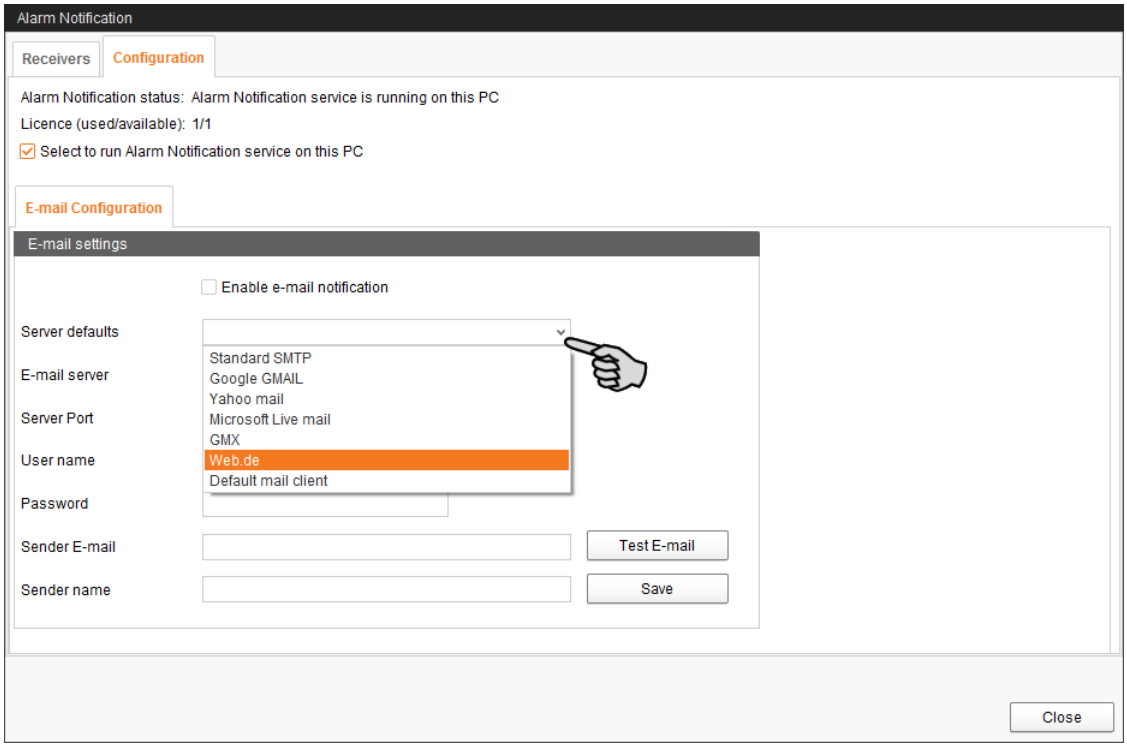


2. Click on the "Configuration" tab in the dialog window.

3. Check the box "Select to run Alarm Notification service on this PC".

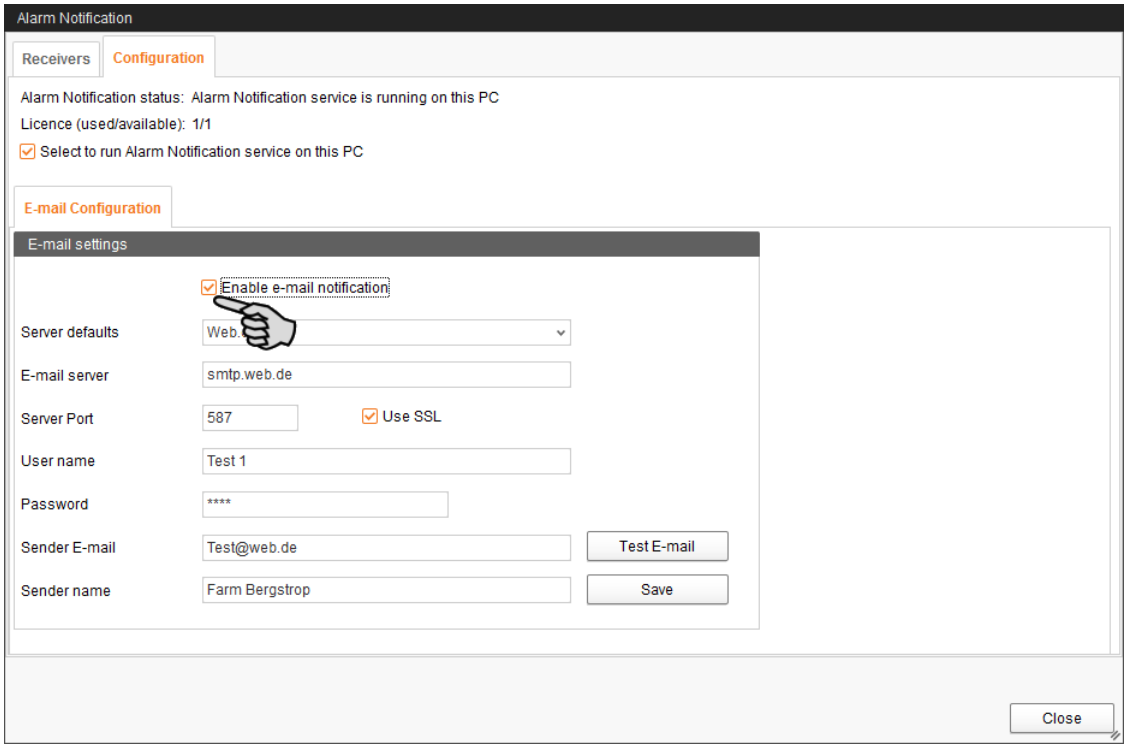


4. Click on the arrow pointing downwards next to "Server defaults" and select your server default from the drop-down menu.

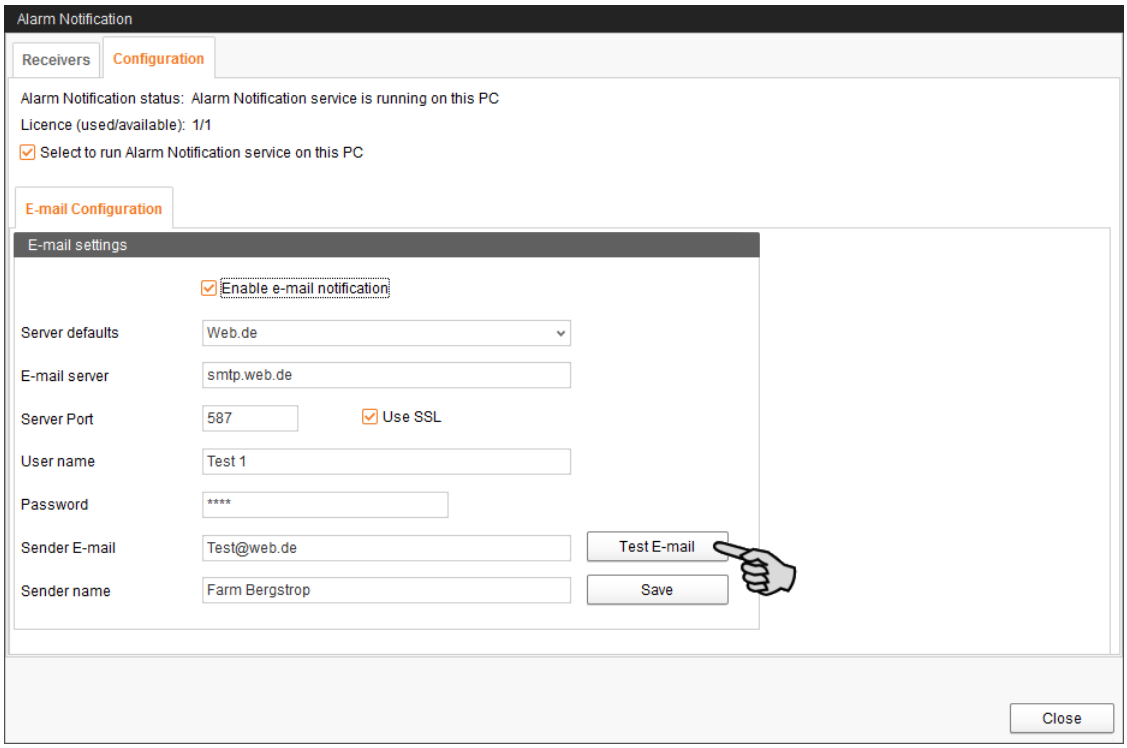


As soon as you have selected a server default, the email server, the server port and the SSL are filled in automatically.

5. Enter the user name, the password and the sender email.
6. Check the box "Enable e-mail notification" to activate this function.



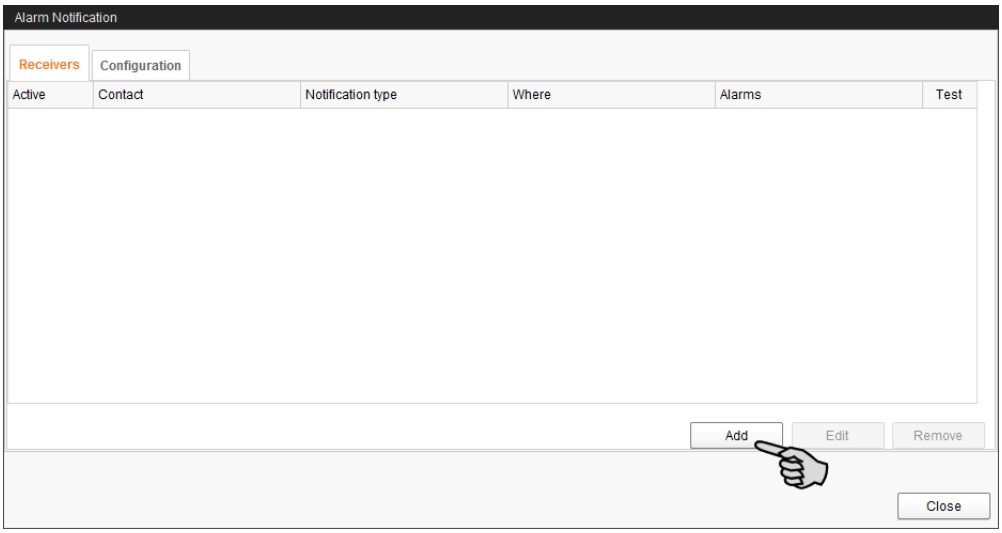
7. Click on "Test E-mail" to check the configuration.



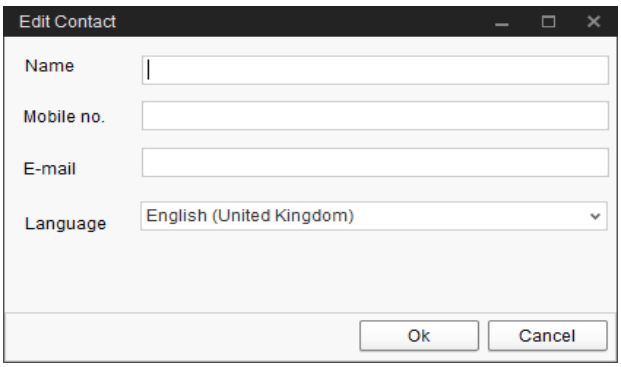
8. Click on "Save" to accept all settings.

9. Click on the "Receivers" tab.

10. Click on "Add" to add a recipient.

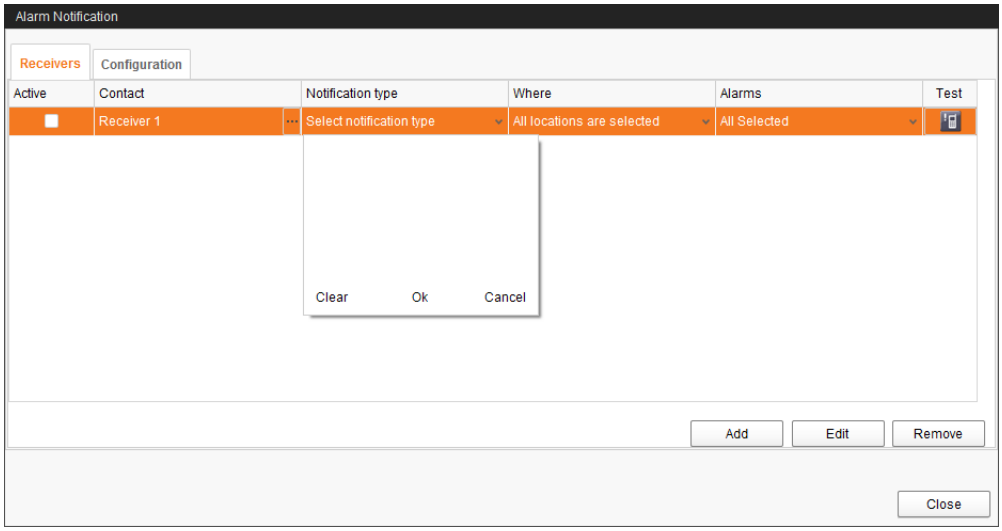


11. Enter the contact details in the next dialog window and select the correct language. Alarm notifications via SMS are currently not supported.



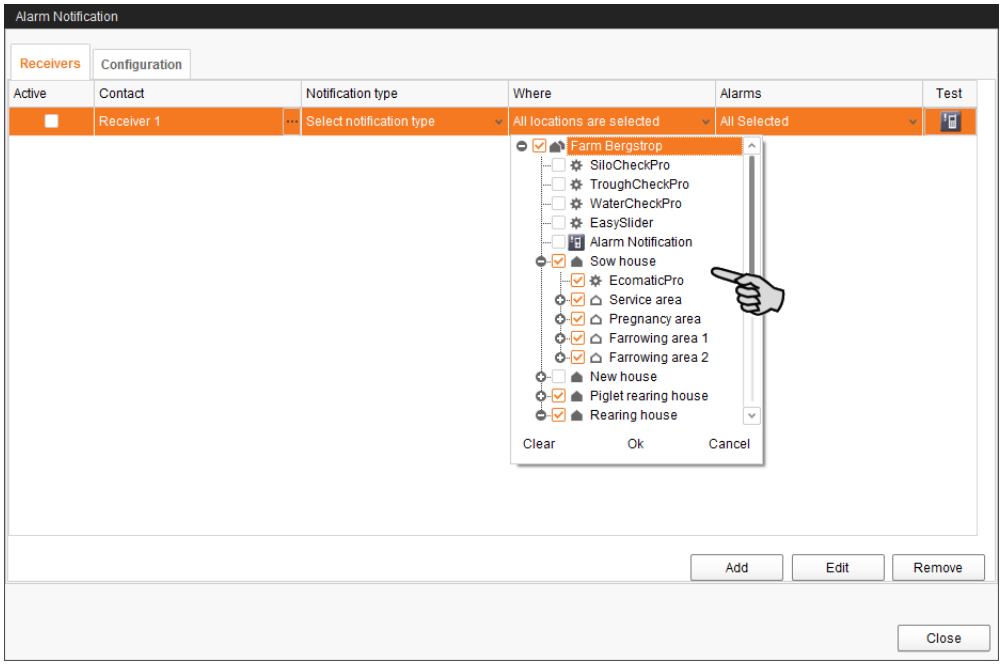
12. Confirm your input by clicking on "OK".

13. Click into the input field below "Notification type" and select "E-mail" from the drop-down menu.



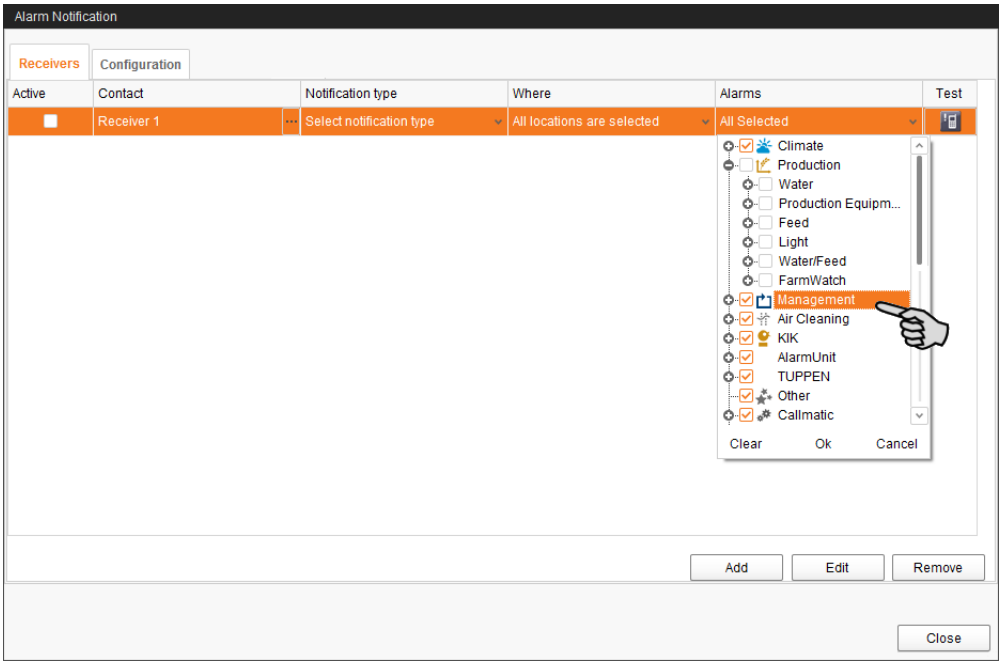
14. Confirm your selection by clicking on OK at the bottom of the drop-down list.
15. Click into the input field below "Where" and select the location for which you want to receive alarms.

    You may select multiple locations.

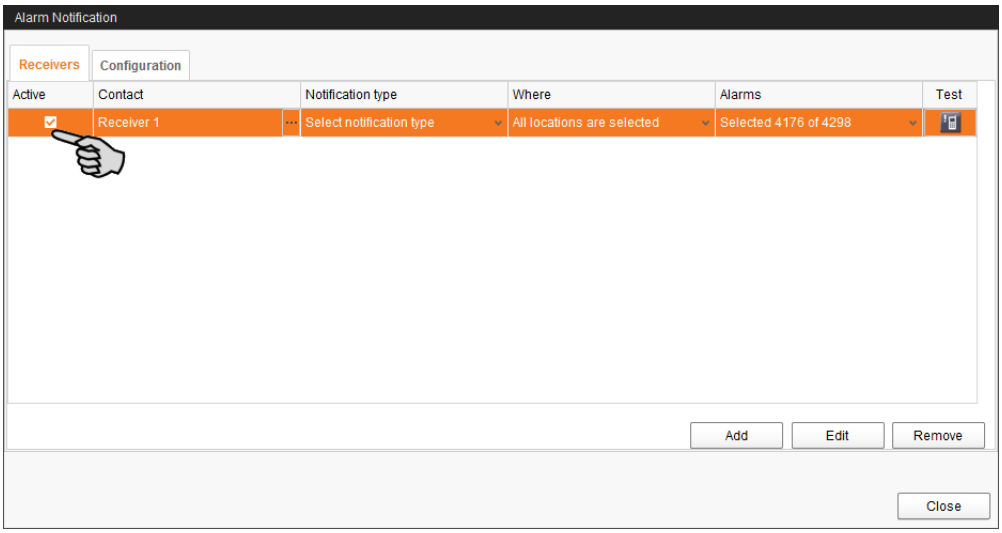


16. Confirm your selection by clicking on OK at the bottom of the drop-down list.
17. Click into the input field below "Alarms" and select which type of alarms the recipient should receive.

    You may select multiple locations.



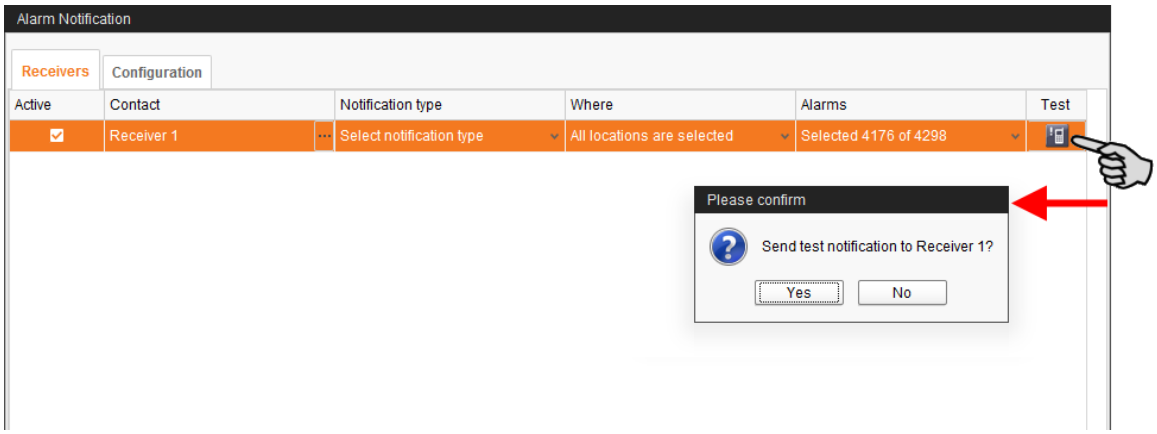
18. Confirm your selection by clicking on OK at the bottom of the drop-down list.
19. Activate the recipient for alarm notifications by checking the box below "Active"



20. Check the configuration of the recipient's data by sending the recipient a test notification:

    a) Click on the alarm notification icon.

    b) Confirm the dialog for test notification by clicking on "Yes".



21. Click on "Close" after you have configured all settings.

    This closes the dialog window.

7.5 System-specific alarms

The following table describes possible alarms and warnings for CallMatic / Call-Inn. Parameters shown in italics are place holders for the corresponding information from your system.

Category	Alarm	Description	Possible cause
	Missing component	A required component could not be found. (Are the silos empty?)	According to the feed curve, the animal should receive a main component that the station cannot dispense.
	Unknown transponder	It was not possible to find a pig with the *transponder no.*.	The station does not know this animal.
	No transponder	Reading a transponder failed.	The animal does not have a transponder or the reader is defective.
	Selection area is full	Selection of pig with *number* and *transponder no.* canceled. Reason: Full selection area.	Based on the data, the selection area is full. It is possible that pigs selected on the previous day were not moved out.
	Empty feed hopper	The feed hopper is empty.	Empty sensor
	Dosing variation	Dosing variation is higher than the allowed maximum.	HydroMixCallmatic: comparison target/actual dosing based on multiple dosing processes
	No air pressure	The air pressure is too low. Please check the compressor.	Message of the air pressure sensor

	Visit time of sows has changed	On *date of feeding* some sows visited the *station: CallMatic, Call-Inn* in *pen* more than *number of* minutes later than on the previous day.	
	Visit order of sows has changed	On *date of feeding* some sows visited the *station: CallMatic, Call-Inn* in *pen* more than *number of* positions later than on the previous day.	
	Data for visit check of sows may be incomplete	It was not possible to collect all data for sow visit check of application *name: CallMatic, Call-Inn*.	
	Jammed selection door	The sorter door was triggered *number of* times while selection was inactive.	Jammed door; defective sensor
	Default feed curve not defined	The default feed curve is not defined.	No configuration
	No connection to the HydroMixCallmatic	No connection to the HydroMixCallmatic	1. HydroMixCallmatic is not running. 2. Incorrect network configuration, IP addresses or deviating group nodes
	Full trough reliability	The full sensor is triggered very often. Please check the functionality.	Liquid: sensor has been triggered non-stop for the past ten dosing processes.

	Empty trough reliability	The trough full-sensor didn't detect. Please check the functionality.	Liquid: sensor has not been triggered at all for the past ten dosing processes.
	Stop mode when pause ends	The pause time elapsed but the station is still in stop mode.	Stop mode activated by a user.
	Selection door reliability	The selection door sensor didn't detect. Please check the functionality.	
	Too small daily ration	The daily ration of the animal *sow no. / transponder no.* of *daily ration* cannot be dosed. It must be greater than *minimum dosing amount*.	

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