

BigFarmNet  
manager

## **FarmFeedingpro**

Code No. 99-97-4277 GB

Edition: 06/19 v. 3.3



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

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## 1 System description

FarmFeeding*pro* is a system that fills silos. The source silos of FarmFeeding*pro* can fill own target silos or external, referenced target silos. Referenced target silos are silos that are used as source silos by application-specific (feeding) systems. This means that FarmFeeding*pro* can be used with the following Big Dutchman applications:

- EcoMatic*pro*
- DryExact*pro*
- HydroMix*pro*
- SiloCheck*pro*

FarmFeeding*pro* can also be used with external (feeding) systems.



FarmFeeding*pro* allows monitoring and tracing all feed movements. The system additionally offers the following functions:

- Feed can be blended (similar to EcoMatic).
- Feed can also be blended every day using a feed curve so that day silos receive the correct and age-specific feed, similar to multi-phase feeding.
- FarmFeeding*pro* controls the transport of components and recipes.
- Animal data does not need to be maintained.

When blending feed components, component supply is frequency-controlled.

The 510*pro* control computer is used for control with the FarmFeeding*pro* application.

## NOTICE!

The screenshots shown in this manual are used for visualization only and contain demo data that may not always reflect reality. **Only use data that corresponds to the real conditions on site!**

### 1.1 Software version

Software version 3.3

### 1.2 Licenses

The following software licenses are **required**:

Code no.	BigFarmNet Manager license	Use
91-02-6610	License 510 – BigFarmNet FarmFeeding	FarmFeedingpro
91-02-6500	BigFarmNet Manager – Basic installation software	1 per BigFarmNet network

### 1.3 System limits

100	Source silos
100	Own target silos
100	Referenced target silos
100	Feed hoppers
12	Circuits

## 2 Installation and configuration of the control computer

### **i** NOTICE!

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

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 PC, 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



Figure 2-1: Control computer 510pro

### **i** NOTICE!

Only service technicians may install and configure the control computer.

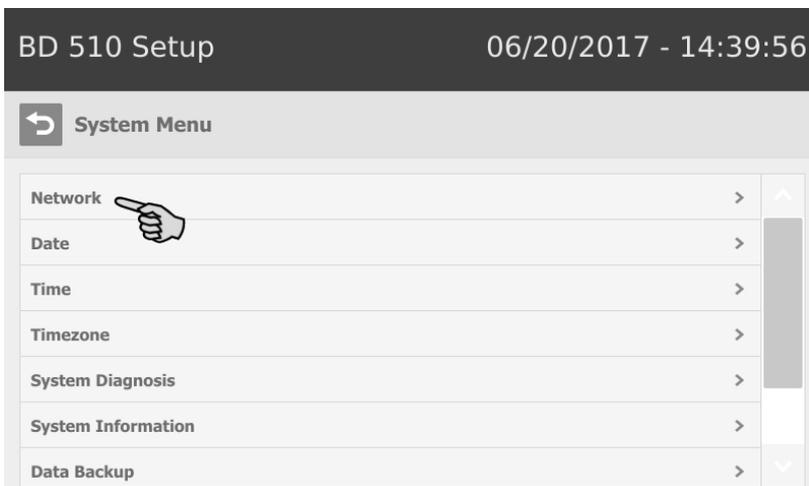
### 2.1 Control computer: assigning a static IP address

1. Start the control computer.

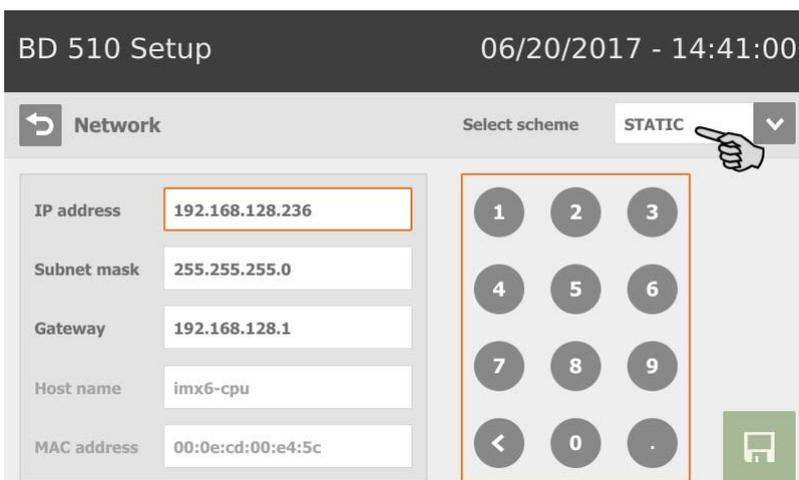
2. Tap on the configuration button on the start screen.



3. Tap on **Network**.



4. Make sure that you have selected "STATIC" for a static IP address under **Select scheme**.



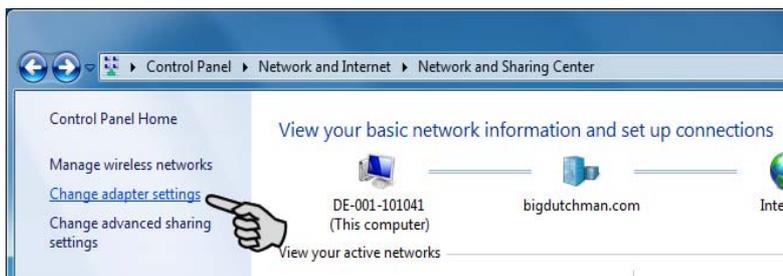
5. Enter the IP address, the subnet mask and the gateway.
6. Save your inputs by tapping on .

## 2.2 Manager PC: assigning a static IP address

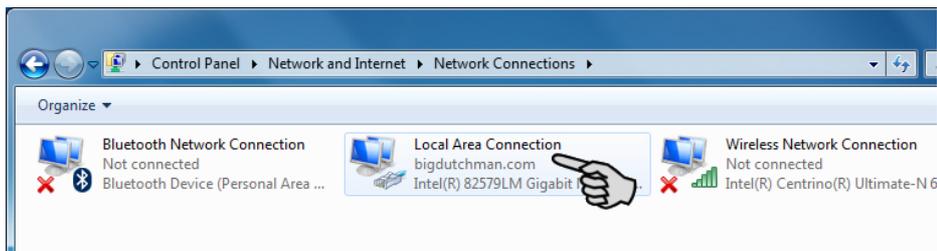
### 2.2.1 Windows 7

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

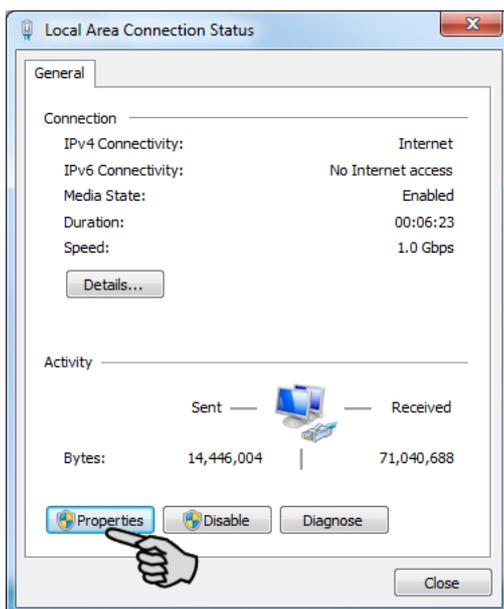
1. Click on **Control Panel** in the start menu .
2. Click on **Network and Sharing Center**.
3. Click on **Change adapter settings**.



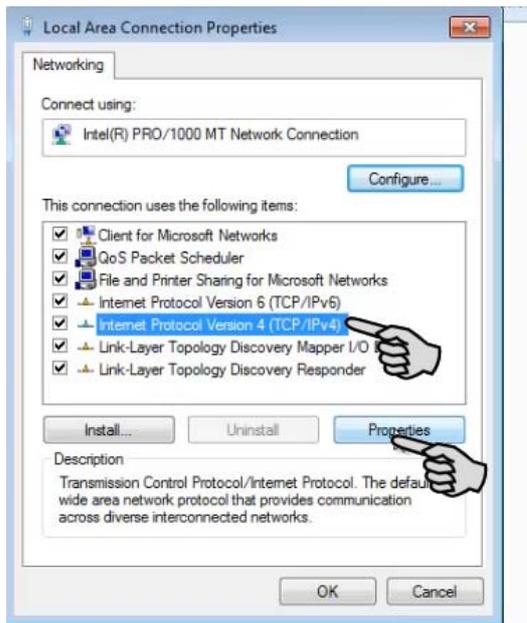
4. Double-click on **Local Area Connection**.



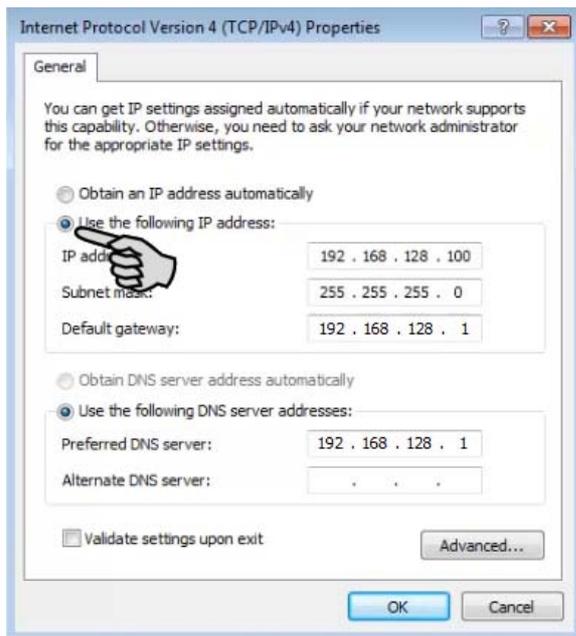
5. Click on **Properties**.



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



7. Enter a static IP address.

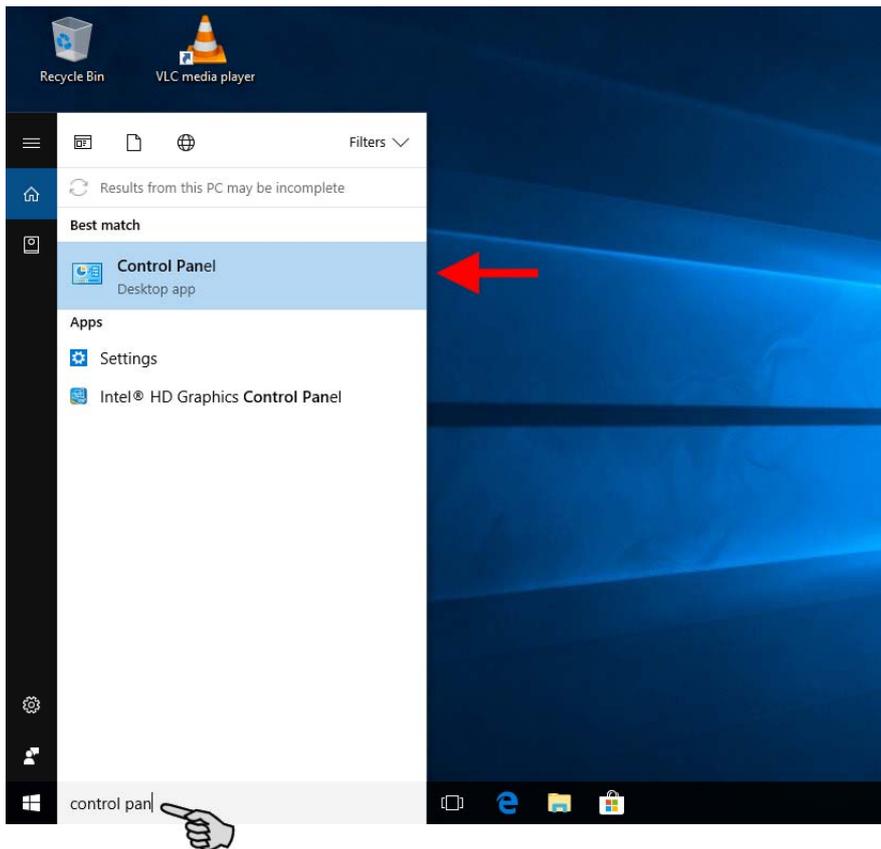


8. Confirm these inputs by clicking on **OK**.

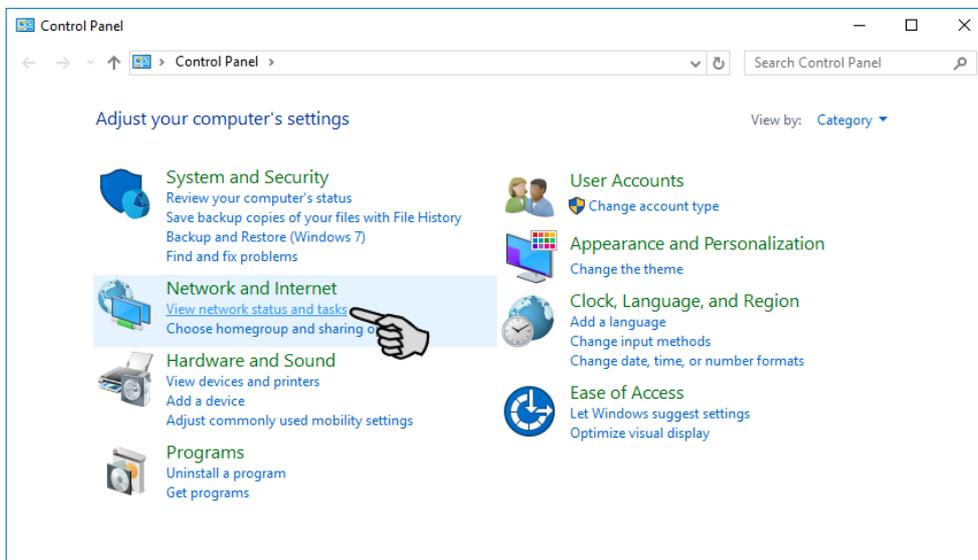
## 2.2.2 Windows 10

Assign a static IP address to the PC on which BigFarmNet Manager is installed or will be installed. The following steps correspond to the Windows 10 operating system.

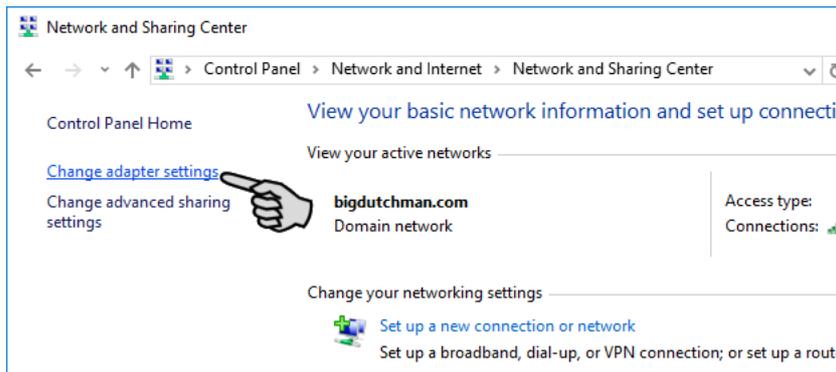
1. Open the **Control Panel** using the search field in the task bar.



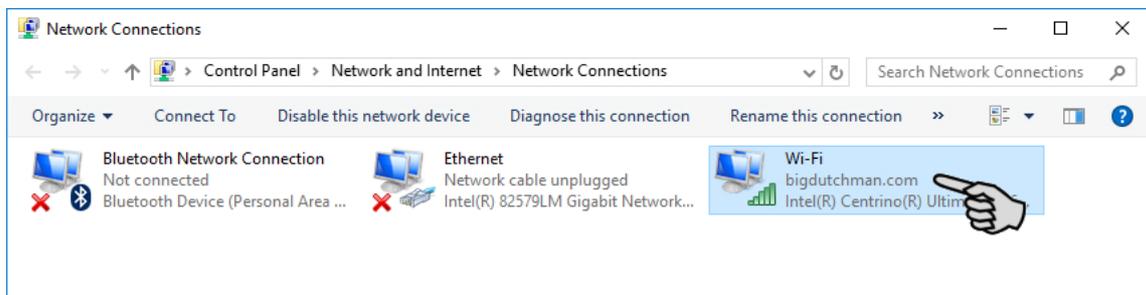
2. Click on **View network status and tasks** under **Network and Internet**.



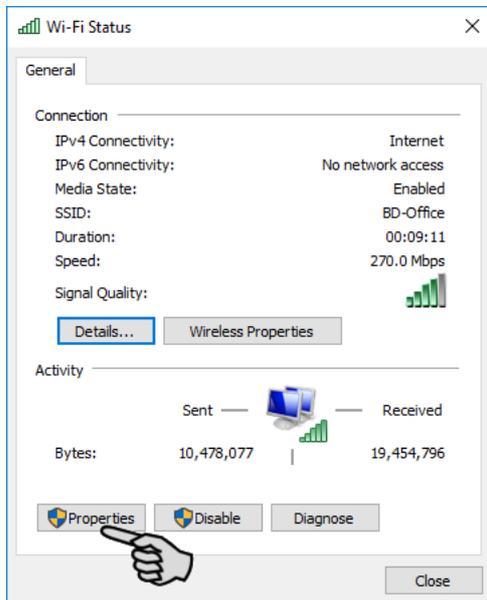
3. Click on **Change adapter settings**.



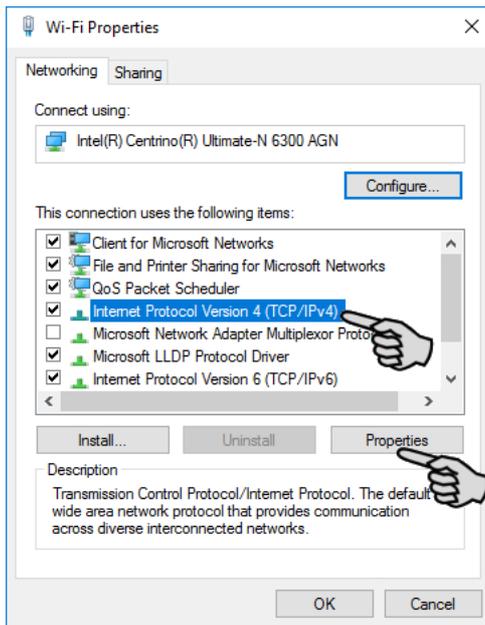
4. Double-click on **Wi-Fi**.



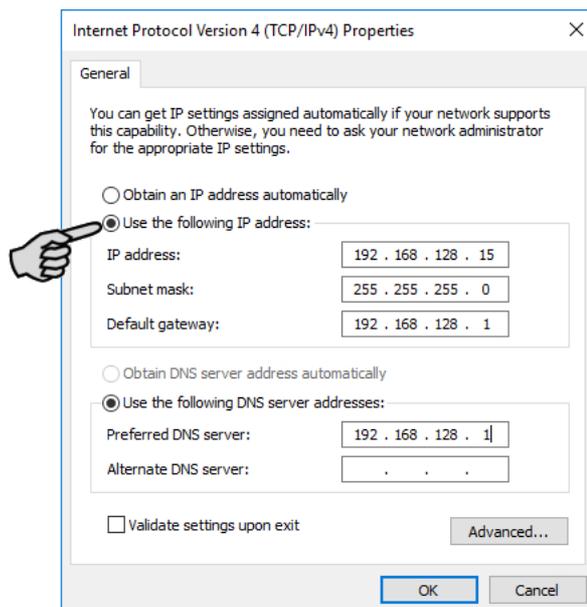
5. Click on **Properties**.



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



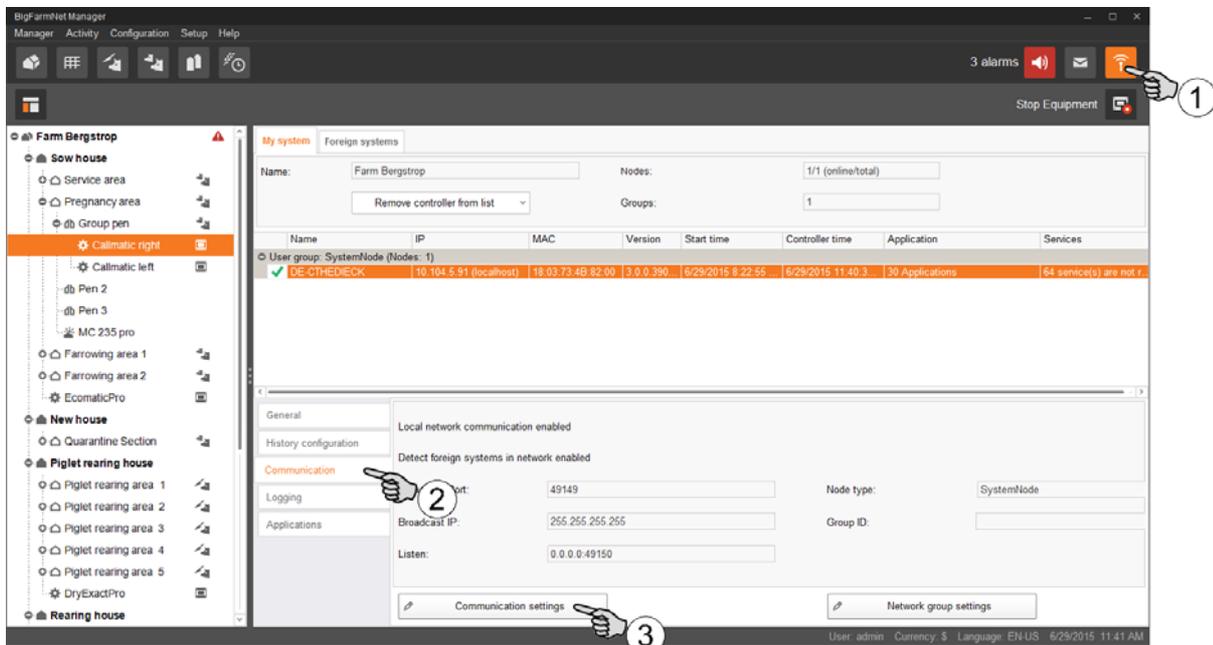
7. Enter a static IP address.



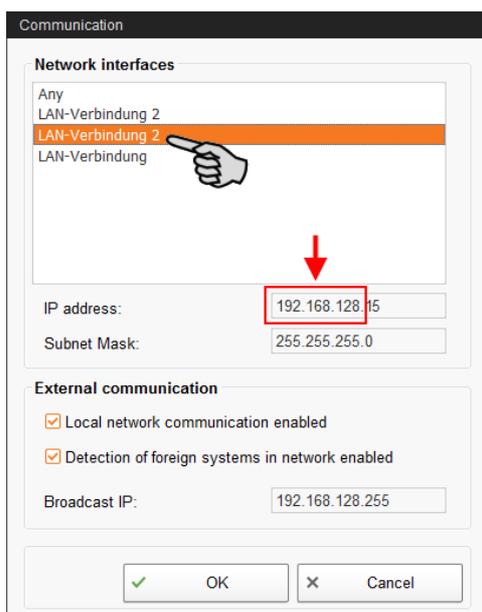
8. Confirm these inputs by clicking on **OK**.

## 2.3 Assigning a network card

The network card is read during the first start of BigFarmNet Manager. Its assignment can be changed later on as follows:



1. Click on the network icon.
2. Click on "Communication".
3. Click on "Communication settings".
4. Select the correct network interface. The first three octets of the IP address must match those you have entered for the Manager PC beforehand, see chapter 2.2.



5. Click on "OK" to accept these settings.

## 2.4 Checking the connection to the control computer

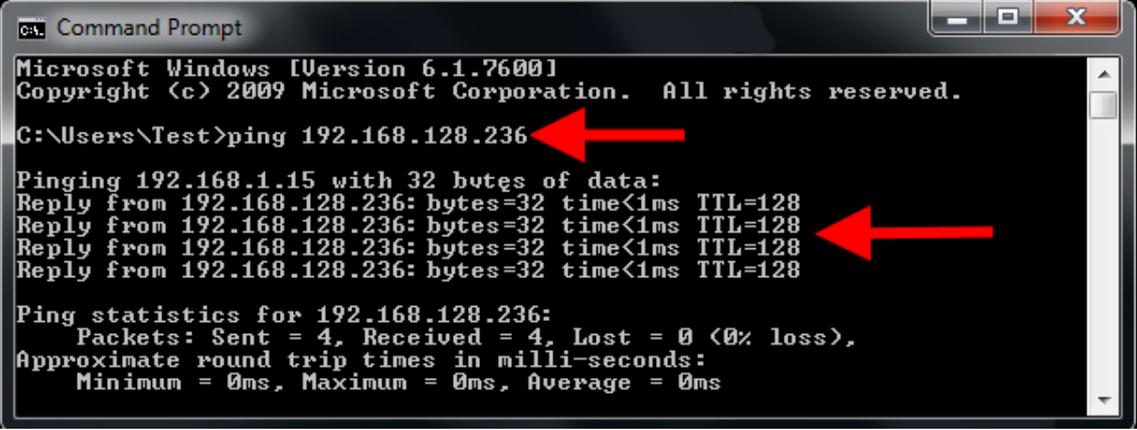
Use the "ping" command to check whether the control computer is available in the network.

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

Example in the screenshot: ping 192.168.128.236

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

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



```
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Test>ping 192.168.128.236

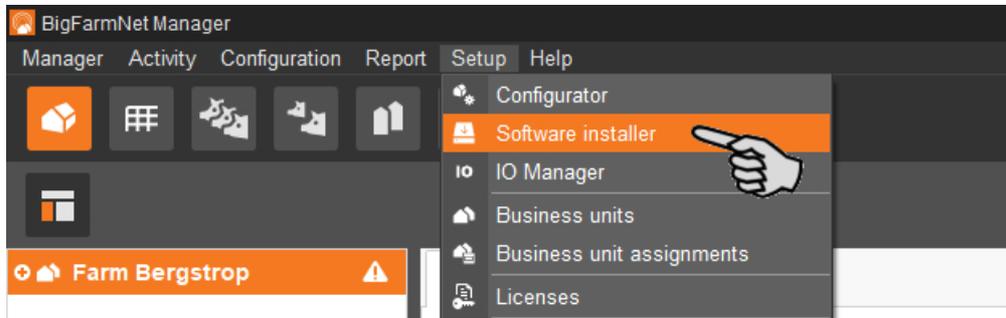
Pinging 192.168.1.15 with 32 bytes of data:
Reply from 192.168.128.236: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.128.236:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

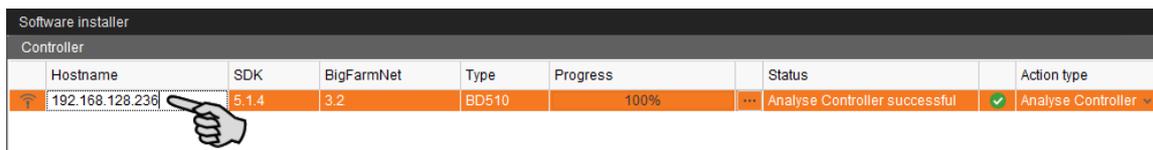
## 2.5 Installing the software on the control computer

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.

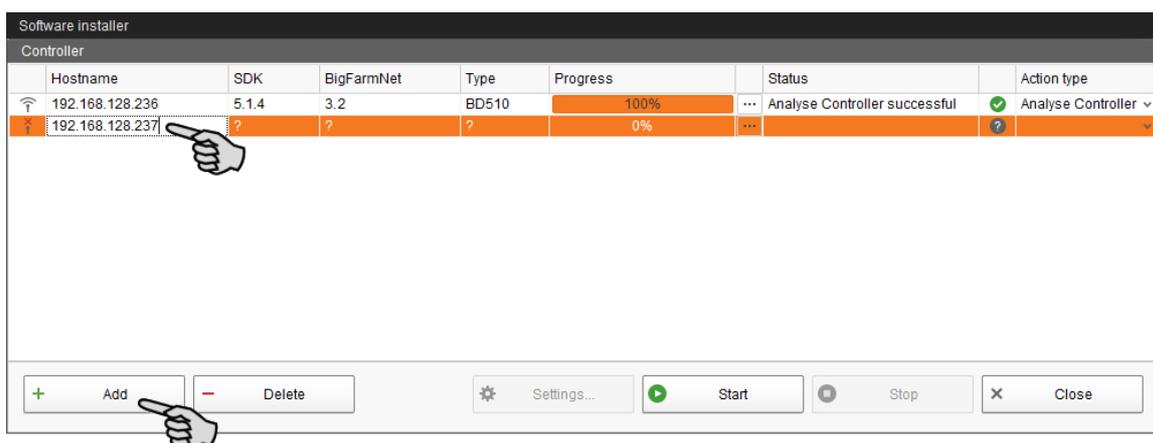


2. Enter the IP address of the control computer on which you want to install the software.

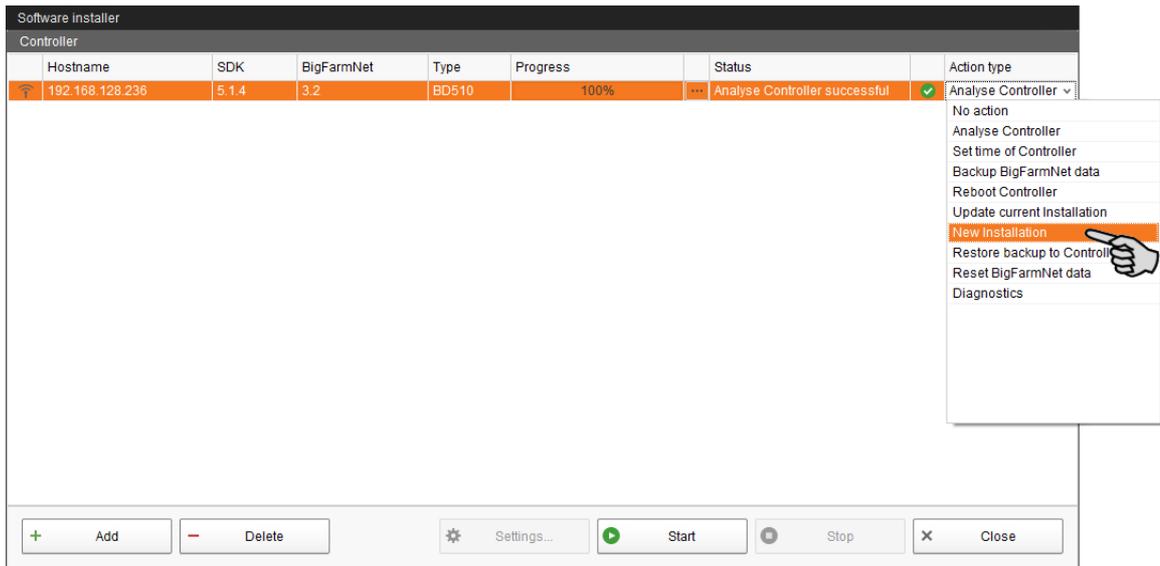


3. If necessary, add the desired number of control computers by clicking on "Add".

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.



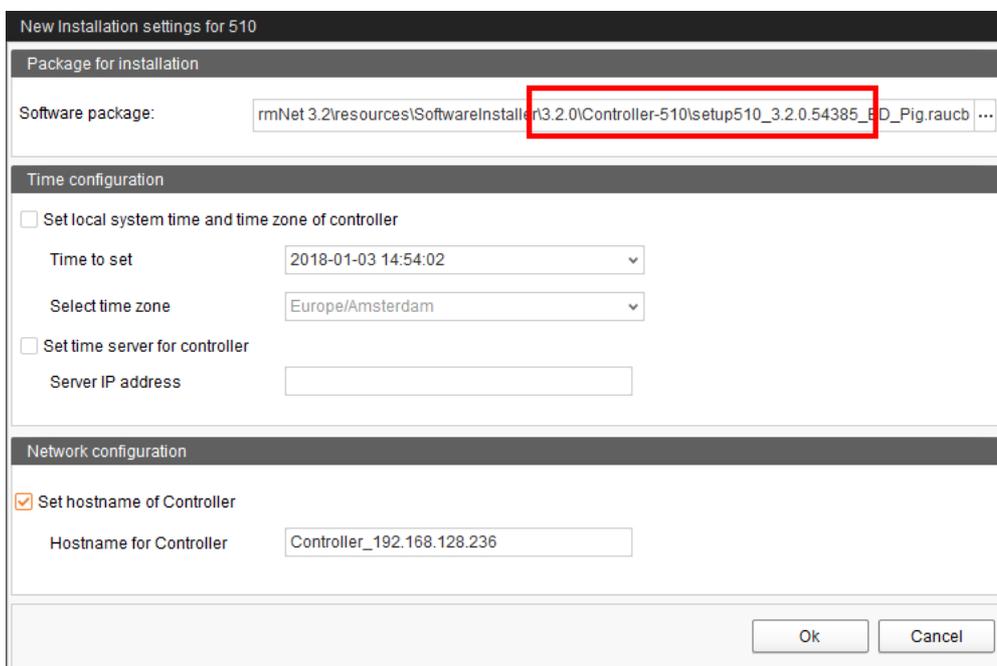
4. Click on a control computer to select it.
5. Click into the respective input field under "Action type" and select "New Installation".



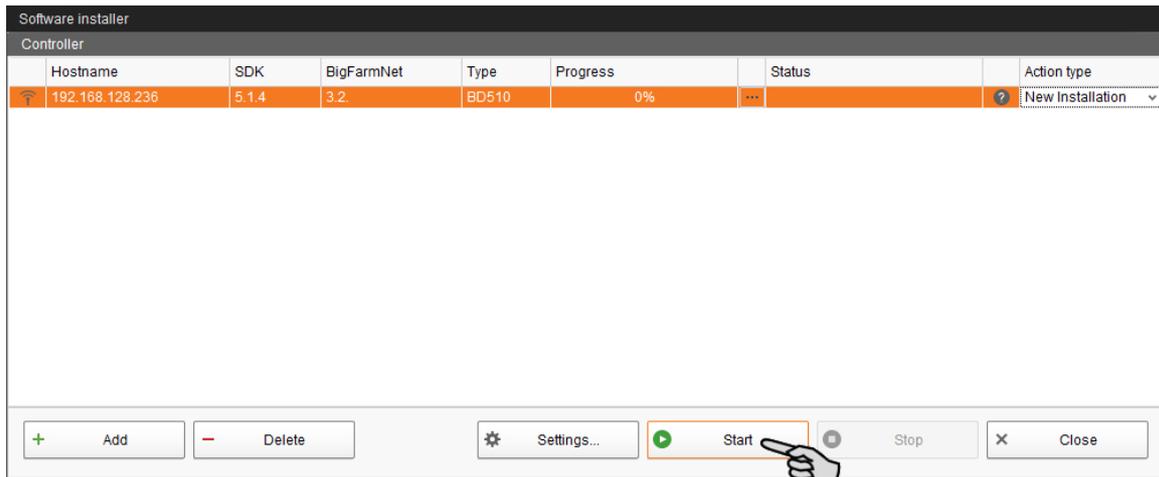
6. Click on "Settings" in the lower command bar of the dialog window.
7. Under "Software package", check whether the setup for the 510*pro* control computer is stored under the indicated path.

### NOTICE!

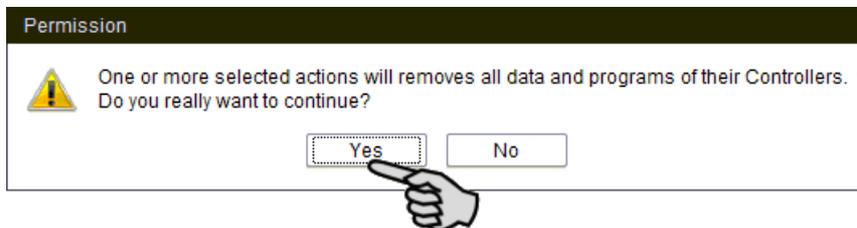
When updating, check whether the update's version number in the software package corresponds to the version you want to install.



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

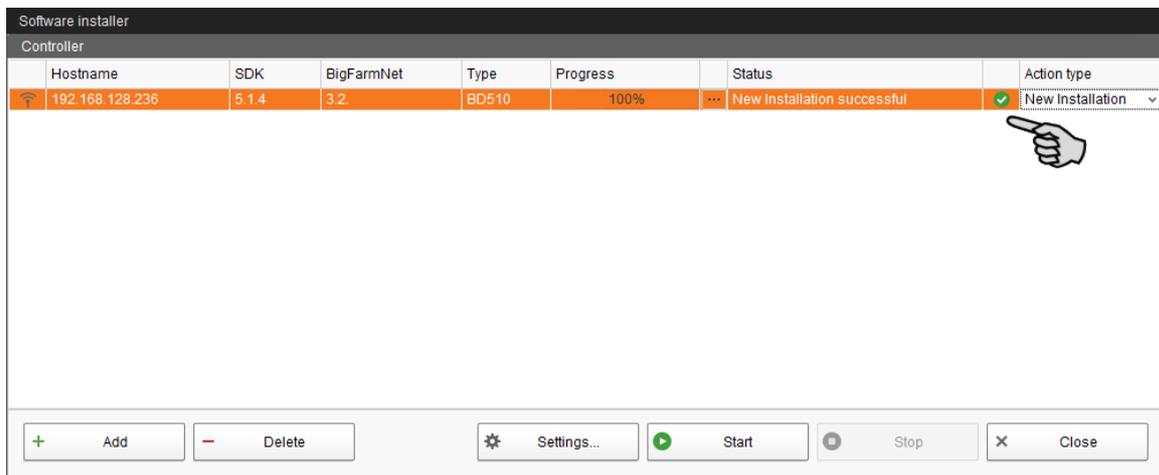


10. Confirm the prompt for confirmation.



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 the control computer and the application

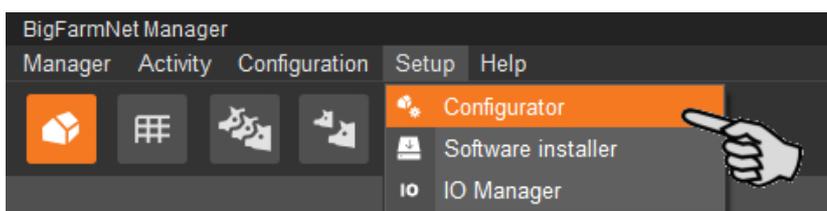
#### NOTICE!

We recommend that a farm structure with (at least) houses already exists when installing FarmFeedingpro, since all source and target silos are assigned to houses. To make the differentiation between silos and their locations in the Silo Manager easier, the quantity of silos and houses should be well thought-out, and silos and houses should be given unique names. The number and names of houses depend on the used systems (applications).

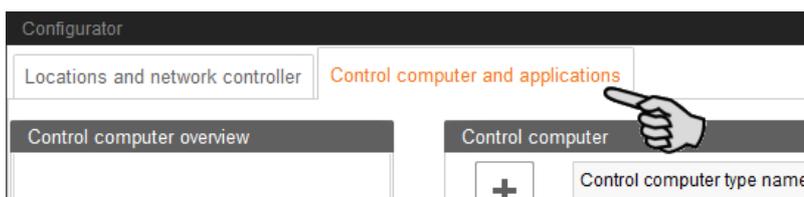
To create a farm structure, please follow the instructions in the "BigFarmNet Manager – Installation/Configuration" manual.

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

This opens the "Configurator" window.

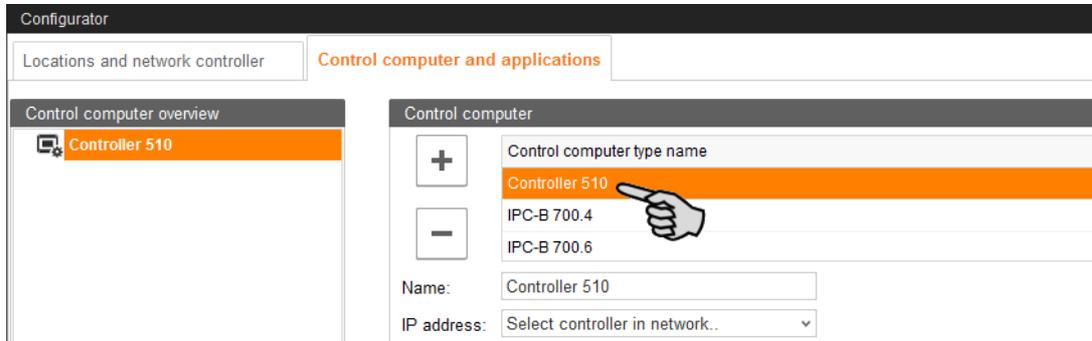


2. Click on the "Control computer and applications" tab.

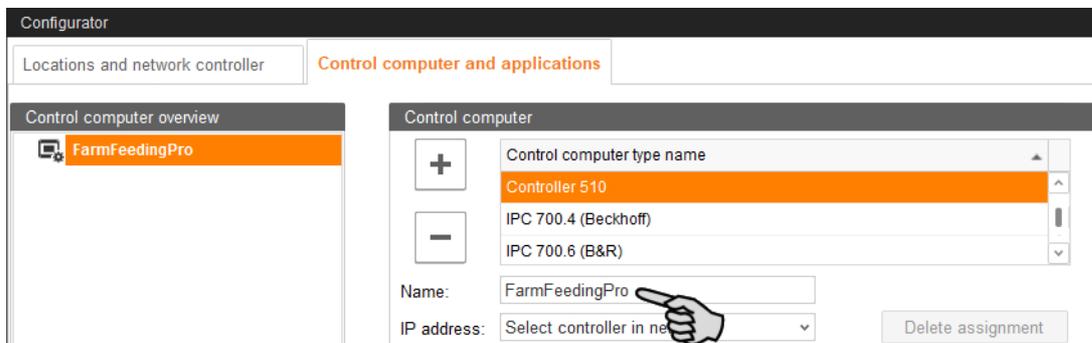


3. Select the correct control computer in the upper part of the window under "Control computer" and click on the plus button.

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



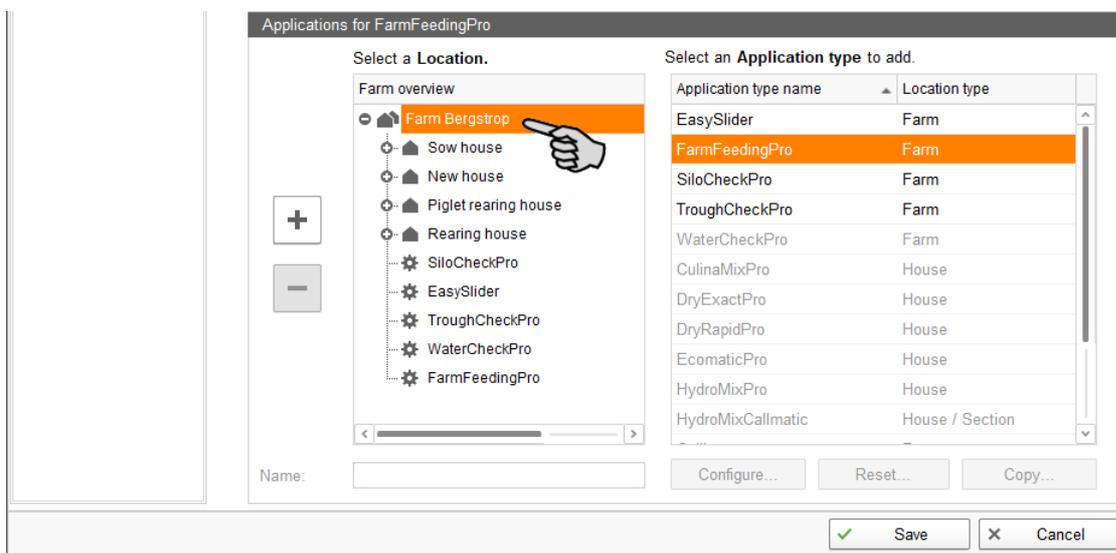
4. Enter a name for the control computer.



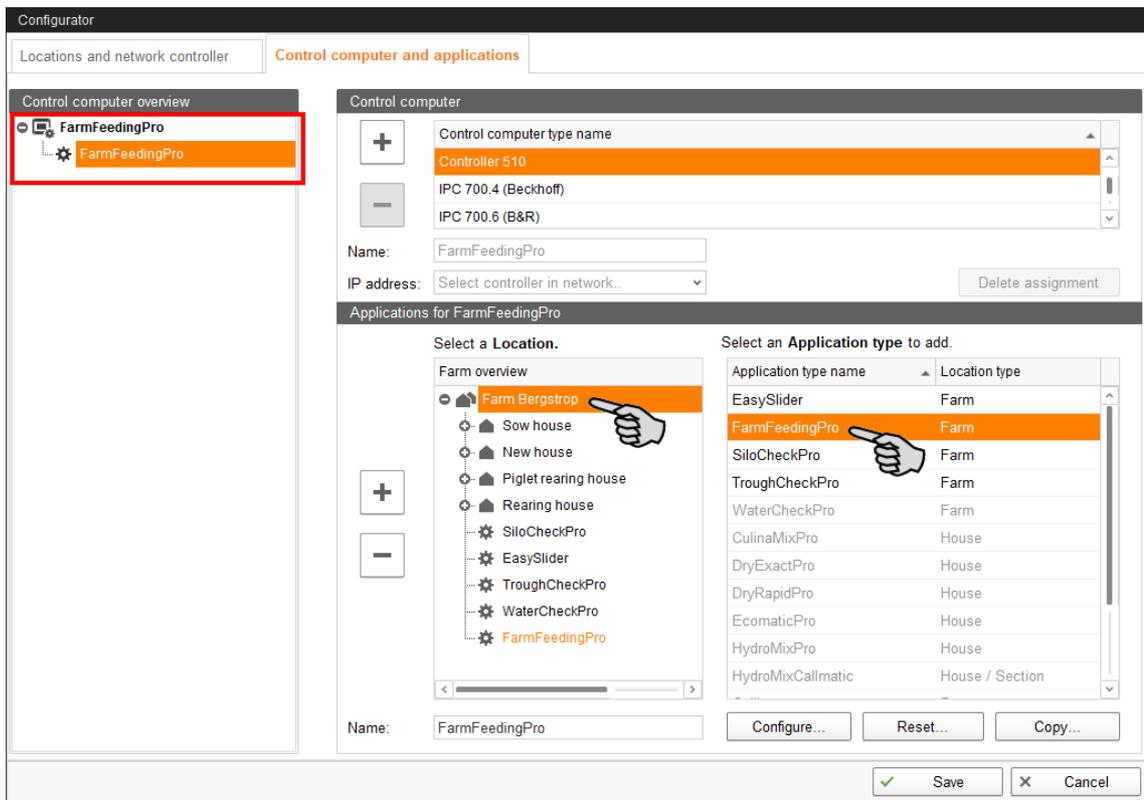
5. From the lower part of the window, select the location where the system is to be operated.

The applications available for selection depend on the selected location.

The FarmFeedingpro application is added at the "Farm" level.

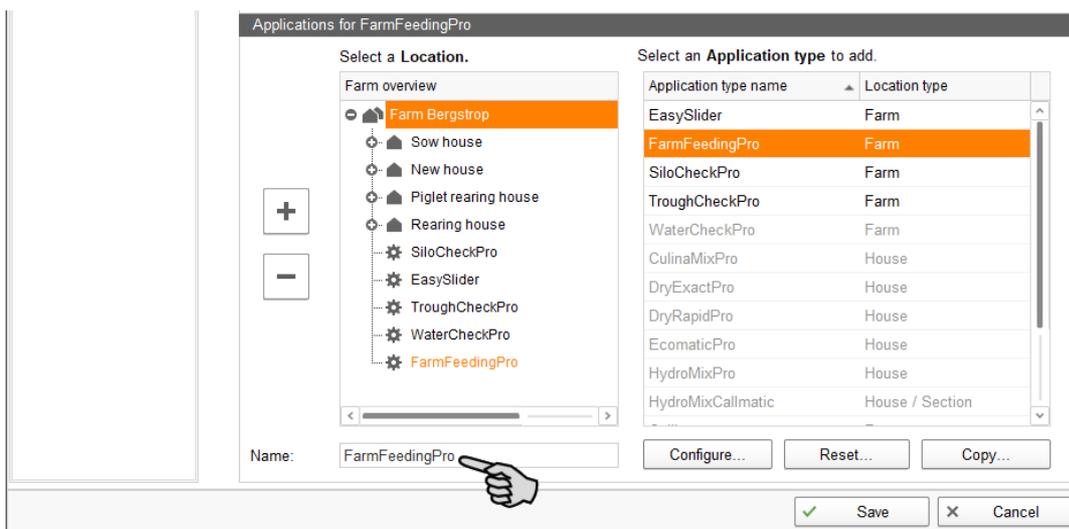


6. Select the correct application in the table on the right and click on the plus button to the left.



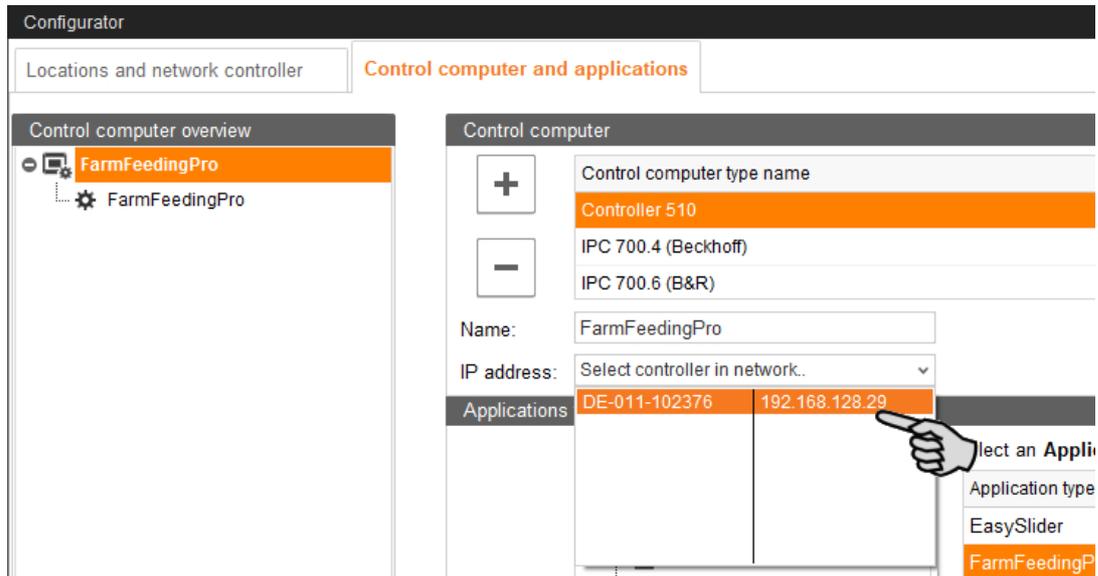
The selected application is assigned to the control computer on the left under "Control computer overview". In the structure, the control computer is displayed on the upper level and the respective application on the lower level.

7. Enter a name for the application.



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

9. 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.



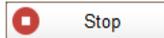
10. Save your settings by clicking on "Save" and confirm the next dialogs with "OK".

## 3.2 Configuring settings in the Composer

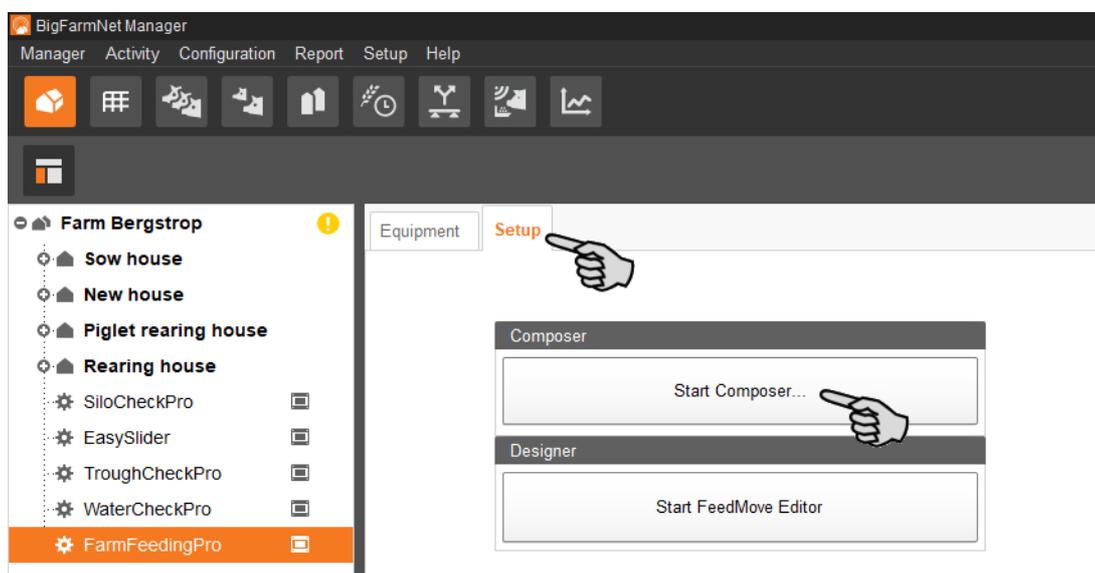
Define the functional range and configure settings according to the system's structure in the Composer. These settings are usually configured once.

1. Click on the respective system application in the farm structure.

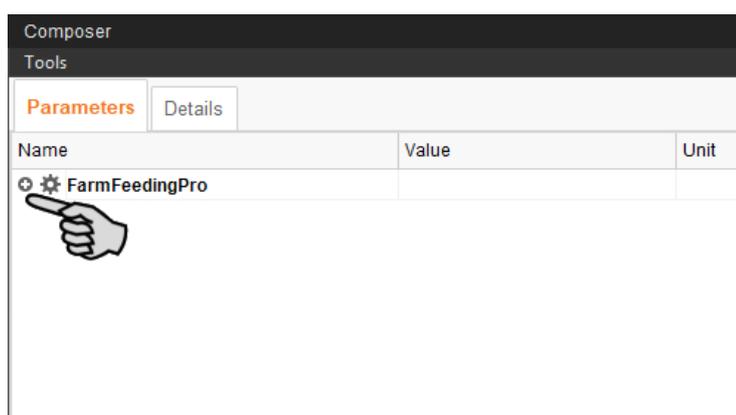
### NOTICE!

Check whether the application is running. Stop the application by clicking on  in the upper bar.

2. Under "Setup", click on "Start Composer...".

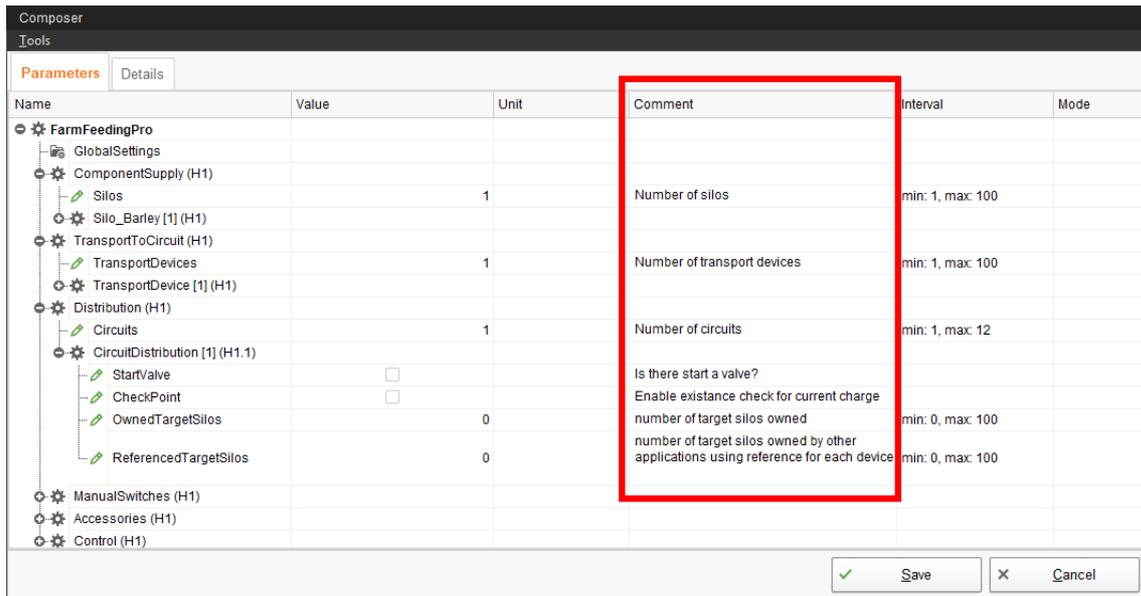


3. Click on the plus icon to show hidden parameters.

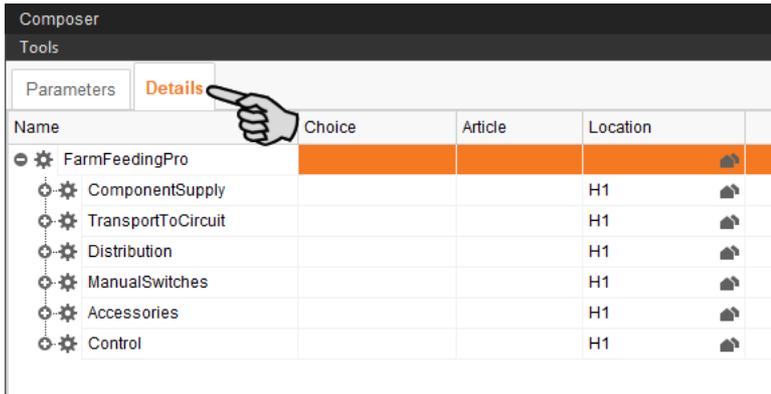


4. Configure the settings in accordance with the structure of the system. Change pre-set values, if necessary.

The column "Comment" contains information for setting of the values. The following explains some of the parameters:

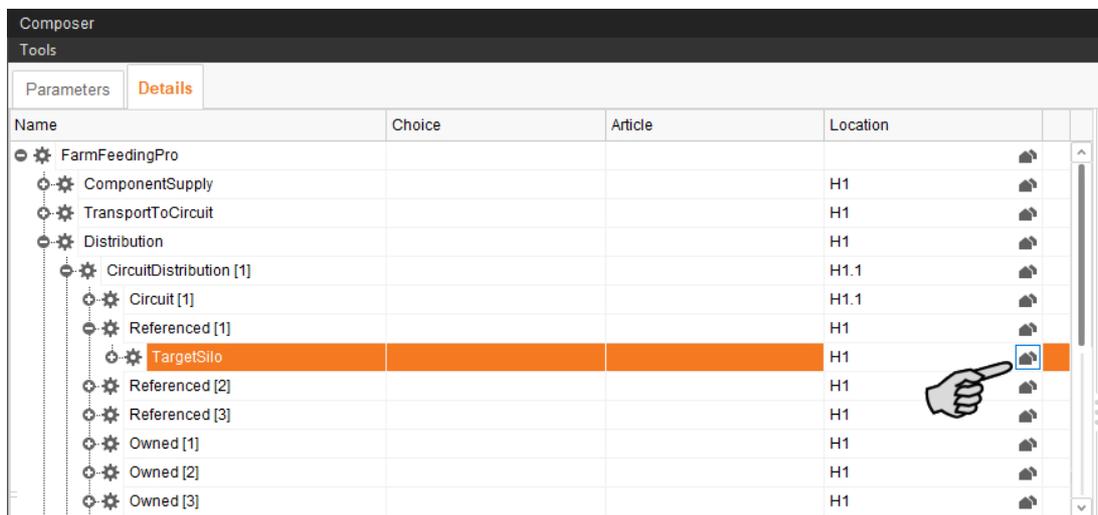


- **Component supply:** Number of source silos. The minimum sensor is pre-set.
  - **Transport to circuit > Transport device > FlexVey** or feed hopper
  - **Distribution > Circuit distribution >**
    - **Start valve** is activated if the circuit is to be defined as subcircuit and if it has a start valve. The start point is where feed is first dispensed into the circuit in moving direction, either by another circuit or by a transport device such as a feed hopper.
    - Check the box for **Check point** if a sensor is used in the first section of the pipe (control segment). This sensor checks whether the current feed batch is on its way.
    - **Owned target silos** are used by FarmFeedingpro only. They do not depend on any other application. Feed is removed for example by a DryRapid feeding system.
    - **Referenced target silos** are linked to another application, for example DryExactpro, for which these reference target silos have been created as source silos.
5. Click on the "Details" tab. Open the structure by clicking on the plus icon.  
The structure shows all location-related components of the system.



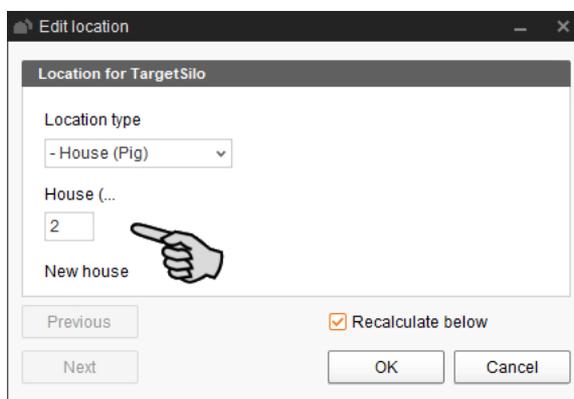
6. Assign the correct location to the source silos under "Component supply", and to the target silos under "Distribution" > "Circuit distribution" > "Referenced" and > "Owned".

a) Click on the house icon of the correct level.



b) In the next window, enter the number of the correct location (house).

The selected location is displayed in its entirety below the input field.



c) Click on "Next" to continue the location assignment.

d) Click on "OK" after you have finished to accept the input.

7. Enter a unique name for the silos so the assignment is clear.
8. Click on "Save" to accept all settings for the Composer.

### 3.3 Depicting the system in the FeedMove Editor

The FeedMove Editor is a program used to edit the graphical depiction of the installed system. All system components you have created in the Composer are displayed as icons in the FeedMove Editor. In the FeedMove Editor, you can connect the individual system components according to the installed system. You thus define the route of the feed move.

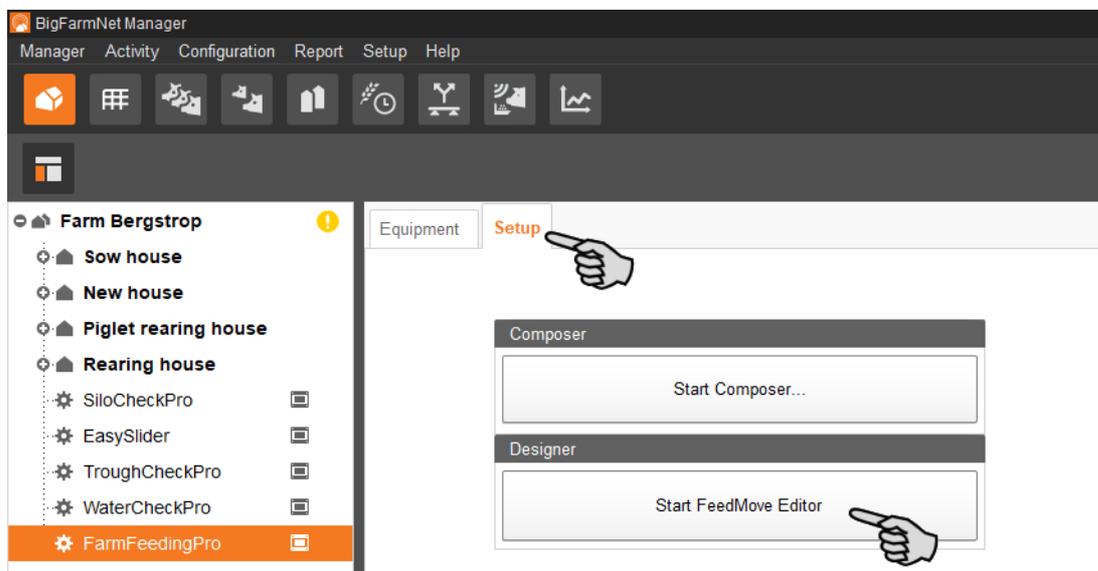
#### NOTICE!

For FarmFeeding*pro*, some feed moves are generated automatically, but need to be edited. Referenced target silos are linked to the additionally used application in the settings dialog, see chapter 4.4.1.

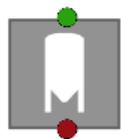
The completed depiction is displayed in the "View" application window. The image shows the system's activity during operation.

1. Click on the respective system application in the farm structure.
2. Under "Setup", click on "Start FeedMove Editor".

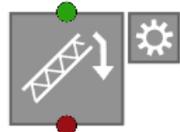
The FeedMove Editor opens in a new window.



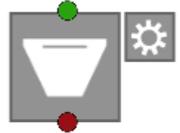
### 3.3.1 Icons of the system components



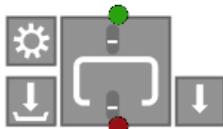
Silo



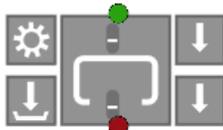
FlexVey or auger



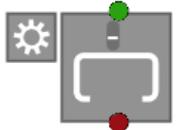
Feed hopper



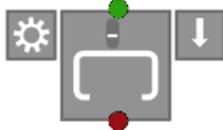
Circuit



Circuit with start valve



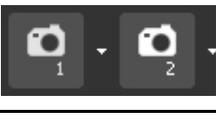
Ad lib circuit without start valve



Ad lib circuit with start valve

### 3.3.2 Tool bar

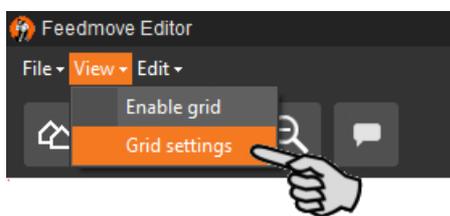


	View	Complete view of the system
	Grid	Hide / show grid lines
	Zoom in / zoom out	Zoom into / out of the view
	Description boxes (labels)	Hide / show description boxes of specific system components
	Undo / redo	Undo / redo an action
	Camera	Save different views of the system

### 3.3.3 Configuring the grid

If you want to align the system components based on a grid, click on . Adjust the size of the grid as follows, if necessary:

1. Click on "Grid settings" in the "View" menu.



2. Enter the correct values into the input fields or change them using the arrows pointing upwards and downwards.
3. Accept these inputs by clicking on "OK".

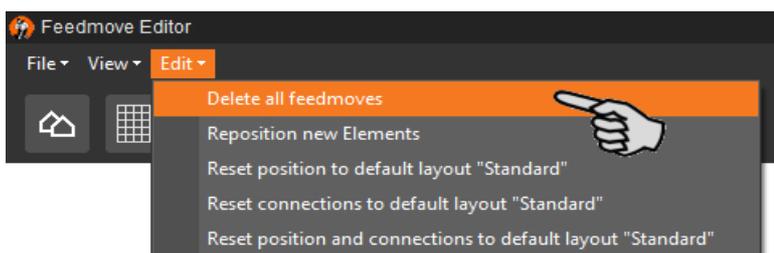
### 3.3.4 Linking system components

#### NOTICE!

If you would like to use the default feed moves, make sure that they are possible with the system you have installed.

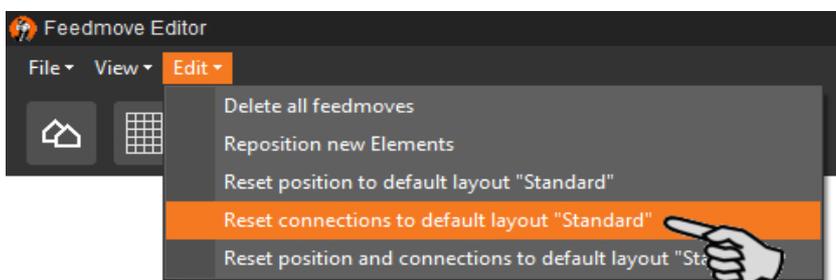
To link system components, you might have to delete existing links first.

- **Deleting individual links:**
  - a) Move the mouse pointer to the link you want to change.  
The mouse pointer will change its shape .
  - b) Click on the link.  
The colour of the link changes to orange.
  - c) Press the "Delete" key on your keyboard.  
The link is deleted.
- **To delete all links**, click on "Delete all feed moves" in the menu "Edit".

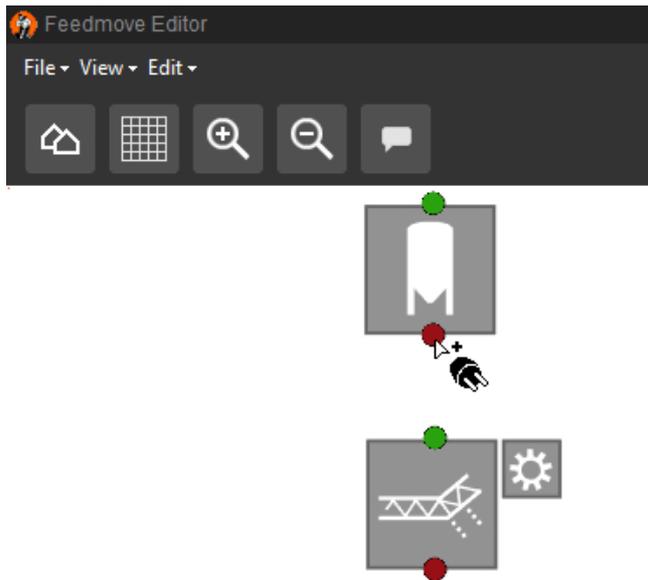


- **Resetting to default:** For EcoMatic, the system components are connected automatically by default links. If this configuration has been changed, you may reset the default links and continue using this default.

In the menu "Edit", click on "Reset connections to default layout 'Standard'".

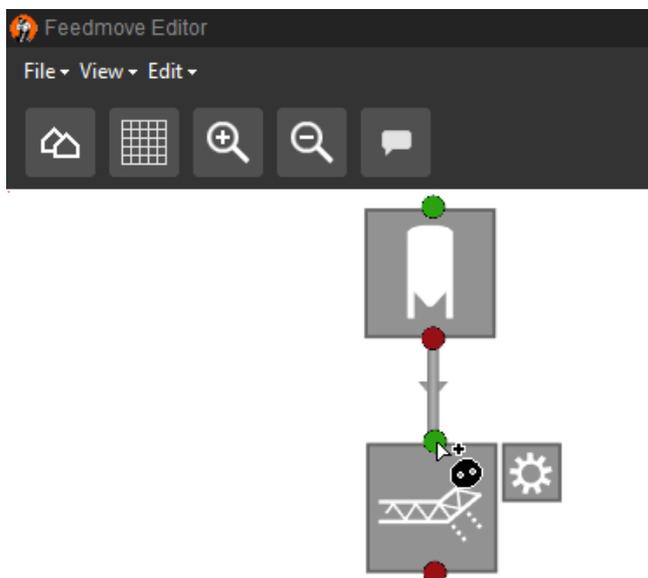


4. Move your mouse pointer to the **red dot** of the specific system component.  
The mouse pointer will change its shape .



5. Click on the red dot and hold the mouse button.
6. Move the mouse pointer over the icon of the system component to which you want to link the selected system component.

The mouse pointer will change its shape  and a line linking both components appears. The flow direction is indicated by an arrow within the line.



7. Release the mouse button.

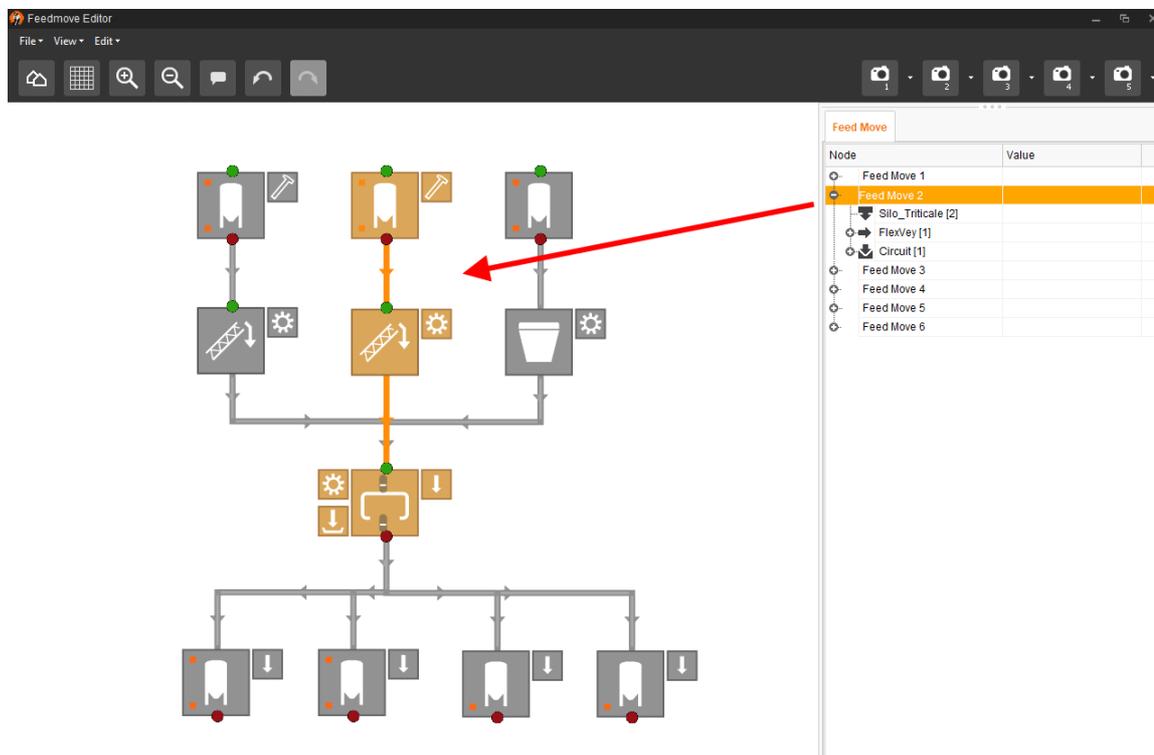
The two system components are now linked. The corresponding feed move is created in the window to the right.

Linked system components without green or red dot cannot be linked further.

8. Continue linking all system components so that a complete feed move route from the silo to the circuit is created.

- In the window on the right-hand side, click on a feed move to check the link.

The corresponding part of the route is marked orange in the overview. Furthermore, the feed move structure opens and all technical elements belonging to this move are displayed.



### 3.3.5 Selecting and moving system components

#### **NOTICE!**

You can also move objects that are marked orange using the arrow keys on your keyboard.

- Move the mouse pointer over the respective system component.  
The mouse pointer will change its shape . The name of the system component is additionally displayed as tooltip for a moment.
- Click on the system component and hold the mouse button.  
The colour of the system component changes to orange.
- Move the system component to the required position and release the mouse button.  
Or:
  - Select multiple system components

- a) by drawing a rectangle over the system components while holding the left mouse button

Or:

by clicking on the different system components while holding the Ctrl key.

The colour of the selected components changes to orange.

2. Click into the selected area and hold the mouse button.
3. Move the system component to the required position and release the mouse button.

### 3.3.6 Adjusting and saving views

#### NOTICE!

The below mentioned functions of the mouse depend on how you have configured your mouse in Windows.

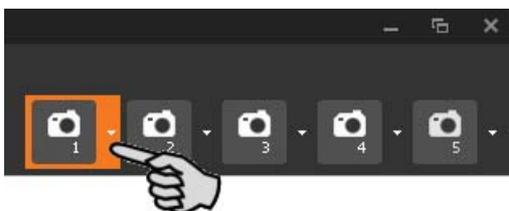
You can save up to 5 different views: one view for each camera icon. Saved views can be retrieved later on in the window "View".

1. Adjust the view as follows:
  - **Zooming in and out:** Roll the scroll wheel of your mouse.
  - **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.

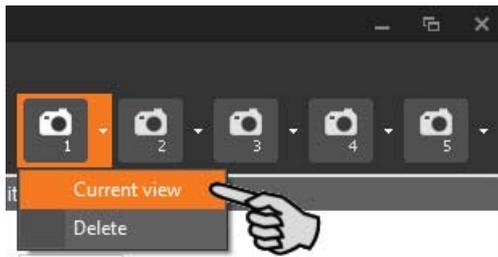
OR

Press the scroll wheel of your mouse to move the image (two-dimensional) into all directions.

2. Click on the arrow pointing downwards at one of the camera icons.



3. Click on "Current view" in the context menu. The view is now saved.

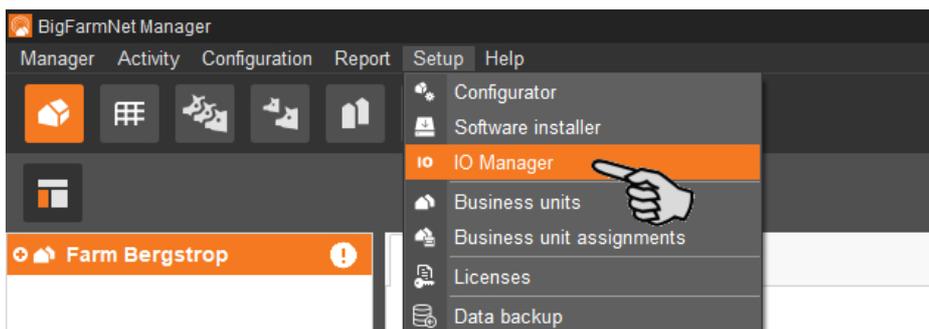


4. If you would like to retrieve the saved view later on, click on the corresponding camera icon.

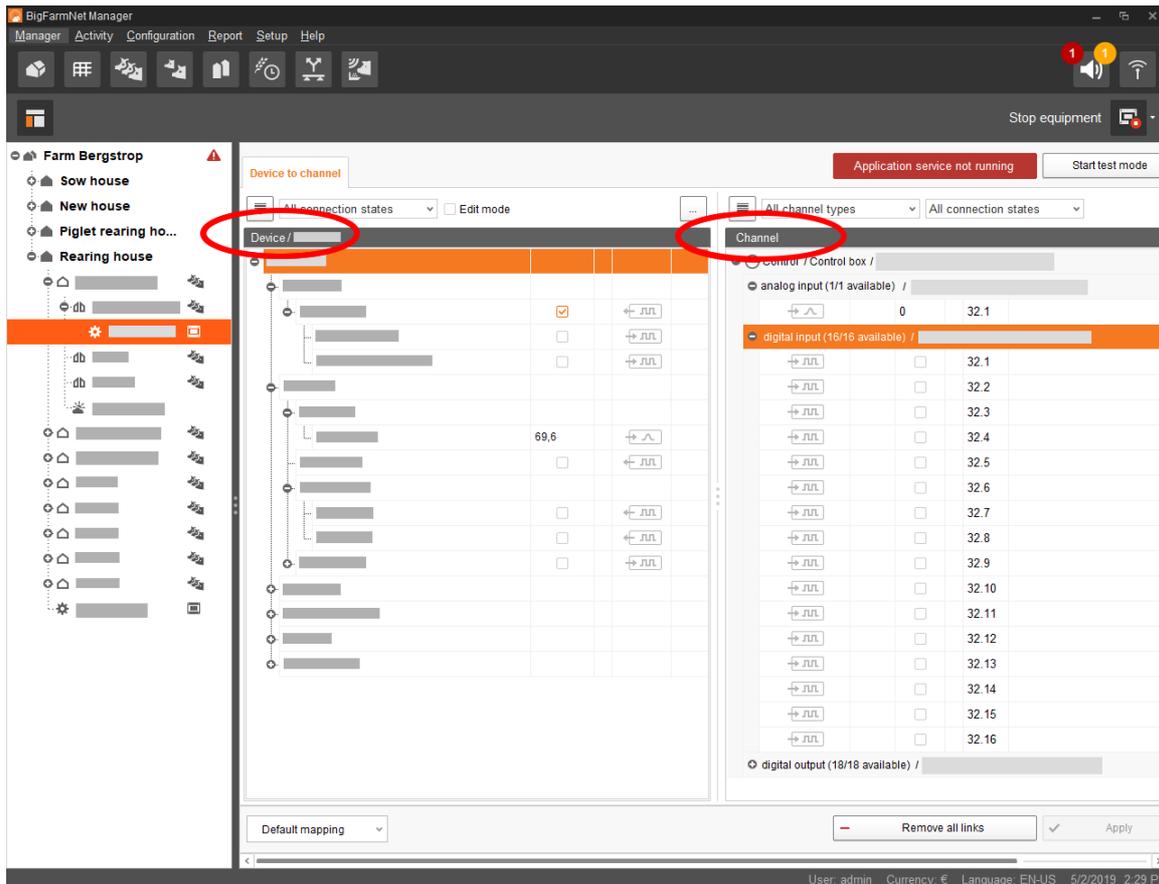
### 3.4 Configuring the IO Manager

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. Click on the respective system application in the farm structure.
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".

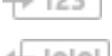


Adjust the view in the IO Manager as follows using the upper bar:



-  Expanding or collapsing the structure entirely
-  Displaying the device and/or channel according to the connection state
-  Showing the control cabinet number
-  Showing the channel according to the channel type

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
- Linked interfaces are colored:  

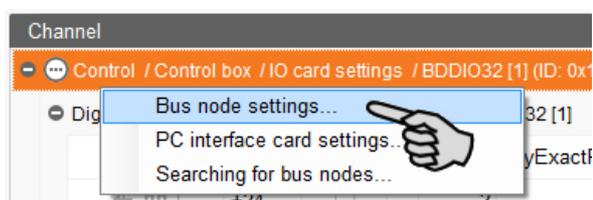
- Non-linked interfaces are grayed out: 

### 3.4.1 Changing the node ID

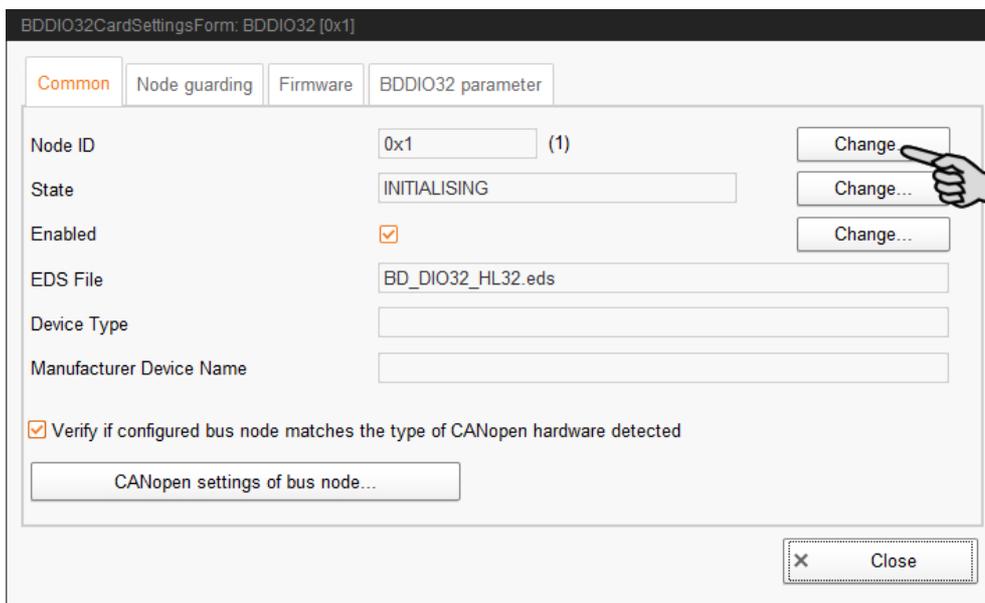
Please refer to the enclosed wiring diagram for information on the devices' CAN addresses. Assign the CAN addresses in accordance with the wiring diagram.

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...".

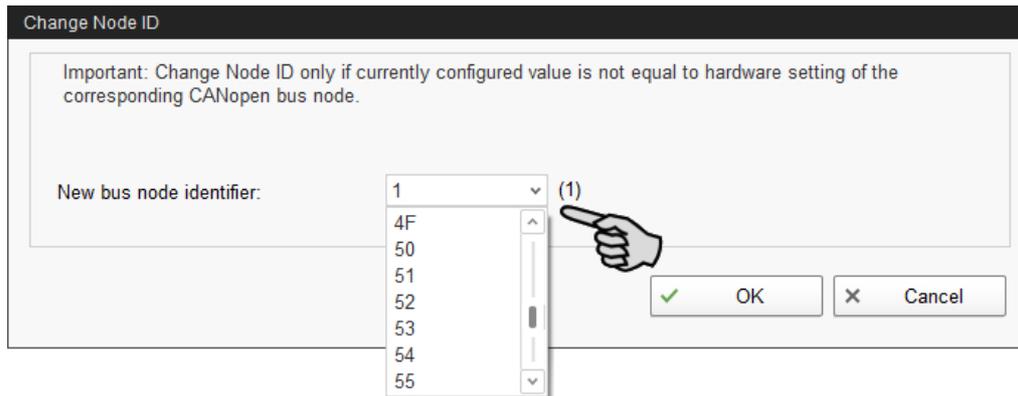
This opens a new dialog.



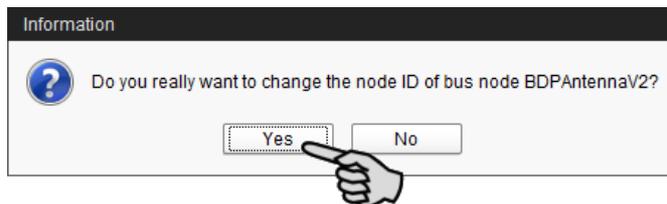
3. In the first tab, click on "Change..." next to "Node ID".



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



5. Confirm the prompt for confirmation.



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

### 3.4.2 Creating links

Link the different devices manually with the corresponding IO card. The system currently does not support the "Default mapping" function (button).

1. Change one or more inputs to outputs with the supply voltage +24 V in the "Channel" area, where necessary.

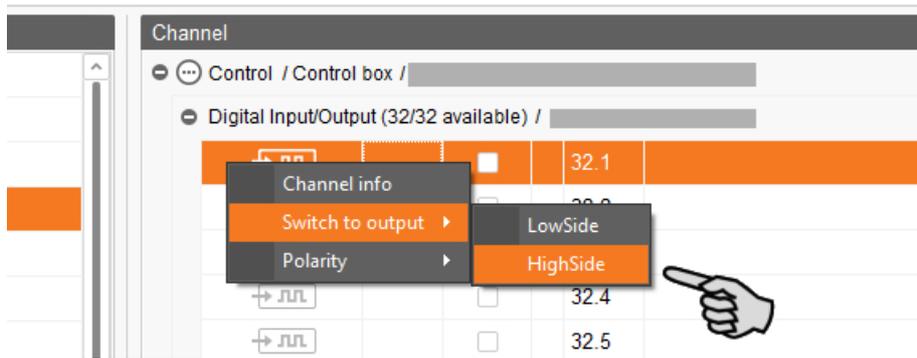
In the preset, only inputs are shown at first.

This function is only possible for BDDIO32 IO cards.

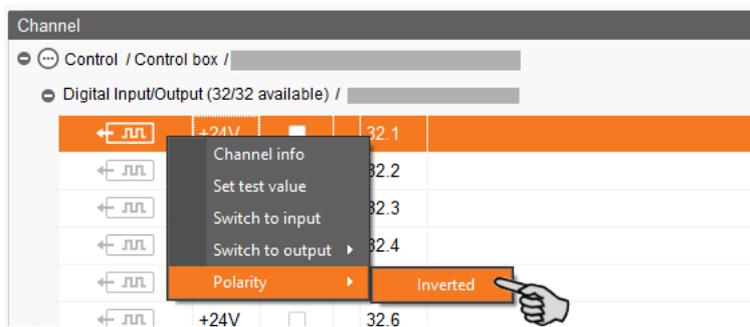
- a) Select one input or select multiple inputs by holding the Ctrl key.  
Multiple editing is only possible for channels of the same type.
- b) Right-click into the marked area.
- c) In the context menu, select "Switch to output" > "HighSide", if the new output should switch to high side (24 V).

Or:

In the context menu, select "Switch to output" > "LowSide", if the new output should switch to low side (ground).



- d) If necessary, you can invert the polarity of the signal by clicking on "Polarity" > "Inverted" in the context menu.

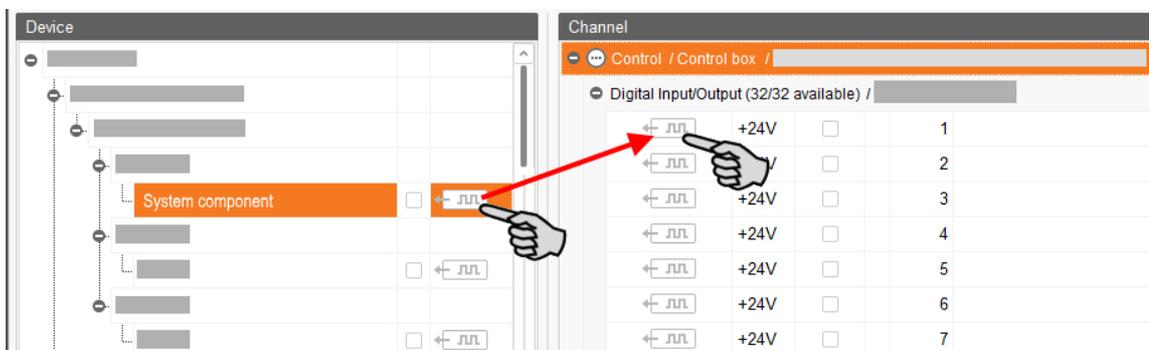


- 2. Select one of the following options to link the interfaces:

**Option 1:**

- a) Click on the interface of the respective system component and hold the mouse button.
- b) Hold the mouse button and move the mouse to the interface of the correct channel, then release the button.

The system component and the channel are now linked. The icons are colored .

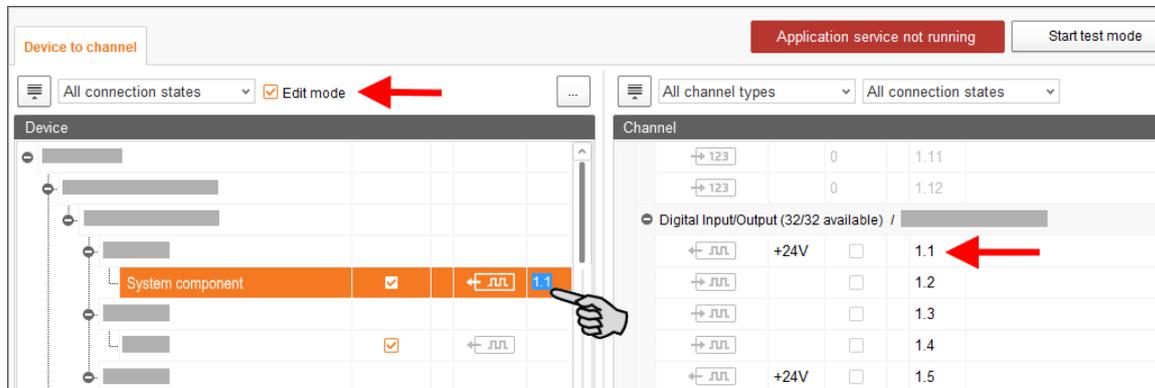


**Option 2:**

- a) Activate the edit mode in the upper bar.

- b) The IO card interfaces have numbers. Enter the corresponding number for the system component's interface.

The system component and the channel are now linked. The icons are colored



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

**NOTICE!**

Checking links:

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

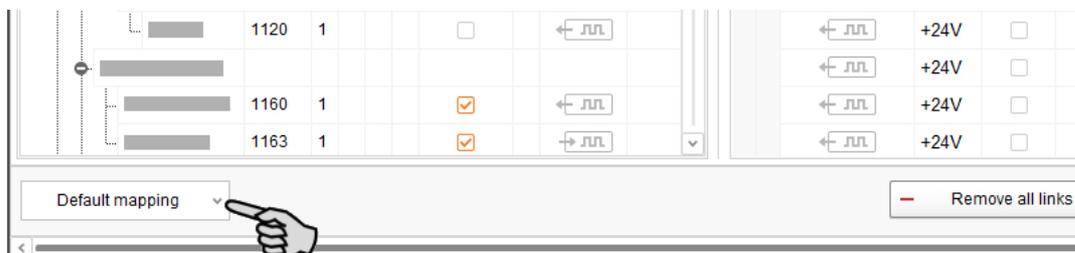
- 4. Click on "Save" in the bottom command bar after having established all links.
- 5. Click on "Restart application" at the top of the window to start the control.

**3.4.3 Importing a wiring diagram**

Wiring diagrams can be loaded in CSV format.

- 1. Click on the arrow pointing downwards next to the button "Default mapping" in the lower bar.

This opens a context menu.



- 2. Select "Load switch cabinet mapping".



### 3.4.4 Using the test mode

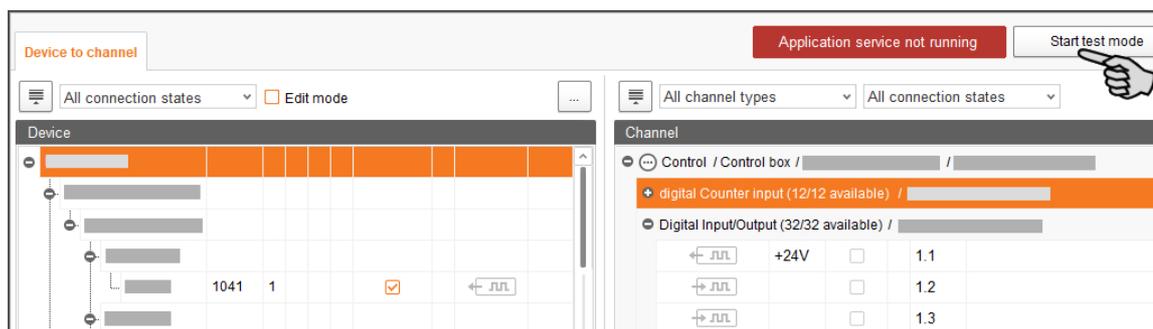
In the test mode of the IO Manager, all devices can be turned on and off to check the correct setup of the control before starting to operate the system.

**⚠ CAUTION!**

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. Click on "Start test mode" in the upper bar.



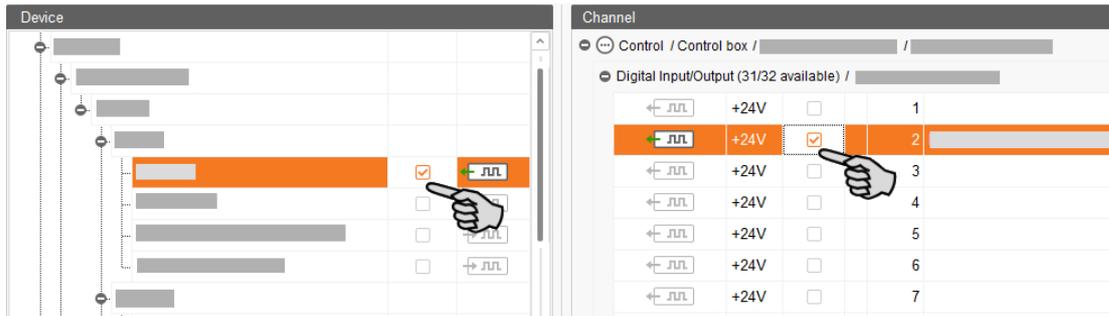
2. In the "Device" part of the window, double-click on the interface of the device you want to turn on .

The linked channel is marked accordingly.

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. End the test mode by clicking on **Stop test mode** in the upper bar.

### 3.5 Manually controlling the system components

The system can be controlled manually in the "View" window after you have created the image in the FeedMove Editor (chapter 3.3). You may manually control the FarmFeeding system via the image by manually activating or deactivating individual system components.

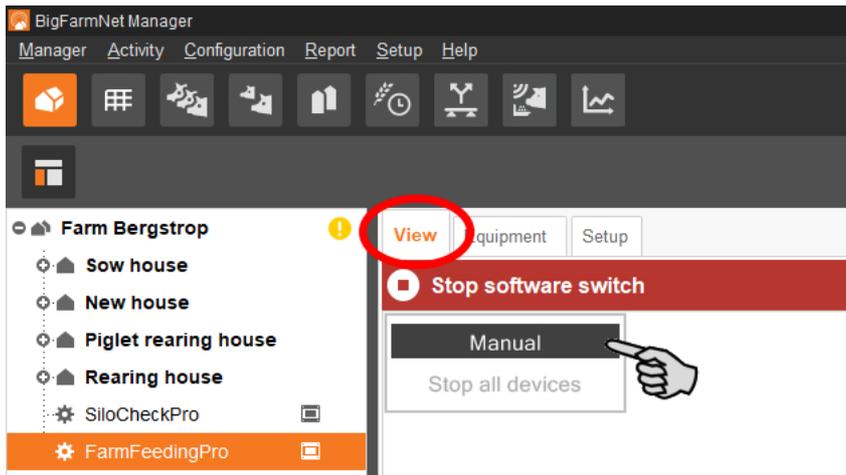
#### **NOTICE!**

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!

1. Click on the respective system application in the farm structure.
2. Under "View", click on "Manual".

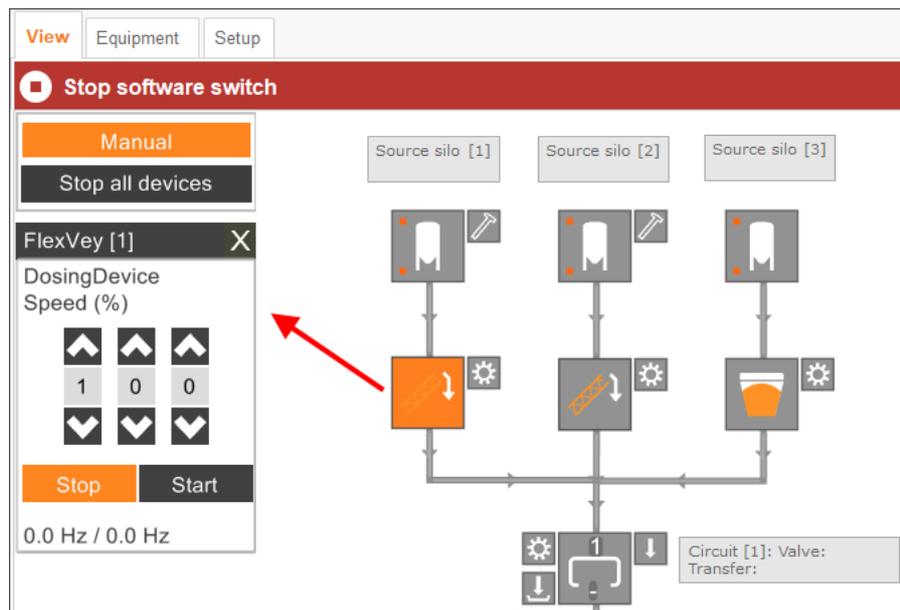
#### **NOTICE!**

Check whether the application is running. Stop the application by clicking on **Stop** in the upper bar.



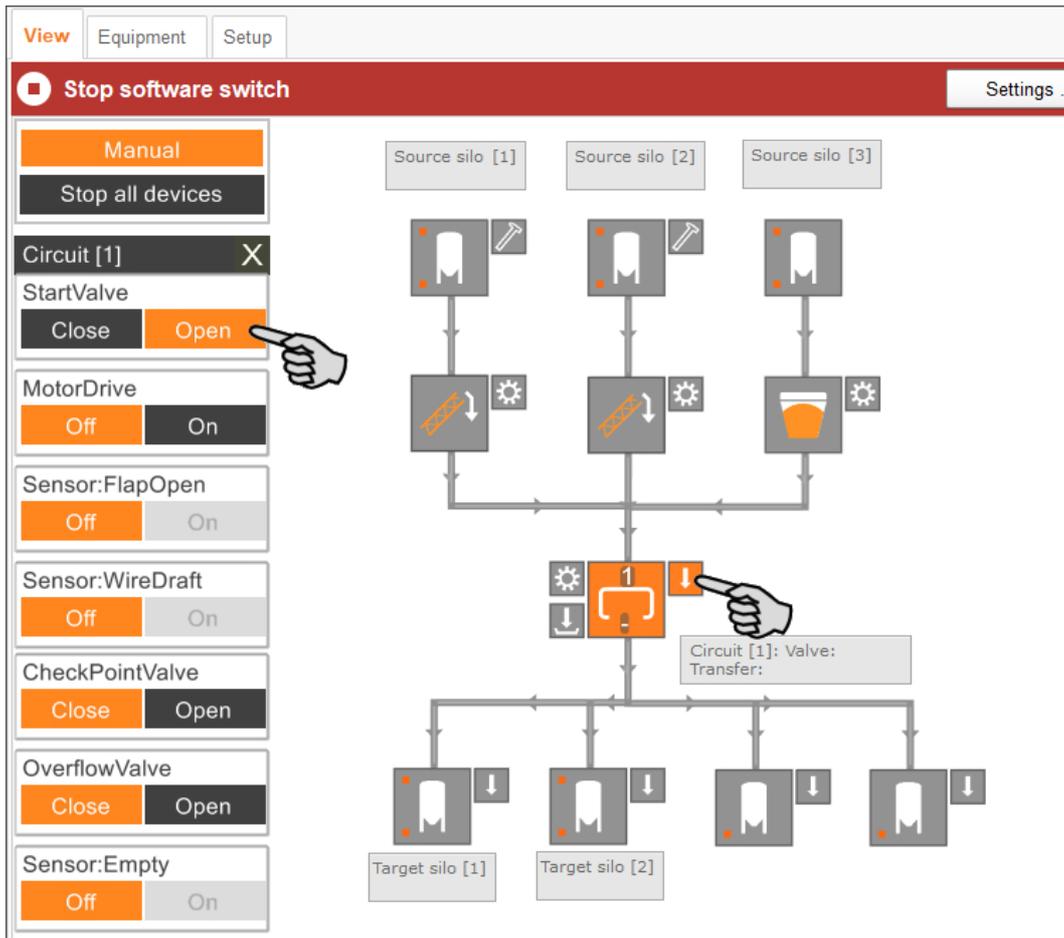
3. If necessary, adjust the view, see chapter 3.3.6, or retrieve one of your saved views using the camera icons.
4. You can manually switch on or off functions of the system components as follows:
  - a) Click on the respective system component.

The colour of the system component changes to orange. The elements belonging to this component are displayed in the window to the left.

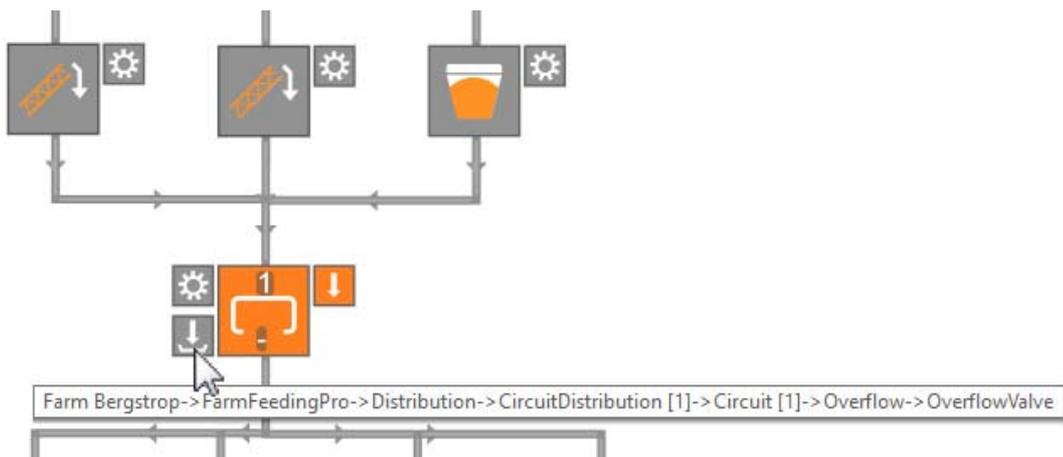


- b) Activate or deactivate the required element in the window to the left or by clicking directly on the element icon in the view.

Active elements are orange. Inactive elements are gray.



- 5. Move the mouse pointer over the different icons in the depiction to see the full name of the function or the system component.  
A tooltip shows the full name.



### 3.6 Stopping the system and canceling an action

You may stop the system during operation by clicking on "Stop" in the upper bar under "View" or "Equipment". If you click on "Start", the system continues to operate with the current action.



If you want to cancel the current action, use one of the following options to restart the application. To open the drop-down menu, click on the arrow pointing downwards on the "Start" button.

- **End feeding tasks in progress:** The currently active feeding task is completed.
- **Start with recalculation:** The system checks all sensors. Feeding re-starts.
- **Discharge feeding system:** All feed batches currently in the feed pipes are moved to their targets. The feeding task is then completed.
- **Restore control process:** The control is re-started. This function is identical with the function "Restart application" in the IO Manager.
- **Close all open feeding tasks:** Currently active or not yet started feeding tasks are canceled or set to inactive.



### 3.7 "Equipment" window

The "Equipment" window provides the following information based on the system's configuration:

- Employed transport devices
- Circuits with information on distribution

This is simply a view without any options to configure settings.

The screenshot shows the 'Equipment' window with the following components:

- Navigation:** 'View', 'Equipment' (highlighted), 'Setup'.
- Status Bar:** 'Stop software switch', 'Einstellungen ...', 'Start'.
- Task:** 'Next task ("Silo filling"), planned at 8:00 PM'.
- Prepare Section:**
  - Hopper [2] Wheat
  - Hopper [4] Corn
  - Hopper [1] Barley
  - Hopper [2] Wheat
  - Hopper [3] Barley
  - Hopper [4] Corn
  - Hopper Triticale
- Distribution Table:**

Charge no.	State	Curve / recipe	Curve day	Outlet no.	Distance to outlet	Length	Dosed amount	Target amount	Circuit [1]
- Circuit no.: 1, "Circuit [1]"									
1	Moving	Mixture fini...	25	Target silo [1]	29.7 m	15.4 m	0.00 kg	31.90	
- Total:** 31.90 kg

## 4 Configuration of the application

1. Click on the respective system application in the farm structure.

### NOTICE!

Check whether the application is running. Stop the application by clicking on

 in the upper bar.

2. Under "Equipment", click on "Settings...".

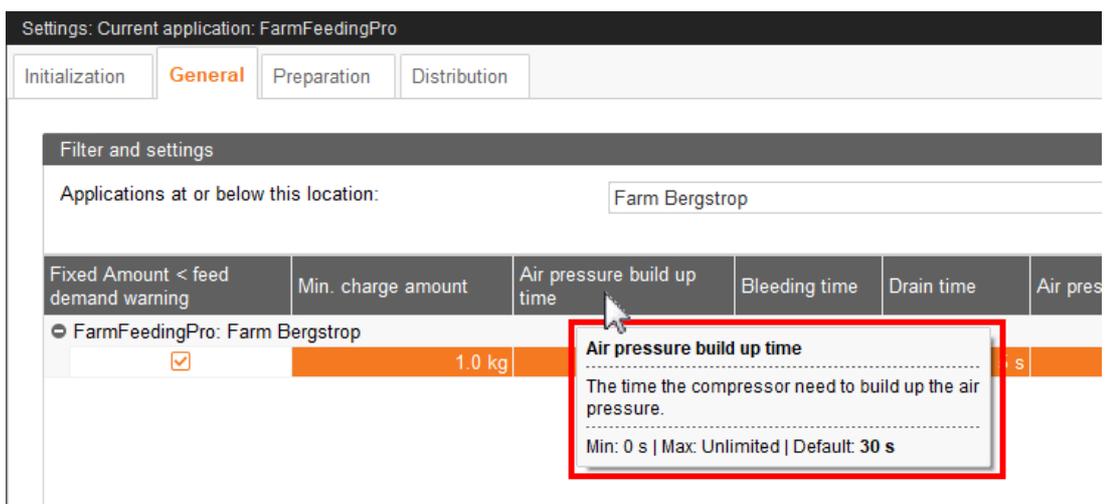


This opens the settings dialog, which contains all settings for the system components you defined in the Composer beforehand. The settings are grouped and may have pre-set values. The different parameters are described in the following chapters.

Only save after you have defined all settings of the tabs. The "Save" function affects the entire settings dialog. Saved changes are immediately applied to the system(s)!

### NOTICE!

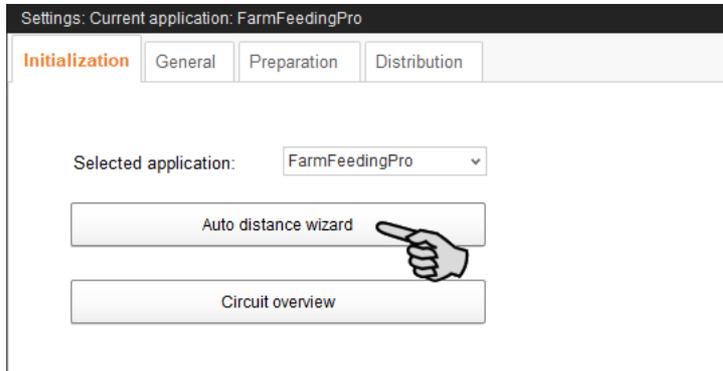
Tooltips available! Move the mouse pointer over the input fields or the parameters in the head line to see a more detailed description.



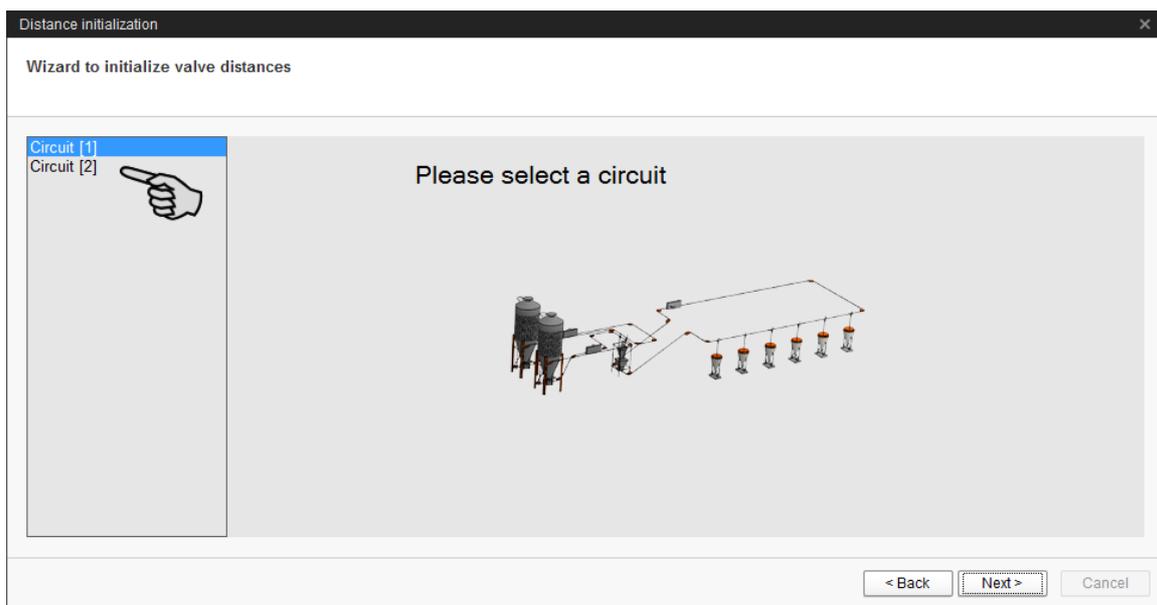
## 4.1 Initialization – Determining the valve distances

Use the Distance Wizard to define the distance between the hopper and the valves.

1. Click on the button "Auto distance wizard" to start the wizard.



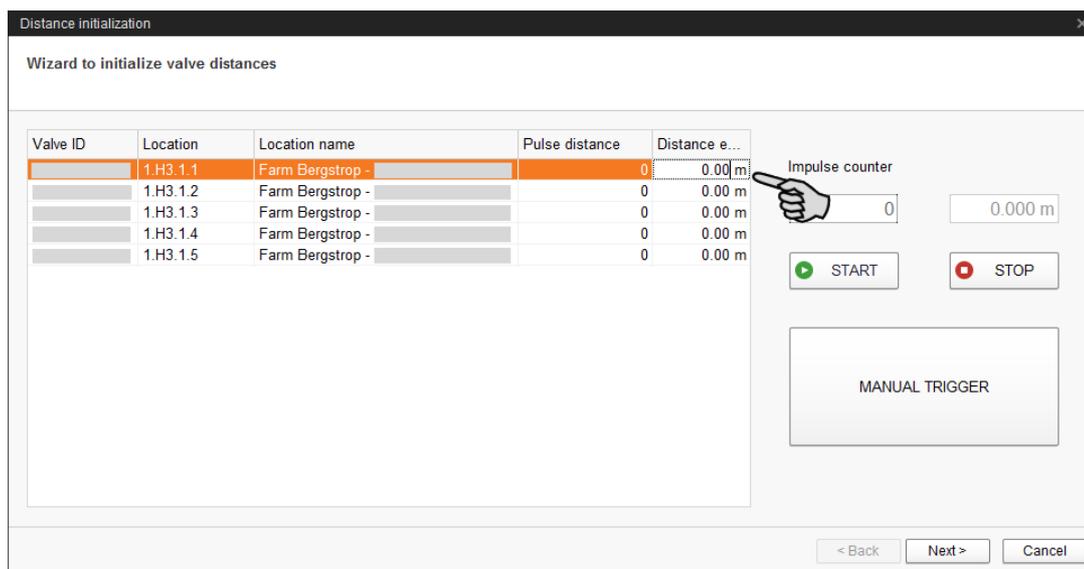
2. Click on "Next".
3. Select the feed circuit in the left-hand part of the window.



4. Click on "Next".
5. Enter the distances between the hopper and the valves.

The following options are available for entering the distances:

- Manual actuation of the sensors at the feed valves, see chapter 4.1.1.
- "Manual trigger": This method must only be used if you can see all valves of the circuit from your position, see chapter 4.1.2.
- Manual measuring of the distances and input via the keyboard, see chapter 4.1.3.



#### 4.1.1 Input by manual actuation of the sensors

1. Click on the "Start" button.
2. Go to valve 1 in your house.
3. Remove the sensor at the drop pipe below the valve from its bracket.
4. Trigger the sensor by moving your hand over it.
5. The drive of the feed circuit will start.
6. Immediately move your hand over the sensor again when feed drops through the pipe.
7. The drive of the feed circuit will stop.
8. Return the sensor to its bracket.
9. Go to valve 2 and repeat the process.
10. Repeat the process for all other valves in the order set by the feed circuit.
11. Click on the "Stop" button.
12. The distances between the hopper and the target valves are displayed in the left-hand part of the window under "Distance entered".
13. Click on the button "Next" in the bottom part of the window.
14. In the next window, click on "Finish" to confirm the settings and to close the dialog.

#### 4.1.2 Input by "manual trigger"

1. Click on the "Start" button.
2. Click on the button "Manual Trigger".

3. The drive of the feed circuit will start.
4. Observe the drop pipe below valve 1.
5. As soon as feed drops through the pipe below valve 1, click on the "Manual Trigger" button again.
6. The drive of the feed circuit will stop.
7. Click on the "Manual Trigger" button again.
8. The drive of the feed circuit will start again.
9. As soon as feed drops through the pipe below valve 2, click on the "Manual Trigger" button again.
10. The drive of the feed circuit will stop.
11. Repeat the process for all other valves in the order set by the feed circuit.
12. Click on the "Stop" button.
13. The distances between the hopper and the target valves are displayed in the left-hand part of the window under "Distance entered".
14. Click on the button "Next" in the bottom part of the window.
15. In the next window, click on "Finish" to confirm the settings and to close the dialog.

### 4.1.3 Input by manual measuring

1. Measure the distances between the target valves and the hopper with a measuring tape and write down the results.
2. Click into the input field of the first valve in the table under "Distance entered".

Valve ID	Location	Location name	Pulse distance	Distance e...
1.H3.1.1	Farm Bergstrop -		0	0.00 m
1.H3.1.2	Farm Bergstrop -		0	0.00 m
1.H3.1.3	Farm Bergstrop -		0	0.00 m
1.H3.1.4	Farm Bergstrop -		0	0.00 m
1.H3.1.5	Farm Bergstrop -		0	0.00 m

3. Use your keyboard to enter the distance (in meters) between the first valve and the feed hopper.
4. Click into the row with the next valve.  
The software automatically calculates the pulse distance for valve 1.
5. Enter the distance for the next valve.

#### NOTICE!

Always enter the distance between the respective valve and the hopper, never the distance between the valves themselves.

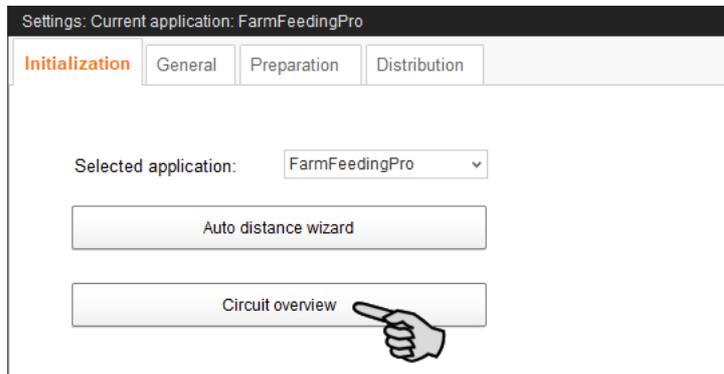
6. Click into the row with the next valve.  
The software again automatically calculates the pulse distance for valve 2.
7. Continue in this manner until you have entered the distances of all valves in this circuit.
8. Click on "Next" in the bottom part of the window.
9. In the next window, click on "Finish" to confirm the settings and to close the dialog.

## 4.2 Initialization – Valve overview

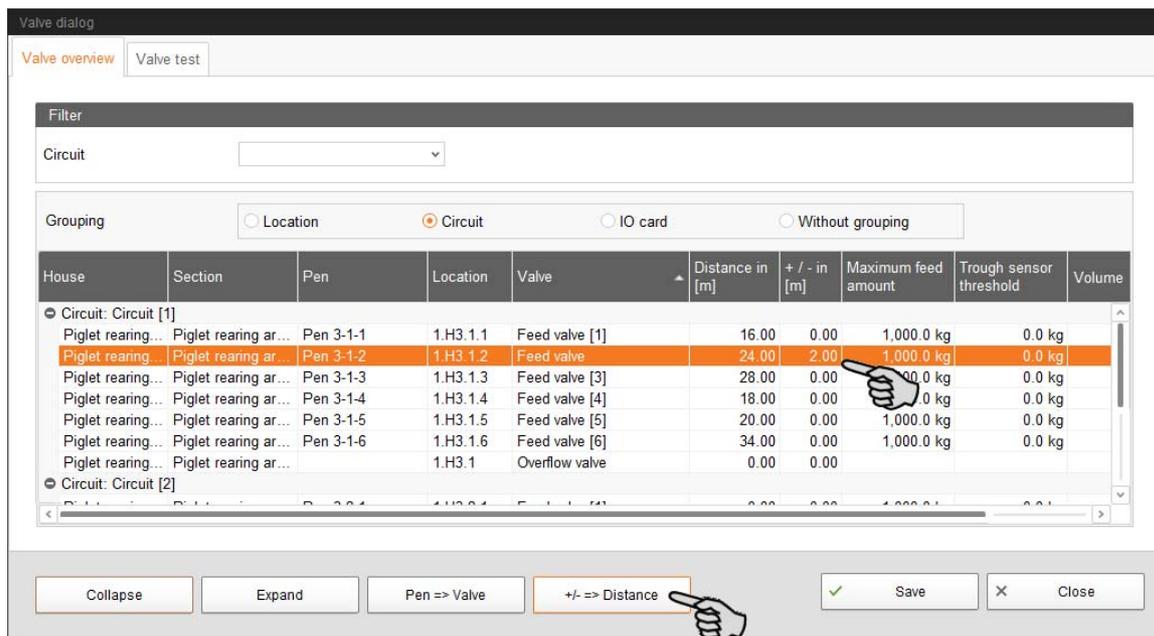
### 4.2.1 Distances between valves

1. Click on the button "Circuit overview".

This opens a new dialog window. The first tab is called "Valve overview".



2. If necessary, filter the valves you want to edit:
  - a) Under "Filter", select the correct circuit from the drop-down menu.
  - b) Use the buttons "Collapse" and "Expand" in the lower command bar to show or hide the circuits.
3. If necessary, change the view by grouping the valves according to location, circuit or IO card.
4. Enter a positive or negative value in the column "+/-" to correct the value in the column "Distance in [m]" accordingly.

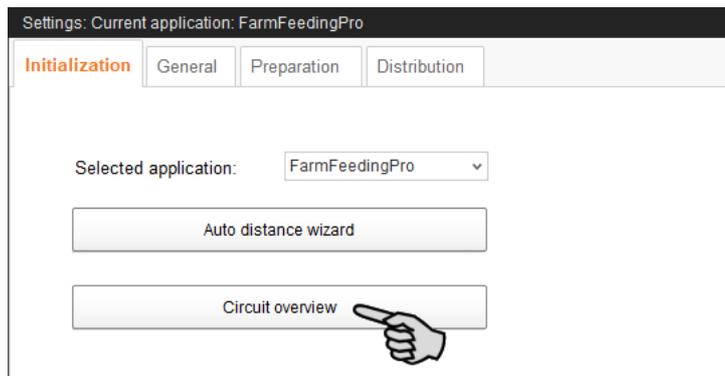


5. Click on the button "+/- => Distance" in the bottom part of the window.  
The distance is corrected accordingly.
6. Click on "Save" to save all settings.
7. Close the dialog by clicking on "Close".

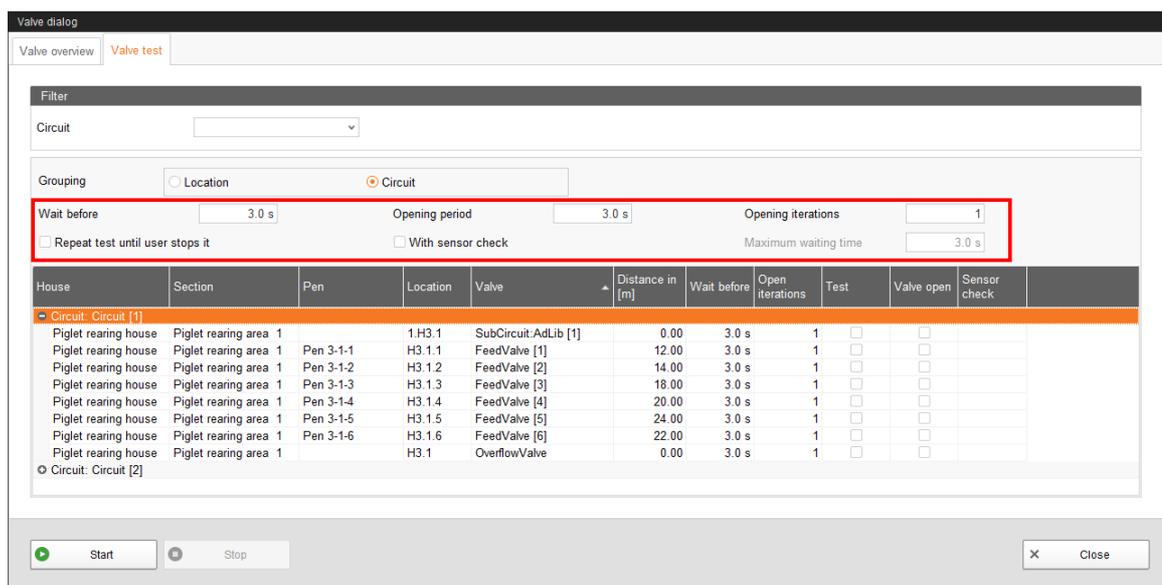
### 4.2.2 Valve test

1. Click on the button "Circuit overview".

This opens a new dialog window. The first tab is called "Valve overview".



2. Click on the "Valve test" tab.
3. Filter the correct circuit, if necessary.
4. If necessary, change the view by grouping the valves according to location or circuit.
5. Define the following additional settings for the valve test, if necessary:

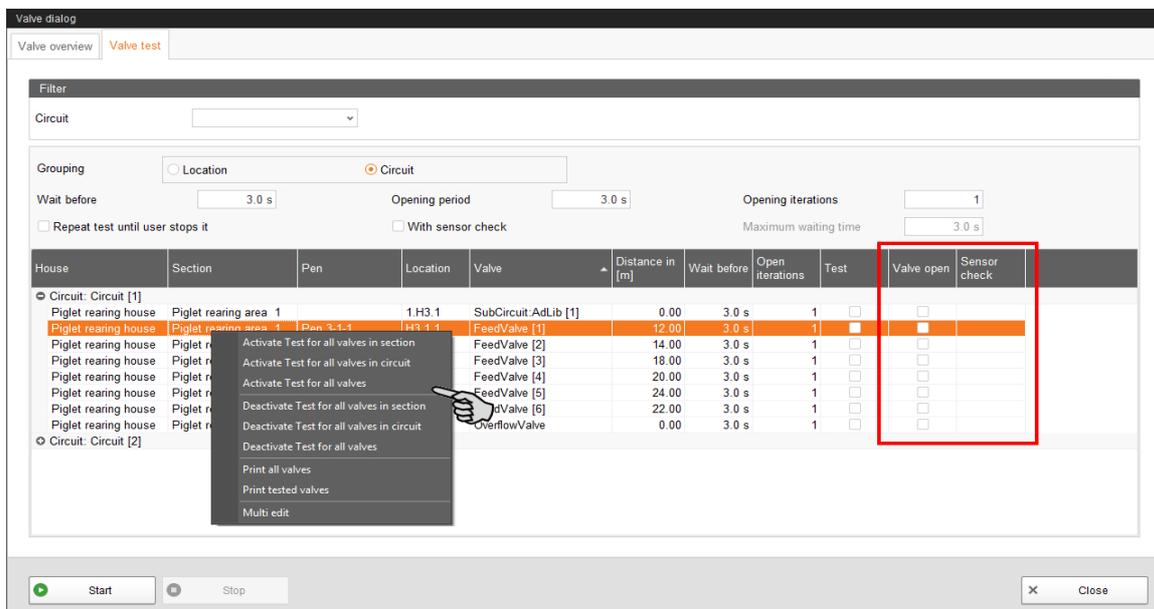


- **Wait before (Wait for):** Use this setting to define the waiting time for the switch between valves.
- **Opening period:** Duration for which the valves stay open.
- **Repeat test until user stops it:** If this setting is active, the test is repeated until the user presses the "Stop" button in the lower command bar.
- **With sensor check:** If this setting is active, the valve remains open until the sensor is triggered. The setting **Maximum waiting time** is activated.
- **Maximum waiting time** until the sensor is triggered.

6. Activate the correct valves individually in the column **Test**.

OR

Activate multiple valves at the same time by right-clicking to open the context menu and selecting the correct valves.



**Valve open** and **Sensor check** only show the progress of the test. **Valve open** indicates the currently tested valve.

**Sensor check** shows the corresponding distance sensor value. The information under "Sensor check" is displayed if the function **With sensor check** has been activated.

7. Click on "Start" in the lower command bar to start the test.
8. Click on "Stop" in the lower command bar to stop the test.
9. Close the dialog by clicking on "Close".

### 4.3 General settings

Settings: Current application: FarmFeedingPro

Initialization **General** Preparation Distribution

Filter and settings

Applications at or below this location: Farm Bergstrop

Fixed Amount < feed demand warning	Min. charge amount	Air pressure build up time	Bleeding time	Drain time	Air pressure delay off	No empty trough before feeding	Trough empty warning after
<input checked="" type="checkbox"/>	1.0 kg	30 s	15 s	5 s	60 s	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Save Cancel

- **Fixed amount < feed demand warning:** A warning is issued immediately when the feed amount drops below the feed demand if this box is checked.
- **Min. charge (batch) amount:** If the calculated feed amount per valve does not reach the minimum batch amount, no feed is dispensed at the respective valve.
- **Air pressure build-up time**
- **Bleeding time**
- **Waiting time before compressor shut-off (Drain time):** If the compressor is not turned off via the switch, but disconnected from power supply completely by pulling the plug, the compressed air cannot escape. When the compressor is turned on again, the waiting time enables the compressed air to escape so the motor does not stall. This waiting time should be used for single-phase compressors.
- **Air pressure delay off**
- **No empty trough before feeding:** "Trough" refers to a target silo. No warning is issued for empty target silos if this box is checked.
- **Trough empty warning after feeding:** "Trough" refers to a target silo. If this box is checked, a warning is issued directly after the feed is dispensed at the valve. This function enables you to find out whether any feed has been dispensed at the valve. This does not influence the sensor check before feeding.
- **Trough full warning:** "Trough" refers to a target silo. If this box is checked, a warning because of a full target silo is issued during the fill level inquiry before feeding. No feed will then be dispensed at the target silos which report being full.
- **Action after maximum pause time** can be set to be either an alarm, a warning or no action at all ("No").

- **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 after maximum pause time") is issued. If the time is set to 0 minutes, there is no maximum pause time.
- **Repeat action:** When this box is checked, the action (alarm, warning or no action) is repeated every time the maximum pause time expires.
- **Multi-circuit control:** Check this box if more than one circuit is supplied during one feeding task. The control will supply one circuit after another during feeding.
- **Replacement component empty:** Type of message shown when the replacement component has been used up. If this is set to "Alarm", feeding will stop. If this is set to "Warning", this component is ignored for the batch.
- **Silo empty:** "Silo" refers to a source silo. Type of message shown when the source silo is empty. If this is set to "Alarm", feeding will stop. If this is set to "Warning", the source silo is ignored for the batch.
- **Silo vibrator:** The vibrator is activated when the source silo is empty.
- **Pulse counter check** is a time during which the system checks how often the pulse arrives (how much the pulse fluctuates).
- **Pulse alive check** determines how often the pulse must arrive within the time defined under **Pulse counter check**.
- **Activate simulation:** You need to restart the control process when you activate the simulation. The control process starts when you click on the button "Restart application" in the IO Manager. Mainly the scales, the sensors and the flow meters are simulated. For example, feeding or tank cleaning can be simulated without hardware with this function. When you deactivate the simulation, you need to restart the control again by clicking on the button "Restart application".
- **Hard reset:** Application reset

## 4.4 Preparation

### 4.4.1 Silos

Settings: Current application: FarmFeedingPro

Initialization General **Preparation** Distribution

Silos Transport to circuit

Filter and settings

Applications at or below this location: Farm Bergstrop Copy settings...

Index of referenced silos	Application	Select referenced silo	Name	Location	Forward time	Backlash mass	Max. backlash mass	Backlash fac
FarmFeedingPro: Farm Bergstrop								
Source silo								
No circuit								
---	FarmFeedingPro	Source silo_Barley [1]	Source silo_Barley [1]	Farm Ber...	0 s	0.0 kg	0.0 kg	
---	FarmFeedingPro	Source silo_Triticale [2]	Source silo_Triticale [2]	Farm Ber...	0 s	0.0 kg	0.0 kg	
---	FarmFeedingPro	Source silo_Wheat [3]	Source silo_Wheat [3]	Farm Ber...	0 s	0.0 kg	0.0 kg	
Target silo								
Circuit [1]								
---	FarmFeedingPro	Target silo_Barley [1]	Target silo_Barley [1]	Farm Ber...	0 s	0.0 kg	0.0 kg	
---	FarmFeedingPro	Target silo_Triticale [2]	Target silo_Triticale [2]	Farm Ber...	0 s	0.0 kg	0.0 kg	
Referenced silo								
Circuit [1]								
2	--	<ul style="list-style-type: none"> <li>Silo_Corn [18] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Corn [19] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Rye [8] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Rye [11] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Rye [20] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Soya [3] DryExactPro: Farm Bergstrop - Piglet rearing house</li> <li>Silo_Soya [9] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Soya [12] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Triticale [1] EcomaticPro: Farm Bergstrop - Sow house</li> <li>Silo_Triticale [2] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Triticale [10] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Triticale [14] SiloCheckPro: Farm Bergstrop</li> <li>Silo_Wheat [1] DryExactPro: Farm Bergstrop - Piglet rearing house</li> <li>Silo_Wheat [3] SiloCheckPro: Farm Bergstrop</li> </ul>						

✓ Save ✗ Cancel

- **Select referenced silo:** The referenced silo is the source silo of another application and can be selected from the drop-down menu.
- **Name:** Rename the source or target silo, if necessary.
- **Location** is indicated automatically by the system.
- **Forward time:** During dosing in of an component, the system checks for weight changes at the mixing tank scale. This check only starts after the forward time has expired. It is the time a component needs to reach to mixing tank after the start. If the weight on the scale does not change after the forward time has ended, this is indicated by a message.
- **Backlash mass (residual flow volume):** This is the amount that reaches the mixing tank even after the auger has been turned off.
- **Max. backlash mass (max. residual flow volume):** If the residual flow volume exceeds this value, this is indicated by a message.

- **Backlash factor (residual flow factor):** Use this setting to limit automatic changes to the residual flow volume considered by the program. Enter the number of previous residual flow volumes. These will be used as basis for calculating an average value. The effects of single extreme values on changes to the residual flow volumes are thus limited.
- **Backlash (residual flow) adjustment control disabled:** The residual flow volume is not adjusted when this box is checked.
- Enter the **Delivery rate** manually. If the box **Delivery rate adjustment control disabled** is checked, the manually entered value is used.
- **Delivery rate adjustment control disabled:** If this box is not checked, the **Delivery rate** value (see above) is calculated and set automatically by the control.
- **Mode** defines how the target silo is filled. The following modes are available:
  - "Adlib" means that the target silo is filled continuously.
  - "Animal" means that the silo is filled according to the feed curve. Should the capacity of the target silo be smaller than the animals' feed demand, the target silo is refilled.
  - "Constant" means that the target silo is filled by a fixed amount (**Daily amount**) for feeding. Should the capacity be smaller than the defined amount, the target silo is filled multiple times.  
  
Example: In case of a capacity of 20,000 kg and a daily amount of 30,000 kg, the target silo will be filled 1.5 times.
- **Fill value adlib:** Value for the "Adlib" mode.
- **Daily amount:** Value for the "Constant" mode.
- **Fill value animal:** Value for the "Animal" mode according to the feed curve.
- **Content:** Since the target silo can be filled in different ways, this setting defines whether the content always remains the same ("Component") or whether it varies depending on the animals' feed demand according to the feed curve ("Animal-based").
- **Component** is the content of the source silo, which can be changed.
- **Supported locations:** This setting is only available if the parameter **Content** is set to "Animal-based". For the target silo to be filled according to the feed curve (feed demand), the target silo needs to know the locations so the animals and the corresponding feed demand can be determined.

## 4.4.2 Transport to circuit

Settings: Current application: FarmFeedingPro

Initialization General **Preparation** Distribution

Silos **Transport to circuit**

Filter and settings

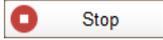
Applications at or below this location: Farm Bergstrop

Name	Location	Outlet locked	Delivery rate	Min. frequency	Max. frequency	Pulse distance	Calibration duration	Calibration
<input checked="" type="checkbox"/> Hopper [1]	Farm Bergstrop - So...	<input checked="" type="checkbox"/>	18.000 kg/min	5.0 Hz	50.0 Hz	0.000 m	0 s	
<input type="checkbox"/> FlexVey [1]	Farm Bergstrop - So...	<input type="checkbox"/>	18.000 kg/min	5.0 Hz	50.0 Hz	0.000 m	0 s	
<input type="checkbox"/> Hopper [2]	Farm Bergstrop - So...	<input type="checkbox"/>	18.000 kg/min	5.0 Hz	50.0 Hz	0.000 m	0 s	
<input type="checkbox"/> Hopper [3]	Farm Bergstrop - So...	<input type="checkbox"/>	18.000 kg/min	5.0 Hz	50.0 Hz	0.000 m	0 s	
<input type="checkbox"/> Hopper [4]	Farm Bergstrop - So...	<input type="checkbox"/>	18.000 kg/min	5.0 Hz	50.0 Hz	0.000 m	0 s	

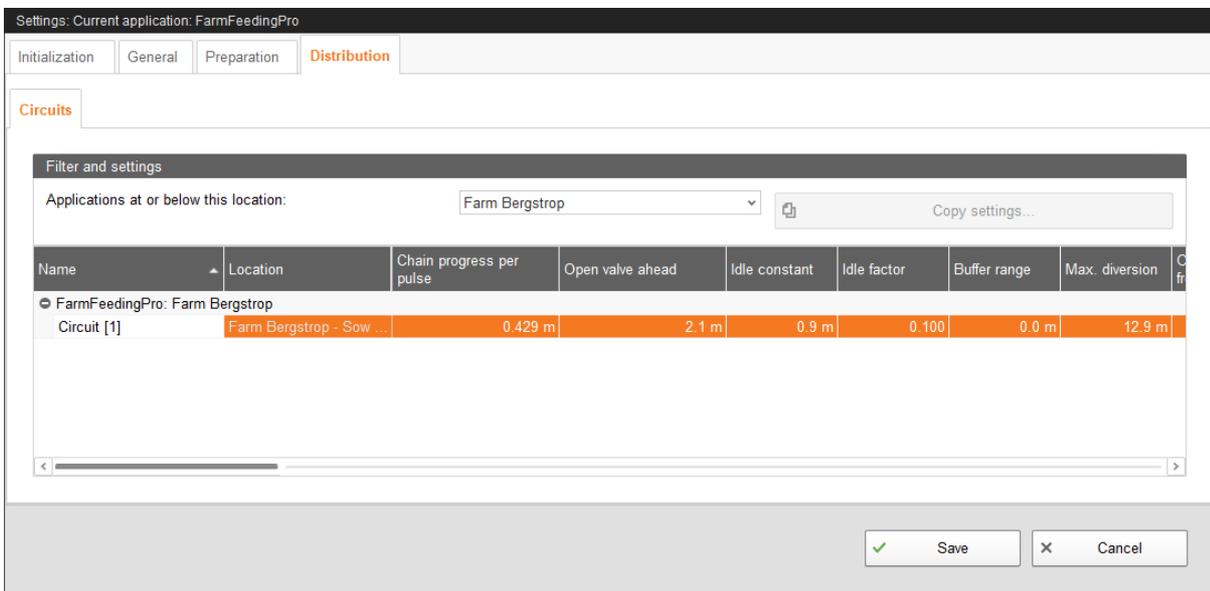
- **Name** of the connection between silo and circuit.
- The corresponding **Location** is indicated automatically by the system.
- **Outlet locked:** If this box is checked, this hopper / FlexVey is not used.
- **Delivery rate** indicates the amount conveyed at maximum frequency.  
A change to this parameter is only analysed during the start of a batch.
- **Min. frequency:** Minimum frequency for the frequency inverter
- **Max. frequency:** Maximum frequency for the frequency inverter
- **Pulse distance:**
  - Enter a pulse distance of 0 for the first hopper in the circuit.
  - Enter the distance between the first and the second hopper for the second hopper in the circuit.
  - Enter the distance between the second and the third hopper for the third hopper.
- Use the calibration parameters to determine the amount conveyed by the speed-controlled auger:
  - Define a period for which the auger should run under **Calibration duration**.
  - Select a feed valve to which the feed should be transported under **Calibration target**.
  - Place a container underneath the selected feed valve to collect the dispensed amount.

- d) Click on "Start device for ... s" under **Start calibration**. The auger starts running for the set time.
  - e) Weigh the dispensed amount after the auger has stopped.
  - f) Enter the weight under the hopper's **Delivery rate**.
- **Shared frequency inverter:**

### NOTICE!

Check whether the application is running. Stop the application by clicking on  in the upper bar.

## 4.5 Distribution



Settings: Current application: FarmFeedingPro

Initialization General Preparation **Distribution**

Circuits

Filter and settings

Applications at or below this location: Farm Bergstrop  Copy settings...

Name	Location	Chain progress per pulse	Open valve ahead	Idle constant	Idle factor	Buffer range	Max. diversion
FarmFeedingPro: Farm Bergstrop							
Circuit [1]	Farm Bergstrop - Sow ...	0.429 m	2.1 m	0.9 m	0.100	0.0 m	12.9 m

Save Cancel

- Change or add to the **Name** of the circuit.
- **Location** is indicated automatically by the system.
- **Chain progress per pulse:** In the case of a computer-controlled dry feeding system, feed is transported by a conveyor chain to the valves in individual batches. The drive wheel creates pulses at each revolution so that the computer can calculate at any time where which feed batch is located and when feed valves have to be opened or closed by counting these pulses. Enter the length of the conveyor chain which runs through the drive between two pulses here.
- **Open valve ahead:** Distance between the feed batch and the target valve. If the batch is on its way to the target valve in the circuit and the distance to the valve is below this value, the valve is opened. Enter a value which ensures that the valve is completely open when the feed reaches the target valve.

- **Idle constant:** You may enter a so-called idle constant and an **Idle factor** so that feed entrainment is considered. The idle constant is entered as distance of the entrainment in meters. The idle factor is emitted once per drive wheel pulse.

Entrainment = (idle constant + distance to the target valve) x idle factor

The entrainment value is considered for the opening of the valves.

A change to this parameter is only accepted when the application is in stop mode.

- **Idle factor:** see **Idle constant**
- The **Buffer range** is the minimum distance between two feed batches within the circuit during feeding.
- **Max. diversion (entrainment):** If the calculated value for the entrainment exceeds this value, a warning is issued, see **Idle constant**.
- **Overflow alarm from x valves:** During feeding, the program checks if any feed is returning to the drive station. If this is the case, the feed is guided into a container placed under the overflow valve. If this error occurs repeatedly during one feeding task, feeding is stopped.

Enter the number of feed batches that may return before the system is stopped under this parameter.

A change to this setting is only accepted when the application is in stop mode.

- **Maximum overflow:** An alarm is generated when this amount reaches the overflow valve.
- **Current overflow** is the amount that reached the overflow valve at the last overflow. You can reset this value by clicking on the "Reset" button.
- **Reset current overflow**
- **Delivery rate** is the feed amount that can be transported per minute within the respective circuit.
- **Cover safety switch alarm with delay:** If this setting is activated, checking of the safety switch for the drive unit's cover is delayed at the start of the drive. Additionally, the delay time must be entered in ms in the next field.
- **Level check time** indicates how often the trough sensors should be checked.
- **Pulse alive check:** Define whether an alarm or a warning should be issued in case of an error.
- **Pulse frequency check:** Define whether an alarm or a warning should be issued in case of an error.

- **Invert pulse signal:** This value indicates the waiting time before the pulse output is inverted. If a time of 500 ms is entered here, for example, the total pulse length is 1000 ms (1 s).
- **Measured pulses per minute:** This parameter is displayed for viewing only. It shows the value currently measured by the control. The chain must have run for no less than one minute so the value can be displayed.
- **Valve switching duration:** This setting defines for how long the application waits for the valve to switch.
- **Minimum required charge (batch) amount:** This setting refers to the check point that can be defined in the Composer under "Distribution" > "Circuit distribution". If the system registers an amount lower than defined under this parameter, a warning is issued.
- **Max. number of charge (batch) warnings:** This setting refers to the check point that can be defined in the Composer under "Distribution" > "Circuit distribution". If more warnings than the defined number are issued, an alarm is generated and the control goes into error mode.
- **Independent sensor reading** indicates whether the sensors can be checked irrespective of the valves.

 **NOTICE!**

If the valves need to be opened for the sensor check, however, do not activate this setting.

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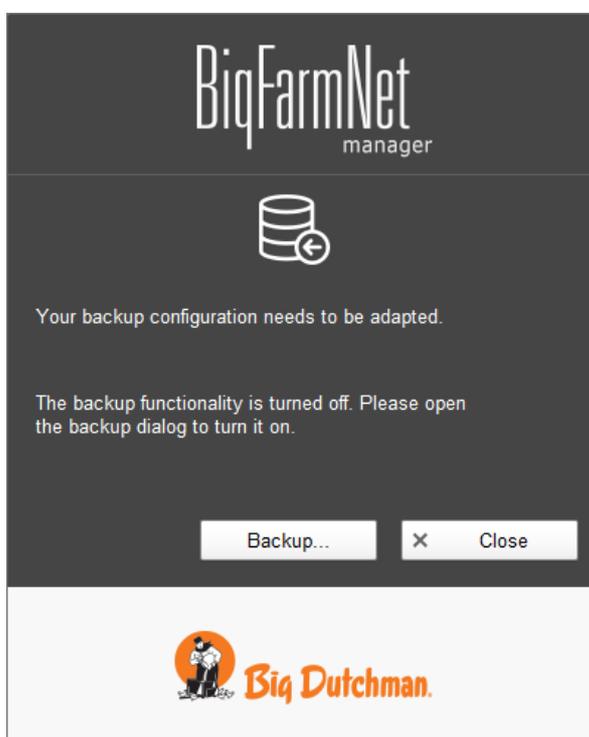
## 4.6 Data backup

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.

### NOTICE!

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.

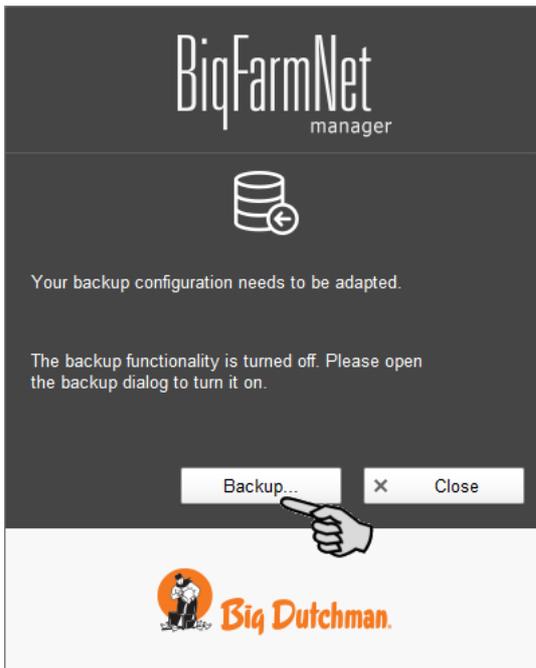
Remember that you can only retrieve the last data backup. Everything you have created or changed since then is not included in this backup. This means that the backup period should be determined depending on the amount of data you produce. You should find the ideal compromise between acceptable data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

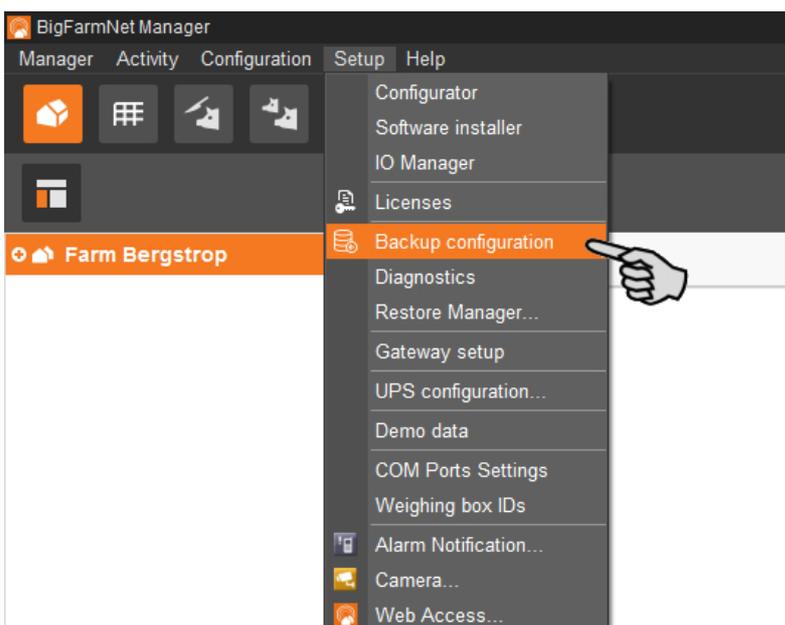
Open the settings dialog as follows:

1. Click on "Backup...".



OR

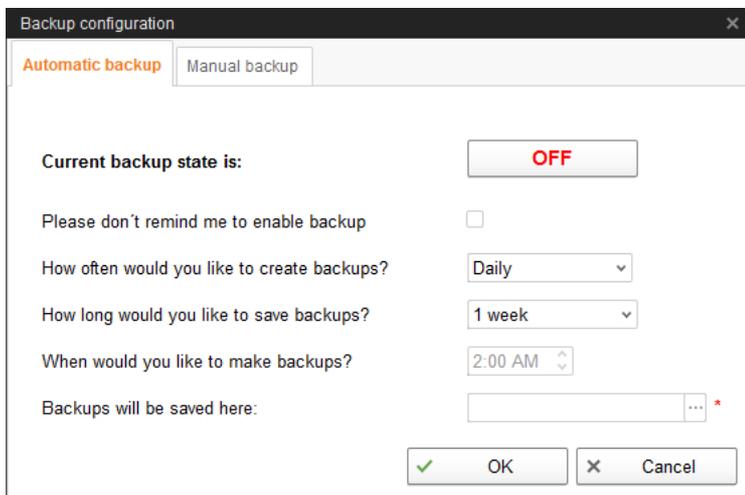
1. Click on "Backup configuration" in the "Setup" menu.



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

### Automatic backup

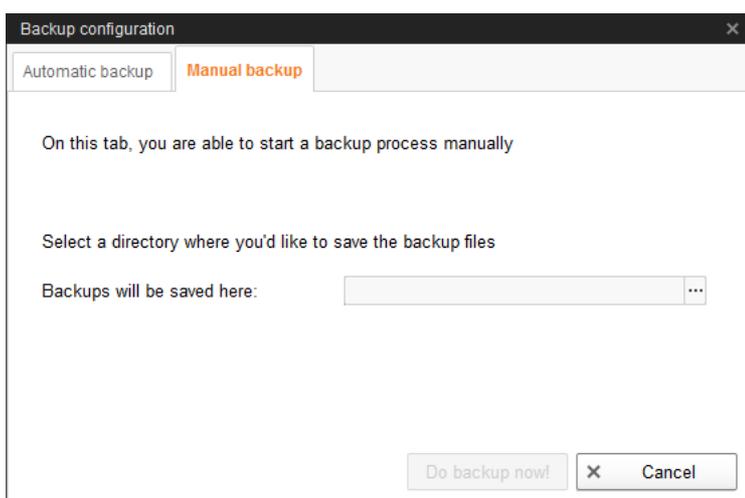
The automatic backup is pre-set to "OFF".



- 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

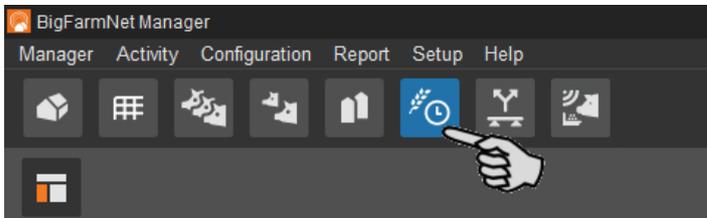


- a) Select an external storage location.
- b) Click on the now active button "Create backup now!"

## 5 Task Manager

### 5.1 Defining a task

1. Click on "Task Manager" in the toolbar.

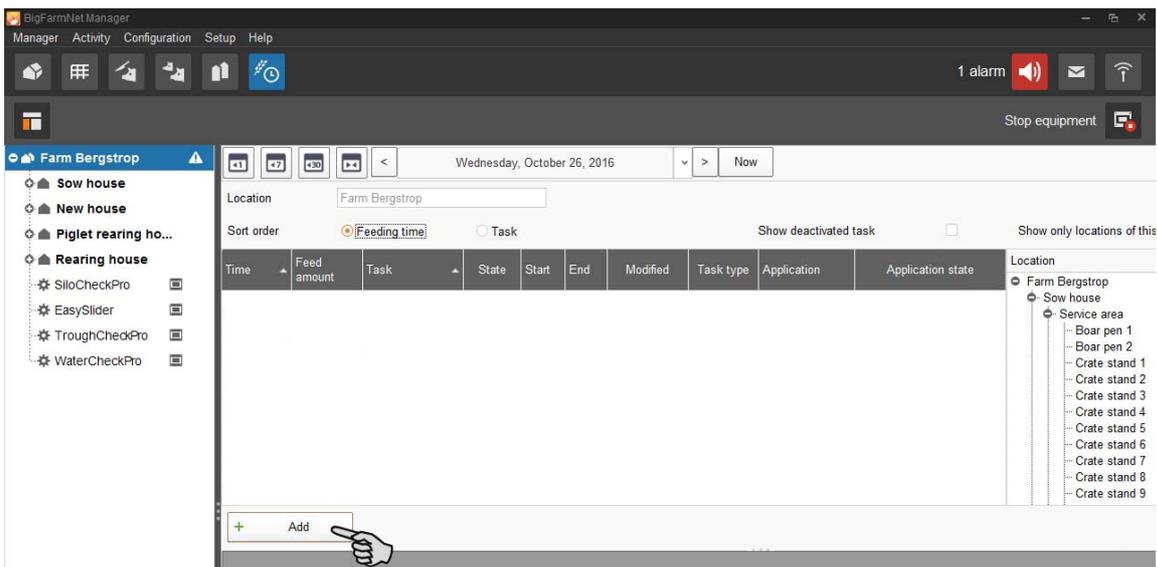


2. Click on the correct system in the farm structure.

If you stay on the farm level, you will need to indicate the system in the mandatory field "Application" in the task dialog.

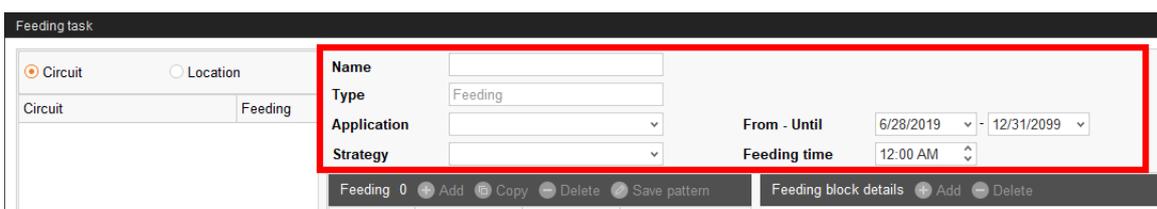
3. In the application window, click on "Add".

This opens the task dialog.



4. Define the bold mandatory information at the top.

Depending on the selected application, mandatory information may vary.



- **Name of the task**

- **Type** is pre-set to "Feeding".
- **Application**
- **Strategy** defines the task.

The strategies and their settings are explained in the following chapters.

- **From – Until:** Time period for this task. The task will not be started outside of this time period.

5. Select the correct locations / circuits on the left-hand side.

### 5.1.1 Silo filling adlib

For the strategy "Silo filling adlib", a time period is defined during which the target silos' sensors are checked continuously. When a sensor reports its status as "empty", the defined feed fill amount is immediately sent to the silo.

1. Follow the initiatory steps in 5.1.
2. Click on "Add" and define the start time for the silo filling.

3. To add another time period, click on "Add" again.
4. For each time period, configure the following settings in the lower part of the window:

- **Feeding end:** End time of silo filling  
Use the start time and the feeding end to define the time period for the silo filling. In case of an immediate start irrespective of the start time, filling will still end at the time indicated under "Feeding end".
- **Silo selection:** Define which target silos should be filled first:
  - "Longest empty": Target silo whose sensor has been reporting empty for the longest time since the last filling.
  - "Shortest distance": Target silo with the shortest distance to the source silo.
  - "First empty": Target silo whose sensor reported empty as the first of all empty target silos.
  - "Longest distance": Target silo with the longest distance to the source silo.

5. Click on "OK" after you have configured all settings.

### 5.1.2 PLC program

The "Program" strategy is used to start PLC programs. Starting with a start sensor (manual start) is currently not supported. Specific parameters are therefore inactive (grayed out).

1. Follow the initiatory steps in 5.1.
2. Click on "Add" and enter the time for the program.

3. Configure the settings for the program in the lower part of the window under "Program detail".

The screenshot shows a dialog box titled "Program detail" with a sub-header "12:00 AM Program". The dialog contains the following settings:

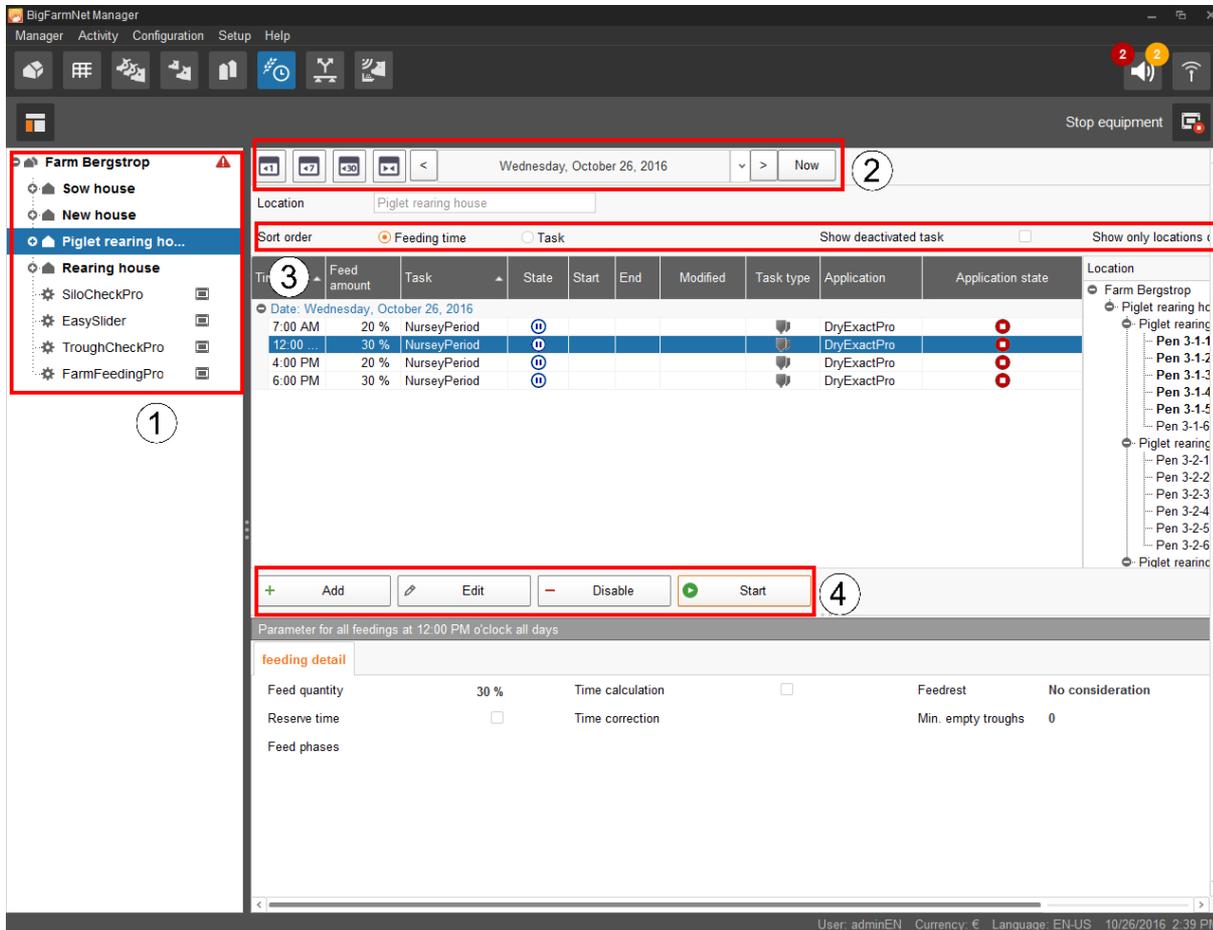
Program	<input type="text"/>	Start sensor	<input type="text"/>
Start device	<input type="text"/>	Only manual start	<input type="checkbox"/>
Cancel device	<input type="text"/>	Time frame before	<input type="text" value="0 min"/>
		Pause time after	<input type="text" value="0 min"/>
		Max feeding count	<input type="text" value="1"/>

At the bottom right, there are two buttons: "OK" (with a green checkmark icon) and "Cancel" (with a red X icon).

- **Program** defines the PLC program that is to be started.
  - **Start device** defines the output that must be set to start the PLC program.
  - **Cancel device** defines the input that must be set to end the PLC program.
4. If necessary, add more feeding times for the program as described above.
  5. Click on "OK" after you have configured all settings.

## 5.2 Editing a task

As soon as a task has been created, it will appear in the overview of the Task Manager. The following functions are available:



1. View the tasks by clicking on the correct system or location where the system is installed in the farm structure.

On the farm level, all tasks of all systems are displayed.

2. Select a time period, if necessary.

- Display of days, weeks or months
- Display of any time period
- Return to the current date by clicking on "Now"

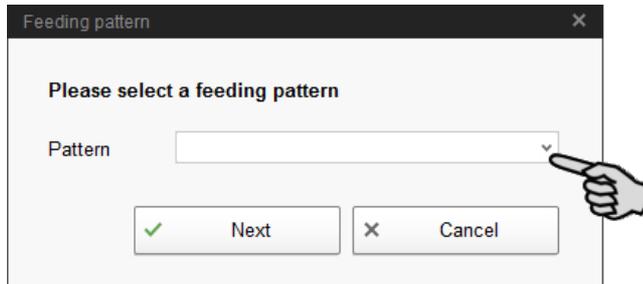
3. Adjust the view, if necessary.

- Sort according to "Feeding time" or the name ("Task").
- "Show deactivated tasks"
- "Show only locations of this feeding time"

4. You may edit feeding times as follows. First, select the correct feeding time by clicking on it.

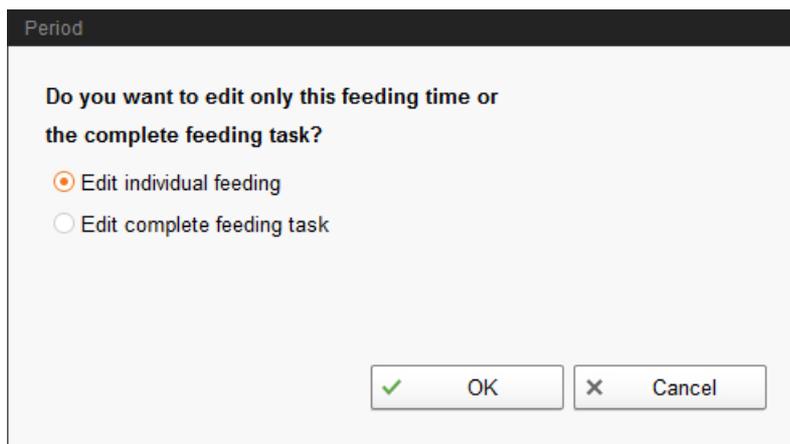
- "Add" = add a new task.

If you have created feeding time patterns, you will be asked whether you want to select an existing pattern. If applicable, select a pattern from the drop-down menu. Click on "Next".



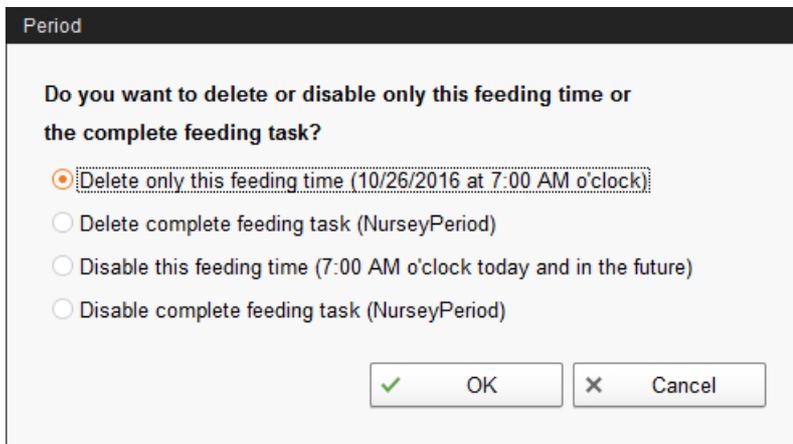
- "Edit" = edit the selected time or the entire connected task.

Select the correct option and click on "OK".

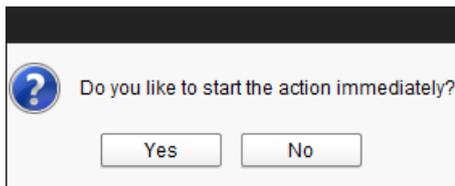


- "Deactivate" = deactivate or delete the selected time or the entire connected task.

Select the correct option and click on "OK".



- "Start" = immediately start the selected action, even if a different time was saved.



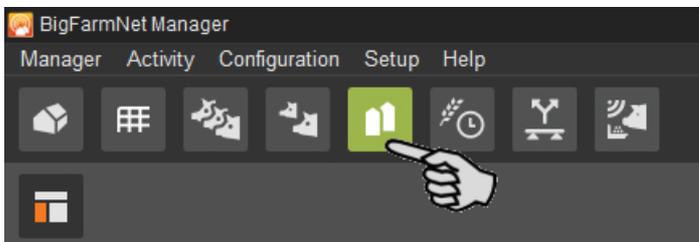
## 6 Silo Manager

With the Silo Manager, you can monitor and manage the data of all your silos.

The Silo Manager offers the following functions:

- registering the amounts of feed unloaded from the silos
- calculating the expected storage duration of the silo contents
- receiving a warning when a silo requires filling
- managing suppliers and prices for each feed component
  - BigFarmNet automatically calculates the total delivery amounts and your feed costs based on this information.

Open the Silo Manager by clicking on the respective icon in the toolbar.



The view "Silo Manager" shows the current data of your silos.

- Hiding and showing columns:
  - a) Right-click into the head line to open the context menu with all parameters.
  - b) Select or de-select parameters to hide and show the respective columns.
- Rearranging columns:
  - a) Click into the head line of the respective column and hold the mouse button.
  - b) Drag the column to the desired position.

The arrows showing up at the head line when you move the columns help you assign the new position.

Locked	Location	Name	Number	Content	Today (-)
	Sow house	Silo_Barley	4	Barley	0.00
	Sow house	Silo_Barley	4	Barley	0.00
	Sow house	Silo_Corn	5	Corn	0.00

- c) Release the mouse button.

The column is now at its new position.

- Sorting based on dates:

Click on the respective parameter in the head line to sort the silos in ascending or descending order according to the given values.

Locked	Location	Name	Number	Content	Today (-)	Yesterday (-)	Forecast empty	Current weight	Critical fill level	Fill level
	Sow house	Silo_Barley	1	Barley	0.00 kg	599.60 kg	1 days	612.00 kg	41	3 %
	Sow house	Silo_Triticale	2	Triticale	0.00 kg	599.85 kg	16 days	9,834.15 kg		48 %
	Sow house	Silo_Wheat	3	Wheat	0.00 kg	626.42 kg	13 days	8,314.41 kg		42 %
	Sow house	Silo_Wheat	4	Wheat	0.00 kg	617.05 kg	13 days	8,314.41 kg		42 %
	Sow house	Silo_Barley	5	Barley						
	Sow house	Silo_Corn	6	Corn	0.00 kg	620.73 kg	13 days	8,314.41 kg		42 %
	Sow house	Silo_Corn	7	Corn	0.00 kg	590.57 kg	14 days	8,314.41 kg		42 %
	Sow house	Silo_Rye	8	Rye	0.00 kg	613.85 kg	13 days	8,314.41 kg		42 %
	Sow house	Silo_Soya	9	Soya	0.00 kg	604.46 kg	13 days	8,314.41 kg		42 %
X	Sow house	Silo_Triticale	10	Triticale	0.00 kg	594.83 kg	3 days	1,927.00 kg	41	10 %
	Sow house	Silo_Rye	11	Rye	0.00 kg	625.34 kg	19 days	11,853.35 kg		59 %
	Sow house	Silo_Soya	12	Soya	0.00 kg	619.59 kg	19 days	11,853.35 kg		59 %
	Sow house	Silo_Barley	13	Barley	0.00 kg	591.63 kg	19 days	11,853.35 kg		59 %
	Sow house	Silo_Triticale	14	Triticale	0.00 kg	613.02 kg	19 days	11,853.35 kg		59 %
	Sow house	Silo_Wheat	15	Wheat	0.00 kg	626.37 kg	19 days	11,853.35 kg		59 %
	Sow house	Silo_Wheat	16	Wheat	0.00 kg	621.25 kg	19 days	11,853.35 kg		59 %
X	Sow house	Silo_Barley	17	Barley	0.00 kg	613.18 kg	19 days	11,853.35 kg		59 %
	Sow house	Silo_Corn	18	Corn	0.00 kg	621.38 kg	16 days	10,333.60 kg		52 %
	Sow house	Silo_Corn	19	Corn	0.00 kg	606.60 kg	17 days	10,333.60 kg		52 %
	Sow house	Silo_Rye	20	Rye	0.00 kg	600.85 kg	16 days	10,333.60 kg		52 %

**Silo\_Wheat [3]**

Category	Field	Value
General	Name of silo	Silo_Wheat
	Capacity	20,000.00 kg
Loading	Location	Sow house
	Current weight	8,314.41 kg
Unloading	Ingredient type	Dry
History		
Settings		

User: adminEN Currency: € Language: EN-GB 08/10/2018 10:36

During configuration in the Composer, you assigned the correct locations to the silos. If you click on a house in the farm structure, you will only see the silos of this house.

The lower part of the application window shows additional silo data. The **General** category shows general information about the selected silo. Data under **Loading** (delivery, chapter 6.1) and **Settings** (chapter 6.4) can be edited.

## 6.1 Delivery

The category "Loading" shows previous deliveries to the selected silo. You may add further deliveries, edit or delete them. Click on the button "Export" to export a CSV or XLS file with the data for further use.

Silo_Wheat [1]							
General	Date	Content	Supplier	Delivery number	Price	Total cost	Amount
Loading	1/24/2018 1:00 AM	Wheat	East Pig Food	10120	0.57 €/kg	5,430.77 €	9,531.0 kg
	1/16/2018 1:00 AM	Wheat	East Pig Food	10121	0.31 €/kg	3,113.81 €	9,923.0 kg
	1/8/2018 1:00 AM	Wheat	East Pig Food	10122	0.30 €/kg	3,076.95 €	10,357.0 kg
Unloading	12/31/2017 1:00 AM	Wheat	East Pig Food	10123	0.59 €/kg	6,208.51 €	10,452.0 kg
	12/18/2017 1:00 AM	Wheat	East Pig Food	10124	0.29 €/kg	2,763.68 €	9,425.0 kg

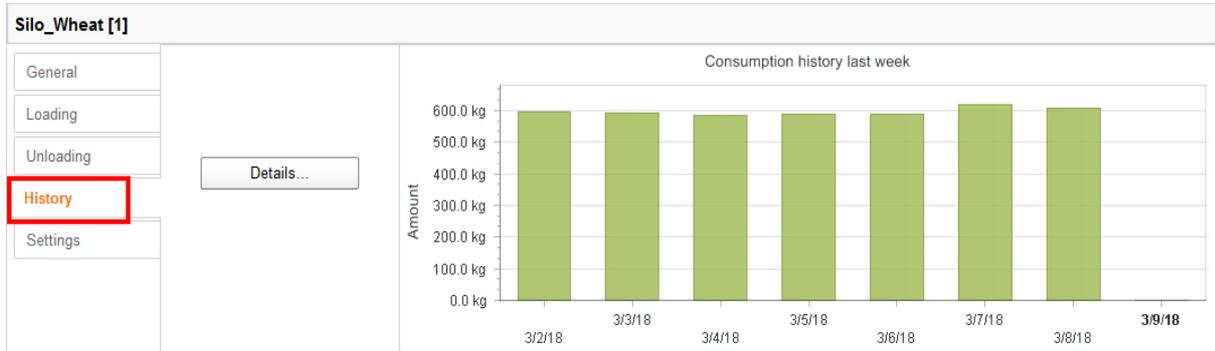
## 6.2 Consumption

The "Unloading" category shows all quantities that have been removed from the selected silo up to now. Click on the button "Export" to export a CSV or XLS file with the data for further use.

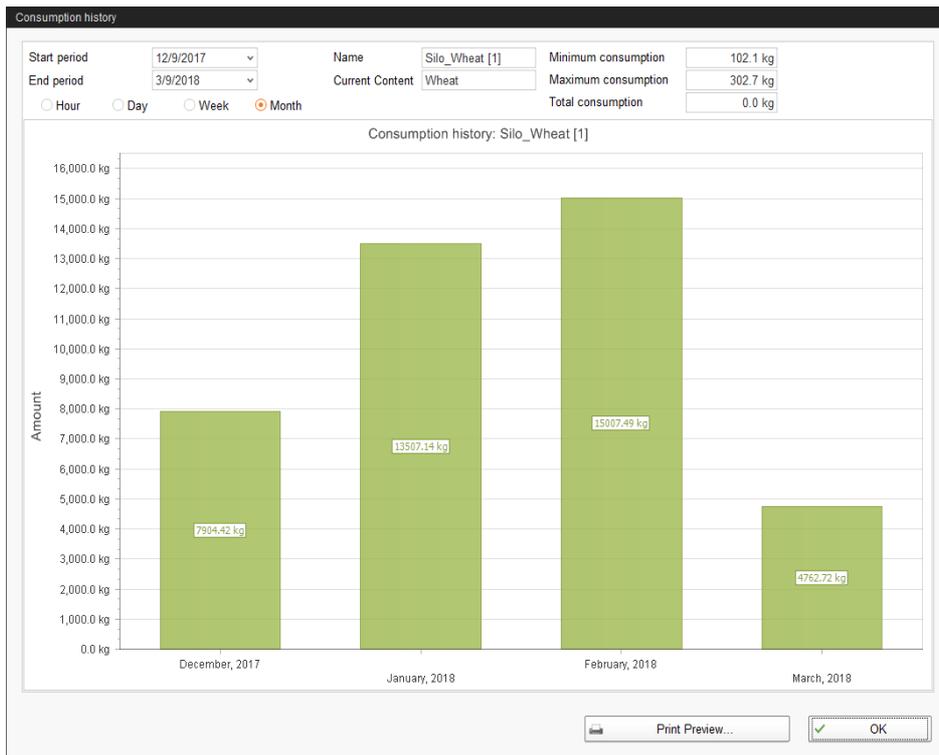
Silo_Wheat [1]				
General	Date	Location	Content	Amount
Unloading	3/8/2018 8:37 PM	Piglet rearing house	Wheat	302.7 kg
Loading	3/8/2018 10:32 AM	Piglet rearing house	Wheat	302.7 kg
	3/7/2018 7:18 PM	Piglet rearing house	Wheat	205.7 kg
	3/7/2018 4:28 PM	Piglet rearing house	Wheat	205.7 kg
	3/7/2018 10:48 AM	Piglet rearing house	Wheat	205.7 kg
History	3/6/2018 7:58 PM	Piglet rearing house	Wheat	196.5 kg
	3/6/2018 3:24 PM	Piglet rearing house	Wheat	196.5 kg
Settings	3/6/2018 11:23 AM	Piglet rearing house	Wheat	196.5 kg
	3/5/2018 8:14 PM	Piglet rearing house	Wheat	195.4 kg

### 6.3 History

All feed removed from the selected silo in the past seven days is displayed in the "History" category as a bar chart.



Clicking on the button "Details..." opens the consumption history in a separate window, in which you can select the time period as required. The consumption history can be printed.



### 6.4 Settings

Define the most important information about the selected silo under "Settings".

### 6.4.1 Source silo

The following settings can be configured for a source silo. Mandatory information is bold.

Field	Value
Name of silo	Source silo_Barley
Components	Barley
Capacity	20,000.00 kg
Warning amount (relative)	25.0%
Warning amount (total)	5,000.00 kg
Weighed	<input type="checkbox"/>
Lock outlet	<input type="checkbox"/>
Unlock outlet automatically	<input type="checkbox"/>
Create warning	<input type="checkbox"/>
Priority	50
Tare	Tare
Last tare date	1/1/1970

- **Name of silo:** To be able to distinguish source and target silos more easily in the overview, we recommend giving a unique name plus the addition "source silo".
- **Components** or **Recipes** indicate the silo's content.
- **Weighed** is an information from the application *SiloCheckpro* and defines weighed silos.
- **Lock outlet** is a manual setting.
- **Unlock outlet automatically** means that the automatic locking actuated by the system is automatically removed after the delivery. The system locks a silo automatically after its entire contents have been used up.
- **Capacity** is the maximum amount which can be filled into the silo.
- **Warning amount (relative)** or **Warning amount (total):** If you enter one of these values, the other one is calculated automatically.

The relative warning amount refers to the silo's capacity.

If the silo weight falls below the (total/absolute) warning amount, the system can create a warning for a critical fill level (**Create warning**).

- Use the field **Priority** to sort the silos. The higher the priority value, the higher the chance that the component will be removed from this silo.
- **Tara** is used to set the silo's weighing system to zero. This is only possible if the silo is completely empty.
- Information regarding the **Last tare date**

## 6.4.2 Target silo

The following settings can be configured for a target silo. Mandatory information is bold.

Silo settings: Target silo\_Triticale [2]

<b>Name of silo</b>	Target silo_Triticale	Capacity	20,000.00 kg
<b>Content</b>	Component	Warning amount (relative)	10.0%
<b>Components</b>	Triticale	Warning amount (total)	2,000.00 kg
Recipes		Create warning	<input type="checkbox"/>
<b>Weighed</b>	<input type="checkbox"/>	Priority	50
Lock outlet	<input type="checkbox"/>	Tare	Tare
Lock inlet	<input type="checkbox"/>	Last tare date	1/1/1970
Unlock outlet automatically	<input type="checkbox"/>		

OK Cancel

- **Name of the silo:** To be able to distinguish source and target silos more easily in the view, we recommend giving a unique name plus the addition "source silo".
- **Content** indicates whether the content always remains the same ("Component") or whether it varies depending on the animals' feed demand according to the feed curve ("Animal-based"). The content defines the feeding strategy, i.e. whether the system always supplies the same component or a recipe to the silo. Where a feed curve has been selected, the feed composition is always adapted to meet the youngest animal's age.
- **Components** or **Recipes** indicate the silo's content.
- **Weighed** is an information from the application SiloCheckpro and defines weighed silos.
- **Lock outlet** is a manual setting.
- **Lock inlet** is a manual setting.
- **Unlock outlet automatically** means that the automatic locking actuated by the system is automatically removed after the delivery. This is because the system locks a silo automatically after its entire contents have been used up.
- **Capacity** is the maximum amount which can be filled into the silo.
- **Warning amount (relative)** or **Warning amount (total):** If you enter one of these values, the other one is calculated automatically.

The relative warning amount refers to the silo's capacity.

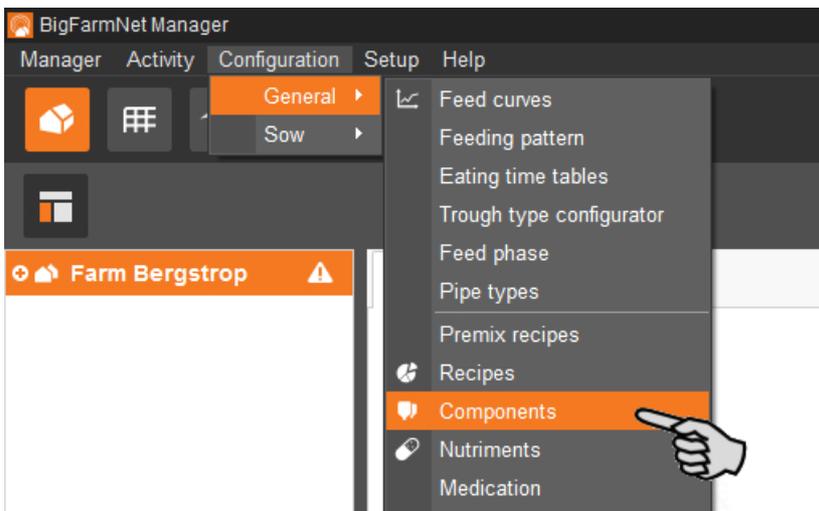
If the silo weight falls below the (total/absolute) warning amount, the system can create a warning for a critical fill level (**Create warning**).

- Use the field **Priority** to sort the silos. The higher the priority value, the higher the chance that the component will be removed from this silo.
- **Tara** is used to set the silo's weighing system to zero. This is only possible if the silo is completely empty.
- Information regarding the **Last tare date**

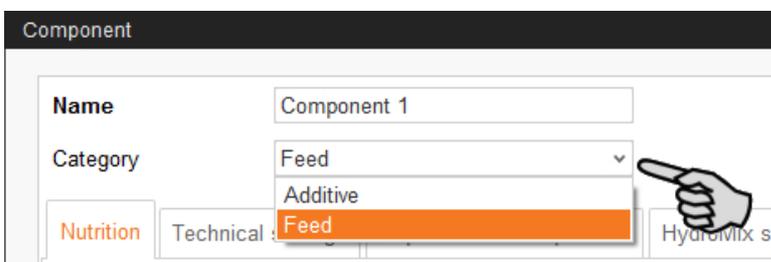
## 7 Creating components

Use the "Component" dialog to create different components and to add any corresponding information. Components are classified into the categories "Feed" and "Additive". Components in the category "Feed" can be the individual ingredient of a feed mix or a complete compound feed.

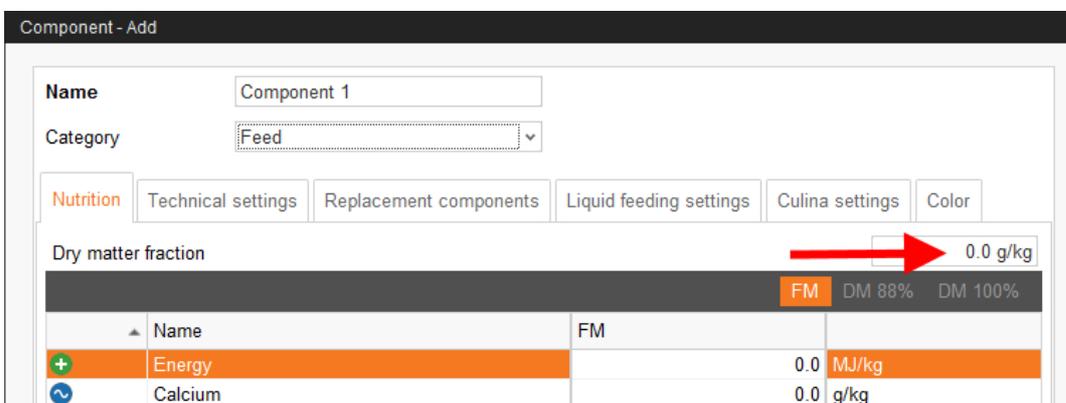
1. In the menu "Configuration" > "General", click on "Components".



2. In the dialog window "Components", click on "Add".
3. Enter a name for the component and select a category.



4. Under the first tab "Nutrition", enter the dry matter fraction of the component.



5. Only after entering the dry matter fraction can you choose one of the following quantities:

- FM = per fresh matter
- DM 88 % = in relation to 88 % dry matter
- DM 100 % = in relation to 100 % dry matter

If required, enter the energy content and the individual nutrient fractions in the table below (see 9 "Creating nutrients").

Component - Add

Name: Component 1  
Category: Feed

Tabs: Nutrition (selected), Technical settings, Replacement components, Liquid feeding settings, Culina settings, Color

Dry matter fraction: 880.0 q/kg

		FM	DM 88%	DM 100%
+	Energy			12.6 MJ/kg
~	Calcium			15.0 g/kg
~	Vitamin A			5.0 ppm
~	Crude protein			0.0 g/kg
~	Copper			0.0 g/kg

6. Define parameters for feed preparation in the mixing tank under the tab "Technical settings".

- Under **Total mixing time**, determine a time period for mixing the component. If several components are mixed together, the mixing time will correspond to that of the component with the longest mixing time.
- If a component needs to macerate first, click on **Interval mixing** and enter the required value.
- Define settings for dosing of the component:

> **Auto:** Define a weight as threshold value. If the weight of the dispensed component is below the threshold, dosing is automatically time-controlled. If the weight is above the threshold, dosing is automatically weight-controlled.

OR

> **Manual:** Define whether components should be generally dispensed "by weight" or "by time".

- If the component is dissolved in water, change the presetting under **Specific weight**, if necessary.

7. Select one or more replacement components from the tab "Replacement components" in case the component you entered is used up before a new order arrives. If you select more than one replacement, you may sort them in descending order according to priority.

8. Configure the necessary settings under the tab "Liquid feeding settings".

- **Dose component through circuit** refers to water or whey to be dispensed via the circuit with a specific pump (**Preferred feed pump type**).
- The settings in the bottom part, **Parameters for dosing into mixing tank**, must be configured for the CulinaMixpro application:

The temperature values that must be defined are target values. The parameter **Additional mixing time after dosing** ensures that the component can dissolve at the stated temperature.

Component - Add

Name: Component 1  
Category: Feed

Nutrition | Technical settings | Replacement components | **Liquid feeding settings** | Culina settings | Color

Liquid feeding technical settings

Wait after mixing tank agitator on/off: 3.0 s  
Dosing with agitator of mixing tank:   
Dose component through circuit:   
Preferred feed pump type: None

Parameters for usage as additive

Position for dosing into mixing tank for activities: After adjustment components  
Start MedInject for stub or valves before dosing into mixing tank:   
How to handle missing ingredient for activities: Alarm

Parameters for dosing into mixing tank

Preparation temperature during dosing into mixing tank: 0.0 °C  
Allowed temperature tolerance (±): 3.0 °C  
Additional mixing time after dosing: 00:00:00 hh:mm:ss

OK Cancel

9. Select a color for the component under the tab "Color". This makes recognizing components in the feed curve easier and lets you distinguish specific components from others during evaluation.

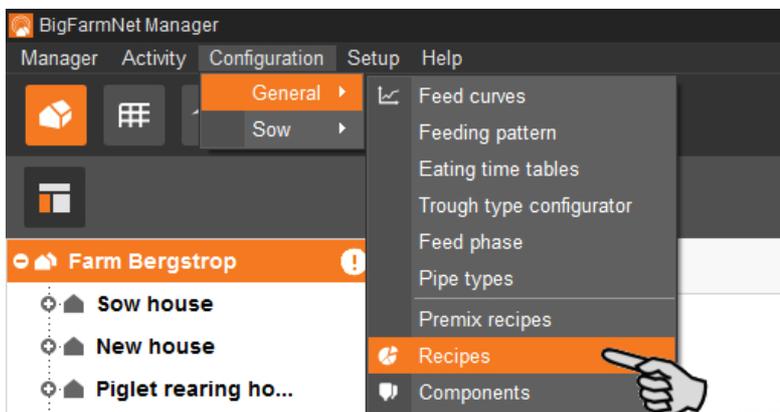
The screenshot shows a software interface for adding a component. At the top, the title bar reads "Component - Add". Below it, there are two input fields: "Name" with the text "Component 1" and "Category" with a dropdown menu showing "Feed". A series of tabs are visible: "Nutrition", "Technical settings", "Replacement components", "Liquid feeding settings", "Culina settings", and "Color" (which is highlighted in orange). Below the tabs, the "Component color" section is active. It contains a grid of 20 predefined color swatches arranged in four rows and five columns. To the right of the grid is a "Choose your own color" section with a color picker and a dropdown menu showing the hex code "153, 0, 204".

10. Click on "OK" after you have configured all settings.

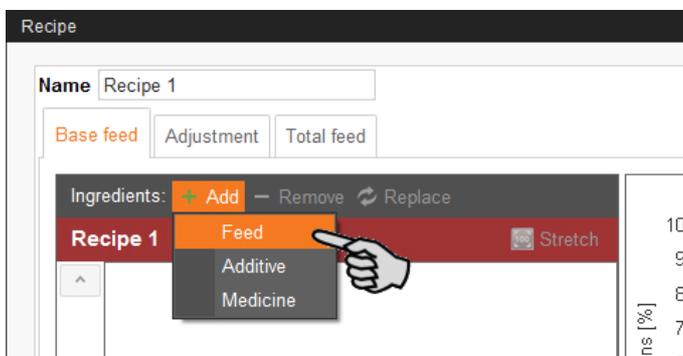
## 8 Creating a recipe

Use the "Recipe dialog" to compile a recipe for a feed mix based on the components you created (see 7 "Creating components"). A recipe is used like a component when you create a feed curve.

1. In the menu "Configuration" > "General", click on "Recipes".

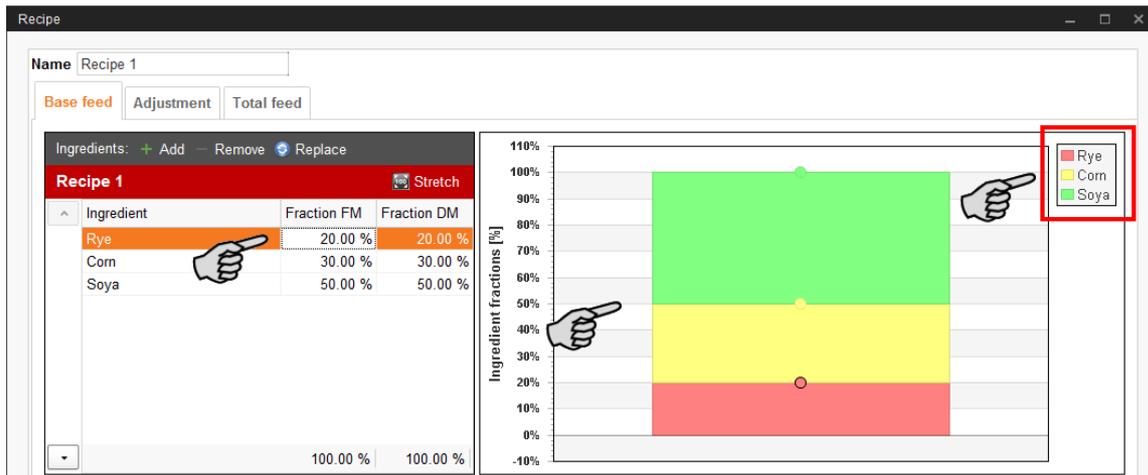


2. In the dialog window "Recipes", click on "Add".
3. Enter a name for the recipe.
4. Under the first tab "Base feed", add the required ingredients "Feed", "Additive" or "Medicine".



5. Select whether you want to enter fresh matter (FM) or dry matter (DM) and define the respective fractions of the ingredients.

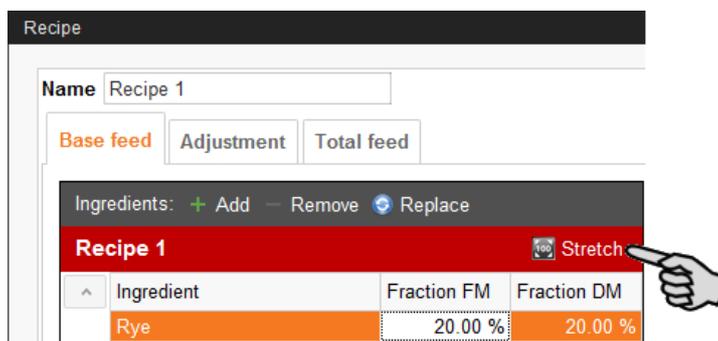
The fractions must sum up to 100 % in total. A diagram shows the distribution.



OR:

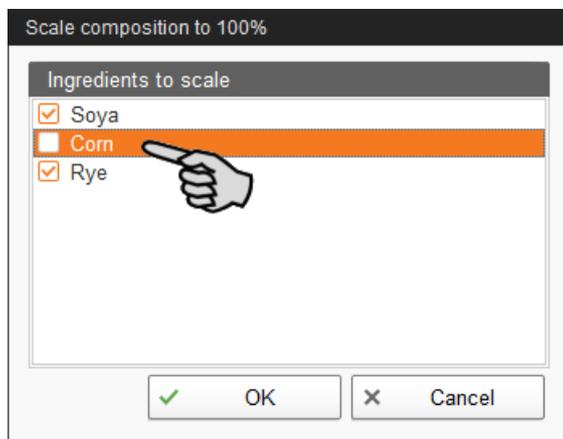
The ingredients can be distributed automatically:

a) Click on "Stretch":



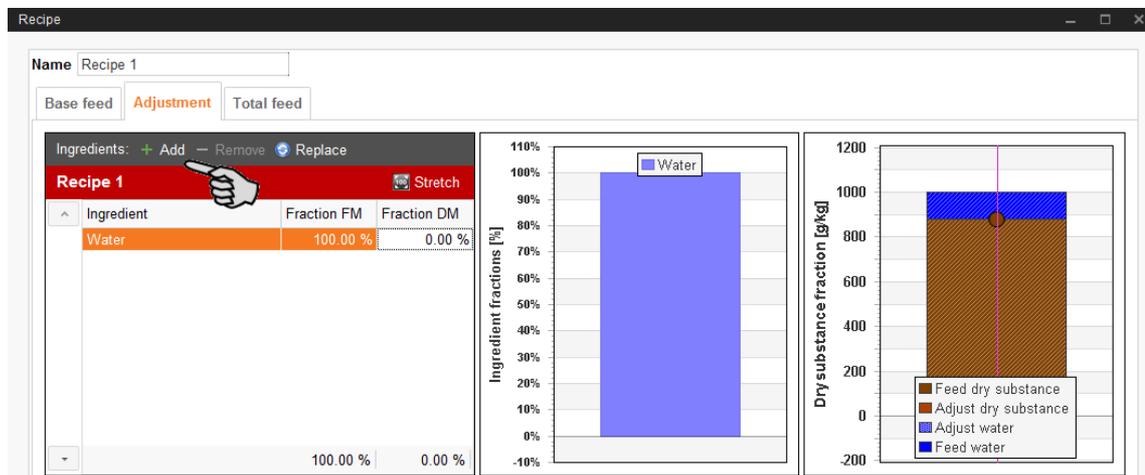
b) Deactivate ingredients whose fixed fraction should **not** be changed during automatic distribution.

Automatic distribution uses 100 % as basis. If one ingredient is deactivated with a fraction of e.g. 30 %, the other ingredients are evenly distributed over the remaining 70 %.

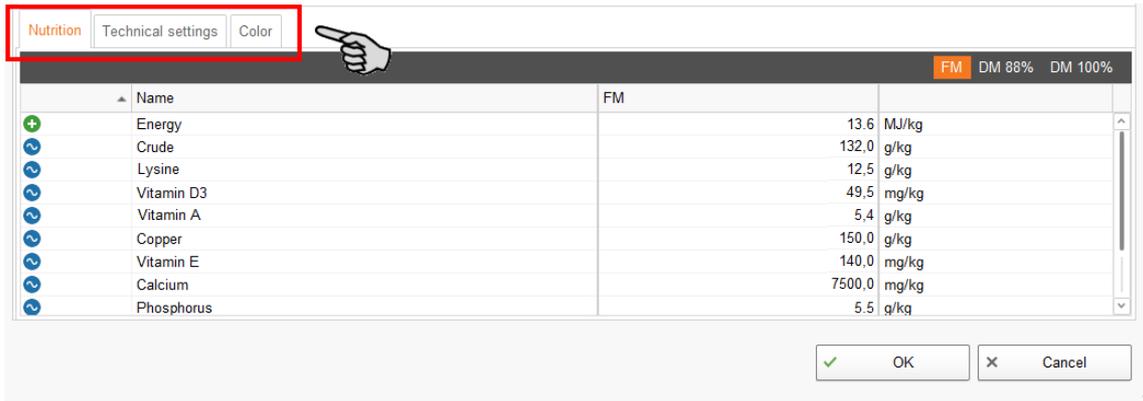


- c) Click on "OK" to distribute the ingredients automatically.
6. Under the tab "Adjustment", you may add ingredients of which proportions are used in addition to water.

The ingredient fractions and the dry matter fraction are shown in a diagram.



7. You may change the dry matter fraction directly in the diagram:
- Click on the dot in the diagram and hold the mouse button.
  - Move the dot up or down to increase or reduce the dry matter fraction.
8. Click on the tab "Total feed" for a graphic overview of your feed mix.  
Settings cannot be changed here.
9. In the lower part of the "Recipe" window, additional tabs allow for the following settings:
- **Nutrition:** Select between DM, FM 88 % and DM 100 %. The energy content and the nutrient fractions are then shown including the corresponding values.
  - **Technical settings:** Option to change the specific weight.
  - **Color:** Select a color for the recipe you created. This makes recognizing components in the feed curve easier and lets you distinguish specific components from others during evaluation.

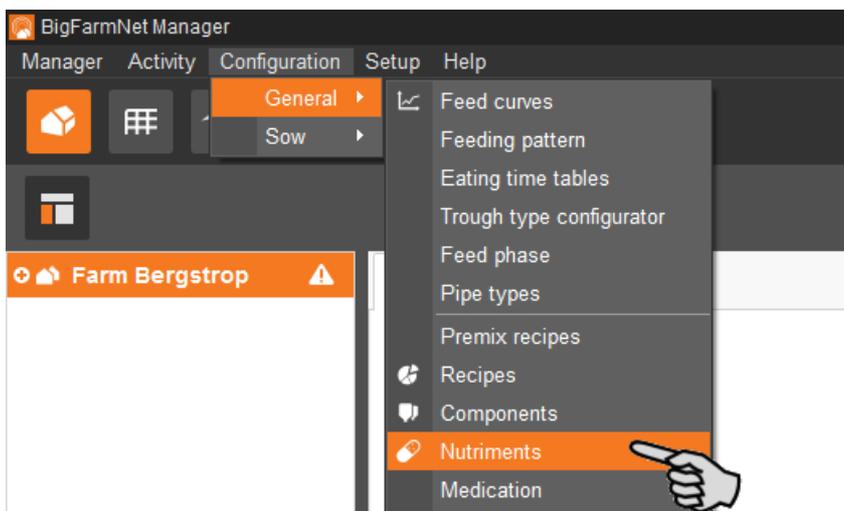


10. Click on "OK" after you have configured all settings.

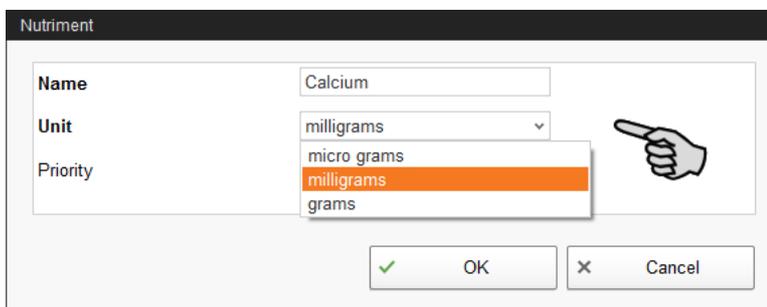
## 9 Creating nutrients

Nutrients include carbohydrates, fats and proteins, but also vitamins and minerals. The nutrients you create determine the nutritional value of the components. When you create a new component, all nutrients you created before will be listed. You can then enter the corresponding values per component, see chapter 7 "Creating components".

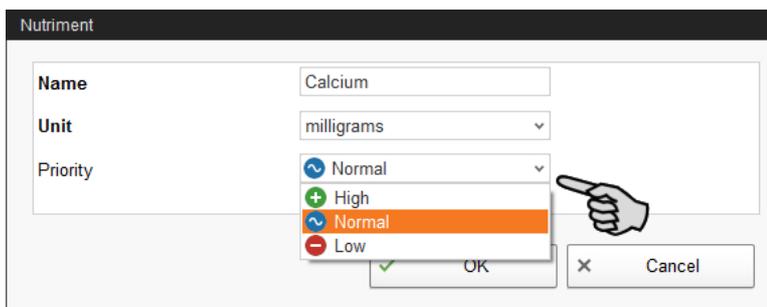
1. In the menu "Configuration" > "General", click on "Nutrients".



2. In the dialog window "Nutrients", click on "Add".
3. Enter a name for the nutrient and determine the unit.



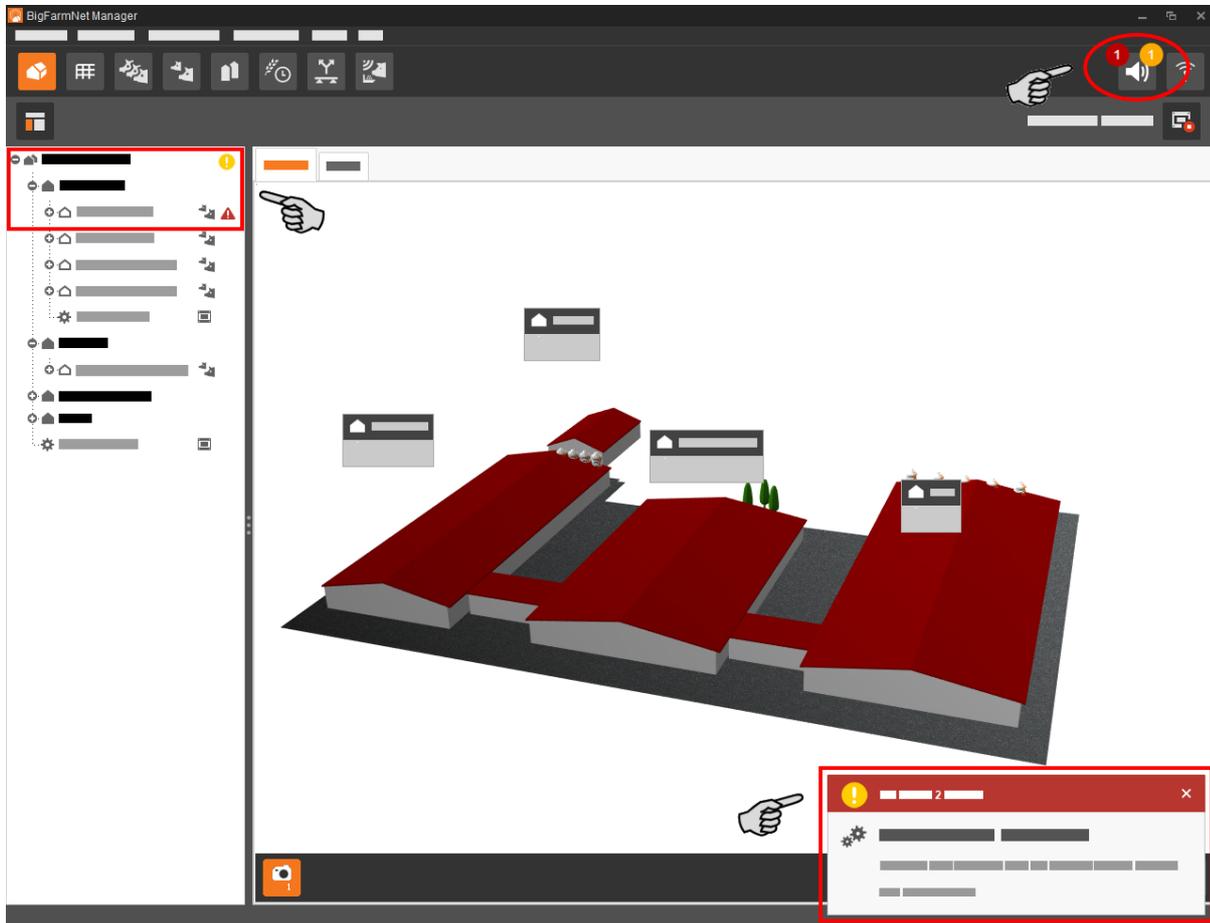
4. As an option, you can also determine a priority for each nutrient. The nutrients can then be listed in ascending or descending order according to priority later on.



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

## 10 Alarms and warnings

Alarms and warning are registered by the control computer, which transmits the message to BigFarmNet Manager. BigFarmNet Manager indicates alarms and warnings as follows:



Clicking on the pop-up window or the alarm icon in the tool bar opens the window for alarms. It lists all active alarms and warnings. Alarms and warnings are listed in the order of their occurrence.

If you click on a location with an alarm or warning icon in the farm structure, only problems active in the respective location are displayed.

Alarm				Filter	
Type	Categ.	Where	When	Category	Alarm
!	⚙️	Farm Bergstrop	3/2/2016 3:44:49 PM	<Enter filter criteria>	
!	⚙️	Farm Bergstrop	3/2/2016 3:40:49 PM	<Enter filter criteria>	

## 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

### NOTICE!

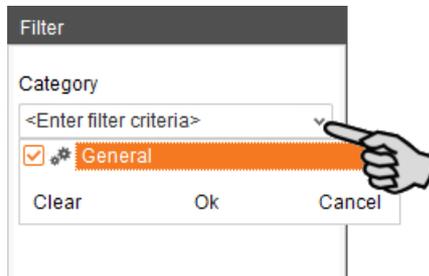
Always eliminate causes for alarms in the "Climate" category first.

## 10.1 Filtering alarms

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

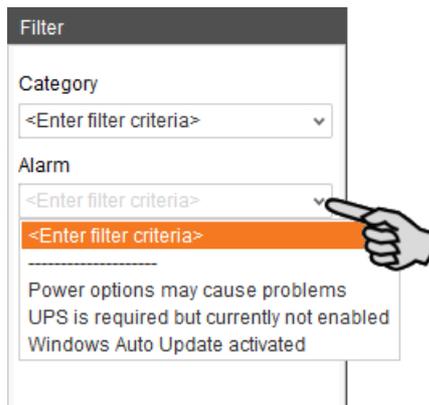
1. Open the drop-down menu under "Filter" in the right-hand part of the window.

By default, all categories are selected.



2. Click on "Clear" to delete all check marks.
3. Check the boxes of the correct categories and confirm by clicking on "OK".
4. Select the correct cause from the drop-down menu under "Alarm".

The alarms will be displayed according to the selected filter.



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

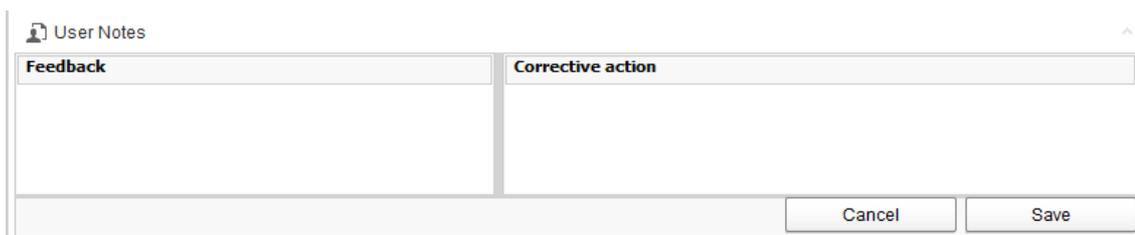
The selection is discarded and all alarms are listed.

## 10.2 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. Save a note for an alarm before acknowledging it, if required.

This note may be helpful to eliminate similar alarms later on. Notes are saved for each alarm in the lower part of the window under **User Notes**. Save the note.

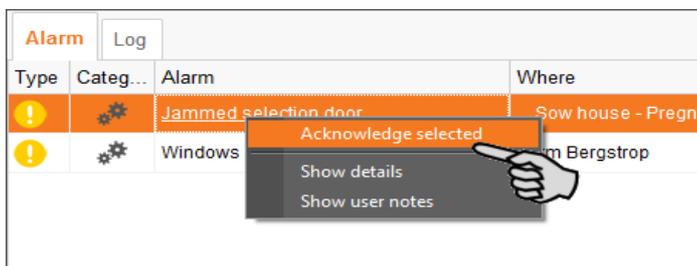


The screenshot shows a dialog box titled "User Notes". It contains two text input fields: "Feedback" and "Corrective action". At the bottom right, there are two buttons: "Cancel" and "Save".

2. Select the alarm you want to acknowledge by clicking on it.

You may also select multiple alarms to acknowledge them at the same time.

3. Right-click to open the context menu and click on "Acknowledge selected".



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

The alarm is removed from the **Alarm** window.

## 10.3 Alarm log

The log shows all alarms that have occurred since initial operation of BigFarmNet Manager. You may filter for specific alarms or delete alarms that are older than six months as follows:

Type	Categ...	Ala	Where	When	Duration
!	⚙️	UPS is required but currently not ...	Farm Bergstrop	3/18/2016 3:03:30 PM	
!	⚙️	Windows Auto Update activated	Farm Bergstrop	3/18/2016 3:03:15 PM	

1. Click on "Delete..." in the right-hand part of the window.
2. Select the desired time period or enter a date.

3. Click on "OK".

All alarms within the selected time period are deleted.

## 10.4 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

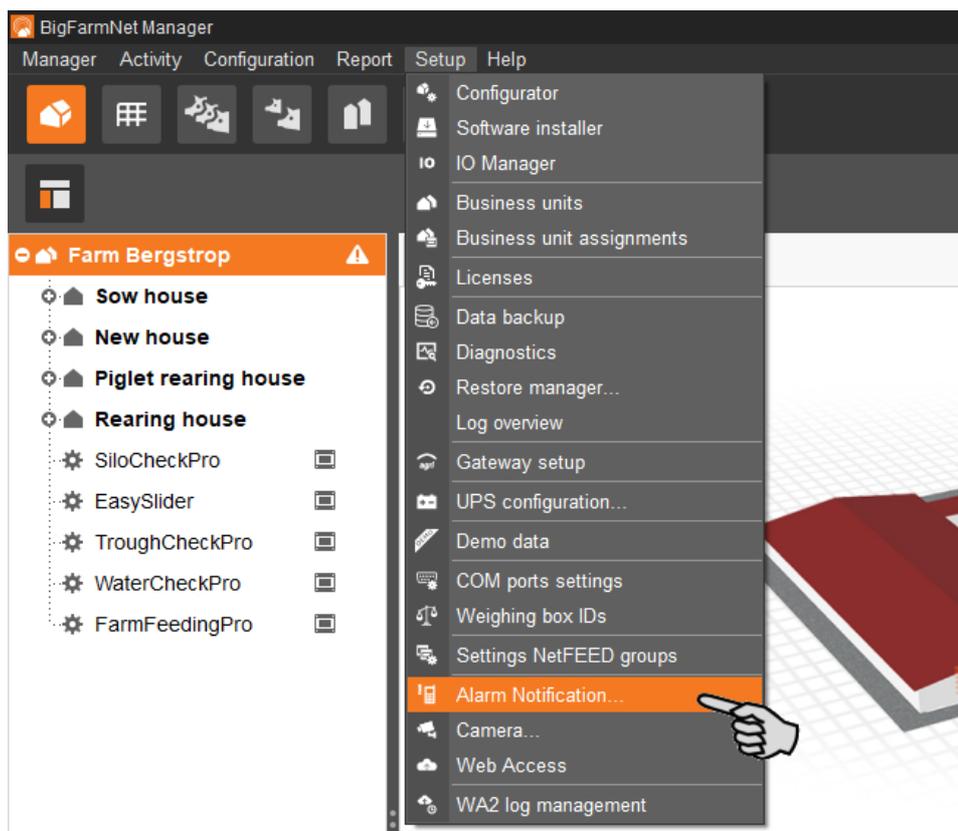
### NOTICE!

The Alarm Notification service cannot replace an autcaller! 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".



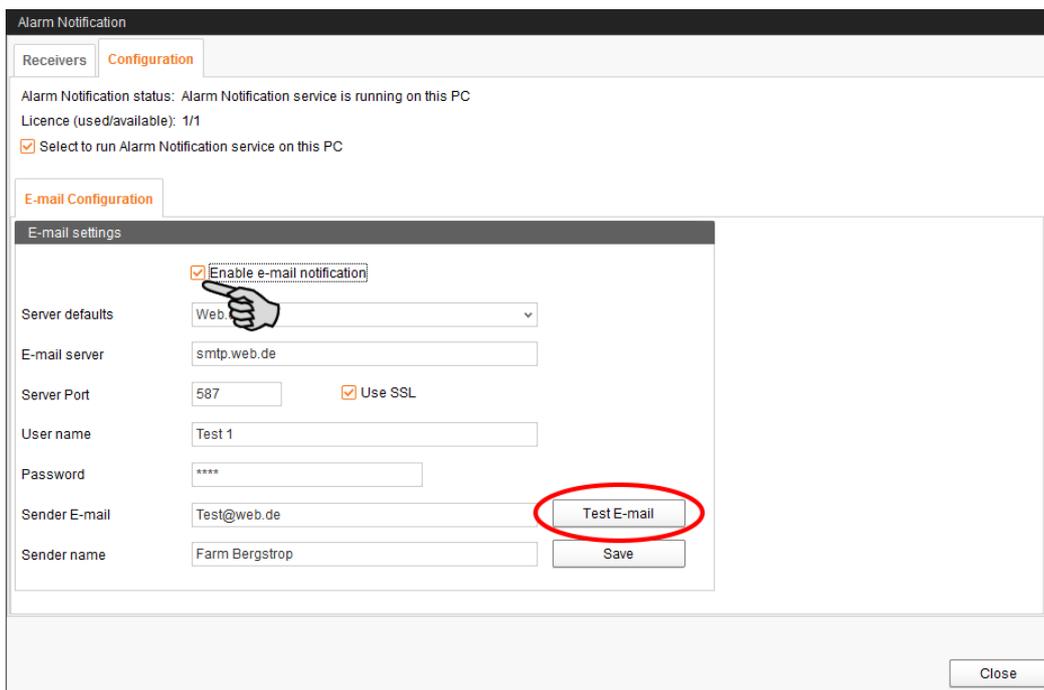
2. Activate the Alarm Notification service under "Configuration".

3. 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.

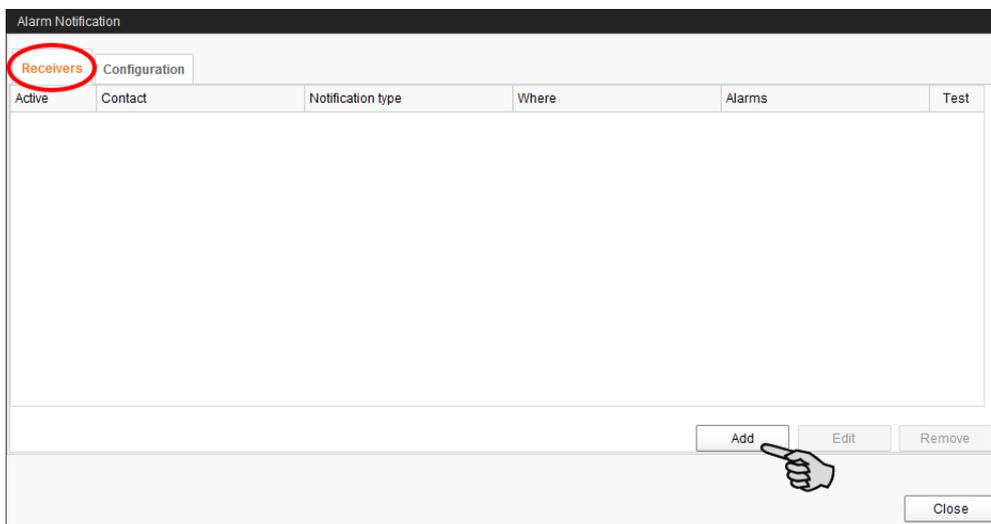
4. Enter the **user name**, the **password** and the **sender email**.

5. Activate the function for email notification and click on "Test email" to check the configuration.



The screenshot shows the "Alarm Notification" window with the "Configuration" tab selected. The "E-mail Configuration" sub-tab is active, displaying the "E-mail settings" section. The "Enable e-mail notification" checkbox is checked. A hand icon points to the "Server defaults" dropdown menu. The "E-mail server" is set to "smtp.web.de", "Server Port" is "587", and "Use SSL" is checked. The "User name" is "Test 1" and the "Password" is masked with "\*\*\*\*". The "Sender E-mail" is "Test@web.de" and the "Sender name" is "Farm Bergstrop". A red circle highlights the "Test E-mail" button. A "Save" button is also visible. A "Close" button is located at the bottom right of the window.

6. Click on "Save" to accept all settings.
7. Under "Receivers", click on "Add" to add a recipient.



The screenshot shows the "Alarm Notification" window with the "Receivers" tab selected. The "Receivers" tab is circled in red. Below the tab is a table with the following columns: Active, Contact, Notification type, Where, Alarms, and Test. The table is currently empty. At the bottom right of the table, there are three buttons: "Add", "Edit", and "Remove". A hand icon points to the "Add" button. A "Close" button is located at the bottom right of the window.

8. Enter the contact details and select the correct language.

The 'Edit Contact' dialog box contains the following fields and controls:

- Name:** A text input field.
- E-mail:** A text input field.
- Language:** A dropdown menu currently showing 'English (United Kingdom)'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

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

10. Select "Email" as **notification type** and confirm your selection by clicking on "OK".

11. Under **Where**, select the location whose alarms the recipient should receive.

You may select multiple locations.

The 'Alarm Notification' window displays a configuration table and a location selection dropdown:

Active	Contact	Notification type	Where	Alarms	Test
<input type="checkbox"/>	Receiver 1	Select notification type	All locations are selected	All Selected	

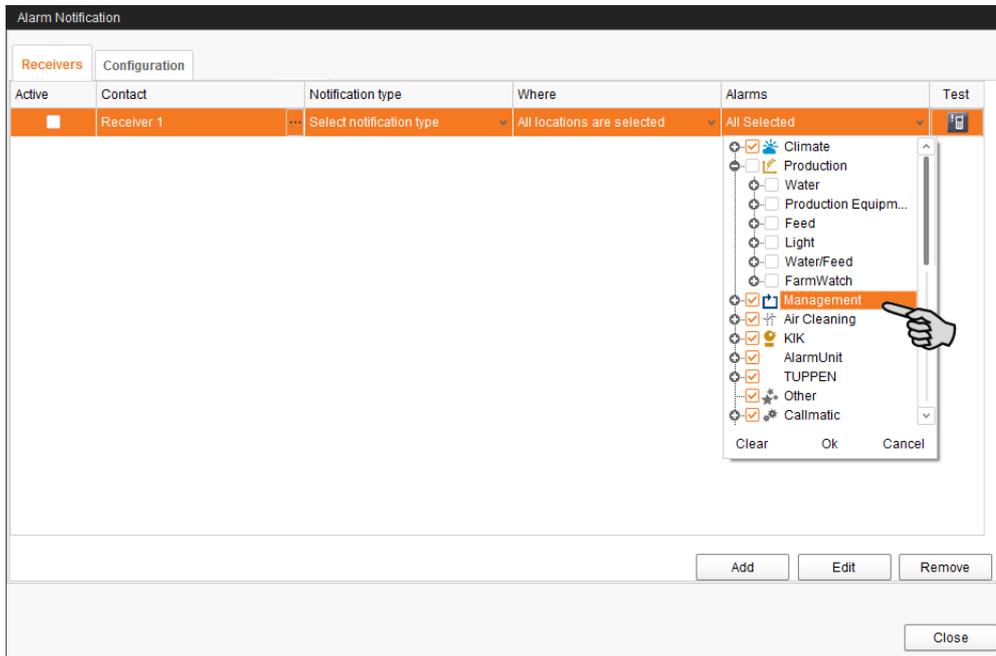
The 'Where' dropdown menu shows a tree structure of locations:

- Farm Bergstrop
  - SiloCheckPro
  - TroughCheckPro
  - WaterCheckPro
  - EasySlider
  - Alarm Notification
- Sow house
  - EcomaticPro
  - Service area
  - Pregnancy area
  - Farrowing area 1
  - Farrowing area 2
- New house
  - Piglet rearing house
  - Rearing house

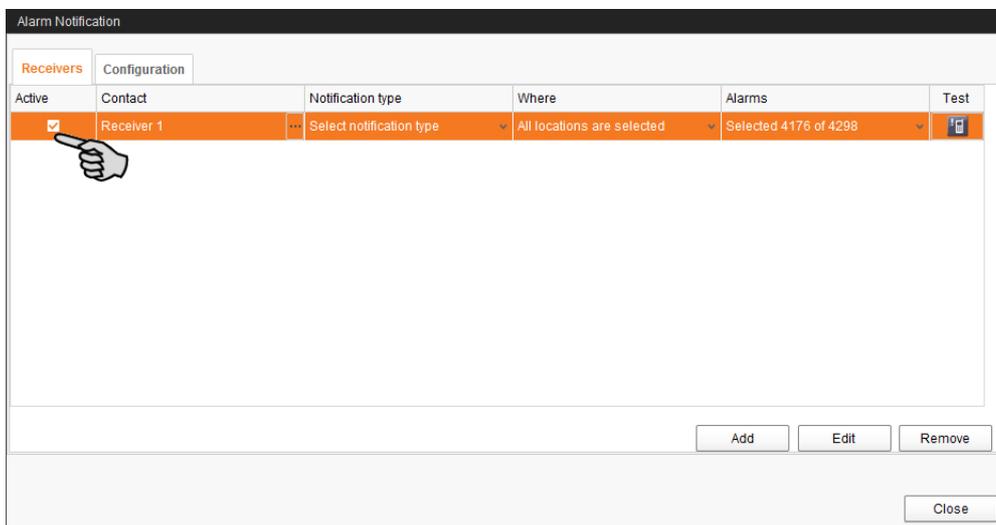
Buttons at the bottom of the dropdown: Clear, Ok, Cancel.

12. Confirm your selection by clicking on "OK" in the drop-down menu.

13. Under **Alarms**, select which type of alarms the recipient should receive.  
You may select multiple alarm types.

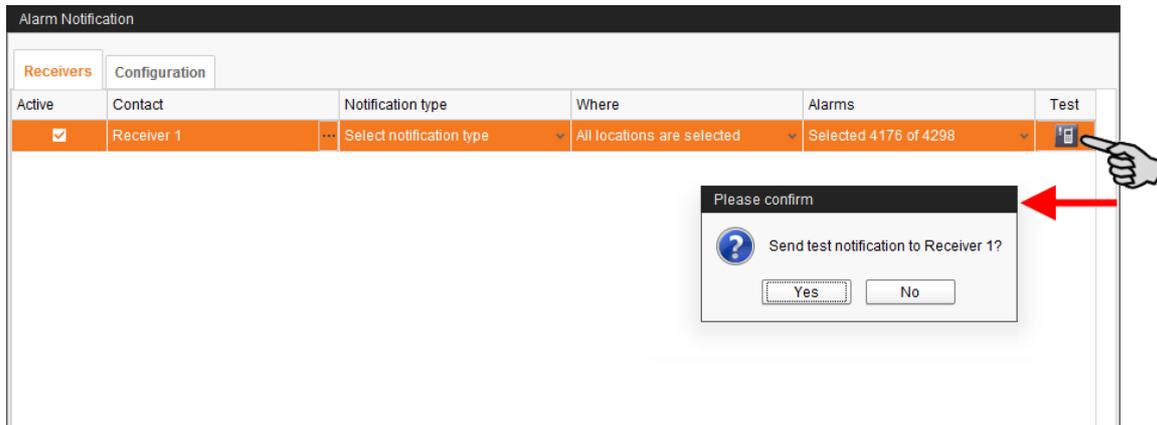


14. Confirm your selection by clicking on "OK" in the drop-down menu.  
15. Activate the recipient for alarm notifications.



16. Check the recipient's data by sending the recipient a test message:

Click on the alarm notification icon and confirm the next dialog with "OK".



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

This closes the dialog window.

## 11 Service Access

The "Service Access" function mirrors the display of the control computer or climate computer and its control functions in BigFarmNet Manager to provide remote control.

### NOTICE!

Service Access requires a password which you create as user of BigFarmNet Manager, see the manual "BigFarmNet Manager – Installation/Configuration".

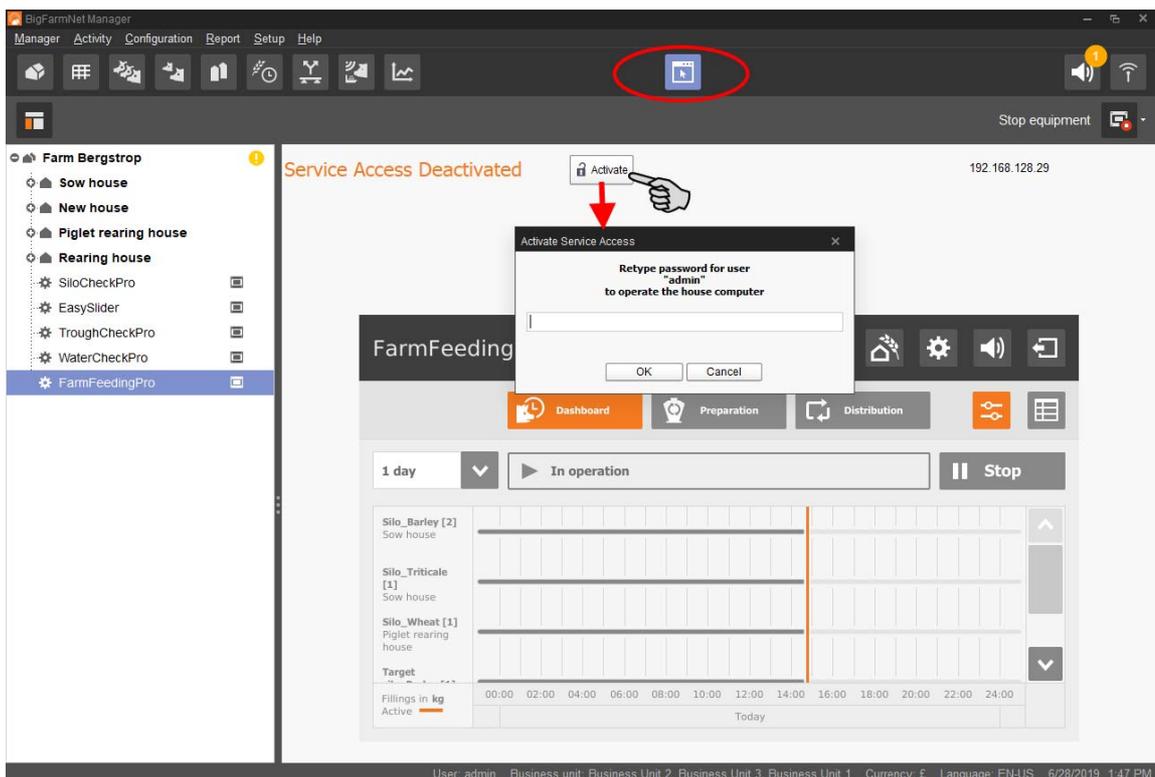
1. Click on the respective system application in the farm structure.

2. In the tool bar, click on  "Service Access".

The application window shows the display of the connected control computer. Remote control is deactivated for now.

3. Click on "Activate".

This opens the dialog window for entering the password.



4. Enter the password and confirm by clicking on "OK" to allow remote control.

## 12 Operation of the control computer



The dry feeding system FarmFeeding is controlled by the 510pro control computer.

The 510pro can be operated through BigFarmNet Manager via remote control. For direct operation, the control computer has a touch screen. Many relevant settings that have an immediate effect on the current day only can be configured directly at the 510pro.

The control computer and the Manager PC are connected through the BigFarmNet software. This ensures permanent data exchange.

### 12.1 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

### 12.2 Icons



Overview / Start screen



Settings menu



Logout

-  Alarm
-  An alarm is active.
-  Target silo settings
-  Information on the settings parameter
-  Return to previous view
-  Open additional information or settings
-  Scroll up / down in selection
- 
-  Collapse structure
-  Expand structure
-  Network configuration
-  Go to the next edit window / settings window



Save



Login

## 12.3 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.

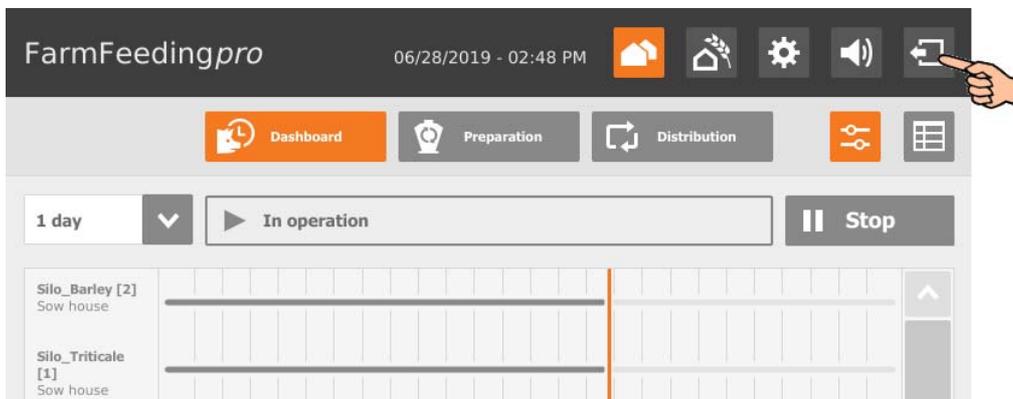
The screenshot shows a login dialog box with a grey header and a light grey body. The header contains the text "Please login". Below the header, there are two input fields: "Username" and "Password". The "Username" field contains the text "adminDE" and has a small downward arrow on its right side. The "Password" field is empty. To the right of the input fields is a numeric keypad with buttons for digits 1 through 9, 0, and a back arrow. A green square button with a white key icon is located at the bottom right of the dialog.

### NOTICE!

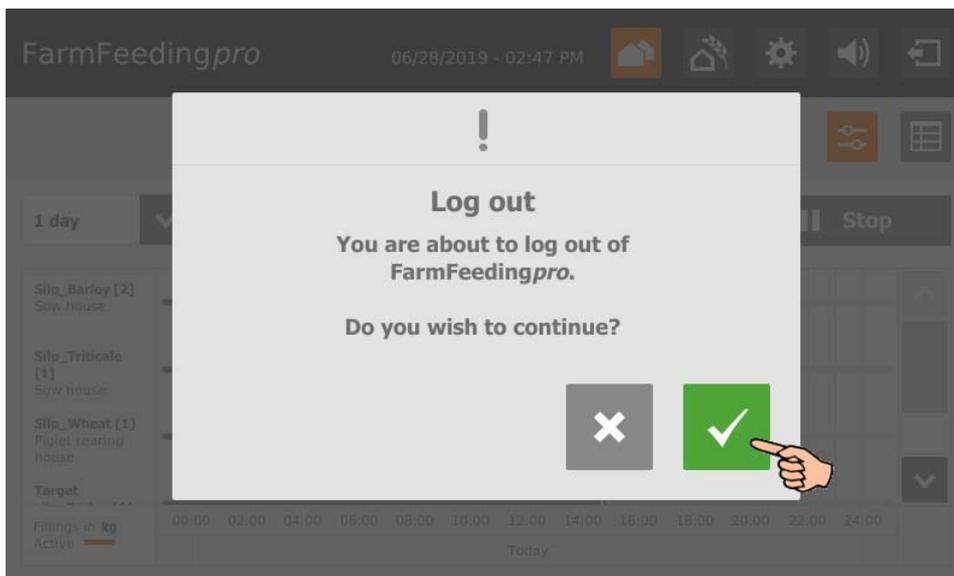
The user name and the password are the same as when logging into BigFarmNet Manager.

## 12.4 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.



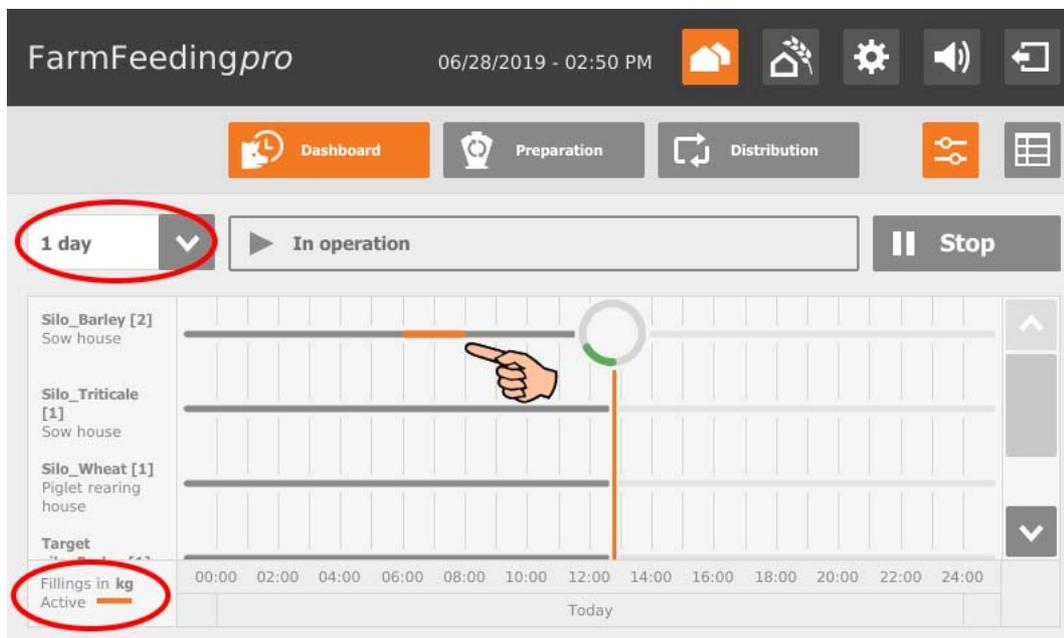
## 12.5 Dashboard start screen



This view appears as start screen after logging in, and offers the following information and functions:

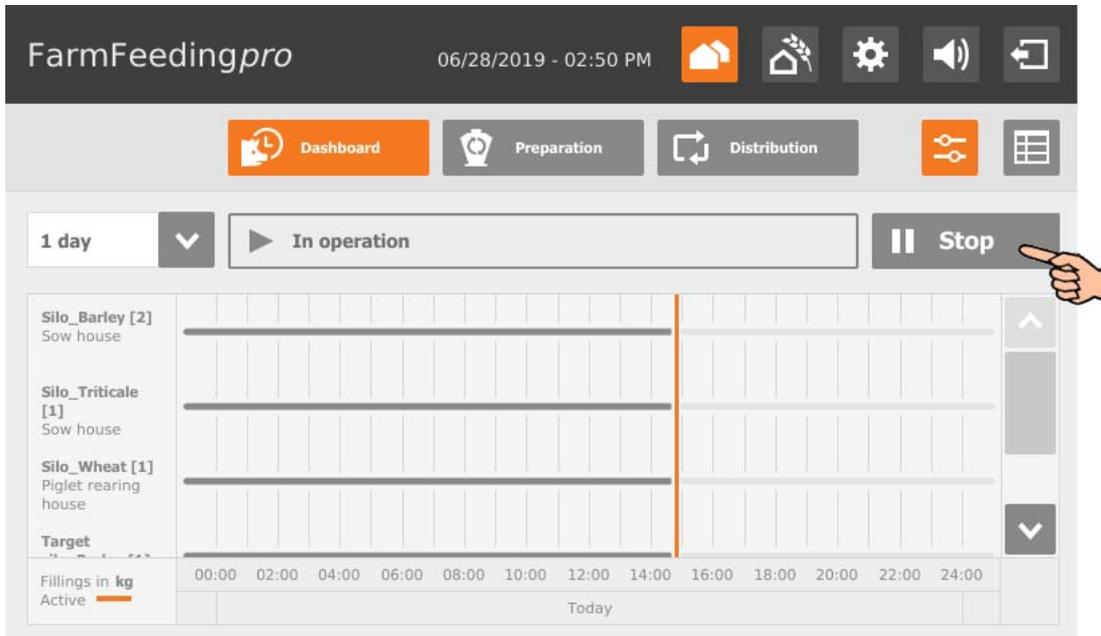
### 12.5.1 Filling progress

The start screen shows a 24-hour timeline. The 24-hour timeline refers to the current day and shows the filling of the different target silos. You may view target silo fillings of up to the past five days. A completed filling is colored.

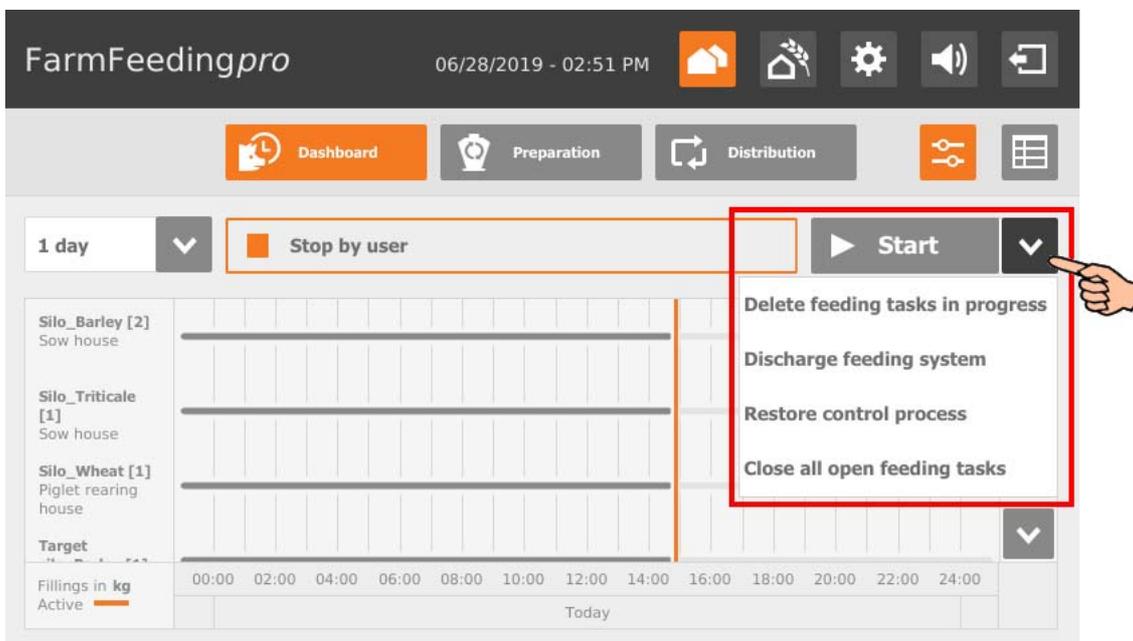


## 12.5.2 Stopping / starting the system

You may stop the entire system during operation by tapping on "Stop". If you tap on "Start" again, the system continues to operate with the current action or task.



However, if you do not want to continue with the current action, tap on the arrow pointing downwards next to the "Start" button and select the correct option from the context menu.



- **End feeding tasks in progress:** The currently active feeding task is completed.
- **Discharge feeding system:** All feed batches currently in the feed pipes are moved to their targets. The feeding task is then completed.

- **Restore control process:** The control is re-started. This function is identical with the function "Restart application" in the IO Manager.
- **Close all open feeding tasks:** Currently active or not yet started feeding tasks are canceled or set to inactive.

## 12.6 Daily log dashboard

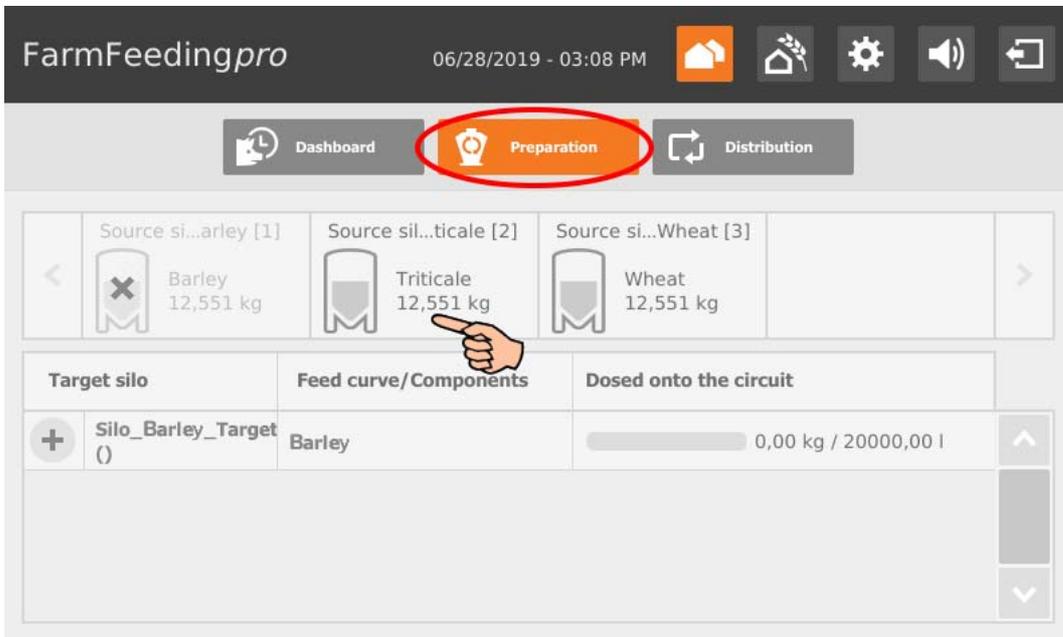


Tap on the table icon in the "Dashboard" view to switch to the daily log. This is simply a view that shows the actions of the current day with completed transfers to the target silo.

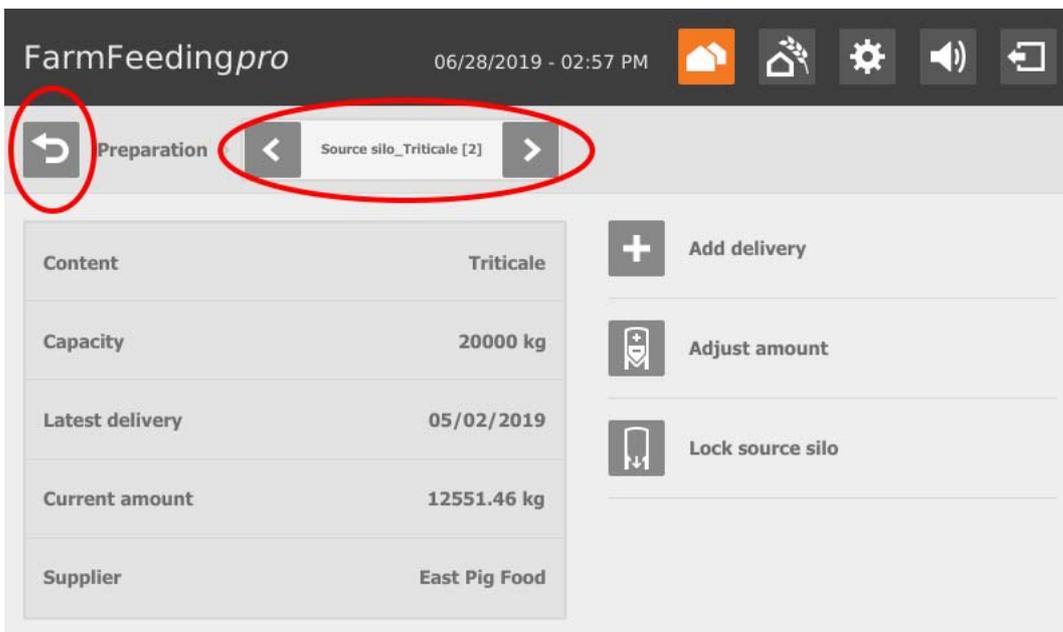
Date	Time	Target silo	Amount
06/18/2019	04:22 PM	C2_TargetSilo [3]	31.90
06/18/2019	04:24 PM	C2_TargetSilo [2]	31.90
06/18/2019	04:25 PM	C2_TargetSilo [1]	31.90

## 12.7 Source silo

The view "Preparation" shows all source silos, which can be opened individually. Below, all preparations that use the target silo are displayed. Tap on the "+" icon to see all source silos that have been used for mixing.



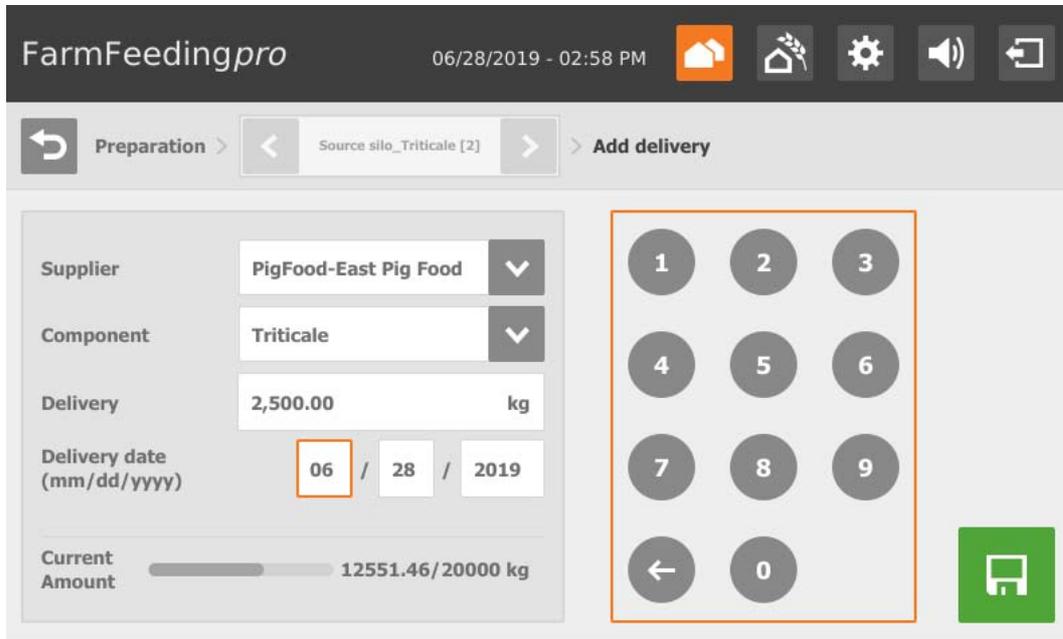
Tap on a source silo to switch to the individual view, which shows current data regarding the source silo. You may switch between the individual source silo views or return to the overview.



Additionally, you can configure the following settings:

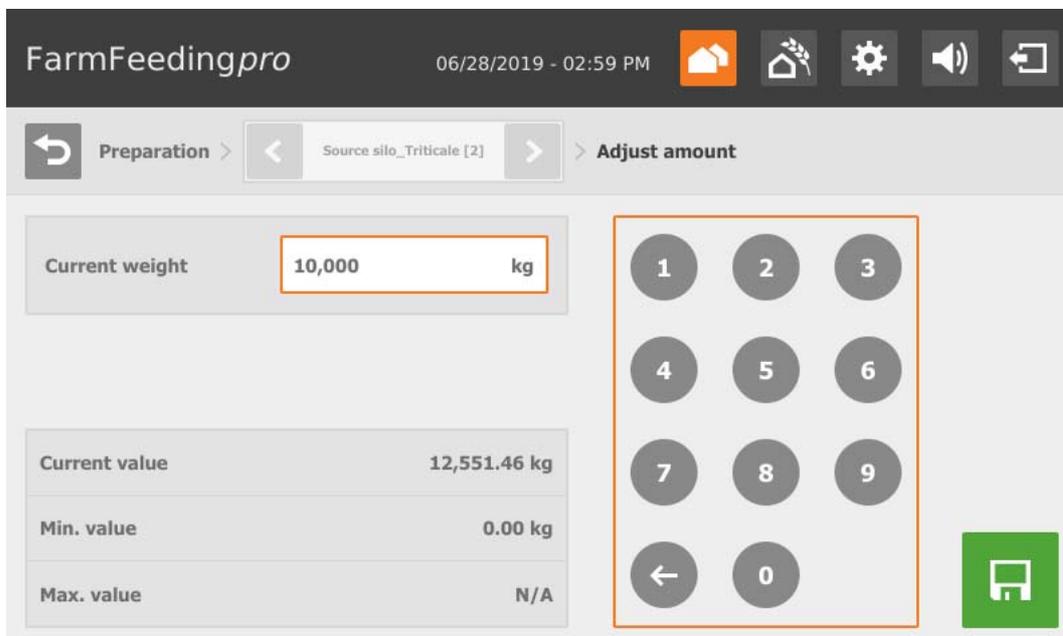
- **Add delivery**

Save the settings by tapping on .



- **Adjust amount**

Save the settings by tapping on .

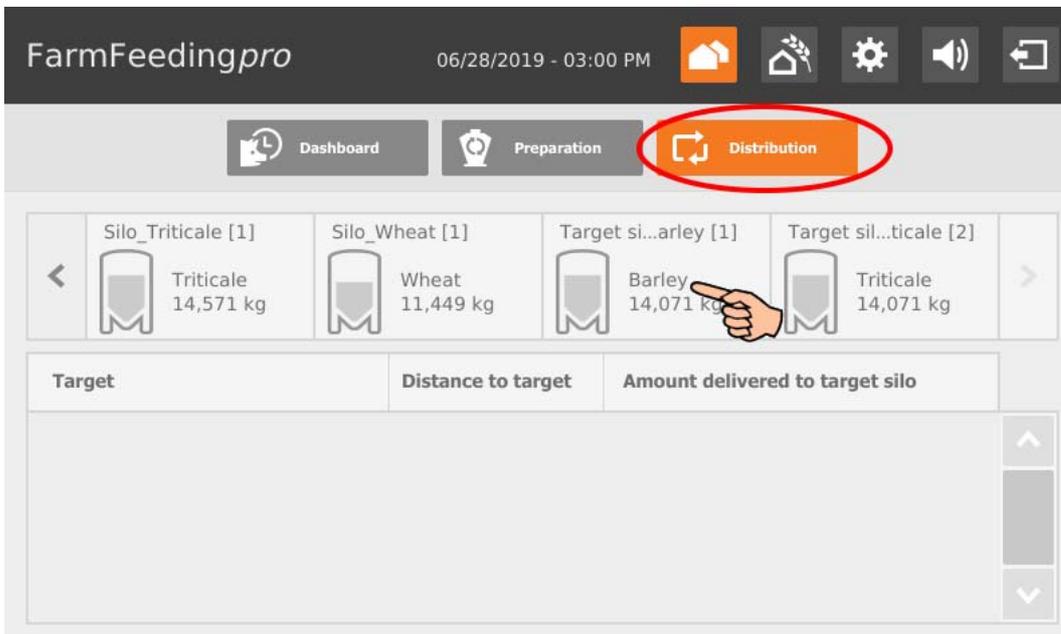


- **Lock / Unlock source silo**

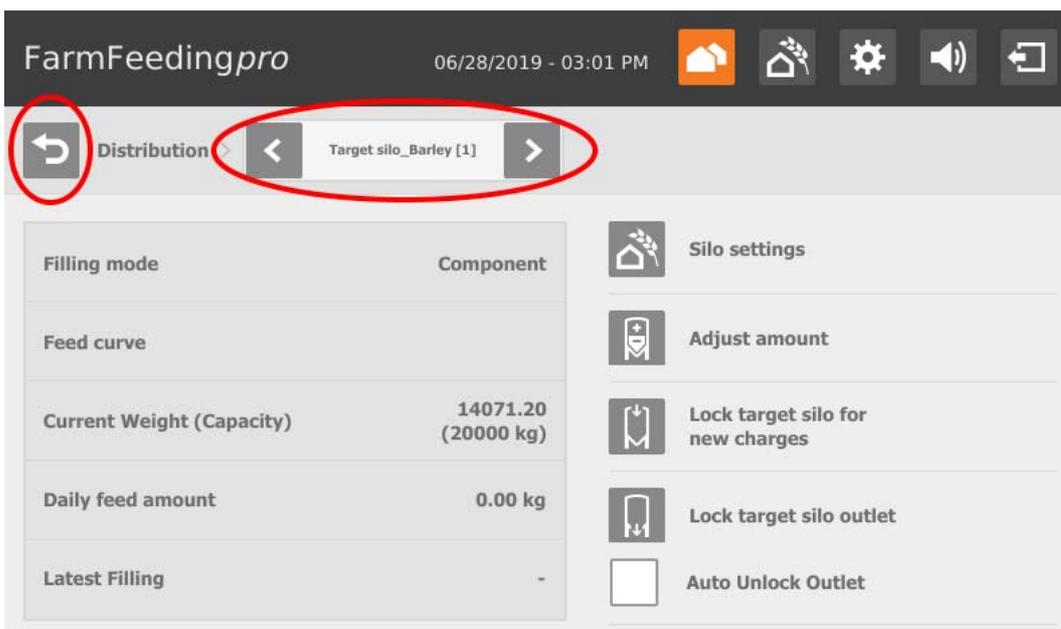
-  Source silo is locked.
-  Source silo is unlocked.

## 12.8 Target silo

The view "Distribution" shows all target silos that can be opened individually. The table view shows the delivery to the circuit or target silo and the current distance as well as the delivered amount as a progress bar (0 – 100 %). If the distance to the target is "0", the entire amount has already been delivered.

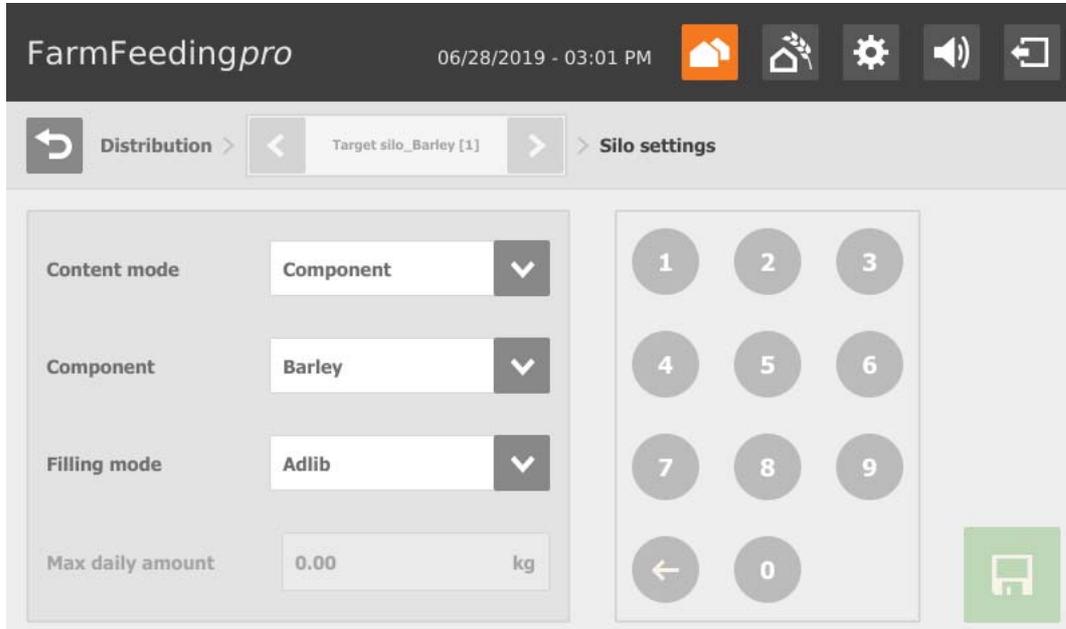


Tap on a target silo to switch to the individual view, which shows current data regarding the target silo. You may switch between the individual target silo views or return to the overview.



Additionally, you can configure the following settings:

- Open the settings for the selected target silo by tapping on  **Silo settings**. Tap on the button  in the head line and select all or specific silos to edit multiple target silos at the same time.



- **Content mode:** Since the target silo can be filled in different ways, this setting defines whether the content always remains the same ("Component") or whether it varies depending on the animals' feed demand according to the feed curve ("Animal-based").
- **Components** or **Recipes** indicate the silo's content.
- **Filling mode** defines how the target silo is filled. The following modes are available:

"Adlib" means that the target silo is filled continuously.

"Animal" means that the silo is filled according to the feed curve. Should the capacity of the target silo be smaller than the animals' feed demand, the target silo is refilled.

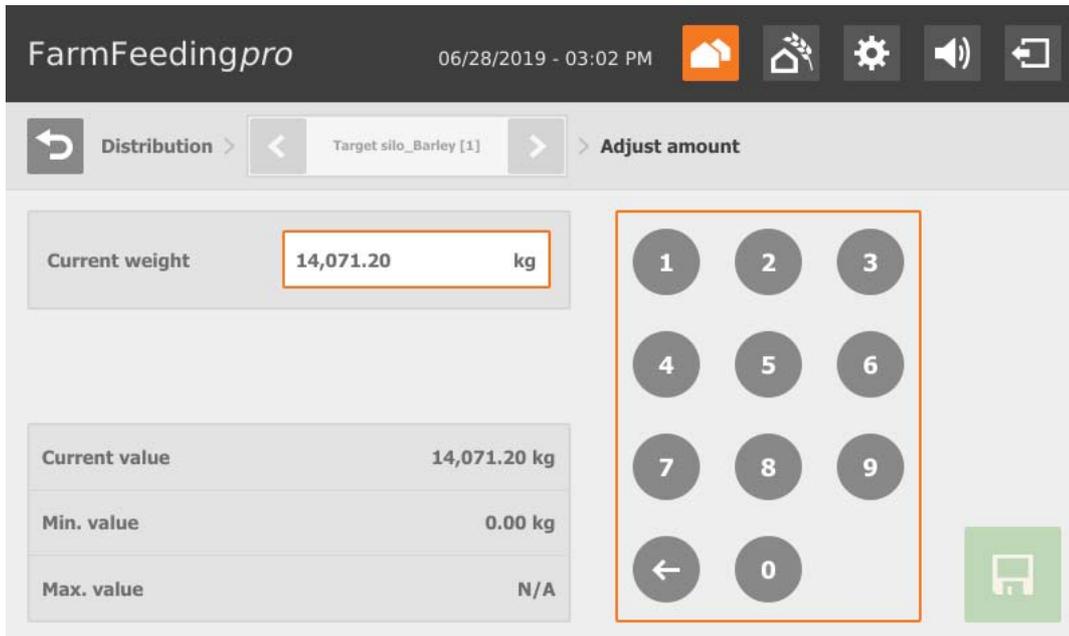
"Constant" means that the target silo is filled by a fixed amount (**Daily amount**, 4.4.1) for feeding. Should the capacity be smaller than the defined amount, the target silo is filled multiple times.

Example: In case of a capacity of 20,000 kg and a daily amount of 30,000 kg, the target silo will be filled 1.5 times.

Save the settings by tapping on .

- **Adjust amount**

Save the settings by tapping on .



- **Lock / Unlock target silo for new charges (batches)**

-  Target silo is blocked from filling.
-  Target silo is unblocked for filling.

- **Lock / Unlock target silo outlet**

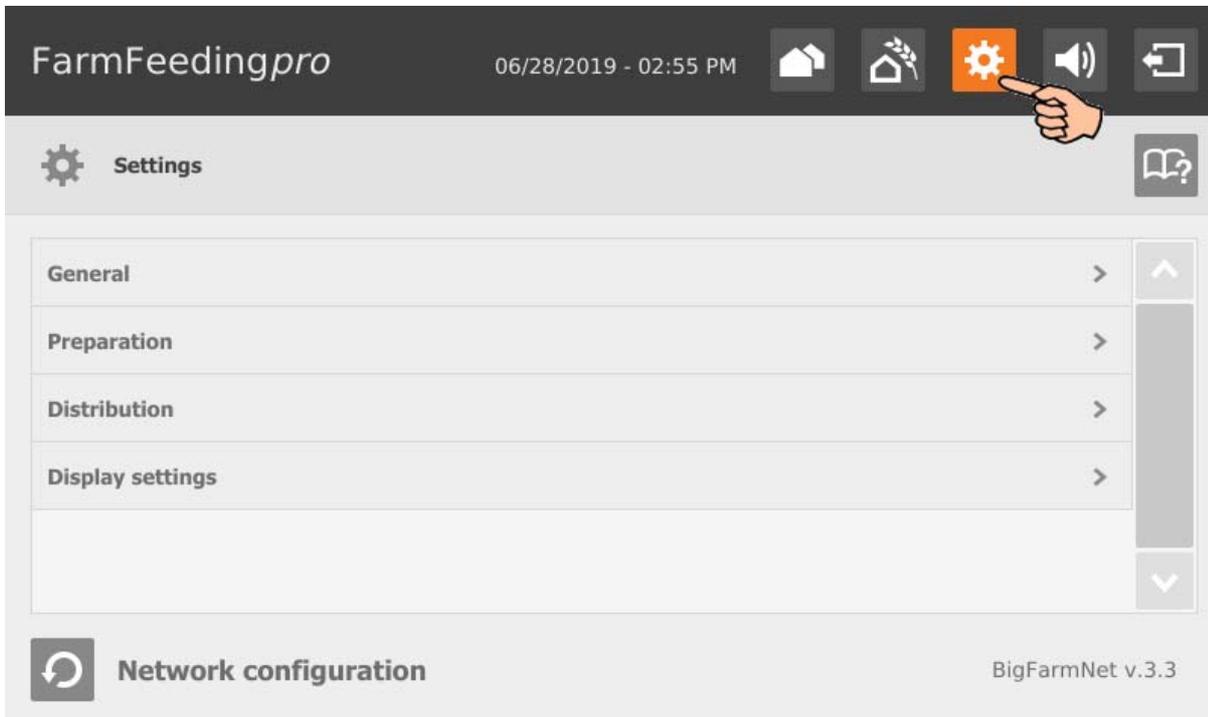
-  Outlet of the target silo is locked.
-  Outlet of the target silo is unlocked.

- **Auto Unlock Outlet** means that the automatic locking actuated by the system is automatically removed after the delivery. This is because the system locks a silo automatically after its entire contents have been used up.

## 12.9 Settings

You may configure the same settings at the control computer and in BigFarmNet Manager. The number of settings available at the control computer may be limited.

The following chapters contain definitions of the settings:



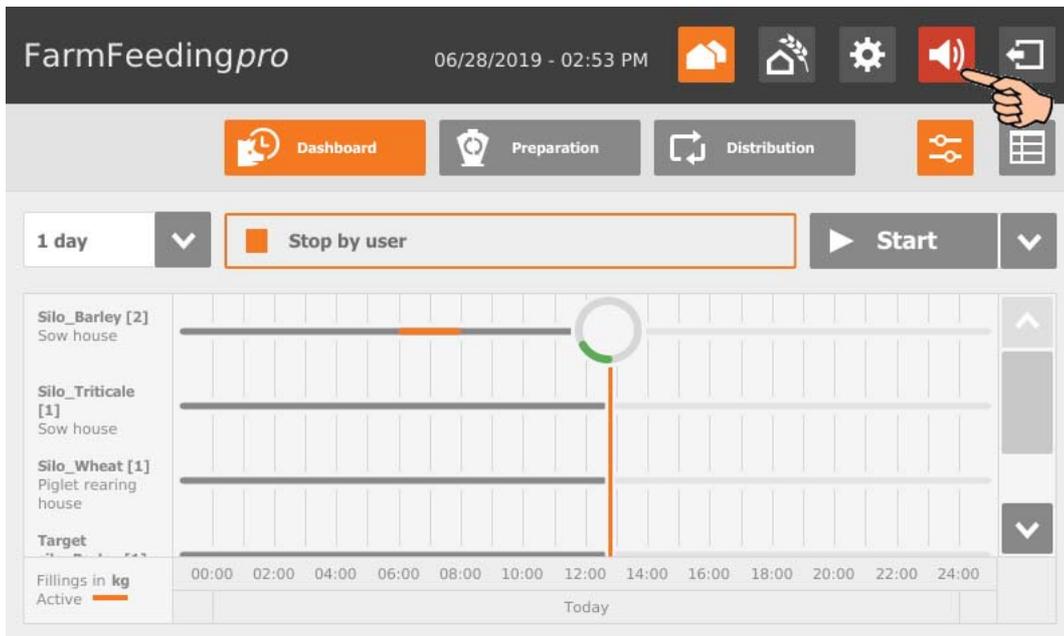
- General, see chapter 4.3 "General settings"
- Preparation, see chapter 4.4.2 "Transport to circuit"
- Distribution, see chapter 4.5 "Distribution"

## 12.10 Alarms

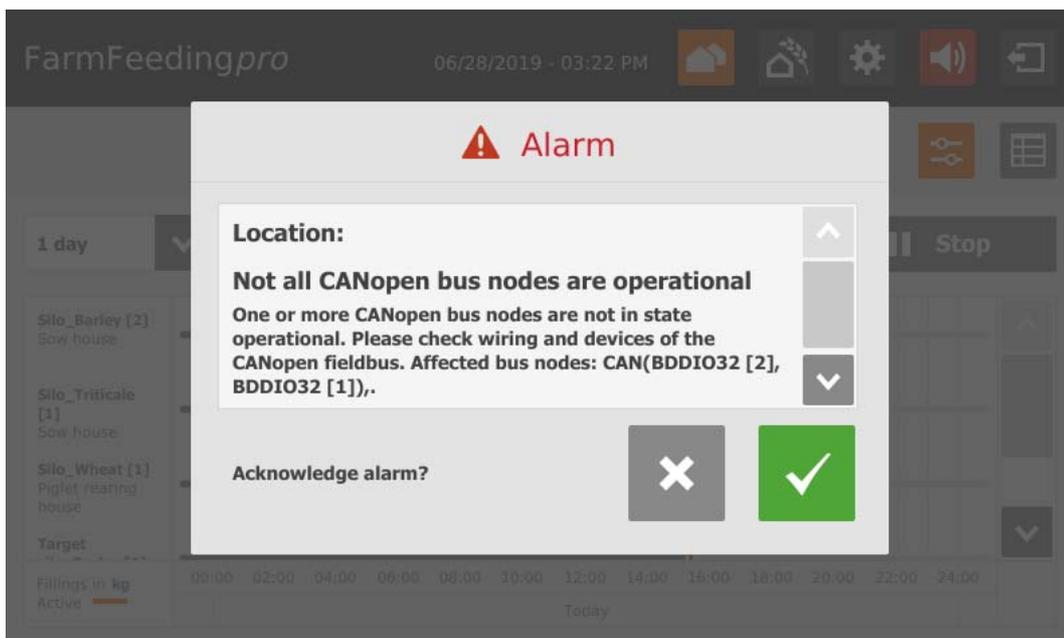
If there is an active alarm or warning, the alarm icon is colored.

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

The different alarms and warnings are shown in a list and sorted depending on when they occurred.



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



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