



TriSortpro

Code No. 99-97-4251 GB

Edition: 04/19

v. 3.3

1	System description	1
1.1	Software version	2
1.2	Licenses	2
1.3	System limits	3
1.4	Installation example	3
2	Installation and configuration of the control computer	4
2.1	Control computer: assigning a static IP address	4
2.2	Manager PC: assigning a static IP address	6
2.2.1	Windows 7	6
2.2.2	Windows 10	8
2.3	Assigning a network card	11
2.4	Checking the connection to the control computer	12
2.5	Installing the software on the control computer	13
3	Configuration of the system	16
3.1	Adding the control computer and the application	16
3.2	Changing settings in the Composer	23
3.3	Configuring the IO Manager	26
3.3.1	Changing the node ID	28
3.3.2	Creating links	30
3.3.3	Using the test mode	32
3.3.4	Calibrating the scale	34
3.4	Depicting the system in the Designer	35
3.5	Adjusting and saving views	36
3.6	Manually controlling the system components	37
4	Configuration of the TriSortpro application	40
4.1	Copying the settings of a system	41
4.2	Alarm	43
4.3	Application behavior	44
4.4	Modes of operation	45
4.4.1	Sorting	45
4.4.2	Sorting out	45
4.4.3	Number of animals	46
4.4.4	Learning and pause	47
4.4.5	Stop	48
4.5	Equipment	48
4.5.1	Animal scale	48
4.5.2	Doors	50
4.5.3	Air driving out	50
4.5.4	Color sprayer	52

4.5.5	WetMIX	.52
4.5.6	Timed relay	.53
4.6	Service	.53
4.7	Scales	.54
4.8	"Equipment" window	.55
4.8.1	Mode – Learning	.55
4.8.2	Mode – Sorting (Fixed)	.56
4.8.3	Mode – Sorting (Curve)	.58
4.8.4	Mode – Sorting (Percentage)	.60
4.8.5	Mode – Sort out (Weight)	.60
4.8.6	Mode – Sort out (Color)	.64
4.8.7	Mode – Sort out (Color and weight)	.64
4.8.8	Weight distribution	.65
4.8.9	Visit times distribution	.66
4.8.10	Weight progression	.67
4.8.11	Growth preview	.68
4.8.12	CSV settings	.69
4.8.13	Sort-out weight – Overview	.69
4.9	Data backup	.70
5	All TriSort at a glance	.73
6	Alarms and warnings	.75
6.1	Filtering alarms	.77
6.2	Acknowledging an alarm	.78
6.3	Alarm log	.79
6.4	Alarm Notification	.80
6.5	System-specific alarms	.86
7	Service Access	.87
8	Operation of the control computer	.88
8.1	Technical data	.88
8.2	Icons	.88
8.3	Login	.90
8.4	Logout	.91
8.5	Start screen	.91
8.6	Individual view TriSort	.92
8.7	Settings	.93
8.8	Calibration	.94
8.9	Growth preview	.95
8.10	Alarms	.95

Index **97**

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The manufacturer or distributor of the hardware and software described herein shall not be liable for any damage (such as the loss or illness of animals or the loss of other opportunities for profit) caused by failure of the system or incorrect use or operation.

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

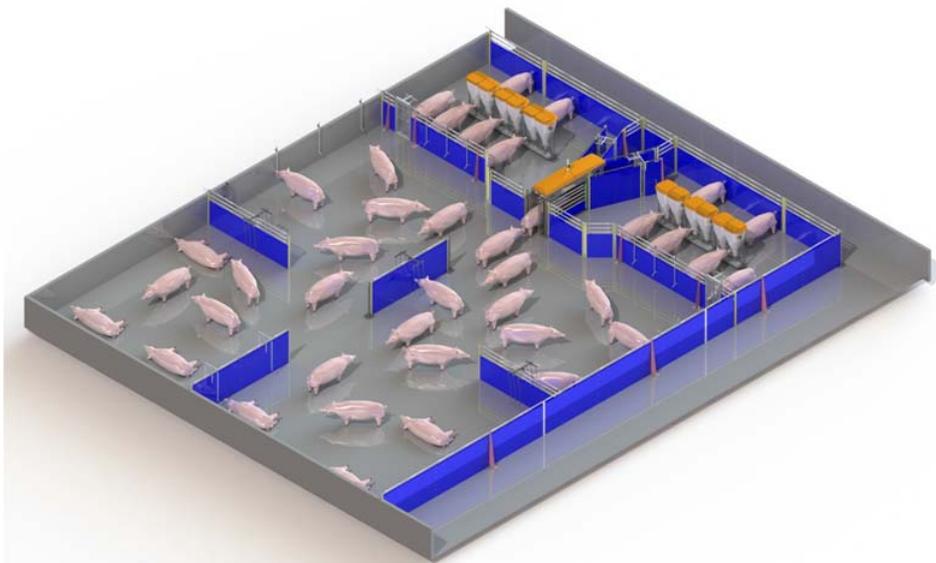
The automatic sorting scale TriSort sorts animals kept in large groups based on their weight. The ideal group size is 250 to 400 pigs. The number and weight of the pigs ready for slaughter are determined very accurately.

Another area of application is the weight-dependent feeding of pigs with changing feed types. The pigs' weight is also constantly monitored. This allows for the feeding to be adapted to the pigs' requirements and for the house to be utilized better.

TriSort comprises the following functions:

- Continuous weight monitoring
 - > exact information about daily weight gains and thus the pigs' state of health
- Selection or identification of under- and/or overweight pigs by means of color marking
- Selection of ready-to-slaughter pigs shortly before the trip to the slaughterhouse
 - > exact information about the number of pigs to be slaughtered and their weight
- Use with dry and liquid feeding
- Detection of pigs that are manually marked by color via color sensor
- Operation without Pig Manager

TriSort is controlled through the TriSort*pro* application using BigFarmNet Manager and the 510*pro* control computer. One 510*pro* can control up to 10 TriSort stations.



 **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
91-02-6609	License BigFarmNet TriSort per station	1 per station
91-02-6500	BigFarmNet Manager – Basic installation software	1 per BigFarmNet network

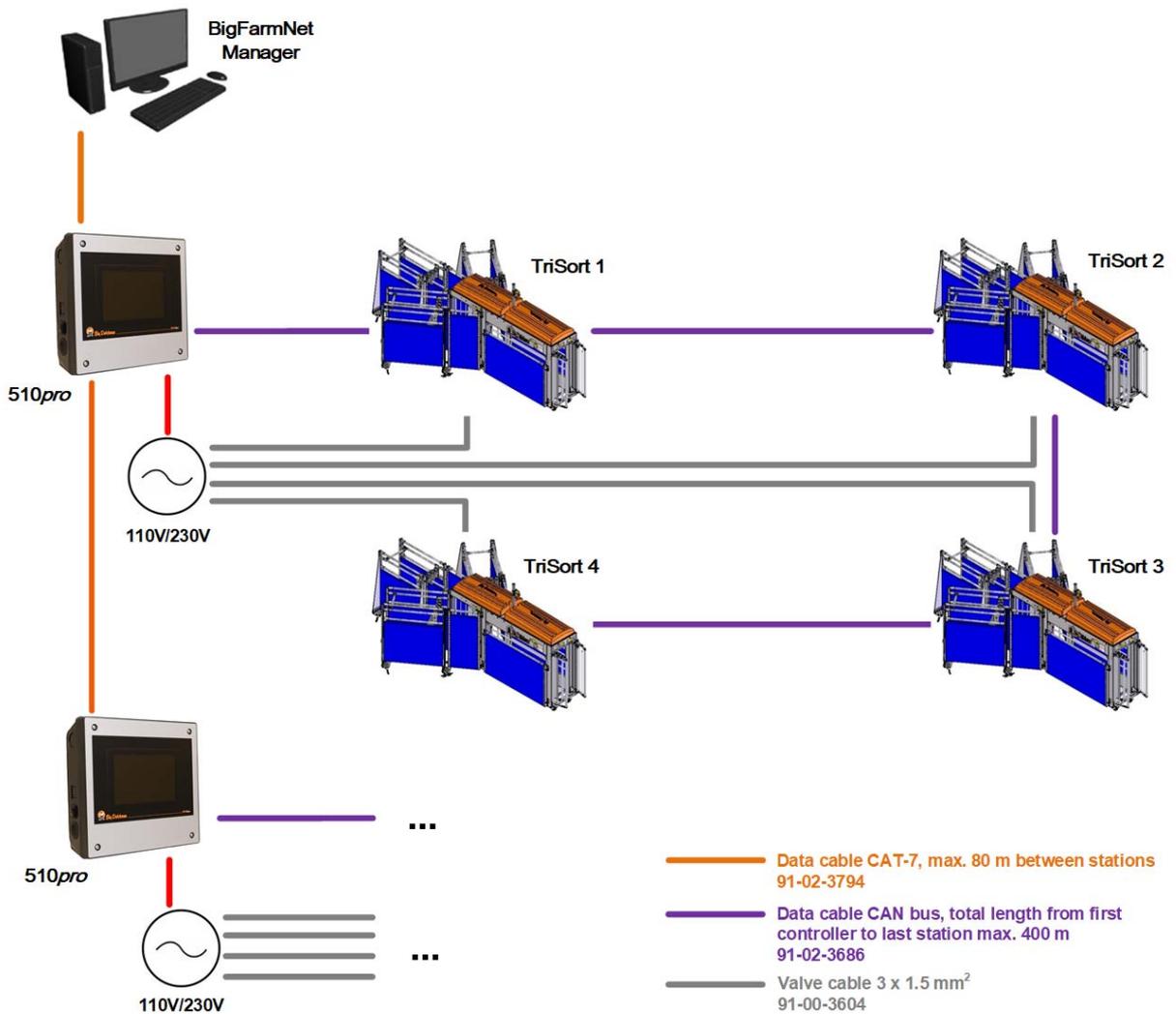
The following software licenses are **optional**:

Code no.	BigFarmNet Manager license	Use
91-02-6559	BigFarmNet Manager – Pig Manager	1 per BigFarmNet network
91-02-6551	BigFarmNet Manager per additional PC/MC700	In case animal and system data in the BigFarmNet Manager is to be available on additional computers
91-02-6564	BigFarmNet Manager – App Pig	Access via the user's smartphone or tablet

1.3 System limits

100,000	Animals
256	TriSort stations
50	Feed curves
1,000	Ingredients
50	Recipes

1.4 Installation example



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

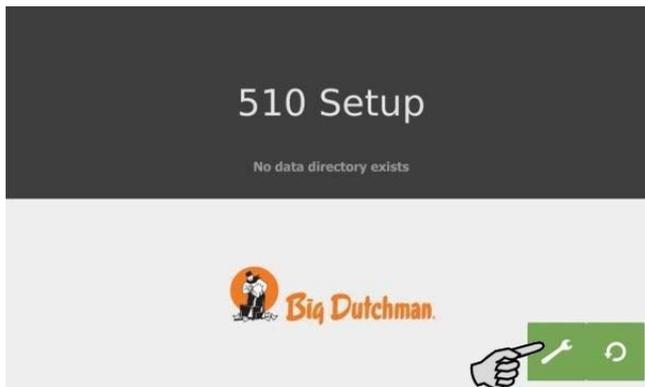
i NOTICE!

Only service technicians may install and configure the control computer.

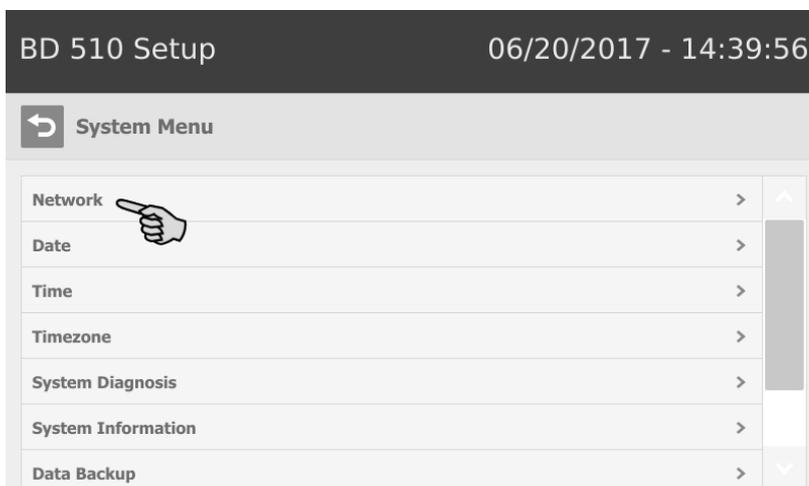
2.1 Control computer: assigning a static IP address

1. Start the control computer.

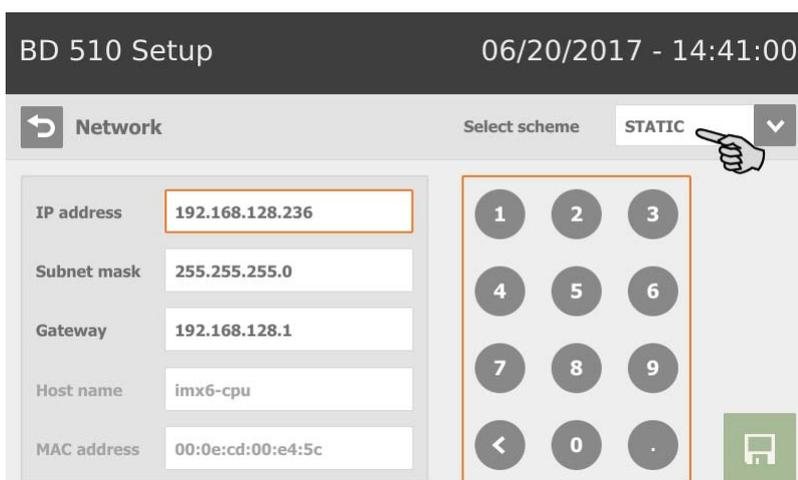
2. Tap on the configuration button on the start screen.



3. Tap on **Network**.



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



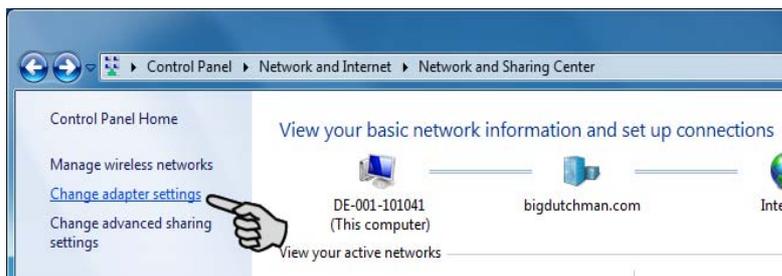
5. Enter the IP address, the subnet mask and the gateway.
6. Save your inputs by tapping on .

2.2 Manager PC: assigning a static IP address

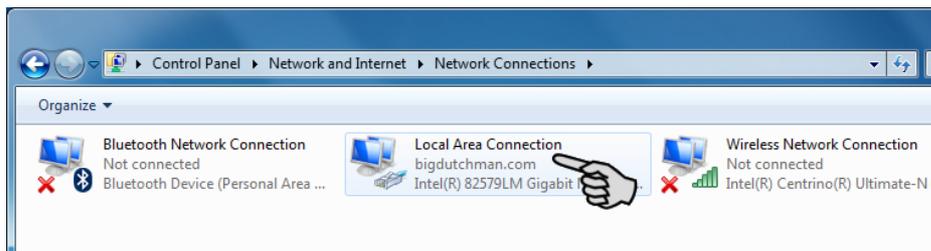
2.2.1 Windows 7

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.

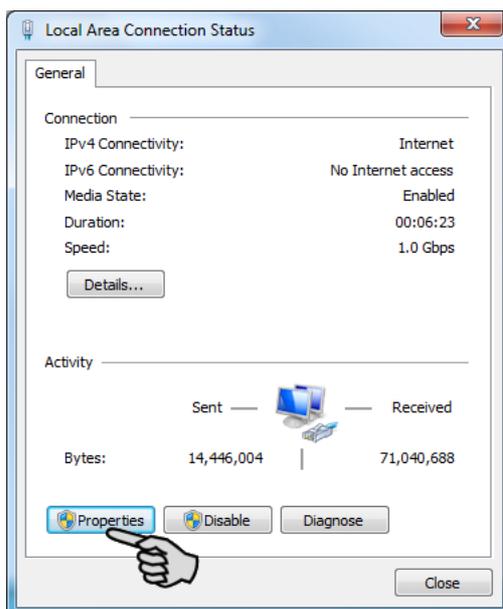
1. Click on **Control Panel** in the start menu .
2. Click on **Network and Sharing Center**.
3. Click on **Change adapter settings**.



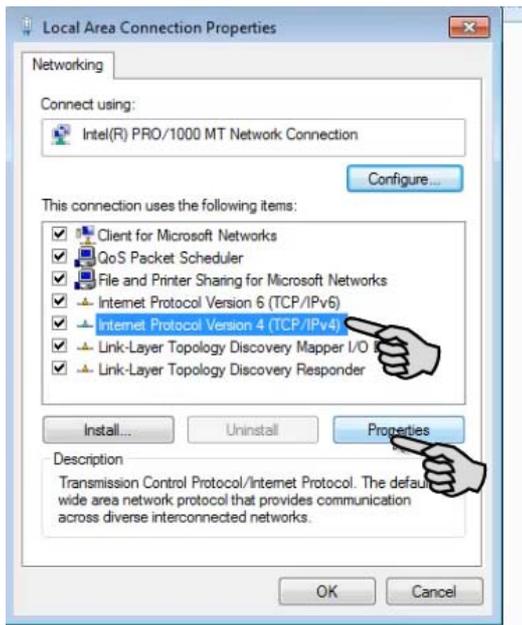
4. Double-click on **Local Area Connection**.



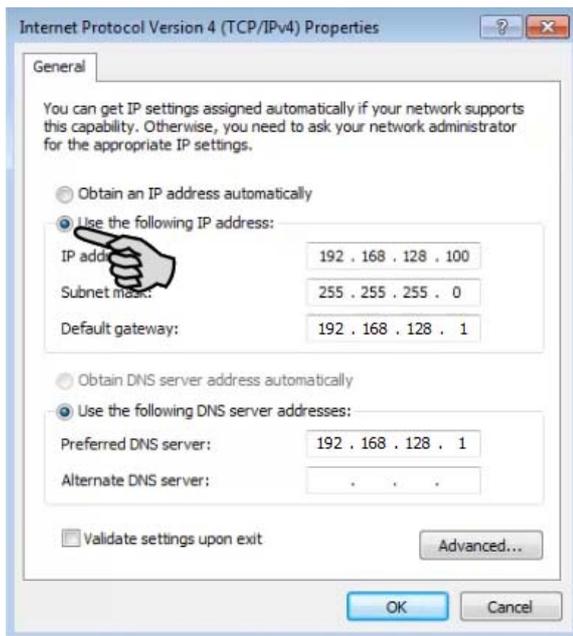
5. Click on **Properties**.



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



7. Enter a static IP address.

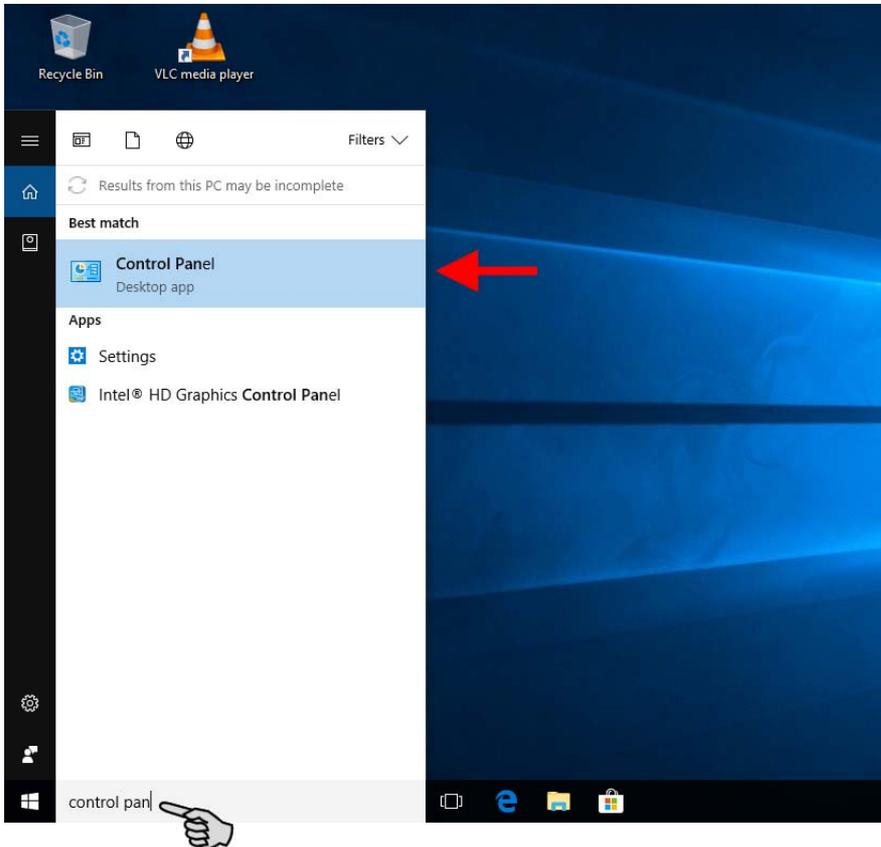


8. Confirm these inputs by clicking on **OK**.

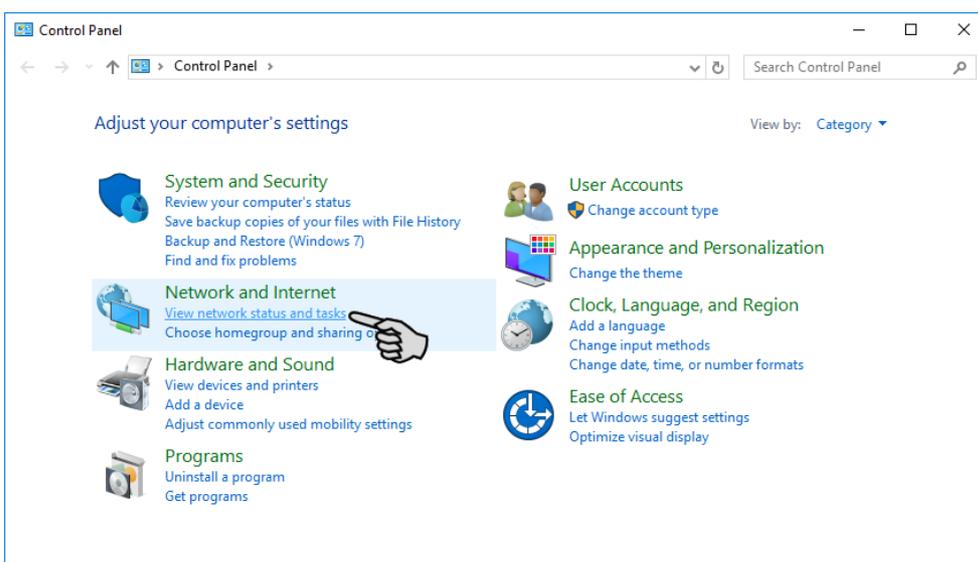
2.2.2 Windows 10

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.

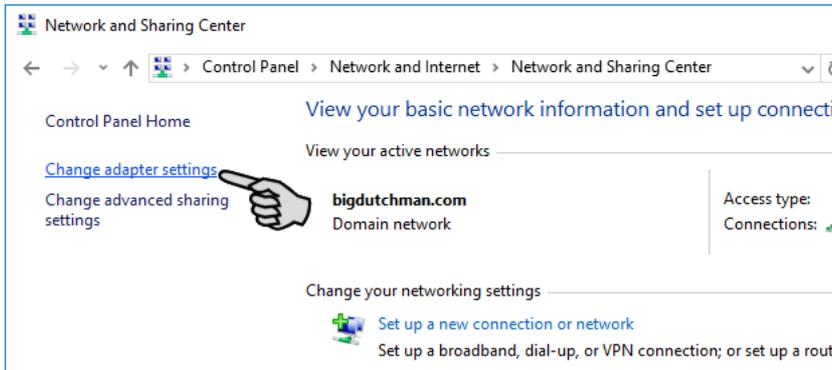
1. Open the **Control Panel** using the search field in the task bar.



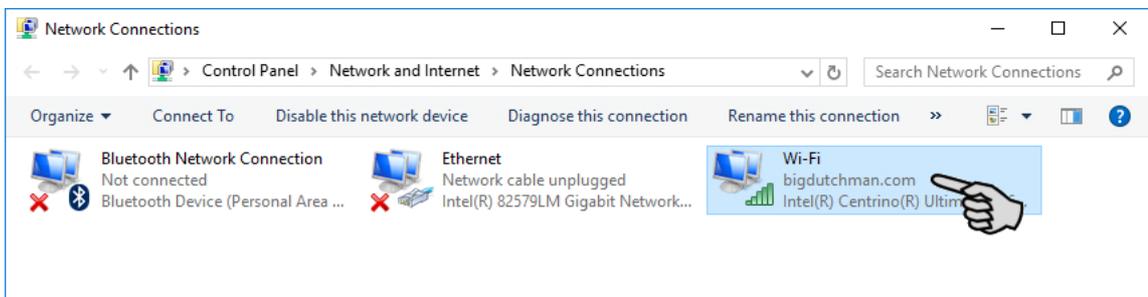
2. Click on **View network status and tasks** under **Network and Internet**.



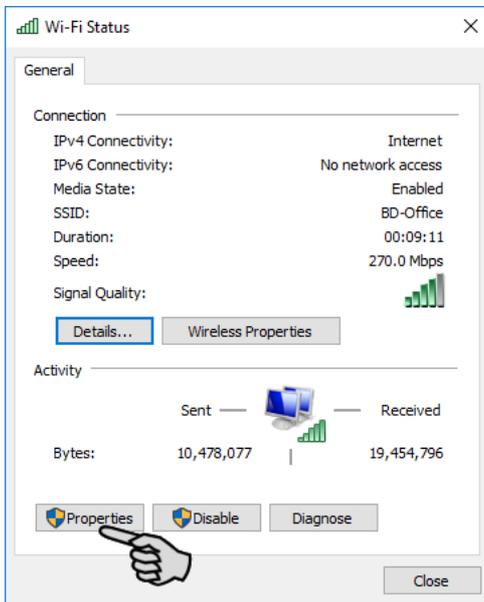
3. Click on **Change adapter settings**.



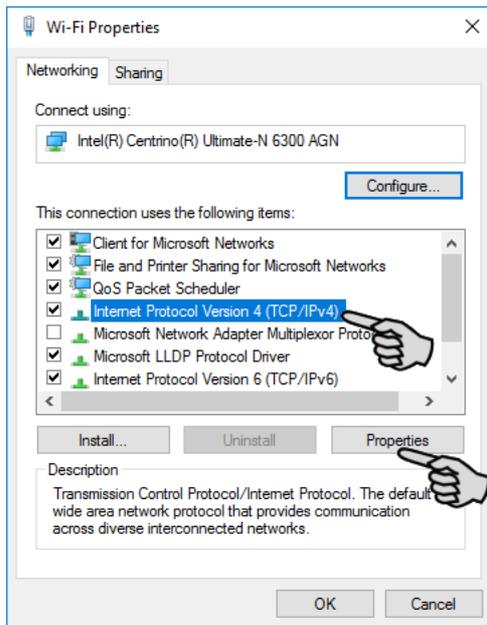
4. Double-click on **Wi-Fi**.



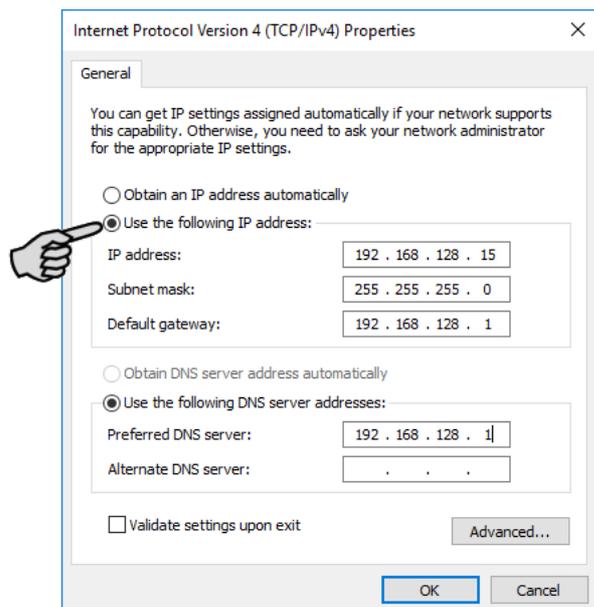
5. Click on **Properties**.



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



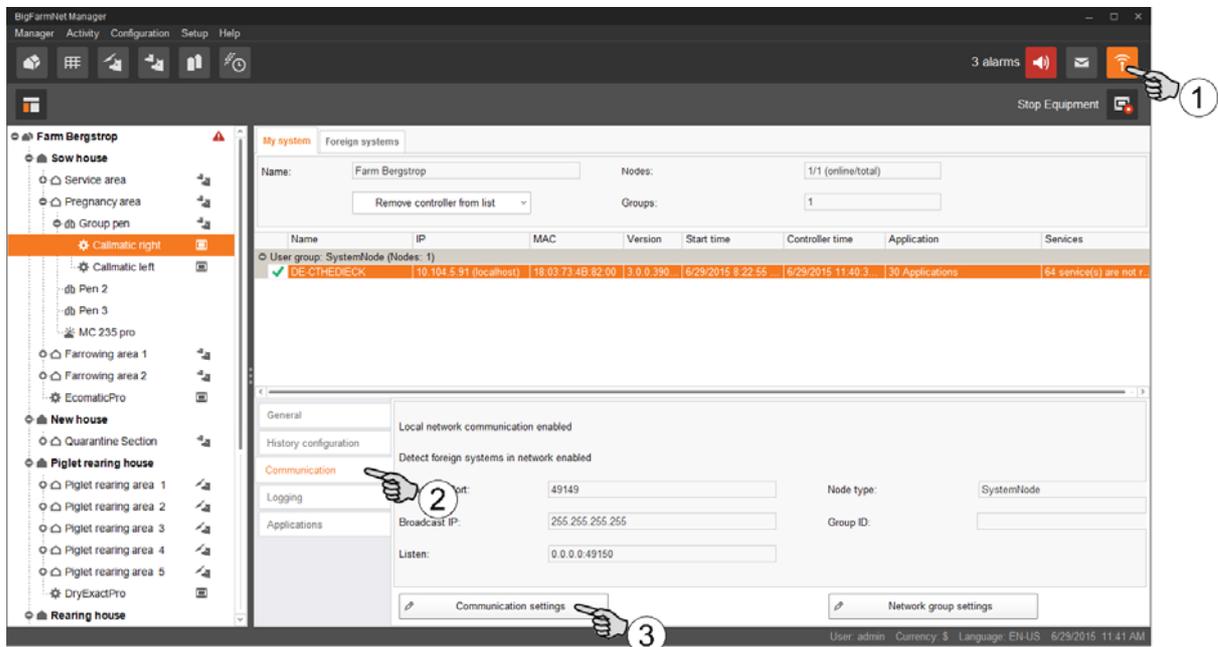
7. Enter a static IP address.



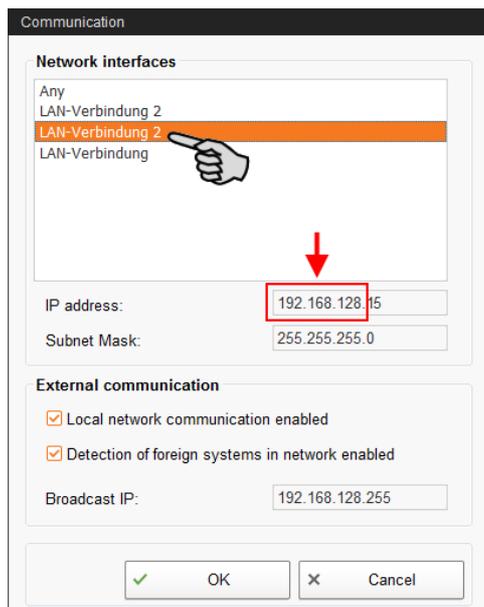
8. Confirm these inputs by clicking on **OK**.

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

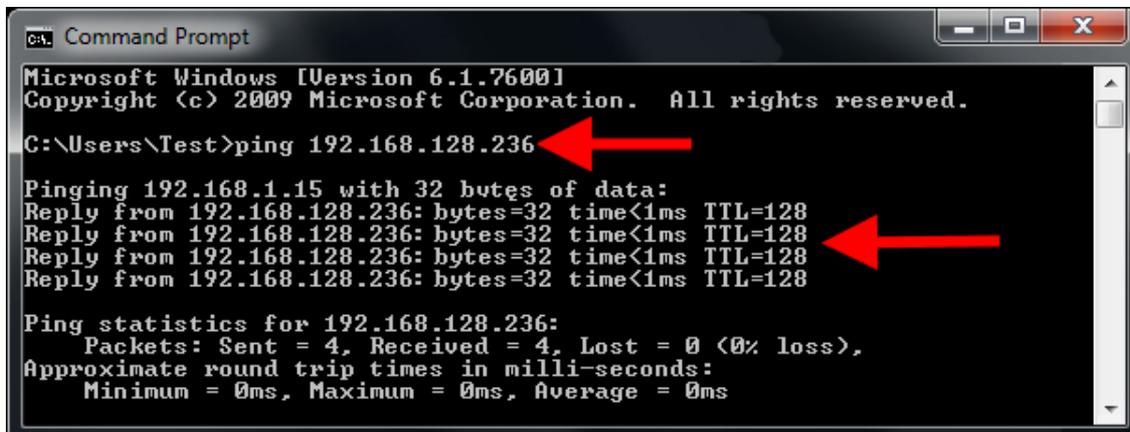
Use the "ping" command to check whether the control computer is available in the network.

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

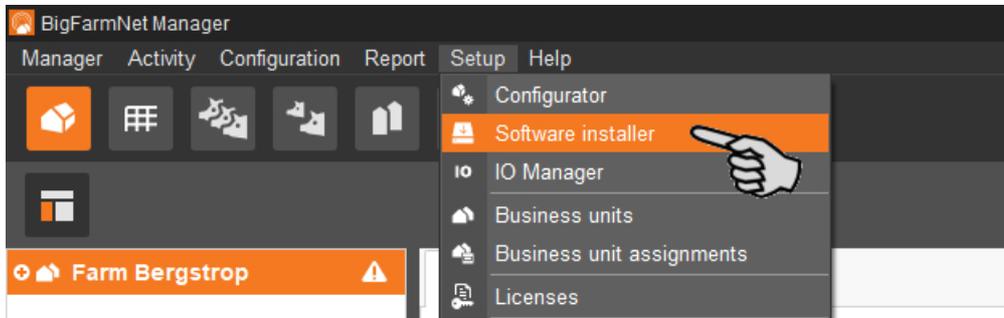
Pinging 192.168.128.236 with 32 bytes of data:
Reply from 192.168.128.236: bytes=32 time<1ms TTL=128

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.

Software installer							
Controller							
Hostname	SDK	BigFarmNet	Type	Progress	Status	Action type	
192.168.128.236	5.1.4	3.2	BD510	100%	Analyse Controller successful	✓	Analyse Controller

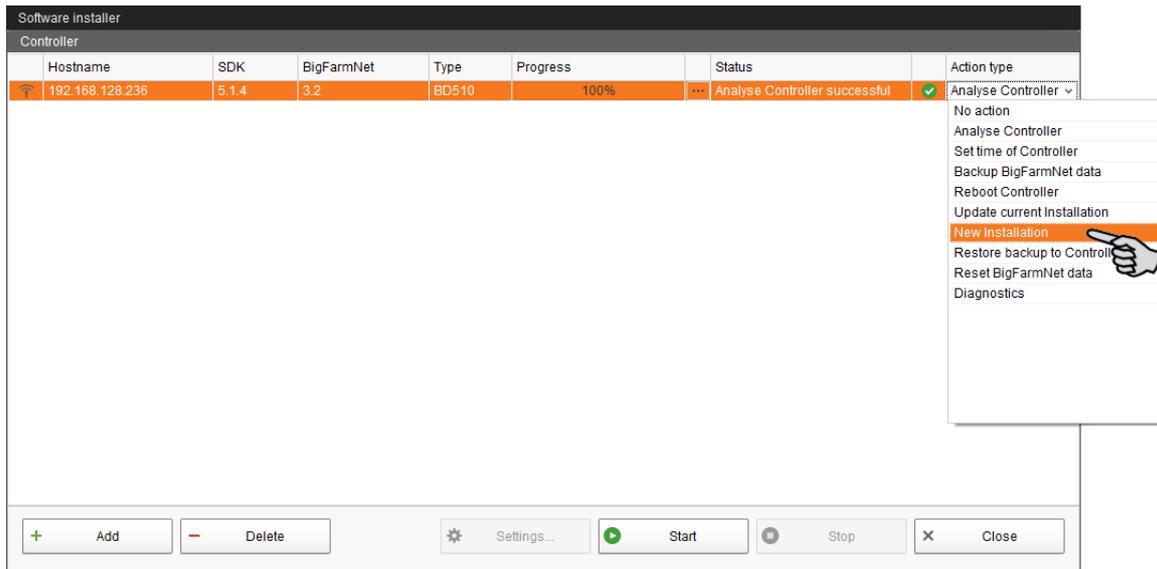
3. If necessary, add the desired number of control computers by clicking on "Add".

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.

Software installer							
Controller							
Hostname	SDK	BigFarmNet	Type	Progress	Status	Action type	
192.168.128.236	5.1.4	3.2	BD510	100%	Analyse Controller successful	✓	Analyse Controller
192.168.128.237	?	?	?	0%		?	

Buttons: + Add, - Delete, ⚙ Settings..., ▶ Start, ⏸ Stop, ✕ Close

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

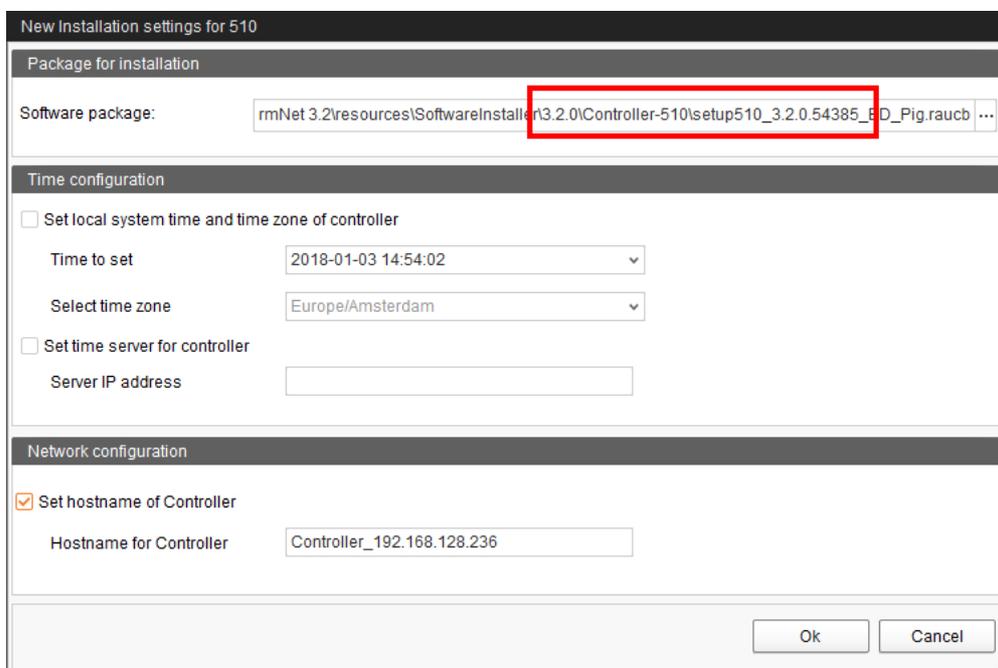


6. Click on "Settings" in the lower command bar of the dialog window.
7. Under "Software package", check whether the setup for the 510pro control computer is stored under the indicated path.

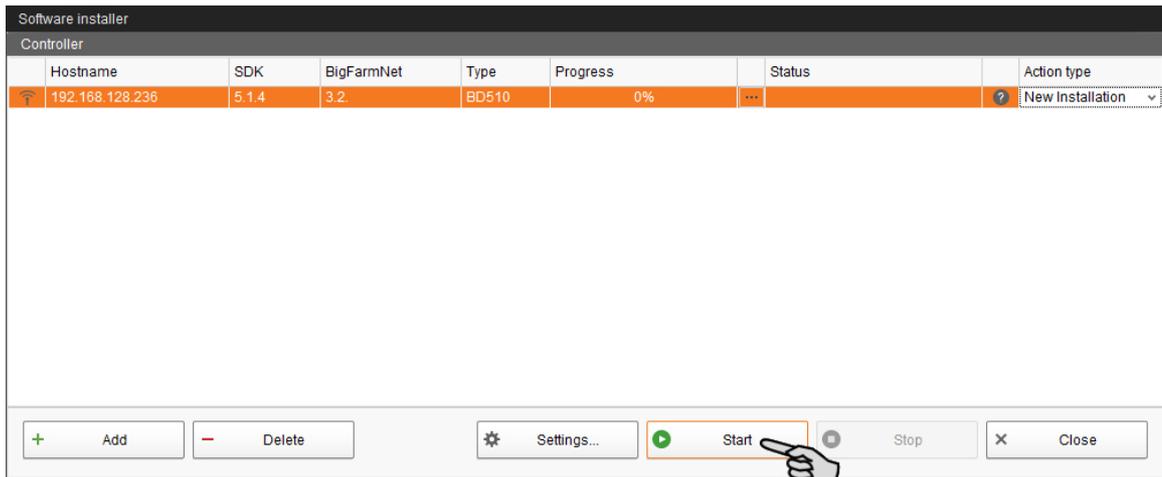


NOTICE!

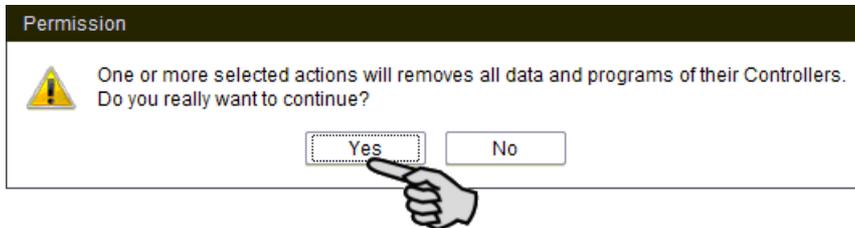
When updating, check whether the update's version number in the software package corresponds to the version you want to install.



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

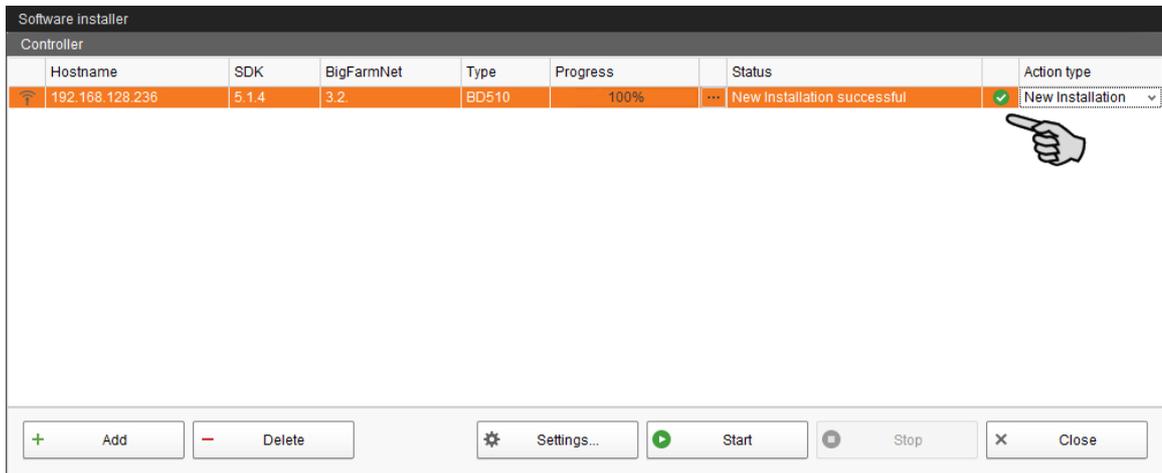


10. Confirm the prompt for confirmation.



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

i NOTICE!

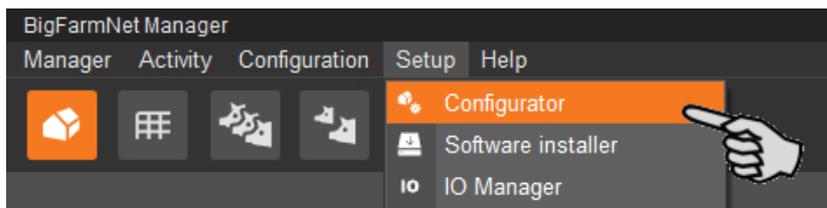
To add a control computer, create a farm structure with houses, sections and pens first, see the "BigFarmNet Manager – Installation/Configuration" manual.

These instructions describe the following steps in chronological order:

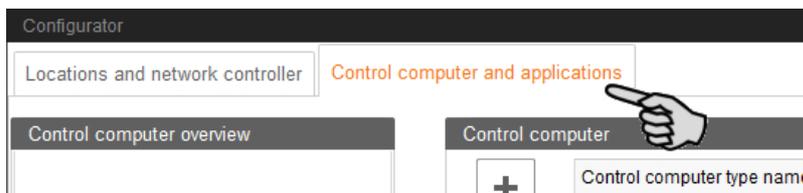
- Adding the control computer and the application
- Defining system components and functions in the Composer
- Copying configurations for TriSort stations with identical functions

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

This opens the "Configurator" window.

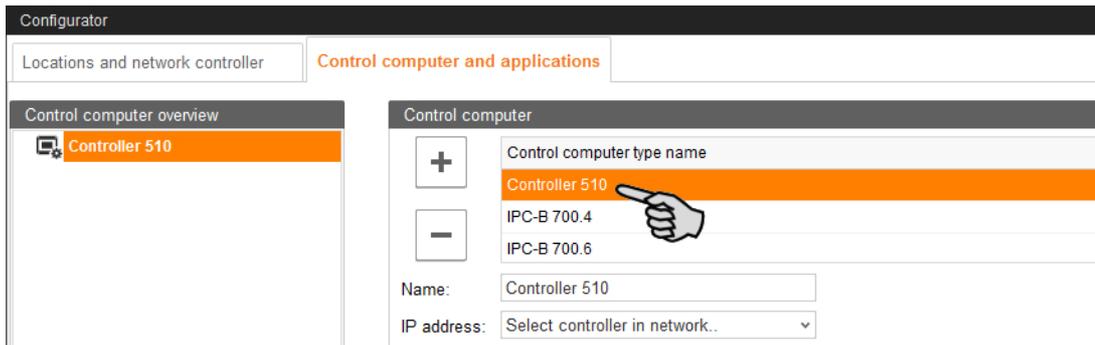


2. Click on the "Control computer and applications" tab.

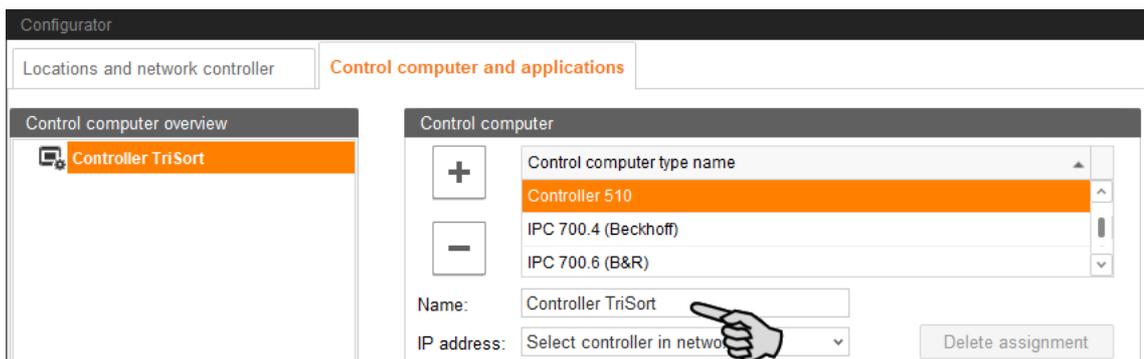


3. Select the correct control computer in the upper part of the window under "Control computer" and click on the plus button.

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



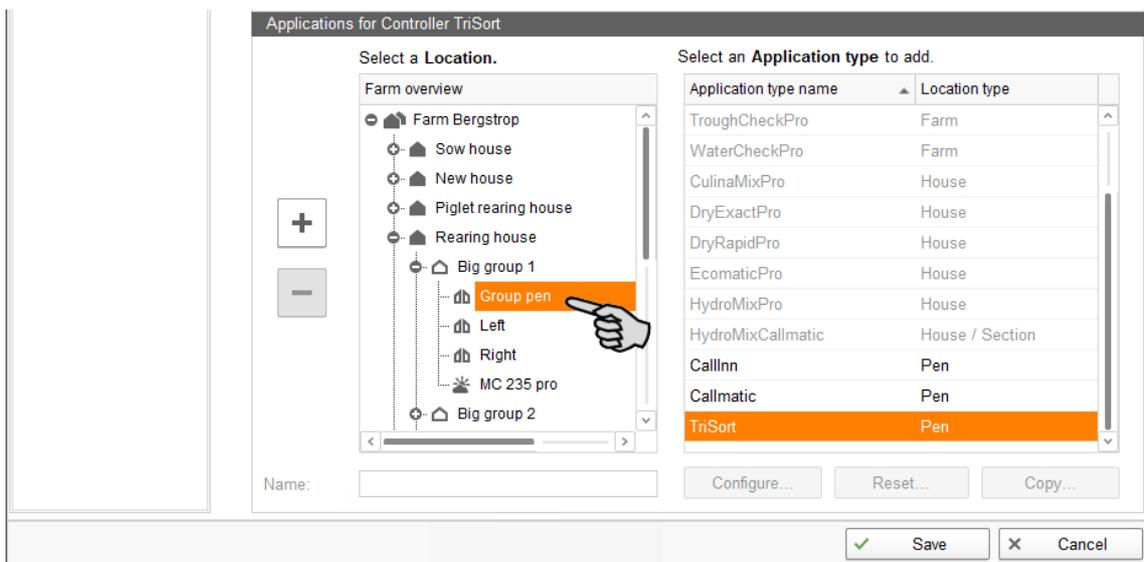
4. Enter a name for the control computer.



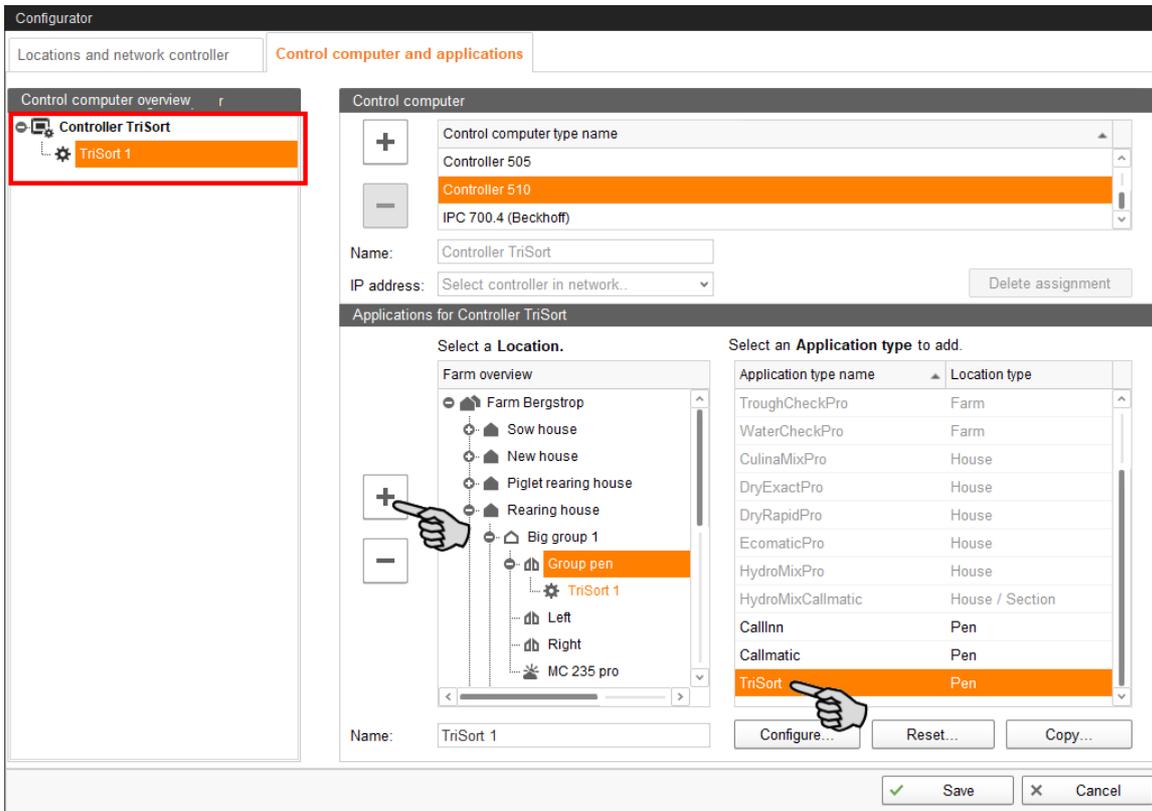
5. From the lower part of the window under "Applications for...", select the location where the system is to be used.

The applications available for selection depend on the selected location.

The TriSortpro application can only be added to the "Pen" level.

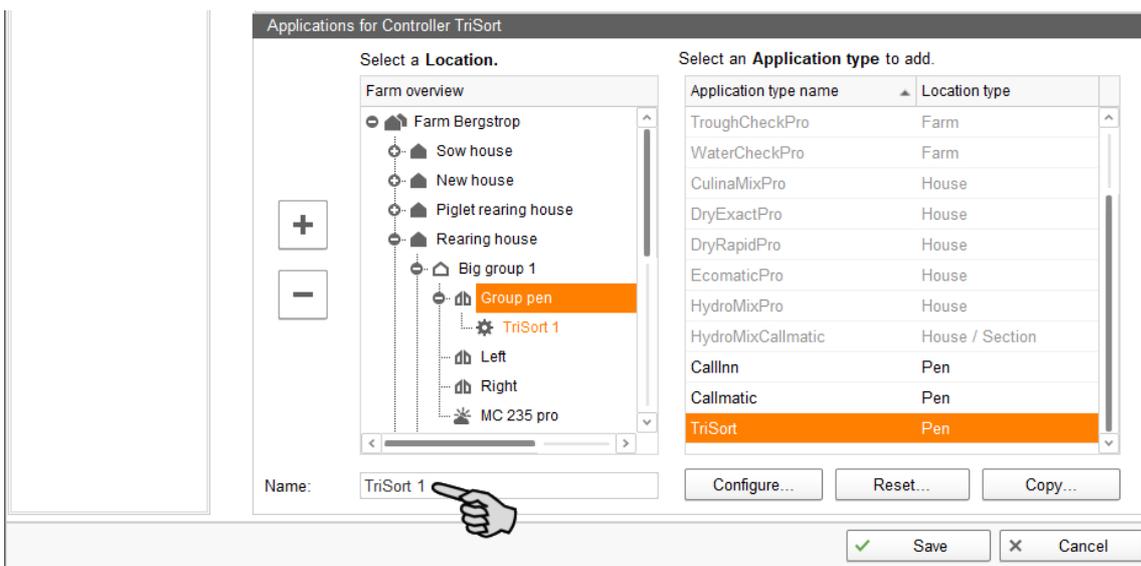


- 6. Select the correct application in the table on the right and click on the plus button to the left.



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

- 7. Enter a name for the application.

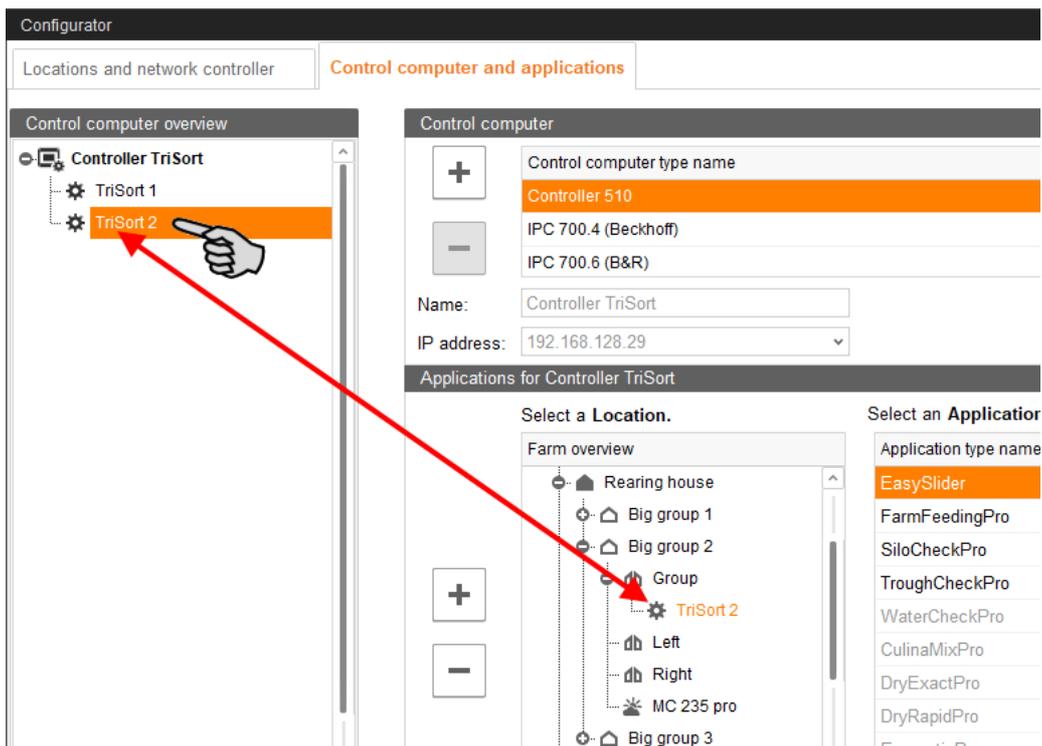


8. Add further applications to the control computer, if necessary.

One control computer can be assigned up to 10 TriSort stations.

- a) Select a new pen.
- b) If the correct application is still selected, click on the plus button.
- c) Enter a name for the application.

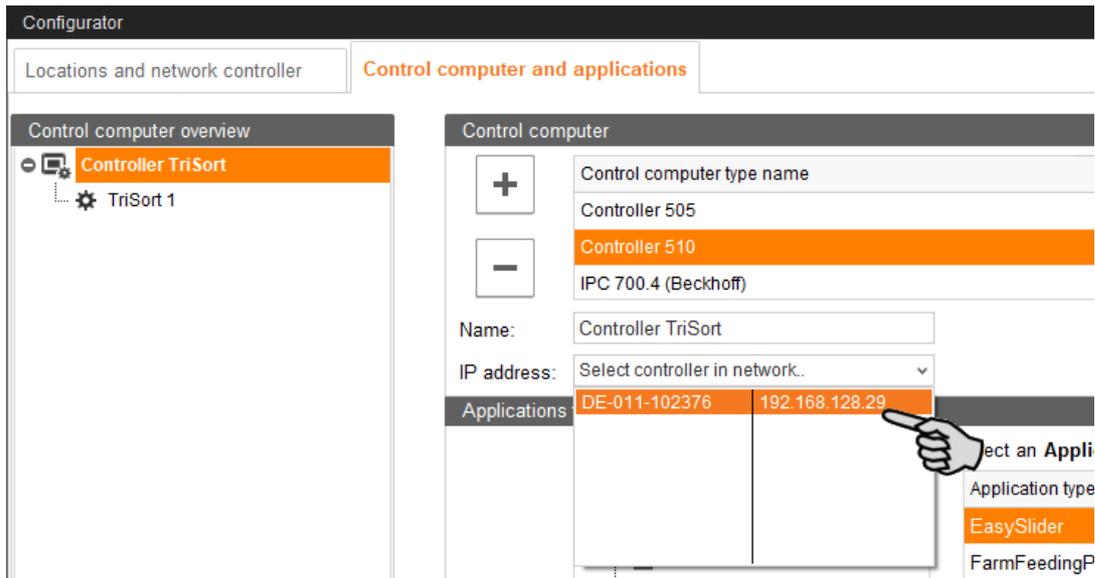
An application you select in the "Control computer overview" is marked by color below the assigned location.



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

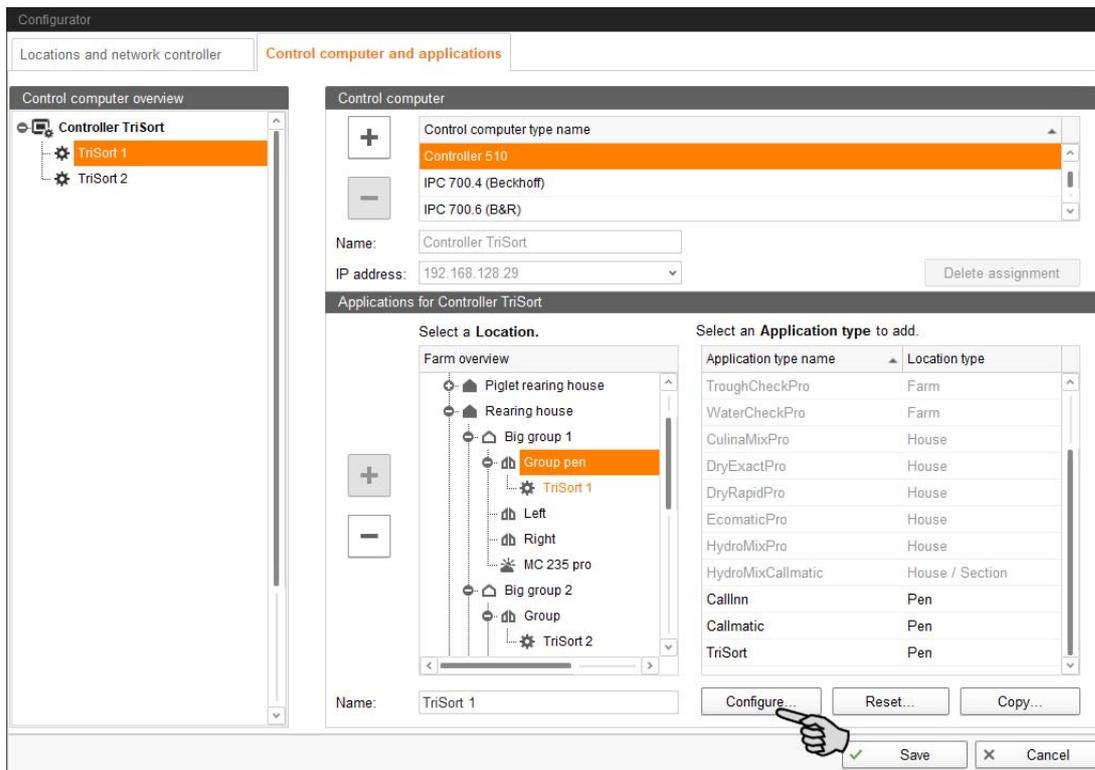
10. Assign the corresponding IP address to the control computer, if known.

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

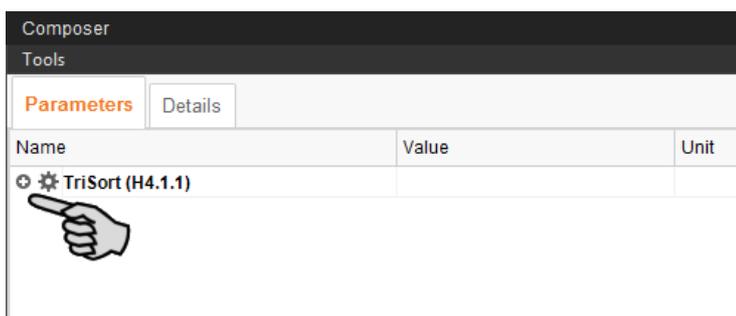


11. Select an application from the "Control computer overview" to configure it based on the system's functions.
12. Click on "Configure".

This opens the dialog for the Composer.

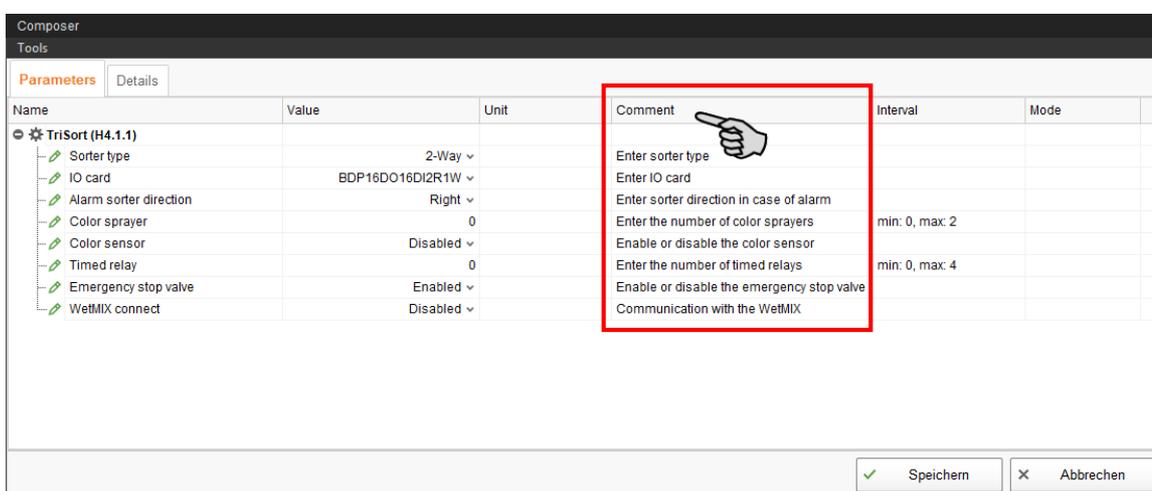


13. Click on the plus icon to show hidden parameters.



14. 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:



i NOTICE!

Sorting direction in case of an alarm

By default, the pigs are sorted to the right in case of an alarm. This setting also applies to the passage direction in case the power fails or the 510pro controller is switched off.

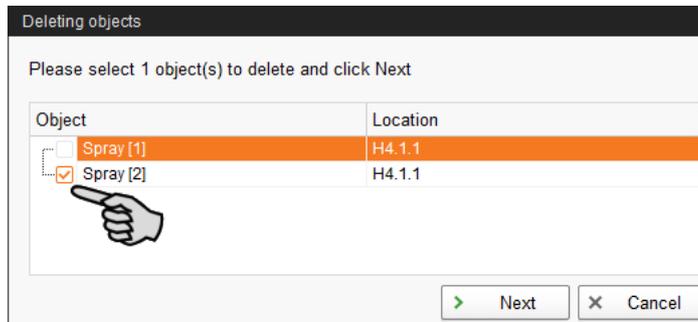
If you change this default setting, re-connect the pneumatic hoses and the springs accordingly! This is necessary to guarantee that the pigs are guided into an appropriate pen in case of a system error, e.g. a power failure. If the setting is not adjusted accordingly, the corresponding pen might become overcrowded in case of a system error!

15. Proceed as follows to delete system components:

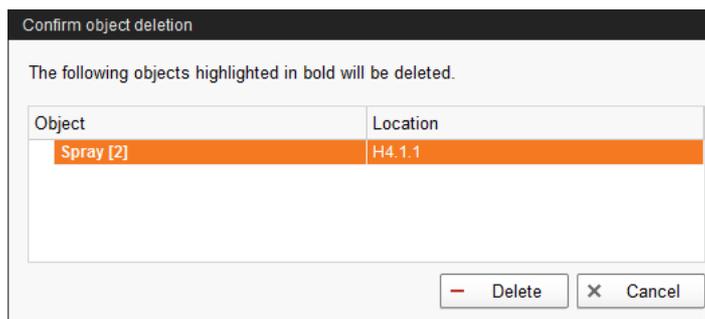
- a) Enter the new quantity (a lower number or 0) and press Enter.

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

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



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

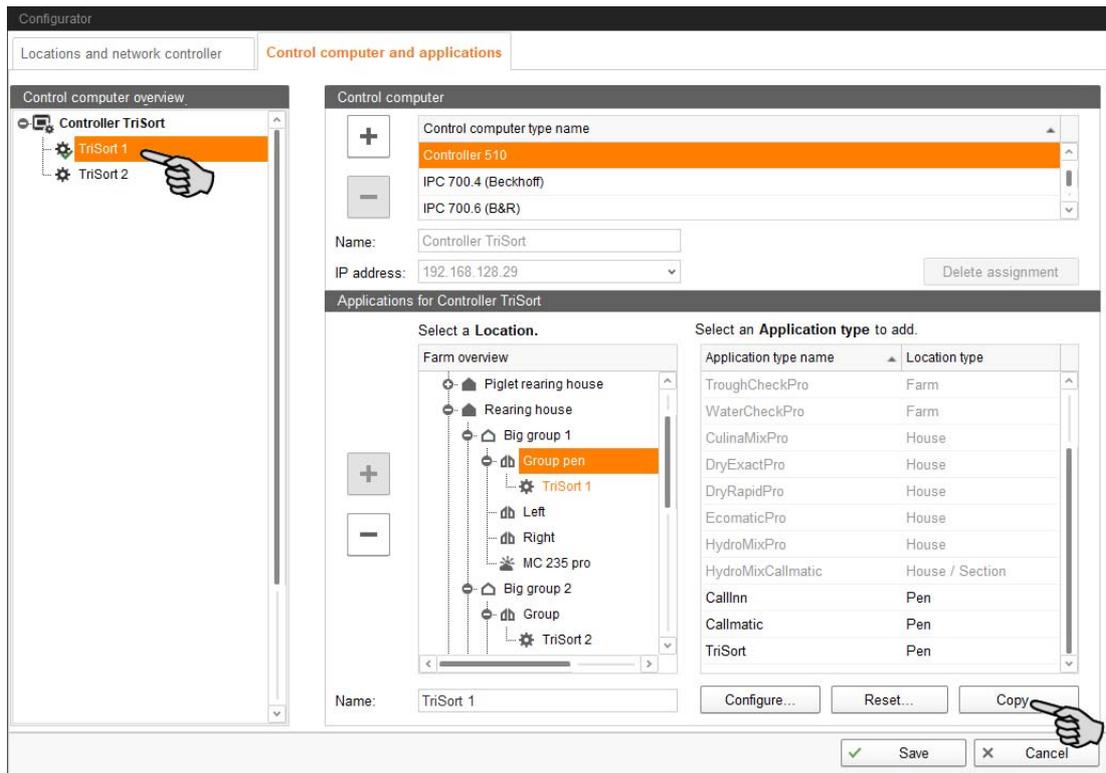


16. Click on "Save" to accept all settings for the Composer.

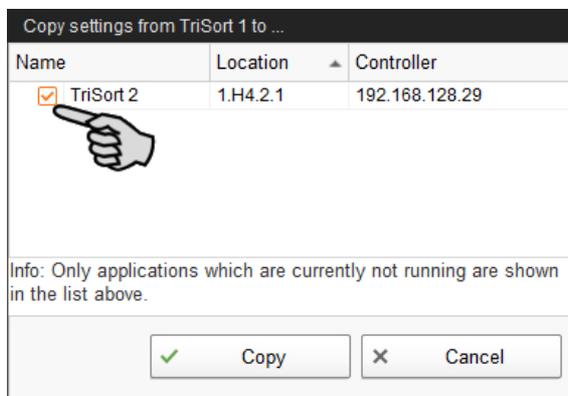
17. Copy the configuration defined in the Composer and transfer it to the other TriSort stations (applications), provided the TriSort stations have identical functions.

A configured application is marked by .

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



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



- c) Click on "Copy".

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

3.2 Changing settings in the Composer

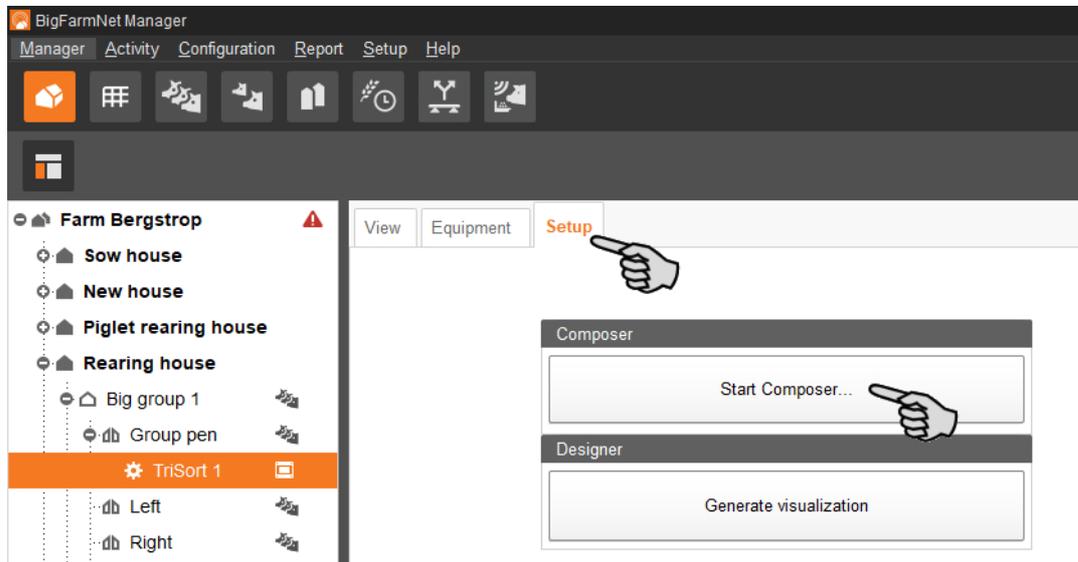
Usually, all functions of the installed system are defined once in the Composer. If necessary, the Composer can be opened as follows for subsequent modifications:

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

NOTICE!

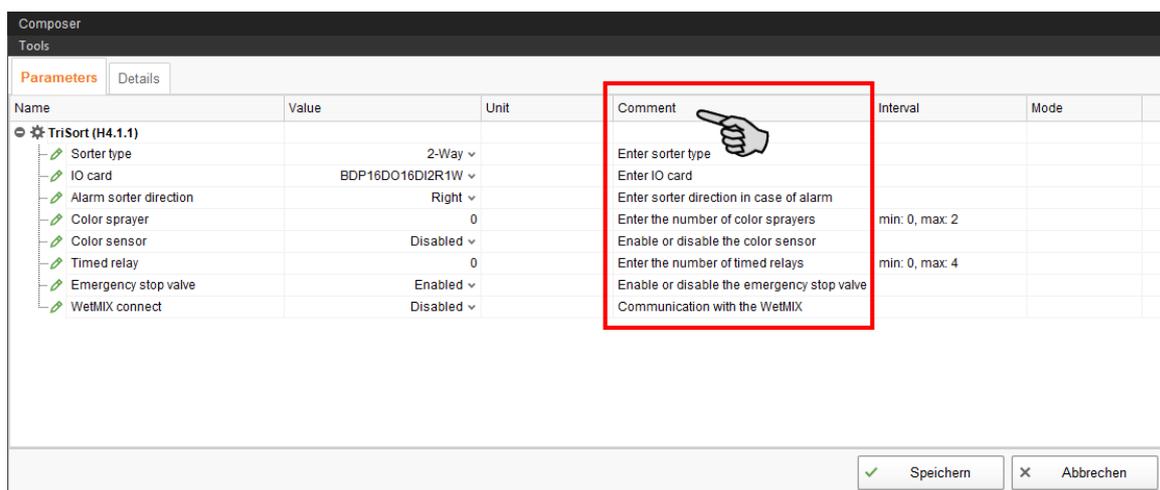
Check whether the application is running. Stop the application by clicking on  Stop in the upper bar.

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



- 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:



NOTICE!**Sorting direction in case of an alarm**

By default, the pigs are sorted to the right in case of an alarm. This setting also applies to the passage direction in case the power fails or the 510pro controller is switched off.

If you change this default setting, re-connect the pneumatic hoses and the springs accordingly! This is necessary to guarantee that the pigs are guided into an appropriate pen in case of a system error, e.g. a power failure. If the setting is not adjusted accordingly, the corresponding pen might become overcrowded in case of a system error!

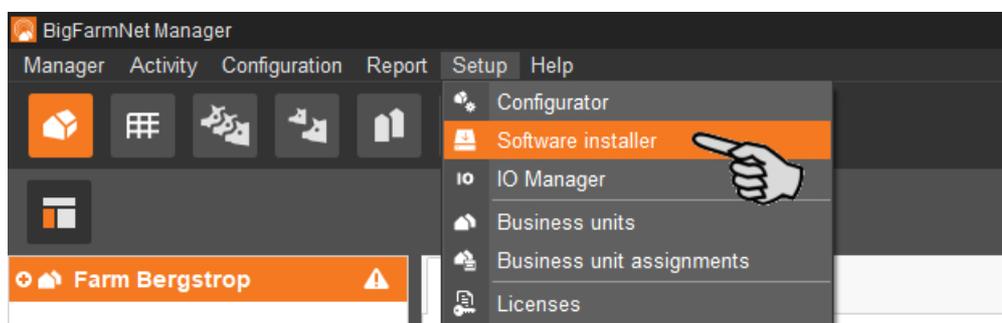
4. Click on "Save" to accept all settings for the Composer.

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

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

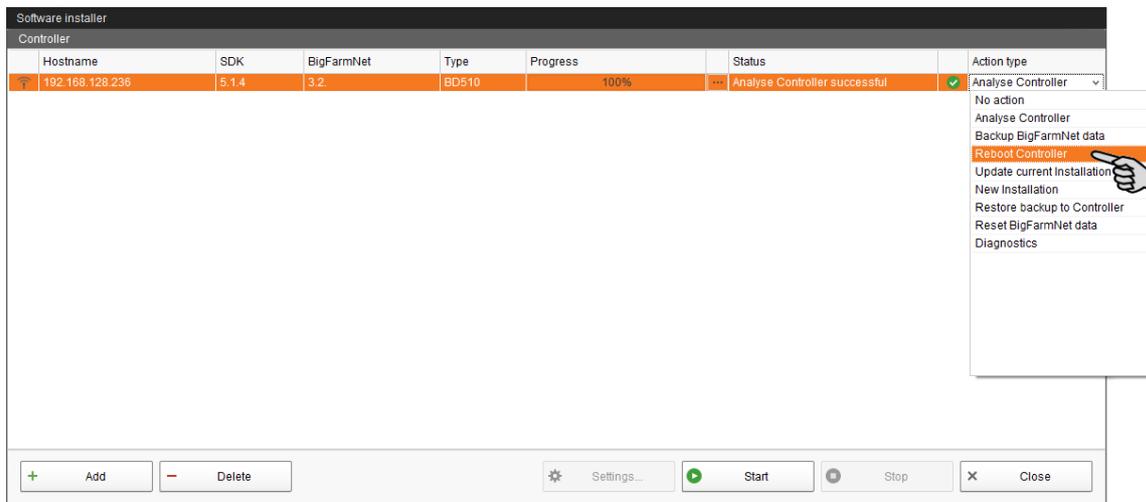


6. Click on "Software installer" in the "Setup" menu.



7. Click on the control computer to select it.

- Click into the corresponding input field under "Action Type" and select "Reboot Controller".



- Click on "Start".

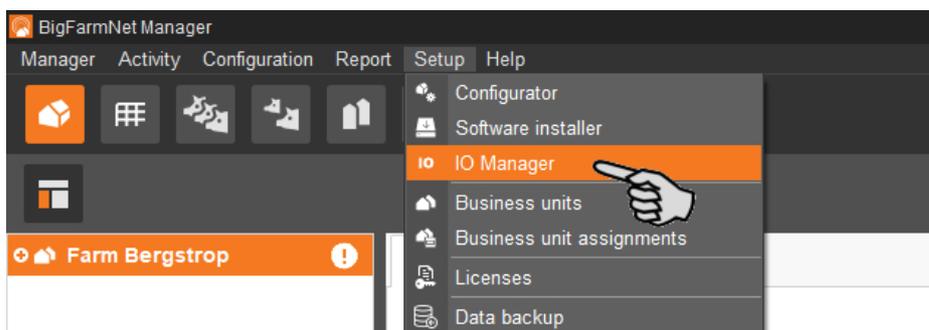
NOTICE!

This process may take a few minutes!

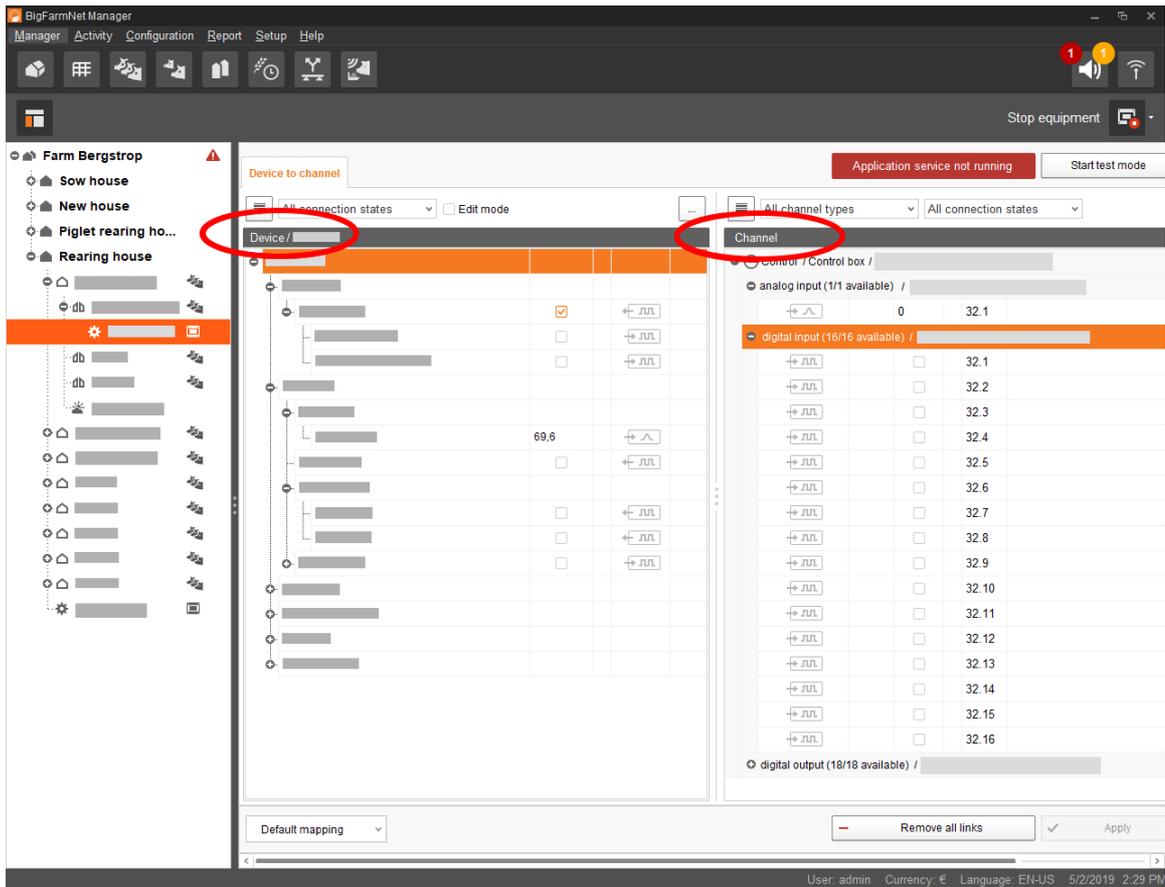
3.3 Configuring the IO Manager

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

- Click on the respective system application in the farm structure.
- 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:  

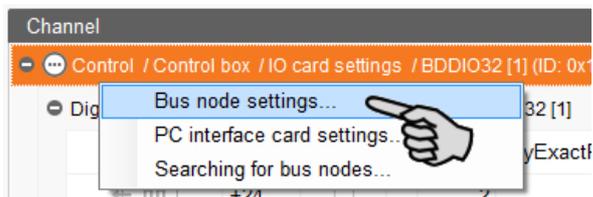
- Non-linked interfaces are grayed out: 

3.3.1 Changing the node ID

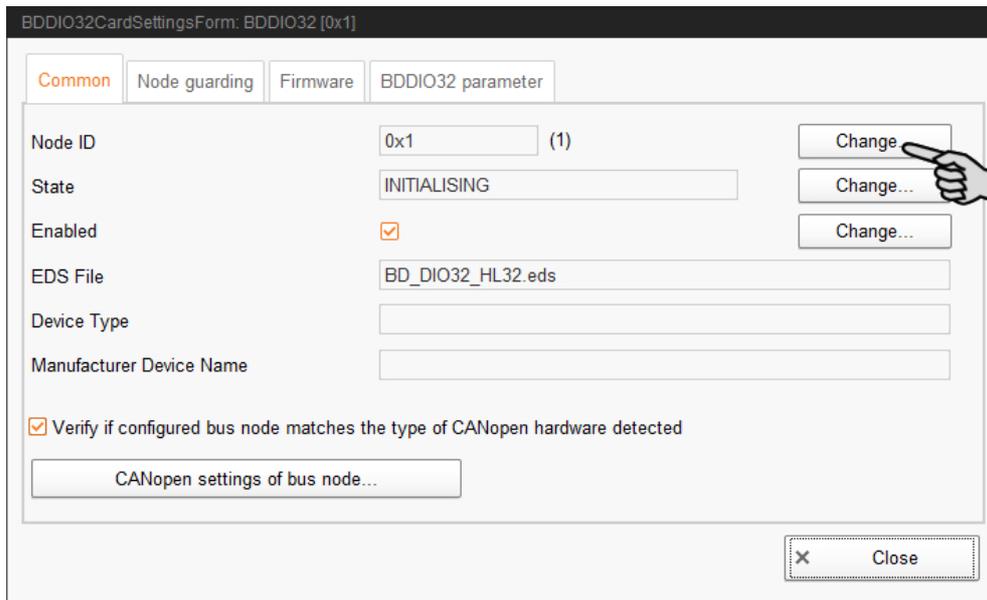
Please refer to the enclosed wiring diagram for information on the devices' CAN addresses. Assign the CAN addresses in accordance with the wiring diagram.

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...".

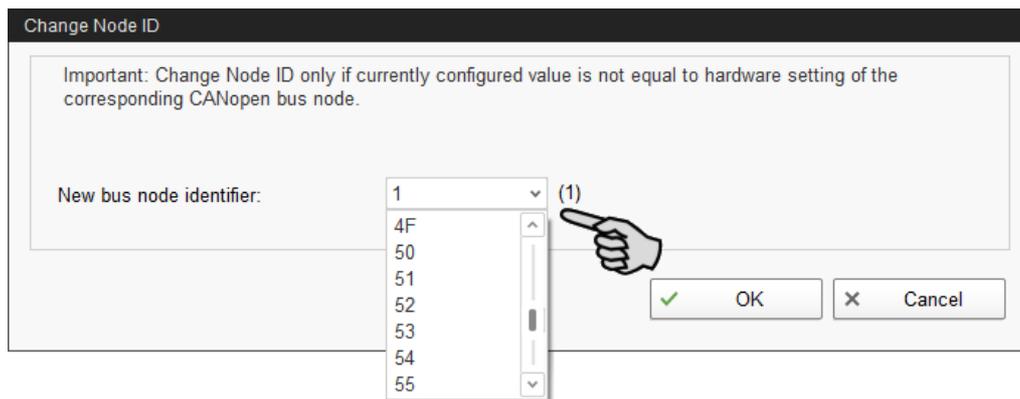
This opens a new dialog.



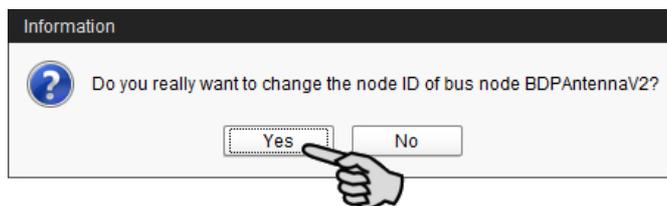
3. In the first tab, click on "Change..." next to "Node ID".



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



5. Confirm the prompt for confirmation.



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

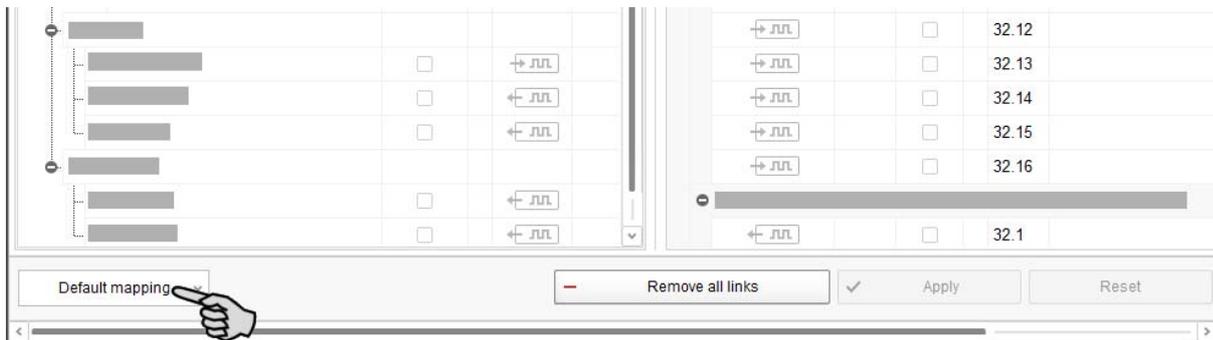
3.3.2 Creating links

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

Default mapping

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

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



NOTICE!

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

Manual assignment

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.

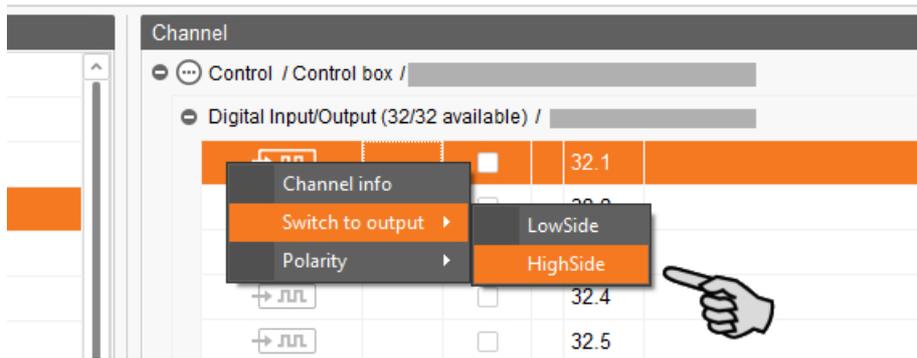
- a) Select one input or select multiple inputs by holding the Ctrl key.

Multiple editing is only possible for channels of the same type.

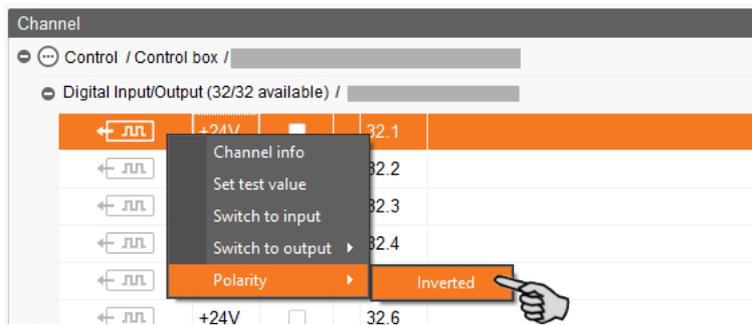
- b) Right-click into the marked area.
- c) In the context menu, select "Switch to output" > "HighSide", if the new output should switch to high side (24 V).

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.

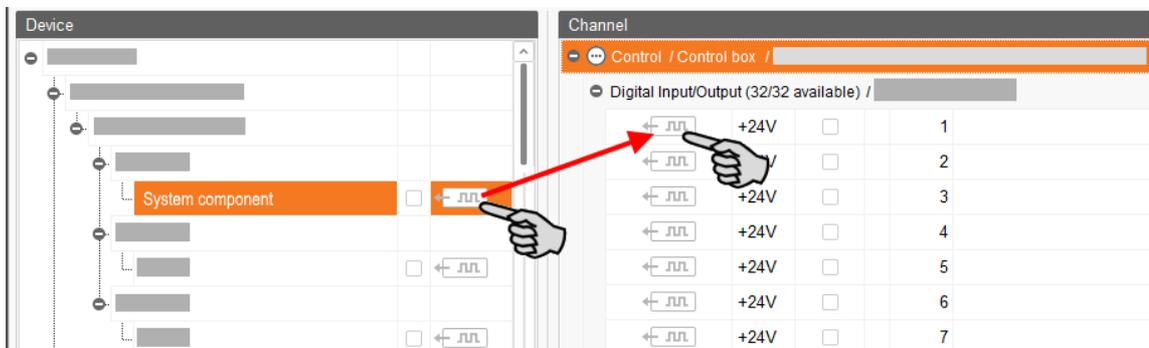


- 2. Select one of the following options to link the interfaces:

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  .

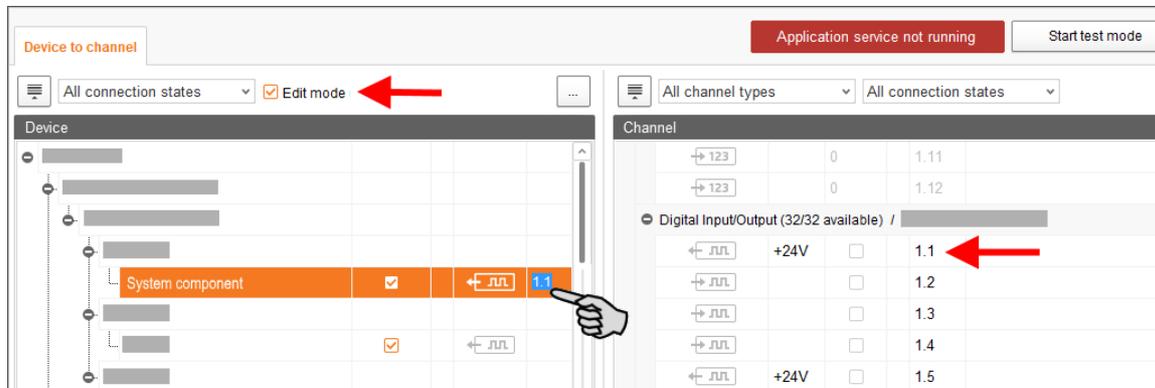


Option 2:

- 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.

3.3.3 Using the test mode

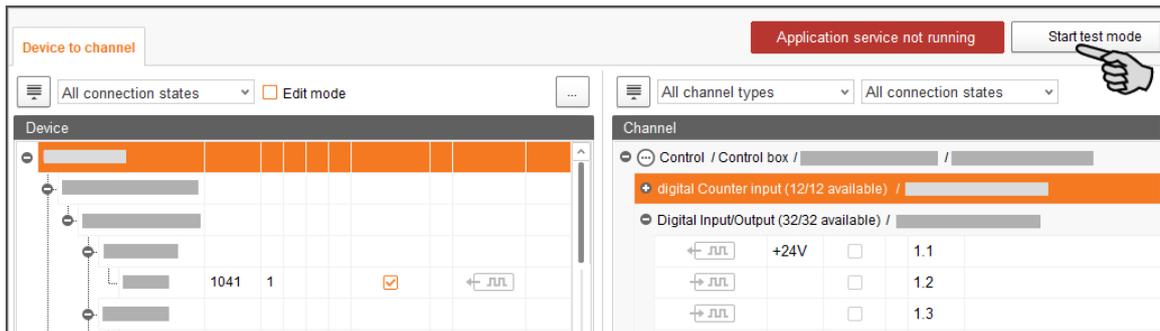
In the test mode of the IO Manager, all devices can be turned on and off to check the correct setup of the control before starting to operate the system.

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.



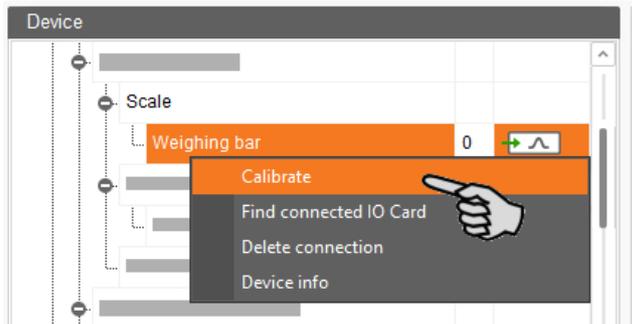
4. Turn off the device by deactivating the check box.
5. End the test mode by clicking on  in the upper bar.

3.3.4 Calibrating the scale

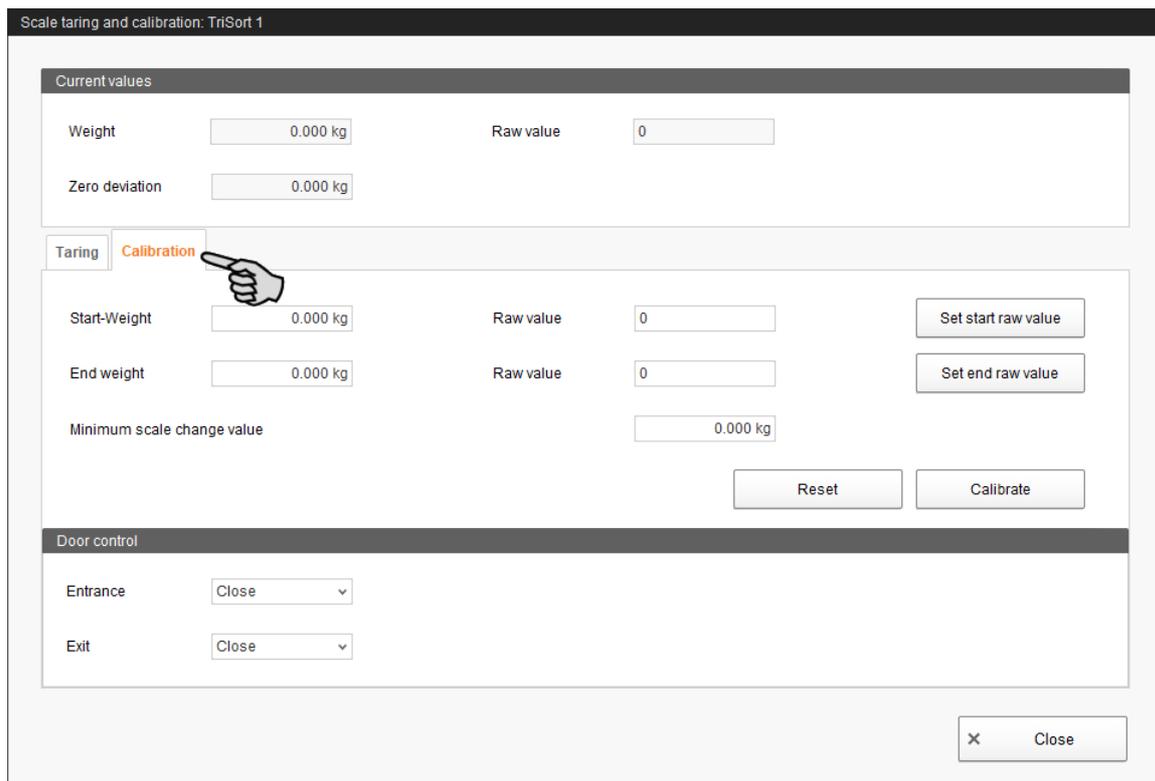
You may calibrate a scale as soon as you have created a link between the weighing bars and the respective weighing box.

1. In the "Device" area, right-click on "Weighing bar".
2. In the context menu, click on "Calibrate".

This opens a new dialog window.



3. To calibrate, click on the "Calibration" tab.

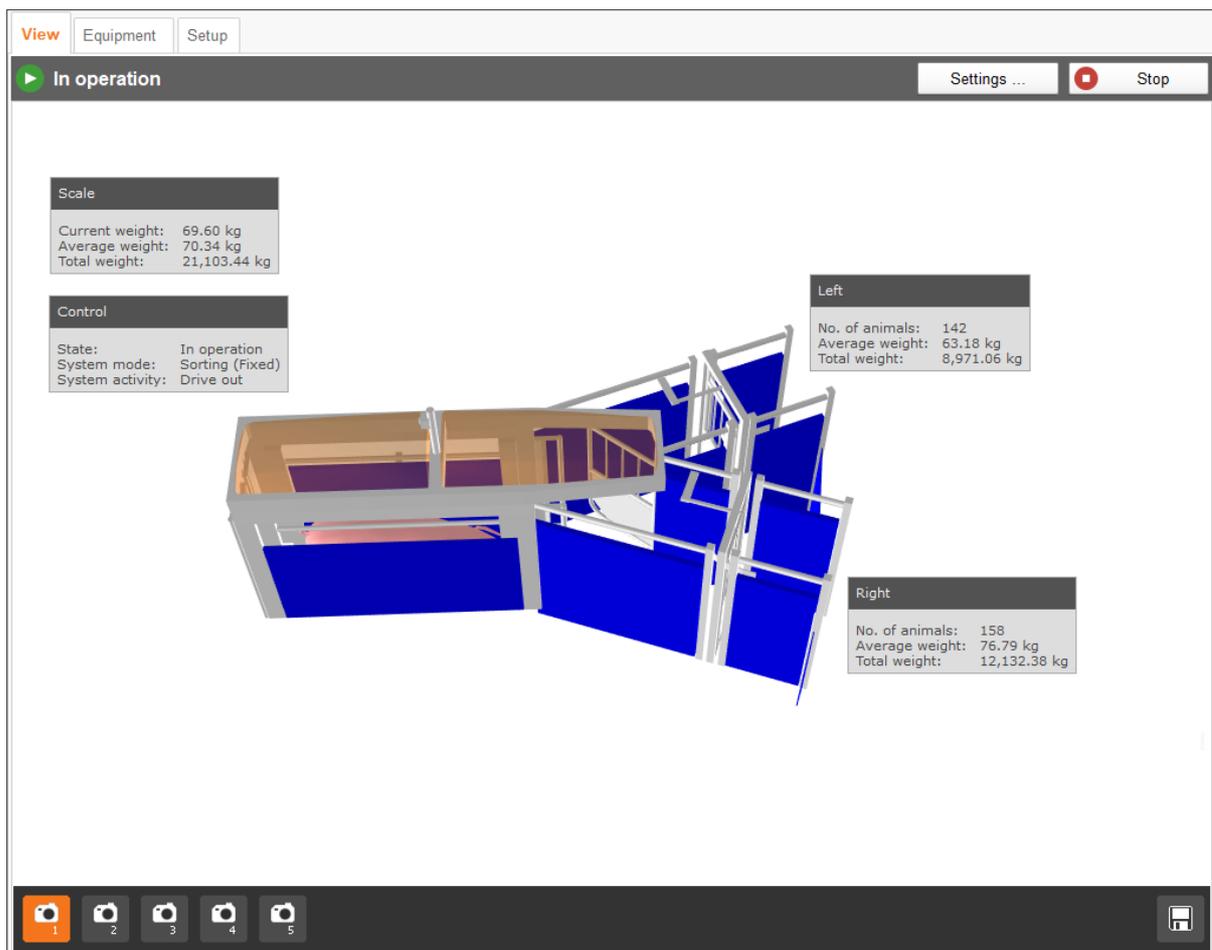


4. Enter the **start weight** (usually the value 0) and click on "Set start raw value".
5. Enter the used calibration weight under **End weight**.
6. Load TriSort with the calibration weight.
7. Click on "Set end raw value".

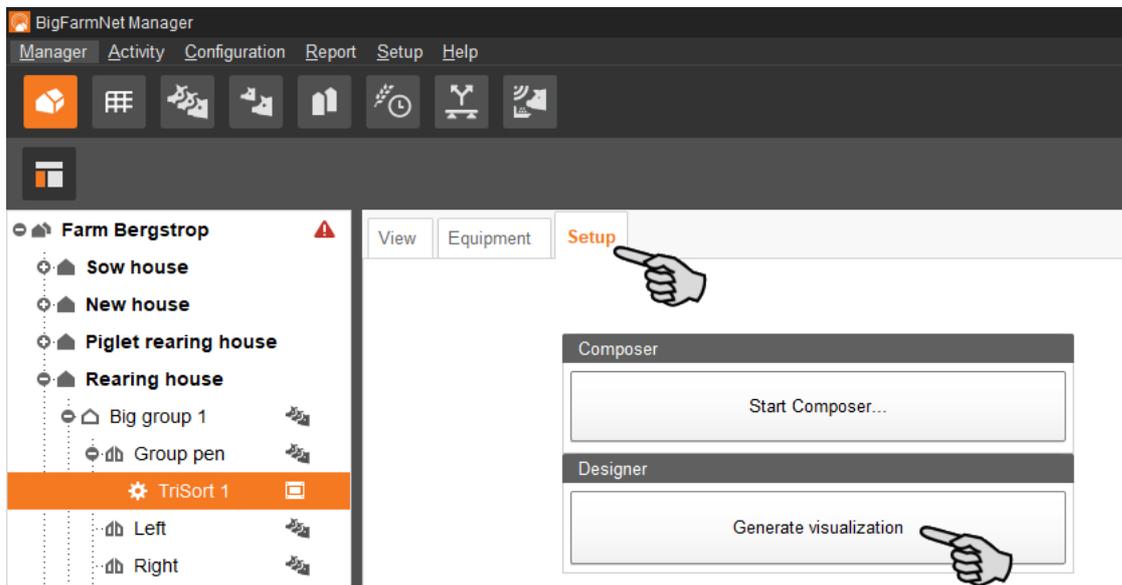
8. Remove the calibration weight.
9. Click on "Calibrate" to complete the calibration process.
10. Close the dialog.

3.4 Depicting the system in the Designer

The Designer is a visualisation program that creates a 3D image of TriSort according to the system components defined in the Composer. The 3D image shows activities of TriSort during operation, e.g. whether there is currently an animal inside TriSort.



1. Click on the respective system application in the farm structure.
2. Under "Setup", click on "Generate visualization".



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



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

- **Moving up and down:** Hold down the Control (Ctrl) key while rolling the scroll wheel of your mouse.

OR

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

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



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

3.6 Manually controlling the system components

You may manually control TriSort via the 3D image created in the Designer 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!

Manual control can be used e.g. to check whether actively controlled system components such as doors and sprayers function.

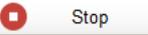
CAUTION!

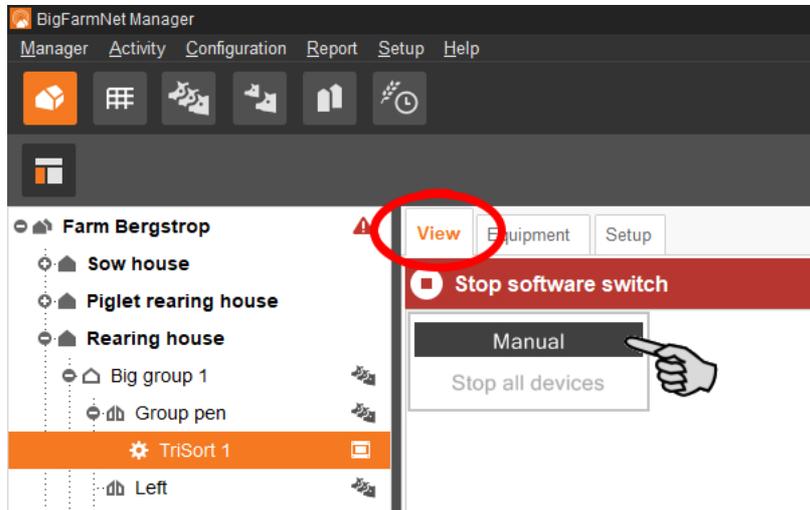
Be extremely careful when manually controlling system components:

- Make sure that no persons or animals are located in or around the system!
- Do not actuate sprayers and pressure valves for too long. There is no time limit in the active / open mode!
- Never open entrance door and sorter gate at the same time and never permanently! Otherwise, you risk overcrowding of the selection and feeding pen.

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

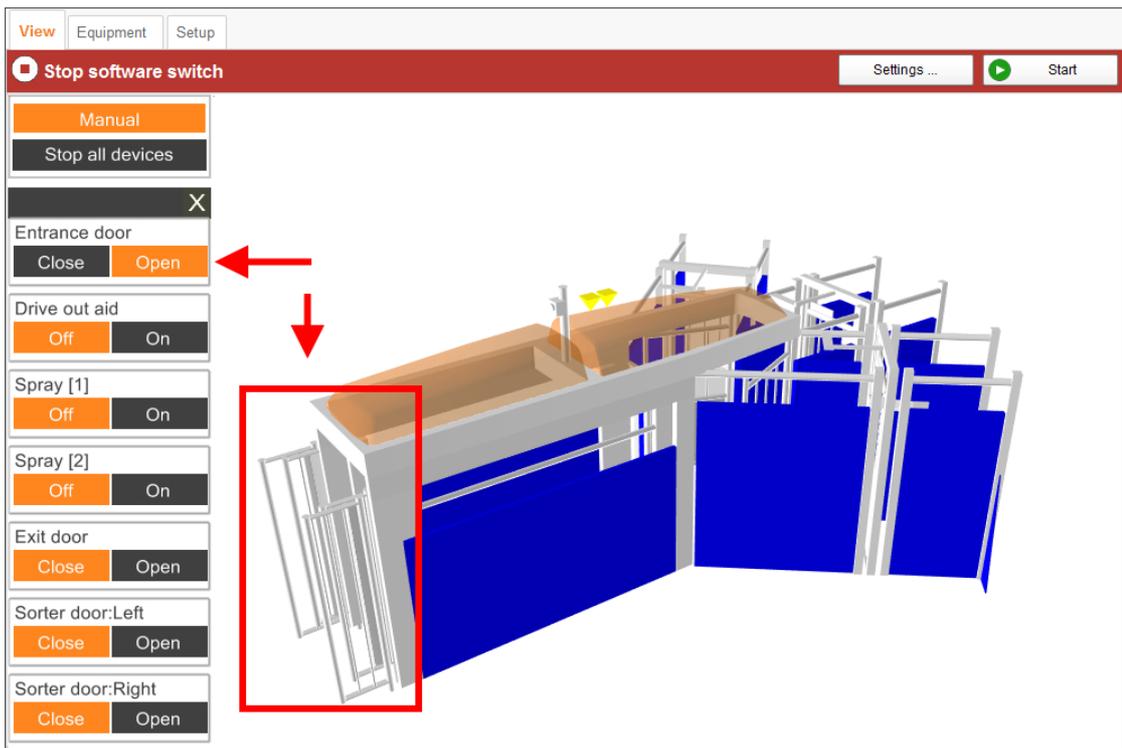
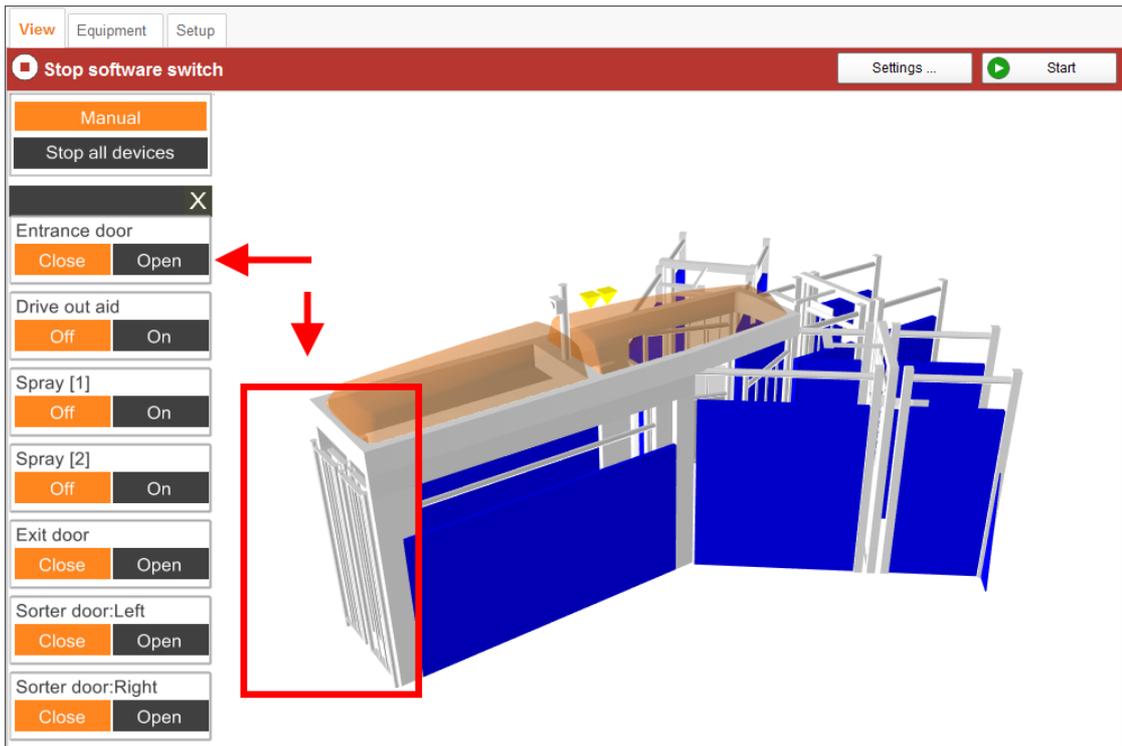
NOTICE!

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



3. If necessary, adjust the view, see chapter 3.5, or retrieve one of your saved views using the camera icons.
4. Click into the 3D image. All system components that can be controlled manually now appear in the left-hand part of the application window.
5. Activate and/or deactivate the desired system components using the corresponding button.

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



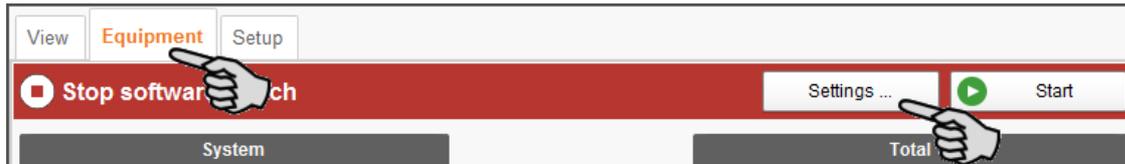
4 Configuration of the TriSortpro application

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

i NOTICE!

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

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

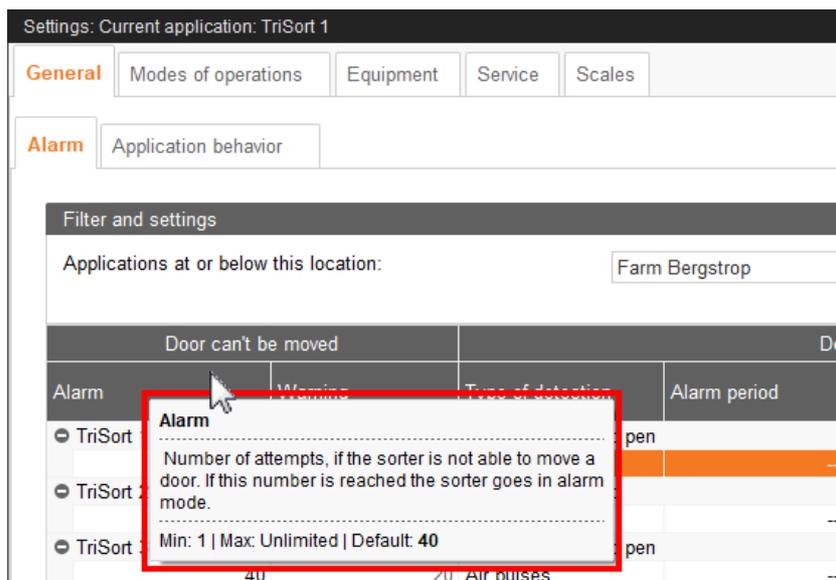


This opens the settings dialog, which contains all settings for the system components you defined in the Composer beforehand. The settings are grouped and may have pre-set values. The different parameters are described in the following chapters.

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)!

i NOTICE!

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

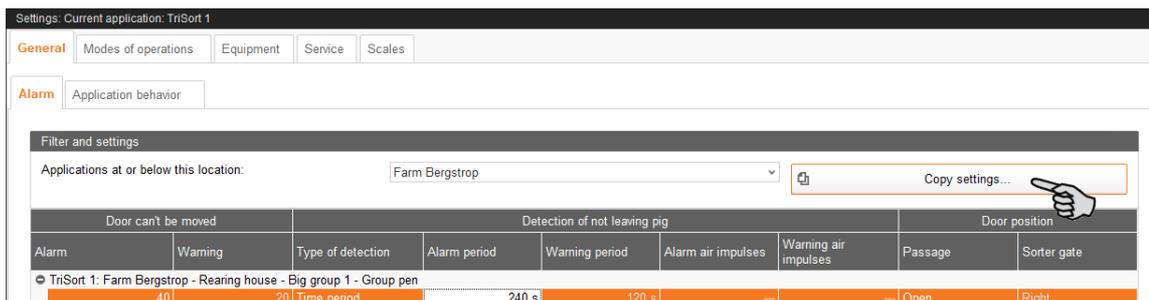


4.1 Copying the settings of a system

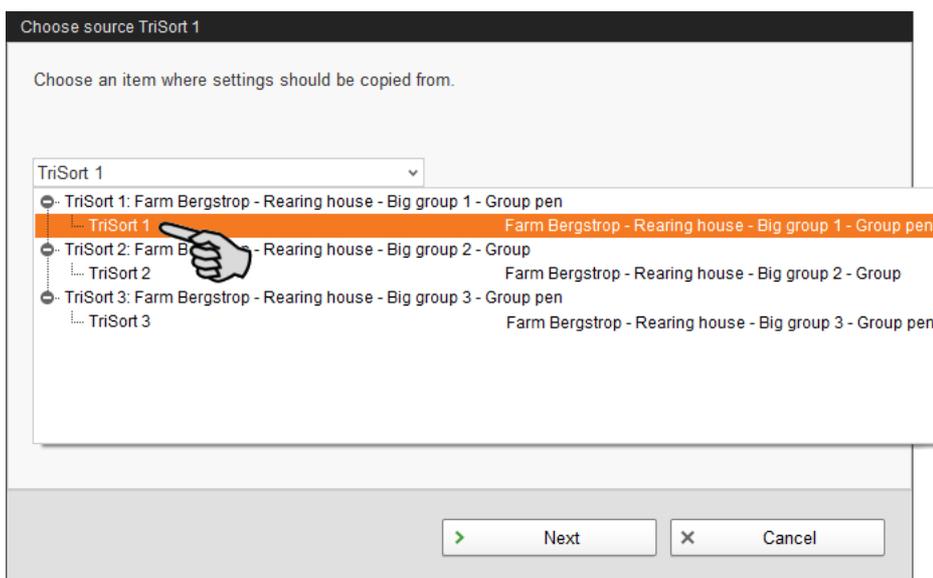
If multiple systems (applications) of the same type are to be configured with the same settings, you can define the settings for one system and copy them to other systems. The copy function is permanently available in the settings dialog.

Proceed as follows:

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

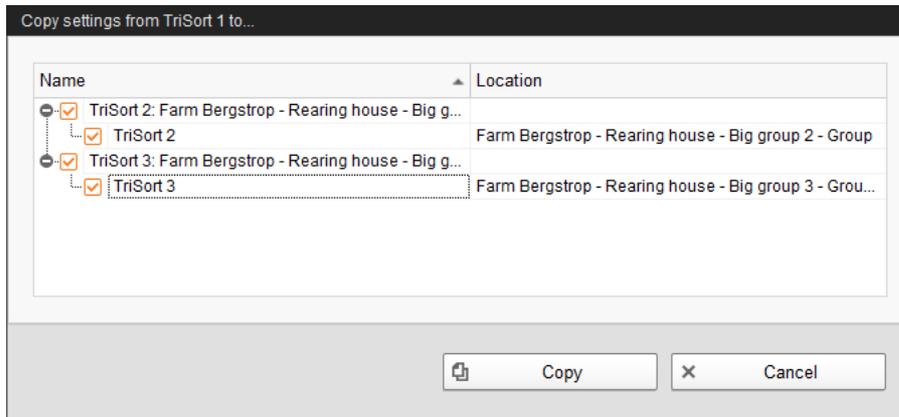


3. In the next dialog window, select the system whose settings you want to copy.



4. Click on "Next".

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



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

4.2 Alarm

Settings: Current application: TriSort 1

General Modes of operations Equipment Service Scales

Alarm Application behavior

Filter and settings

Applications at or below this location: Farm Bergstrop

Door can't be moved		Detection of not leaving pig				Door position		
Alarm	Warning	Type of detection	Alarm period	Warning period	Alarm air impulses	Warning air impulses	Passage	Sorter gate
TriSort 1: Farm Bergstrop - Rearing house - Big group 1 - Group pen	40	20 Time period	240 s	120 s	---	---	Open	Right
TriSort 2: Farm Bergstrop - Rearing house - Big group 2 - Group	40	20 Air pulses	---	---	50	25	Open	Right
TriSort 3: Farm Bergstrop - Rearing house - Big group 3 - Group pen	40	20 Air pulses	---	---	50	25	Open	Right

Door can't be moved

If the entrance door cannot be moved because it has been jammed, define the number of unsuccessful attempts at closing after which an alarm message is issued. A warning is issued after half the number of closing attempts after which an alarm is issued.

Detection of not leaving pig

If an animal refuses to leave TriSort, a warning and an alarm are generated. Select the **type of detection** of such an animal first:

- **Air pulses:** If one air pulse is not sufficient to drive the animal out of the TriSort station after weighing, define under **Alarm air impulses** the number of pulses that will lead to an alarm in case of lack of success. After half of this number of pulses, a warning is generated.
- **Time period:** Define the maximum stay duration of the animal in the TriSort station under **Alarm period**. If the animal stays in the station for a longer time, an alarm is issued. After half of this time, a warning is generated.

Door position

Define whether the exit door (**Passage**) should be open or closed in case of an alarm. Additionally, define the position of the sorter gate during an alarm.

4.3 Application behavior

Settings: Current application: TriSort 1

General Modes of operations Equipment Service Scales

Alarm **Application behavior**

Filter and settings

Applications at or below this location: Farm Bergstrop

Application not operational			Back to operate		
Action after max. pause time	Max. pause time	Repeat action	Activate	Restart wait time	Restart attempts
<ul style="list-style-type: none"> TriSort 1: Farm Bergstrop - Rearing house - Big group 1 - Group pen <ul style="list-style-type: none"> Alarm <input type="checkbox"/> 0 min <input checked="" type="checkbox"/> TriSort 2: Farm Bergstrop - Rearing house - Big group 2 - Group <ul style="list-style-type: none"> Alarm <input type="checkbox"/> 0 min <input checked="" type="checkbox"/> TriSort 3: Farm Bergstrop - Rearing house - Big group 3 - Group pen <ul style="list-style-type: none"> Alarm <input type="checkbox"/> 0 min <input checked="" type="checkbox"/> 			<input type="checkbox"/>	10 min	10
			<input type="checkbox"/>	10 min	10
			<input type="checkbox"/>	10 min	10

Application not operational

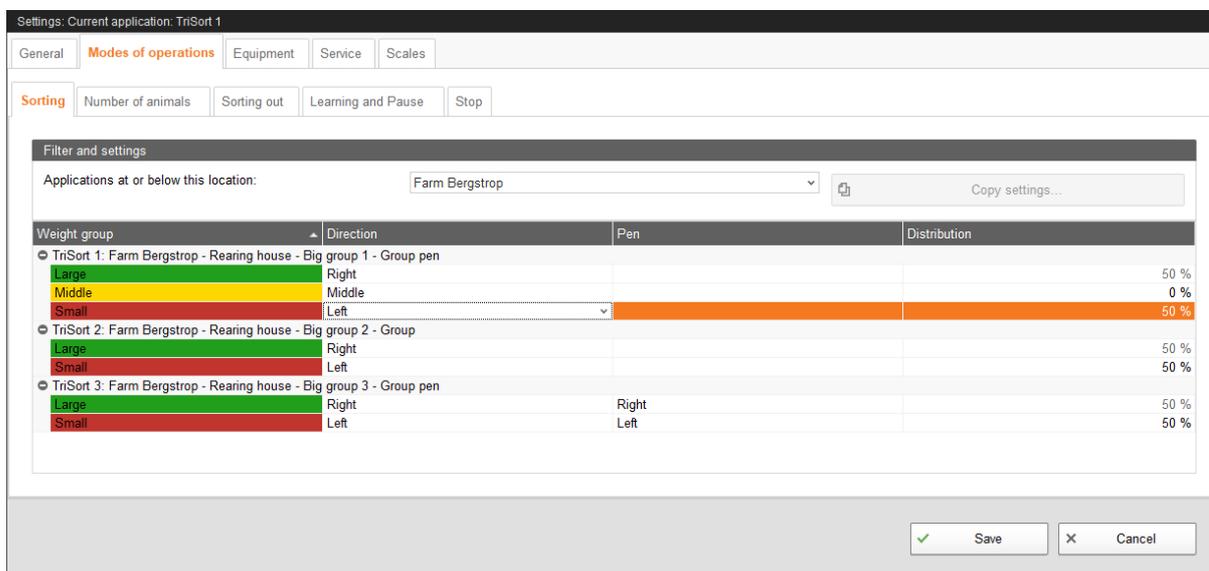
- **Action after maximum pause time** can be set to be either an alarm, a warning or no action at all ("No").
- **Maximum pause time:** If the application does not run for a time longer than set here (pause or error), an alarm or a warning is issued (depending on what is set for **Action after maximum pause time**). 0 minutes means that 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.

Back to operate

Use this setting to define whether the application should return to operation independently after a pause or an error. If the box is checked, you must define the **restart wait time**, which indicates for how long the application waits for a restart, as well as the maximum number of **restart attempts**. The system waits for the corresponding waiting time before every restart attempt.

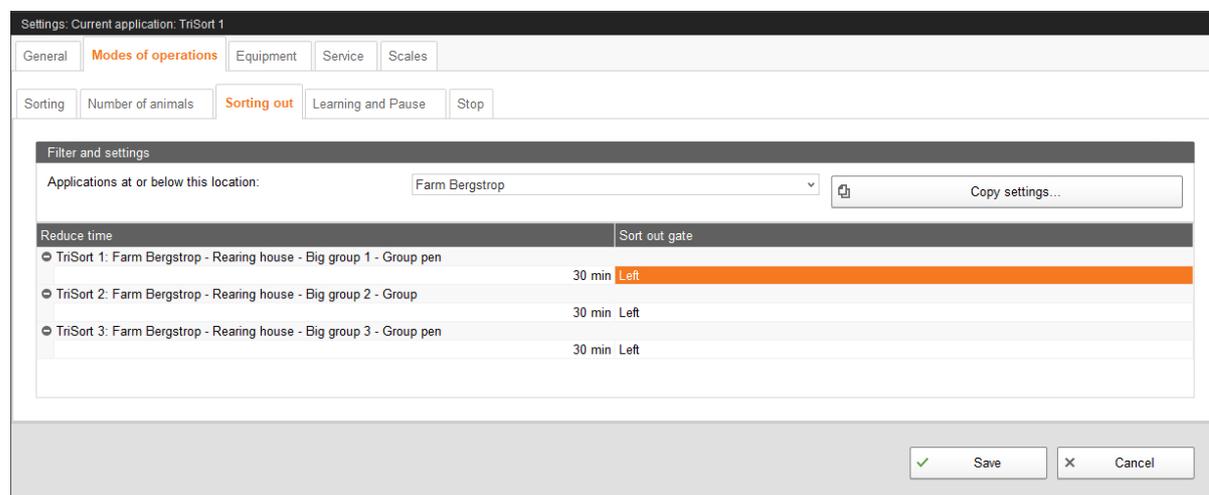
4.4 Modes of operation

4.4.1 Sorting



Define the exit direction and the corresponding pen for every weight group. If you selected the mode "Sorting (Percentage)", define a distribution in percent for the pens.

4.4.2 Sorting out



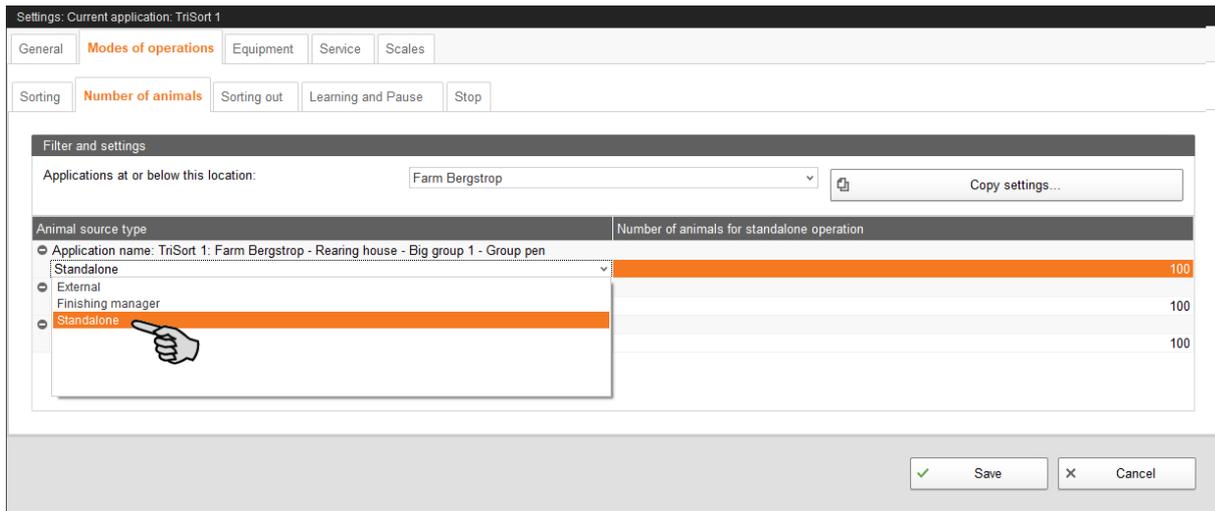
For sorting out, define with the **reduce time** after how much time the start weight is reduced by 1 kg. Also define the position of the **sort-out gate**.

Pigs that have been guided into a specific pen due to sorting need to be moved out or moved into another pen later on in the system, depending on the action.

NOTICE!

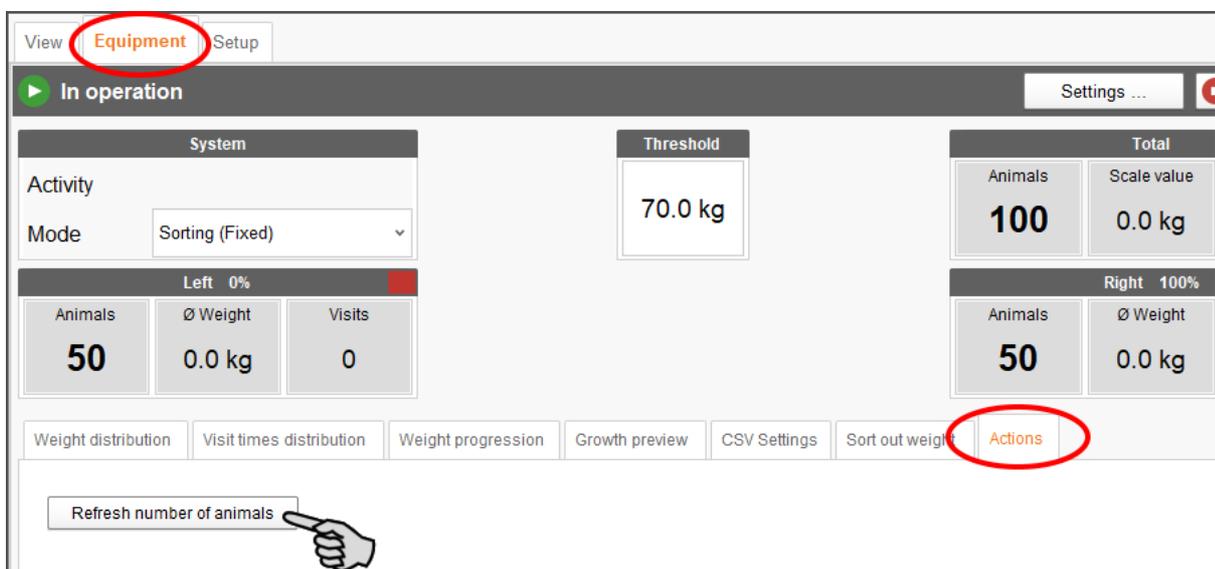
If a three-way sorting unit is installed, sorting out can run simultaneously in the **Sorting (Fixed)** or in the **Sorting (Curve)** mode. During sorting, pigs that meet the criteria for sorting out are sorted as well.

4.4.3 Number of animals



Define under **Modes of operation > Number of animals** whether TriSort is operated with the Pig Manager (Finishing Manager) or not; or whether an external management system is available. The number of animals can be entered manually only in case of operation without Pig Manager.

In case of a connection with WetMIX, the manual input of the number of animals must be transferred. To do so, click on "Refresh number of animals" in the window "Equipment" > "Actions".



4.4.4 Learning and pause

Settings: Current application: TriSort 1

General Modes of operations Equipment Service Scales

Sorting Number of animals Sorting out Learning and Pause Stop

Filter and settings

Applications at or below this location: Farm Bergstrop

Learning		Pause			
Sorter switch time	Blocked sorter gate	Times	Passage	Sorter gate	Learning mode
TriSort 1: Farm Bergstrop - Rearing house - Big group 1 - Group pen	5 min Middle		Open	Right	Disabled
TriSort 2: Farm Bergstrop - Rearing house - Big group 2 - Group	5 min ---		Open	Right	Disabled
TriSort 3: Farm Bergstrop - Rearing house - Big group 3 - Group pen	5 min ---		Open	Right	Disabled

The purpose of training is getting the pigs used to TriSort. Training can be activated either via the settings under **Pause**, or as **Learning** mode.

Learning (mode)

The sorter gate switches from one position to the next, irrespective of whether a pig has stepped onto TriSort or not, after the **sorter switch time**.

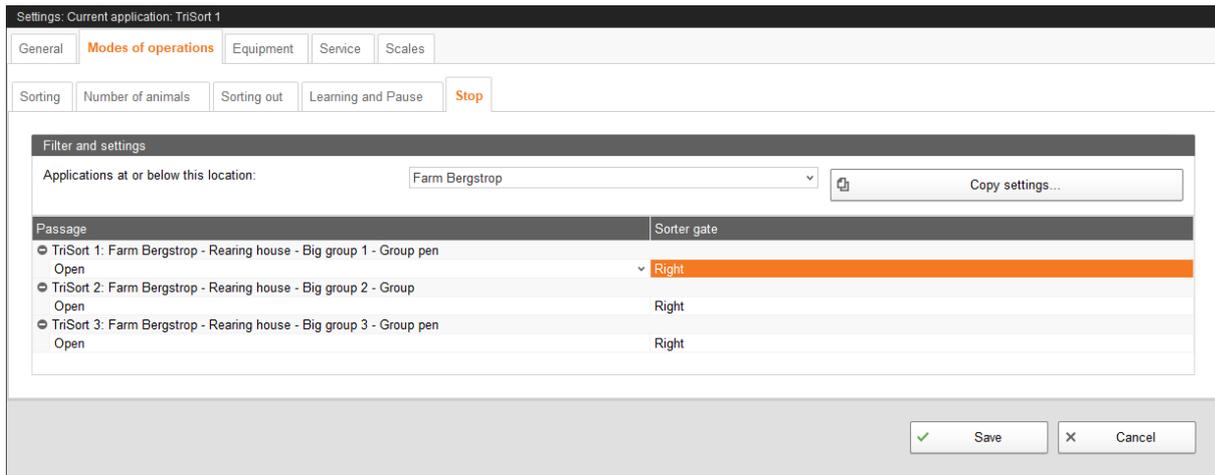
The setting **Blocked sorter gate** is only applicable for three-way sorting. Use this setting to block a specific exit. Usually, the exit in the middle is blocked.

Pause

Click on "Add" under **Times** to create one or more pauses by defining the start and end time. During the pauses, you may activate or deactivate the **Learning mode**.

If the learning mode is deactivated, define the position of the **sorter gate** and select whether the **passage** should be open or closed during the pause time.

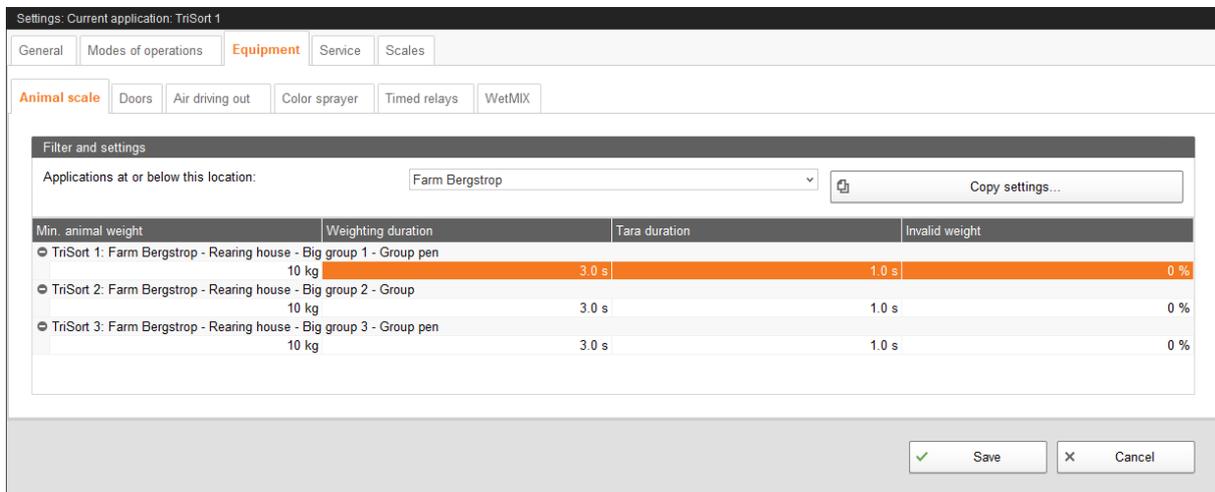
4.4.5 Stop



Define whether the entrance and exit door (**Passage**) should remain open or closed if the system has been stopped, and define the position of the sorter gate.

4.5 Equipment

4.5.1 Animal scale



Minimum animal weight

The minimum animal weight is a threshold value. Below this weight, no pigs are detected on the scale.

Weighing duration

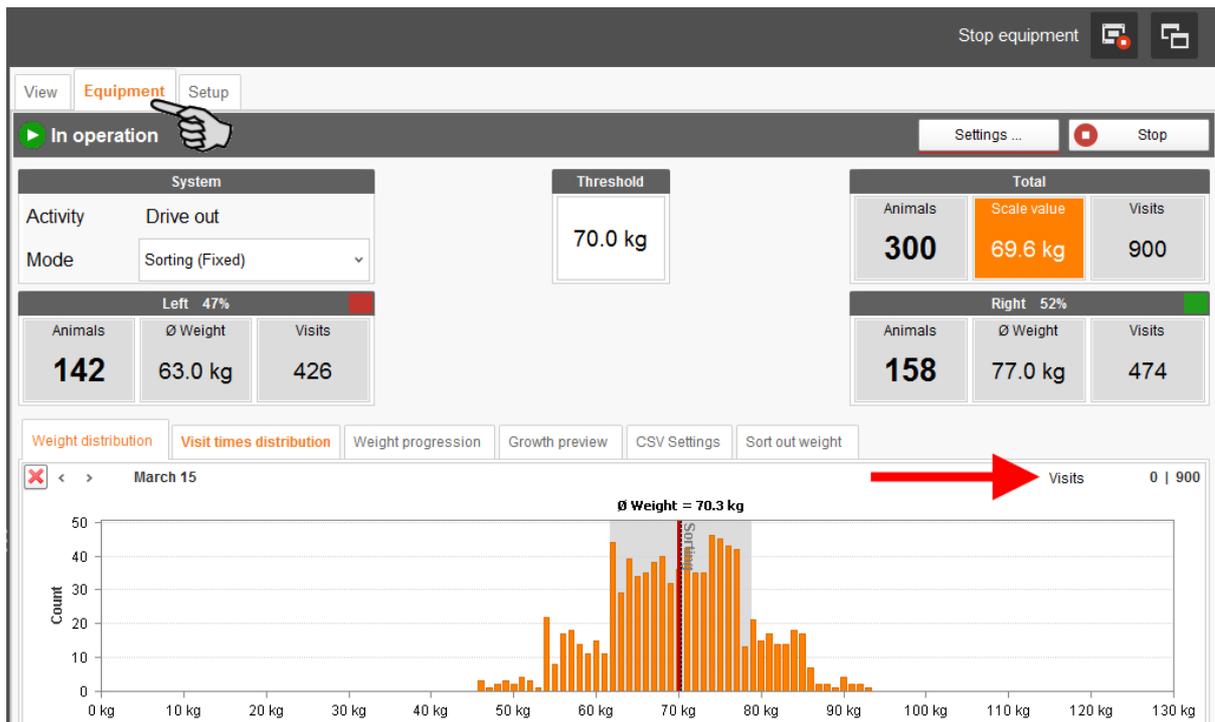
The weighing duration should be no less than one second (recommended weighing duration: no less than three seconds). The scale weighs the pig several times within this duration. The determined weight is the mean value of all measured weights.

Tara duration

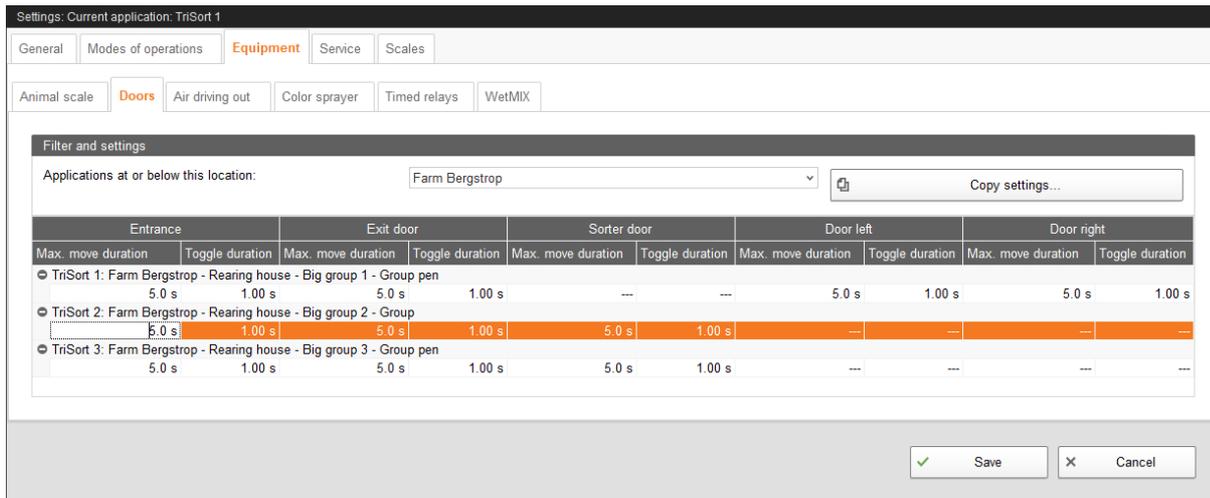
As soon as the pig has left the scale, the scale balances itself within the tara duration, and automatically resets itself to zero, which only takes one second.

Invalid weight

Invalid weighing processes are not included in the calculations for the average daily weights. Neither an alarm nor a warning are generated. The number of invalid weighing processes is displayed in the application window under "Equipment" > "Weight distribution": **Visits**. This function is deactivated if you do not enter any value.

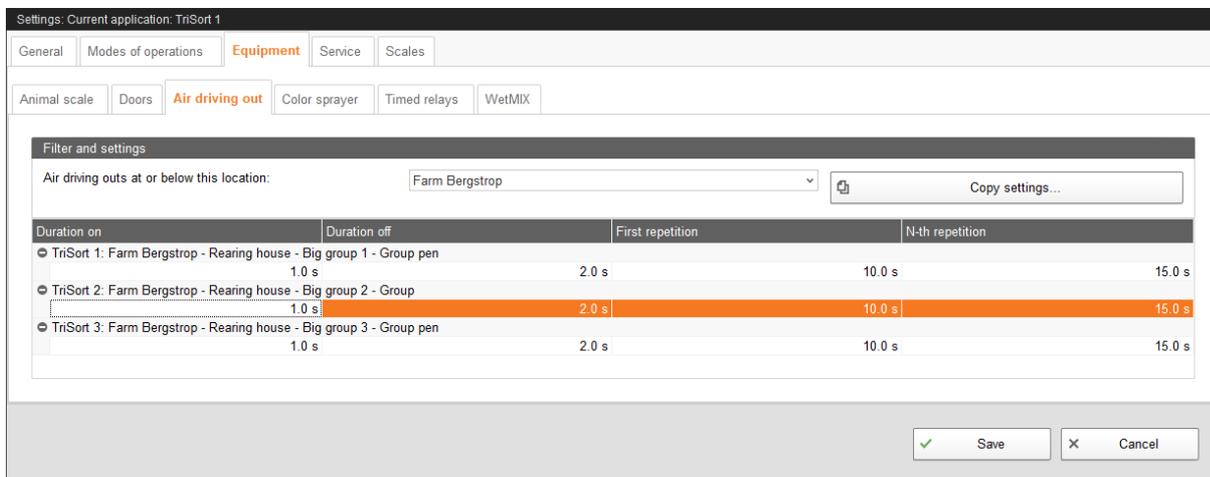


4.5.2 Doors



After activation of a door, the door's final position (completely open / closed) must be reached within the **maximum move duration**. Sensors check each door's final position. If the door does not reach its final position within the maximum move duration, it returns to its original position for the time set under **Toggle duration**.

4.5.3 Air driving out



If an animal refuses to leave TriSort after weighing despite the air pulse, you may define specific intervals for further air pulses.

Duration on (time until pig is driven out)

The duration of the first air pulse after weighing.

Duration off (time between two drive-out intervals)

If the pig does not leave TriSort after the first pulse, the pulse is repeated three times at short intervals. Define these time intervals between pulses under "Duration off".

1st repetition

The waiting time before the first of the three additional pulses is emitted.

n-th repetition

After the first three pulses, a different waiting time can be defined for the next repetition.

Example for driving out a pig

"Settings" > "Equipment" > "Air driving out":

- Duration on: 1 second
- Duration off: 2 seconds
- First repetition: 60 seconds
- nth repetition: 15 seconds

"Settings" > "General" > "Alarm":

- **Detection of not leaving pig > Type of detection: "Air pulses" > Alarm air impulses = 50**

Sequence of actions:

1. After weighing, the pressure valve is opened for 1 second (duration on) to drive the pig out of TriSort.
2. If the pig does not leave the sorting scale, the pressure valve waits for 60 seconds and then opens 3 times in intervals of 2 seconds for a duration of 1 second per interval.
3. If the pig has still not left the scale, the next 3 pulses are repeated after a pause of 15 seconds.
4. If the pig has not left the sorter after 25 repetitions, a warning is issued. If the pig has not left the sorter after 50 repetitions, an alarm is issued.

4.5.4 Color sprayer

Name	Location	Spray duration	Weight range
TriSort 1: Farm Bergstrop - Rearing house - Big group 1 - Group pen	Farm Bergstrop - Rearing house - Big group 1 - ...	0.3 s	

You can control the amount of color used by means of the **spray duration**.

Under **Weight range**, define which animals should be marked by color by defining one or more weight ranges via "Add". Limit the weight range by entering **Start** and **End** values.

4.5.5 WetMIX

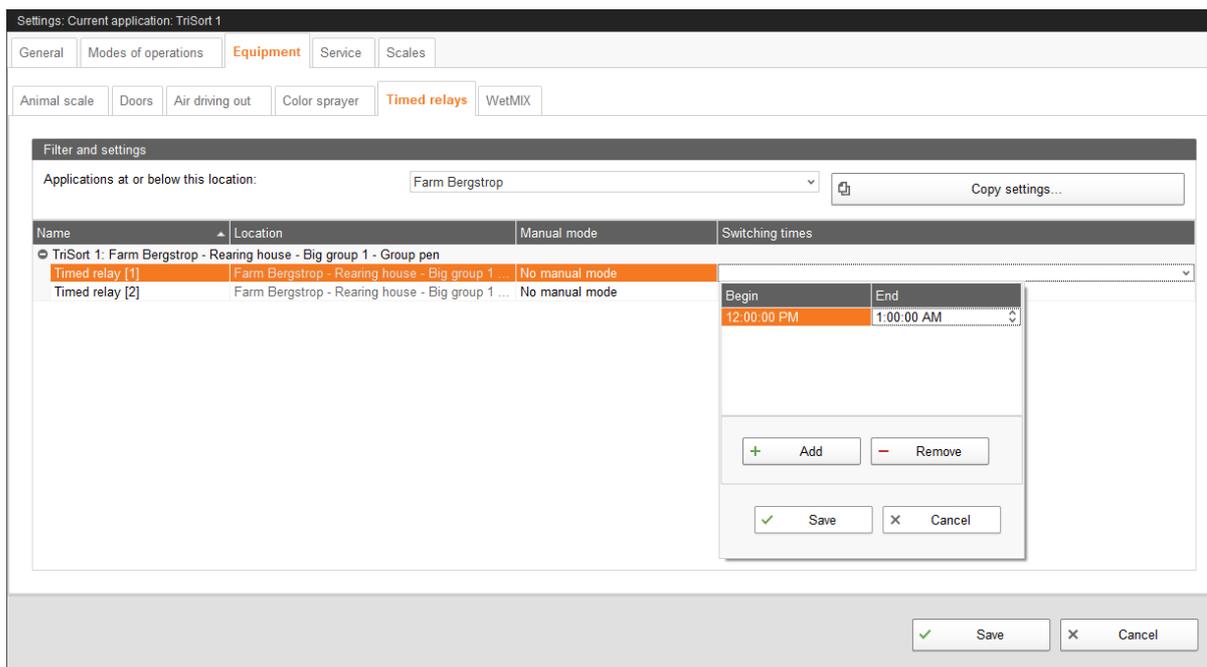
IP address	Transmission timing	Data transmission
123.456.789.000	12:00 AM	Enabled
	12:00 AM	Enabled
	12:00 AM	Enabled

If the system communicates with a WetMIX system, which is activated in the Composer, you may enter the **IP address** of the WetMIX liquid feeding computer.

Define the time for data transmission to the WetMix system under **Transmission timing**. If the average weight deviates on one day, WetMIX will adjust the feed for the next day.

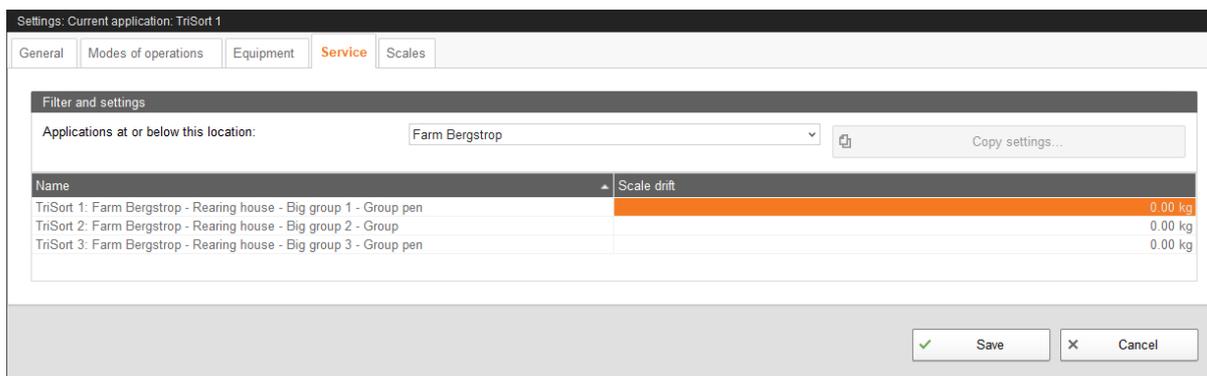
Data transmission can be deactivated despite activated communication with WetMIX.

4.5.6 Timed relay



Use a **time relay** to activate one exit for specific time periods. If you work with more than one time relay, assign a unique name to each relay. Define one or more switching times by defining **Start** and **End** via "Add".

4.6 Service

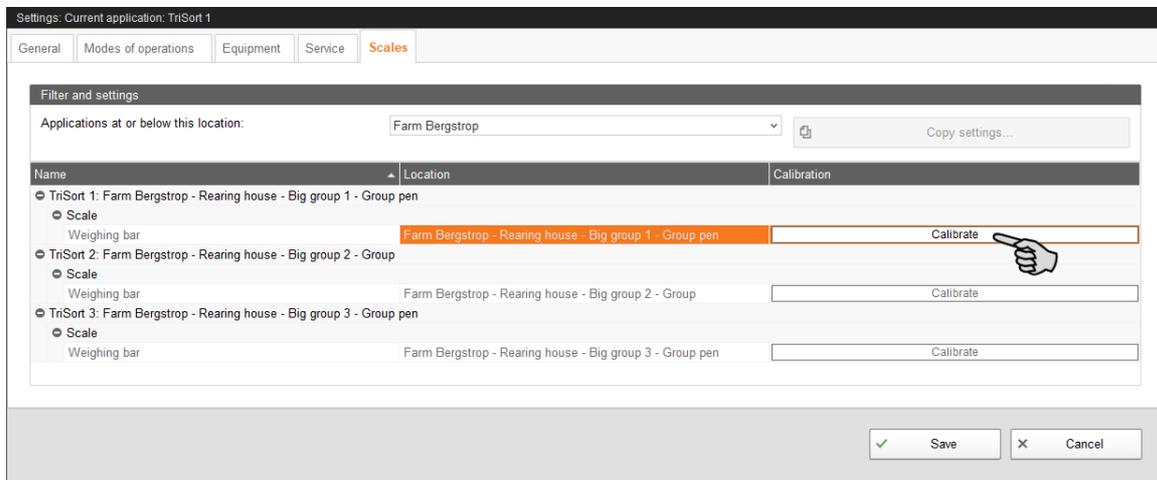


The **Service** function controls the scale. The scale is tared after each weighing and the zero value is reset. If there is a drift, this is registered. The **scale drift** indicates the difference between the zero value during calibration and the current zero value. If the difference exceeds 3 kg, check whether anything affects the weighing process, e.g. dirt. Clean the scale and re-calibrate.

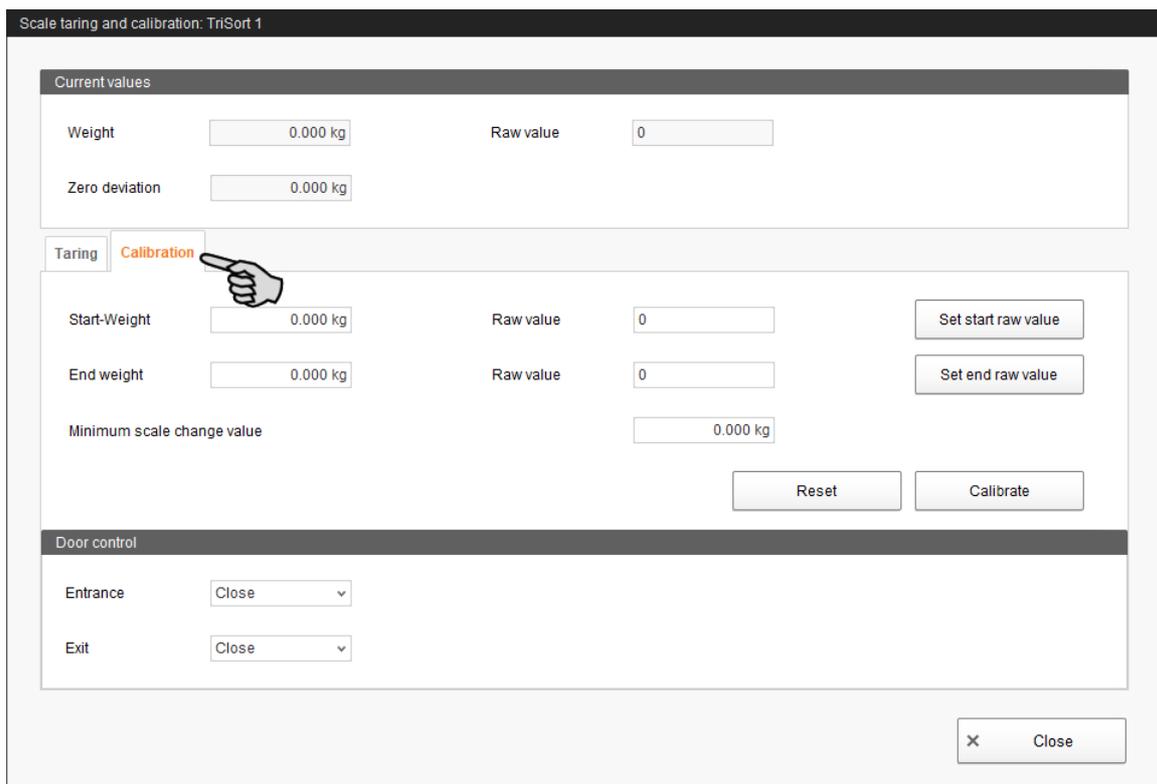
4.7 Scales

Use the tab **Scales** to tare and calibrate the scales of each TriSort.

1. Click on "Calibrate" next to the correct system.



2. To calibrate, click on the "Calibration" tab.



3. Enter the **start weight** (usually the value 0) and click on "Set start raw value".
4. Enter the used calibration weight under **End weight**.
5. Load TriSort with the calibration weight.
6. Click on "Set end raw value".

7. Remove the calibration weight.
8. Click on "Calibrate" to complete the calibration process.
9. Close the dialog.

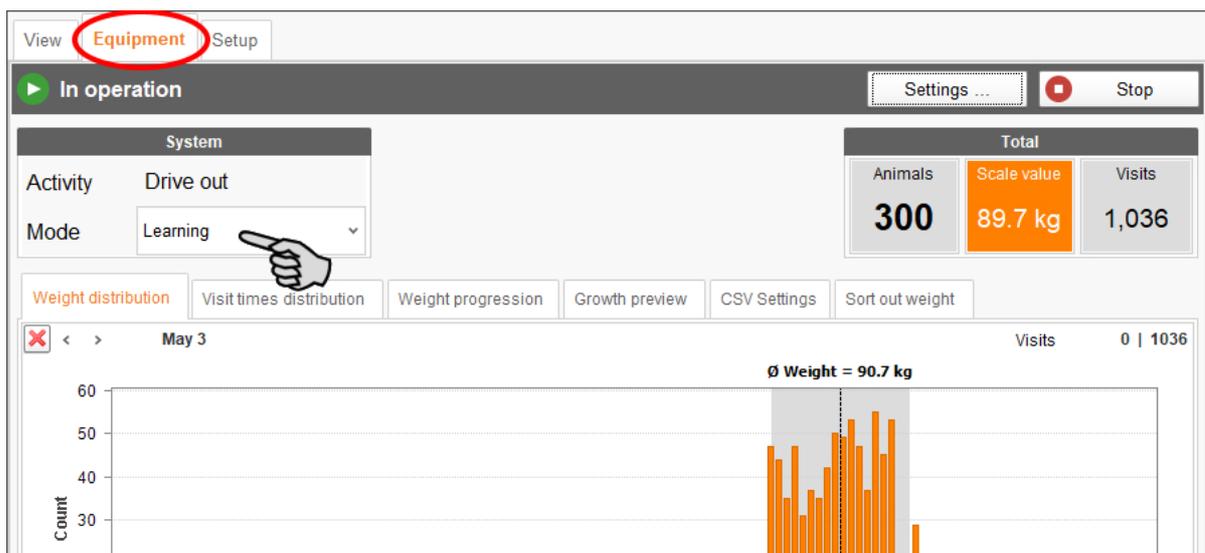
4.8 "Equipment" window

The "Equipment" window shows the sorting processes of the selected TriSort. TriSort can be operated in different modes. The view changes depending on the selected mode.

4.8.1 Mode – Learning

The purpose of training is getting the pigs used to TriSort. The entrance and exit doors are open in this mode and the sorter gates are activated at specific intervals.

The **Learning** mode can be selected in the "Equipment" window. Further settings are described in chapter 4.4.4 "Learning and pause".



4.8.2 Mode – Sorting (Fixed)

In the mode **Sorting (Fixed)**, define the threshold weight for sorting in the application window. Pigs that fall below this weight or exceed it will be sorted into the set direction (right, left, middle). These settings are available in "Settings" > "Sorting", chapter 4.4.1 "Sorting".

Example for application:

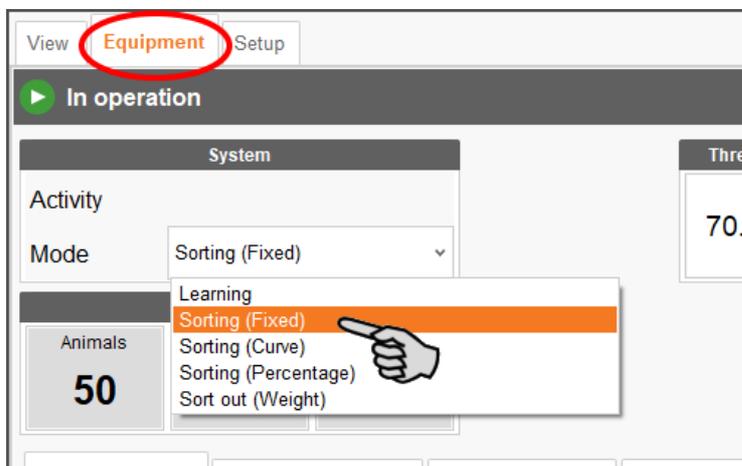
2-way sorting in the "Sorting (Fixed)" mode

This application example requires that

- TriSort is operational,
- the weighing platform has been calibrated,
- the configured system components correspond to the actual system.

To carry out a two-way sorting with a fixed weight threshold, configure the following settings:

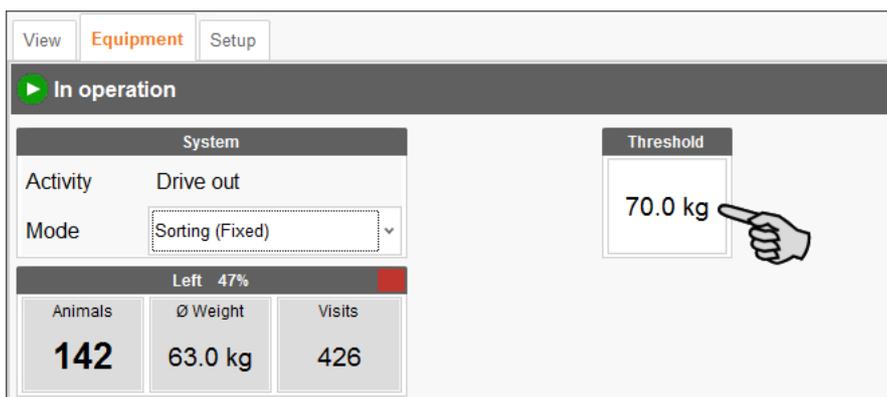
1. Click on the respective system application in the farm structure.
2. Under "Equipment", select the mode **Sorting (Fixed)**.



3. Define a fixed weight threshold for both sorting directions.

Example:

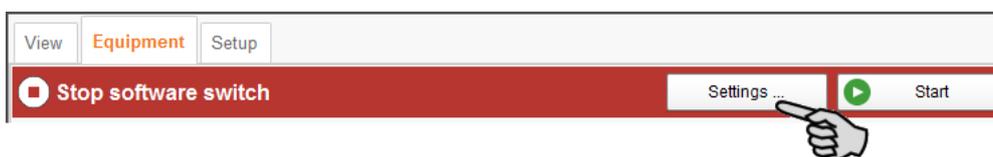
- All pigs weighing less than 70 kg shall be sorted to the left.
- All pigs weighing more than 70 kg shall be sorted to the right.



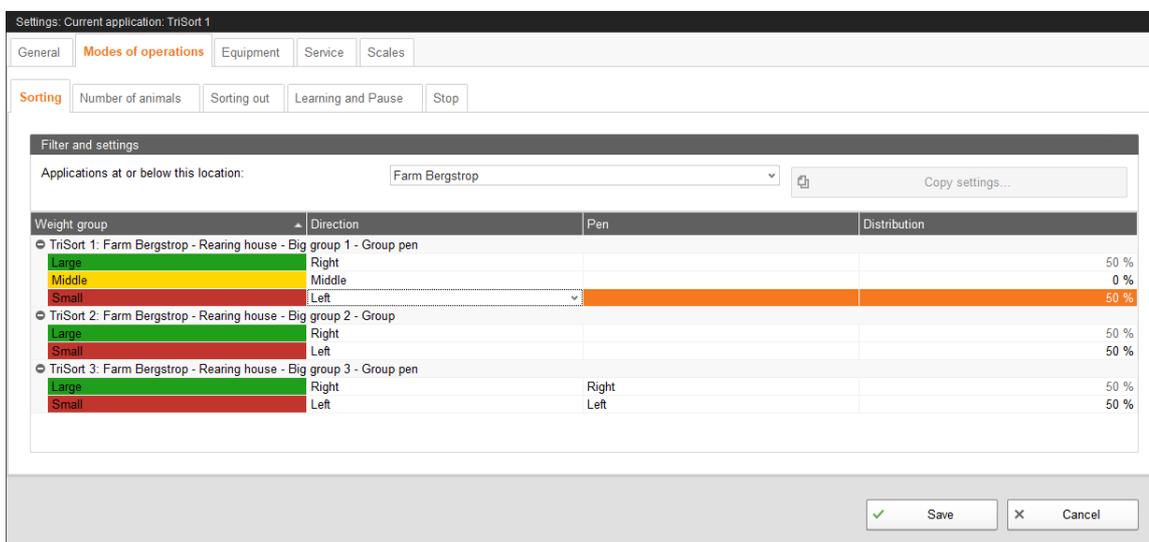
4. Click on "Settings...".



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



5. Define the pens for sorting under "Modes of operation" > "Sorting".



6. Save these settings by clicking on "Save".

7. Click on "Start" to continue operating the system.

TriSort now sorts the pigs according to the entered values.

4.8.3 Mode – Sorting (Curve)

In the mode **Sorting (Curve)**, the threshold weight for the next day is calculated automatically based on the past weight progression. Pigs that fall below this weight or exceed it will be sorted into the set direction (right, left, middle). These settings are available in "Settings" > "Sorting", chapter 4.4.1 "Sorting".

Example for application:

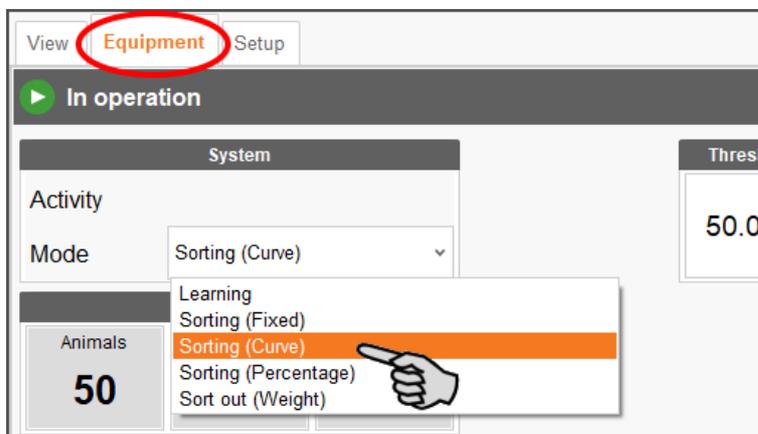
2-way sorting in the "Sorting (Curve)" mode

This application example requires that

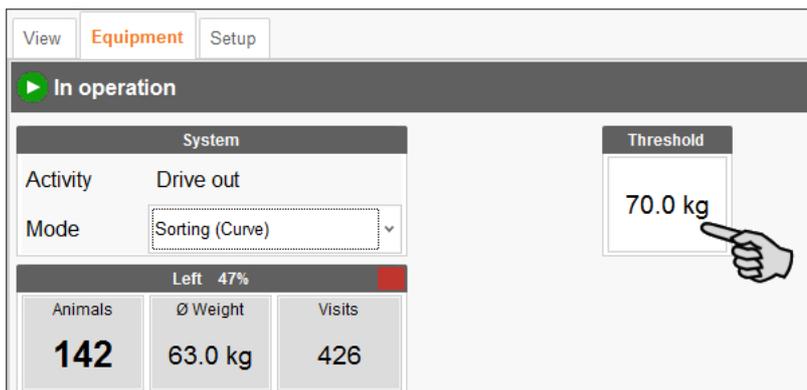
- TriSort is operational,
- the weighing platform has been calibrated,
- the configured system components correspond to the actual system.

To carry out a two-way sorting in the **Sorting (Curve)** mode, configure the following settings:

1. Click on the respective system application in the farm structure.
2. Under "Equipment", select the mode **Sorting (Curve)**.



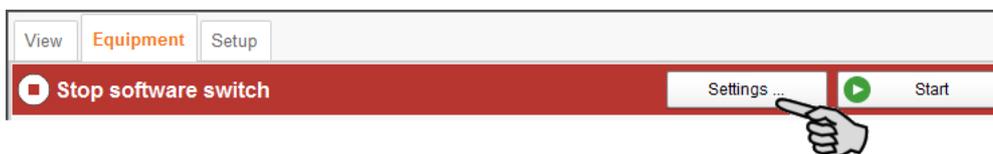
3. Determine a start weight.
 - All pigs weighing less than the calculated threshold weight are sorted to the left.
 - All pigs weighing more than the calculated threshold weight are sorted to the right.



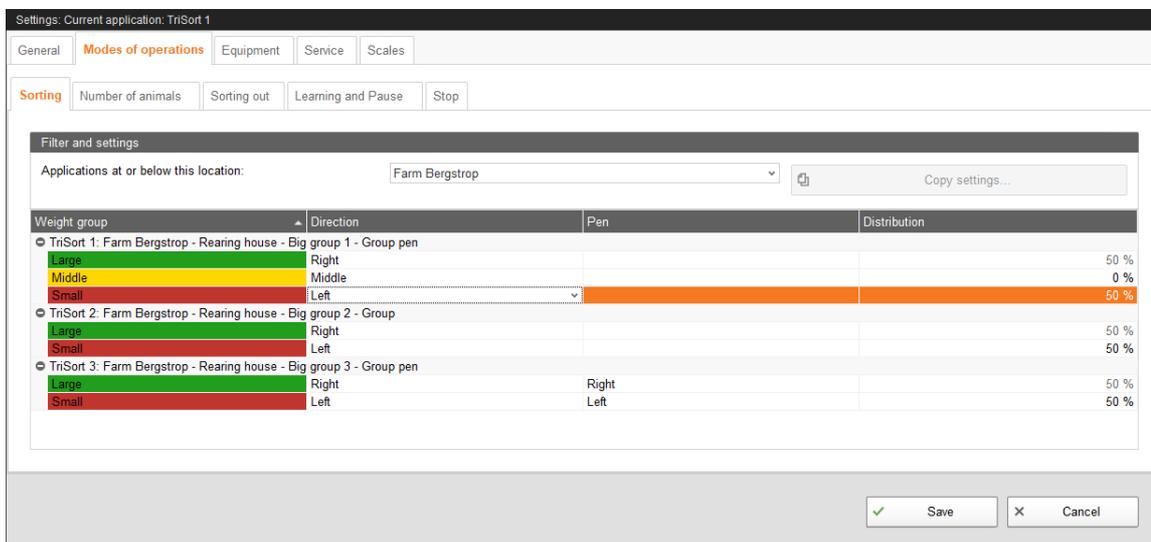
4. Click on "Settings...".

NOTICE!

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



5. Define the pens for sorting under "Modes of operation" > "Sorting".



6. Save these settings by clicking on "Save".

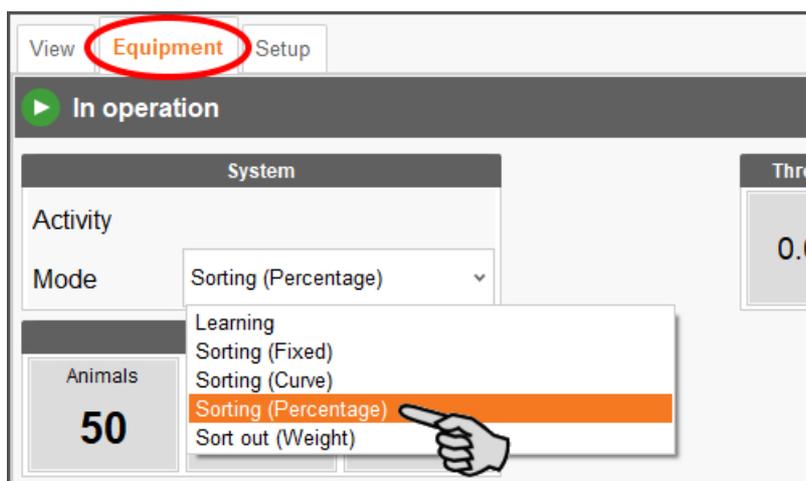
7. Click on "Start" to continue operating the system.

TriSort now sorts the pigs according to the entered values.

4.8.4 Mode – Sorting (Percentage)

In the mode **Sorting (Percentage)**, the pigs are distributed into pens to the left and to the right according to the set percentage. These settings are available in "Settings" > "Sorting", chapter 4.4.1 "Sorting".

Example: For a distribution of 50 % : 50 %, one half of the pigs is sorted to the left and the other half to the right, based on their weight. If the distribution is set to 70 % : 30 %, the threshold weight is automatically calculated in way that the animals are distributed according to the set percentage.



4.8.5 Mode – Sort out (Weight)

In the mode **Sort out (Weight)**, a defined number of pigs is sorted based on a set average weight. Use the following parameters in the application window to define the number of pigs and the average weight:

- **Max. animals**

Enter the maximum number of pigs you want to sort.

- **Start**

The sorting scale will start sorting out pigs from the weight entered under **Start** (start weight). This means that the heaviest pigs will be sorted out first. The start weight is reduced by 1 kg after the reduce time until the end weight has been reached or the required number of pigs has been sorted out.

The reduce time only applies for sorting based on weight.

- **End**

The scale will not sort out any pigs weighing less than the weight given under **End** (end weight). The start weight is reduced by 1 kg after the reduce time until the end weight has been reached.

Further settings are described in chapter 4.4.2 "Sorting out".

Example for application:

3-way sorting in the "Sort out (Weight)" mode

The following describes which settings must be configured for a three-way sorting. This application example requires that

- the sorting scale is operational,
- the weighing platform has been calibrated,
- the configured system components correspond to the actual system.

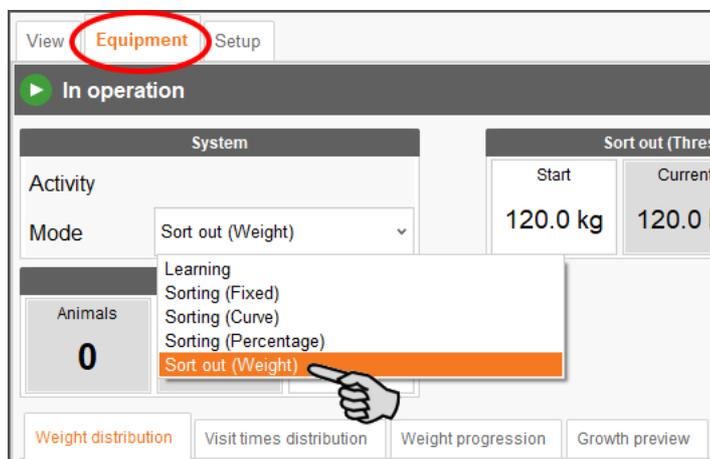
Initial situation

Pigs weighing more than 100 kg are considered ready-to-slaughter and shall be sorted out. The planned pen is large enough for 20 pigs. The pigs shall enter this pen through the sorter gate "Middle".

However, the group may contain more pigs weighing more than 100 kg than the desired number of 20 pigs. For example, if the group includes 40 pigs weighing more than 100 kg, it is possible that the lightest of these 40 pigs are sorted.

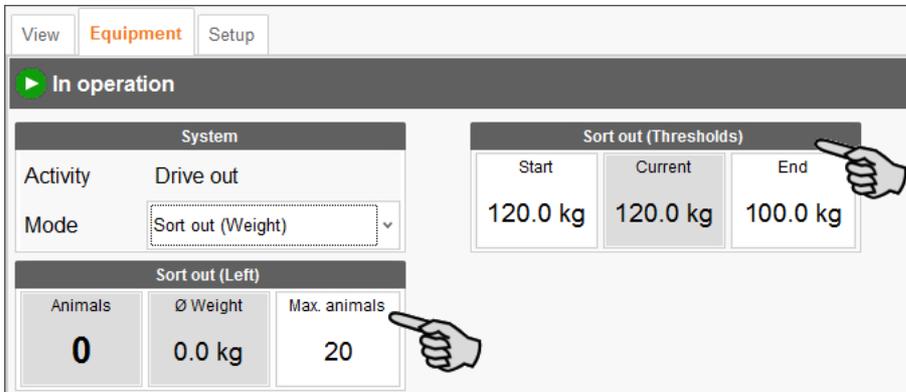
Carry out the following steps to ensure that only the heaviest of these 40 pigs are sorted:

1. Click on the respective system application in the farm structure.
2. Under "Equipment", select the mode **Sort out (Weight)**.



3. Enter the following values based on the example:

- Start (threshold weight): 120 kg
- End (threshold weight): 100 kg
- Max. animals: 20



4. Click on "Settings...".

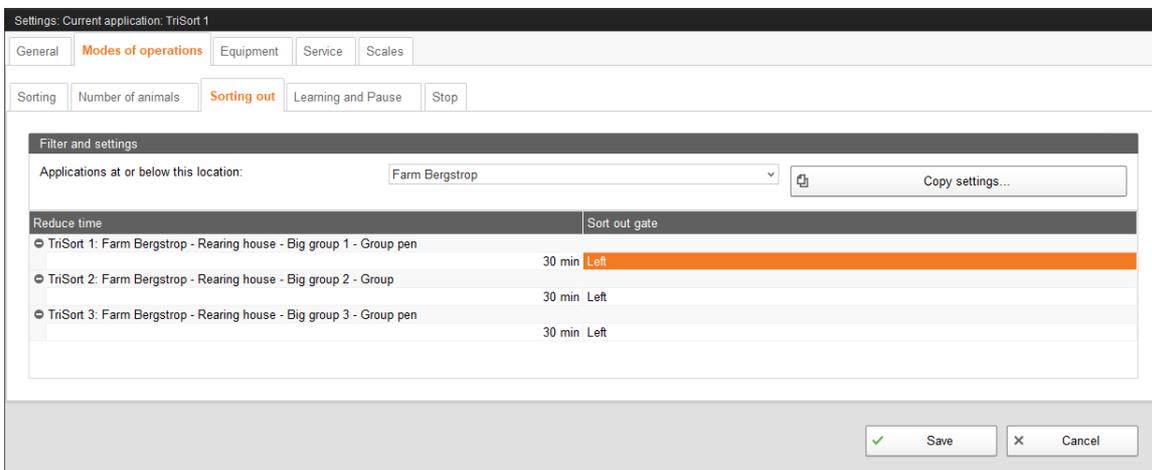
NOTICE!

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



5. Configure the following settings under "Modes of operation > "Sorting out" based on the example:

- Reduce time: 30 min
- Sort-out gate: middle



6. Save these settings by clicking on "Save".
7. Click on "Start" to continue operating the system.

TriSort now sorts the pigs according to the entered values.

Starting with the start weight, the weight is reduced by 1 kg every 30 minutes until either the end weight for sorting or the maximum number of pigs has been reached. This means that TriSort tries to sort all pigs weighing more than 120 kg within the reduce time of 30 minutes. After these 30 minutes, the threshold weight is reduced by 1 kg. The scale now sorts all pigs weighing more than 119 kg for the next 30 minutes. Sorting ends when the maximum number of pigs has been reached. With this procedure, the heaviest pigs that weigh more than 100 kg are sorted first.

If sorting should be completed within a specific time, adjust the reduce time accordingly. In this example, the end weight of 100 kg as lower threshold will be reached after 600 minutes (30 minutes x 20 kg).

 **NOTICE!**

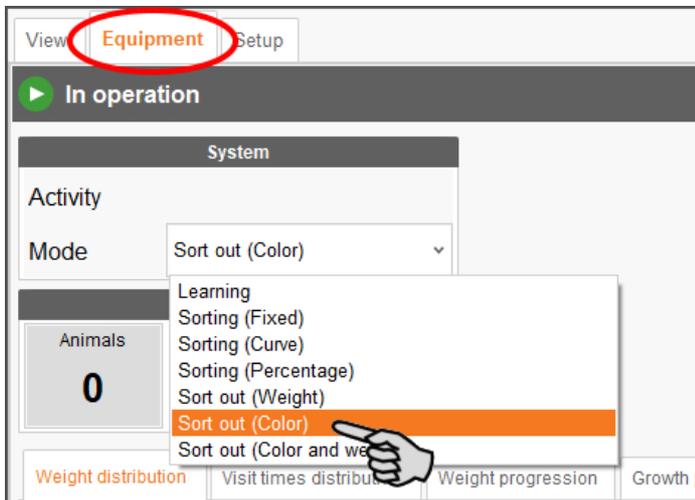
If a three-way sorting unit is installed, sorting out can run simultaneously in the **Sorting (Fixed)** or in the **Sorting (Curve)** mode. During sorting, pigs that meet the criteria for sorting out are sorted as well.

 **NOTICE!**

Make sure that no pigs enter the sorting pen due to normal sorting during the sorting process. Adjust the doors of the TriSort station accordingly.

4.8.6 Mode – Sort out (Color)

In the mode **Sort out (Color)**, pigs that were previously marked manually by color are sorted using the color sensor. The color sensor must be set up in the Composer and in the IO Manager. No additional settings are required.

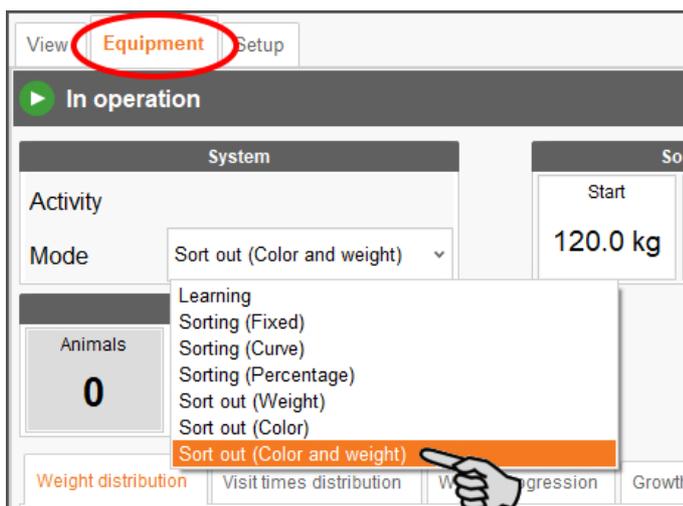


4.8.7 Mode – Sort out (Color and weight)

In the mode **Sort out (Color and weight)**, the two sorting methods of the modes **Sort out (Color)** and **Sort out (Weight)** are combined.

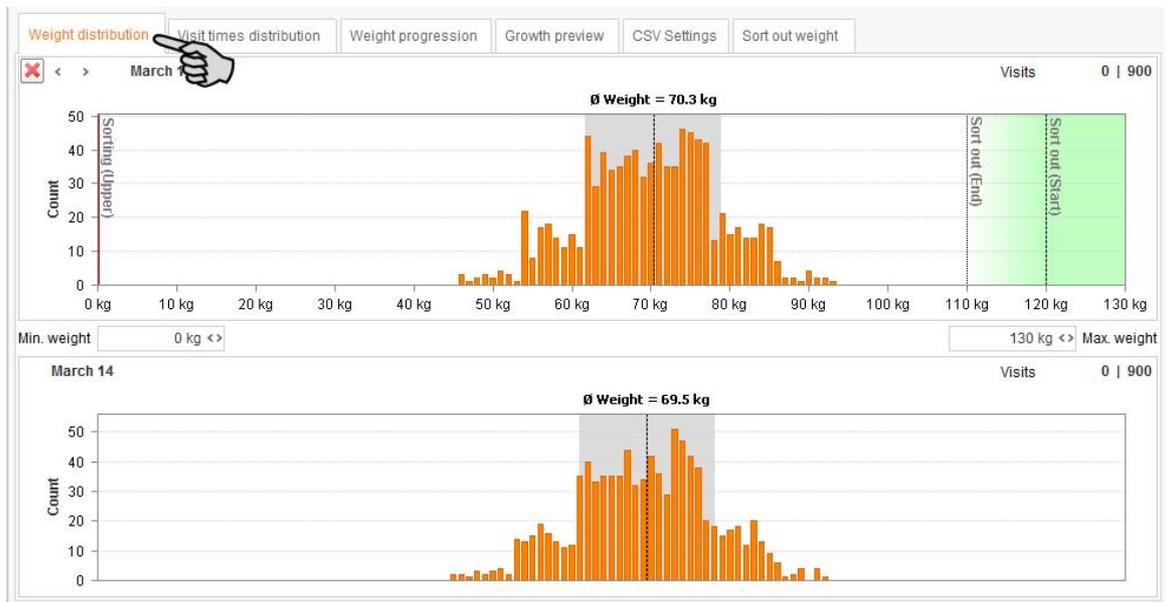
For more information and settings, see

- chapter 4.8.6 "Mode – Sort out (Color)"
- chapter 4.8.5 "Mode – Sort out (Weight)"



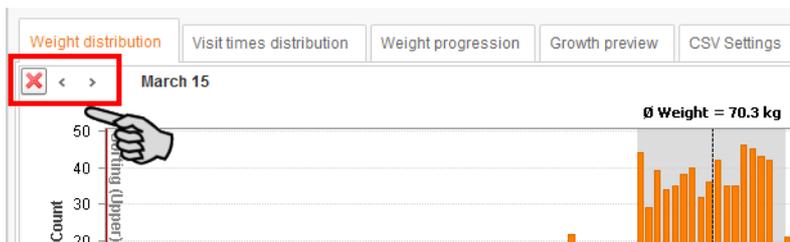
4.8.8 Weight distribution

The "Weight distribution" window displays bar charts. The upper part shows the weight distribution of the current day, while the lower part displays the distribution of the previous day.

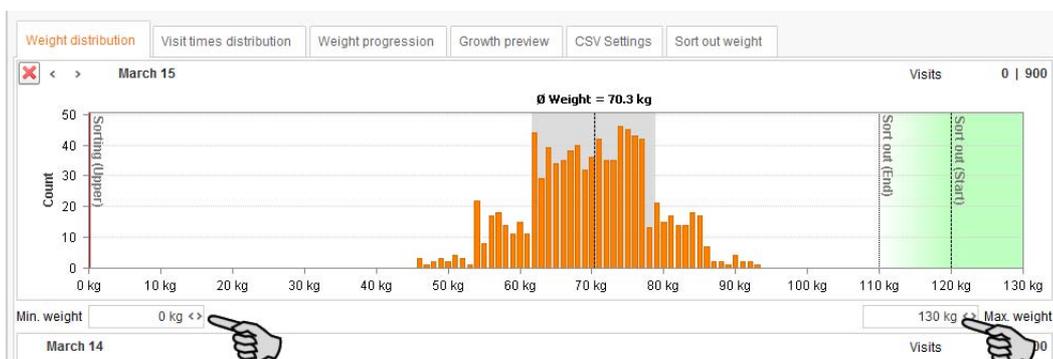


Change the view as follows:

- Use the arrow keys (backward and forward) to toggle between previous days.
- Use the X icon to return to the current day.

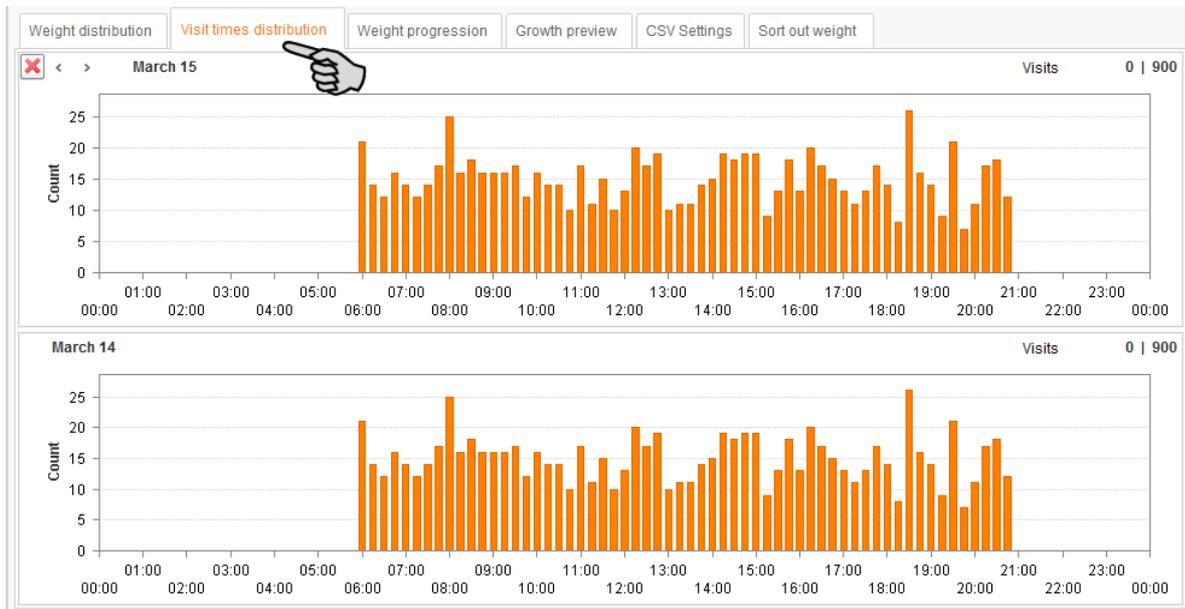


- Use the fields **Min. weight** and **Max. weight** to limit the displayed weight range.



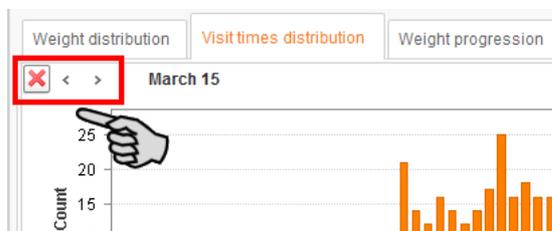
4.8.9 Visit times distribution

"Visit times distribution" displays bar charts that indicate at which times how many pigs entered the scale on the current day and on the previous day.



Change the view as follows:

- Use the arrow keys (backward and forward) to toggle between previous days.
- Use the X icon to return to the current day.



4.8.10 Weight progression

"Weight progression" displays a curve diagram that shows the progression of the average animal weight (kg) and the average growth per day (g) for the past seven days.

Move the mouse pointer over the diagram to see the exact values for the corresponding day.

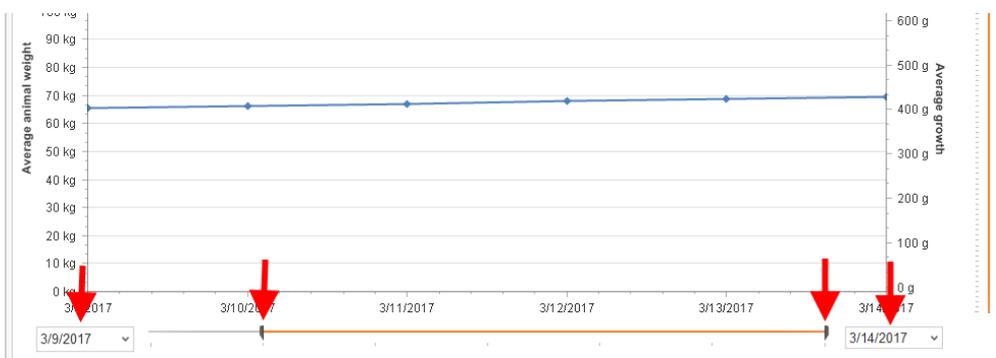


Change the view as follows:

- Hide a curve by removing the check mark from the corresponding box.



- Change the date by either entering the date directly into the input field or by moving the slider for the time axis.



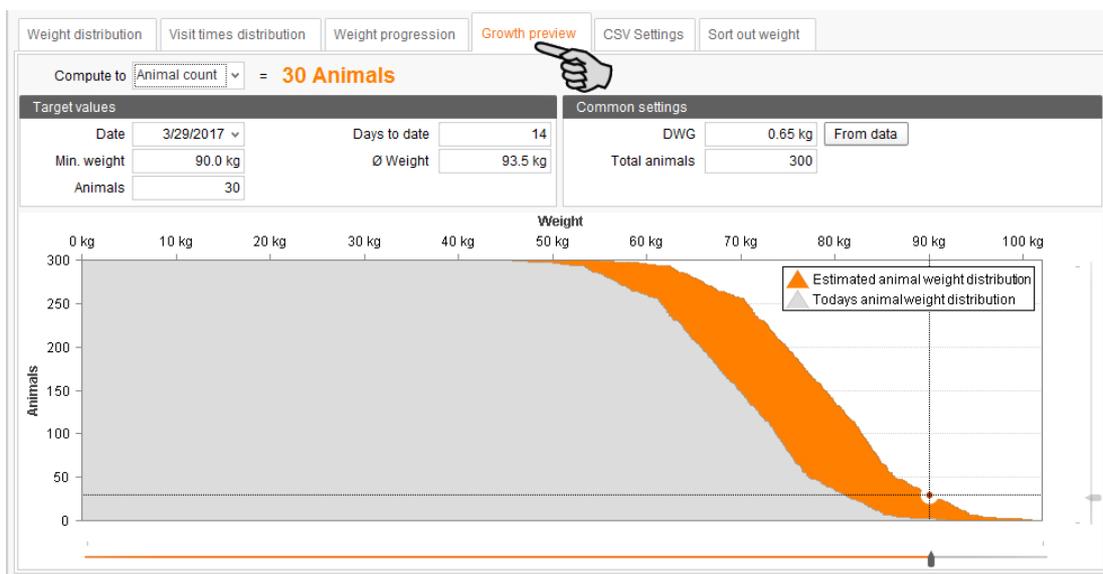
- Change the values of the axis "Average growth" on the right by moving the corresponding slider.



4.8.11 Growth preview

Under "Growth preview", you may calculate the following information, if necessary:

- The **number of animals** that will probably have reached the desired target weight on the selected (future) day, based on a defined daily weight gain (DWG).
- The **date** on which the desired number of animals will have reached the correct final weight, based on a defined daily weight gain (DWG).
- The **minimum weight** that the desired number of animals will have reached within the correct time period, based on a defined daily weight gain (DWG).



Example: Growth preview according to animal count

You want to determine the number of pigs that will reach a weight of 90 kg within the next 14 days at a daily weight gain of 0.65 kg.

Input:

- DWG (daily weight gain) = 0.65 kg
- Days to date = 14 (or enter the actual date)
- Min. weight = 90 kg

Result: 30 pigs will reach the target weight or a minimum weight of 90 kg in the next 14 days at a daily weight gain of 0.65 kg.

4.8.12 CSV settings

Use the "CSV settings" and the button "Export" to export the data as .csv or .xls file for further use, e.g. for statistical evaluations. Enter the time period first by indicating a start and end date and click on "Export".

4.8.13 Sort-out weight – Overview

#	Time Stamp	Weight
1	29.11.2016 07:28:24	118.0 kg
2	29.11.2016 07:28:44	111.9 kg
3	29.11.2016 07:29:59	119.7 kg
4	29.11.2016 07:30:39	112.5 kg
5	29.11.2016 07:30:55	117.1 kg
6	29.11.2016 07:31:12	120.0 kg
7	29.11.2016 07:31:28	113.3 kg
8	29.11.2016 07:32:20	111.4 kg
9	29.11.2016 07:32:36	111.6 kg
10	29.11.2016 07:32:52	116.5 kg

The "sort-out weight" shows

- at which date and
- at which time
- how many pigs
- at which average weight

were sorted out.

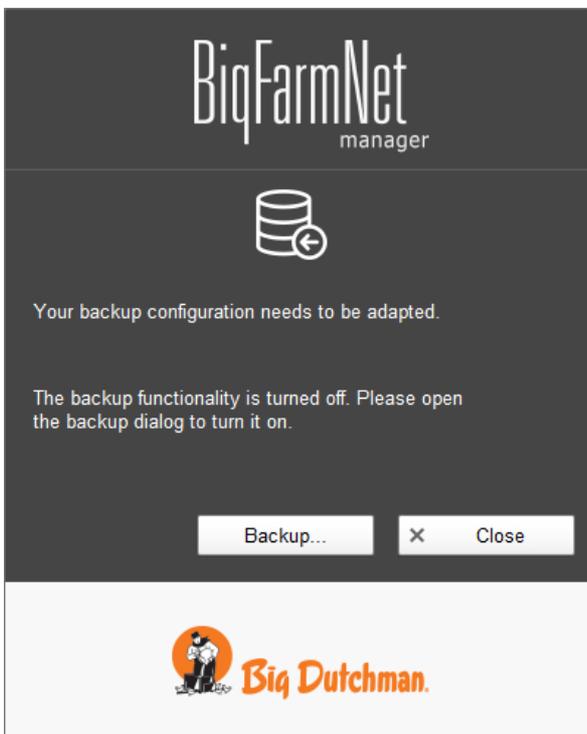
4.9 Data backup

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.

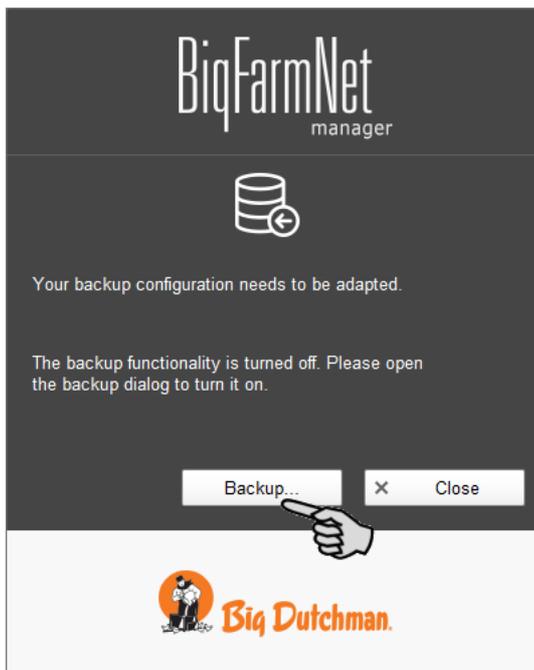
Remember that you can only retrieve the last data backup. Everything you have created or changed since then is not included in this backup. This means that the backup period should be determined depending on the amount of data you produce. You should find the ideal compromise between acceptable data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

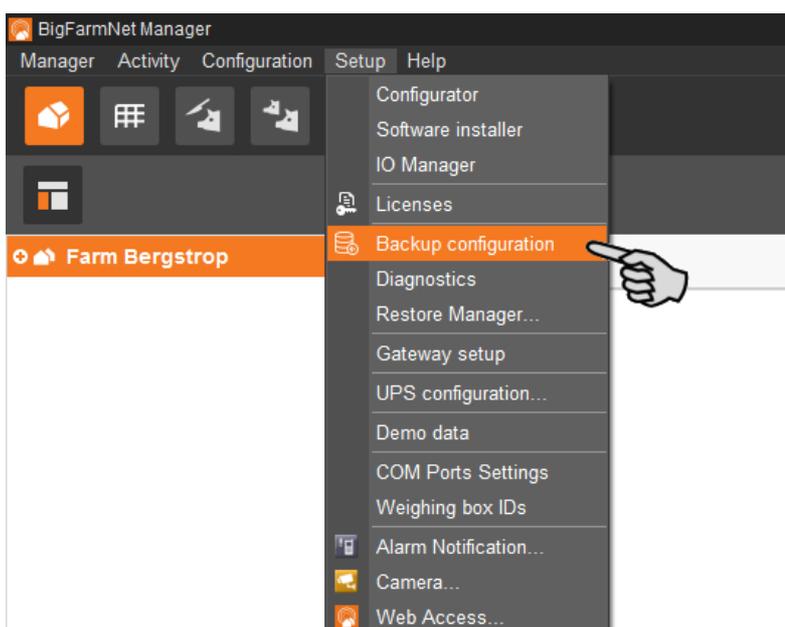
Open the settings dialog as follows:

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:

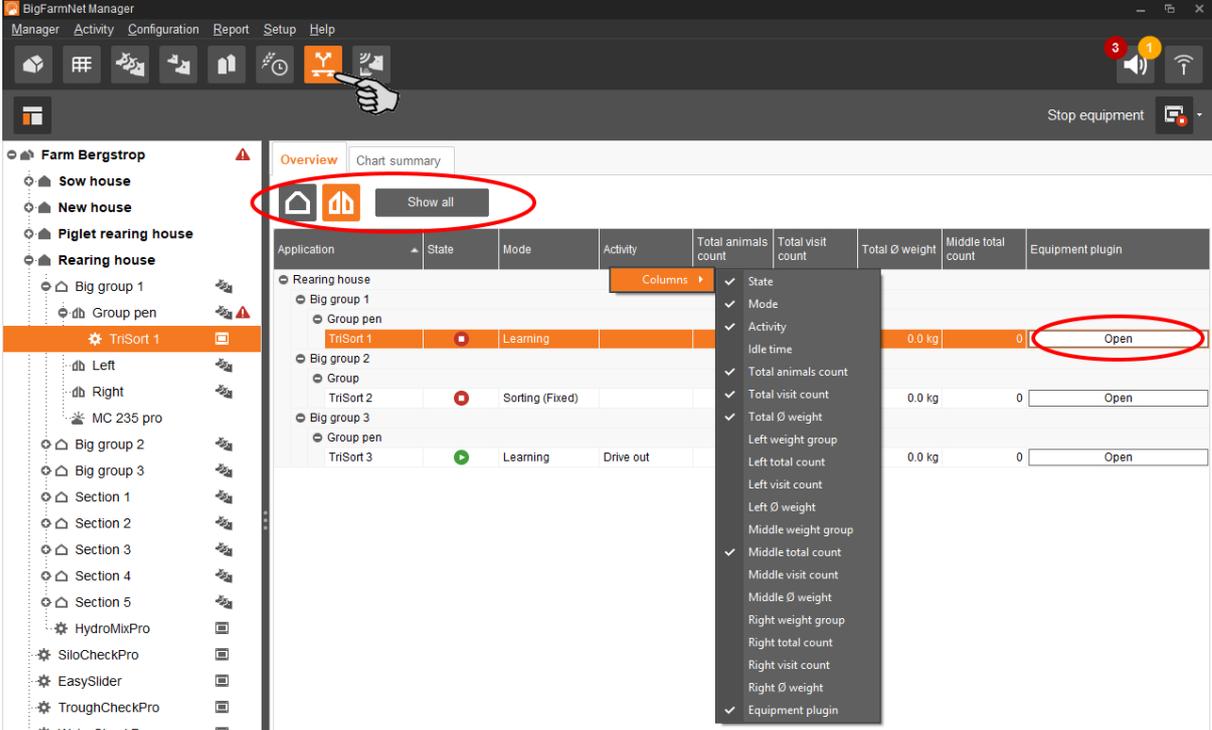
Manual backup

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

5 All TriSort at a glance

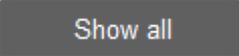
If more than one TriSort station is installed, you may open an overview of all installed TriSort stations via  "Overview TriSort" in the tool bar.

Use the button "Open" to switch to the correct TriSort station. This opens the "Equipment" or "View" window.

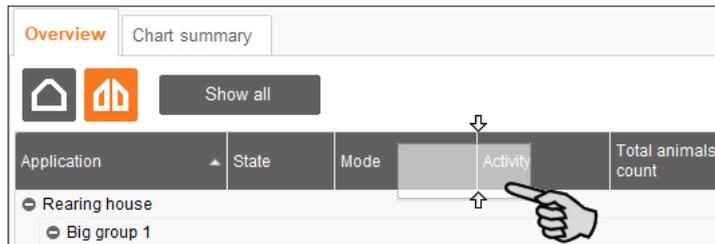


Application	State	Mode	Activity	Total animals count	Total visit count	Total Ø weight	Middle total count	Equipment plugin
Rearing house								
Big group 1								
Group pen								
TriSort 1		Learning				0.0 kg	0	Open
Big group 2								
Group								
TriSort 2		Sorting (Fixed)				0.0 kg	0	Open
Big group 3								
Group pen								
TriSort 3		Learning	Drive out			0.0 kg	0	Open

In the overview, you can may the view as follows:

- Show groups according to section or pen.
- Use the button  to view all available TriSort stations or only the TriSort station selected in the farm structure.
- 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.



c) Release the mouse button.

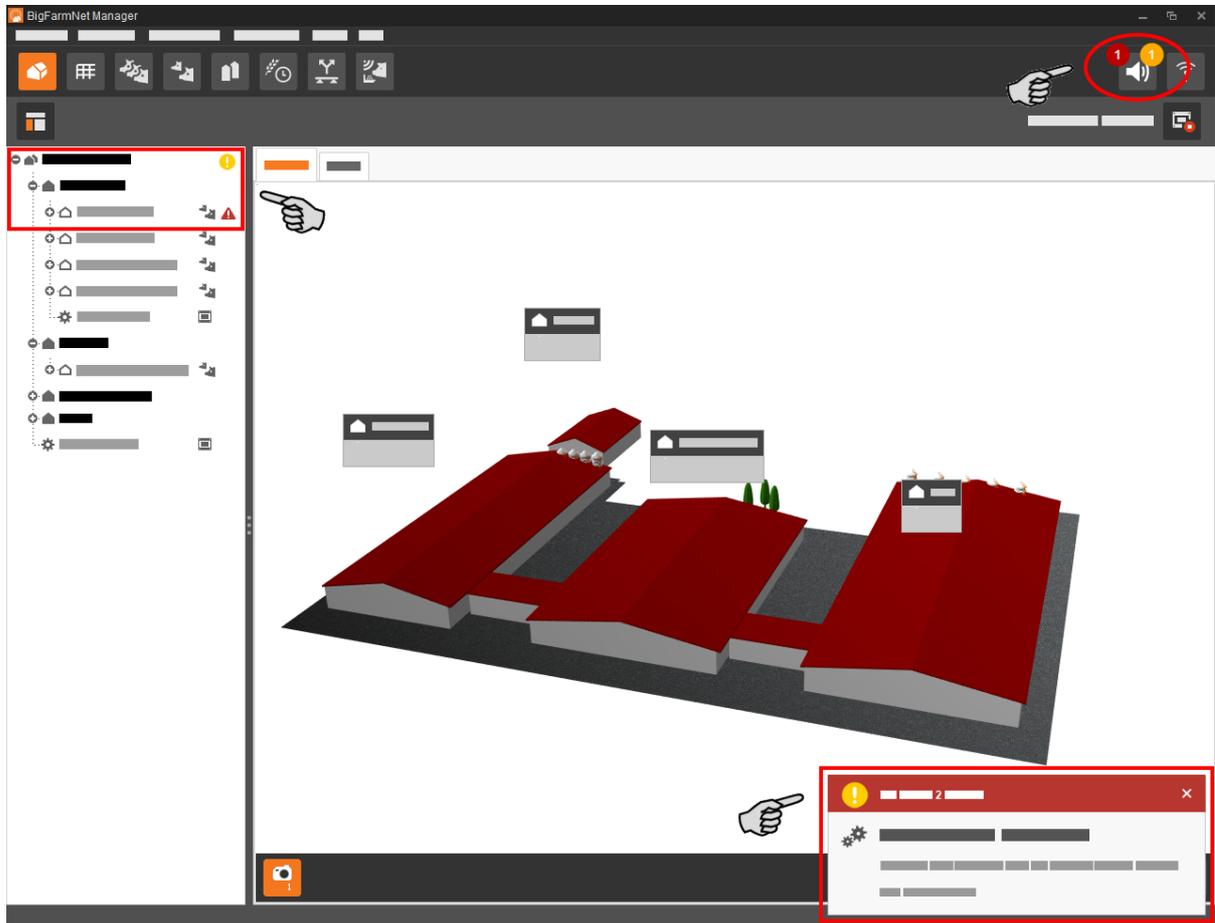
The column is now at its new position.

- Sorting based on dates:

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

6 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	
!	⚙️	Windows Auto Update activated	Farm Bergstrop	3/2/2016 3:44:49 PM	<Enter filter criteria>	▼
!	⚙️	UPS is required but currently not enabled	Farm Bergstrop	3/2/2016 3:40:49 PM	Alarm	<Enter filter criteria>
					Reset	

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.

6.1 Filtering alarms

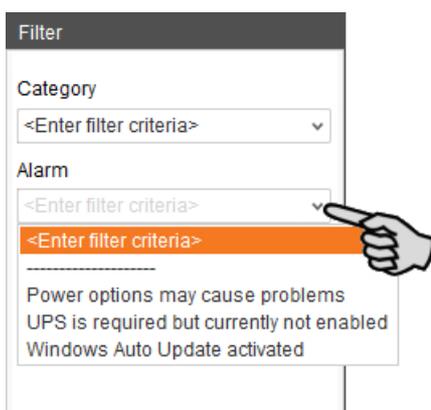
Alarms can be filtered according to category as well as cause.

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.



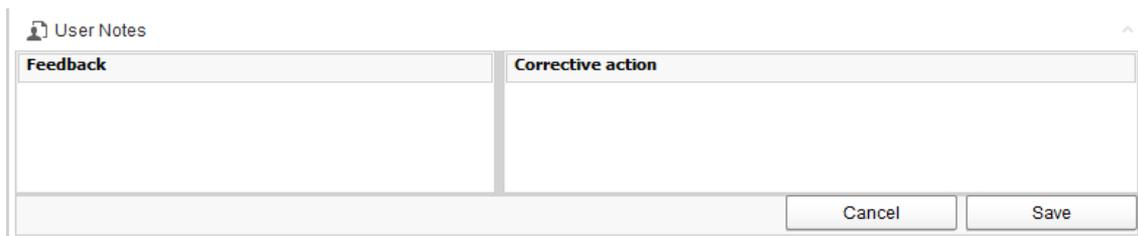
5. To deselect the alarms, click on "Reset".
The selection is discarded and all alarms are listed.

6.2 Acknowledging an alarm

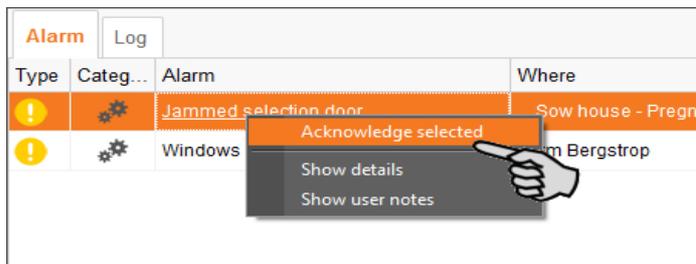
Alarms can be acknowledged their cause has been eliminated. The alarm is marked with the corresponding icon (see alarm types) in the table and the system no longer requires action from the user.

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.



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.

6.3 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.

6.4 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

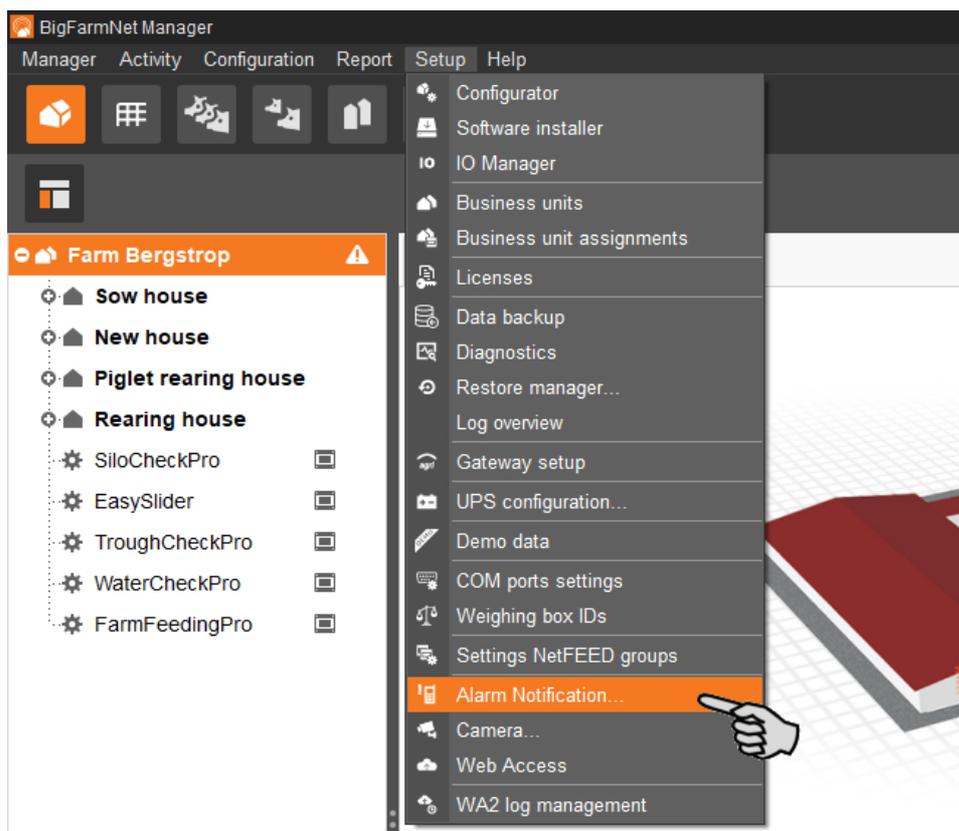
NOTICE!

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

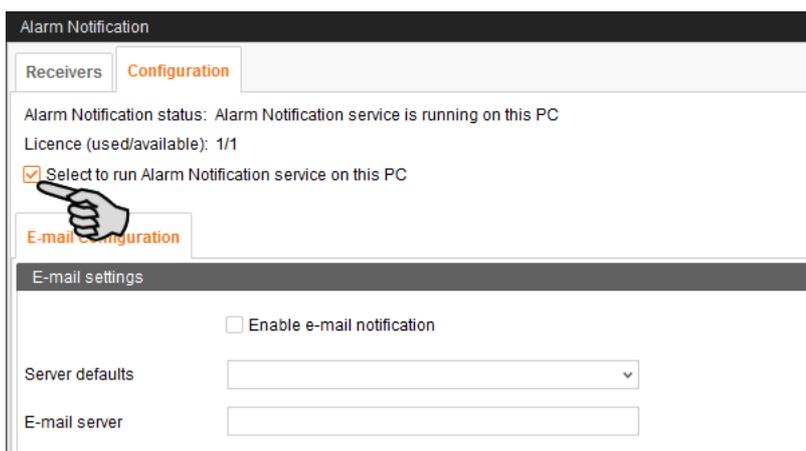
Carry out the following steps to set up the Alarm Notification service:

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

This opens the dialog window "Alarm Notification".



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



Alarm Notification

Receivers Configuration

Alarm Notification status: Alarm Notification service is running on this PC

Licence (used/available): 1/1

Select to run Alarm Notification service on this PC

E-mail Configuration

E-mail settings

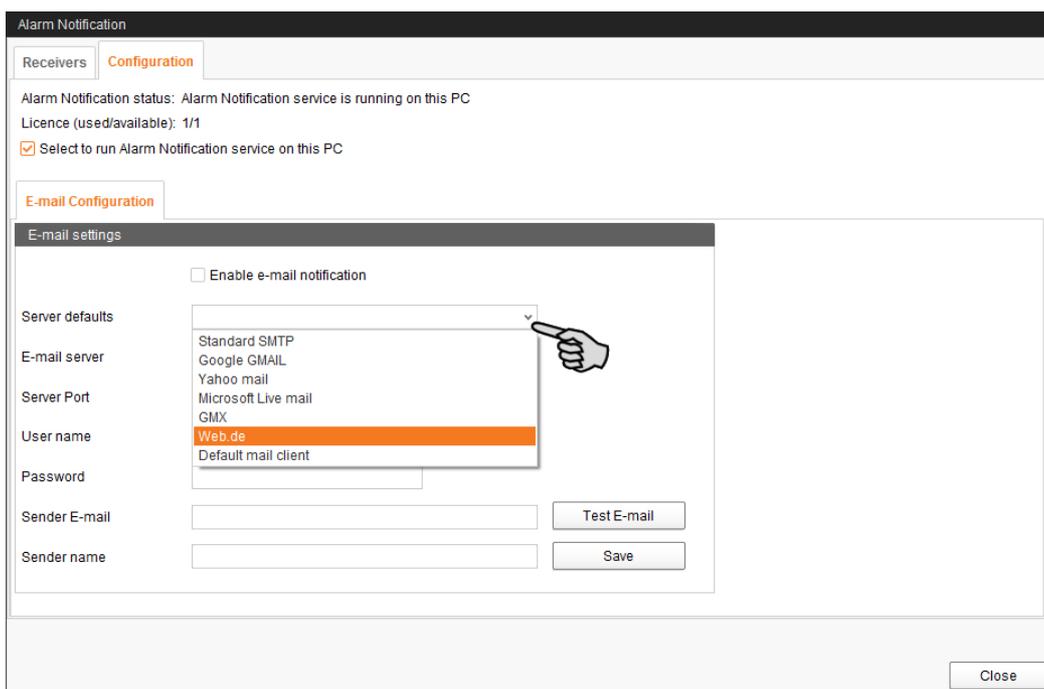
Enable e-mail notification

Server defaults

E-mail server

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.



Alarm Notification

Receivers Configuration

Alarm Notification status: Alarm Notification service is running on this PC

Licence (used/available): 1/1

Select to run Alarm Notification service on this PC

E-mail Configuration

E-mail settings

Enable e-mail notification

Server defaults

E-mail server

Server Port

User name

Password

Sender E-mail

Sender name

Test E-mail

Save

Close

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" section is active, showing "E-mail settings" with the following fields and values:

- Enable e-mail notification (indicated by a hand icon pointing to it)
- Server defaults: Web. (dropdown menu)
- E-mail server: smtp.web.de
- Server Port: 587 (input field), Use SSL
- User name: Test 1
- Password: ****
- Sender E-mail: Test@web.de (input field), **Test E-mail** (button circled in red)
- Sender name: Farm Bergstrop (input field), Save (button)

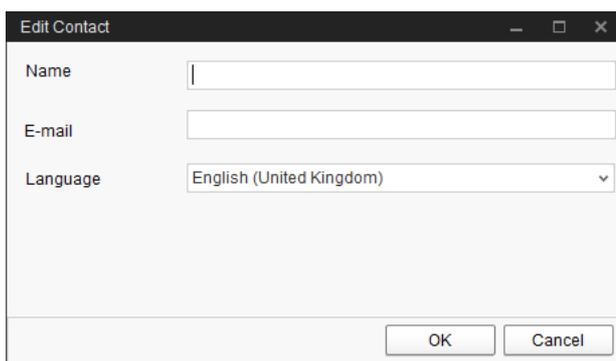
At the bottom right of the window is a "Close" button.

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 window are buttons for "Add", "Edit", "Remove", and "Close". A hand icon points to the "Add" button.

Active	Contact	Notification type	Where	Alarms	Test
--------	---------	-------------------	-------	--------	------

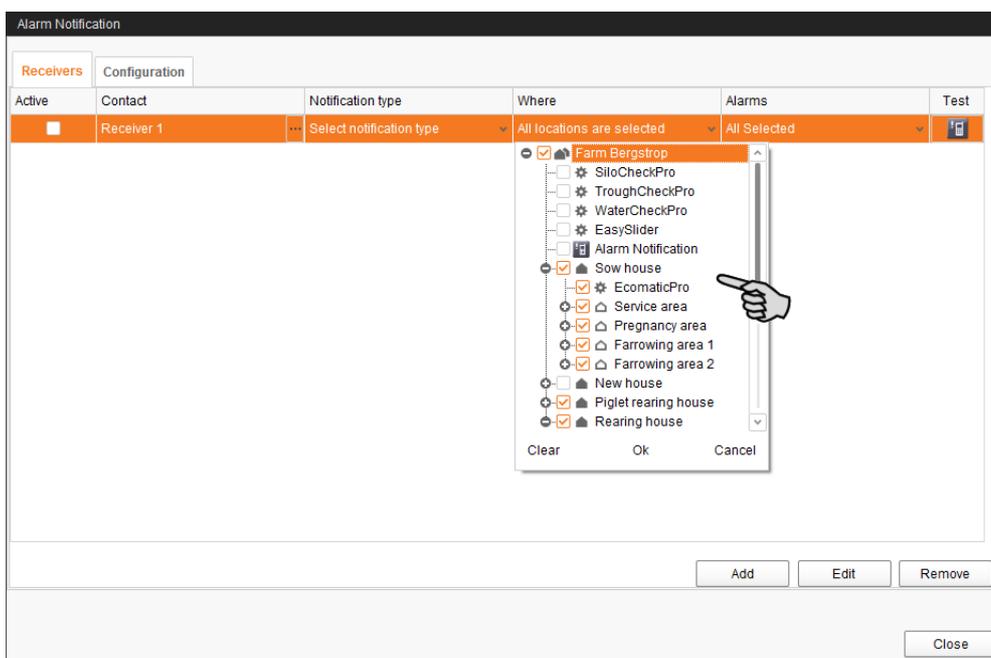
8. Enter the contact details and select the correct language.



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

- Name:
- E-mail:
- Language:
- Buttons: OK, Cancel

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 table with the following data:

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

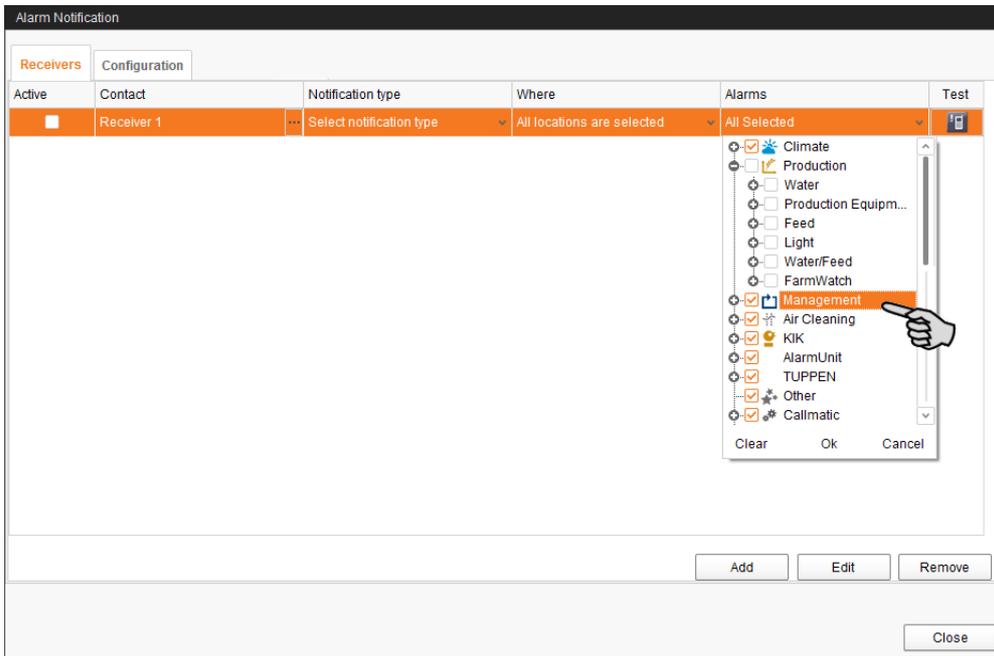
The 'Where' dropdown menu is open, showing a tree view of locations:

- 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

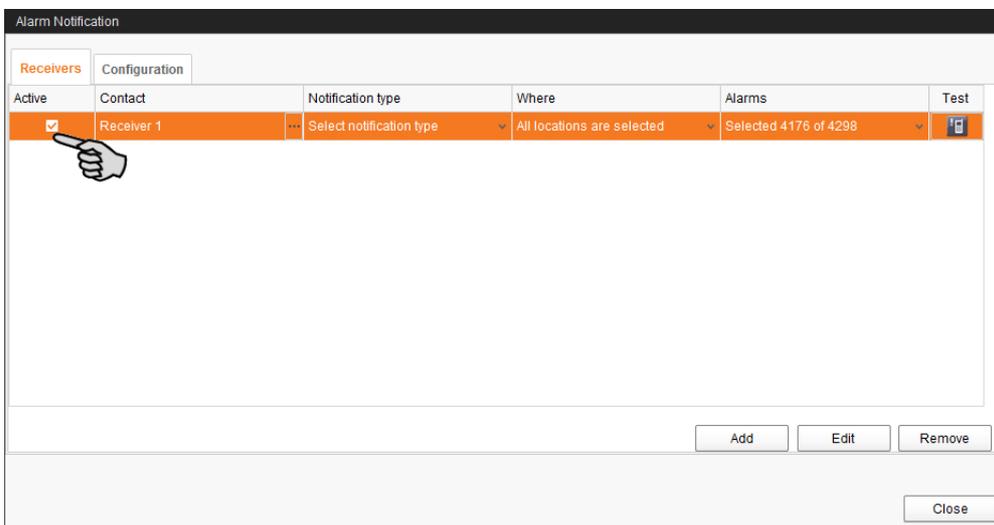
Buttons: Clear, Ok, Cancel

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.

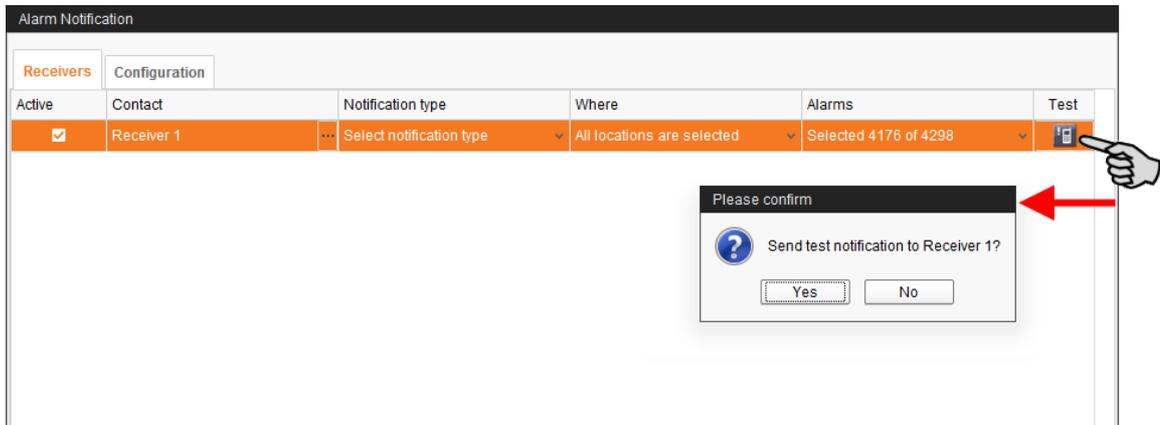


- 14. Confirm your selection by clicking on "OK" in the drop-down menu.
- 15. Activate the recipient for alarm notifications.



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.

6.5 System-specific alarms

The following table describes possible alarms and warnings for TriSort. Parameters shown in italics are place holders for the corresponding information from your system.

Category	Alarm	Description	Possible cause
	Permanent pig detection	A pig is permanently in the station.	<ul style="list-style-type: none"> A pig has been standing or lying on the scale for too long A dead pig is on the scale
	Jammed door	<i>Name of the door</i> is jammed.	<ul style="list-style-type: none"> No air pressure Pig in the door
	No air pressure	The air pressure is too low. Please check the compressor	<ul style="list-style-type: none"> No compressor available Compressor is not supplied by power
	Sort-out process finished	Result: <i>Number of animals with Ø average weight</i> are sorted out. Please perform the corresponding activity in Finishing Manager manually.	User left the sort-out mode
	Scale not calibrated	The scale is not calibrated.	First start of the station after installation
	No feeding pen assigned	Not all feeding pens are assigned. Please verify the sorting settings.	Not all feeding pens are assigned.
	No animals	No animals in this feeding pen. Please move in at least one animal.	No animals in this pen. Please move in at least one animal.

7 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".

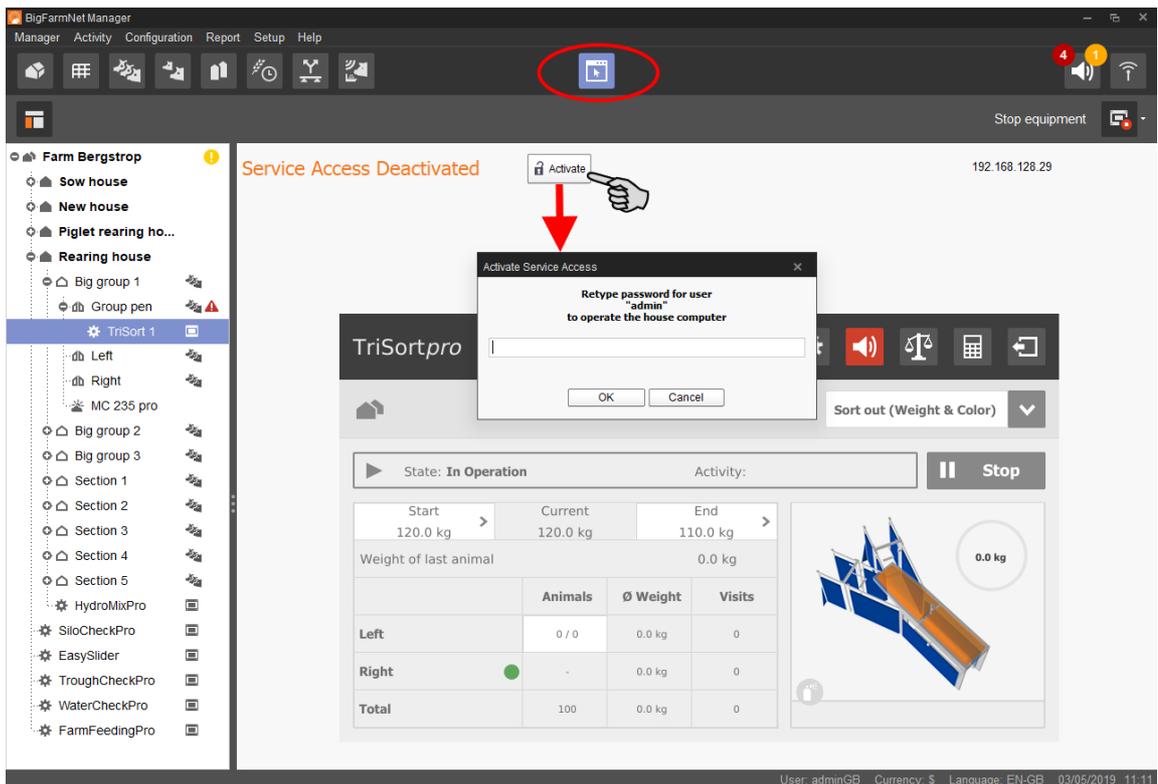
1. Click on the respective system application in the farm structure.

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.



The screenshot shows the BigFarmNet Manager interface. The main window displays the 'Service Access Deactivated' status with an 'Activate' button. A red arrow points to this button. A dialog box titled 'Activate Service Access' is open, prompting the user to 'Retype password for user "admin" to operate the house computer'. The dialog box has 'OK' and 'Cancel' buttons. The background interface shows a farm structure tree on the left, a 'TriSortpro' control panel with a 'Sort out (Weight & Color)' dropdown, and a table of animal weights and visits.

	Animals	Ø Weight	Visits
Left	0 / 0	0.0 kg	0
Right	-	0.0 kg	0
Total	100	0.0 kg	0

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

8 Operation of the control computer



The TriSort sorting scale is controlled by the 510pro control computer. One 510pro can control up to 10 TriSort stations.

The 510pro can be operated through BigFarmNet Manager via remote control. For direct operation, the control computer has a touch screen. Many relevant settings 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.

8.1 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

8.2 Icons



Overview / Start screen



Settings



Logout

-  Alarm
-  An alarm is active.
-  Calibrate the scale
-  Calculator / Growth preview
-  Information on the settings parameter
-  Switch to the previous view
-  Open infos / settings
-  Scroll up / down in selection
-  Scroll up / down in selection
-  Collapse structure
-  Expand structure
-  Network configuration
-  Open the next settings window



Save



Login

8.3 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.

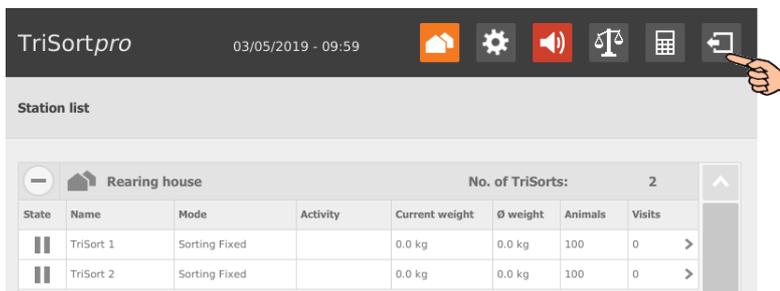
The screenshot shows a login dialog box with a grey header and a light grey body. The header contains the text "Please login". Below the header, there are two input fields: "Username" and "Password". The "Username" field contains the text "adminDE" and has a small downward arrow on its right side. The "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!

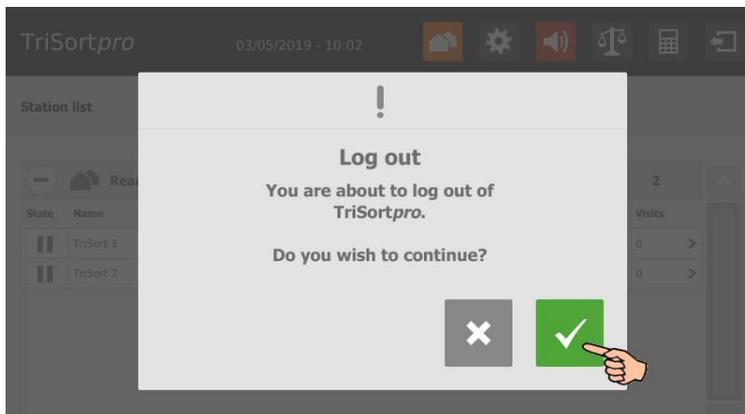
The user name and the password are the same as when logging into BigFarmNet Manager.

8.4 Logout

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

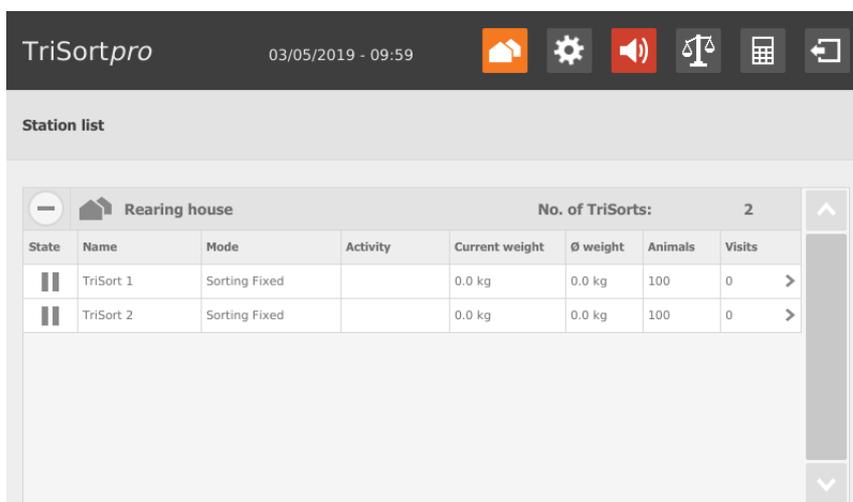


2. Confirm that you are logging out.
The login dialog appears on the display again.



8.5 Start screen

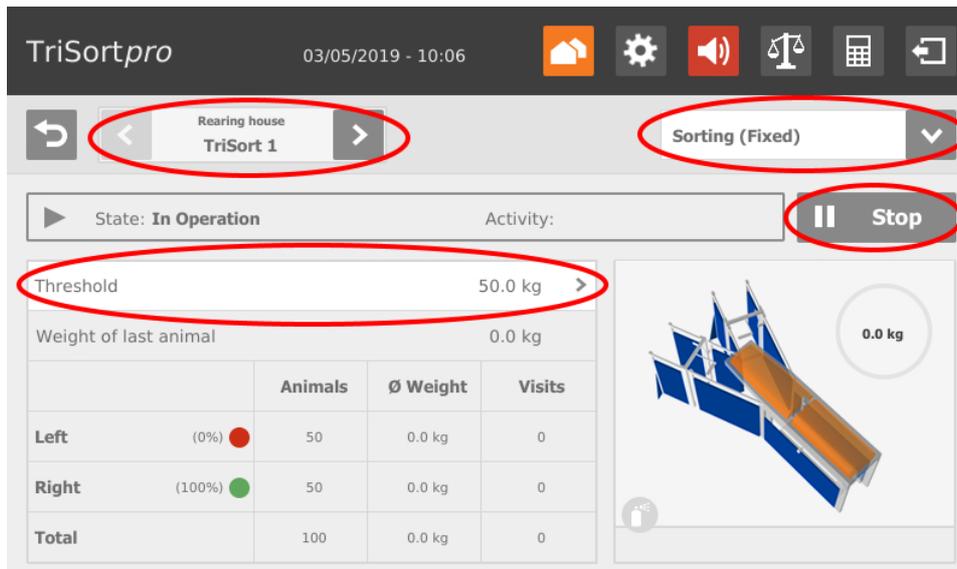
- After logging in, an overview of the assigned TriSort stations appears as start screen. Tap on one TriSort station to switch to the individual view and to configure settings.



8.6 Individual view TriSort

Tapping on the desired TriSort station in the start view opens the individual view. This view shows the currently active operation state. In the upper part of the window, the TriSort station's location is displayed. The 3D image shows whether a pig is currently being weighed, and whether color marking  is activated.

The individual view allows configuring the following settings:

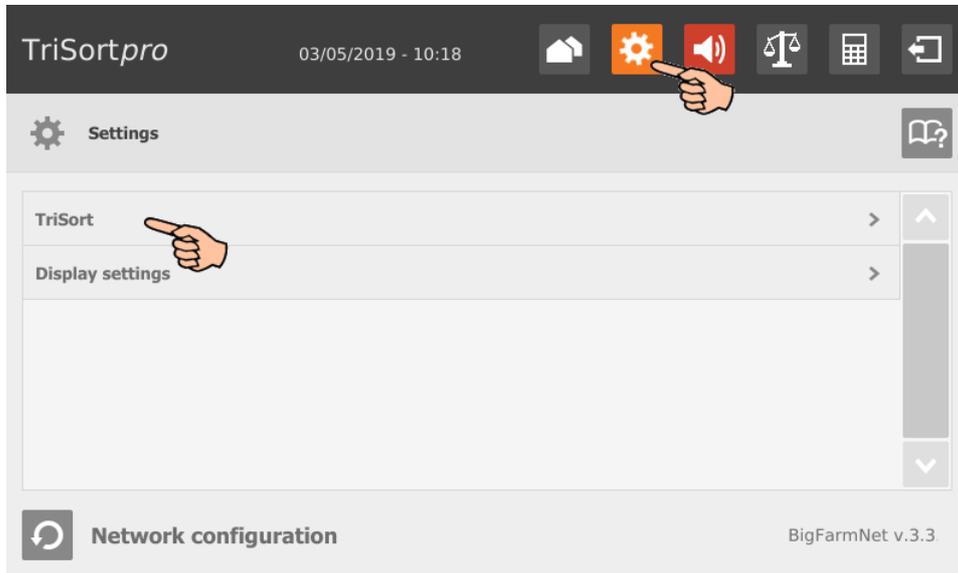


- switching between different TriSort stations using the arrows pointing to the left and to the right;
- changing the mode;
- starting/stopping operation;
- changing threshold(s).

8.7 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.

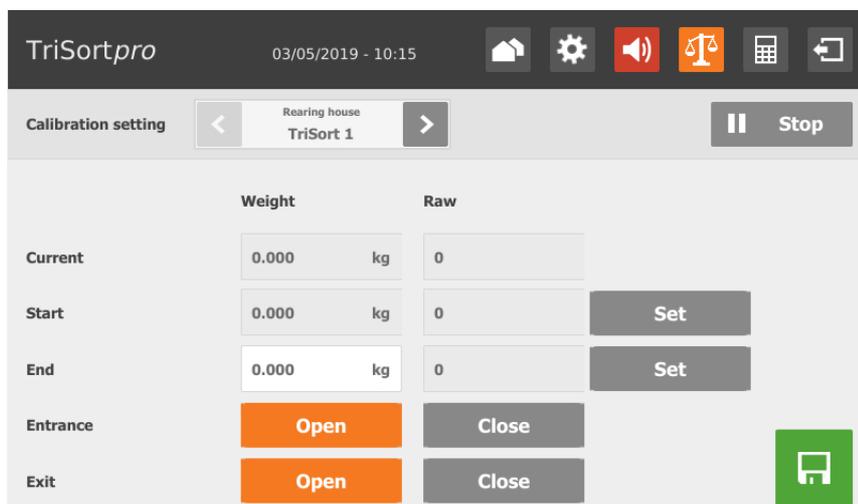
The following chapters contain definitions of the settings:



- **General**
 - **Alarm:** see chapter 4.2 "Alarm"
 - **Application behavior:** see chapter 4.3 "Application behavior"
- **Modes of operation**
 - **Sorting:** see chapter 4.4.1 "Sorting"
 - **Number of animals:** see chapter 4.4.3 "Number of animals"
 - **Sorting out:** see chapter 4.4.2 "Sorting out"
 - **Learning and pause:** see chapter 4.4.4 "Learning and pause"
 - **Stop:** see chapter 4.4.5 "Stop"
- **Equipment**
 - **Scale:** see chapter 4.5.1 "Animal scale"
 - **Doors:** see chapter 4.5.2 "Doors"
 - **Air driving out:** see chapter 4.5.3 "Air driving out"
 - **Color sprayer:** see chapter 4.5.4 "Color sprayer"
 - **Time relay:** see chapter 4.5.6 "Timed relay"

8.8 Calibration

Open the calibration dialog by tapping on the button .



Proceed as follows for calibration:

1. Stop the application by tapping on . Consider the settings you configured for the operation mode **Stop**, see chapter 4.4.5.
2. If the **entrance** is open, tap on .
3. If the weight under **Current** changes, there is still a pig in the station. Wait until the pig has left the station and then also close the **exit**.
4. Tap on  next to **Start** (weight = 0.0 kg).
5. Use the numeric keypad to enter the used calibration weight under **End** and save the input by tapping on .
6. Load TriSort with the calibration weight. The weight under **Current** will change.
7. Tap on  under **End**.
8. Remove the calibration weight.
9. Save the calibration by tapping on . A message indicating successful calibration appears. The calibration weight displayed under **Current** is accepted.
10. Start the application by tapping on . TriSort is tared and returns to operation.

8.9 Growth preview

Tap on  to open the growth preview. Use the growth preview to calculate the following information, as required (see also chapter 4.8.11 "Growth preview").

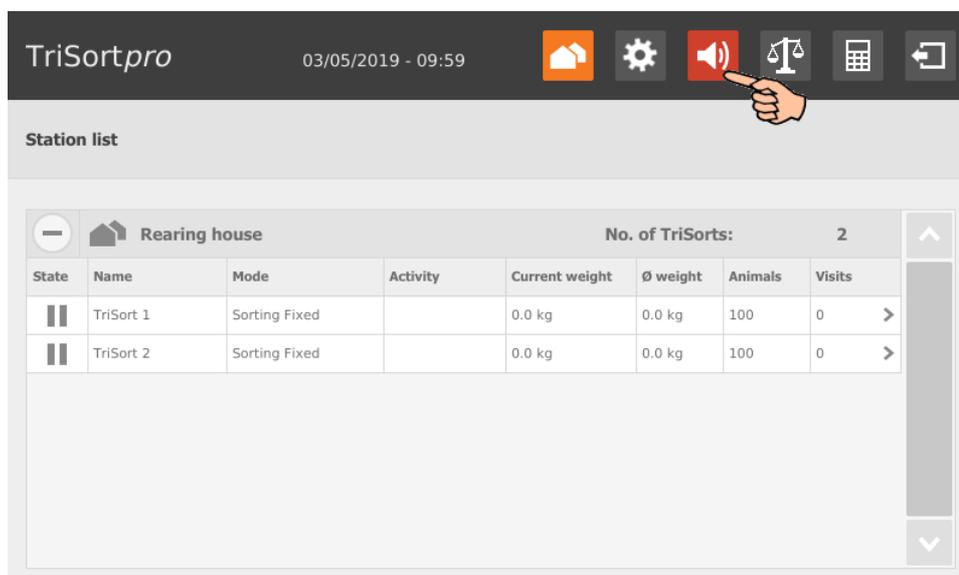
- The **number of animals** that will probably have reached the desired target weight on the selected (future) day, based on a defined daily weight gain (DWG).
- The **date** on which the desired number of animals will have reached the correct final weight, based on a defined daily weight gain (DWG).
- The **minimum weight** that the desired number of animals will have reached within the correct time period, based on a defined daily weight gain (DWG).

8.10 Alarms

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

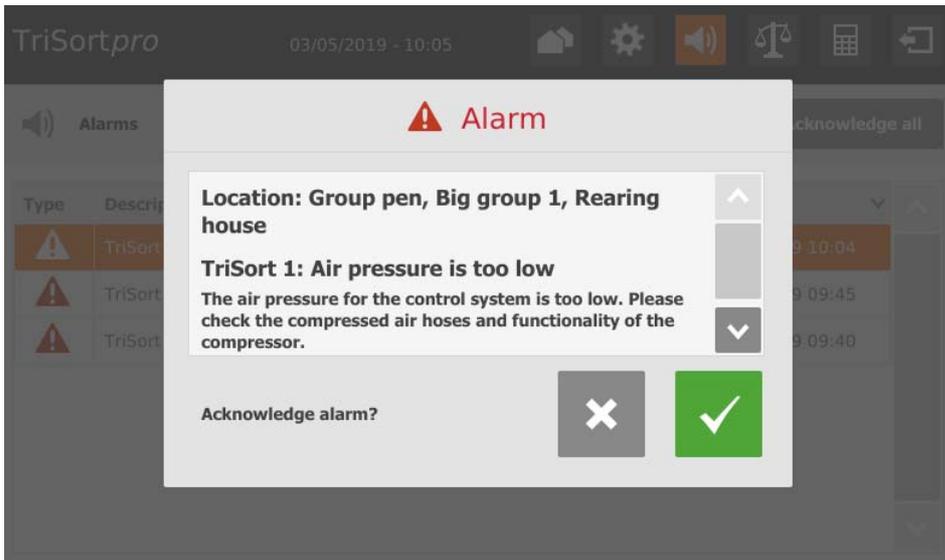
1. Tap on the alarm icon to open the alarm menu.

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



State	Name	Mode	Activity	Current weight	Ø weight	Animals	Visits
	TriSort 1	Sorting Fixed		0.0 kg	0.0 kg	100	0
	TriSort 2	Sorting Fixed		0.0 kg	0.0 kg	100	0

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



Numerics

2-way sorting 56 58

A

Acknowledging an alarm 78
Adding application 16
Adding control computer 16
Alarm 43 75 86
Alarm categories 76
Alarm log 79
Alarm notification via email 80
Alarm types 76

B

Blocked sorter gate 47

C

Calibrating the scale 34 54 94
CAN Address 28
CAN address 28
Color sensor 64
Composer 16 20 23
Control computer 2

D

Data Backup 70
Deleting system components 22
Designer 35
Detection of not leaving pig 43
Door position in case of alarm 43
Drive-out 50

E

End weight 60

G

Growth preview 68

I

Invalid weighing 49
IO Manager 26

L

Learning 47
Licence 2

M

Manual control 37
Max. number of animals 60
Maximum move duration / door 50
Minimum animal weight 48

N

Network card 11

R

Remote control 87

S

Software version 2
Sorting (Fixed) 56
Sorting out 46 63
Sorting out ready-to-slaughter pigs 61
Sorting (percentage) 60

Start weight 60
Stop 48
System description 1
System limits 3

T

Tara duration 48
Technical data 510pro 88
Test mode IO Manager 32
Three-way sorting 61
Time relay 53
Toggle duration / door 50
TriSort overview 73

W

Warning 75
Weighing duration 48
Weight distribution 65
WetMIX 52

Z

Zero drift 53