

# CallBackpro

Code No. 99-97-4781 GB

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We are constantly working on further developing the computer and the software and

also consider user preferences. Please let us know if you have ideas or suggestions

for improvement and modification.

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System description Page 1

# 1 System description

This manual describes how to install and operate the control software CallBack*pro* for the CallBack electronic sow feeding (ESF) station. CallBack is controlled by BigFarmNet Manager and the 510*pro* control computer. One 510*pro* can control up to 10 ESF stations.

BigFarmNet Manager contains all sow data and feeding data and allows configuring settings of the ESF stations.

### i 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 3.4

#### 1.2 Licenses

The following software licenses are **required**:

Code no.	Description	Use
91-02-6616	License BigFarmNet CallBackpro per	1 per station
	station	
91-02-6500	BigFarmNet Manager – Basic installation	1 per BigFarmNet network
	software	
91-02-6555	License BigFarmNet – Sow Manager	1 per BigFarmNet network

The following software licenses are optional:

Code no.	Description	Use
91-02-6551	License BigFarmNet – per additional PC/	In case animal and system
	MC700	data in the BigFarmNet
		Manager is to be available
		on additional computers

CallBackpro

Page 2 System description

Code no.	Description	Use	
91-02-6558	License BigFarmNet – sow management		
	< 1000 sows		
91-02-6566	License BigFarmNet – sow management	1 per BigFarmNet network	
	1000 - 3000 sows	The bigi attitue the two ik	
91-02-6567	License BigFarmNet – sow management		
	> 3000 sows		
91-02-6564	License BigFarmNet – Web Access Pig	Access via the app	
		(smartphone or tablet)	
91-02-6611	License BigFarmNet Manager – Service	1 per BigFarmNet network	
	Access 510/307 Pig		

# 1.3 System limits

30,000	Sows
750	Feeding stations
1	Feed type per station (dry)
1	Color sprayers per station
50	Feed curves
1,000	Components



CallBackpro 99-97-4781 GB System description Page 3

## 1.4 Example installation

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

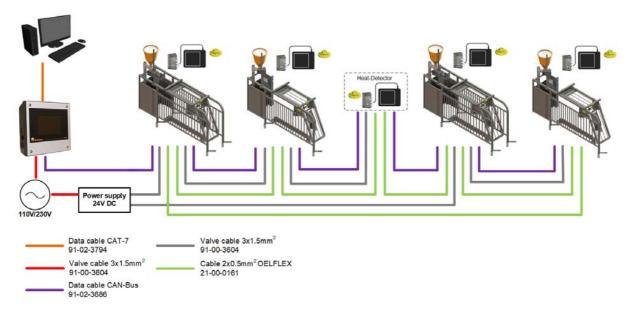


Figure 1-1: Central control 510*pro* with 4 CallBack stations and 1 heat detector

# 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
- 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 510*pro* 

# i NOTICE!

Only service technicians may install and configure the control computer.

# 2.1 Control computer: assigning a static IP address

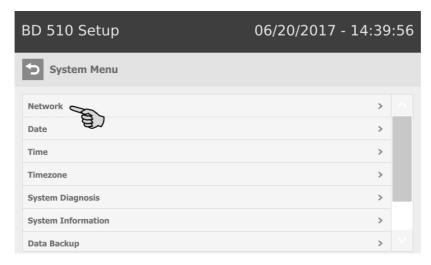
Start the control computer.



CallBackpro 99-97-4781 GB 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 🗔

CallBackpro

### 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.

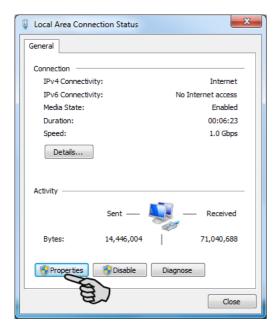
- 1. Click on Control Panel in the start menu
- 2. Click on Network and Sharing Center.
- 3. Click on Change adapter settings.



Double-click on Local Area Connection.



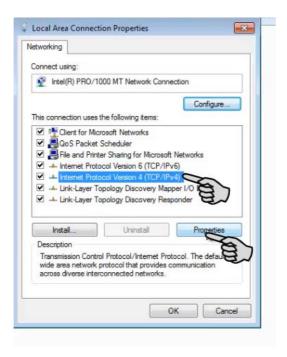
5. Click on **Properties**.



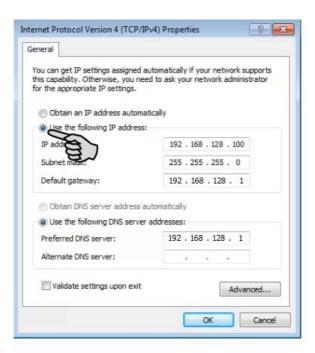


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6. Select Internet Protocol Version 4 (TCP/IPv4) and click on Properties.



7. Enter a static IP address.

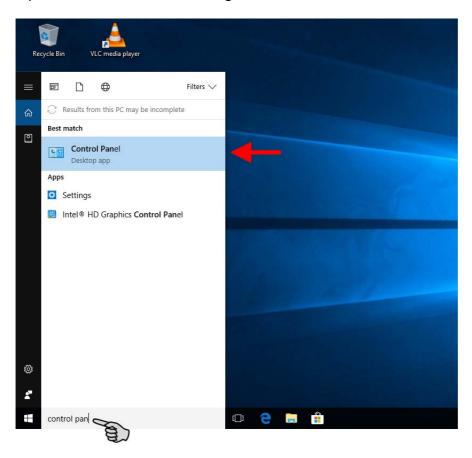


8. Confirm these inputs by clicking on **OK**.

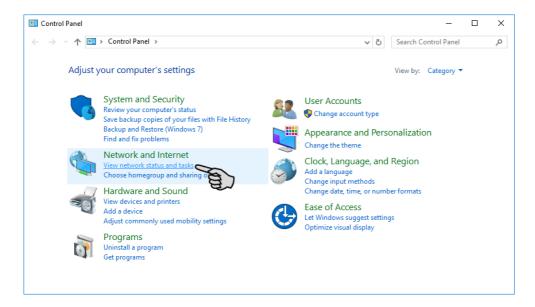
#### 2.2.2 Windows 10

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.

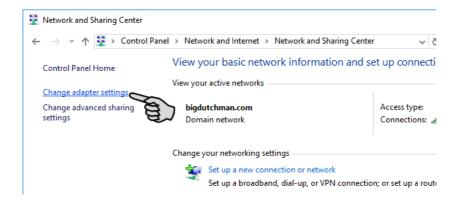


Click on View network status and tasks under Network and Internet.

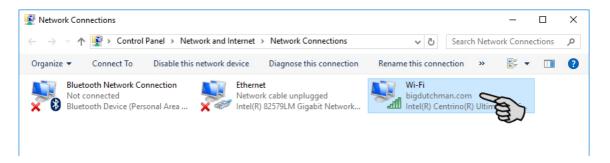




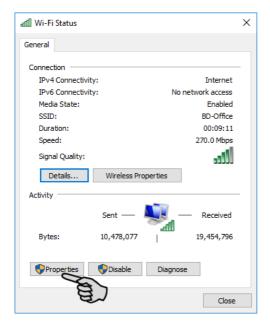
### Click on Change adapter settings.



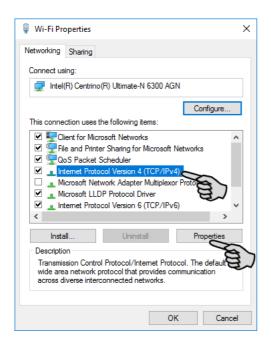
#### 4. Double-click on Wi-Fi.



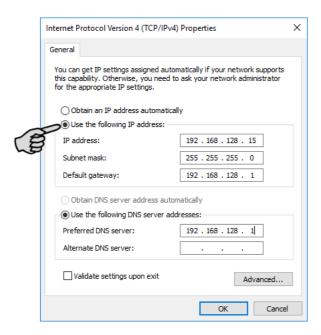
### 5. Click on Properties.



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



Enter a static IP address.

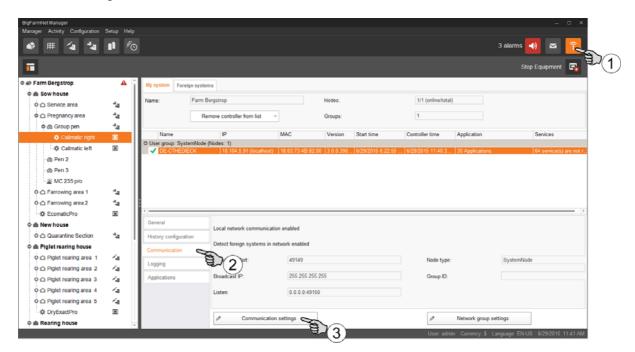


Confirm these inputs by clicking on **OK**.

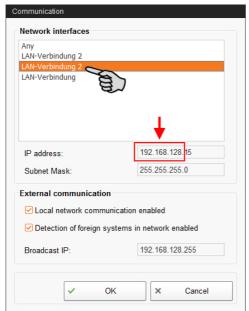


### 2.3 Assigning a network card

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.

BigFarmNet manager

### 2.4 Checking the connection to the control computer

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

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

Example in the screenshot: ping 192.168.128.236

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

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

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

C:\Users\Test\ping 192.168.128.236

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

Ping statistics for 192.168.128.236:

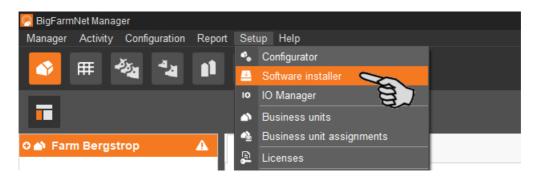
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```



### 2.5 Installing the software on the control computer

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

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

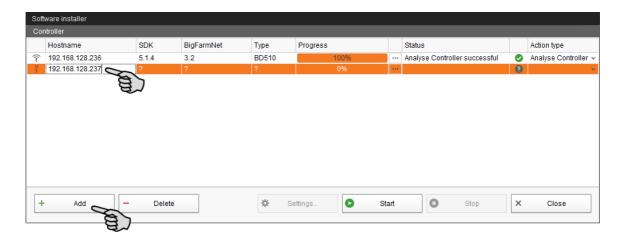


2. Enter the IP address of the control computer on which you want to install the software.



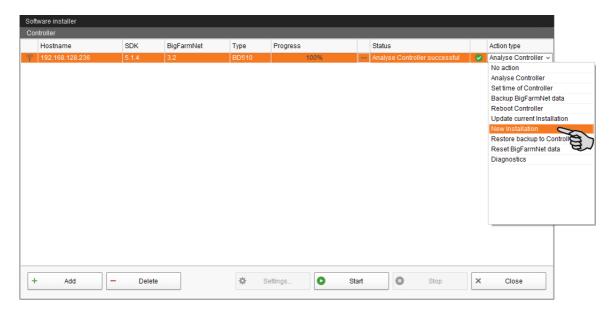
3. If necessary, add the desired number of control computers by clicking on "Add".

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



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

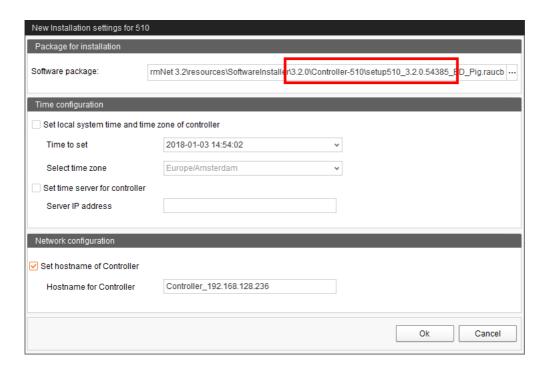
BigFarmNet



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

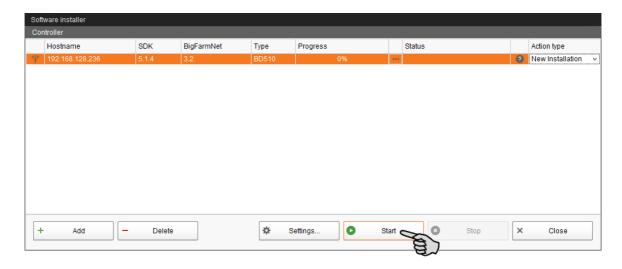
## i NOTICE!

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

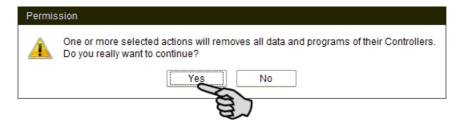


- 8. Confirm the dialog by clicking on "OK".
- Click on "Start".



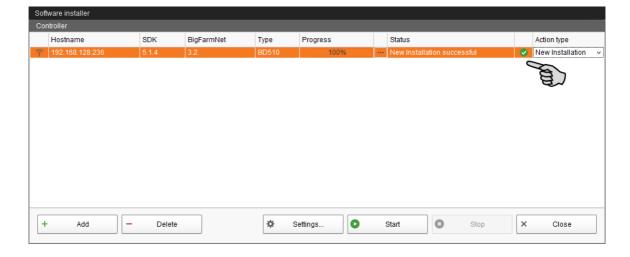


10. Confirm the prompt for confirmation.



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

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





# 3 Configuration of the system

### 3.1 Adding and configuring an application

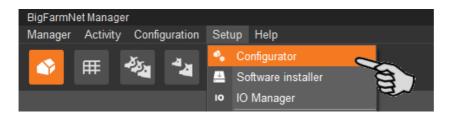
### **NOTICE!**

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

The instructions below chronologically describes the following steps:

- Adding the control computer and the application
- Defining the functional range in the Composer
- Copying the configuration to other ESF stations
- 1. Click on "Configurator" in the "Setup" menu.

This opens the "'Configurator" window.



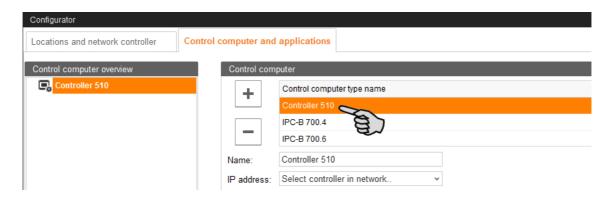
2. Click on the "Control computer and applications" tab.



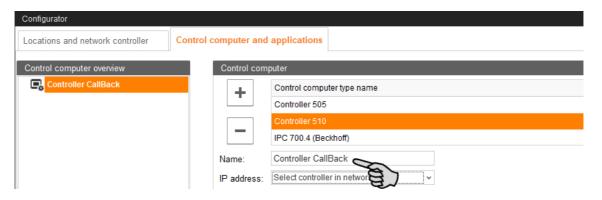
3. Select the correct control computer in the upper part of the window under "Control computer" and click on the plus button.

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





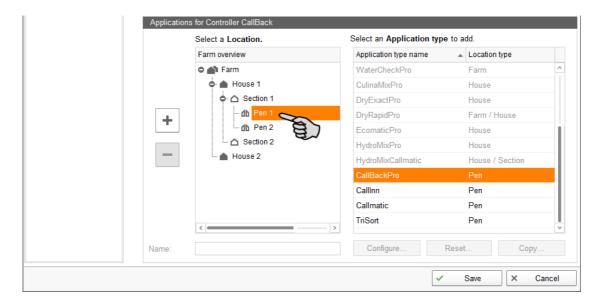
4. Enter a name for the control computer.



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

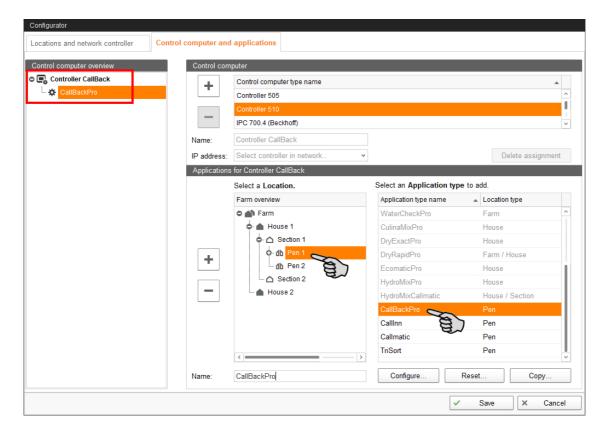
The applications available for selection depend on the selected location.

The CallBack *pro* application can only be added to the "Pen" level.



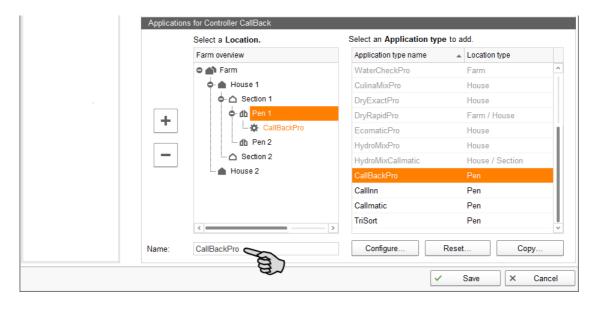
Select the correct application in the table on the right and click on the plus button to the left.

BigFarmNet manager



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.

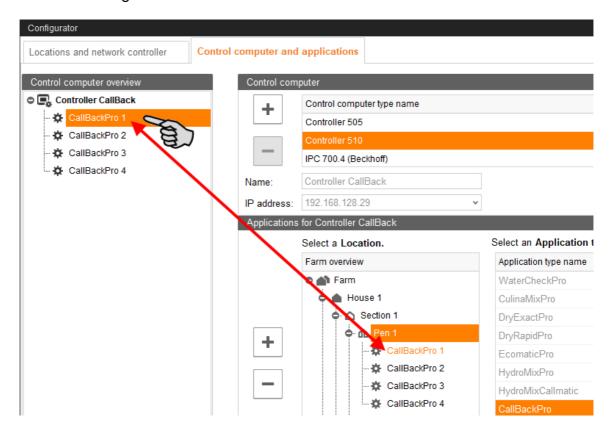
One application is one CallBack station. One control computer can be assigned up to 10 stations.



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- a) Select the pen to which you have already assigned the first CallBack application.
- b) If the correct application is still selected, click on the plus button.
- c) Enter a name for the application.

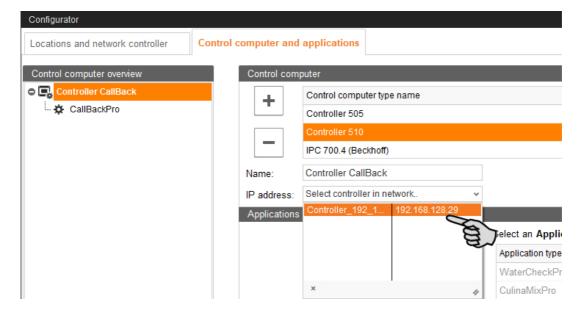
An application you select in the "Control computer overview" is marked by color below the assigned location.



- 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.

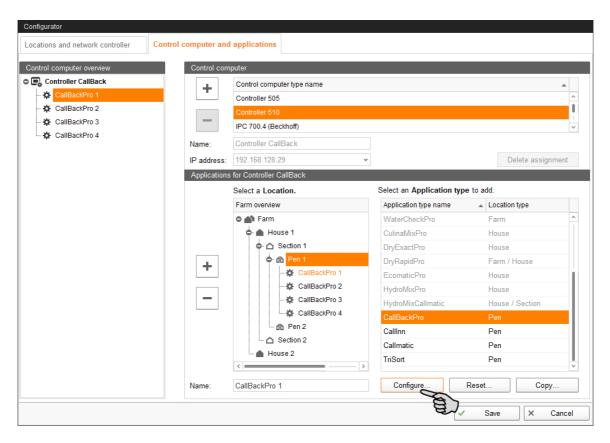
  If the IP address has not been set up yet, you will need to add it later on.





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

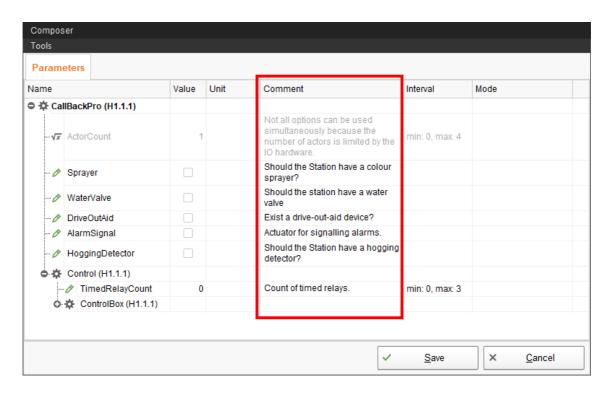
This opens the dialog for the Composer.



13. Configure the settings in accordance with the structure of the system. Change preset values, if necessary.

The column "Comment" contains information for setting of the values.

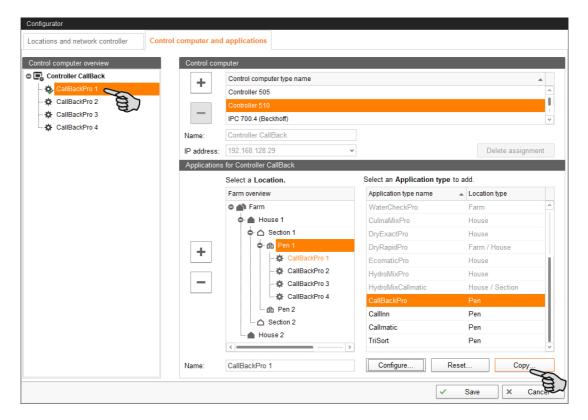




- 14. Click on "Save" to accept all settings for the Composer.
- 15. Copy and transfer configurations defined in the Composer to other stations if they have the same functions.

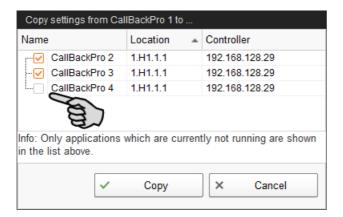
A configured application is marked by \*.

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



CallBackpro

Select the applications to which you want to transfer the defined configuration.



- Click on "Copy". The settings are now transferred to all selected applications.
- 16. Save your settings by clicking on "Save" and confirm the next dialogs with "OK".

### 3.2 Changing settings in the Composer

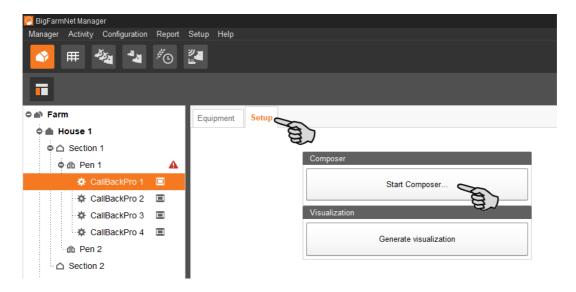
Usually, all functions of the installed system are defined once in the Composer. If necessary, the Composer can be opened as follows for subsequent modifications:

1. Click on the controller icon of the respective system application in the farm structure.

### **NOTICE!**

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

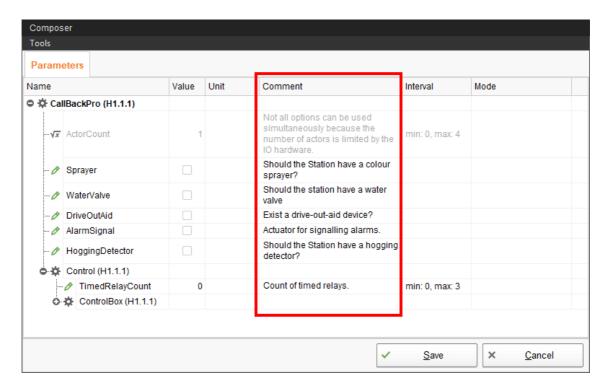
2. Under "Setup", click on "Start Composer...".





3. Configure the settings in accordance with the structure of the system. Change preset values, if necessary.

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



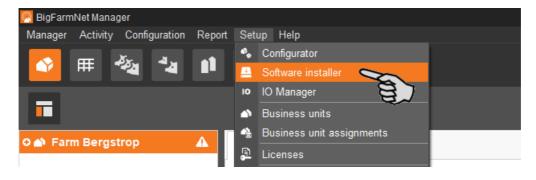
4. Click on "Save" to accept all settings for the Composer.

You will be asked to restart the controller.

Confirm the dialog by clicking on "OK".

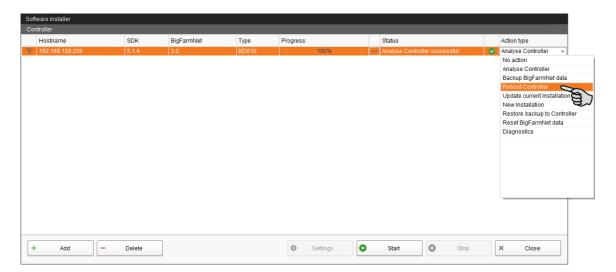


6. Click on "Software installer" in the "Setup" menu.



7. Click on the control computer to select it.

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



9. Click on "Start".

# i NOTICE!

This process may take a few minutes!

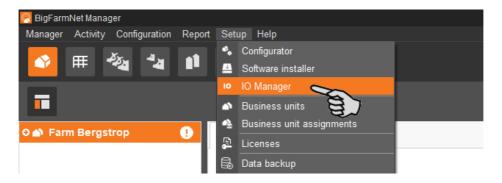


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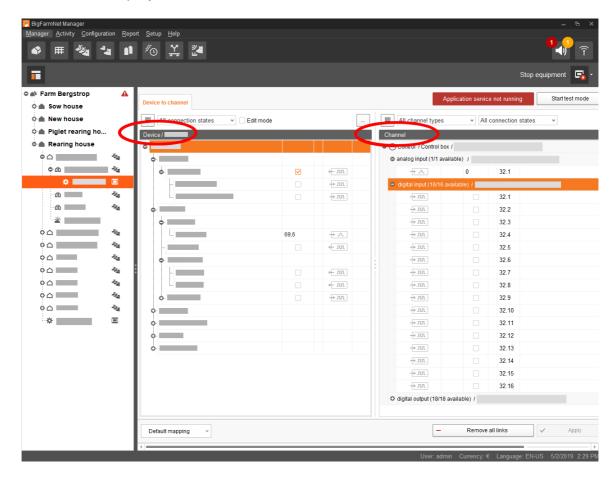
### 3.3 Configuring the IO Manager

The controller is configured in the IO Manager. Assign the system functions that you defined in the Composer in the previous step to the IO cards.

- 1. Click on the controller icon of the respective system application in the farm structure.
- 2. Click on "IO Manager" in the "Setup" menu.



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



CallBackpro

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:

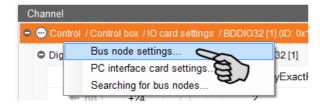
- Digital input
- Analog output
- Analog input
- Counter input → 123
- ← Iolol Serial interface
- Linked interfaces are colored: + III + III
- Non-linked interfaces are grayed out: + Jul + Jul

# 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.

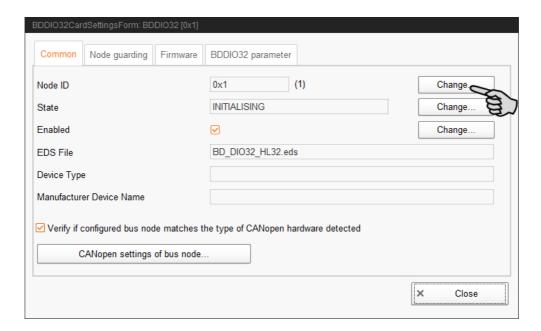
- 1. On the IO cards to be assigned, check to which CAN ID the rotary switch of each card is set (in the control box).
- 2. Open the context menu by right-clicking on the IO card (top level) and click on "Bus node settings...".

This opens a new dialog.

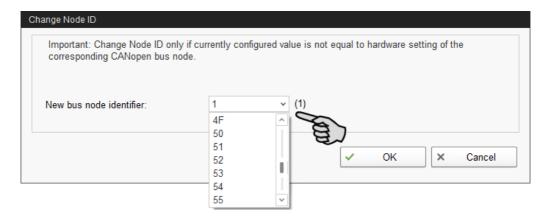


In the first tab, click on "Change..." next to "Node ID".

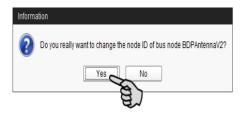




4. Select the new node ID and click on "OK".



5. Confirm the prompt for confirmation.



- 6. Click on "Close" to close the dialog.
- 7. Click on the button "Restart application" to accept the settings.

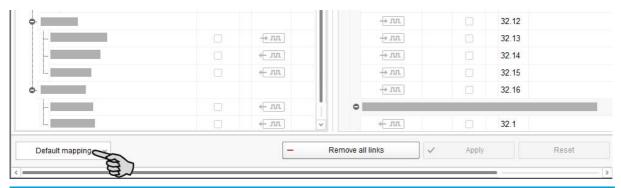
### 3.3.2 Creating links

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

#### 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 + m + m.

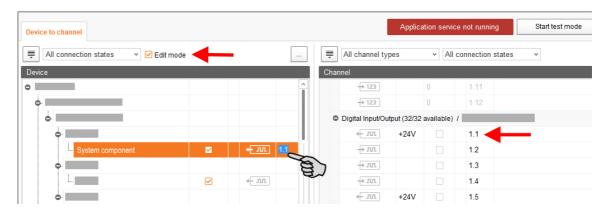




#### Option 2:

- 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  $+\pi\pi$ .



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

# i NOTICE!

Checking links:

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

- 9. Click on "Save" in the bottom command bar after having established all links.
- 10. 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.

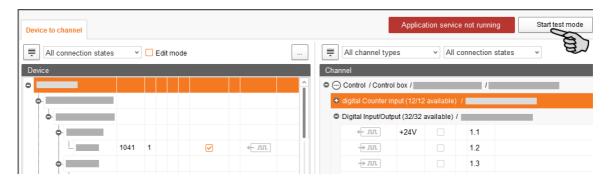
# **CAUTION!**

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.

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2. In the "Device" part of the window, double-click on the interface of the device you want to turn on  $+ \mathbf{m} + \mathbf{m}$ .

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.



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

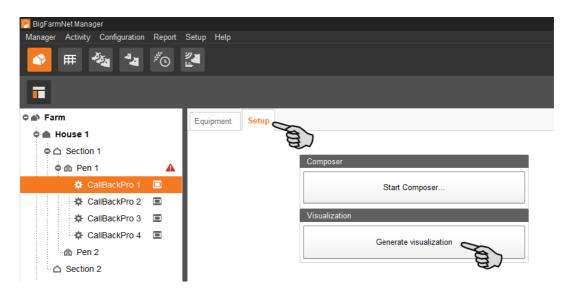


### 3.4 Depicting the system in the Designer

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



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



### 3.4.1 Adjusting views

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

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



- 2. Adjust the 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.



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### 3.5 Manually controlling the system components

You may manually control CallBack via the 3D image created in the Designer by manually activating or deactivating individual system components.

### i 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!

Use the manual control option to check whether active system components such as dosing units or sprayers work. Reading of transponders is not possible, however.

### **CAUTION!**

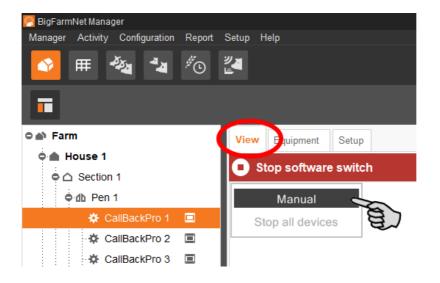
Be extremely careful when manually controlling system components:

- Make sure that no persons or animals are located in or around the system!
- Do not actuate sprayers, dosing units and water valves for too long. There is no time limit in the active / open mode!
- 1. Click on the controller icon of the respective system application in the farm structure.
- 2. Under "View", click on "Manual".

### i NOTICE!

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

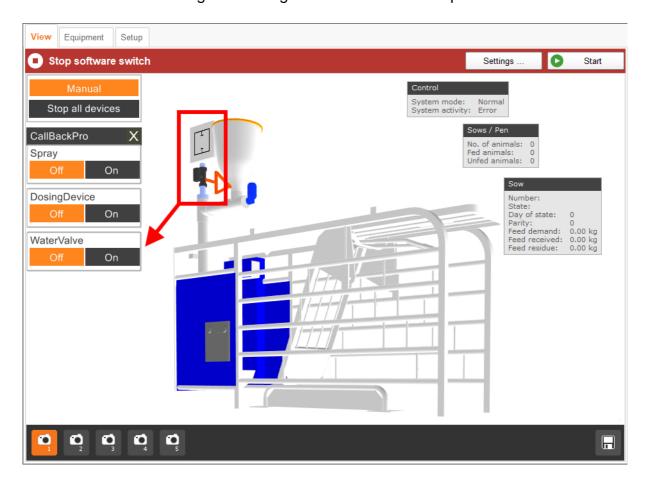
Stop in the upper bar.



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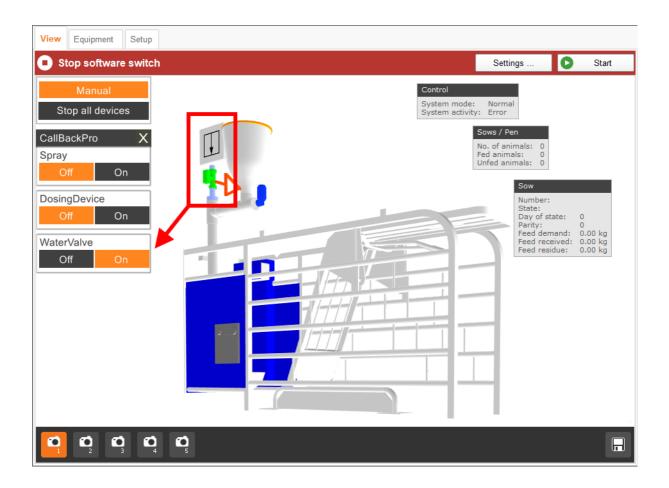
- 3. If necessary, adjust the view, see chapter 3.4.1, or retrieve one of your saved views using the camera icons.
- 4. Click into the 3D image. All system components that can be controlled manually now appear in the left-hand part of the application window.
- 5. Activate and/or deactivate the desired system components using the corresponding button.

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





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# 4 Configuration of the application

## i NOTICE!

Applicable for initial operation:

Most parameter values are pre-set by the system. We recommend working with these pre-set values.

The following parameters must be set for initial operation of the system:

- Day change-over, see chapter 4.2 "General".
- Default feed curve, see chapter 4.2 "General".
- Amount per pulse, see chapter 4.4 "Dosing".

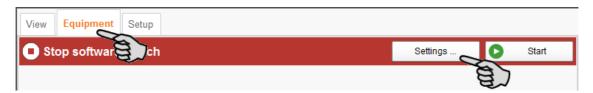
As soon as you have set these parameters, you can start the system. All other parameters, including pre-set ones, can be optimised later on to adjust them to the system's actions.

1. Click on the controller icon of the respective system application in the farm structure.

### i NOTICE!

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

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.

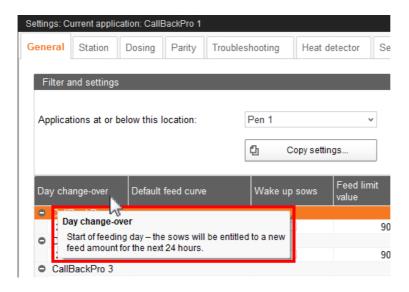
Only save after you have defined all settings of the tabs. The "Save" function affects the entire settings dialog. Saved changes are immediately applied to the system(s)!

# 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.



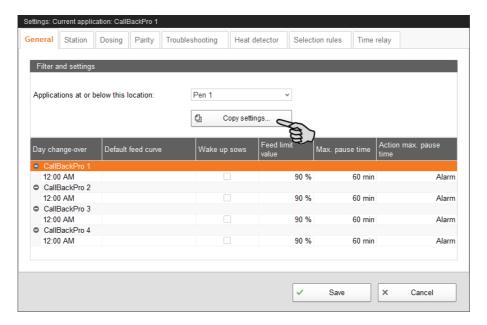
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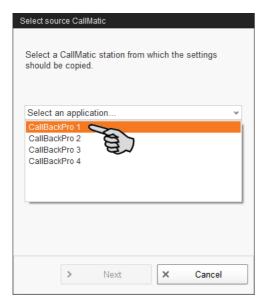
### 4.1 Copying the settings of an ESF station

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.

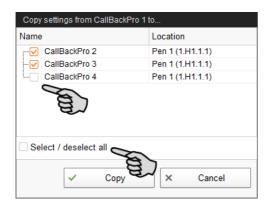
- 1. Configure the settings for one system.
- 2. Click on the button "Copy Settings..." in the top part of the window.



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



- 4. Click on "Next".
- 5. In the next dialog window, select individual or all systems to which you want to transfer the settings.

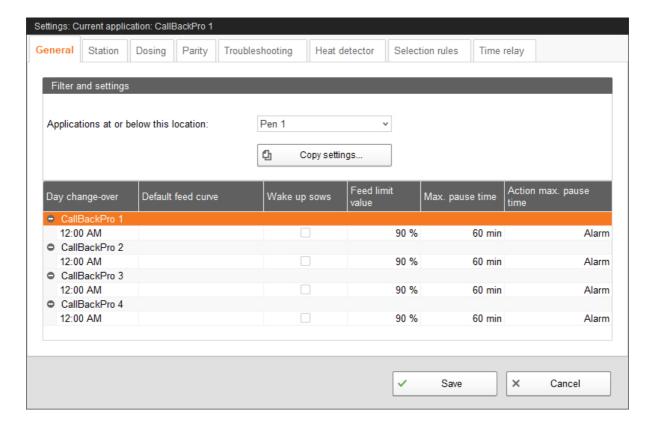


6. Click on "Copy". The settings are now transferred to all selected systems.



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#### 4.2 General



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

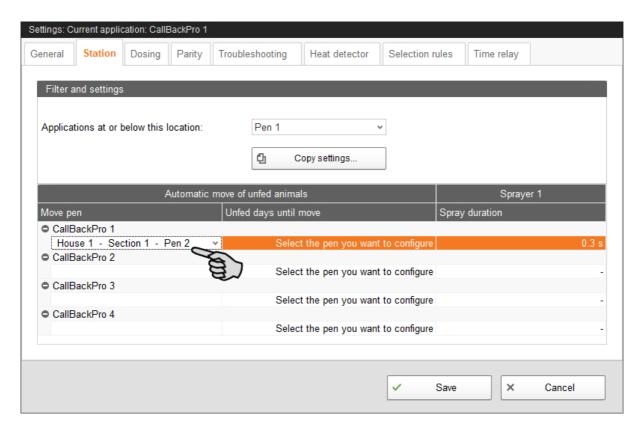
The following values are re-calculated based on the time of day change-over:

- Sows fed
- Feed consumed
- Feed open
- Selection (color marking)
- Default feed curve: If a sow has not been registered during moving-in (unknown transponder) and thus does not have a feed curve assigned, the system supplies feed based on the default feed curve selected here.
- Wake up sows: The following action sequence is saved in the system to wake up sows: If there is a drive-out aid, its output is activated. If there is no drive-out aid, the water valve is activated once. If there is no water valve, the dosing unit is activated once and feed is dispensed.
- Feed limit value: Sows who have at least eaten the percentage of their daily ration determined here are considered fed.

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- 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 generated (depending on what is set for **Action maximum pause time**). If the time is set to 0 minutes, there is no maximum pause time.
- Action maximum pause time can be set to be either an alarm, a warning or no action at all ("No").

#### 4.3 Station



#### Automatic move of unfed animals

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

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

#### Sprayer

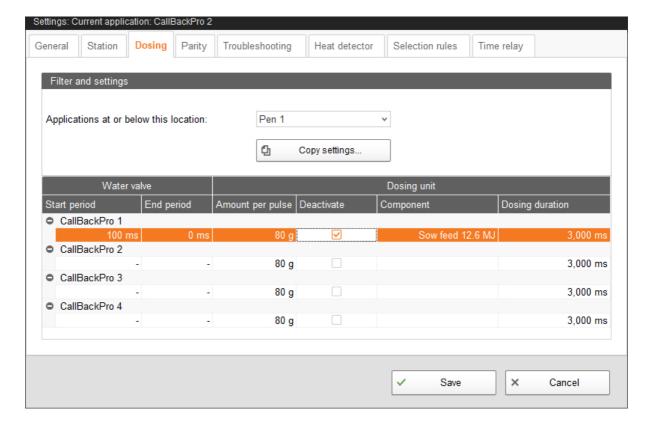
**Spray duration** for color marking to indicate selection.



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### 4.4 Dosing



#### Water valve

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

#### Dosing unit

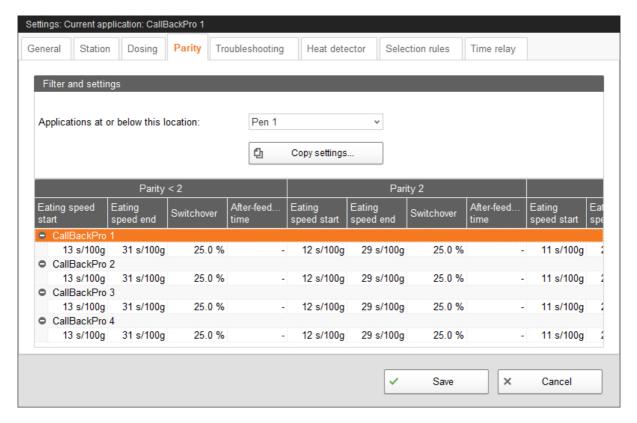
Enter the amount of feed dispensed into the trough from the feed hopper under **Amount per pulse**.

**Deactivate:** The feed hopper is deactivated when it is empty.

**Component** is the feed component dispensed by the hopper. This information must be identical with the feed component given in the feed curve.

**Dosing duration:** The dosing duration indicates for how long the dosing motor is controlled. Usually, the dosing motor will do one revolution based on the installed sensor. If this sensor is defective or connected incorrectly, however, the dosing motor is controlled according to the dosing duration.

# 4.5 Parity



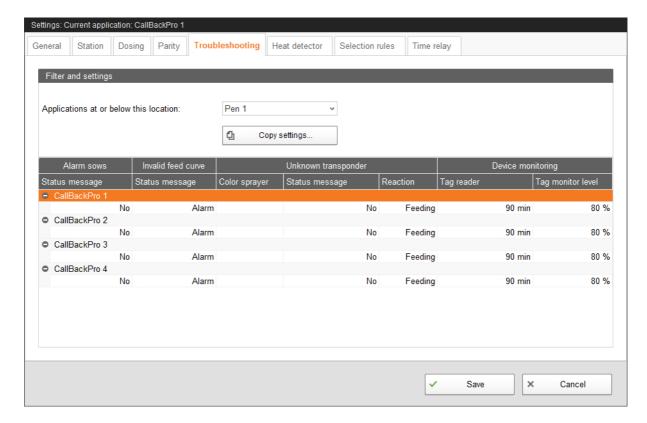
Define the eating speed as a function of the parity (number of litters) under the tab **Parity**. A sow's eating speed usually increases with the number of litters. Younger sows should thus be given more time to eat than older sows.

In the example above, sows with less than two litters (parity < 2) receive an amount of feed of 100 g per 13 seconds in the beginning (**Eating speed start**). Feed distribution slows down continuously to 100 g per 31 seconds (**Eating speed end**) until 25 % of the remaining feed amount has been reached (**Switchover**). This means that if 75 % of the feed amount are eaten, the **Eating speed end** starts for the final 25 % of feed.



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### 4.6 Alarm settings



#### Alarm sows

Alarms sows are sows that have not eaten their assigned daily ration and are therefore below the **feed limit value** at the end of the feeding day. The feed limit value is defined under the tab "General".

An alarm, a warning or no message at all ("No") can be defined as **status** message.

#### Invalid feed curve

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

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

An alarm, a warning or no message at all ("No") can be defined as **status message**.

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#### Unknown transponder

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

- Mark the sow with a **color sprayer**.
- An alarm, a warning or no message at all ("No") can be defined as status message.
- Select whether the sow should be fed based on the default feed curve with reaction.

### **Device monitoring**

The device monitoring parameter indicates whether the station is blocked so the sows cannot enter it. A possible reason is a closed up-and-over door.

- Tag reader: If the antenna does not detect a sow within this time, a warning is generated.
- Tag monitor level: If this percentage of feed has been fed to the sows, device monitoring is deactivated.

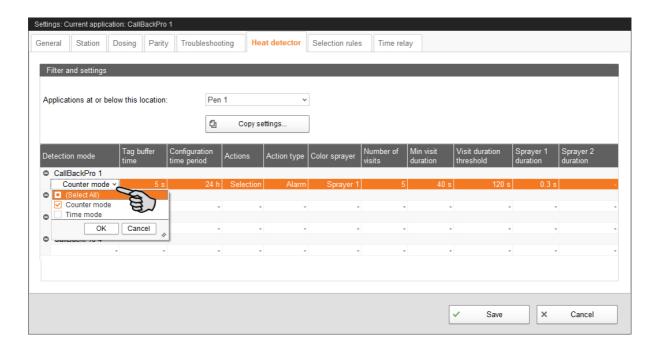
## **NOTICE!**

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



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### 4.7 Heat detector (optional)



#### Detection mode

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

- "Counter mode": The heat detector must identify the sow multiple times a day.
- "Time mode": The detector's antenna must identify the sow for a specific duration.
- "Select all": Both the "counter mode" and the "time mode" are activated.
- **Tag buffer time:** If a transponder is read twice within this time, the system counts this as one visit or one time period.
- Configuration time period: The parameters that identify a sow as a sow returning to heat must be detected within this time.
- Actions define what should happen with a sow returning to heat:
  - "Information": The Sow Manager creates the action "Heat detection", which can be used as a filter.
  - "Color": The heat detector's color marker marks the sow.
  - "Select all": All actions are activated.
- Action type can be set to be either an alarm, a warning or no action at all ("No").
- Color sprayer: Select one or all available sprayers to be used.
- Number of visits: If a sow visits the heat detector more often than the number of visits given here within the time period, she has probably returned to heat.

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- **Minimum visit duration:** If the sow visits the heat detector for longer than the "minimum visit duration", this is considered a visit.
- **Visit duration threshold:** If the heat detector identifies a sow for longer than the of time defined here, this sow has probably returned to heat.
- Sprayer duration

### Example of identification of a sow returning to heat

The following parameters have been defined:

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

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



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



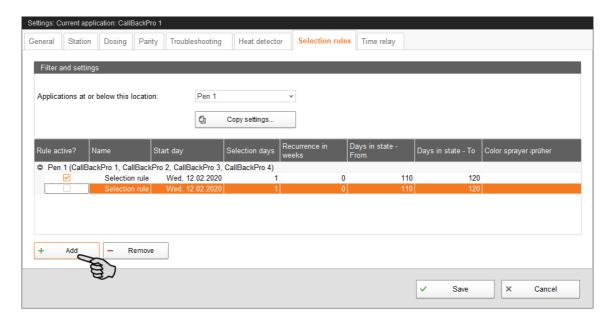


#### 4.8 Selection rules

Define criteria according to which sows should be marked by color under the tab **Selection rules**. Selection rules apply to inseminated and pregnant sows.

1. Click on "Add".

The input fields for a selection rule now become active.



- 2. Configure the settings by clicking directly into the input fields of the corresponding parameters:
  - a) Activate the rule by checking the box below **Rule active?**.
  - b) Enter a **name** for the rule.
  - c) Set a date (**Start day**) from which the rule shall apply.
  - d) Enter the number of **recurrences in weeks**, starting with the start day.
  - e) Define the period (From To) of the days in state in which the sows must currently be to be selected.
  - Select the **color sprayer** used for marking (selection).
- 3. To deactivate a rule, remove the check mark from the box below **Rule active?**.
- To remove a rule entirely from the list, click on the rule to select it and then click on "Remove".



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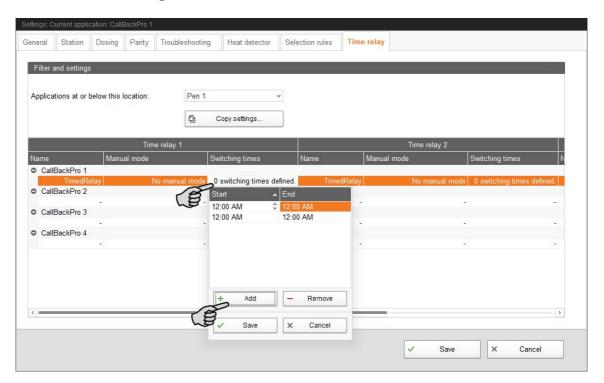
### 4.9 Time relay

Define e.g. switching times for lighting under the tab **Time relay**. Define the number of used time relays in the Composer first.

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

These settings are accepted immediately.

3. Define the switching times:



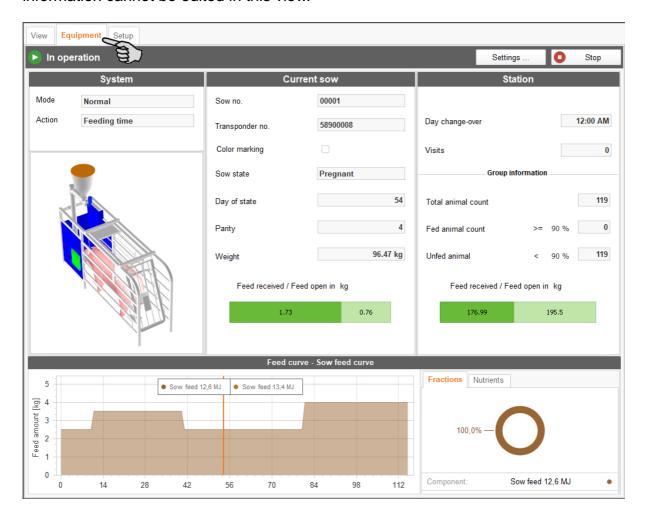
a) Click into the input field below **Switching times**.

This opens a drop-down list.

- b) Click on "Add".
- c) Define the period by indicating times for **Start** and **End**.
- d) Add further switching times, if necessary.
- e) Click on "Save" to save these settings.

# 4.10 View in the "Equipment" tab

The **Equipment** tab provides a view with information about the station and the sow currently inside the station. All information has been defined beforehand in different settings menus, e.g. the settings dialog, feed curves or the move-in dialog. The information cannot be edited in this view.





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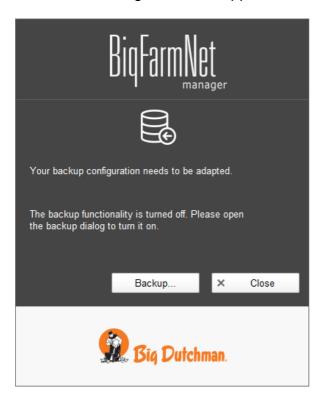
### 4.11 Data backup

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.

### i 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.

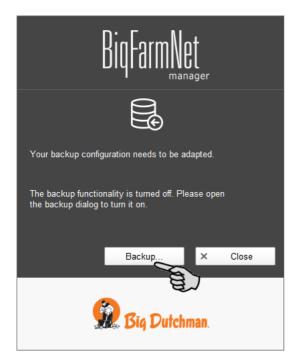
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The BigFarmNet Manager provides the following options for data backups:

- 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.

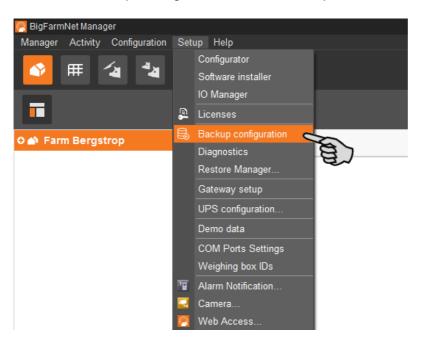
Open the settings dialog as follows:

1. Click on "Backup...".



OR

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





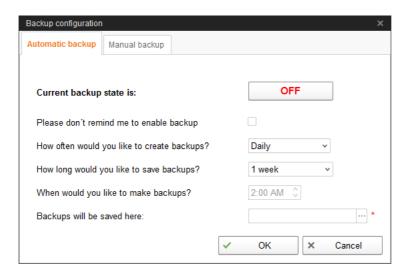
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2. In the window "Backup configuration", select the desired process using one of the two tabs:

### **Automatic backup**

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



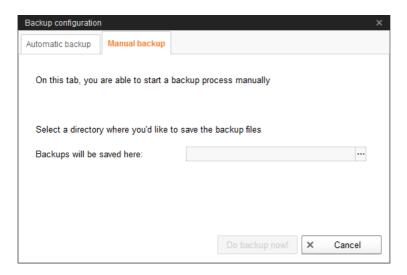
a) Click on "OFF" to turn off the deactivation.

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



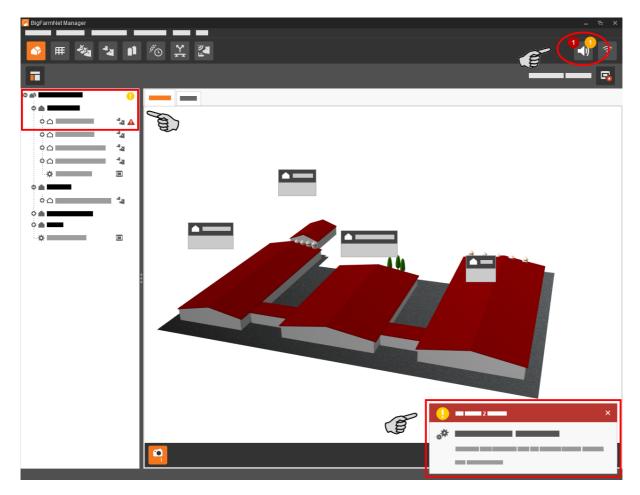
- a) Select an external storage location.
- b) Click on the now active button "Create backup now!"

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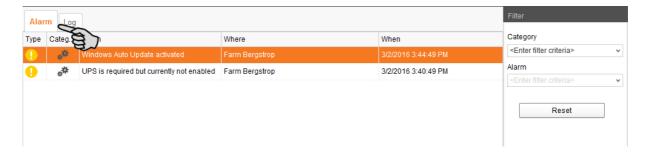
# 5 Alarms and warnings

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.





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# Alarm types

Icon	Status	Description	
A	Active alarm	Not acknowledged: Cause still exists.	
<b>4</b>	Inactive alarm	Not acknowledged: Cause no longer exists.	
<b> ★</b>	Deactivated alarm	Acknowledged: Cause still exists.	
A	Ended alarm	Acknowledged: Cause no longer exists.	
1	Active warning	Not acknowledged: Cause still exists.	
1	Ended warning	Acknowledged: Cause no longer exists.	
6	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	
Q	Liquid feeding	
1	SiloCheck system	
Ţ.	WaterCheck system	
ó	MillAndMix system	

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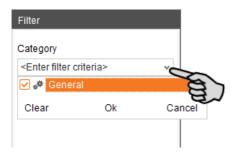
# **NOTICE!**

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

### 5.1 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".
- Select the correct cause from the drop-down menu under "Alarm".

The alarms will be displayed according to the selected filter.



To deselect the alarms, click on "Reset".

The selection is discarded and all alarms are listed.



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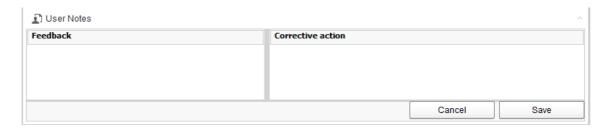
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### 5.2 Acknowledging an alarm

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.

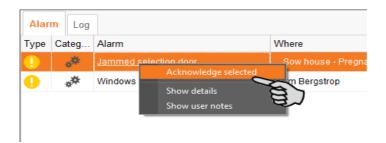
1. Save a note for an alarm before acknowledging it, if required.

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.



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.

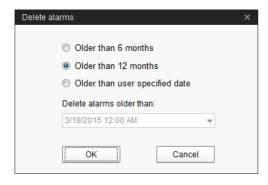
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### 5.3 Alarm log

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:



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



3. Click on "OK".

All alarms within the selected time period are deleted.



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#### 5.4 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

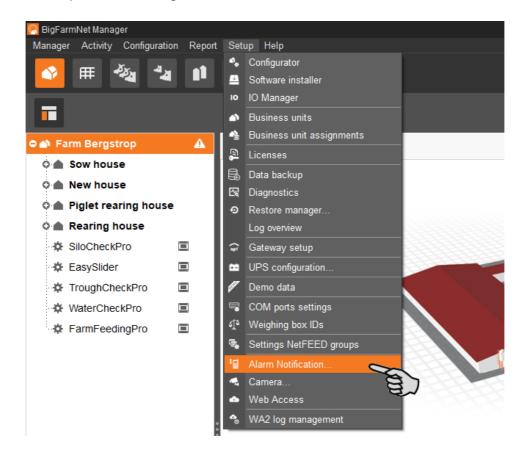
### i NOTICE!

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.

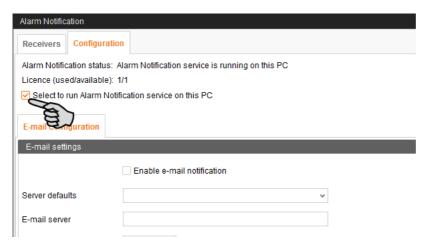
This opens the dialog window "Alarm Notification".



CallBackpro

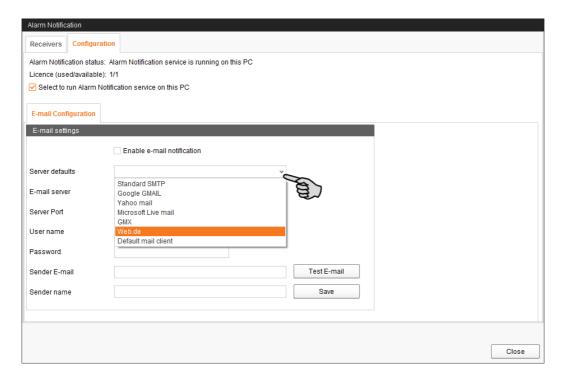
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2. Activate the Alarm Notification service under "Configuration".



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

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



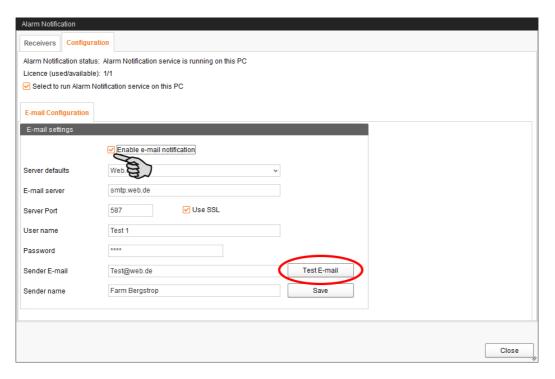
Enter the **user name**, the **password** and the **sender email**.



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



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

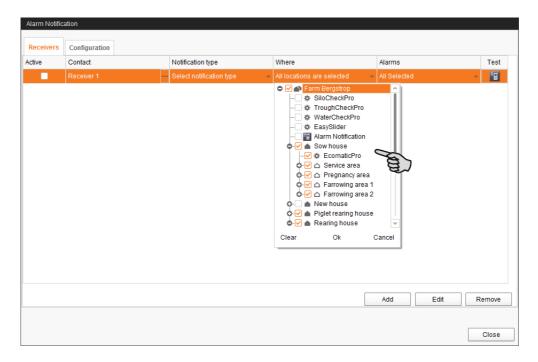


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8. Enter the contact details and select the correct language.



- Confirm your inputs 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.

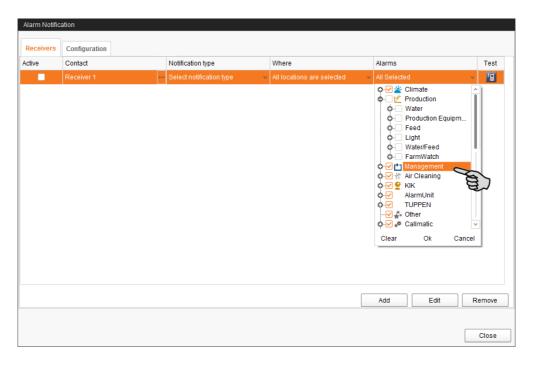


12. Confirm your selection by clicking on "OK" in the drop-down menu.

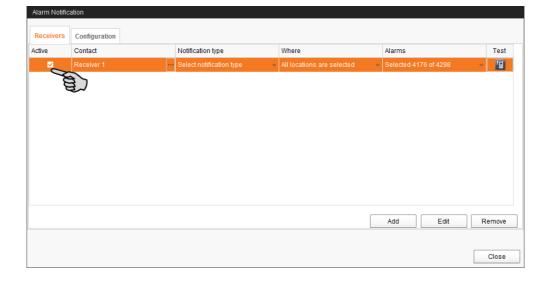


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Under Alarms, select which type of alarms the recipient should receive.
 You may select multiple alarm types.

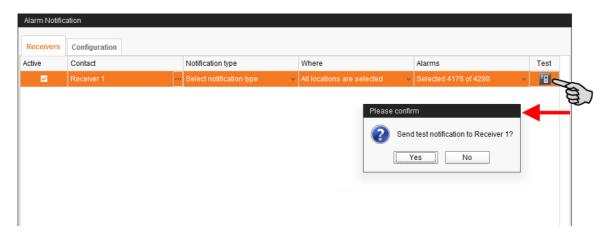


- 14. Confirm your selection by clicking on "OK" in the drop-down menu.
- 15. Activate the recipient for alarm notifications.



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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 "Yes".



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

This closes the dialog window.



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Service Access Page 65

### **6 Service Access**

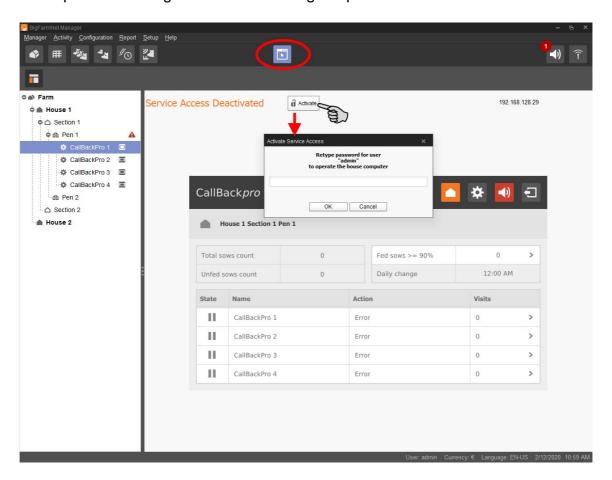
The "Service Access" function mirrors the display of the control computer or climate computer and its control functions in BigFarmNet Manager to provide remote control.

### i 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 controller icon of the respective system application in the farm structure.
- In the tool bar, click on Service Access".
   The application window shows the display of the connected control computer.
   Remote control is deactivated for now.
- 3. Click on "Activate".

This opens the dialog window for entering the password.



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

BigFarmNet manager

# 7 Operation of the control computer



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

All control computer data is transferred to the Manager PC in the farm office. The control

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

#### 7.1 Technical data

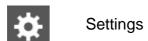
Dimensions (H x W x D)	381 mm x 400 mm x 170 mm	
Protection degree according to	IP 54	
EN60529		
Supply voltage	115 V, 200 V and 230 V/240 V AC +/- 10 %	
Supply frequency	50/60 Hz	
Power consumption	75 VA	
Network	2 network interfaces, 10/100 BASE+TX RJ 45	
USB	2 USB interfaces, USB 2.0 type A, max. 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	



CallBackpro

### 7.2 Icons





Logout

(Alarm

An alarm is active.

Feed curve

Information on the settings parameter

Return to previous view

Open additional information or settings

Scroll up / down in selection

Collapse structure

**Expand structure** 

Network configuration



Go to the next edit / settings window



Save



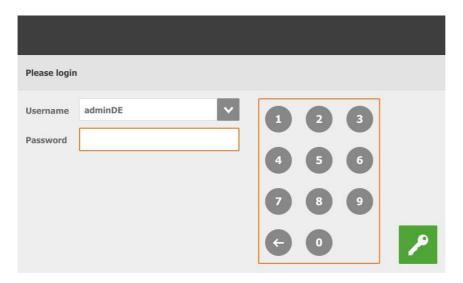
Login

# 7.3 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.



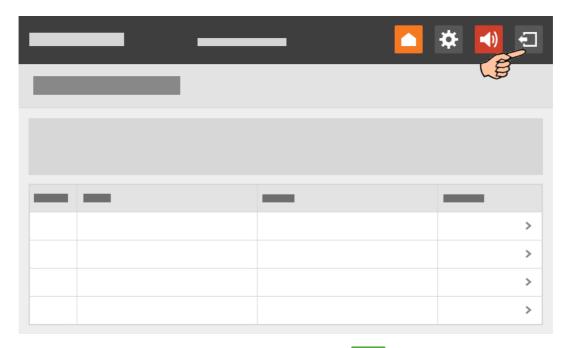
# **NOTICE!**

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



# 7.4 Logout

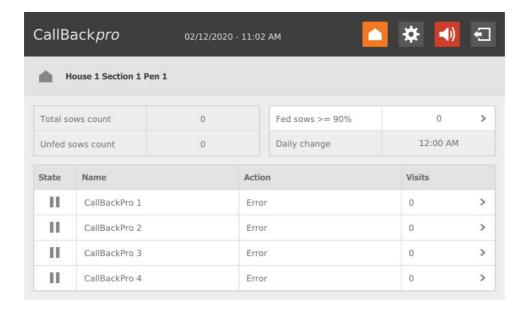
1. Tap on the "Logout" icon to log out.



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

### 7.5 Start screen

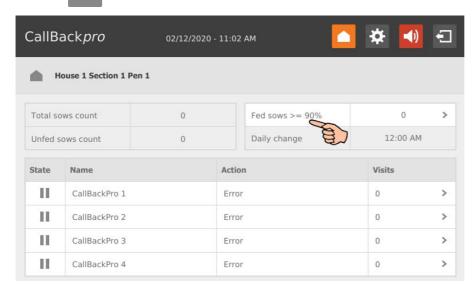
After logging in, an overview of the assigned ESF stations appears as start screen.



### 7.5.1 Feeding statistics

From the start screen, open the feeding statistics by tapping on "Fed sows". A view that cannot be edited opens.

Tap on to return to the start screen.

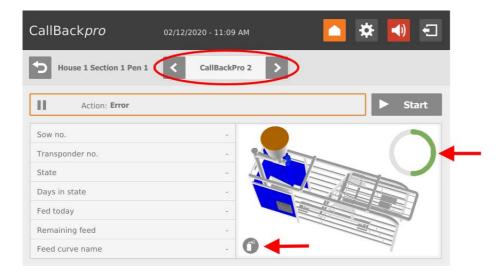


#### 7.5.2 Individual view ESF station

Tapping on the desired ESF station in the start screen opens the individual view of this ESF station. This view shows information regarding the sow currently inside the ESF station.

The color marking planned as required and the amount of already dispensed share of the daily ration are indicated.

This view cannot be edited. It is similar to the **Equipment** view in BigFarmNet Manager, see chapter 4.10.





At the top, use the arrows pointing to the left and to the right to switch from one station to the next.

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

Tap on to return to the start screen.

### 7.6 Settings

You may configure settings directly at the control computer. Parameters definitions are available in the stated chapters. A short explanation is displayed when you tap on .

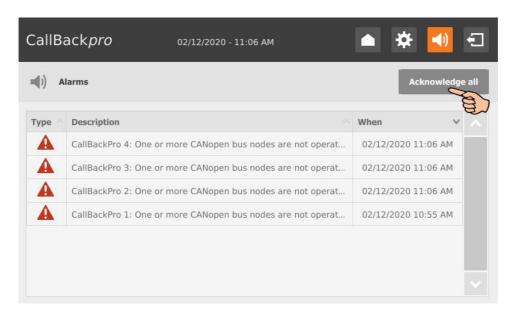


- **General**, chapter 4.2 "General"
- Station, chapter 4.3 "Station"
- Dosing, chapter 4.4 "Dosing"
- Parity, chapter 4.5 "Parity"
- Alarm settings, chapter 4.6 "Alarm settings"
- Heat detector, chapter 4.7 "Heat detector (optional)"
- Time relay, chapter 4.9 "Time relay"

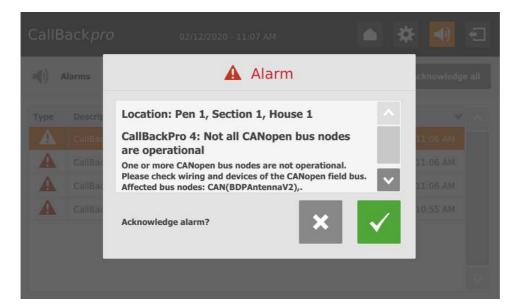
#### 7.7 Alarms

If there is an active alarm or warning, the alarm icon is colored . Tap on the icon to open the alarm log. You can either

acknowledge all alarms at once



or open each alarm individually and acknowledge it by tapping on





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