

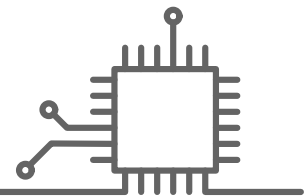


# Original operating manual

ISOBUS software

IceTiger

This operating manual is valid as of software version NW290-D



SmartLearning





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# About this operating manual

# 1

CMS-T-00000539-E.1

## 1.1 Meaning of the operating manual

CMS-T-006245-A.1

The operating manual is an important document and a part of the implement. It is intended for the user and contains safety-related information. Only the instructions provided in the operating manual are reliable. If the operating manual is not observed, it can result in serious injury or death.

1. The safety section must be completely read and observed before initial operation of the implement.
2. Before starting work, also read and observe each section of the operating manual.
3. Keep the operating manual available.
4. Hand over the operating manual to the subsequent user.

## 1.2 Diagrams

CMS-T-005676-C.1

### 1.2.1 Warnings and signal words

CMS-T-00002415-A.1

Warnings are marked with a vertical bar with a triangular safety symbol and the signal word. The signal words "**DANGER**", "**WARNING**" or "**CAUTION**" describe the severity of the potential danger and have the following meanings:



#### **DANGER**

- Indicates a direct threat with high risk for severe physical injury, such as loss of limbs or death.



## WARNING

- Indicates a possible threat with moderate risk for severe physical injury or death.



## CAUTION

- Indicates a threat with low risk for light or moderately severe physical injuries.

### 1.2.2 Further instructions

CMS-T-00002416-A.1



## IMPORTANT

- Indicates a risk for damage to the implement.



## ENVIRONMENTAL INFORMATION

- Indicates a risk for environmental damage.



## NOTE

Indicates application tips and instructions for optimal use.

### 1.2.3 Instructions

CMS-T-00000473-B.1

#### Numbered instructions

CMS-T-005217-B.1

Actions that have to be performed in a specific sequence are represented as numbered instructions. The specified sequence of the actions must be observed.

Example:

1. Instruction 1
2. Instruction 2

### 1.2.3.1 Instructions and responses

CMS-T-005678-B.1

Reactions to instructions are marked with an arrow.

Example:

1. Instruction 1

➔ Reaction to instruction 1

2. Instruction 2

### 1.2.3.2 Alternative instructions

CMS-T-00000110-B.1

Alternative instructions are introduced with the word "or".

Example:

1. Instruction 1

or

Alternative instruction

2. Instruction 2

### Instructions with only one action

CMS-T-005211-C.1

Instructions with only one action are not numbered, but rather shown with a arrow.

Example:

▶ Instruction

### Instructions without sequence

CMS-T-005214-C.1

Instructions that do not require a specific sequence are shown as a list with arrows.

Example:

▶ Instruction

▶ Instruction

▶ Instruction

## **1.2.4 Lists**

CMS-T-000024-A.1

Lists without an essential order are shown as a list with bullets.

Example:

- Point 1
- Point 2

## **1.2.5 Item numbers in figures**

CMS-T-000023-B.1

A framed number in the text, e.g. a 1, indicates an item number in an adjacent figure.

## **1.3 Other applicable documents**

CMS-T-00000616-B.1

A list of other applicable documents can be found in the Appendix.

## **1.4 Your opinion is important**

CMS-T-000059-C.1

Dear reader, our operating manuals are updated regularly. Your suggestions for improvement help us to create ever more user-friendly operating manuals. Please send us your suggestions by post, fax or email.

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## Overview of the functions

# 2

CMS-T-00007408-B.1

The IceTiger mounted spreader is operated with the ISOBUS software. The ISOBUS software can be displayed and operated with an ISOBUS control terminal.

**The ISOBUS software includes the following functions:**

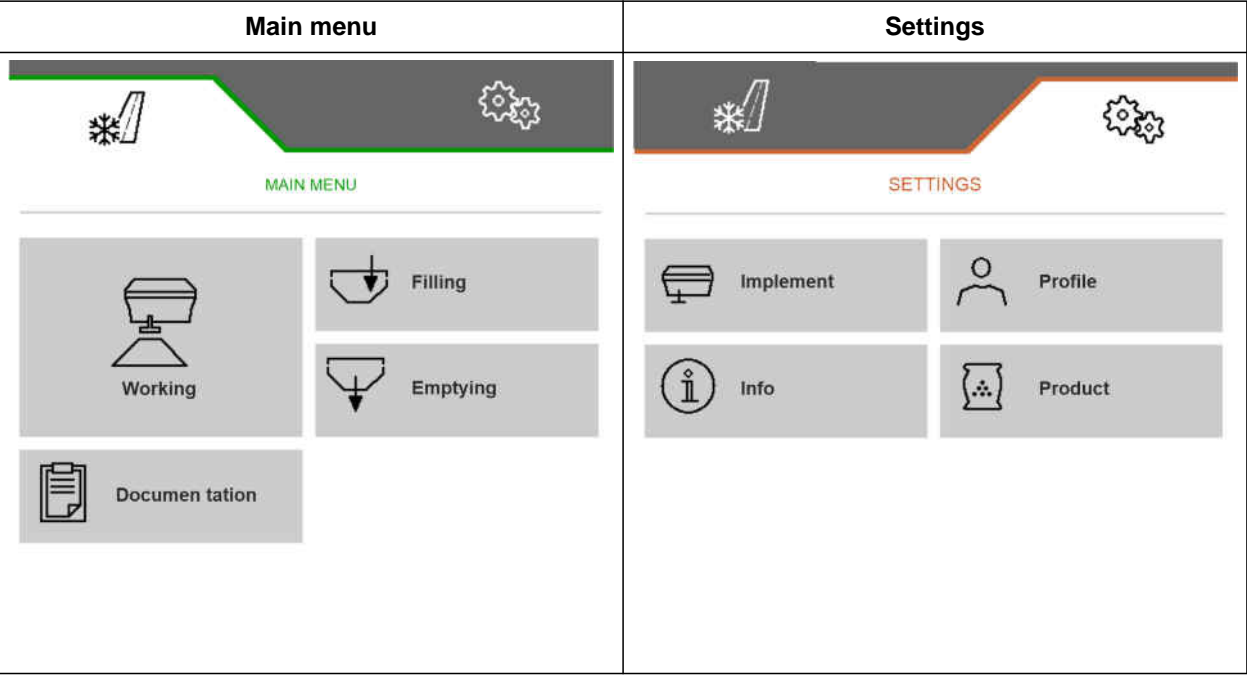
- Entering settings.
- Managing products.
- Using the work lights.
- Using the warning beacon.
- Adjusting the working width.
- Starting or stopping the spreading disc drive.
- Start or stop the spreading material metering unit.
- Starting or stopping the brine addition.
- Changing the spread rate.
- Doubling the spread rate.
- Using the hopper interior lighting.
- Entering the refilled quantity of spreading material.
- Emptying the spreader.
- Monitoring the implement data.
- Documenting work.
- Calling up information.

# User interface at a glance

3

CMS-T-00007409-A.1

The user interface is divided into the Main menu and the Settings menu.



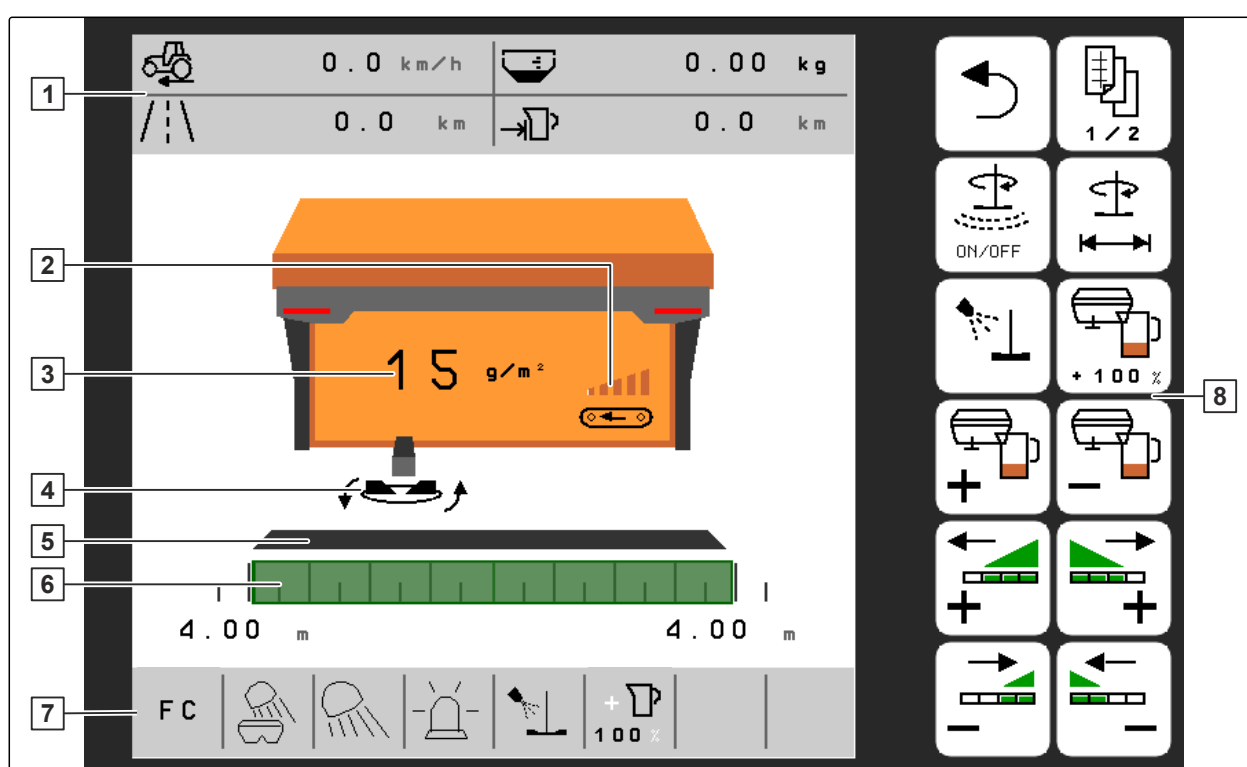
# Work menu

4

CMS-T-00007410-B.1

## 4.1 Overview of the Work menu

CMS-T-00007411-B.1

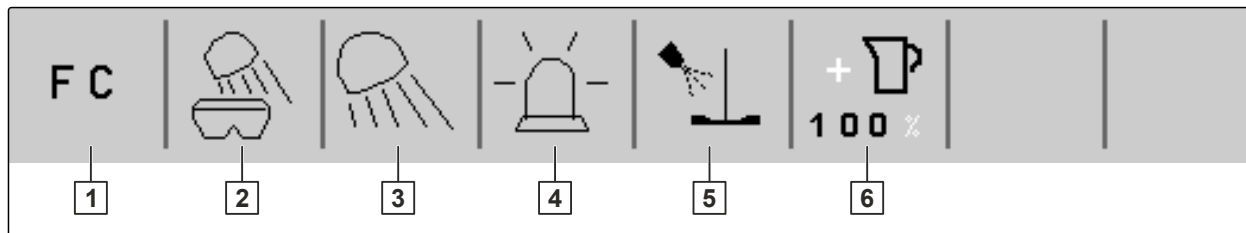


CMS-I-00005373

- |   |   |
|---|---|
| <b>1</b> Multi-function display   | <b>2</b> Display for the implement capacity                   |
| <b>3</b> Display for the target spread rate                             | <b>4</b> Display for the status of the spreading disc drive   |
| <b>5</b> Display for the status of the spreading material metering unit | <b>6</b> Display for the working width and the spreading area |
| <b>7</b> Status bar   | <b>8</b> Button bar   |

## 4.2 Status bar

CMS-T-00007679-B.1



CMS-I-00005375

- |   |   |
|---|---|
| <b>1</b> FlowCheck spreading material blockage measurement, available and active when the display is constant or available and in measurement mode for calibration when the display is flashing | <b>2</b> Hopper interior lighting switched on |
| <b>3</b> White or red work lights switched on   | <b>4</b> Warning beacon switched on           |
| <b>5</b> Brine addition started   | <b>6</b> Doubling the spread rate switched on |

## 4.3 Display for the status of the spreading disc drive

CMS-T-00007689-A.1

In the Work menu, a stylised spreading disc shows whether the spreading disc drive is switched on or off.

If the spreading disc is shown in grey, the spreading disc drive is switched off.



CMS-I-00005399

If the spreading disc is shown in black with two arrows on the sides, the spreading disc drive is switched on.



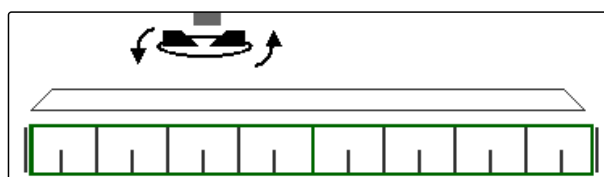
CMS-I-00005400

## 4.4 Display for the status of the spreading material metering unit

CMS-T-00007690-B.1

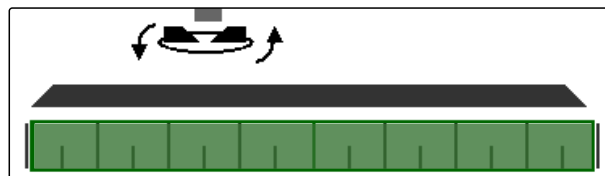
In the Work menu, a bar and the display for the working width and spreading area show whether the spreading material metering unit is switched on or off.

If the bar is shown in white and the display for the working width is not filled, the spreading material metering unit is switched off.



CMS-I-00005449

If the bar is shown in black and the display for the working width is filled in green, the spreading material metering unit is switched on.



CMS-I-00005450

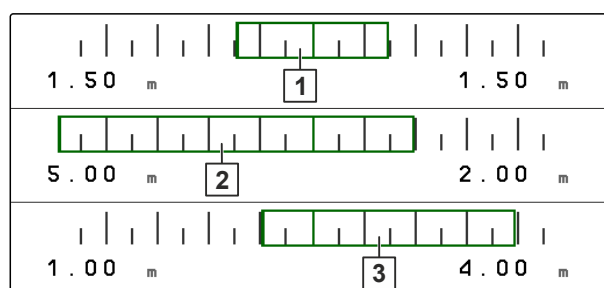
## 4.5 Display for the working width and the spreading area

CMS-T-00007692-A.1

In the Work menu, the working width and the spreading area are shown with a scale with metre specifications and a rectangle. The working width can be increased or reduced separately on the left and right in increments of 0.25 m, 0.5 m or 1 m, depending on the pre-setting. Adjustment of the working width also defines the spreading area and whether it is shifted to the left or right. The set spreading area is shown by a green rectangle on the scale.

When the spreading material metering unit is switched on, the rectangle for the spreading area is filled in green, see page 8.

- 1 Spreading area with a working width of 3 m, aligned at the centre
- 2 Spreading area with a working width of 7 m, shifted all the way to the left
- 3 Spreading area with a working width of 5 m, shifted to the right








CMS-I-00005410






## 4.6 Functions in the button bar

CMS-T-00007680-A.1






Back.	Scroll through the button bar.	Start or stop the spreading material metering unit.	Starting or stopping the spreading disc drive.	Starting or stopping the brine addition.

				
Doubling the spread rate.	Increase the spread rate.	Reduce spread rate.	Increase the working width on the left side and shift the left end of the spreading area to the left.	Increase the working width on the right side and shift the right end of the spreading area to the right.

				
Reduce the working width on the left side and shift the left end of the spreading area to the right.	Reduce the working width on the right side and shift the right end of the spreading area to the left.	Switch the work lights on or off.	Switch the hopper interior lighting on or off.	Switching the warning beacon on or off.

				
Confirm starting of the spreading disc drive.	Start or stop emptying.	Switch the display from day mode to night mode and vice versa.	Manage products and documentation.	Scroll through a menu with several pages.

# Basic operation

# 5

CMS-T-00007695-B.1

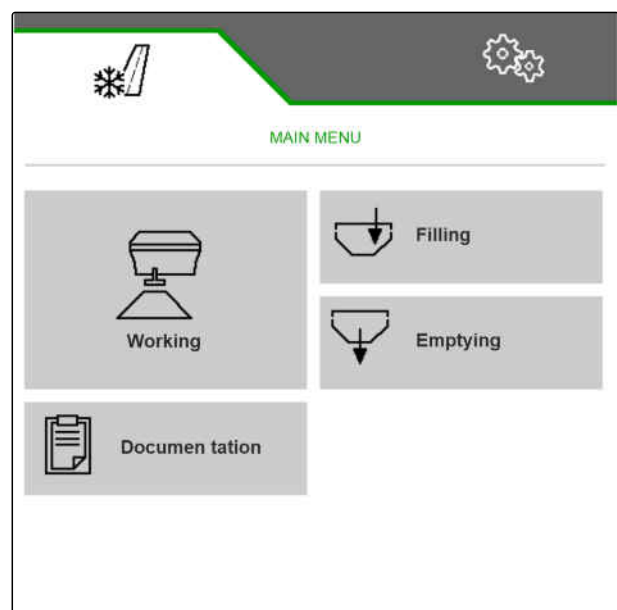
## 5.1 Switching between the Main menu and the Settings

CMS-T-00007698-B.1

After switching on the control terminal, the Main menu is shown when the ISOBUS software is called up. If the network connection of the control terminal was disconnected and reconnected, the password 1883 must be entered and confirmed the first time the Settings are opened.

1. To switch from the Main menu to the settings,


select .



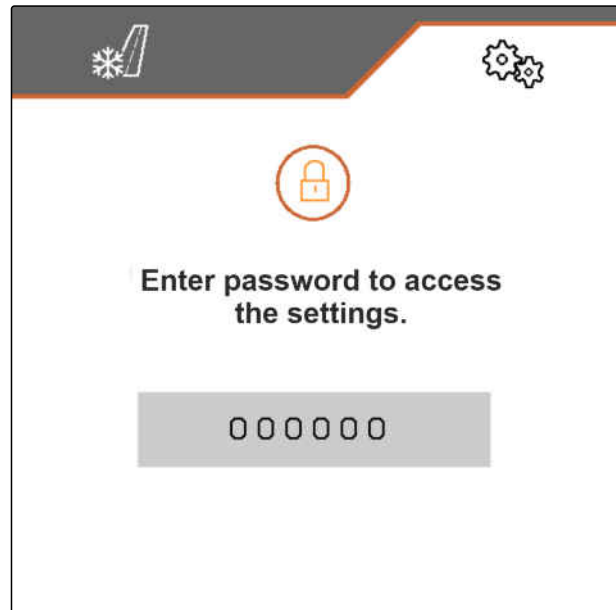
CMS-I-00005370

## 5 | Basic operation


### Switch to the previous menu

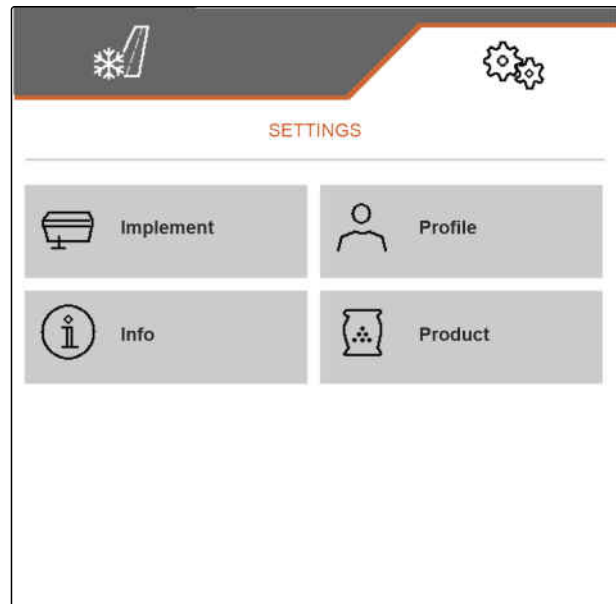
2. When the password entry is opened, enter 1883 and confirm with .

➔ The Settings menu will be shown.



CMS-I-00005458

3. To switch from the settings to the Main menu, select .



CMS-I-00005371

## 5.2 Switch to the previous menu

CMS-T-00007696-A.1

- Select  on the button bar.




### 5.3 Scrolling through the menus and button bar

CMS-T-00007697-A.1

- To scroll through the menus in the settings,

select .

- To scroll through the button bar,

select .

## Entering the settings

# 6

CMS-T-00007699-C.1

### 6.1 Configuring the source for the speed signal

CMS-T-00007700-A.1

#### 6.1.1 Using the speed signal from the ISOBUS

CMS-T-00007701-A.1

To control the implement, a speed signal is required. The speed signal that is transmitted by sensors through the ISOBUS can be used for this.

1. In the "Settings" menu, select "Implement" > "Speed".

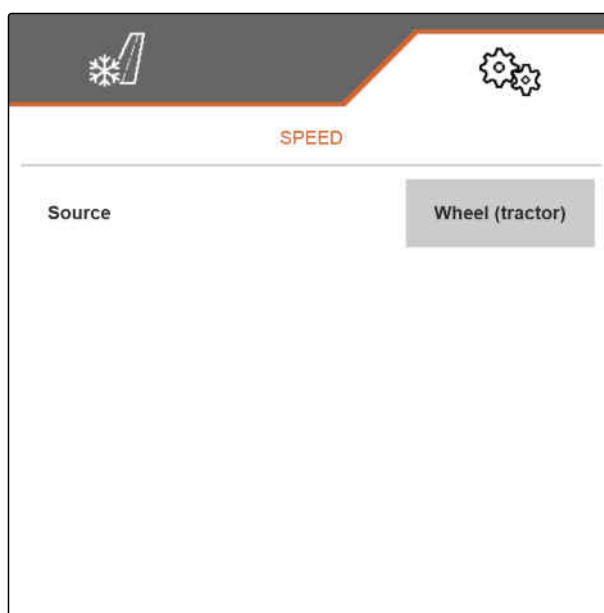
Only existing sources will be shown. If, for example, a speed is not available from "Radar (tractor)", this selection option will also not be offered.

2. Under "Source", select "Wheel (tractor)", "Radar (tractor)" or "Satellite (NMEA2000)".

#### NOTE

Inaccurate sources for the speed signal cause faulty control.

3. Check the accuracy of the utilised source for the speed signal.



CMS-I-00005413

#### 6.1.2 Configuring the simulated speed

CMS-T-00007702-A.1

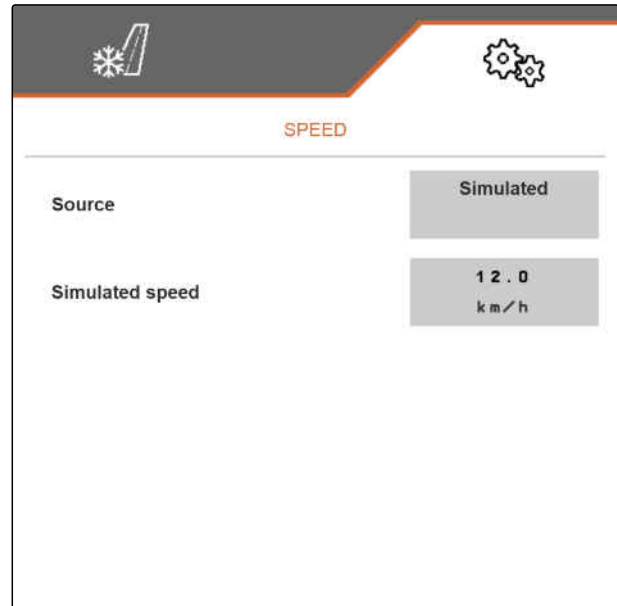
To control the implement, a speed signal is required. If no speed signal is available, the simulated speed can be used.



#### NOTE

The simulated speed must be maintained during operation. When a speed signal is detected, the simulated speed will be deactivated.

1. In the "Settings" menu, select "Implement" > "Speed".
2. Under "Source", select "Simulated".
3. Under "Simulated speed", enter the desired speed.



CMS-I-00005412

## 6.2 Configuring the start-up ramp

CMS-T-00007703-A.1

The spread rate for the spreading material depends on the working speed. When the implements starts moving, less material is spread. The start-up ramp prevents too little spreading material from being spread. As long as the regular working speed has not been reached, spreading will be regulated based on the intended speed.

## 6 | Entering the settings

### Configuring the hopper fill level monitoring

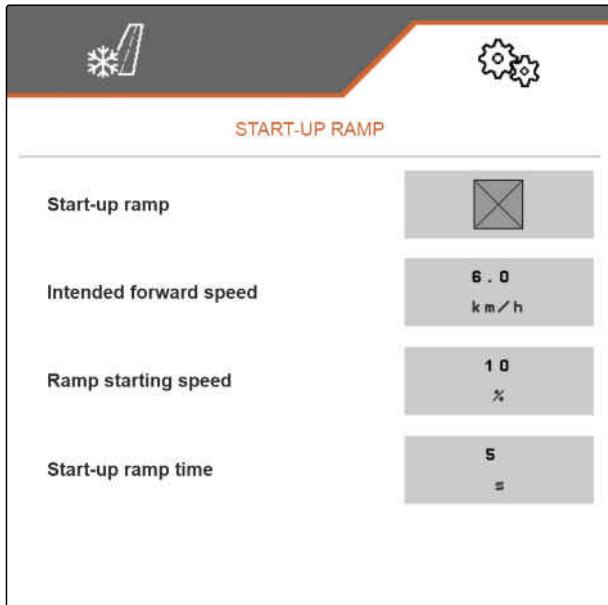
1. In the "Settings" menu, select "Implement" > "Start-up ramp".
2. Activate the start-up ramp under "Start-up ramp".
3. Enter the desired speed for the spread rate regulation under "Intended speed".

The ramp start speed is a percent value of the intended speed at which spreading starts.

4. Enter the desired percent value under "Ramp start speed".

Time passes until the working speed increases from the ramp start speed to the regular working speed. This time is the duration of the start-up ramp.

5. Enter the time in seconds under "Duration of the start-up ramp".



Start-up ramp	<input type="checkbox"/>
Intended forward speed	6.0 km/h
Ramp starting speed	10 %
Start-up ramp time	5 s

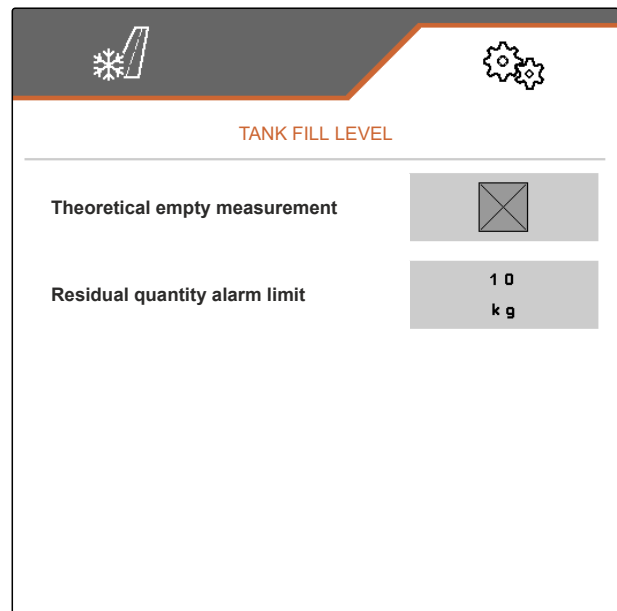
CMS-I-00005418

### 6.3 Configuring the hopper fill level monitoring

CMS-T-00009028-A.1

When the hopper fill level monitoring is switched on, the current fill level and the current spread rate are used to calculate how much spreading material is still available. As soon as the available quantity of spreading material falls below the quantity entered under "Residual quantity alarm limit" during operation, a warning is shown in the Work menu that the low level will soon be reached.

1. In the "Settings" menu, select "Implement" > "Hopper fill level".
2. Activate the hopper fill level monitoring under "Theoretical empty measurement".
3. Under "Residual quantity alarm limit", enter the desired spreading material quantity in kg at which a low level warning is shown in the Work menu when the fill level falls below this level.





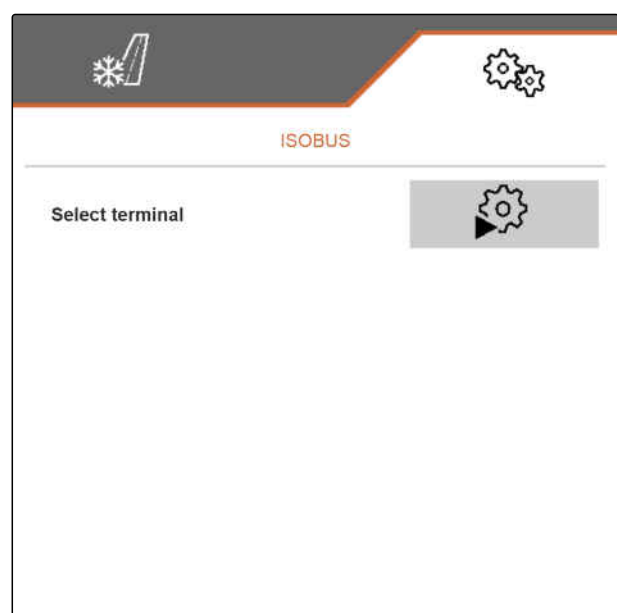
CMS-I-00006226

## 6.4 Assigning the control terminal

CMS-T-00007705-B.1

If multiple terminals are connected, a terminal must be set for implement operation. If only one control terminal is connected, this control terminal is automatically selected for implement operation.

1. In the "Settings" menu, select "Profile" > "ISOBUS".
2. Under "Select terminal", select the desired control terminal from the list.
3. Confirm the selection with  or  
Discard the selection with .



CMS-I-00005420


## 6.5 Setting the display

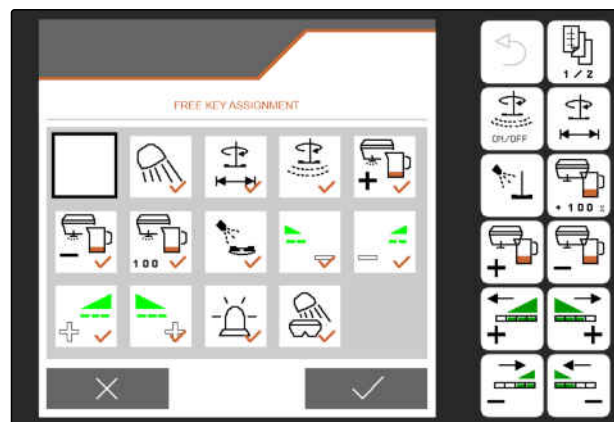
CMS-T-00007706-B.1

### 6.5.1 Configuring the assignment of the Work menu button bar

CMS-T-00007707-B.1

The assignment of the Work menu button bar can be configured. To do so, an overview of all functions is shown on the left side and the button bar is shown on the right side. Functions that are already used have an orange checkmark in the overview of all the functions.

1. In the "Settings" menu, select "Profile" > "Free button assignment".
  2. Select the desired function from the overview of all functions.
- ➔ The selected function will be framed in black.
3. In the button bar, use  to scroll to the page where the button to be assigned should be located.
  4. Select the desired button in the button bar.



CMS-I-00005421

- ➔ The selected button is assigned to the selected function.

5. Assigning other buttons

or

Confirm the assignment with .

or

reject the assignment with .

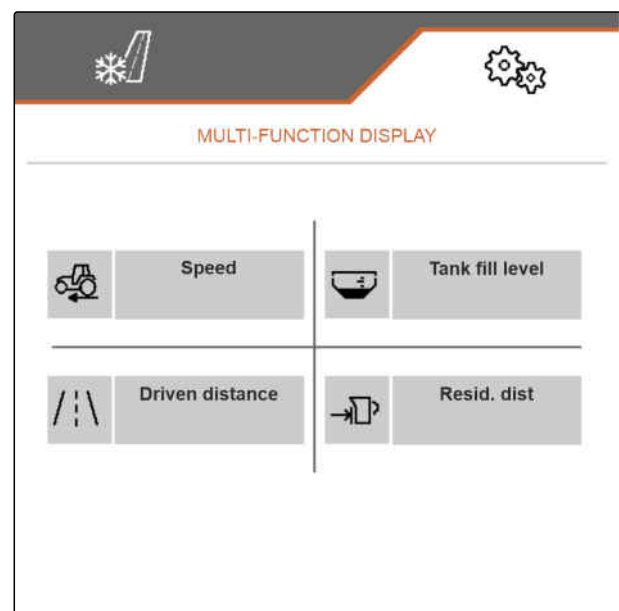
### 6.5.2 Changing the multi-function display

CMS-T-00007708-B.1

7 different values can be displayed in the Work menu on the multi-function display. The following table contains all of the available values.

Value	Explanation
Speed	Current speed in km/h
Hopper fill level	Quantity of spreading material still available in the spreading material hopper in kg
Driven distance	Driven distance in km
Remaining distance	Distance in km that can still be worked with the remaining quantity of spreading material
Spreading disc nominal speed	Nominal speed of the spreading disc in rpm resulting from the selected working width and the desired target spread rate
Speed of the floor belt drive	Conveying speed of the floor belt in cm/s
Brine pump speed	Speed of the brine pump in revolutions per minute (rpm)

1. In the "Settings" menu, select "Profile" > "Multi-function display".
2. To change a display, select the desired display.  
➔ A list with the available values will be displayed.
3. Select the desired value from the list.
4. Confirm the selection.



CMS-I-00005423

### 6.5.3 Switching between day mode and night mode

CMS-T-00008044-A.1

- To switch the display from day mode to night mode and vice versa, select .

# Managing products

7

CMS-T-00007711-C.1

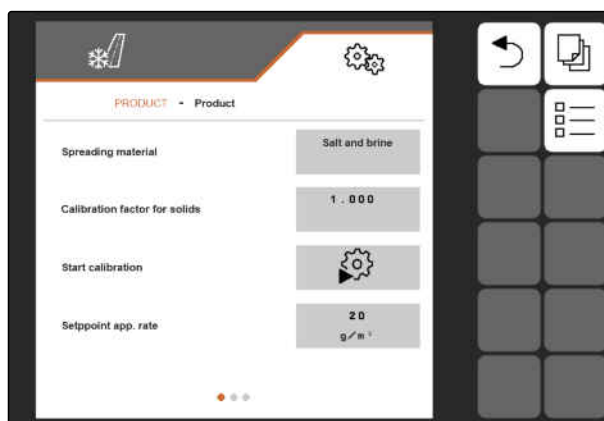
## 7.1 Creating a new product

CMS-T-00007712-C.1

In a product, all of the settings that can be made in the "Product" menu are saved. In the delivery condition, a product has already been configured. The configured product is named "Product".


1. In the "Settings" menu, select "Product".

2. select .




CMS-I-00005427

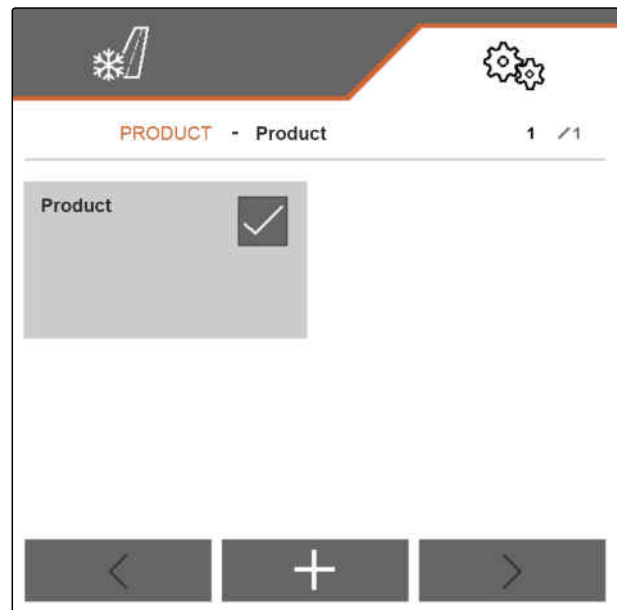


3. select .

or

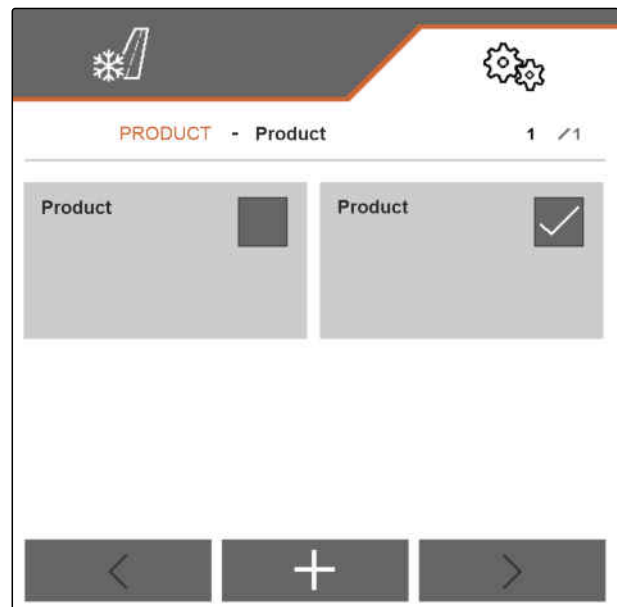
Call up the existing product and select .

➔ A new product has been created and activated.




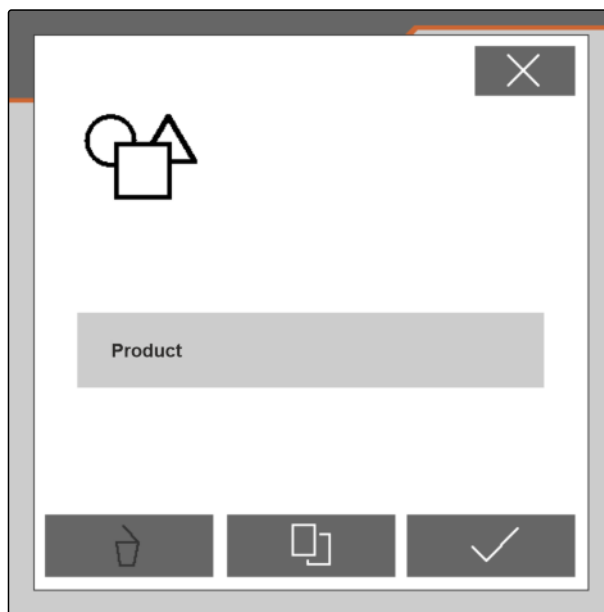
CMS-I-00005430

4. Select the newly created product.



CMS-I-00005429

5. Enter the product name.
  6. Confirm the entry with .
- ➔ The new product is named.



CMS-I-00005428

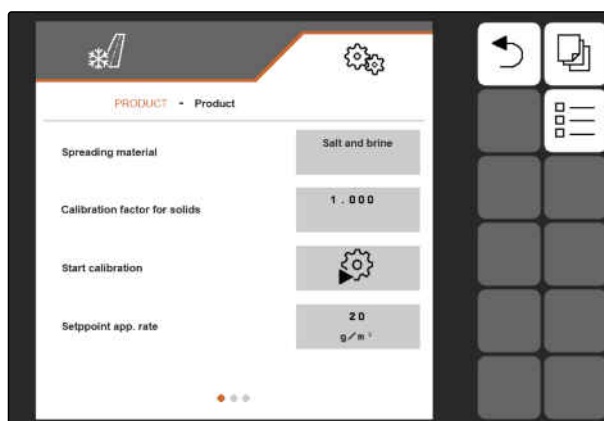
## 7.2 Activating a product

CMS-T-00007713-B.1

If there is more than one product, a product other than the active product can be activated.

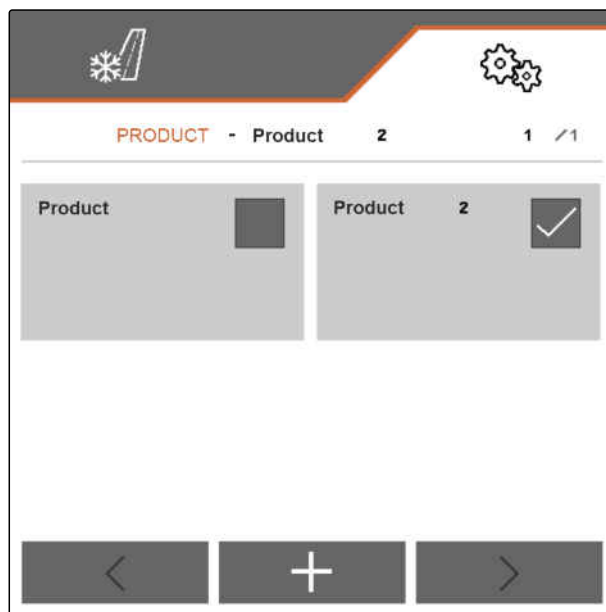
1. In the "Settings" menu, select "Product".

2. select .



CMS-I-00005427

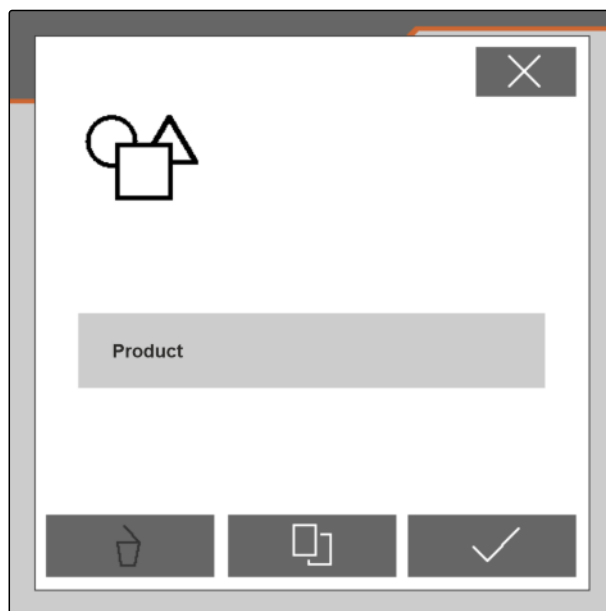
3. Select the desired product.



CMS-I-00005431

4. Confirm the desired product with ✓.

➔ The desired product is activated.



CMS-I-00005428

## 7.3 Renaming a product

CMS-T-00007716-B.1

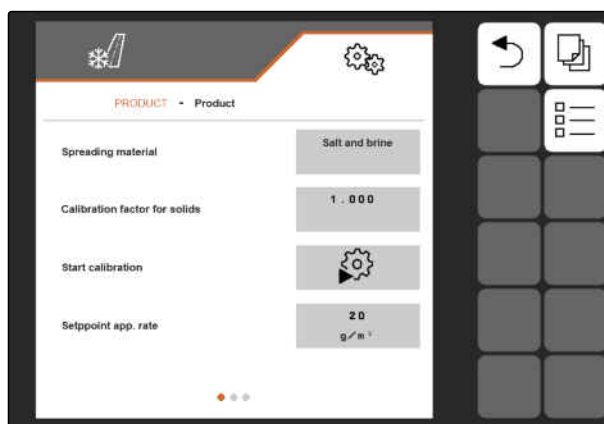
Each product can be renamed as required.

## 7 | Managing products

### Renaming a product

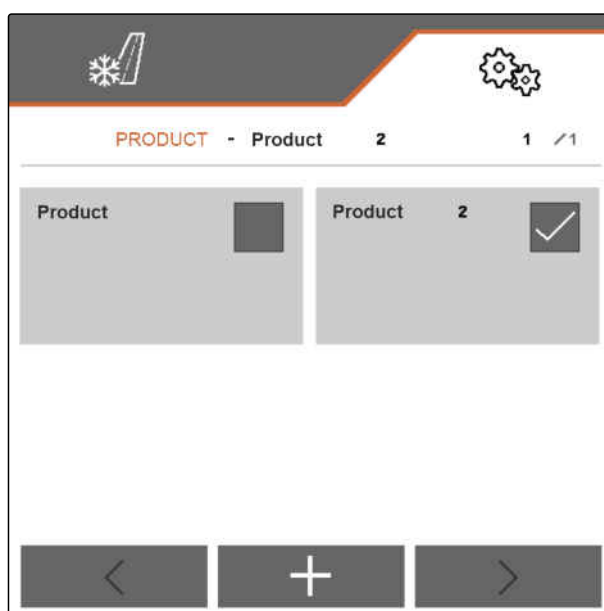
1. In the "Settings" menu, select "Product".

2. select .




CMS-I-00005427

3. Select the product to be renamed.



CMS-I-00005431

4. Enter a new product name.

5. Confirm the entry with .

➔ The product is renamed.




CMS-I-00005428

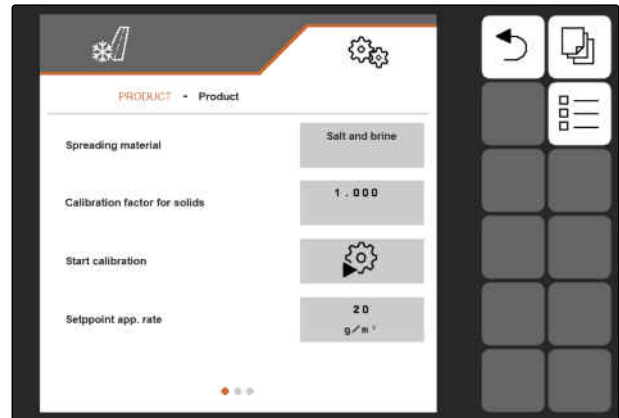
## 7.4 Deleting a product

CMS-T-00007717-B.1

Only deactivated products can be deleted. A last activated product must always exist and cannot be deleted.

1. In the "Settings" menu, select "Product".

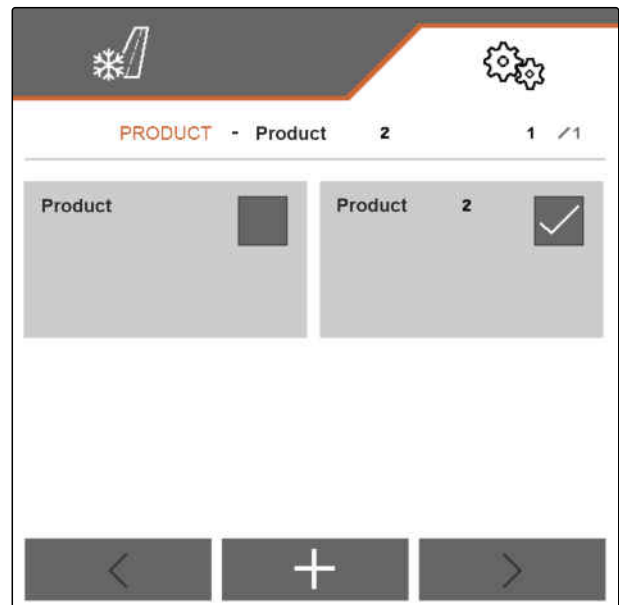
2. select .




CMS-I-00005427

3. If the product to be deleted is activated, activate a different product, see page 22.

4. Select a product to be deleted.



CMS-I-00005431

5. select .

➔ The product is deleted.



CMS-I-00005432

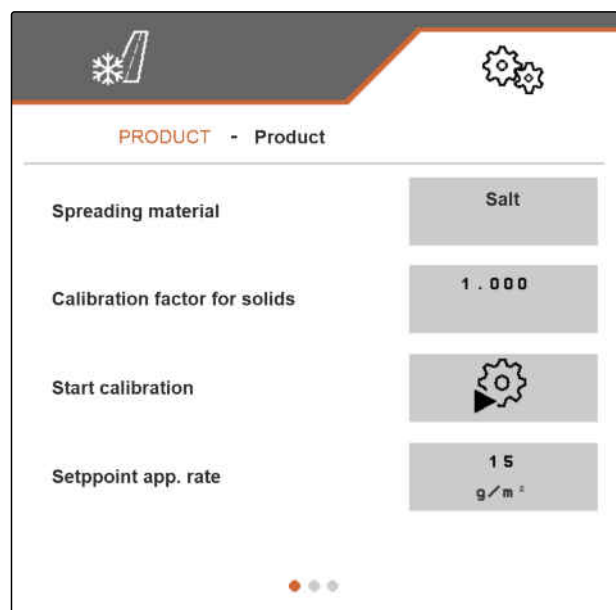
## 7.5 Configuring a product

CMS-T-00007849-B.1

### 7.5.1 Selecting a spreading material

CMS-T-00007850-B.1

1. In the "Settings" menu, select "Product".
2. Activate the product for which the spreading material should be selected, see page 22.
3. Under "Spreading material", select "Grit", "Salt" or "Salt and brine".
4. Confirm the selected spreading material.









CMS-I-00005557


## 7.5.2 Defining values for the rate and increments

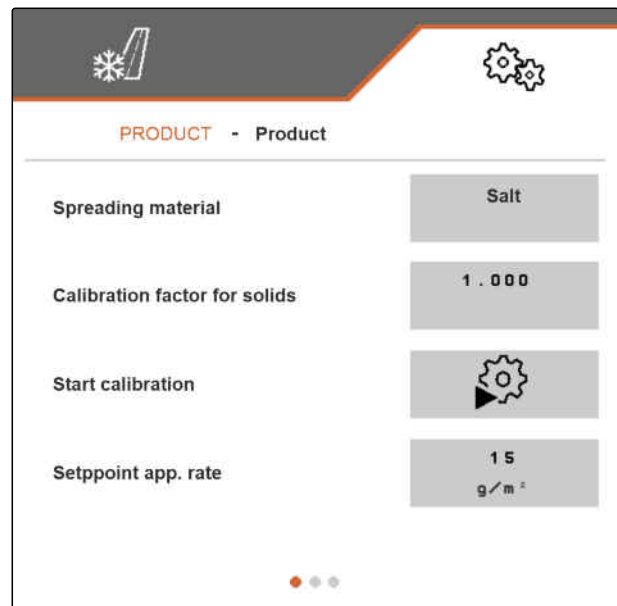
CMS-T-00007860-B.1

In the "Product" menu, the following values are defined:

- The value for the target spread rate in  $\text{g}/\text{m}^2$  that is used by the Work menu as the initial value
- The value for the rate increments in g by which the spread rate is increased or reduced when pressing the  and  buttons in the Work menu
- The value for the increments in m by which the working width is increased or reduced and the edges of the spreading area are shifted to the left or right when pressing the , ,  and  buttons in the Work menu

The value defined for the target spread rate is also used for the calibration.

1. In the "Settings" menu, select "Product".
2. Activate the product for which the values should be defined, see page 22.
3. Enter the desired value under "Target spread rate".
4. Confirm the value.
5. Scroll to the second page of the menu with .



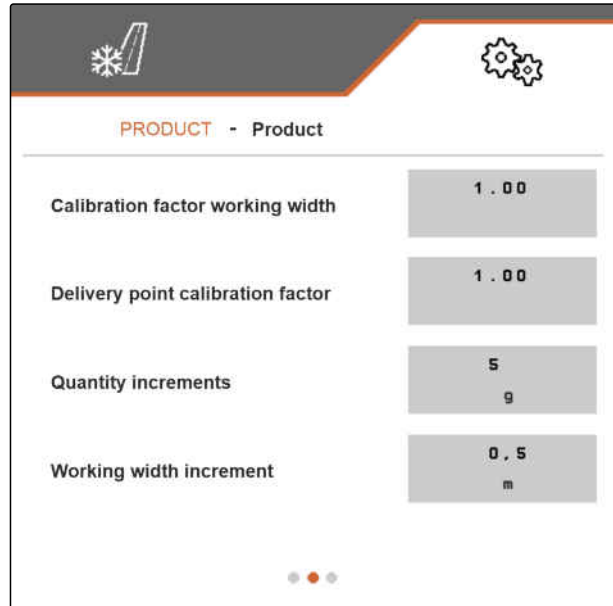
CMS-I-00006230

6. Enter the desired value under "Rate increment".
7. Confirm the value.

### NOTE

If "Salt and brine" is set under "Spreading material", the "Working width increment" menu item can be found on the third page of the menu.

8. Under "Working width increment", select "0.25", "0.5" or "1".
9. Confirm the selection.




CMS-I-00005462

## 7.5.3 Calibrating solid spreading material


If the set and the actual spread quantity of solid spreading material do not match, the quantity can be adjusted with a calibration factor. The new calibration factor will be determined during the calibration.

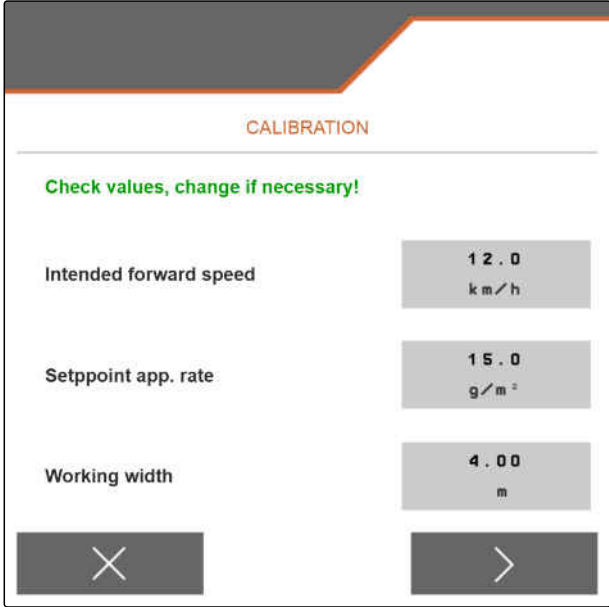
1. In the "Settings" menu, select "Product".
2. Activate the product for which the solid spreading material should be calibrated, see page 22.
3. Start the calibration under "Start calibration".



CMS-I-00005557



4. Check the values shown under "Intended speed", "Target spread rate" and "Working width".
5. If the values shown do not match, change the respective value shown under "Intended speed", "Target spread rate" or "Working width".
6. Confirm the respective changed value.
7. Continue with  .




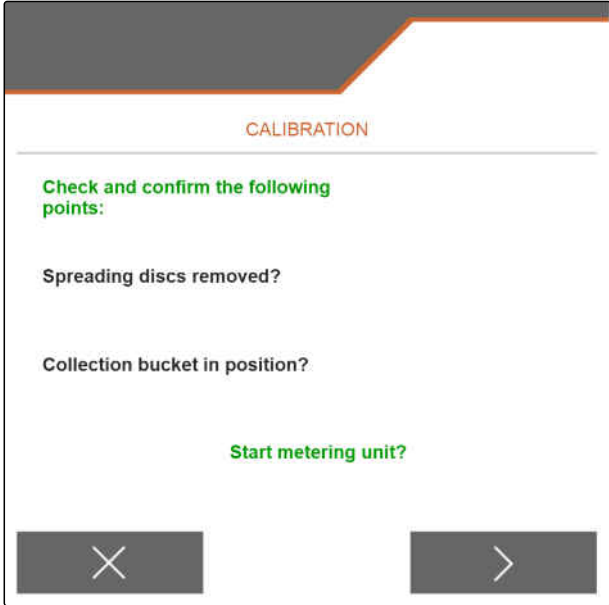
The screenshot shows a calibration screen with the title "CALIBRATION" in orange. Below the title, a green message says "Check values, change if necessary!". There are three input fields with labels and values:

Label	Value	Unit
Intended forward speed	12.0	km/h
Setpoint app. rate	15.0	g/m <sup>2</sup>
Working width	4.00	m

At the bottom, there are two large buttons: a grey button with a white 'X' on the left and a grey button with a white right arrow on the right.

CMS-I-00005464

8. Prepare the implement for calibration according to section "Preparing the spread rate check" in the operating manual for the IceTiger 1000 mounted spreader.
9. If the points shown on the display are fulfilled, Continue with  .





The screenshot shows a calibration screen with the title "CALIBRATION" in orange. Below the title, a green message says "Check and confirm the following points:". There are two checklist items:

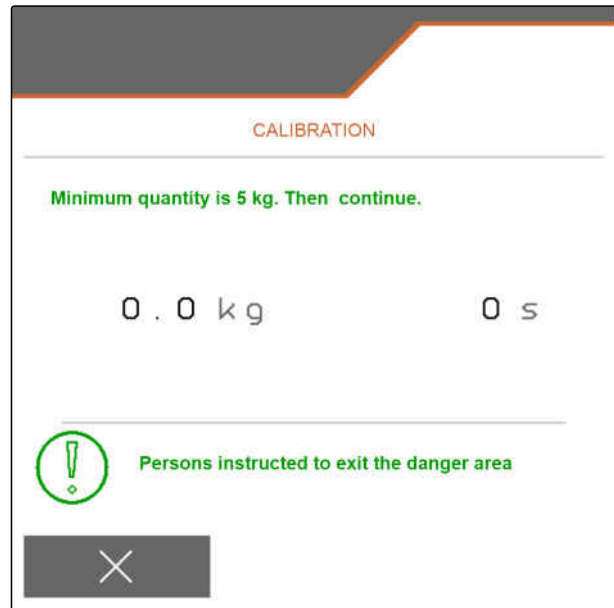
- Spreading discs removed?
- Collection bucket in position?

Below the checklist, a green message says "Start metering unit?". At the bottom, there are two large buttons: a grey button with a white 'X' on the left and a grey button with a white right arrow on the right.


CMS-I-00005465

10. Start the spreading disc drive with .
11. Confirm starting of the spreading disc drive with .

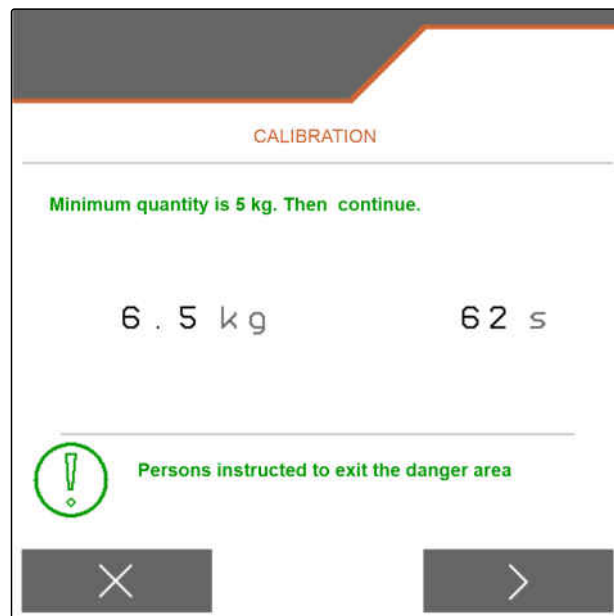
➔ The spreading material metering unit starts up. The display shows how much spreading material has already been spread and how long the spreading material metering unit is already running.




CMS-I-00005476

12. Select  as soon as the display shows that at least 5 kg of spreading material have been spread.

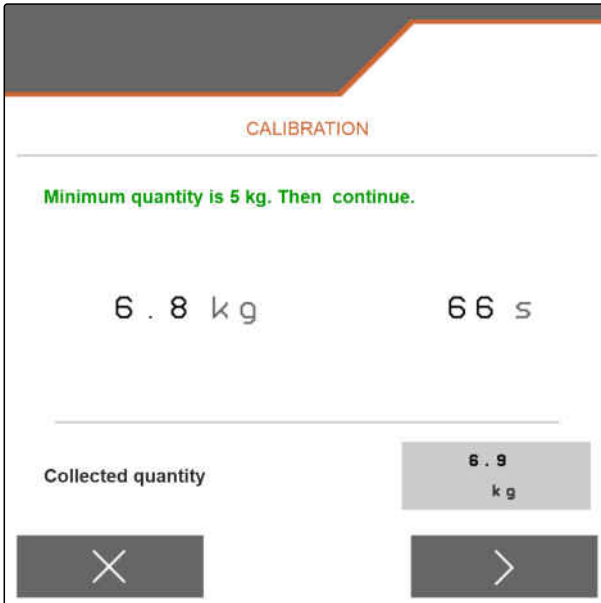
➔ The spreading material metering unit is stopped. The next page of the menu is shown.





CMS-I-00005541

13. Weigh the collected quantity of spreading material.
14. Enter the weight of the collected quantity under "Collected quantity".
15. Continue with .

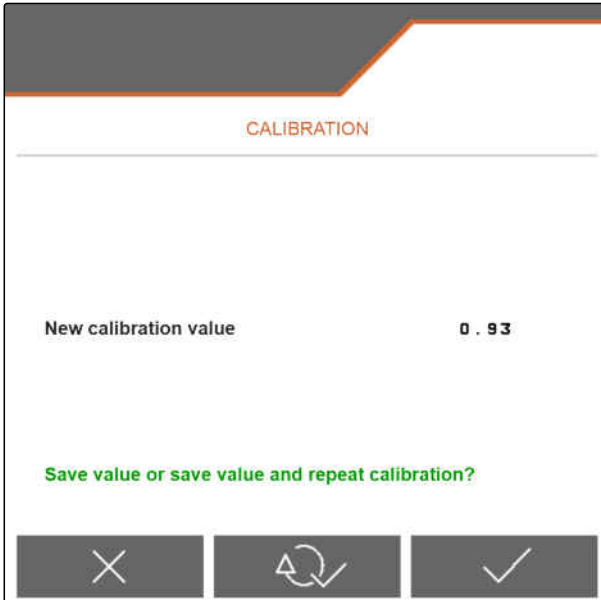
➔ The new calibration factor will be calculated.



CMS-I-00005543

16. Save the displayed new calibration factor with  or  
or  
*To save the displayed calibration factor and to repeat the calibration for optimisation,*  
select   
or

Reject the displayed calibration factor with .



CMS-I-00005542


## 7.5.4 Adjusting the working width

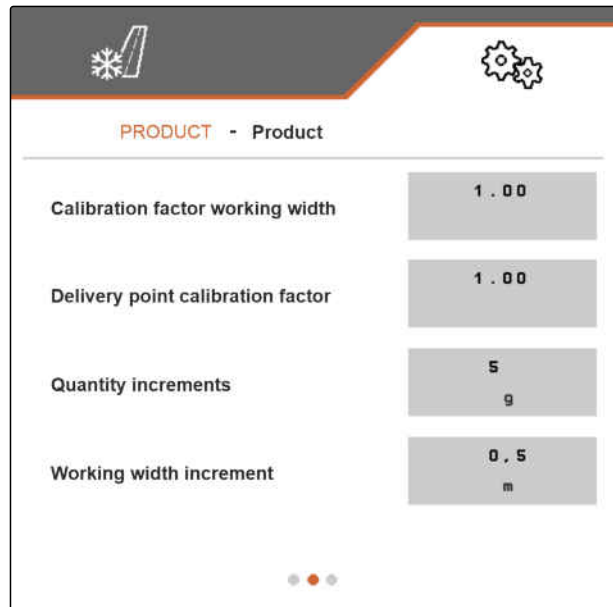
CMS-T-00007868-B.1

If the set and the actual working width do not match, the working width can be adjusted with a calibration factor.

**To calculate the calibration value, the following values are required:**

- Current working width calibration factor "K"
- Set working width "A" in metres
- Actual working width "X" in metres

1. To determine the current calibration factor  $K$ , select "Product" in the "Settings" menu.
2. Activate the product for which the working width should be adjusted, see page 22.
3. Scroll to the second page of the menu with .
4. Record the current calibration factor  $K$  under "Working width calibration factor".
5. To determine the set working width, select "Working" in the Main menu.
6. In the work menu, determine the set working width  $A$ .
7. Determine the actual working width " $X$ ".



PRODUCT - Product

Calibration factor working width	1.00
Delivery point calibration factor	1.00
Quantity increments	5 g
Working width increment	0.5 m


CMS-I-00005462

8. Calculate the new calibration factor  $K_{\text{new}}$  with the formula shown on the right and the determined values.
9. To enter the current calibration factor  $K_{\text{new}}$ , select "Product" in the "Settings" menu.

$$K_{\text{new}} = \frac{A}{X} \cdot K$$

$K_{\text{new}} = \underline{\hspace{2cm}}$


CMS-I-00003753

10. Scroll to the second page of the menu with .
11. Enter the new calibration factor  $K_{\text{new}}$  under "Working width calibration factor".
12. Confirm the value.

### 7.5.5 Adjusting the spreading area

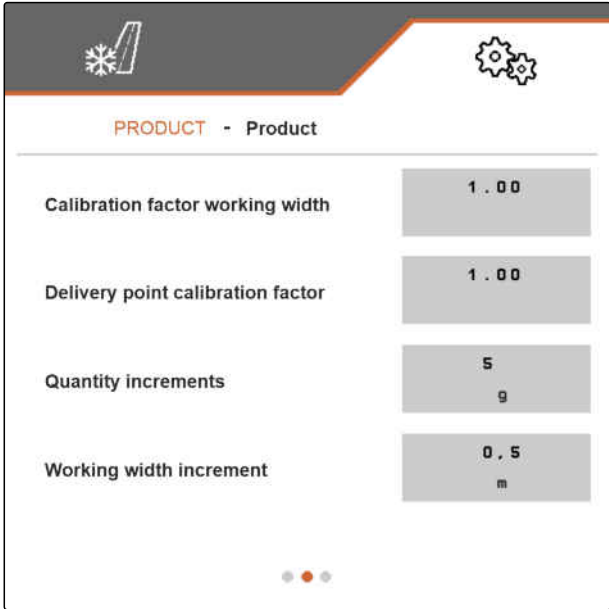
CMS-T-00007869-B.1

If the set and the actual spreading area do not match, the spreading area can be adjusted with a calibration factor.

1. In the "Settings" menu, select "Product".
2. Activate the product for which the spreading area should be adjusted, see page 22.
3. Scroll to the second page of the menu with .
4. Enter the new calibration factor for the spreading area under "Delivery point calibration factor".

For the new calibration factor, a value ranging from 0.90 to 1.10 can be entered. A value greater than 1.00 causes turning of the spreader unit and shifting of the spreading area to the right. A value lower than 1.00 causes turning of the spreader unit and shifting of the spreading area to the left.

5. Confirm the value.



CMS-I-00005462

## 7.5.6 Calibrating the brine addition


CMS-T-00007867-B.1

If the desired and the actual quantity of added brine do not match and the pre-wetted salt produced for spreading does not have the right mixing ratio of dry salt and brine, the brine addition can be adjusted with a calibration factor.

1. In the "Settings" menu, select "Product".
2. Activate the product for which "Salt and brine" is configured under "Spreading material" and for which the brine addition should be calibrated, see page 22,

or

Create a new product, see page 20, and configure "Salt and brine" under "Spreading material", see page 26.

3. Scroll to the second page of the menu with .

- Enter the new calibration factor for the brine addition under "*Brine calibration factor*".

If e.g. 10 % too little brine is added and the current calibration factor is 1.000, the calibration factor must be increased to 1.100. If e.g. 5 % too much brine is added and the current calibration factor is 1.000, the calibration factor must be reduced to 0.950.

- Confirm the value.

CMS-I-00005473

### 7.5.7 Configuring FlowCheck blockage detection

CMS-T-00009055-A.1

With the "*Measured value switching limit*", the sensitivity of the blockage detection is set.

- In the "*Settings*" menu, select "*Product*".
- Select Product.
- Enter the value for the "*Measured value switching limit*".

For most spreading materials, default value	1000
Fine-grained saline salt	200
Value range	0 to 65000
High value	Sensitive blockage detection
Low value	Less sensitive blockage detection
Blockage detection 0	No blockage detection

CMS-I-00006231

- Confirm the entry.

# Working

8

CMS-T-00007778-B.1

## 8.1 Using the work lights


CMS-T-00007780-A.1



The work lights are switched on the following sequence:


1. White work lights
2. Red work lights
3. Work lights off

1. In the Main menu, select "Working".


➔ The button bar is shown on the right side.

2. If the  button is not shown in the button bar,

scroll through the button bar with  until the  button is shown.

3. Switch the work lights with .

➔ If the white or red work lights are switched on, the


 icon will be shown in the status bar. If the work lights are switched off, the icon is turned off again.



## 8.2 Using the warning beacon


CMS-T-00007785-A.1


1. In the Main menu, select "Working".


➔ The button bar is shown on the right side.


2. If the  button is not shown in the button bar,

scroll through the button bar with  until the  button is shown.

3. To switch on the warning beacon,  
press the button .

➔ The  icon is shown in the status bar.

4. To switch off the warning beacon,  
press the  button again.

➔ The  icon in the status bar is turned off.





## 8.3 Starting spreading


CMS-T-00007865-B.1



### REQUIREMENTS

- ✓ Spreading material hopper is filled
- ✓ For spreading pre-wetted salt: brine tank is filled
- ✓ Hydraulic system for the spreading disc drive, the spreading material metering unit and the brine pump is switched on
- ✓ Settings are made, see page 14
- ✓ Product is created, see page 20
- ✓ Product is selected, see page 22
- ✓ Product is configured, see page 26

1. In the Main menu, select "Working".
2. Check the set working width and the set spreading area.
3. If the working width and the spreading area are not as required,  
adjust the working width and the spreading area  
with the , ,  and  buttons, see page 38.

4. Start the spreading disc drive with .




5. Confirm starting of the spreading disc drive with



6. Start the spreading material metering unit with



7. If pre-wetted salt should be spread,

switch on the brine addition with .

8. Start driving.



➔ Spreading starts.


➔ If a speed from the ISOBUS is selected under "Source" in the "Speed" menu, see page 14, the metering unit will regulate the spread rate depending on the actual driven speed starting at 0 km/h.

➔ If the "Simulated" option was selected under "Source" in the "Speed" menu, see page 14, the metering unit will regulate the spread rate depending on the speed that was entered under "Simulated speed".





➔ If the start-up ramp was activated and configured in the "Start-up ramp" menu, see page 15, the metering unit will regulate depending on the values that were entered under "Intended speed", "Ramp start speed" and "Duration of the start-up ramp". The metering unit is activated above the ramp start speed and is regulated depending on the entered intended speed until the entered duration is reached.

9. Increase or reduce the target spread rate as

required with  and , see page 38.

10. Double the spreading material quantity  if necessary.

11. Change the working width and spreading area

as required with the , ,  and  buttons, see page 38.

## 8.4 Adjusting the working width and spreading area

CMS-T-00007923-B.1

Changing the working width simultaneously causes a change in the range and direction of the spreading area. Increasing and reducing the working width and shifting of the ends of the spreading area is performed separately on the left and right and in the increment that was defined in the "Product" menu under "Working width increment", see page 27.

1. In the Main menu, select "Working".

➔ The button bar is shown on the right side.

2. To increase the working width on the left side and shift the left end of the spreading area to the left,

select the  button.

3. To increase the working width on the right side and shift the right end of the spreading area to the right,

select the  button.

4. To reduce the working width on the left side and shift the left end of the spreading area to the right,

select the  button.

5. To reduce the working width on the right side and shift the right end of the spreading area to the left,

select the  button.



## 8.5 Changing the target spread rate

CMS-T-00007929-B.1

The target spread rate is increased and reduced in increments that were defined in the "Product" menu under "Rate increments", see page 27. The initial value for the target spread rate that is used by the Work menu when beginning with spreading corresponds to the value that was defined in the "Product" menu under "Target spread rate", see page 27.








1. In the Main menu, select "Working".

➔ The button bar is shown on the right side.

2. *To increase the spread rate by the defined quantity increment,*  
select  in the Work menu.
3. *To reduce the spread rate by the defined rate increment*  
select  in the Work menu.

## 8.6 Using the hopper interior lighting

CMS-T-00007786-A.1

1. In the Main menu, select "Working".  
  
➔ The button bar is shown on the right side.
2. *If the  button is not shown in the button bar,*  
scroll through the button bar with  until the  button is shown.
3. *To switch on the hopper interior lighting,*  
press the button .  
  
➔ The  icon is shown in the status bar.
4. *To switch off the hopper interior lighting,*  
press the  button again.  
  
➔ The  icon in the status bar is turned off.

## 8.7 Entering the refilled quantity of spreading material

CMS-T-00007779-A.1

1. In the Main menu, select "Filling".
2. *If the displayed residual quantity does not match the actual residual quantity,*  
reset the residual quantity to zero with →0 .

The actual residual quantity can be added to the refilled quantity.

3. Enter the refilled quantity.

➡ The new fill level will be shown.

4. Confirm the new fill level with ✓ .

The screenshot shows a screen titled "FILLING" with a green header bar. Below the title, a green message says "Please enter quantity refilled!". There are three input fields, each with a unit of "kg":

- "Refilled quantity" with a value of "0.00".
- "Resid. qty" with a value of "0.00".
- "New fill level" with a value of "0.00".

Each input field has a corresponding icon to its left: a bag for "Refilled quantity", a tank for "Resid. qty", and a button with "→0" for "New fill level". At the bottom of the screen, there are two large buttons: a grey one with a white "X" on the left and a grey one with a white checkmark on the right.

CMS-I-00005446

# Emptying the spreading material hopper





9

CMS-T-00007782-B.1






## REQUIREMENTS

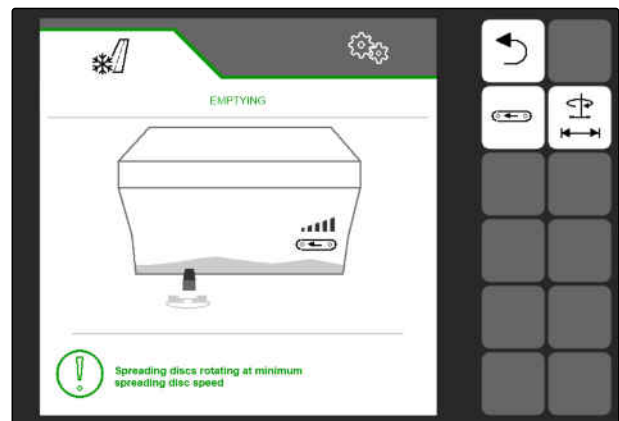
- ✓ The current speed is 0 km/h

1. In the main menu, select "Emptying".
2. Start the spreading disc drive with .
3. Confirm starting of the spreading disc drive with .
4. select .
5. When the spreading material hopper is empty, select .

or

select .

- ➔ Selecting  stops the spreading material metering unit.
- ➔ Selecting  stops the spreading material metering unit and the spreading disc drive.



CMS-I-00005444

# Documenting work

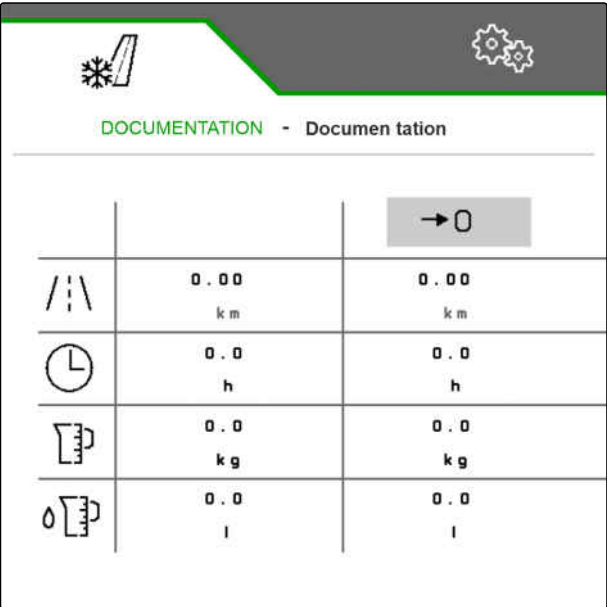
# 10

CMS-T-00007765-B.1

## 10.1 Calling up the documentation

CMS-T-00007767-A.1

- Select "Documentation" in the Main menu.
- ➔ A table with the values for the activated documentation is shown in the menu. The left column shows the total values, and the right column shows the daily values.



CMS-I-00005436

Symbol	Meaning
/ \	Driven distance
⌚	Working time
🪣	Spread quantity of spreading material
💧🪣	Spread quantity of brine

## 10.2 Resetting the daily counter to 0

CMS-T-00007768-A.1

If the spread material should be recorded on a daily basis, the daily counter for the documentation can be reset to 0.



## NOTE

The total values for the selected documentation are maintained.

1. Select "Documentation" in the Main menu.
2. select 0 .

DOCUMENTATION - Documentat ion

		0
	0.00 k m	0.00 k m
	0.0 h	0.0 h
	0.0 k g	0.0 k g
	0.0 l	0.0 l

CMS-I-00005436

## 10.3 Managing the documentation

CMS-T-00007766-B.1


The values for the activated documentation are shown in the overview. When working with the implement, the values for the activated documentation are updated.

1. Select "Documentation" in the Main menu.
2. select .

DOCUMENTATION - Documentat ion

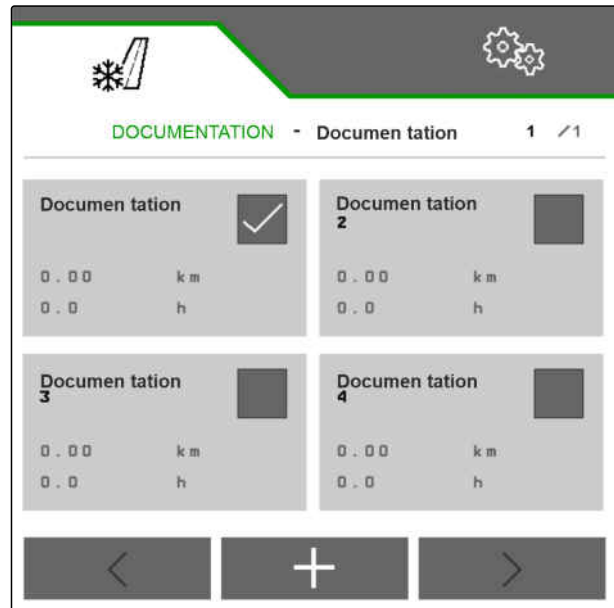
		0
	0.00 k m	0.00 k m
	0.0 h	0.0 h
	0.0 k g	0.0 k g
	0.0 l	0.0 l

CMS-I-00005559

3. To create a new documentation,  
select .

or

To activate, rename or delete a documentation,  
select the desired documentation from the  
overview and proceed in the same way as  
described in the section "Activating a product",  
see page 22, "Renaming a product", see  
page 23, or "Deleting a product", see page 25.



CMS-I-00005435



# Calling up information

11

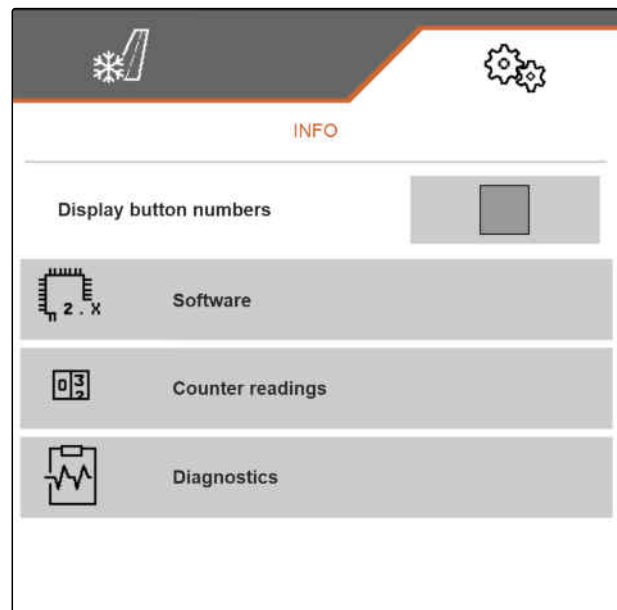
CMS-T-00007773-B.1

## 11.1 Showing the button numbers

CMS-T-00007776-A.1

The buttons on the button bar can be shown with additional numbers. When talking to AMAZONE service technicians on the phone, it is easier to make clear references to the buttons.

1. In the Settings, select *"Info"*.
2. Under *"Show button numbers"*, activate showing of the button numbers.



CMS-I-00005440

## 11.2 Calling up the software information

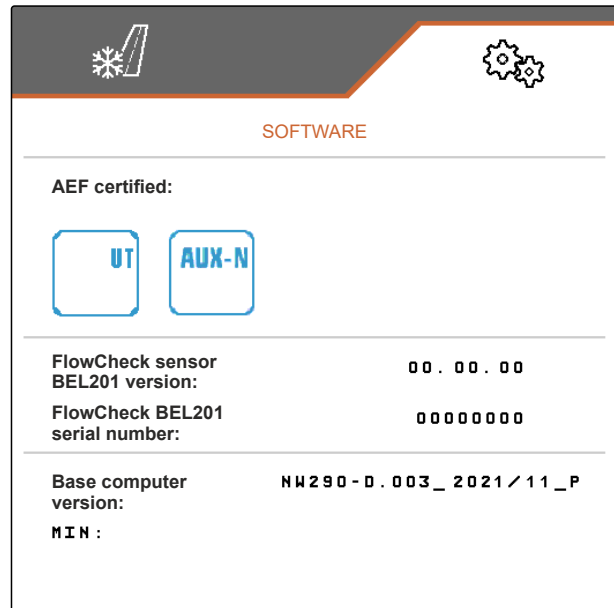
CMS-T-00007774-B.1

The *"Software"* menu shows the ISOBUS functions of the software certified by the Agricultural Industry Electronics Foundation (AEF), the version and serial number of the FlowCheck sensor as well as the version number of the software.

## 11 | Calling up information

### Calling up the counter readings for the implement

- In the settings, select *"Info" > "Software"*.
- ➔ The *"Software"* menu will be shown.



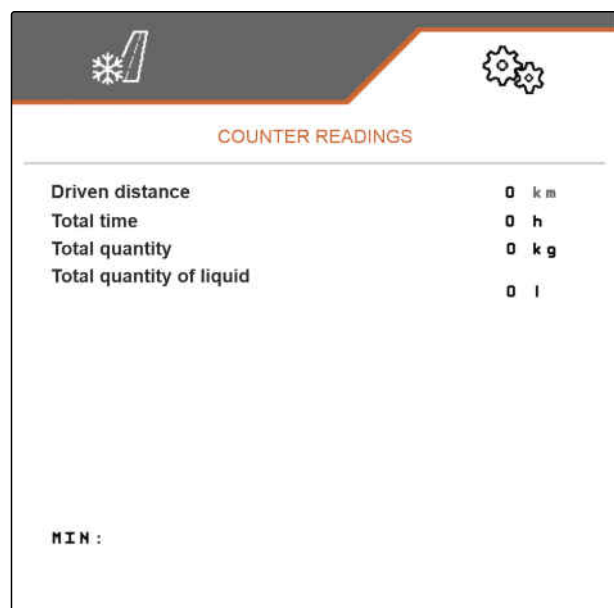
CMS-I-00005441

## 11.3 Calling up the counter readings for the implement

CMS-T-00007775-A.1

The current total counter readings for the implement can be called up.

- In the settings, select *"Info" > "Counter readings"*.
- ➔ The *"Counter readings"* menu will be shown.



CMS-I-00005442

## 11.4 Calling up diagnosis data

CMS-T-00007781-A.1

The *"Diagnosis"* menu shows the current diagnosis data for the implement.

- In the settings, select "Info" > "Diagnosis".
- ➔ The "Diagnosis" menu will be shown.



DIAGNOSTICS		
ID/ name	Value	
Low level sensor	0	0
Spr. material ID	0	0
Spreading disc speed	0 1/min	0
Speed of the floor belt drive	0 cm/s	0
Brine pump speed	0 1/min	0
Delivery point	0.00 V	0.00
Supply voltage	13.2 V	
Load current	0.1 A	

CMS-I-00005443

# Troubleshooting

# 12

CMS-T-00007771-C.1

Error code	Errors	Cause	Solution
F45002	Switching on the spreading disc	The spreading material metering unit cannot be started before the spreading disc drive was started.	<ul style="list-style-type: none"> <li>▶ Start the spreading disc drive.</li> </ul>
F45003	Setpoint value cannot be maintained!	The target spread rate cannot be spread with the set working width and the current speed.	<ul style="list-style-type: none"> <li>▶ Reduce speed.</li> <li>▶ Reduce the target spread rate.</li> <li>▶ Reduce the working width.</li> </ul>
F45005	Spreading disc is not rotating	<p>After starting the spreading disc drive by selecting the  and  buttons, no speed is measured on the spreading disc.</p>	<ul style="list-style-type: none"> <li>▶ Check whether the hydraulic hoses are correctly connected to the tractor.</li> <li>▶ Check whether the hydraulic system on the tractor is switched on.</li> <li>▶ Check if a defect on the wiring harness is causing a lack of voltage on the hydraulic valve, and replace the defective wiring harness.</li> <li>▶ Check whether the cable connection to the speed sensor is interrupted or damaged, and eliminate the interruption or damage.</li> <li>▶ Check whether the speed sensor is defective, and replace the defective speed sensor.</li> </ul>

Error code	Errors	Cause	Solution
F45006	Working width not maintained	The spread rate regulation is active and the recorded spreading disc speed deviates by more than 50 rpm from the setpoint, which results from the settings for the working width and the target spread rate.	<ul style="list-style-type: none"> <li>▶ Ensure the hydraulic oil supply.</li> <li>▶ Increase the control unit flow.</li> <li>▶ Increase the tractor engine speed.</li> </ul>
F45007	Floor belt drive failure	The job computer is not receiving any pulses from the speed sensor.	<ul style="list-style-type: none"> <li>▶ Check the speed sensor.</li> <li>▶ Check the wiring harness.</li> </ul>
		The current on the proportional hydraulic valve of the floor belt is lower than 100 mA.	<ul style="list-style-type: none"> <li>▶ Check the proportional hydraulic valve of the floor belt.</li> </ul>
F45008	Brine pump is not rotating	The job computer is not receiving any pulses from the speed sensor.	<ul style="list-style-type: none"> <li>▶ Check the speed sensor.</li> <li>▶ Check the wiring harness.</li> </ul>
		The current on the proportional hydraulic valve of the brine pump is lower than 100 mA.	<ul style="list-style-type: none"> <li>▶ Check the proportional hydraulic valve of the brine pump.</li> </ul>
F45010	The hopper is empty	This message is shown when, based on the current fill level and the current spread rate, the theoretical empty measurement calculated that the available quantity of spreading material is lower than the residual quantity entered in the low level monitoring.	<ul style="list-style-type: none"> <li>▶ Fill the hopper.</li> </ul>
F45012	Error detected in one of the drives, implement functions are deactivated	Although the affected drive is switched off, a current flow is detected on the proportional hydraulic valve of the drive.	<ul style="list-style-type: none"> <li>▶ Check the wiring harness.</li> <li>▶ Check the job computer.</li> </ul>
F45013	Overcurrent at the delivery point motor output – Please check actuator(s) and wiring harness	Excessive power consumption (> 3 A) by the delivery point motor.	<ul style="list-style-type: none"> <li>▶ Unhook the delivery point motor and check the mechanism for ease of movement.</li> <li>▶ Check the wiring harness.</li> <li>▶ Check the job computer.</li> </ul>
F45016	FlowCheck sensor failure	The job computer is not receiving any pulses from the blockage sensor.	<ul style="list-style-type: none"> <li>▶ Check the blockage sensor.</li> <li>▶ Check the wiring harness.</li> </ul>

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Error code	Errors	Cause	Solution
F45021	Caution – The spreading disc is still rotating	The Work menu has been exited when the spreading disc is still switched on.	► Stop the spreading disc drive.

# Appendix

# 13

CMS-T-00007769-B.1

## 13.1 Other applicable documents

CMS-T-00007770-B.1

- Operating manual for the IceTiger 1000 mounted spreader
- Operating manual of the control terminal

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# 14

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