Original operating manual

Control terminal

AmaTron 4

This operating manual is valid as of software version NW216-I

SmartLearning

www.amazone.de

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Safety and responsibility

1

CMS-T-00003619-C.1

1.1 Road traffic

CMS-T-00003620-C.1

Do not use the control computer or control terminal during road travel

If the driver is distracted, it can result in accidents and injuries or even death.

► Do not operate the control computer or control terminal during road travel.

1.2 Maintenance and storage

CMS-T-00003621-D.1

A short circuit can cause damage

When repair work is performed on the tractor or on a towed or mounted implement, there is a risk of short circuit.

► *Before you perform repair work,*
disconnect all connections between the control terminal or control computer and the tractor.

Overvoltage can cause damage

If welding work is performed on the tractor or on a towed or mounted implement, the control computer or control terminal can be damaged by overvoltage.

► *Before welding,*
disconnect all connections between the control terminal or control computer and the tractor.

Improper cleaning can cause damage

► Clean the control computer or control terminal only with a moist, soft cloth.

Incorrect operating temperature and storage temperature can cause damage

If the operating temperature and storage temperature are not observed, there can damage to the control computer or control terminal, therefore resulting in malfunctions and dangerous situations.

- ► Operate the control computer or control terminal only at temperatures from -20°C to +65°C
- ► Store the control computer or control terminal only at temperatures from -30°C to +80°C

1.3 Design changes

CMS-T-00003622-C.1

Unauthorised changes and unauthorised use

Unauthorised changes and unauthorised use can impair your safety and affect the service life and/or function of the control terminal.

- ► Only make changes to the control computer or control terminal that are described in the operating manual for the control computer or control terminal.
- ► Use the control computer or control terminal according to its intended use.
- ► Do not open the control computer or control terminal.
- ► Do not pull on the lines.

1.4 Camera system

CMS-T-00003623-B.1

The camera image is not for safety-related decisions

The camera serves as an assistance system. The camera does not replace a guide or your own alertness. For example, the camera field of vision has blind spots where persons and objects cannot be seen. The display of the camera image can also be delayed, so that situations are not correctly assessed. This could result in injury or death.

- ► Always pay attention to the surroundings.
- ► Do not use the camera for safety-related applications such as driving in road traffic or driving in reverse.
- ► Always check your route.
- ► Do not use the camera to operate the implement.

1.5 Display

CMS-T-00003624-B.1

Risk of accident due to faulty display screens

If the display is faulty or the view on the screen is limited, functions can be accidentally activated and therefore trigger implement functions. This can result in injury or death.

- *If the view on the display screen is limited,*
  stop operations.

- *If the display screen is faulty,*
  restart the control computer or the control terminal.

Risk of accident due to improper swiping gesture

With improper swiping gestures, buttons of the implement controls can be accidentally actuated and therefore trigger implement functions. This can result in injury or even death.

- Start the swipe gesture at the edge of the display.

About this operating manual 2

CMS-T-00000081-J.1

2.1 Copyright

CMS-T-00012308-A.1

Reprinting, translation and reproduction in any form, including excerpts, require the written approval of AMAZONEN-WERKE.

2.2 Diagrams

CMS-T-005676-G.1

2.2.1 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.

2.2.2 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.

2.2.3 Instructions

CMS-T-00000473-E.1

2.2.3.1 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

2.2.3.2 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

2.2.3.3 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

2.2.3.4 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

2.2.3.5 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

2.2.3.6 Workshop work

CMS-T-00013932-B.1

WORKSHOP WORK

▶ Identifies maintenance work that must be performed at a workshop that is adequately equipped in terms of agricultural technology, safety and environmental technology by specialist personnel with appropriate training.

2.2.4 Lists

CMS-T-000024-A.1

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

Example:

- Point 1
- Point 2

2.2.5 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.

2.2.6 Direction information

CMS-T-00012309-A.1

Unless otherwise specified, all directions are always seen in the direction of travel.

2.3 Other applicable documents

CMS-T-00000616-B.1

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

2.4 Digital operating manual

CMS-T-00002024-B.1

The digital operating manual and e-learning can be downloaded from the Info Portal on the AMAZONE website.

2.5 Your opinion is important

CMS-T-000059-D.1

Dear reader, our documents are updated on a regular basis. Your suggestions for improvement help us to create ever more user-friendly documents. Please send us your suggestions by post, fax or email.

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CMS-I-00000638

Intended use

3

CMS-T-00003618-A.1

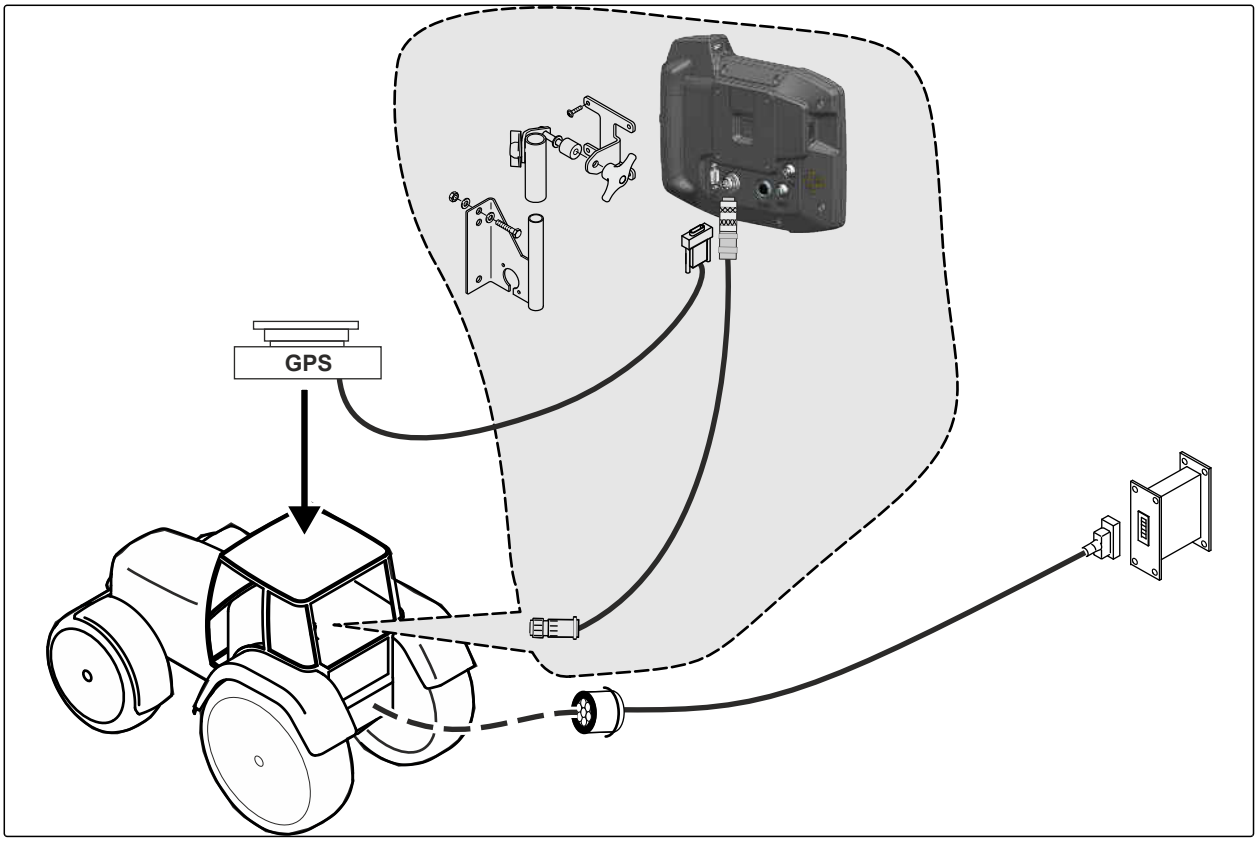
- The control terminal is used to control agricultural implements.
- The operating manual is part of the control terminal. The control terminal is solely intended for use in compliance with this operating manual. Uses of the control terminal that are not described in this operating manual can lead to serious personal injuries or even death and to implement and material damage.
- Uses other than those specified under the intended use are considered as improper. The manufacturer is not liable for any damage resulting from improper use, solely the operator is responsible.

Installation instructions 4

CMS-T-00003680-C.1

4.1 Installing the AmaTron 4

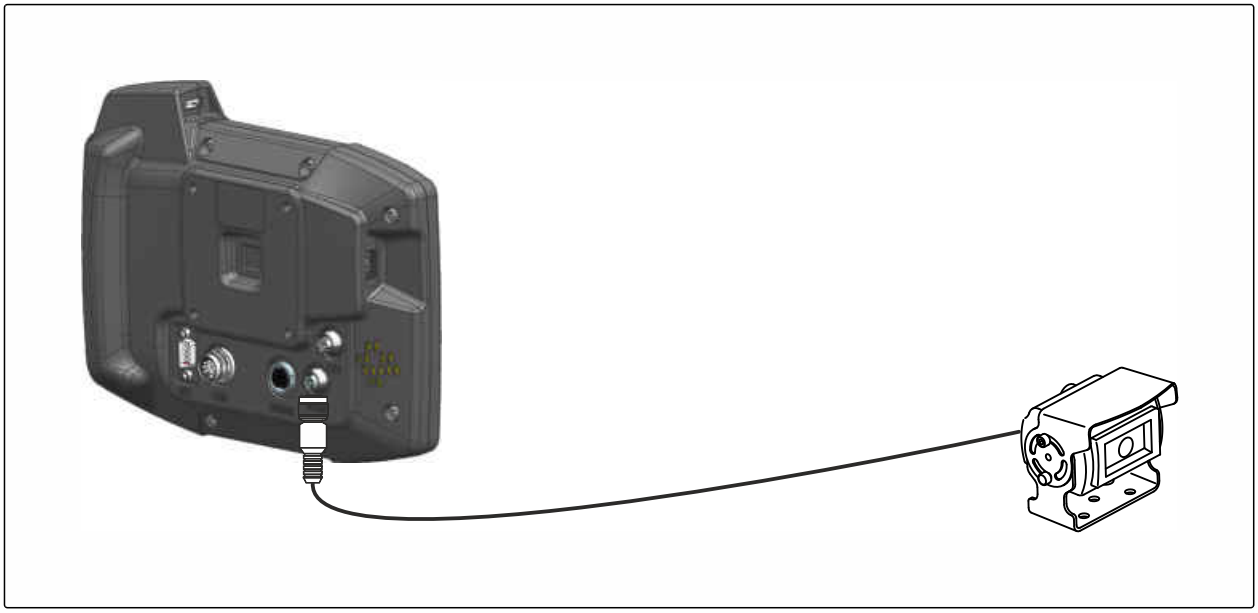
CMS-T-00000302-D.1



CMS-I-00000230

4.2 Connecting the camera

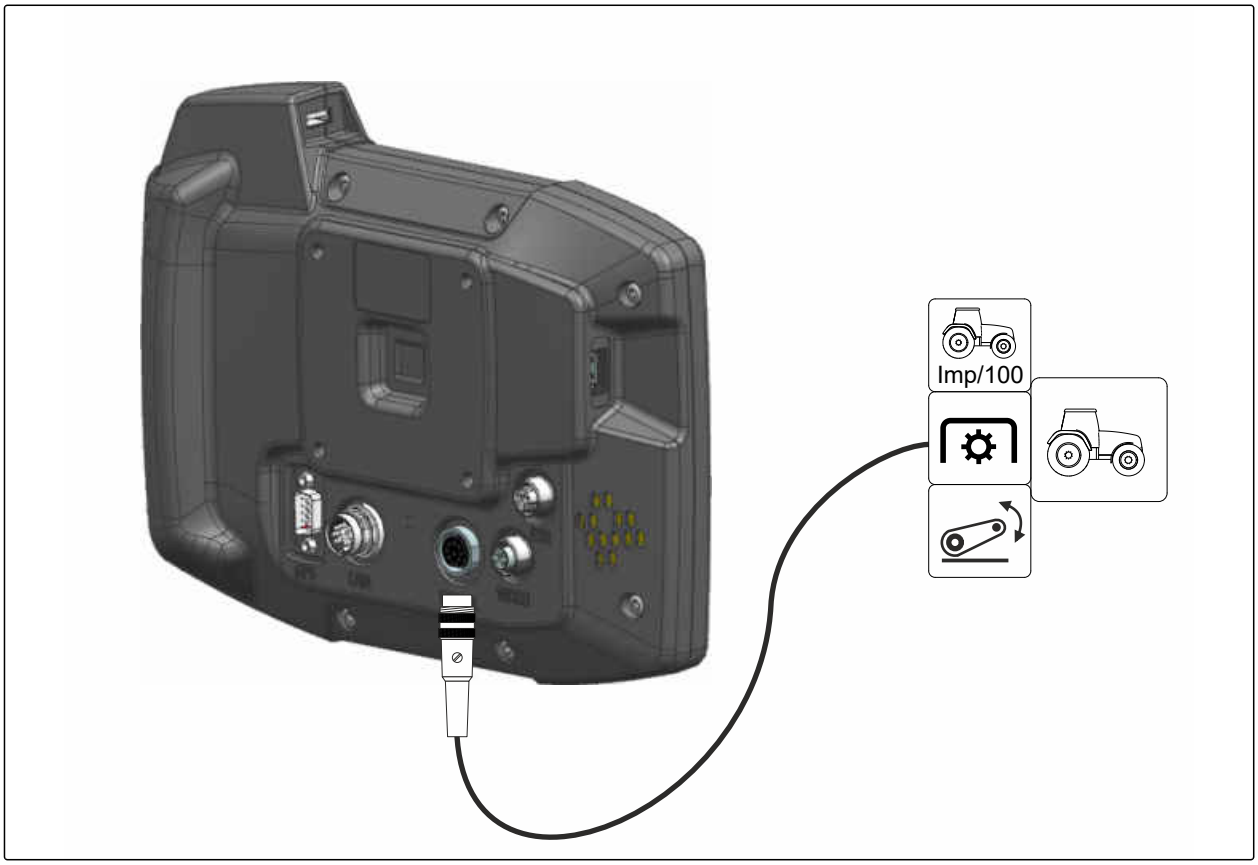
CMS-T-00003681-A.1



CMS-I-00002708

4.3 Connecting the signal plug

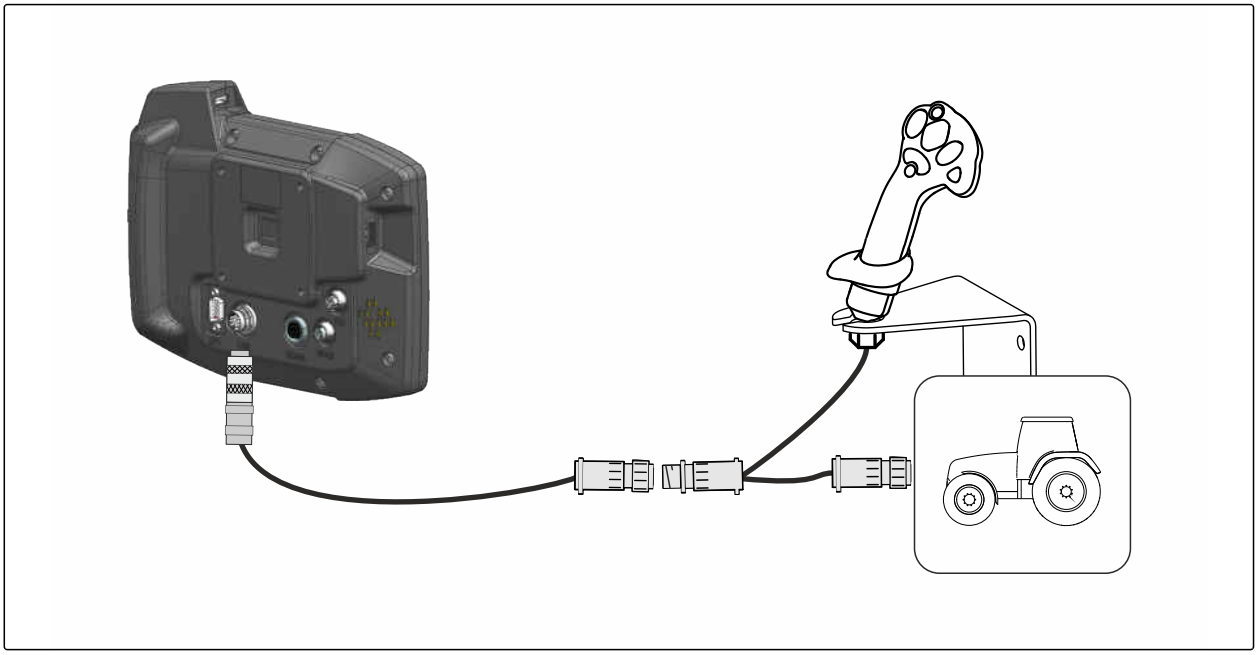
CMS-T-00003682-C.1



CMS-I-00002707

4.4 Connecting AUX-N input devices

CMS-T-00003927-B.1



CMS-I-00002901

NOTE

The figure describes the connection of an AMAZONE AUX-N input device. The connection of AUX-N input devices from other manufacturers can differ.

AmaTron 4 overview

5

CMS-T-00001632-E.1

5.1 Front view

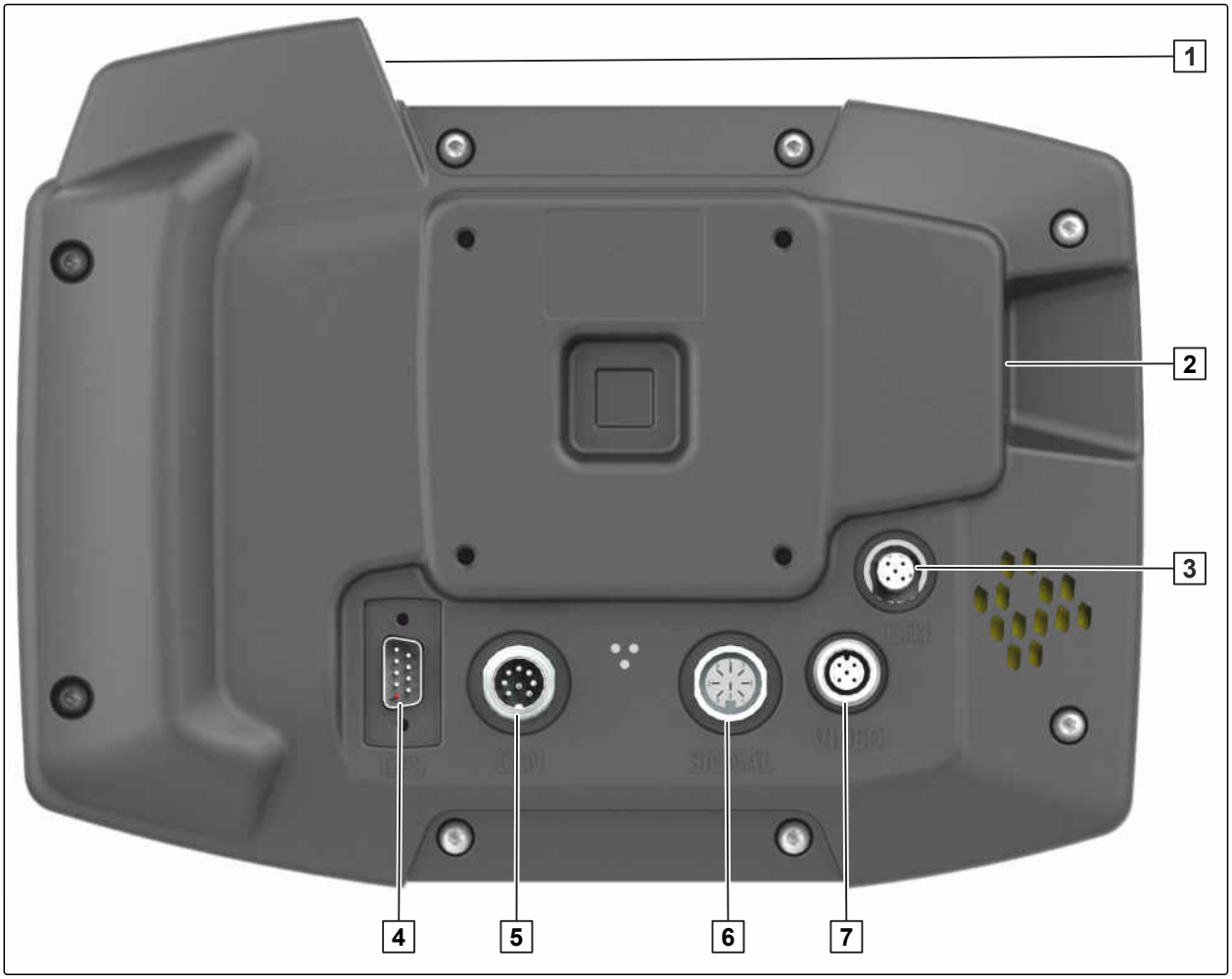
CMS-T-00001633-C.1

CMS-I-00001011

1	Button for the main menu	2	Button for the map view
3	Button for the Universal Terminal	4	ISB button
5	Status light	6	Selection buttons for implement controls
7	On/Off button	8	Proximity sensor
9	Brightness sensor	10	Touch display

5.2 Connections

CMS-T-00000185-B.1



1 Top USB port
2 Rear USB port
3 Ethernet connection for service work
4 Connection for GPS signal
5 CAN bus connection
6 Connection for sensor signals
7 Camera port

5.3 Rating plate

CMS-T-00010641-A.1

1 Part number
2 Encrypted calendar date
3 Revision number
4 Serial number

CMS-I-00007283

1 Device number

2 Encrypted calendar date

3 Type

CMS-I-00007286

5.4 ISB button

CMS-T-00013136-A.1

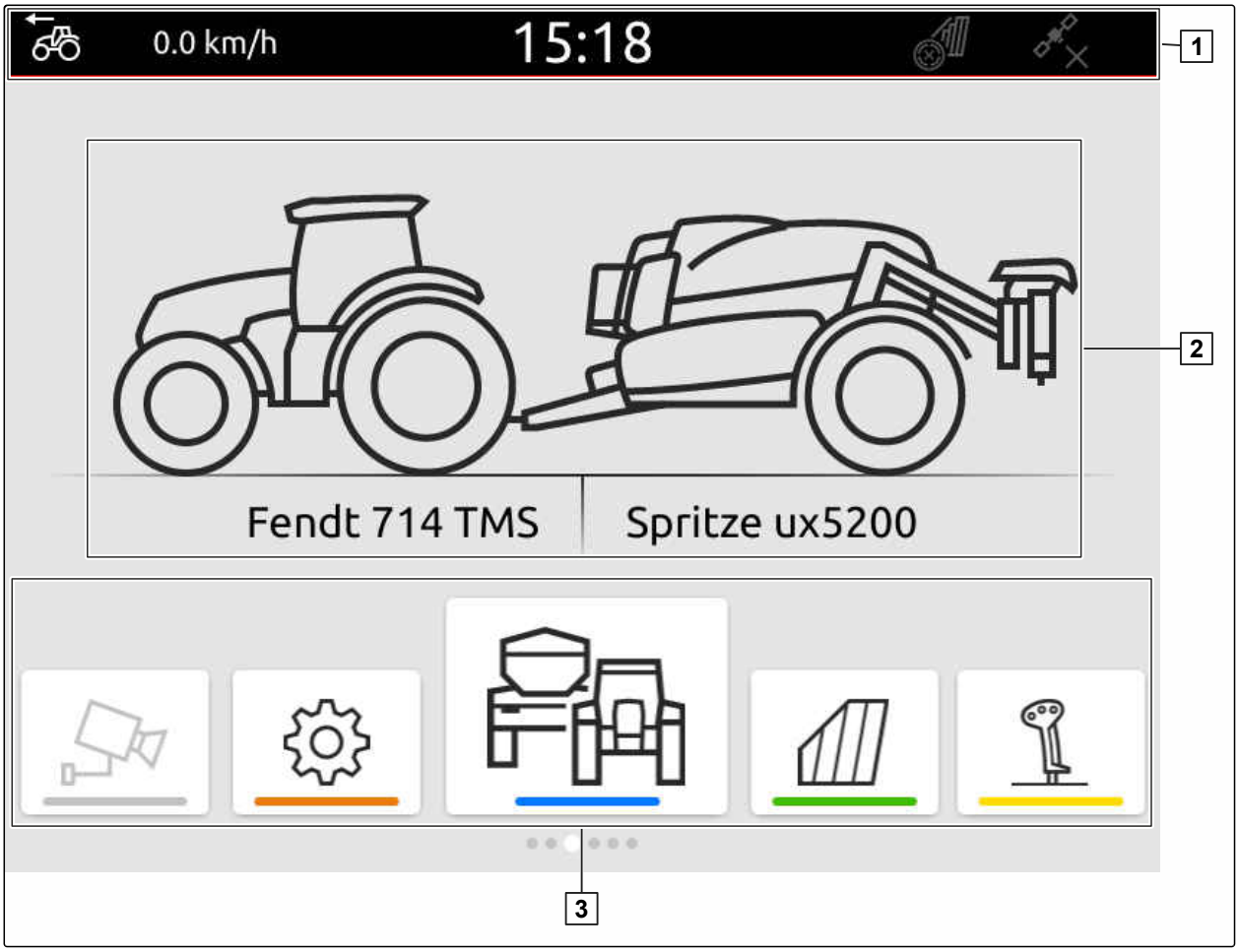
The function of the ISB button depends on the connected implement. If the implement has an ISB function, the ISB function is described in the implement's operating manual.

Operator interface overview 6

CMS-T-00000210-G.1

6.1 Main menu

CMS-T-00000234-C.1



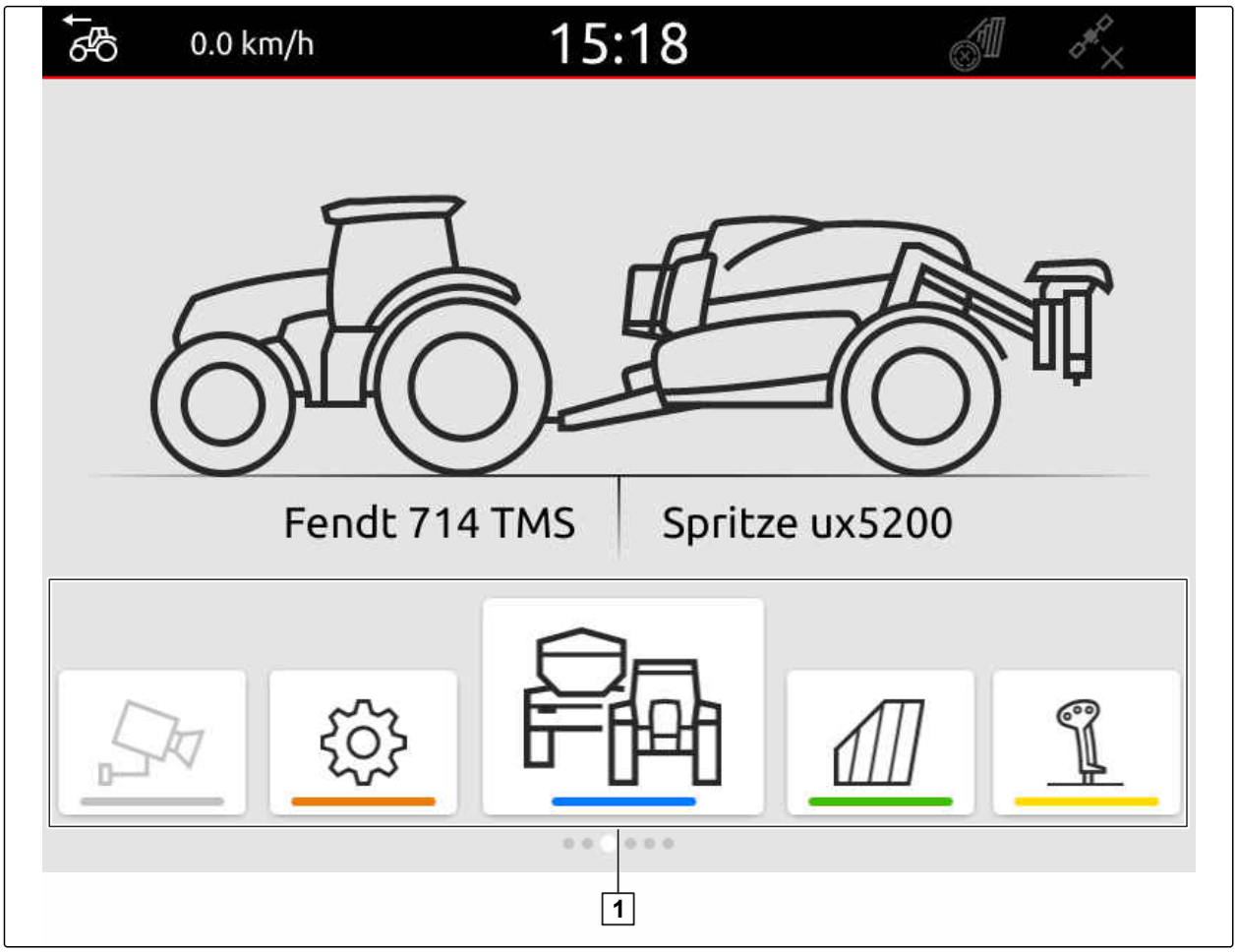
1 Status bar

2 Display of the active implement and the active tractor

3 Application carousel

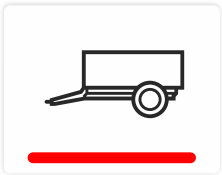
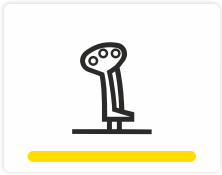
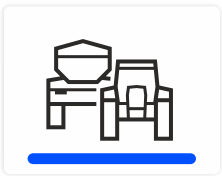
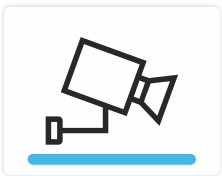
6.2 Application carousel

CMS-T-00000254-D.1



CMS-I-00000110

The application carousel 1 contains the following applications:

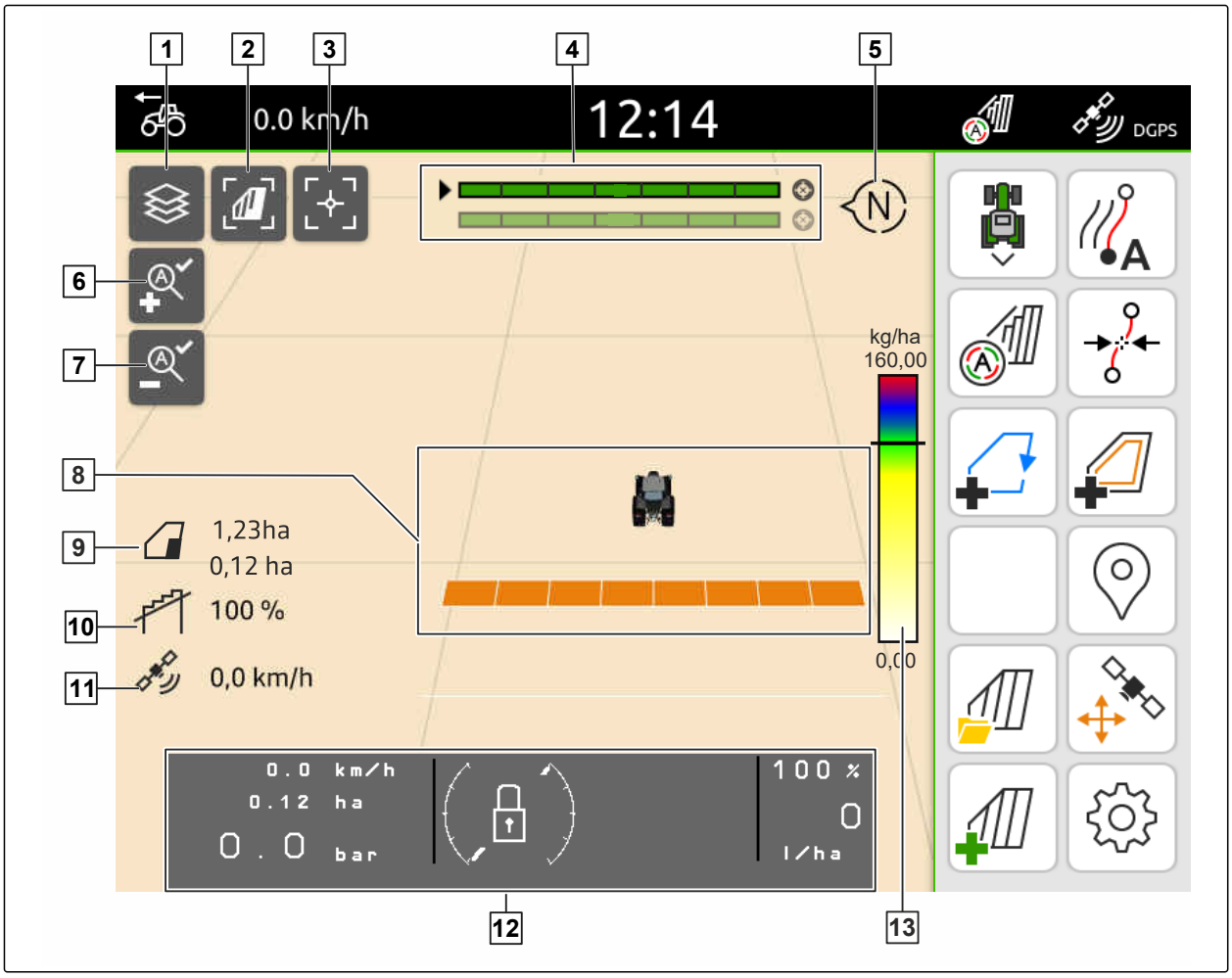
Application	Button	Function
Universal Terminal	Symbol depends on the selected implement. 	Show implement controls for the connected implement
AUX-N assignment		Configure connected AUX-N input device
Setup menu		Configure AmaTron 4
Implement management		Overview of tractors and implements, setting up tractors and implements
Camera		Show camera image
Map view		Open map view

6.3 Map view

CMS-T-00000241-G.1

6.3.1 Map

CMS-T-00000242-F.1

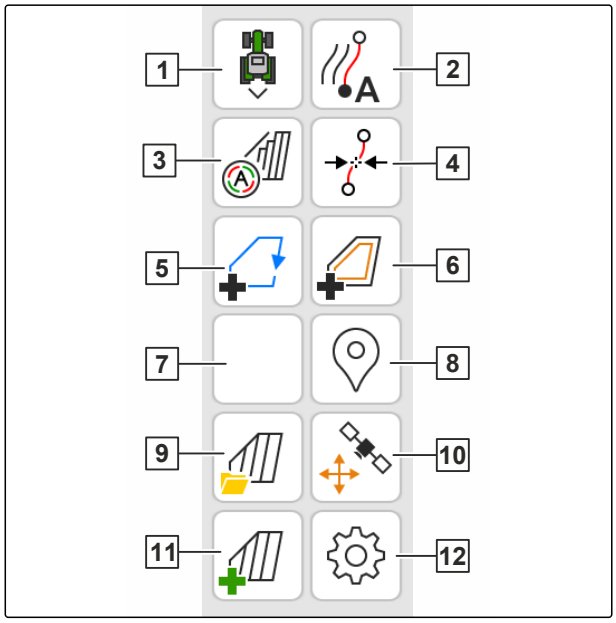


CMS-I-00000105

1 Select application map
2 Activate bird's-eye view
3 Focus on the tractor and implement
4 Multi Boom selection
5 Compass
6 Define the maximum zoom level
7 Define the minimum zoom level
8 Symbols for tractor and implement
9 Field size and worked area
10 Degree of overlap
11 GPS speed
12 Implement information
13 Value scale for application map

6.3.2 Work menu

CMS-T-00000243-D.1



CMS-I-00000142

1 Invert direction of travel

2 Create track line

3 Activate automatic part-width section control

4 Shifting the track lines

5 Create field boundary

6 Creating virtual headlands

7 No function

8 Create marking

9 Open field menu

10 GPS drift correction

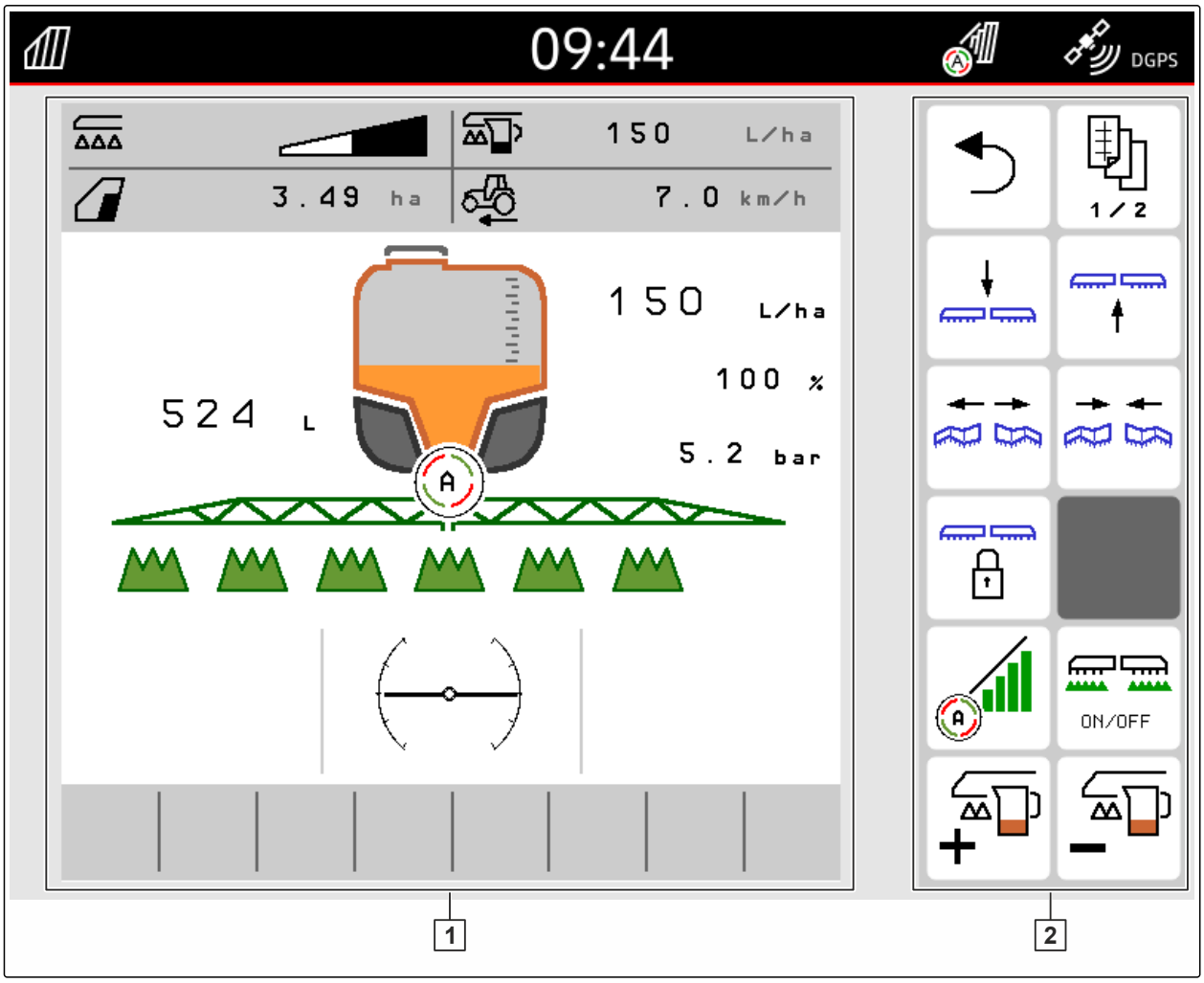
11 Create new field

12 Map view configuration

6.4 Universal Terminal

CMS-T-00000236-D.1

The implement controls are shown on the user interface of the Universal Terminal. The Universal Terminal can be used to call up implement information and control the implement. The Universal Terminal is divided into the areas *"Implement information"* and *"Function buttons"*. Depending on the implement, there can also be buttons in the implement information area.



CMS-I-00000107

1 Implement information and implement controls

2 Function keys

NOTE

The display within the Universal Terminal depends on the connected implement.

Basic operation 7

CMS-T-00000181-H.1

7.1 Switching the AmaTron 4 on and off

CMS-T-00000207-D.1

▶ *To switch on the AmaTron 4,*
press the on/off button 1.

NOTE

If an AUX-N input device is connected, the assignment of the AUX-N input device must be confirmed; see page 144.

▶ *To switch off the AmaTron 4,*
press and hold the on/off button 1.

7.2 Using a USB flash drive

CMS-T-00013137-A.1

REQUIREMENTS

- ⊘ USB flash drive capacity maximum 64 GB
- ⊘ USB flash drive formatted in FAT32 file system

▶ Insert a suitable USB flash drive into the upper or rear USB port.

➡ A notification is shown that a USB flash drive was detected.

7.3 Switching between the applications

CMS-T-00000250-F.1

7.3.1 Using the menu buttons

CMS-T-00000251-C.1

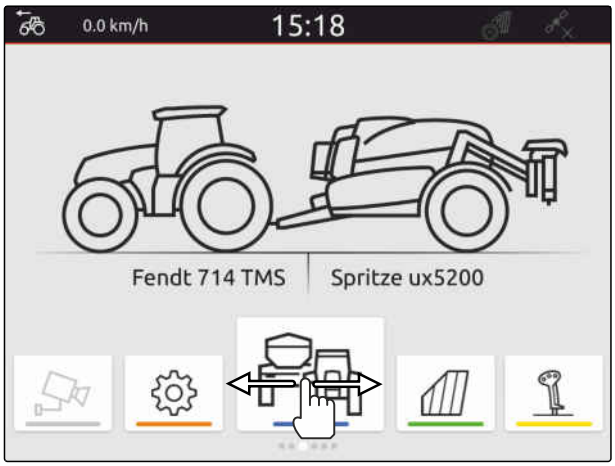
1. *To open Main menu:*
   Press 1.
2. *To open the map view:*
   Press 2.
3. *To open the Universal Terminal:*
   Press 3.

CMS-I-00000109

7.3.2 Using the application carousel

CMS-T-00000252-B.1

1. In the main menu, scroll through the application carousel by swiping to the left or right.
2. Select the desired application.



7.3.3 Using swipe gestures

CMS-T-00000260-F.1

The applications for swipe gestures can be selected in the setup menu, see page 35.

IMPORTANT

Risk of implement damage

With a swiping gesture, buttons of the implement controls can be accidentally actuated.

- Start the swipe gesture at the edge of the display.

- Swipe from the right or left edge of the display towards the middle.

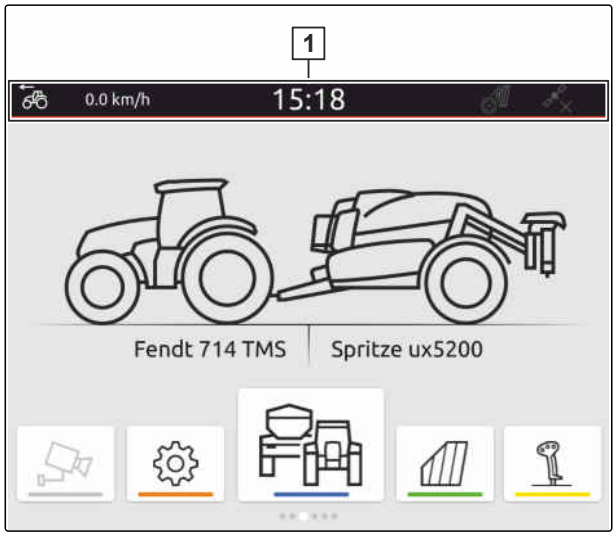
CMS-I-00000277

7.4 Configure status bar

CMS-T-00000197-D.1

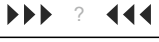
The status bar 1 is shown in all of the applications. The information in the status bar can be configured.

The following table shows all of the available functions:



CMS-I-00000310

Symbol	Information
	Status of the automatic part-width section control
	Speed
	GPS reception
09:30	Time
	Field name
	Worked area of the selected field

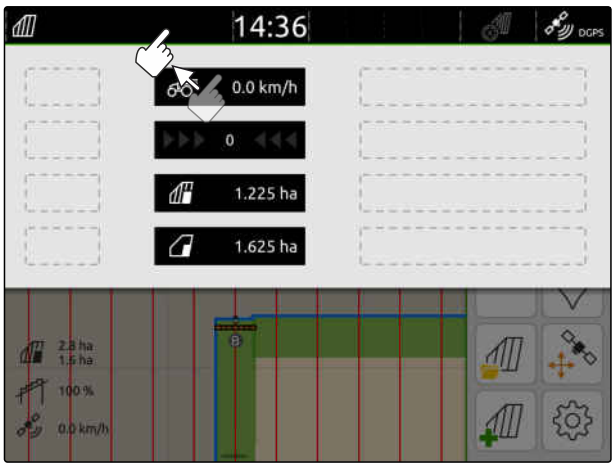
Symbol	Information
	Unworked area of the selected field
	Track line deviation

1. Touch the status bar for 2 seconds.

➡ All of the information will be shown in an overview.

2. *To add or remove information to/from the status bar,*
use your finger to move the desired information to the desired position.

3. *To terminate the configuration,*
touch the display underneath the information overview.

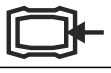


CMS-I-00000145

7.5 Using the quick-start menu

CMS-T-00000203-E.1

The Quick-start menu contains buttons for quick access to the following functions:

Symbol	Function
	Export diagnosis data.
	Call up AUX-N assignment.
	Export job data as a PDF.
	Export job data in ISO-XML format.
	Call up tips.
	Toggle between day mode and night mode.
	Import ISO-XML job data and shape files.
	Adjust the volume using the slider.
	Adjust the display brightness using the slider.

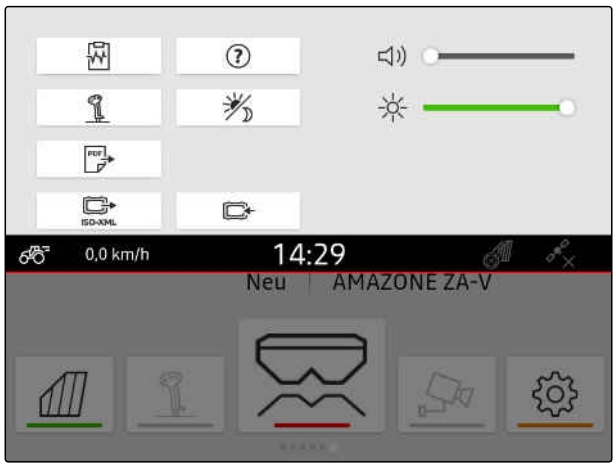
1. Swipe from the top edge of the display towards the middle.

➡ The quick-start menu will be opened.

CMS-I-00000278

2. Select the desired function.

3. *To close the quick-start menu,*
touch the display underneath the quick-start menu.



CMS-I-00000144

7.6 Entering numerical values

CMS-T-00000204-B.1

When a numerical value must be entered, a numeric keypad will be opened. In addition, calculator functions are available. The executed calculations are shown above the value to the entered. The valid value range is shown in brackets.

1. Enter numbers or calculations.

2. Confirm the entry with ✓

or

To cancel the entry,
touch the display above the numeric keypad.

7.7 Enter text

CMS-T-00000205-D.1

If text must be entered, a keypad is opened.

► *To enter digits or special characters,*

Select 123.

CMS-I-00000113

► *To call up other special characters,*

Select 1/2.

NOTE

If the Chinese or Japanese language was selected, the Latin letters are changed to Chinese or Japanese characters. Suggestions are shown for the conversion. For Japanese characters, you can choose among different character types.

► *To choose among Japanese character types,*
select the 1 button.

CMS-I-00005064

► Confirm the text entry with ✓

or

To cancel the text entry,
touch the display above the keypad.

7.8 Deleting elements

CMS-T-00003584-A.1

1. *To delete elements,*

   select 🗑.

2. Confirm deleting with ✓.

7.9 Renaming elements

CMS-T-00003585-A.1

1. Press and hold the element designation.
2. Enter the designation.
3. Confirm the designation with ✓.

7.10 Calling up tips

CMS-T-00003638-B.1

Tips contain instructions and videos that facilitate operation of the AmaTron 4.

Tips are shown for the following menus:

- Main menu
- Map view
- Menu for the AUX-N input device

1. Switch to the desired menu.
2. Open the quick-start menu.
3. select ⓘ.

CMS-I-00000278

Using the Universal Terminal 8

CMS-T-00000475-B.1

The implement controls are shown on the Universal Terminal. The implement can be operated using the Universal Terminal. It is possible to toggle between the implement controls of the connected implements.

The keys for the implement controls can be directly actuated by touch or using the buttons on the right side of the AmaTron 4. The arrangement of the buttons corresponds to the representation of the keys on the user interface.

1. *To open the Universal Terminal,*
   Press the button for the Universal Terminal **1**.

2. *To select the implement controls to be toggled,*
   press and hold the button for the Universal Terminal **1**.

➡ A list with the connected implements is opened.

3. Select the desired implement.

➡ The selected implements are marked with a checkmark.

4. *To toggle between the implement controls for the selected implements,*
   press the button for the Universal Terminal **1**.

Entering the basic settings 9

CMS-T-00000182-J.1

9.1 Configuring the camera

CMS-T-00000212-I.1

1. In the Setup menu, select *"Basic settings"* > *"Camera settings"*.

CMS-I-00000152

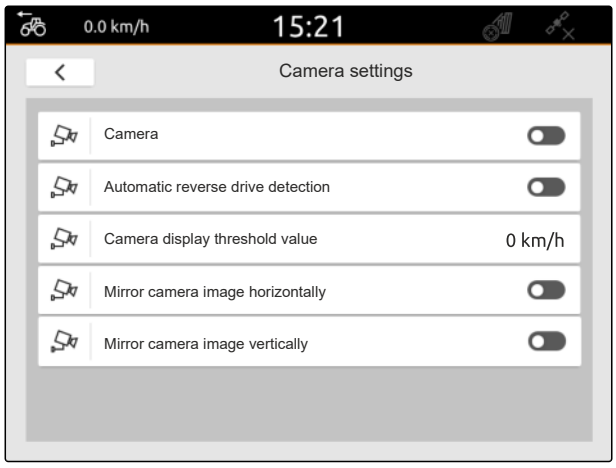
2. *To use the camera,*
   activate the *"Camera"*.

3. *To automatically show the camera image when the reverse gear has been engaged,*
   Activate *"Automatic reverse driving detection"*.

The threshold value for the camera display indicates the speed above which the camera image is shown when driving in reverse.

4. Under *"Camera display threshold value"*, enter the desired speed.

5. *To mirror the camera image,*
   activate *"Mirror camera horizontally"* or *"Mirror camera vertically"*.



CMS-I-00000165

9.2 Activating the ignition switch

CMS-T-00000214-F.1

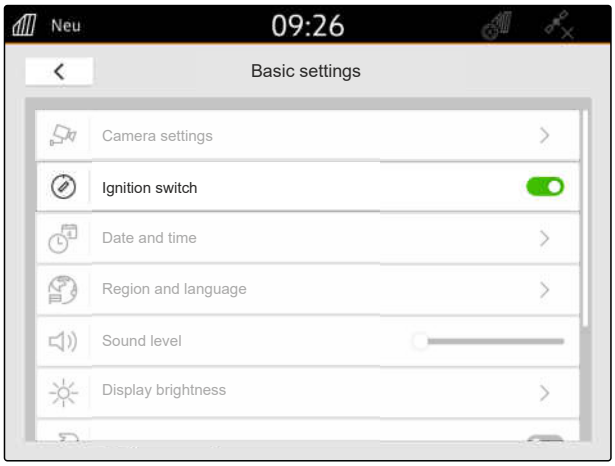
When the ignition switch is activated, the AmaTron 4 is switched on and off with the tractor ignition.

1. In the Setup menu, select *"Basic settings"*.

2. Activate *"Ignition switch"*

   or

   Deactivate *"Ignition switch"*.

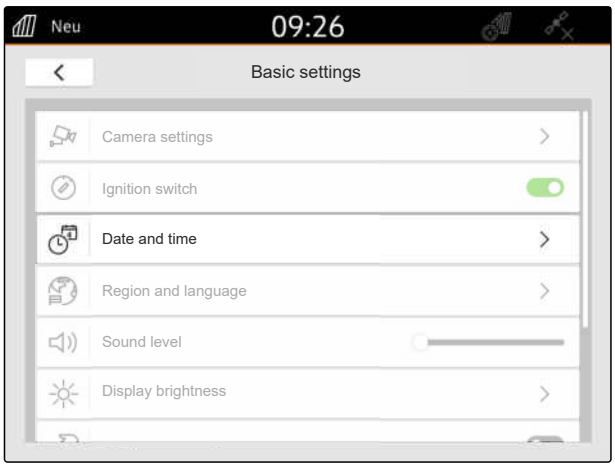


CMS-I-00000160

9.3 Setting the date and time

CMS-T-00001685-F.1

1. In the Setup menu, select *"Basic settings"* > *"Date and time"*.



CMS-I-00000148

2. *If the date and time should be called up via the GPS signal,*
   activate *"GPS time synchronisation"*

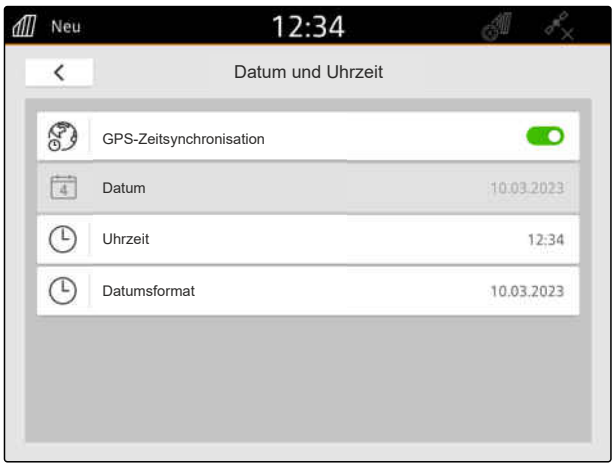
   or

   If the date and time should be entered manually,
   deactivate *"GPS time synchronisation"*.

3. Enter the desired date under *"Date"*.

4. Under *"Date format"*, set the desired date format.

5. Enter the desired time, time format and time zone under *"Time"*.

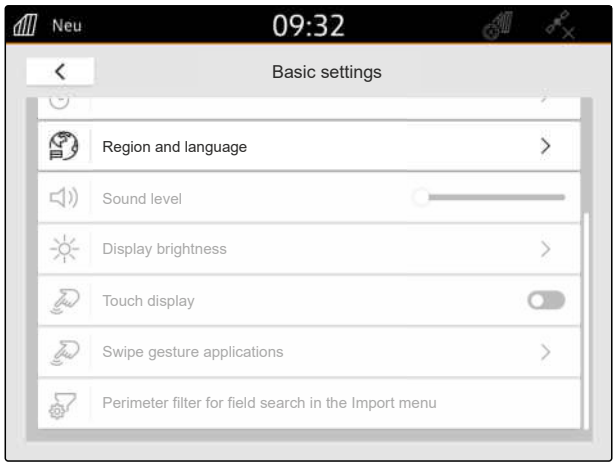


CMS-I-00000153

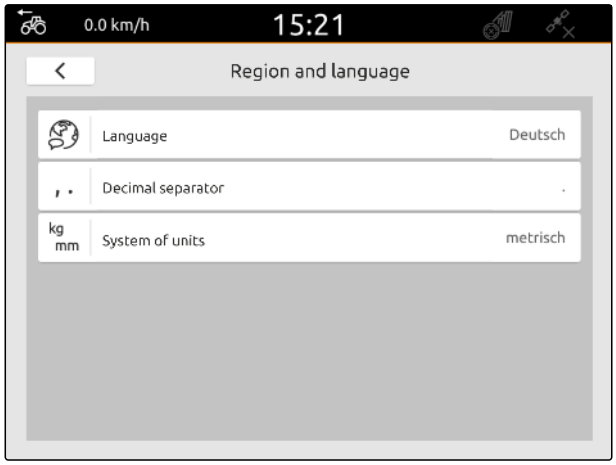
9.4 Changing the language and region settings

CMS-T-00000216-F.1

1. In the Setup menu, select *"Basic settings"* > *"Region and language"*.



2. Select the desired language under *"Language"*.
3. Select the desired decimal separator under *"Decimal separator"*.
4. Select the desired system of units under *"System of units"*.



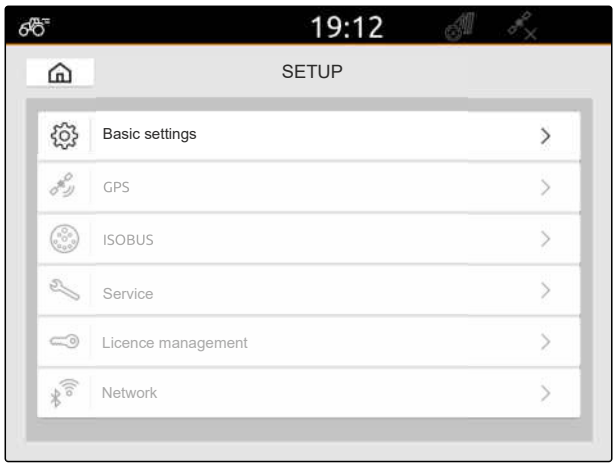
9.5 Adjusting the volume

CMS-T-00003606-D.1

9.5.1 Adjusting the volume in the basic settings

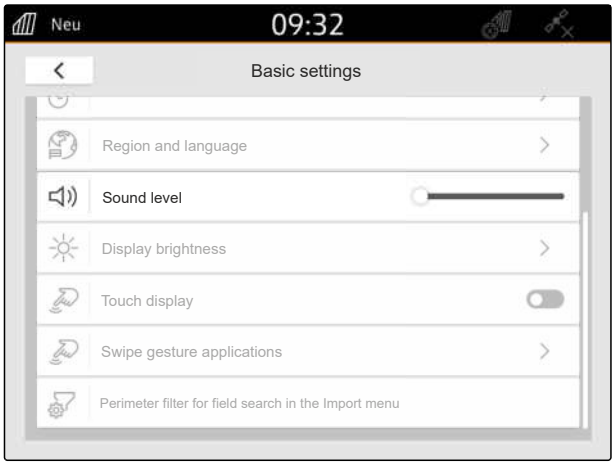
CMS-T-00000220-G.1

1. In the Setup menu, select *"Basic settings"*.



CMS-I-00000167

2. Adjust the volume using the slider.



CMS-I-00000178

9.5.2 Adjusting the volume in the Quick-start menu

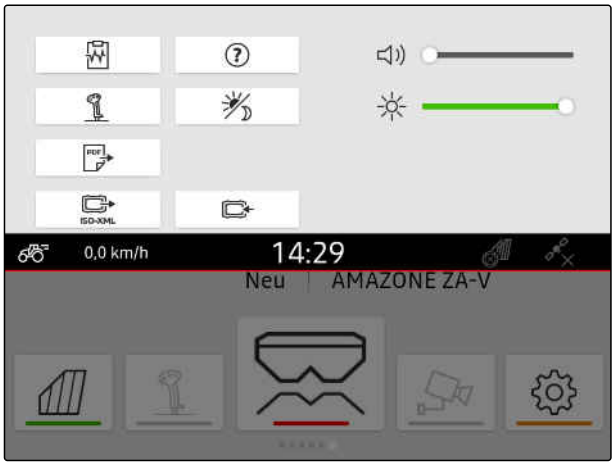
CMS-T-00003607-C.1

1. Swipe from the top edge of the display towards the middle.

➡ The quick-start menu will be opened.

CMS-I-00000278

2. Adjust the volume using the slider.



CMS-I-00000144

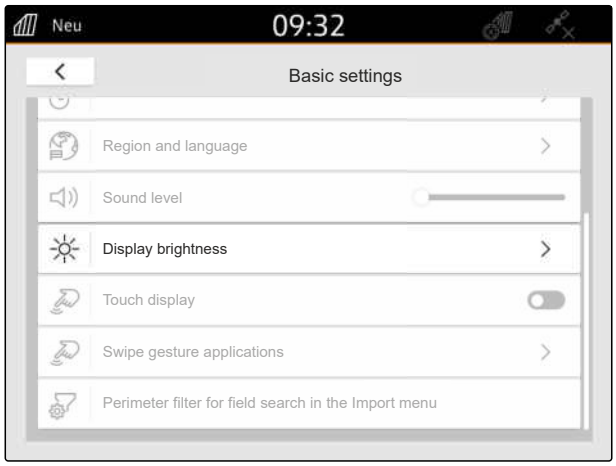
9.6 Adjusting the display brightness

CMS-T-00003608-D.1

9.6.1 Adjusting the display brightness in the basic settings

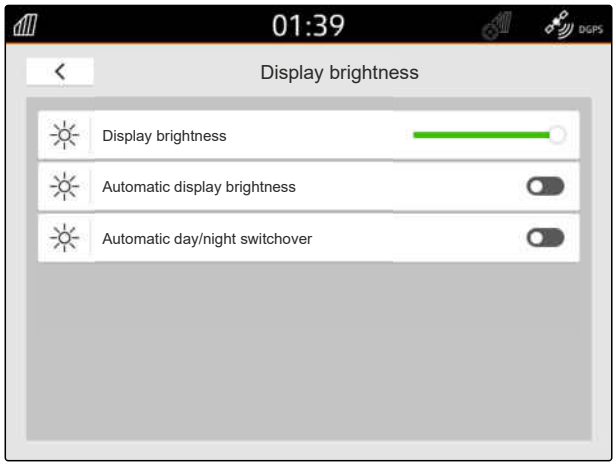
CMS-T-00000221-G.1

1. In the Setup menu, select *"Basic settings"* > *"Display brightness"*.



CMS-I-00000181

2. Adjust the display brightness using the slider.
3. *If the display brightness should be automatically adjusted to the light conditions,* activate *"Automatic display brightness"*.
4. *If you want automatic switching between day mode and night mode depending on the light conditions,* activate *"Automatic day/night switchover"*.



CMS-I-00004917

9.6.2 Adjusting the display brightness in the Quick-start menu

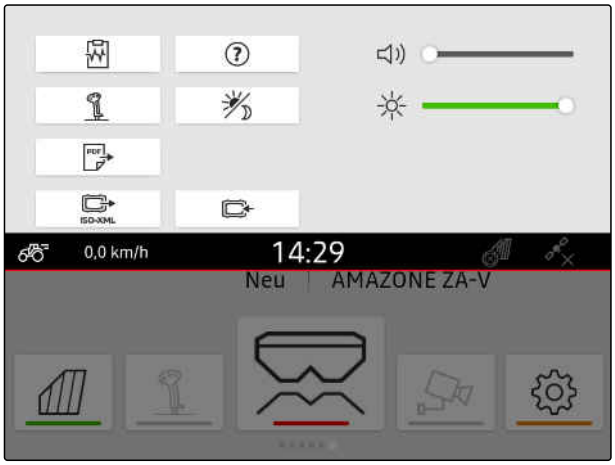
CMS-T-00003609-C.1

1. Swipe from the top edge of the display towards the middle.

➡ The quick-start menu will be opened.

CMS-I-00000278

2. Adjust the display brightness using the slider.



CMS-I-00000144

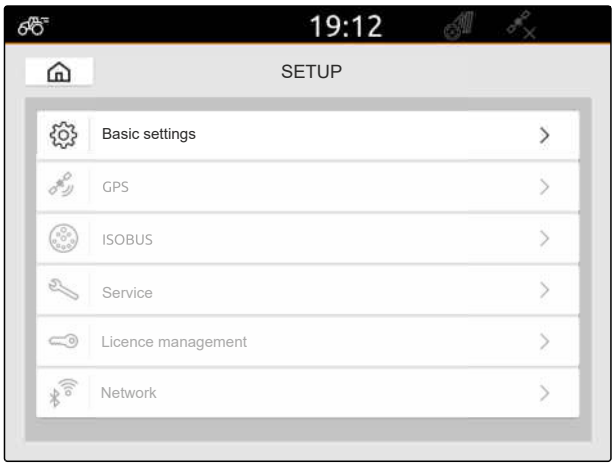
9.7 Showing when the display is touched

CMS-T-00000223-G.1

When this function is activated, a white circle is shown at the point of contact every time the display is touched.

CMS-I-00002924

1. In the Setup menu, select *"Basic settings"*.

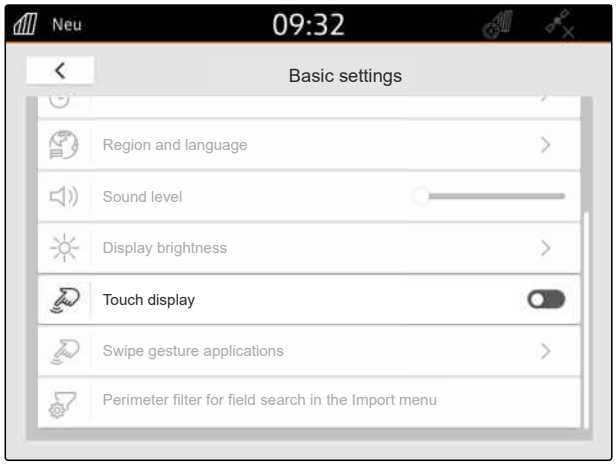


CMS-I-00000167

2. Activate *"Touch display"*

   or

   Deactivate *"Touch display"*



CMS-I-00000180

9.8 Activating swipe gesture applications

CMS-T-00000224-G.1

With swipe gestures, you can switch between the following applications:

- Map view
- Camera image
- Universal Terminal for all connected implements

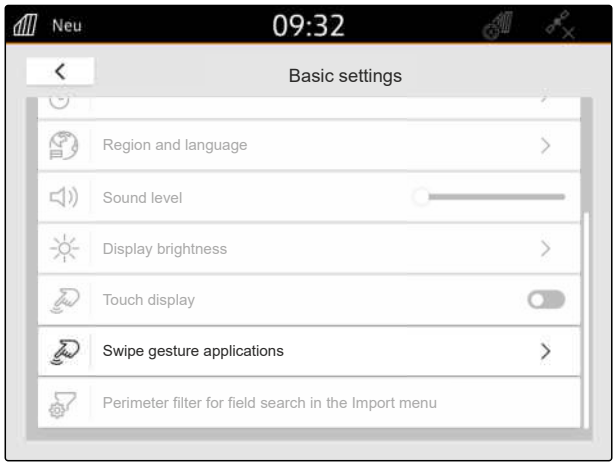
1. In the Setup menu, select *"Basic settings"* > *"Swipe gesture applications"*.

2. Activate the desired applications.

   or

   Deactivate the applications.

3. *To switch between the selected applications,* see page 22.



CMS-I-00000182

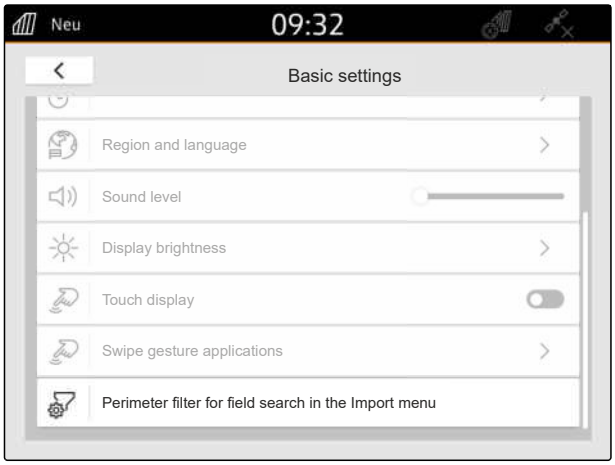
9.9 Configuring the perimeter filter for field search in the Import menu

CMS-T-00013055-A.1

In the Import menu, the shape files can be filtered based on the distance from the current GPS position. All shape files whose data is outside of the specified perimeter will be hidden in the Import menu.

1. In the Setup menu, select *"Basic settings"* > *"Perimeter filter for field search in the Import menu"*.

2. Select the desired perimeter.



CMS-I-00008290

GPS configuration 10

CMS-T-00001689-G.1

10.1 Using the GPS signal from the tractor ISOBUS

CMS-T-00010450-B.1

If the tractor sends a GPS signal as NMEA2000 on the ISOBUS, the AmaTron 4 can use this GPS signal.

NOTE

If the tractor sends a GPS signal on the ISOBUS, the AmaTron 4 cannot send the GPS signal on the ISOBUS, see page 61.

1. In the Setup menu, select *"GPS"*.
2. Under *"GPS receiver input"*, select *"ISOBUS NMEA2000"*.

➡ The *"Baud rate"* and *"Configure GPS receiver"* menu points are deactivated.

CMS-I-00008403

10.2 A100, A101 or A631 receiver configuration

CMS-T-00001692-F.1

This GPS receiver provides the option of setting both correction satellites manually. The correction satellites send correction data to the receivers. The correction data increase the accuracy.

REQUIREMENTS

✓ A100, A101 or A631 receiver is connected

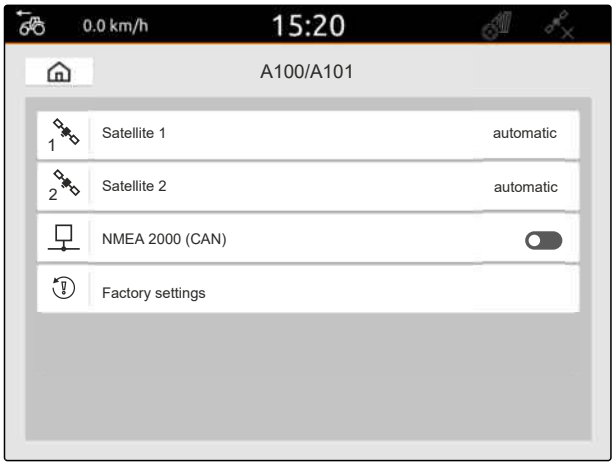
1. In the Setup menu, select *"GPS"*.
2. Under *"GPS receiver input"*, select *"GPS (NMEA0183)"*.
3. Select *"Configure GPS receiver"*.

➡ The system searches for the connected GPS receiver.

CMS-I-00001056

4. Under *"Satellite 1"* and *"Satellite 2"*, select *"Automatic"*.

➡ With the *"Automatic"* setting, the GPS receiver automatically searches for the correct satellites.



CMS-I-00001055

NOTE

The GPS receiver can send NMEA2000 data to the CAN bus. This setting should only be activated by experienced users.

5. *If the GPS receiver should send the NMEA2000 data to the CAN bus,*
   activate *"NMEA 2000 (CAN)"*.

10.3 Ag-Star receiver configuration

CMS-T-00001693-G.1

This GPS receiver can be operated with different configurations. The configurations differ in terms of the satellite system and correction satellites. The GPS receiver can be adjusted according to the region and availability of correction services.

With the *"SBAS GPS"* correction mode, a signal with higher accuracy is available as long as the SBAS correction signal is received.

SBAS includes the correction services EGNOS, WAAS and MSAS. Further information on the availability of SBAS can be found on the Internet.

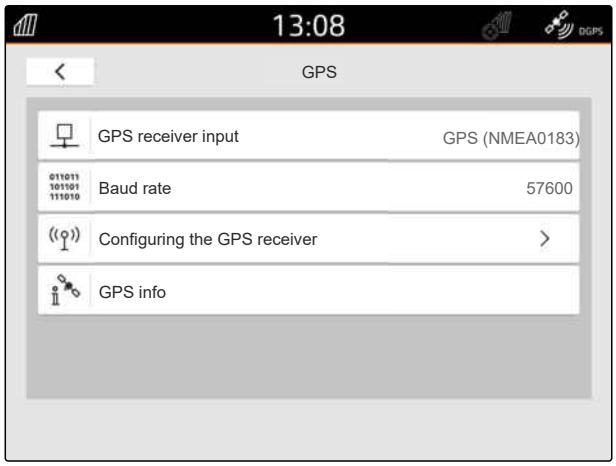
For regions without SBAS availability, the *"GPS/GLONASS"* correction mode can be used.

REQUIREMENTS

- ⊘ Ag-Star receiver is connected

1. In the Setup menu, select *"GPS"*.
2. Under *"GPS receiver input"*, select *"GPS (NMEA0183)"*.
3. Under *"Baud rate"*, select *"Automatic"*.
4. Select *"Configure GPS receiver"*.

➡ The system searches for the connected GPS receiver.



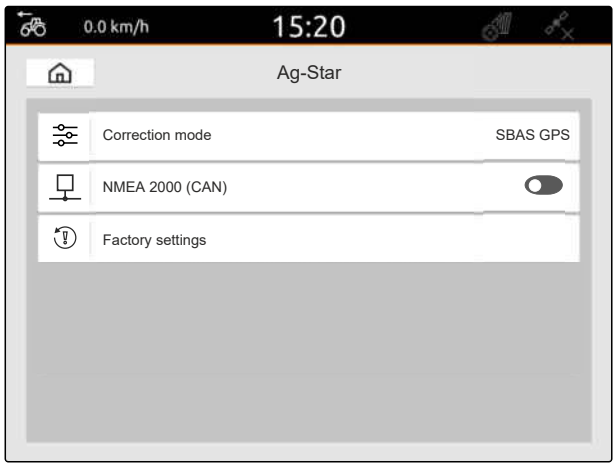
CMS-I-00001056

5. Under *"Correction mode"*, select the desired correction mode.

NOTE

The GPS receiver can send NMEA2000 data to the CAN bus. This setting should only be activated by experienced users.

6. *If the GPS receiver should send the NMEA2000 data to the CAN bus,*
   activate *"NMEA 2000 (CAN)"*.



CMS-I-00001057

10.4 Setting up other GPS receivers

CMS-T-00003635-E.1

REQUIREMENTS

- ⊘ GPS receiver is connected

The connected GPS receiver must meet the following minimum requirements. The specified values can be found in the GPS receiver operating manual. GPS receivers that are included in the tractor equipment can be configured through the tractor.

- ⊘ Supports NMEA0183
- ⊘ Baud rate: At least 19200 baud or ideally 57600 baud
- ⊘ GGA: At least 5 Hz or ideally 10 Hz
- ⊘ VTG: At least 5 Hz or ideally 10 Hz
- ⊘ GSA: 1 Hz
- ⊘ ZDA: 1 Hz

1. In the Setup menu, select *"GPS"*.
2. Under *"GPS receiver input"*, select *"GPS (NMEA0183)"*.
3. *With a GGA value and VTG value of 10 Hz,* select *"57600"* under *"Baud rate"*

   or

   With a GGA value and VTG value of 5 Hz, select *"19200"* or *"57600"* under *"Baud rate"*.

CMS-I-00001056

10.5 Resetting the GPS receiver to factory settings

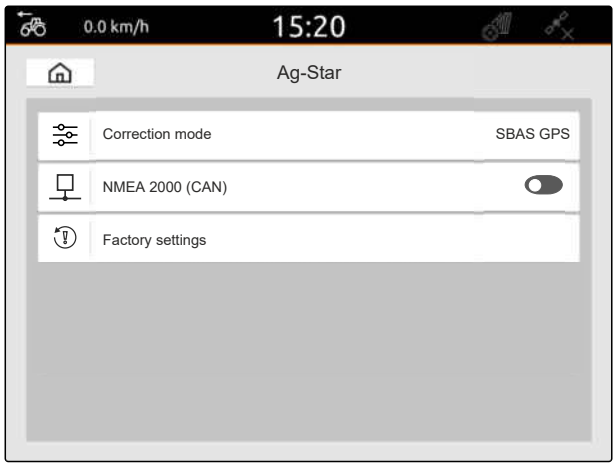
CMS-T-00001744-F.1

If the GPS receiver does not work properly, the GPS receiver can be reset to the factory settings.

1. In the Setup menu, select *"GPS receiver"*.
2. Select *"Configure GPS receiver"*.

CMS-I-00001056

3. Select *"Factory settings"*.
4. Confirm reset with ✓.
5. Reconfigure the GPS receiver.



CMS-I-00001057

Configuring ISOBUS

11

CMS-T-00000281-H.1

To operate multiple control terminals on the ISOBUS and be able to use the AUX-N input device, the ISOBUS must be configured.

Each ISOBUS control terminal has a clear identification number for the Universal Terminal and the Task Controller, the UT number and the TC number, respectively. The implement controls are shown on the Universal Terminal, and the Task Controller manages the job documentation for the implement.

If the Universal Terminal or the Task Controller do not need to be executed on the AmaTron 4, the Universal Terminal or the Task Controller can be deactivated.

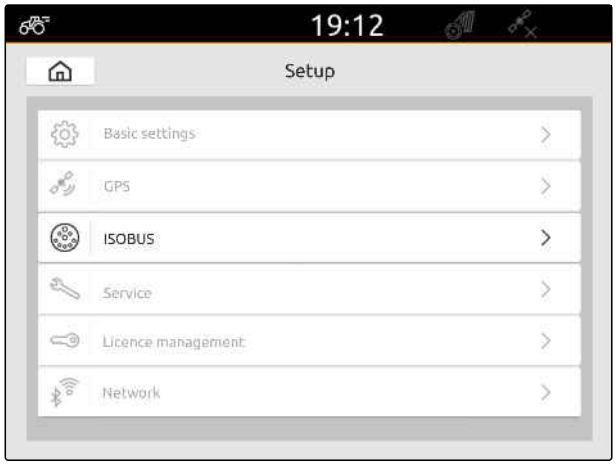
AUX-N input devices can only be configured on the control terminal with the UT number 1.

If the AmaTron 4 is the only connected control terminal, the implement automatically adopts the UT number and TC number of the AmaTron 4.

If other control terminals are connected in addition to the AmaTron 4, the following applies:

- If control terminals with the same UT number or TC number are connected, the AmaTron 4 automatically selects a free UT number and TC number. In this case, a message is shown.
- For the implement controls and the job documentation to be executed on the desired control terminal, the UT number and the TC number must be configured in the implement controls.
- The connected implement selects the control terminal with the UT number and TC number that was last configured for the implement.

1. In the Setup menu, select *"ISOBUS"*.



CMS-I-00000170

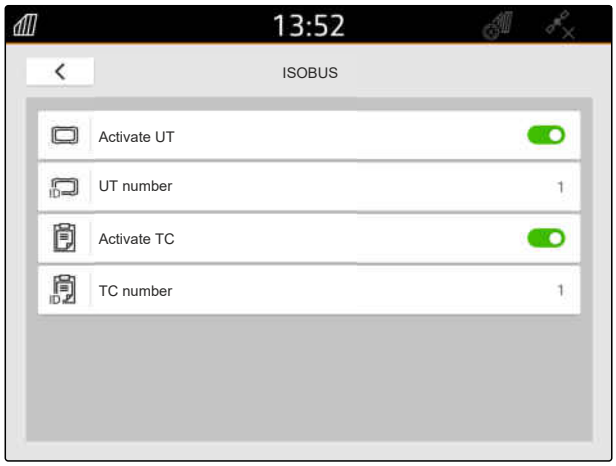
2. *If the implement controls on the AmaTron 4 should be used,*
   activate the UT.

3. *If the connected AUX-N input device should be configured through the AmaTron 4,*
   select 1 under *"UT number"*.

4. *If the implement controls should be displayed on the AmaTron 4,*
   change the UT number to the UT number of the AmaTron 4 in the implement controls.

5. *If the job documentation on the AmaTron 4 should be used,*
   activate the TC.

6. *If the job documentation and the automatic part-width section control of the connected implement should be used on the AmaTron 4,*
   change the TC number to the TC number of the AmaTron 4 in the implement controls.



CMS-I-00000408

TROUBLESHOOTING

Are the implement controls, the job documentation or the AUX-N configuration not being displayed on the desired control terminal?

1. Check the UT numbers and TC numbers of the control terminal and the connected implement to see if they match.
2. Switch off the ignition.
3. Restart all control terminals.
4. Switch on the ignition.
5. Check the UT numbers and TC numbers again.

Managing licenses

12

CMS-T-00001691-J.1

Licence management can be used to activate licences in order to use the associated applications permanently.

Without activated licences, the functions can be used as follows:

- GPS track: can be used for 50 hours as soon as the first track line is created.
- GPS switch basic and GPS switch pro: can be used for 50 hours as soon as an implement with automatic part-width section control is connected for the first time.
- GPS maps&doc: job data can be exported or imported 25 times.
- AmaCam: can be used for 50 hours as soon as the camera is activated in the settings.

The time-limited licences for GPS track, AmaCam, GPS switch basic and GPS switch pro continue to expire as long as the AmaTron 4 is switched on, even if the corresponding functions are no longer being used.

To use the applications without restrictions, the license key must be purchased from AMAZONE dealers.

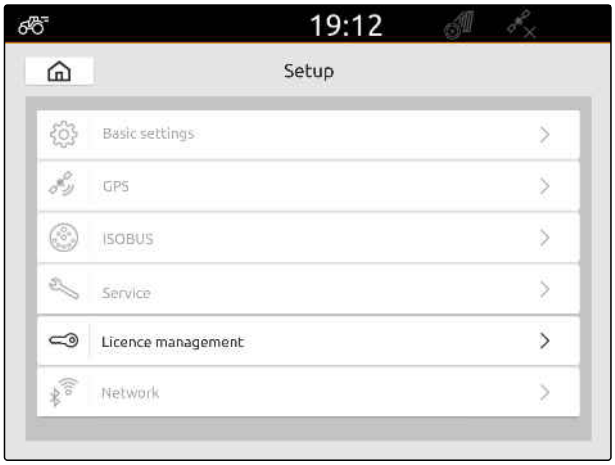
The following table shows an overview of the functions that are activated with the licences.

Functions	No licence	GPS switch basic	GPS switch pro	GPS track	GPS maps & doc	AmaCam
Grid lines	X					
Manual zoom	X					
Driving direction detection	X					
Panning the map	X					

Functions	No licence	GPS switch basic	GPS switch pro	GPS track	GPS maps & doc	AmaCam
Displaying the tractor and implement	X					
Displaying the GPS speed	X					
Bird's-eye view	X					
Compass	X					
Representing existing geo-elements	X					
Automatic part-width section control with a maximum of 16 part-width sections		X	X			
Recording of the worked area, ISOBUS or manually		X	X			
Creating field boundaries		X	X			
Automatic boom lowering		X	X			
Virtual headlands		X	X			
Automatic part-width section control with a maximum of 128 part-width sections			X			
Obstacle marking			X			
Auto-Zoom			X			
MultiBoom: using multiple booms on the implement			X			

Functions	No licence	GPS switch basic	GPS switch pro	GPS track	GPS maps & doc	AmaCam
MultiBin: using multiple setpoint receivers on the implement			X			
Creating track lines and beds				X		
ISOBUS tramline control				X		
Importing and exporting job data and shape files					X	
Exporting ISO-XML job data as a PDF					X	
Geo-referenced documentation					X	
Using ISO-XML application maps					X	
Using application maps from a shape file					X	
Automatic field detection					X	
Showing inactive field boundaries					X	
Showing camera image						X

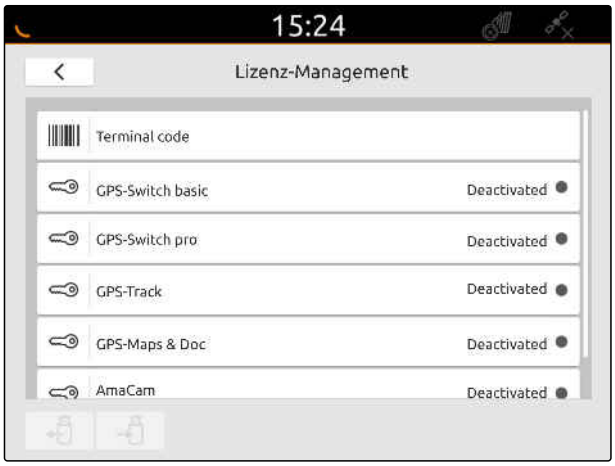
1. In the Setup menu, select *"License management"*.



CMS-I-00000168

In the list of applications, the remaining period of use is displayed for each license or whether the application is activated or deactivated.

2. *To activate licenses,*
   contact an AMAZONE dealer.



CMS-I-00001096

Network configuration 13

CMS-T-00004307-C.1

13.1 Configuring Wi-Fi access point with AmaTron 4

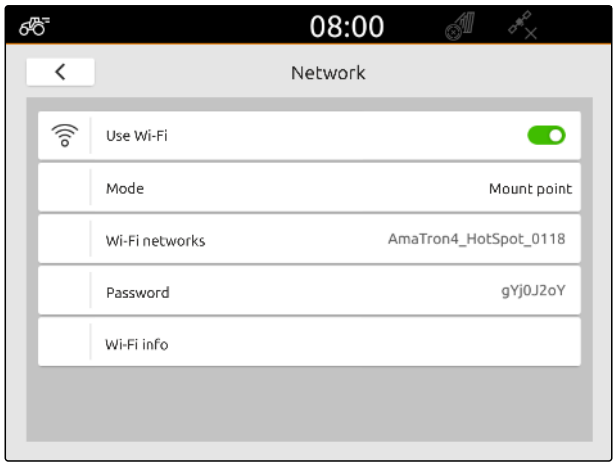
CMS-T-00004308-C.1

A Wi-Fi network can be configured with the AmaTron 4 and a Wi-Fi adapter. Other Wi-Fi-compatible devices can access this Wi-Fi network. The Wi-Fi network can be used for the myAmaRouter and AmaTron Twin apps.

REQUIREMENTS

- ⊘ AmaTron Connect package purchased

1. Insert the USB Wi-Fi adapter.
2. In the Setup menu, select *"Network"*.
3. Activate *"Use Wi-Fi"*.
4. Under *"Mode"*, select *"Access point"*.
5. Under *"Wi-Fi network"*, rename the Wi-Fi network.
6. Under *"Password"*, assign a password for the Wi-Fi network.



CMS-I-00003176

13.2 Connecting the AmaTron 4 with the Wi-Fi network

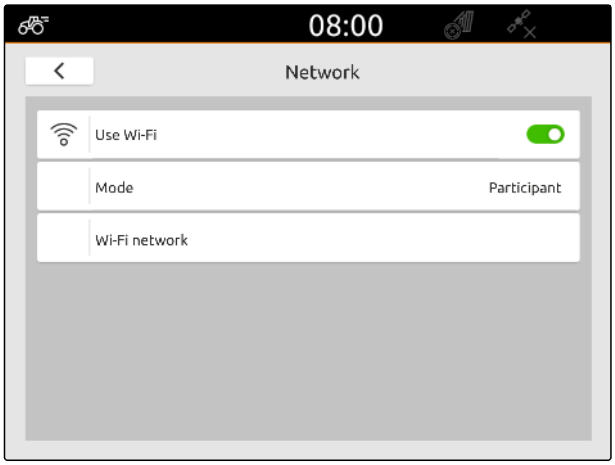
CMS-T-00004309-C.1

A Wi-Fi network can be accessed with the AmaTron 4 and a Wi-Fi adapter. The Wi-Fi network can be used for the myAmaRouter and AmaTron Twin apps.

REQUIREMENTS

✓ AmaTron Connect package purchased

1. Insert the USB Wi-Fi adapter.
2. In the Setup menu, select *"Network"*.
3. Activate *"Use Wi-Fi"*.
4. Under *"Mode"*, select *"Participant"*.
5. Select *"Wi-Fi network"*.



CMS-I-00003178

A list of available Wi-Fi networks will be displayed. A padlock symbol indicates whether the Wi-Fi network is password-protected.

- : password-protected
- : open

6. Under *"Wi-Fi network"*, select the desired Wi-Fi network.
7. Select *"Connect"*.
8. *If the selected Wi-Fi network is password-protected,*
   enter the password.

CMS-I-00003175

Configuring implements

14

CMS-T-00000194-J.1

14.1 Configuring ISOBUS implements

CMS-T-00000319-J.1

Connected ISOBUS implements are automatically created and the implement data is loaded. The implement data can only be changed through the Universal Terminal in the implement controls. For correct representation in the map view, the implement modelling must be specified.

The specifications depend on the following factors:

- whether the connected implement is mounted or towed.
- whether the GPS receiver is installed on the tractor or on the implement.
- whether the implement is self-propelled.
- Number of booms

REQUIREMENTS

✓ The ISOBUS implement is connected

1. In the Main menu, select .
2. Select the connected implement under *"Implements"*.
3. *If the GPS receiver is installed on the implement,* activate *"GPS receiver on implement"*.
4. *If the connected implement is mounted or the implement is self-propelled,* select *"Mounted"* under *"Implement modelling"*

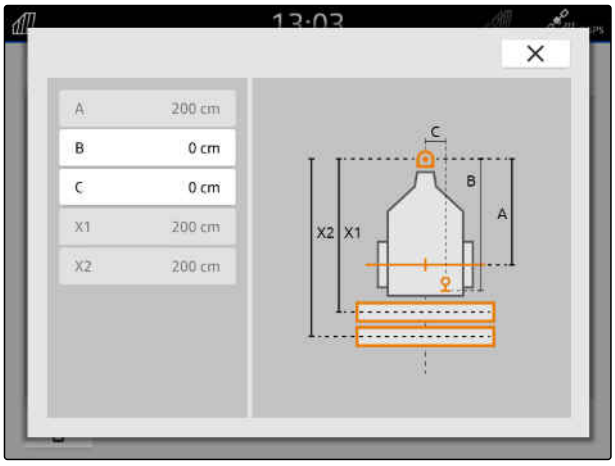
   or

   If the connected implement is towed, select *"Towed"* under *"Implement modelling"*.

CMS-I-00000243

The implement geometry includes the following values:

- *"X1"*: Distance between the coupling point and the application point
- *"X2"*, for implements with a second boom: Distance between the coupling point and the second application point
- *"A"*, on towed implements: Distance between the coupling point and the rear axle
- *"B"*: Longitudinal offset of the GPS receiver relative to the coupling point
- *"C"*: Transverse offset of the GPS receiver relative to the coupling point in the direction of travel. Positive value for a transverse offset to the right of the coupling point, negative value for a transverse offset to the left of the coupling point.



CMS-I-00004941

NOTE

All of the geometry values must match the real geometry values of the implement.

5. *To check the geometry values,* remeasure the geometry values on the implement.
6. Select *"Implement geometry"*.
7. *If the GPS receiver is installed on the implement,* Enter the values for *"B"* and *"C"*.

14.2 Configuring non-ISOBUS implements

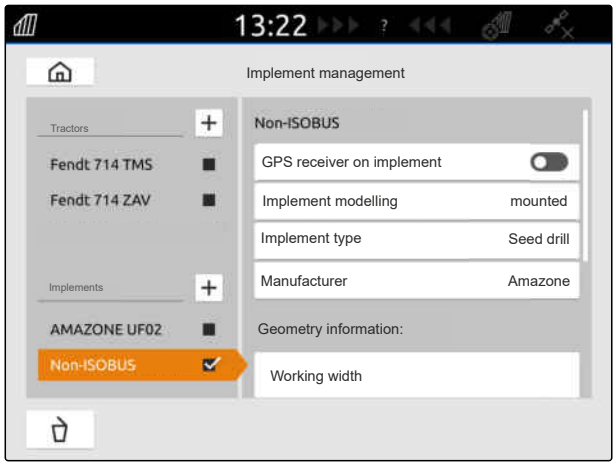
CMS-T-00000318-H.1

14.2.1 Creating non-ISOBUS implements

CMS-T-00000321-G.1

An implement must be created to correctly display the map view and for proper functioning of part-width section control.

1. In the main menu, select .
2. Under *"Implements"*, select .
3. Enter the implement name.
4. Confirm with .



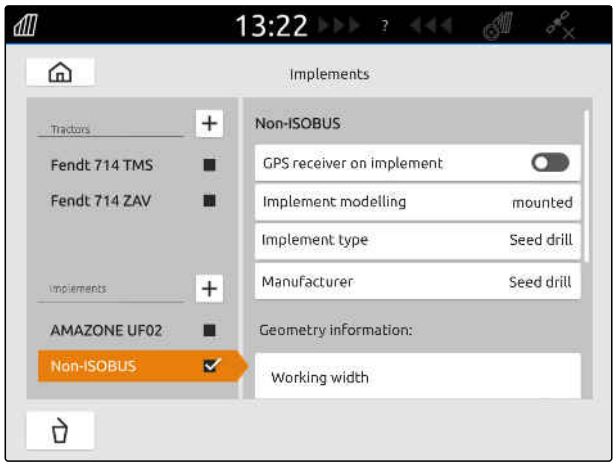
CMS-I-00000279

14.2.2 Configuring non-ISOBUS implements

CMS-T-00000322-H.1

1. In the main menu, select .
2. Select the desired implement under *"Implements"*.

For correct representation in the map view, the implement modelling must be specified.



CMS-I-00000280

The specifications depend on the following factors:

- whether the connected implement is mounted or towed.
- whether the GPS receiver is installed on the tractor or on the implement.
- whether the implement is self-propelled.

3. *If the connected implement is mounted or the implement is self-propelled,*
   select *"Mounted"* under *"Implement modelling"*

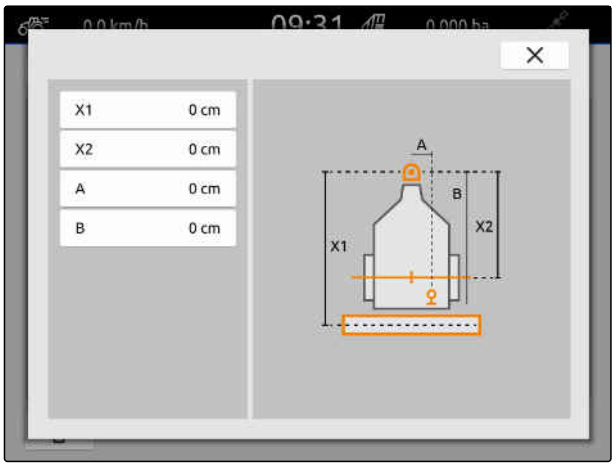
   or

   If the connected implement is towed,
   select *"Towed"* under *"Implement modelling"*.

4. Enter the implement type and manufacturer.

The implement geometry includes the following values:

- X1: Distance between the coupling point and the application point
- X2, on towed implements: Distance between the coupling point and the rear axle
- A: Transverse offset of the GPS receiver relative to the coupling point in the direction of travel. Positive value for a transverse offset to the right of the coupling point, negative value for a transverse offset to the left of the coupling point.
- B: Longitudinal offset of the GPS receiver relative to the coupling point



CMS-I-00001044

5. Enter the values for X1 and X2 under *"Implement geometry"*.

6. *If the GPS receiver is installed on the implement,* enter the values for A and B under *"Implement geometry"*.

7. Enter the number of part-width sections of the connected implement under *"Number of part-width sections"*.

8. Change the width for all of the part-width sections under *"Width of the standard part-width sections"*.

If the part-width sections have different widths, the width for each part-width section can be entered

separately. The part width sections are numbered from left to right in the direction of travel.

9. In the list of part-width sections, change the values for the individual part-width sections.

14.3 Selecting implements

CMS-T-00000378-H.1

ISOBUS implements are automatically selected when they are connected.

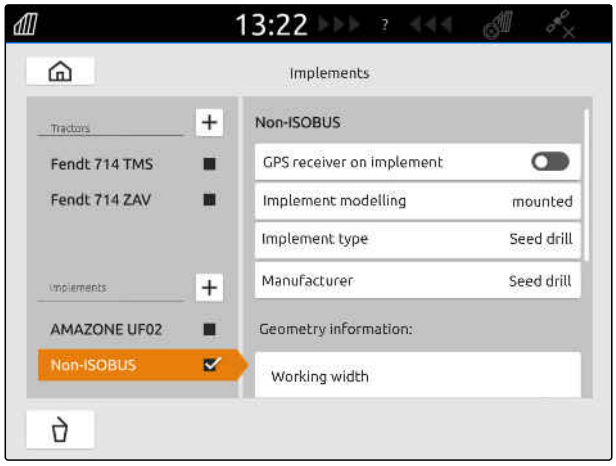
If non-ISOBUS implements are used, an implement must be selected so that the correct implement data can be loaded.

REQUIREMENTS

- ⊘ Implement is configured, see page 51

1. In the Main menu, select .
2. Select the desired implement.

➥ The selected implement is marked with a checkmark.



CMS-I-00000280

Configuring tractors 15

CMS-T-00000195-J.1

15.1 Creating new tractors

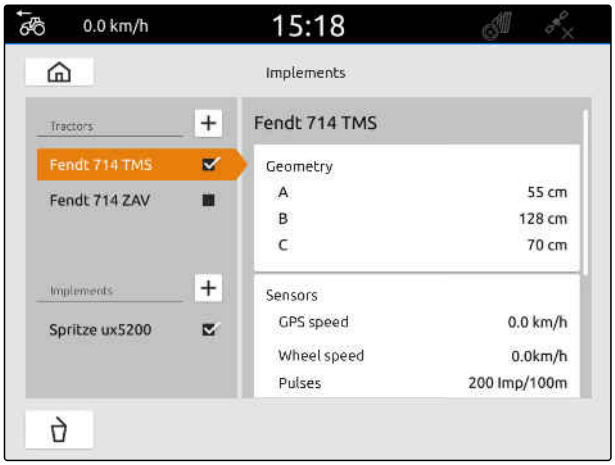
CMS-T-00000238-H.1

A tractor must be created to correctly display the map view and for proper functioning of automatic part-width section control.

NOTE

For each utilised tractor, a tractor must be created and configured in the *"Implements"* menu.

1. In the Main menu, select .
2. Under *"Tractors"*, select .
3. Enter the tractor name.
4. Confirm with .
5. Change the tractor geometry data, see page 56.
6. Configure the tractor sensors, see page 58.



CMS-I-00000241

15.2 Changing the tractor geometry data

CMS-T-00000237-G.1

With the tractor geometry data, the position of the GPS receiver relative to the longitudinal axis, rear axle and to the coupling point on the tractor are specified. The geometry data is needed to correctly display the map view and for proper functioning of part-width section control.

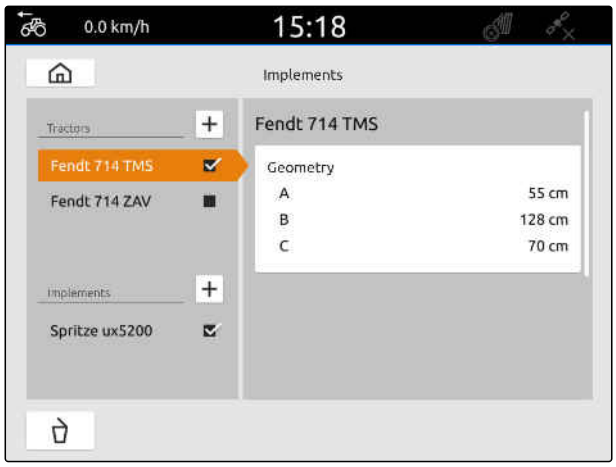
NOTE

On some tractors with integrated GPS receiver, the sent position of the GPS receiver does not correspond to the physical position of the GPS receiver. The tractor geometry data must correspond to the sent position of the GPS receiver. For more information, contact the tractor manufacturer.

NOTE

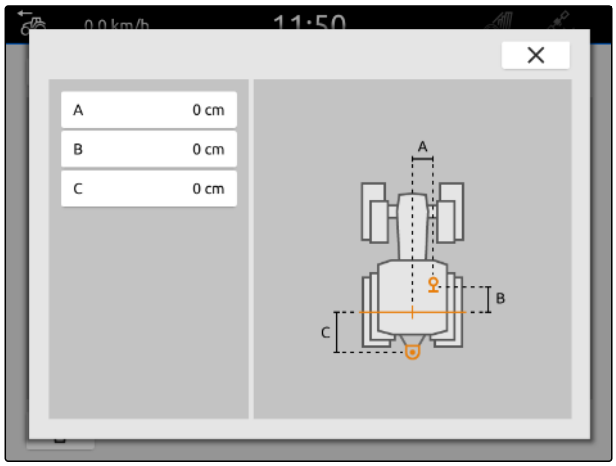
For tractors with 2 coupling points, a tractor must be created for each coupling point.

1. In the main menu, select .
2. Select the desired tractor.
3. Select *"Geometry"*.



CMS-I-00000234

4. Under *"A"*, enter the distance from the GPS receiver to the longitudinal axis of the tractor.
5. Under *"B"*, enter the distance from the GPS receiver to the centre of the tractor rear axle.
6. Enter the distance from the rear axle to the coupling point under *"C"*.
7. Confirm with .



CMS-I-00000236

15.3 Configuring the tractor sensors

CMS-T-00000239-I.1

15.3.1 Configuring wheel sensors

CMS-T-00000310-G.1

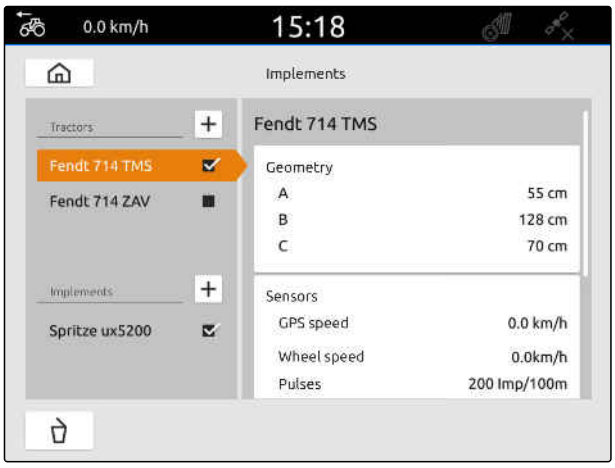
If the implement does not send its own speed signal to the ISOBUS, the implement controls can use the wheel sensor speed signal. The wheel sensor determines the speed based on the wheel rotations. If the tractor does not have a wheel sensor but the connected implement needs this signal, the wheel sensor data can be simulated by the GPS signal.

REQUIREMENTS

If the wheel sensor signal comes from a wheel sensor:

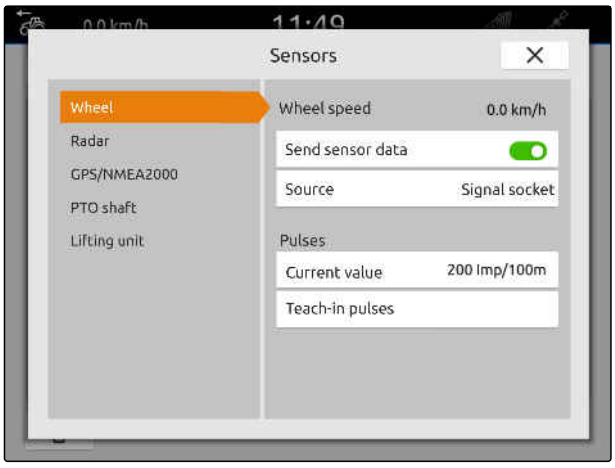
- ✓ Signal plug connected, see page 10

1. In the Main menu, select .
2. Select the desired tractor under *"Tractors"*.
3. Select *"Sensors"*.



CMS-I-00000242

4. Select *"Wheel"*.
5. *If the wheel sensor signal should be used,* activate *"Send signal"*.



CMS-I-00000232

6. *If the wheel sensor signal should be simulated by the GPS signal,*
   select *"GPS receiver"* under *"Source"*

   or

   If the wheel sensor signal comes from a wheel sensor,
   select *"Signal socket"* under *"Source"*.

7. *If the wheel sensor signal comes from a wheel sensor,*
   enter the number of pulses per minute under *"Current value"*

   or

   To determine the number of pulses per minute,
   follow the instructions on the display under *"Teach-in pulses"*.

NOTE

The settings are only adopted once the menu is closed.

8. Close the menu with ✕.

15.3.2 Configuring radar sensors

CMS-T-00000311-G.1

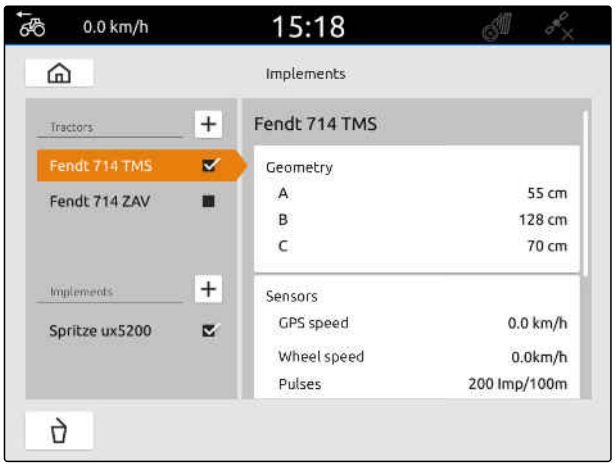
If the implement does not send its own speed signal to the ISOBUS, the implement controls can use the radar sensor speed signal. The radar sensor determines the speed based on radar signals. If the tractor does not have a radar sensor but the connected implement needs this signal, the radar sensor data can be simulated by the GPS signal.

REQUIREMENTS

If the radar sensor signal comes from a radar sensor:

✓ Signal plug connected, see page 10

1. In the Main menu, select .
2. Select the desired tractor under *"Tractors"*.
3. Select *"Sensors"*.



CMS-I-00000242

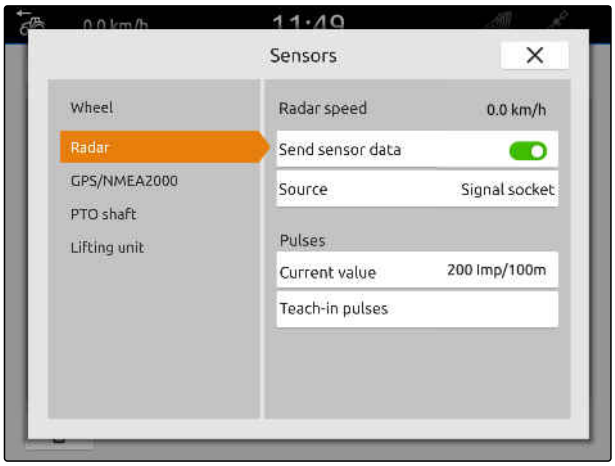
4. Select *"Radar"*.
5. *If the radar sensor signal should be used,* activate *"Send signal"*.
6. *If the radar sensor signal should be simulated by the GPS signal,* select *"GPS receiver"* under *"Source"*

   or

   If the radar sensor signal comes from a radar sensor, select *"Signal socket"* under *"Source"*.
7. *If the radar sensor signal comes from a radar sensor,* enter the number of pulses per minute under *"Current value"*

   or

   To determine the number of pulses per minute, follow the instructions on the display under *"Teach-in pulses"*.



CMS-I-00000235

NOTE

The settings are only adopted once the menu is closed.

8. Close the menu with ✕.

15.3.3 Sending GPS/NMEA2000 signals

CMS-T-00000316-H.1

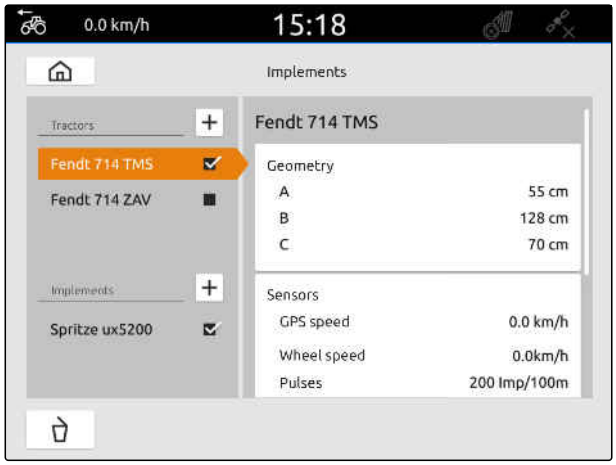
The AmaTron 4 can send the speed and the GPS position to the connected implement via the ISOBUS. To do so, the connected implement must be able to process the speed signal through the NMEA2000 protocol.

NOTE

If *"ISOBUS"* is selected in the GPS settings under *"GPS receiver input"*, the tractor sends the GPS signals on the ISOBUS, see page 37.

In this case, the settings in this menu are deactivated.

1. In the Main menu, select .
2. Select the desired tractor under *"Tractors"*.
3. Select *"Sensors"*.



CMS-I-00000242

4. Select *"GPS/NMEA2000"*.

5. *If the speed signal should be sent to the connected implement through the NMEA2000 protocol,*
activate *"Send signal"* under *"Speed"*.

6. *If the GPS position should be sent to the connected implement through the NMEA2000 protocol,*
activate *"Send signal"* under *"GPS position"*.

CMS-I-00000233

NOTE

The settings are only adopted once the menu is closed.

7. Close the menu with ✕.

15.3.4 Configuring the PTO shaft sensor

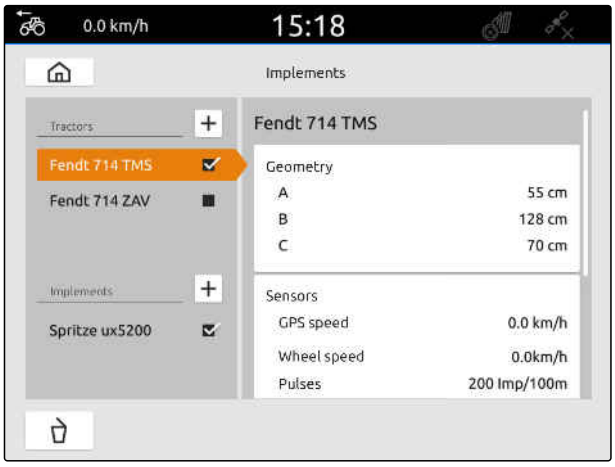
CMS-T-00000314-G.1

If the connected implement needs the PTO shaft speed, the pulses per revolution can be set and the signal for the PTO shaft speed can be sent.

1. In the Main menu, select .

2. Select the desired tractor under *"Tractors"*.

3. Select *"Sensors"*.



CMS-I-00000242

4. Select *"PTO shaft"*.

5. *If the PTO shaft speed should be sent,* select *"Send signal"*.

6. Enter the value for the correct PTO shaft speed under *"Pulses per revolution"*.

CMS-I-00000239

NOTE

The settings are only adopted once the menu is closed.

7. Close the menu with ✕.

15.3.5 Configuring the working position sensor

CMS-T-00000315-G.1

15.3.5.1 Configuring digital working position sensors

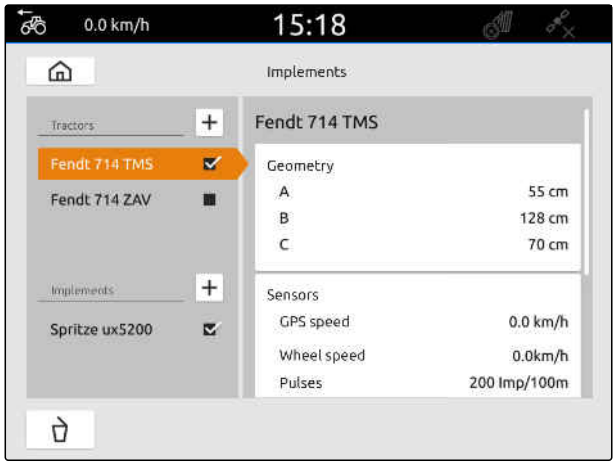
CMS-T-00000312-G.1

If a digital working position sensor is connected, the AmaTron 4 can determine if the implement is in working position based on the signal of the working position sensor.

1. In the Main menu, select .

2. Select the desired tractor under *"Tractors"*.

3. Select *"Sensors"*.



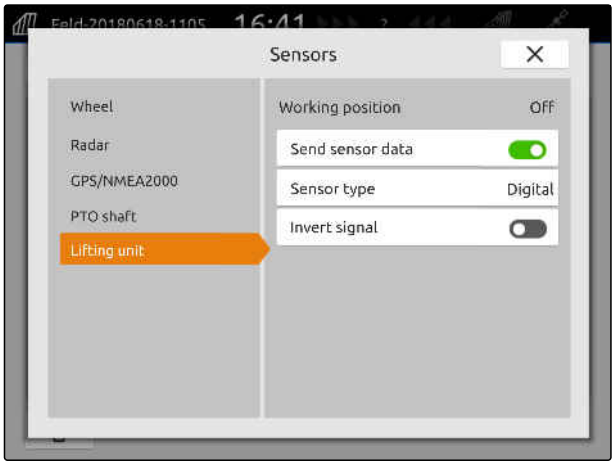
CMS-I-00000242

4. Select *"Lifting unit"*.

5. *If the working position should be sent,* select *"Send signal"*.

6. Under *"Sensor type"*, select *"Digital"*.

7. *If the displayed working position does not match the actual working position,* activate *"Invert signal"*.



CMS-I-00000238

NOTE

The settings are only adopted once the menu is closed.

8. Close the menu with ✕.

15.3.5.2 Configuring analogue working position sensors

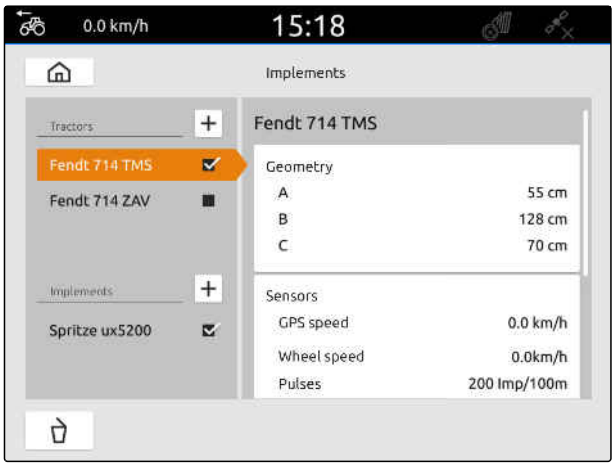
CMS-T-00000313-G.1

If an analogue working position sensor is connected, the AmaTron 4 can determine if the implement is in working position based on the voltage values. To do so, the voltage values for the different positions must be taught-in on the AmaTron 4. Moreover, the switchover point between the upper and lower end position must be taught-in on the AmaTron 4.

1. In the Main menu, select .

2. Select the desired tractor under *"Tractors"*.

3. Select *"Sensors"*.



CMS-I-00000242

4. Select *"Lifting unit"*.

5. *If the working position should be sent,* select *"Send signal"*.

6. Under *"Sensor type"*, select *"Analogue"*.

The value for the *"Upper end position"* is evaluated as *"Working position off"*. The value for the *"Lower end position"* is evaluated as *"Working position on"*.

7. Move the implement into the working position with the tractor lifting device.

8. Select *"Teach-in upper end position"*.

9. Move the implement out of the working position with the tractor lifting device.

10. Select *"Teach-in lower end position"*.

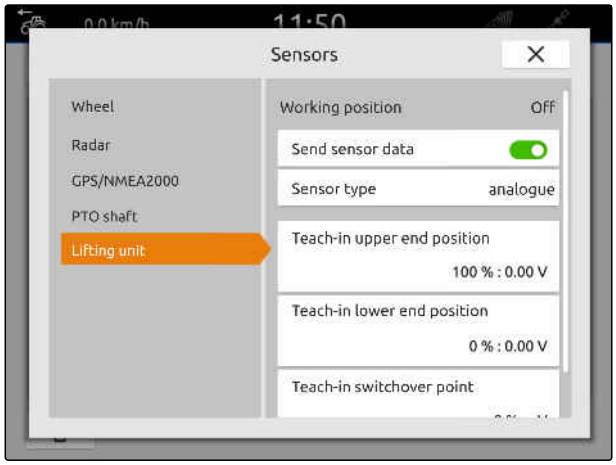
11. Move the tractor lifting device between the lower and upper end position.

12. Select *"Teach-in switchover point"*.

NOTE

The settings are only adopted once the menu is closed.

13. Close the menu with ✕.



CMS-I-00000237

15.4 Selecting the tractor

CMS-T-00003589-D.1

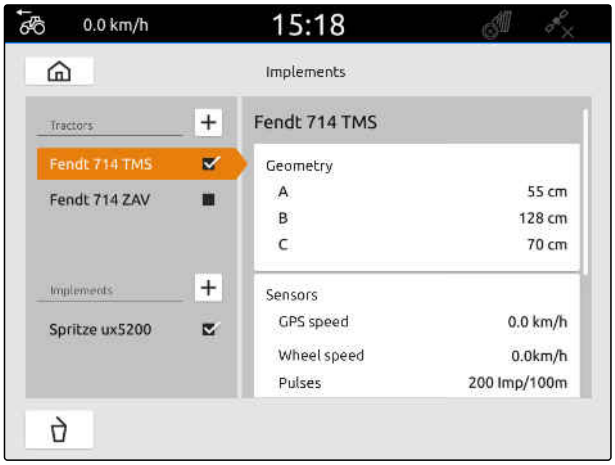
A tractor must be selected so that the correct implement data can be loaded.

REQUIREMENTS

- ⊘ Tractor created; see page 56

1. In the main menu, select .
2. Select the desired tractor.

➡ The selected tractor is marked with a checkmark.



CMS-I-00000241

Using the map view 16

CMS-T-00000188-I.1

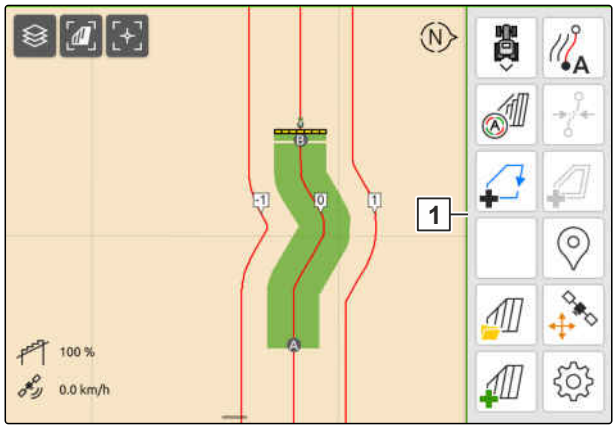
16.1 Map view configuration

CMS-T-00000192-I.1

16.1.1 Activate dynamic Work menu

CMS-T-00000211-G.1

When this function is activated, the Work menu **1** is automatically hidden in the map view after 10 seconds. When the user moves their hand on the display, the Work menu is shown again.

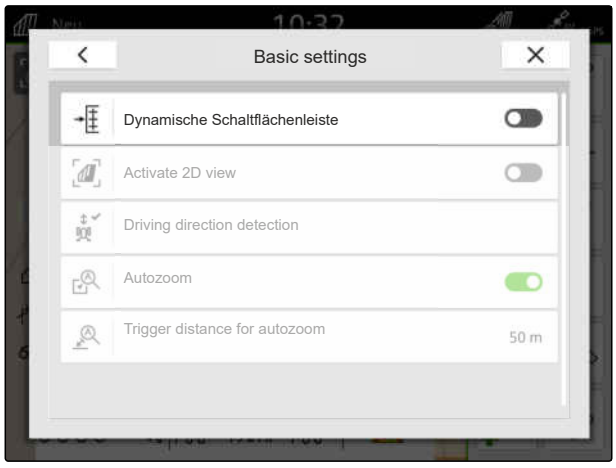


CMS-I-00002900

1. In the Work menu ⚙ > select *"Basic settings"*.
2. Activate the *"dynamic button bar"*

   or

   Deactivate the *"dynamic button bar"*.



CMS-I-00000149

16.1.2 Activating the 2D view

CMS-T-00013118-A.1

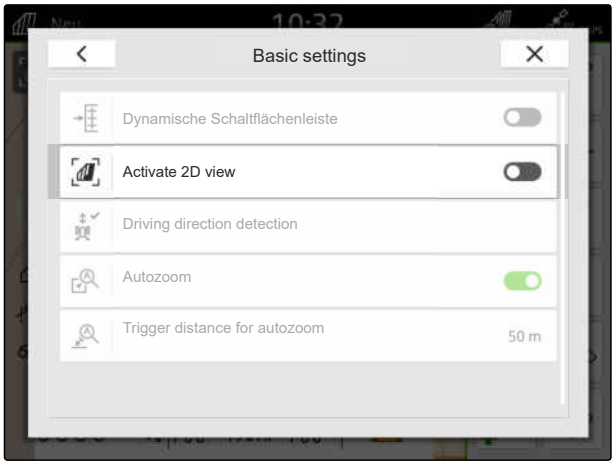
This function switches between the 2D view and the 3D view.

CMS-I-00008321

1. In the Work menu > select *"Basic settings"*.
2. Activate 2D view

   or

   Deactivate 2D view.



CMS-I-00008320

16.1.3 Configuring the driving direction detection

CMS-T-00000226-G.1

The driving direction detection ensures that the tractor symbol does not turn around when the tractor drives in reverse. The source for the direction of travel can be the tractor signals or the GPS and tractor signals.

NOTE

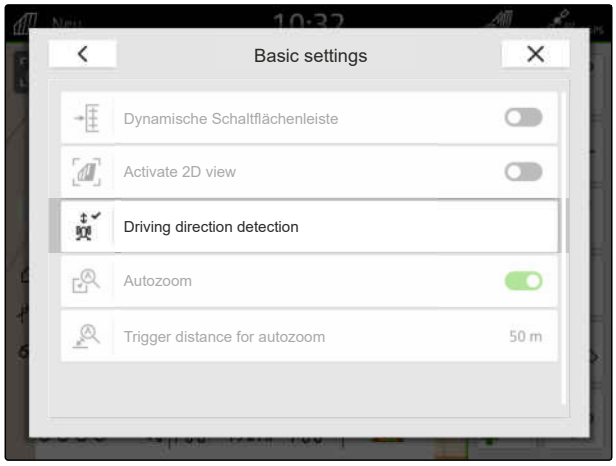
If *"Tractor + GPS"* is selected and the tractor does not send any signals, the GPS signal will be used.

1. In the Work menu > select *"Basic settings"*.

2. Under *"Driving direction detection"*, select the desired source

   or

   Deactivate the driving direction detection.



16.1.4 Configuring the automatic zoom

CMS-T-00000228-G.1

When auto-zoom is activated, the map will be automatically zoomed for the following events:

- Zoomed in:
  - Approaching the following elements:
    - Field boundary
    - Headlands
    - Obstacle
    - Worked area
  - Speed under 3 km/h
- Zoomed out:
  - Speed above 6 km/h

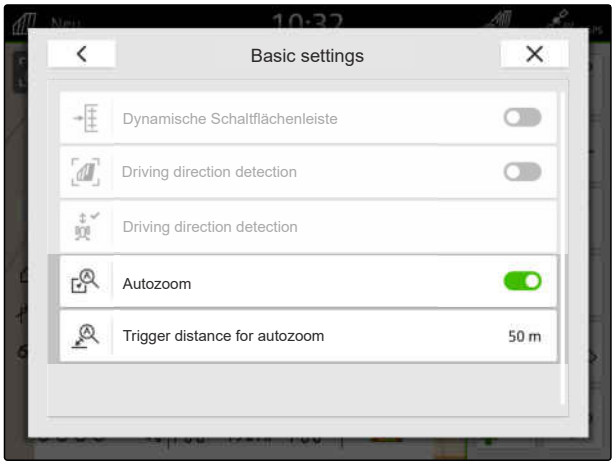
REQUIREMENTS

✓ License available for *"GPS switch pro"*

1. In the Work menu > select *"Basic settings"*.
2. Activate *"Autozoom"*

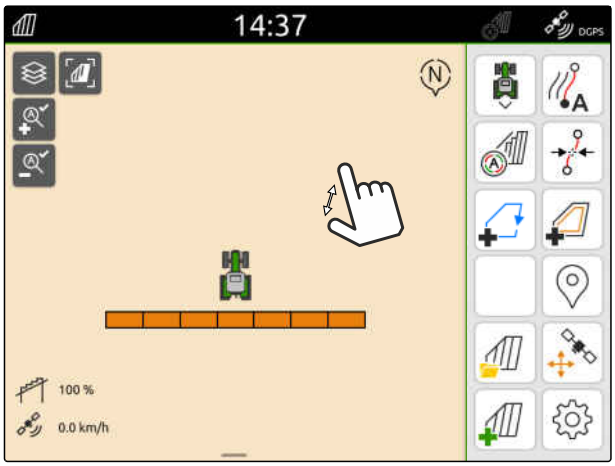
   or

   deactivate.
3. *When autozoom is activated,*
   set the distance from the above-mentioned elements at which autozoom is triggered under *"Trigger distance for autozoom"*.



CMS-I-00000197

4. Switch to the map view.
5. Enlarge the map with your fingers to the highest desired zoom level.
6. Select .



CMS-I-00000256

7. Diminish the map with your fingers to the lowest desired zoom level.
8. Select .

NOTE

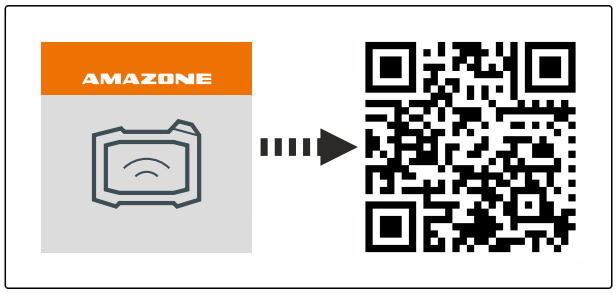
As long as autozoom is activated, the zoom levels can be adjusted at any time.

CMS-I-00000257

16.2 Displaying the map view in the AmaTron-Twin app

CMS-T-00004310-D.1

With the AmaTron-Twin app, the map view of the AmaTron 4 can be displayed and operated on a mobile device. The QR code shown takes you to the app download and to further information.



CMS-I-00003259

REQUIREMENTS

- ✓ AmaTron-Twin app is installed on the mobile device
- ✓ Network is configured on the AmaTron 4; see page 49
- ✓ The AmaTron 4 and mobile device are in the same wireless LAN

1. Install the AmaTron-Twin app using the QR code.
2. Start the AmaTron-Twin app.

16.3 Toggling the Work menu

CMS-T-00000206-F.1

Within the Work menu, the terminal functions and the functions of various implements can be displayed. The implements for which the functions are displayed can be selected. It is possible to toggle between the selected functions.

1. *To select implement functions for the Work menu,*
   press and hold the button for the map view 1.

➡ A list with the connected implements is shown.

2. Select the desired implements.

➡ The selected implements are marked with a checkmark.

3. Confirm with ✓.

CMS-I-00001091

IMPORTANT

Risk of machine damage

With a swiping gesture, buttons of the implement controls can be accidentally actuated.

- ▶ Start the swipe gesture at the edge of the display.

NOTE

When the finger is moved beyond the Work menu towards the centre of the screen, the AmaTron 4 switches between the applications; see page 22.

4. Press the button for the map view on the AmaTron 4

   or

   Swipe from the right edge of the screen towards the Work menu.

CMS-I-00000252

16.4 Showing and hiding the implement information

CMS-T-00000244-C.1

For AMAZONE implements, the implement information is shown in the map view at the bottom edge of the screen. The implement information can be shown or hidden as required.

REQUIREMENTS

✓ AMAZONE ISOBUS implement is connected

▶ *To hide the implement information,*
swipe from the implement information towards the bottom edge of the screen

or

To show the implement information,
swipe from the bottom edge of the screen towards the centre.

CMS-I-00000254

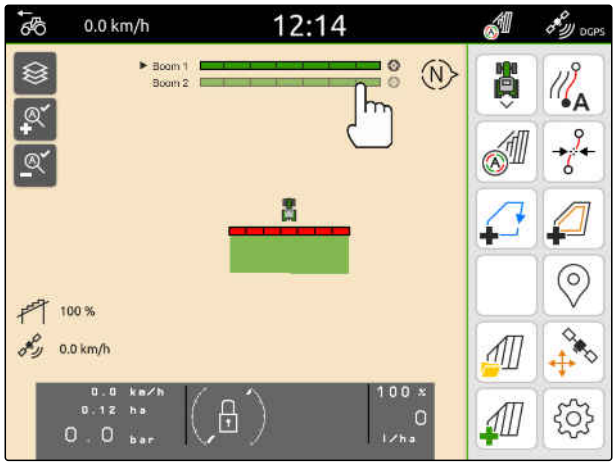
16.5 Switching between the booms

CMS-T-00007192-B.1

If the connected implement supports Multi Boom, the part-width sections of the boom are shown in a boom overview in the map view. Only the selected boom is shown on the vehicle symbol and the worked area is also only shown for the selected boom.

With the boom overview, you can select which boom is shown on the vehicle symbol and which worked area is shown.

▶ Switch to the desired boom in the boom overview.



CMS-I-00005061

16.6 Switching between application maps

CMS-T-00000358-G.1

If multiple application maps are assigned to a setpoint receiver, the application maps can be switched in the map view.

REQUIREMENTS

- ⊘ The desired boom is selected, see page 73

► In the map view, select .

16.7 Zooming the map

CMS-T-00000245-B.1

The map can be zoomed using gesture controls.

► *To zoom in,*
move two fingers away from each other on the map.

or

To zoom out,
move two fingers towards each other on the map.

16.8 Switching to bird's-eye view

CMS-T-00000356-B.1

To show all of the objects on the map, the bird's-eye view can be activated. As a result, the map is zoomed out until the tractor symbol and all of the field objects can be shown.

1. In the map view, select .
2. *To exit the bird's-eye view,*
   select again.

16.9 Focusing on the vehicle symbol

CMS-T-00000357-B.1

When the vehicle symbol is outside of the displayed map area, the view can be focused on the vehicle symbol.

▶ In the map view, select .

16.10 GPS drift correction

CMS-T-00007169-A.1

16.10.1 Correcting the GPS drift manually

CMS-T-00007170-A.1

GPS drift is defined as the deviations of the GPS signal. GPS drift results from the use of correction sources with low precision. GPS drift can be recognised when the positions of the field boundaries or the worked area on the AmaTron 4 no longer correspond to the actual positions.

REQUIREMENTS

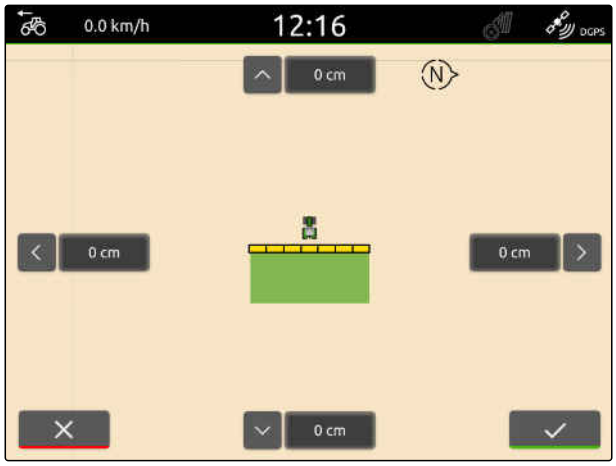
- ⊘ Field boundary has been created or area has been worked

1. Move the map using the arrows.

   or

   To enter a value by which the map should be moved,
   tap the length specifications.

2. Confirm the correction with .



CMS-I-00000312

16.10.2 Correcting the GPS drift with a marked obstacle

CMS-T-00000377-D.1

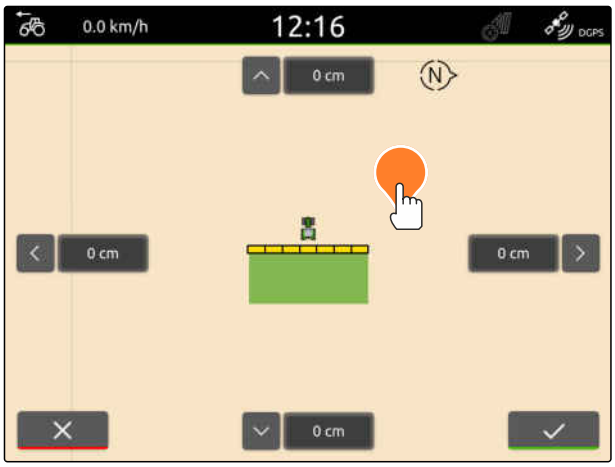
GPS drift is defined as the deviations of the GPS signal. GPS drift results from the use of correction sources with low precision. GPS drift can be recognised when the positions of the field boundaries or the worked area on the AmaTron 4 no longer correspond to the actual positions.

The positions of field boundaries or the worked area on the AmaTron 4 can be checked and corrected with a marked obstacle. To do so, a visible point on the field is required that serves as a real reference point, e.g. the entrance to the field or a tree. This point can be driven to at any time to compare the actual vehicle position with the position of the marked obstacle on the AmaTron 4. In doing so, it is important to always drive to the reference point in the same way and from the same direction. If the positions do not match, the GPS drift can be corrected with the corresponding obstacle symbol.

REQUIREMENTS

- ⊘ Obstacle marked; see page 124

1. Drive to the actual obstacle with the vehicle.
2. In the Work menu, select .
3. Tap the corresponding obstacle symbol.
4. Confirm with .



CMS-I-00005005

Starting work

17

CMS-T-00000266-H.1

The following 2 options are available for working with the AmaTron 4:

- Working without documentation:
  - The field data is discarded after working a field.
- Working with documentation:
  - The field data can be saved and managed after working a field.
  - Job data can be imported and exported in ISO-XML format.
  - Job data can be managed.
  - ISO-XML job data can be further processed in a Farm Management Information System.

The field data includes the following data:

- Worked area
- Field boundaries
- Obstacles
- Headlands
- Track lines

REQUIREMENTS

- GPS signal available
- The correct tractor is selected, see page 65
- The correct implement is selected, see page 55

1. *To create a new field,*

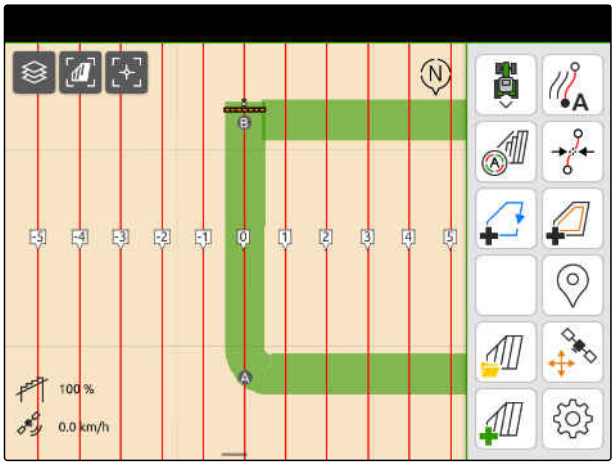
   select in the Work menu

   or

   To load field data from existing or imported job data,
   see page 83

   or

   To load field data from a shape file,
   see page 80.



CMS-I-00000202

➡ When current recordings are already available, a message is shown.

2. *When working without documentation and the current recordings should be discarded,*

   Select .

   or

   When working with documentation and the current recordings should be saved,

   select , see page 83.

➡ If product information and setpoints were added to the current job, a message will be shown.

3. *If the product information and setpoints should be adopted for the new field,*

   Select .

   or

   If the product information and setpoints for the current job should be discarded,

   Select .

4. *To start recording the worked area,*
   see page 109.

5. *To manage the recordings,*
   see page 83.

Importing a shape file

18

CMS-T-00007016-B.1

Shape files that are saved to a USB flash drive can be displayed and the contained field data can be imported. The field data can be processed immediately.

NOTE

If the field data should be added to an existing field, see page 86.

Shape files can contain the following field data:

- Application maps
- Field boundaries

REQUIREMENTS

✓ USB flash drive with shape files is inserted

Application maps and field boundaries must be created with the WGS-84 coordinate system. Application maps and field boundaries consist of 3 files. All 3 files must be saved in the same folder or the same ZIP file on the USB flash drive:

- Geometry data file, file format: .shp
- Factual data file, file format: .dbf
- Attribute data file, file format: .shx

1. Swipe from the top edge of the display towards the middle.

➡ The quick-start menu will be opened.

CMS-I-00000278

2. Select .

➡ When recordings are available, a message is shown.

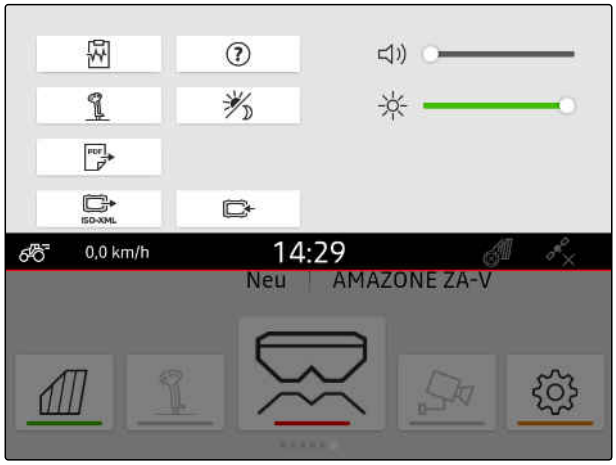
3. *To discard the current recordings,*

   select

   or

   To save the current recordings,

   select , see page 83.



CMS-I-00000144

The shape files can be filtered based on the distance from the current GPS position, see page 35.

4. *To filter the shape files,*
   Select .

5. Set the checkmark for the desired field boundary or application map.

NOTE

The application maps must be assigned to the setpoint receivers of the connected implement. If the connected implement has multiple setpoint receivers, multiple application maps can be selected.

If an implement is not connected, units must be assigned to the application maps.

6. *If an implement is connected,*
   select the desired setpoint receiver under *"Target"*.

   or

   If no implement is connected,
   select the desired unit under *"Unit"*.

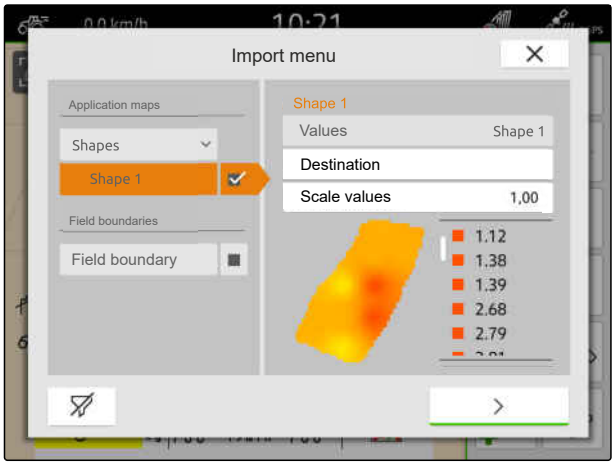
7. *To adjust the application rate,*
   scale the values to the desired application rates under *"Scale values"*.

8. Confirm entries with .

➡ If no field data is saved on the AmaTron 4, the selected application maps or the selected field boundaries will be loaded in the map view.

9. *If field data is saved on the AmaTron 4,*
   select the corresponding field in the field selection.

10. *If the loaded field data should be managed,*
    see page 83.



CMS-I-00001094

Working with documentation 19

CMS-T-00000263-M.1

19.1 Saving field data

CMS-T-00007064-A.1

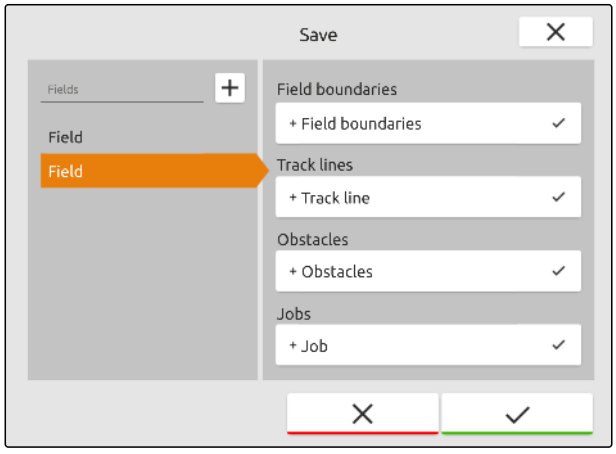
When field data was recorded, the recorded field data can be saved. When the field data can be saved, a question will appear.

The question for saving the field data is shown in the following situations:

- A new field should be created.
- Already saved field data should be loaded.
- Field data should be imported from shape files.

When the question is confirmed, the *"Save"* menu is shown.

In the *"Save"* menu, the fields that were already saved are shown in the list on the left. If the recorded field data should be saved to a new field, a new field can be created. In the list on the right, field data that should not be saved for the selected field can be deselected.



CMS-I-00004987

1. *To create a new field,*
   select + .
2. Select the desired field.
3. *If certain field data should not be saved for the field,*
   deselect the field data.
4. Confirm with ✓ .

19.2 Loading field data

CMS-T-00000340-H.1

To be able to use imported and created field data, the field data needs to be loaded.

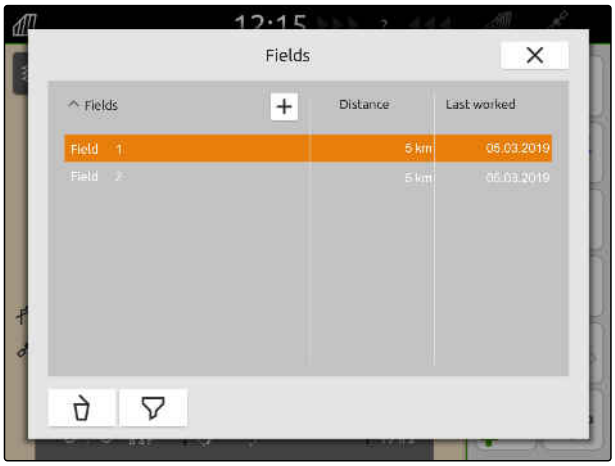
The field data can contain the following data:

- Jobs
- Field boundaries
- Track lines
- Application maps

REQUIREMENTS

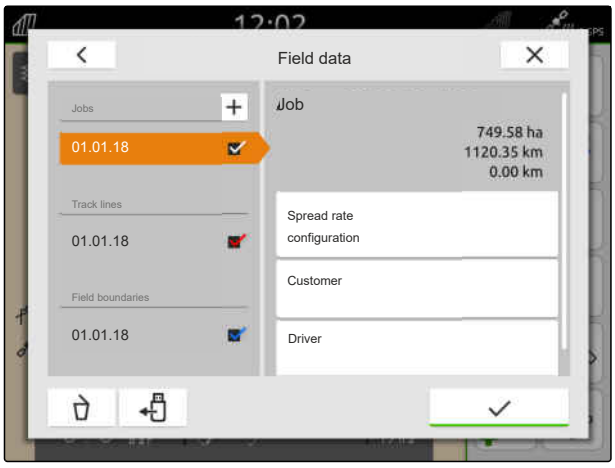
- ⊘ Field is created, see page 85 or ISO-XML job data is imported, see page 88 or field data is imported from a shape file, see page 86

1. In the Work menu, select .
2. Select the desired field.



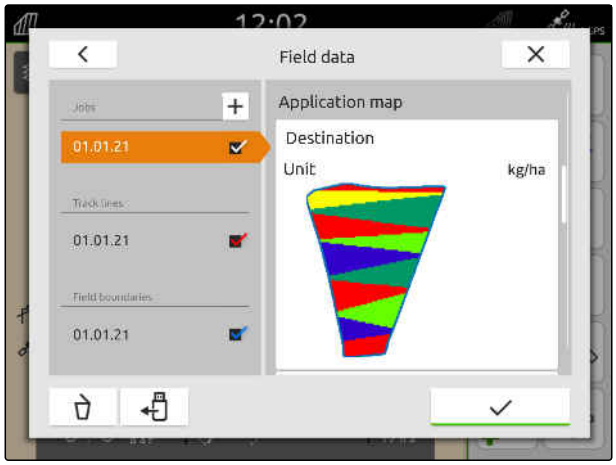
CMS-I-00000304

3. *To load a job together with the field,* set the checkmark for the desired job.
4. *To manage the job data before importing,* see page 93
5. *To load track lines together with the field,* set the checkmark for the desired track lines.
6. *To load a field boundary together with the field,* set the checkmark for the desired field boundary.



CMS-I-00000303

Application maps are contained in the job data and are loaded with the job data. Application maps can consist of multiple layers. These application maps are called multi-layer application maps. Each layer of a multi-layer application map can be assigned to a different setpoint receiver on the implement.



CMS-I-00005173

NOTE

The setpoint receivers for the multi-layer application maps are automatically assigned based on the units. If the setpoint receivers are not correctly assigned, the setpoint receivers must be manually assigned.

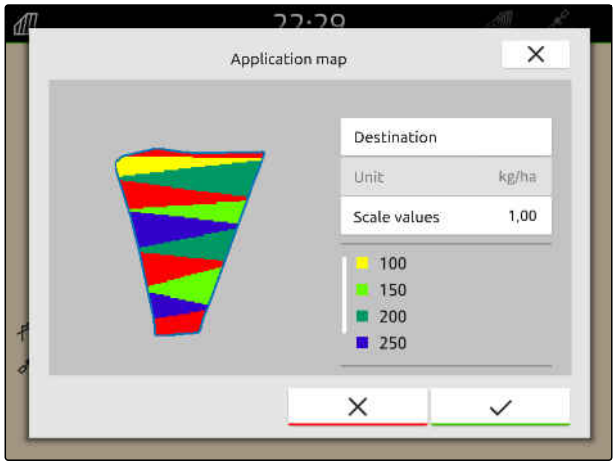
7. *To adjust an application map,*
   select the desired application map in the selected job.

8. *If the setpoint receiver under "Target" does not match the layer,*
   assign the desired setpoint receiver under *"Target"*.

9. *To adjust the application rate,*
   scale the values to the desired application rates under *"Scale values"*.

10. Confirm all entries with ✓.

➔ When the vehicle is close to the selected field, the field and the selected data are shown on the map.



CMS-I-00001090

19.3 Creating a new field

CMS-T-00000325-G.1

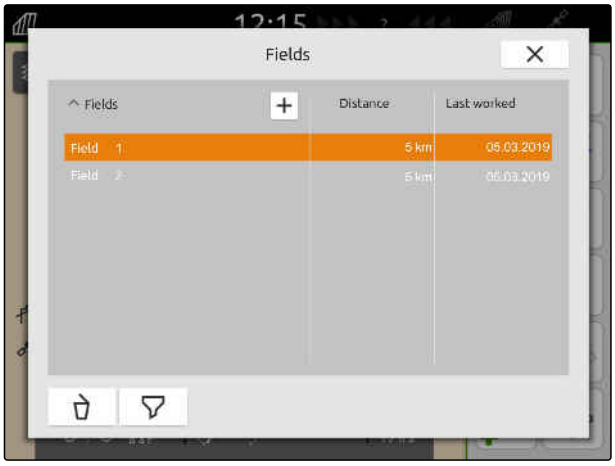
With the documentation on the AmaTron 4, the focus is on the field.

When a field has been created, the following data is automatically saved with the field:

- Field boundaries
- Track lines
- Obstacles
- Headlands

Jobs cab be assigned to a field. Spread rates, products, customers and drivers can be assigned to a job.

1. In the Work menu, select .
2. select .
3. Enter the field name.
4. Confirm with .



CMS-I-00000304

19.4 Adding field data from a shape file to a field

CMS-T-00001738-F.1

Shape files that are saved to a USB flash drive can be displayed and the contained field data can be added to an existing field. If the field data from a shape file should be processed without and existing field, see page 80.

Shape files can contain the following field data:

- Application maps
- Field boundaries

REQUIREMENTS

- ⊘ Field is created, see page 85 or ISO-XML job data is imported, see page 88
- ⊘ USB flash drive with shape files is inserted

NOTE

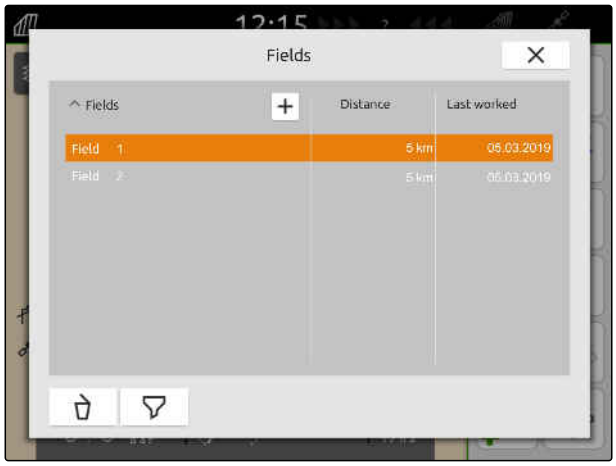
Application maps must be created with the WGS-84 coordinate system.

Application maps consist of 3 files. All 3 files must be saved in the same folder or the same ZIP file on the USB flash drive:

- Geometry data file, file format: .shp
- Factual data file, file format: .dbf
- Attribute data file, file format: .shx

1. In the Work menu, select .

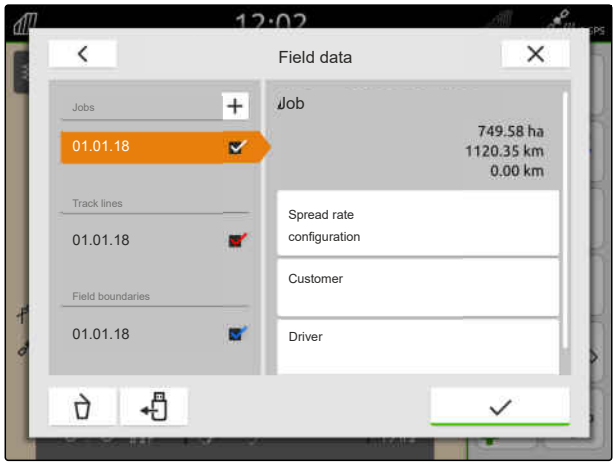
2. Select the desired field.



CMS-I-00000304

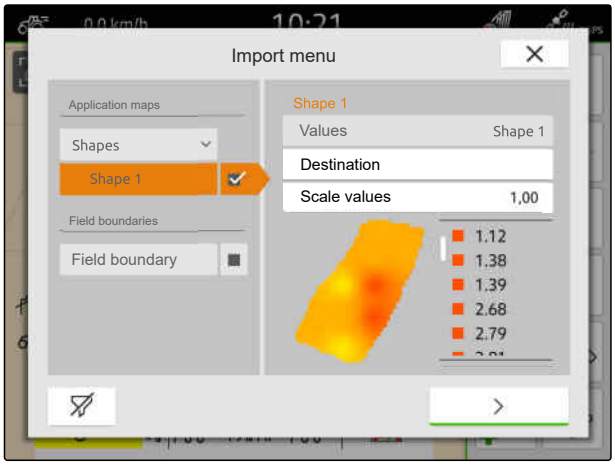
3. In the menu for selecting the field data, select .

➡ The field boundaries and application maps saved on the USB flash drive are displayed



CMS-I-00000303

4. Set the checkmark for the desired field boundary or application map.



CMS-I-00001094

NOTE

The application maps must be assigned to the setpoint receivers of the connected implement. If the connected implement has multiple setpoint receivers, multiple application maps can be selected.

If an implement is not connected, units must be assigned to the application maps.

5. *If an implement is connected,*
   select the desired setpoint receiver under *"Target"*.

   or

   If no implement is connected,
   select the desired unit under *"Unit"*.

6. *To adjust the application rate,*
   scale the values to the desired application rates under *"Scale values"*.

7. Confirm entries with ✓.

➡ The selected application maps are included in the field data under *"Jobs"*. The selected field boundaries are included in the list of field boundaries.

19.5 Importing ISO-XML job data

CMS-T-00004311-E.1

19.5.1 Importing ISO-XML job data from a USB flash drive

CMS-T-00000341-H.1

ISO-XML job data can be imported and loaded on the AmaTron 4.

ISO-XML job data can contain the following data:

- Jobs
  - Jobs refer to fields, products, customers, drivers, and application maps.
- Master data
  - Product data
  - Customer data
  - Driver data
  - Field boundaries
  - Track lines
  - Obstacles
  - Headlands
- Application maps

REQUIREMENTS

- ✓ License available for *"GPS maps&docs"*
- ✓ ISO-XML job data are available as an XML file with the name *"Taskdata"* on the USB flash drive

NOTE

When ISO-XML job data is imported, the existing ISO-XML job data from the AmaTron 4 is saved to the USB flash drive and is deleted on the AmaTron 4.

1. Open the quick-start menu.

CMS-I-00000278

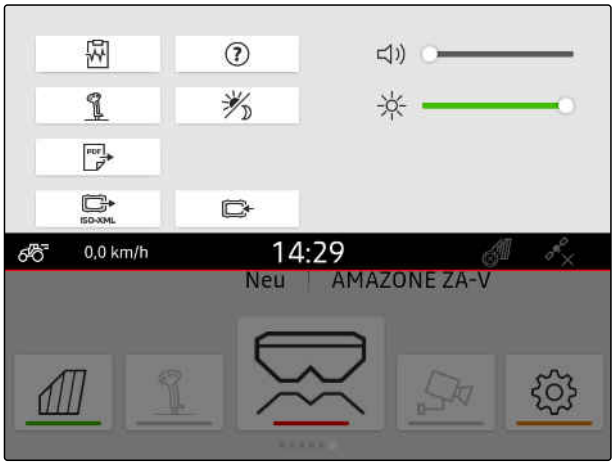
2. Select .

➡ The Import menu is shown.

➡ If an ISO-XML file is saved to a sub-folder of the USB flash drive, the folder name is shown in the list.

➡ If an ISO-XML file in a ZIP file is saved to the USB flash drive, the file name of the ZIP file is shown in the list.

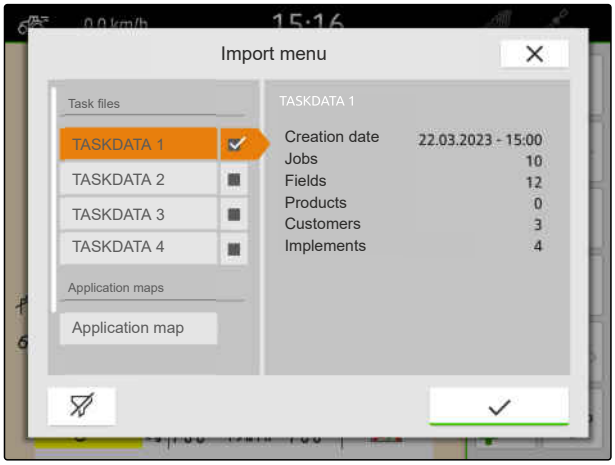
➡ If an ISO-XML file is saved to the main folder of the USB flash drive, a point is shown in the list as the name of the main folder.



CMS-I-00000144

3. *To select job data for importing,*
set the checkmark for the desired job data.

4. Confirm the import with .



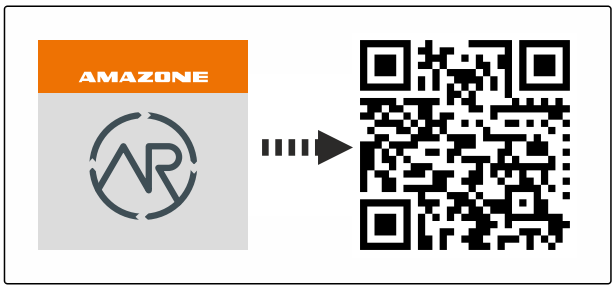
CMS-I-00004920

19.5.2 Importing ISO-XML job data with the myAmaRouter app

CMS-T-00004312-D.1

Using the myAgrirouter platform, data can be exchanged between farm management systems, implements, and devices. The myAmaRouter app establishes the connection to the myAgrirouter.

The QR code shown takes you to further information.



CMS-I-00003258

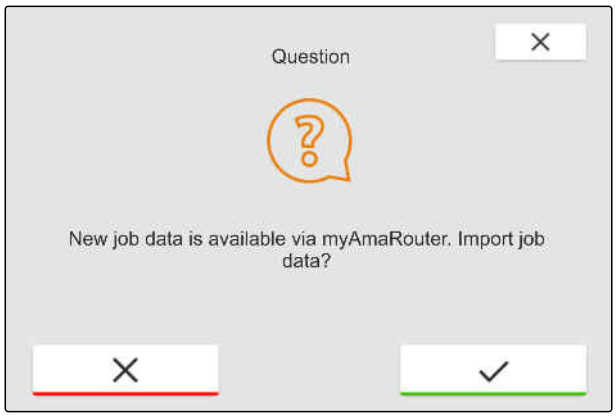
REQUIREMENTS

- ✓ License available for *"GPS maps&docs"*
- ✓ myAmaRouter app is installed on the mobile device
- ✓ Network is configured on the AmaTron 4; see page 49
- ✓ The AmaTron 4 and mobile device are in the same wireless LAN

NOTE

The existing job data on the AmaTron 4 will be overwritten when importing new job data. The existing job data is not automatically saved.

1. *If the existing job data should be saved,* see page 91.
2. Start the myAmaRouter app.
3. Start the import in the myAmaRouter app.
4. Confirm the import on the AmaTron 4.



CMS-I-00003262

19.6 Exporting ISO-XML job data

CMS-T-00004313-D.1

19.6.1 Exporting ISO-XML job data to a USB flash drive

CMS-T-00001743-E.1

Recorded job data can be exported as ISO-XML job data and saved to a USB flash drive.

REQUIREMENTS

- ⊘ License available for *"GPS maps&docs"*
- ⊘ USB flash drive is inserted

1. Open the quick-start menu.
2. select ISO-XML.

➡ The job data is saved in a folder on the USB flash drive. The folder contains the name *"TASKDATA"*

➡ If a folder with the name *"TASKDATA"* auf already exists on the USB flash drive, the name of this folder will be supplemented with the data and time of the export.

➡ A copy of the job data remains on the AmaTron 4.

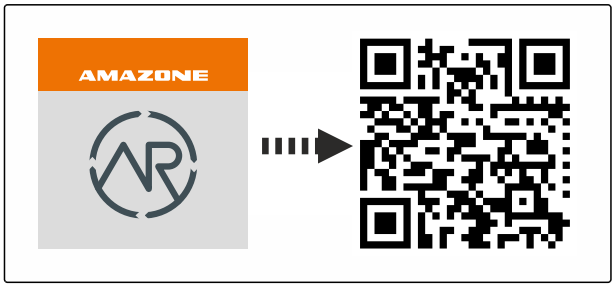
CMS-I-00000278

19.6.2 Exporting ISO-XML job data with the myAmaRouter app

CMS-T-00004314-D.1

Using the myAgrirouter platform, data can be exchanged between farm management systems, implements, and devices. The myAmaRouter app establishes the connection to the myAgrirouter.

The QR code or the link www.amazone.de/qrcode_myAmaRouter lead to further information.



CMS-I-00003258

REQUIREMENTS

- ⊘ License available for *"GPS maps&docs"*
- ⊘ myAmaRouter app is installed on the mobile device
- ⊘ Network is configured on the AmaTron 4; see page 49
- ⊘ The AmaTron 4 and mobile device are in the same wireless LAN

1. Start the myAmaRouter app.
2. Start the export in the myAmaRouter app.

3. Confirm the export on the AmaTron 4.

CMS-I-00003263

19.7 Managing job data

CMS-T-00007052-C.1

19.7.1 Creating a new job

CMS-T-00000326-H.1

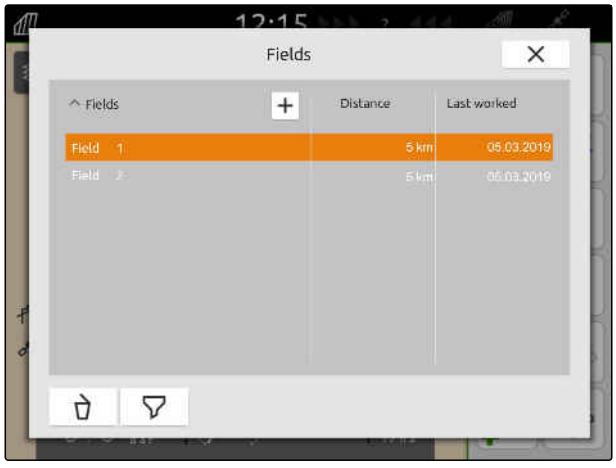
When a field was created or imported using job data, jobs can be created and the field can be assigned to a job.

REQUIREMENTS

- ✓ The job data is imported, see page 88 or the field is created, see page 85

1. In the Work menu, select .

2. Select the field.



CMS-I-00000304

3. Under *"Jobs"*, select +.

4. Enter the job name.

➡ If product information and setpoints were added to the current job, a message will be shown.

5. *If the product information and setpoints should be adopted for the new job,*

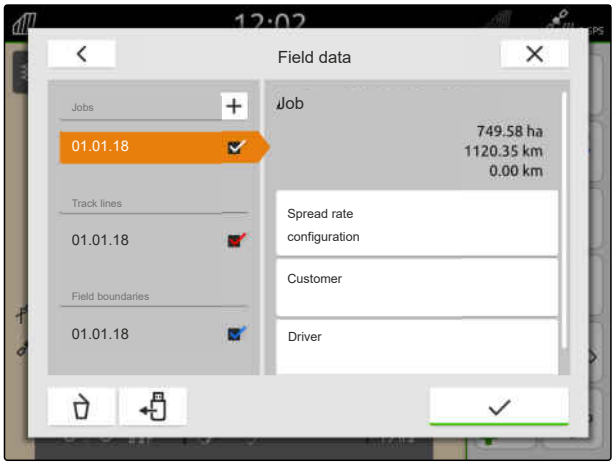
   select ✓

   or

   If the product information and setpoints for the current job should be discarded,

   select ✗.

6. Confirm with ✓.



CMS-I-00000303

NOTE

The following data can be assigned to a job:

- Spread rates and products, see page 94
- Customers, see page 98
- Drivers, see page 99

19.7.2 Spread rate configuration

CMS-T-00000333-I.1

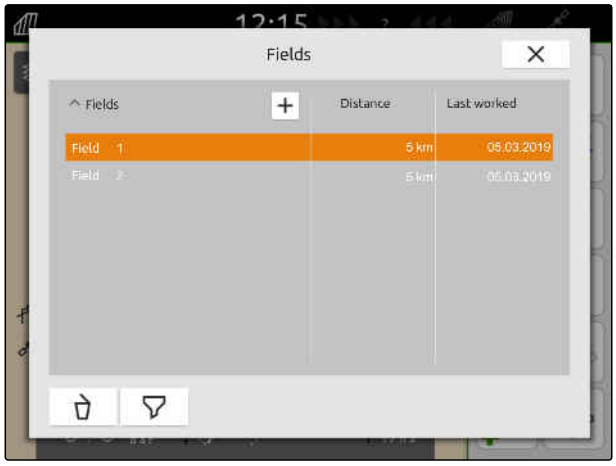
Setpoints can be assigned to the setpoint receivers of the connected implement. The AmaTron 4 transmits the entered setpoints to the connected implement.

To document spread rates for individual products, products can be created and spread rates can be specified.

REQUIREMENTS

- ✓ The job data is imported, see page 88 or the field is created, see page 85
- ✓ The job is created, see page 93 or imported with the job data
- ✓ ISOBUS implement is connected to at least one setpoint receiver

1. In the Work menu, select .
2. Select the field.

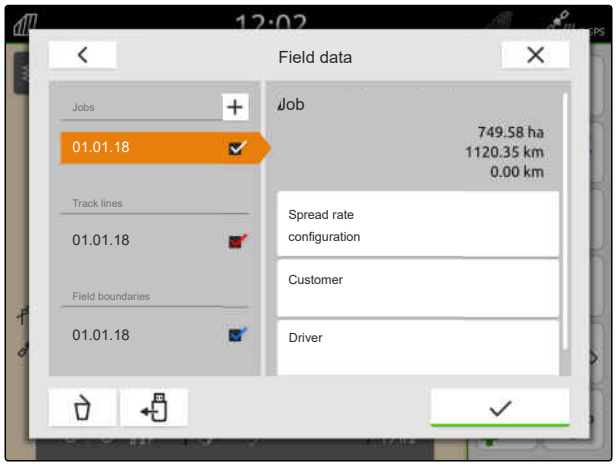


CMS-I-00000304

3. Select the desired job under *"Jobs"*.

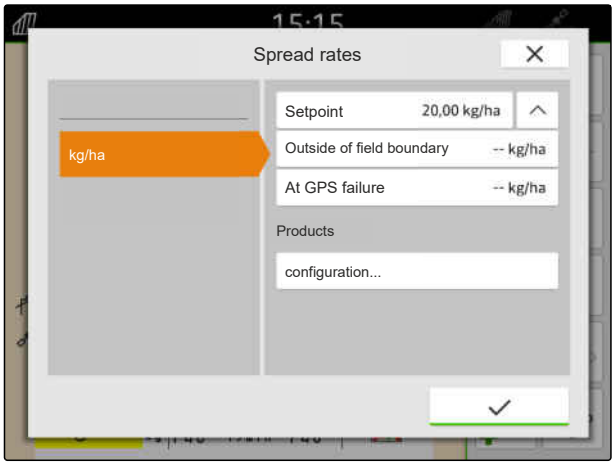
The name of the setpoint receiver is shown under *"Configure spread rate"*. A menu item is shown for each setpoint receiver of the implement.

4. Select the desired setpoint receiver.



CMS-I-00000303

On the left side, the units in which the setpoint can be specified are shown. The implement prescribes the units.



CMS-I-00000305

NOTE

If the spread rate is entered in percent, the setpoint specified with a unit is adjusted according to the percent value.

5. Select the desired unit.

6. Enter the desired value under *"Setpoint"*.

NOTE

If an application map is used, the value under *"Setpoint"* will be ignored.

Fixed setpoints can be entered for the following cases:

- The implement exits the field.
- The GPS signal fails.

If fixed setpoints are not specified, the implement maintains the previously used value in both cases.

7. *If fixed setpoints should be entered,*
   display the menu items with .

8. Enter the desired values under *"Outside of field boundary"* and *"In case of GPS failure"*.

9. *To specify spread rates for products,*
   see page 96.

19.7.3 Managing products

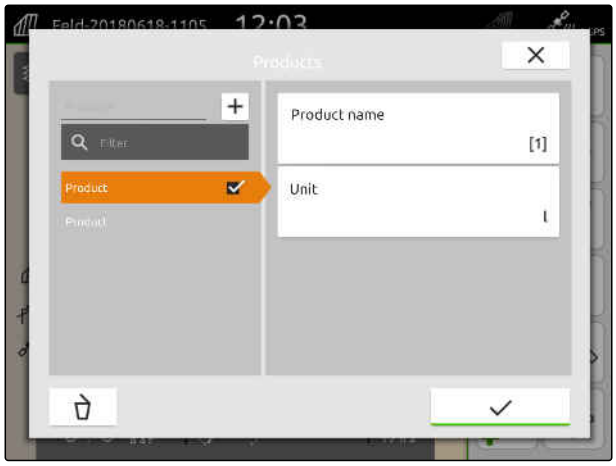
CMS-T-00010597-B.1

Spread rates can be entered for the products. The AmaTron 4 saves the entered spread rates for documentation purposes.

REQUIREMENTS

- ⊘ The spread rates are configured, see page 94

1. In the *"Spread rates"* menu, select *"Configure..."* under *"Products"*.
2. *To create a new product,*
   select + .
3. Enter the name for the product under *"Product name"*.
4. Enter the units for the product under *"Units"*.
5. Confirm with ✓ .



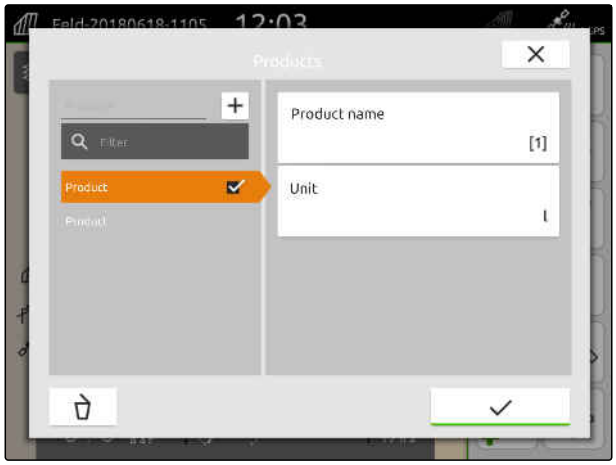
CMS-I-00000306

6. *To assign a product,*
   select the desired products under *"Products"*.

➡ The selected products are marked with a checkmark.

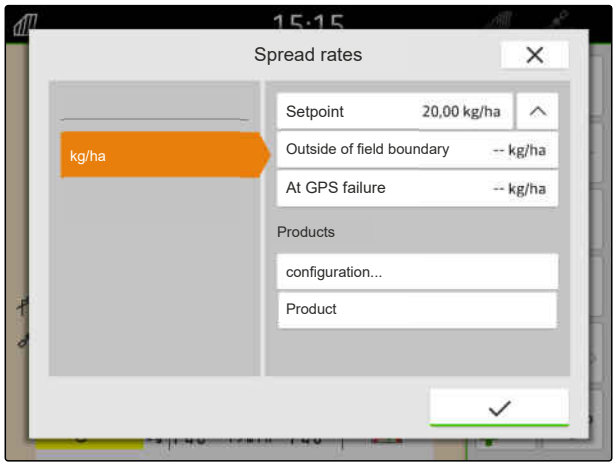
7. Confirm with ✓ .

➡ The selected products are assigned to the job and the setpoint receiver of the implement.



CMS-I-00000306

8. *To change the setpoint for the products,*
   select the desired product under *"Products"*.
9. Enter the setpoint.
10. Confirm with ✓ .



CMS-I-00007246

19.7.4 Managing the customers

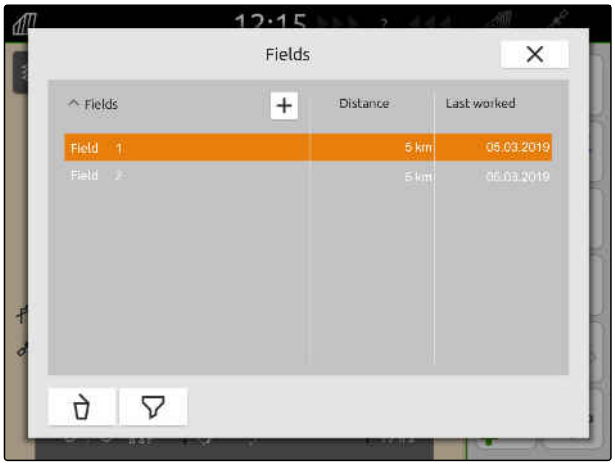
CMS-T-00000335-G.1

REQUIREMENTS

- ✓ The job data is imported, see page 88 or the field is created, see page 85
- ✓ The job is created; see page 93 or imported with the job data

1. In the Work menu, select .

2. Select the field.

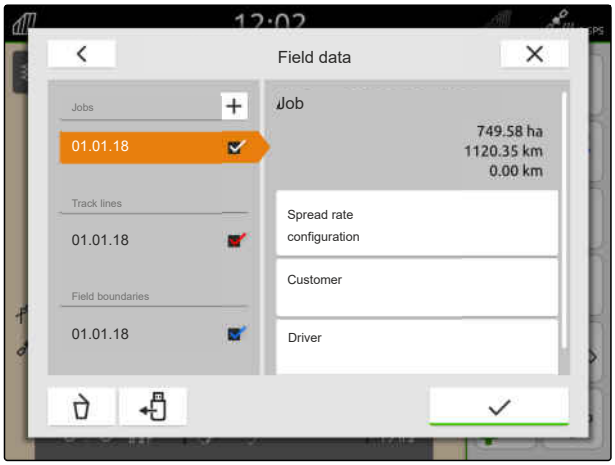


NOTE

To create a customer, a random job must be created and selected. The created customers can then be assigned to any job.

3. Select any job under *"Jobs"*.

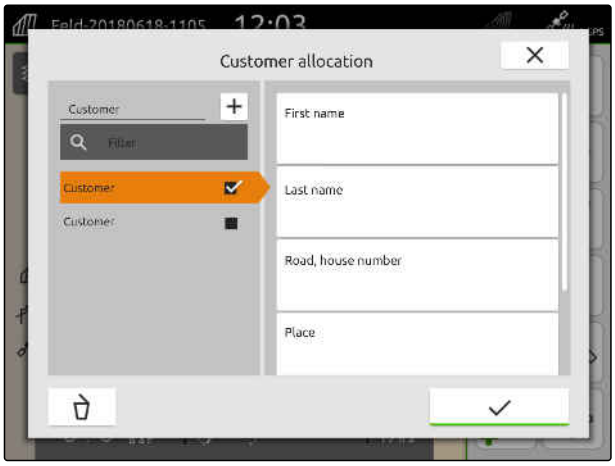
4. Select *"Customer"*.



5. *To create a new customer,*
   select + .

6. Enter the customer data.

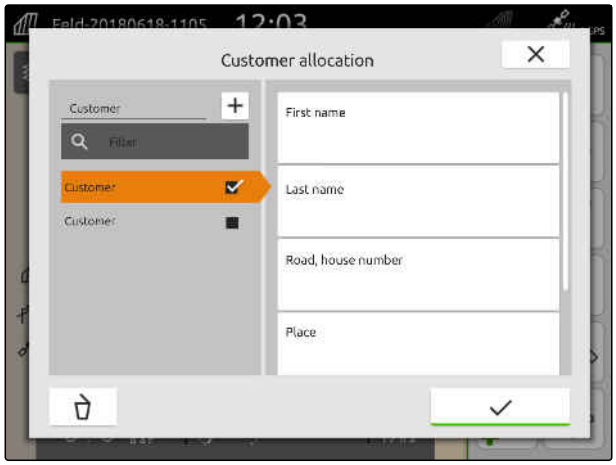
7. Confirm with ✓ .



8. *To assign the job to a customer,* select the desired customer.

➡ The selected customer is marked with a checkmark.

9. Confirm with ✓.



19.7.5 Managing drivers

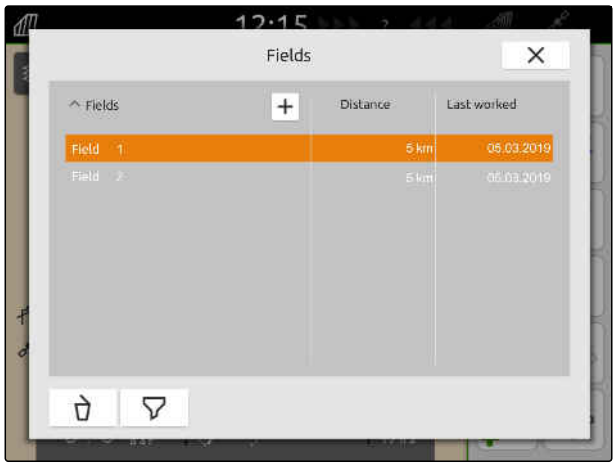
CMS-T-00000338-G.1

REQUIREMENTS

- ⊘ The job data is imported, see page 88 or the field is created, see page 85
- ⊘ The job is created; see page 93 or imported with the job data

1. In the Work menu, select .

2. Select the field.

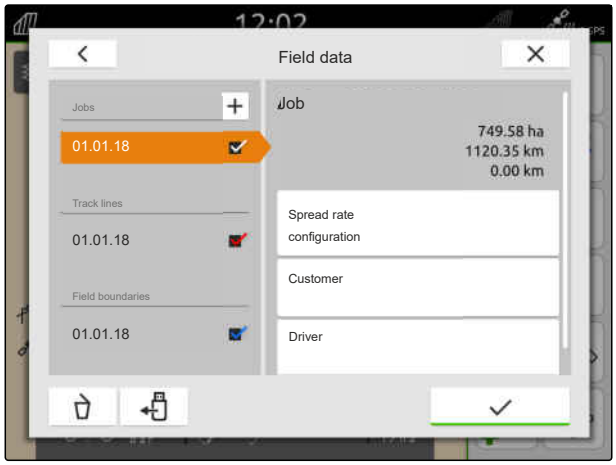


NOTE

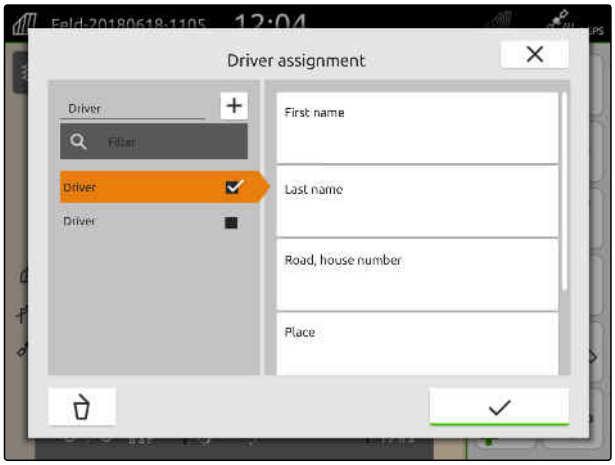
To create a driver, a random job must be created and selected. The created driver can then be assigned to any job.

3. Select any job under *"Jobs"*.

4. Select *"Driver"*.



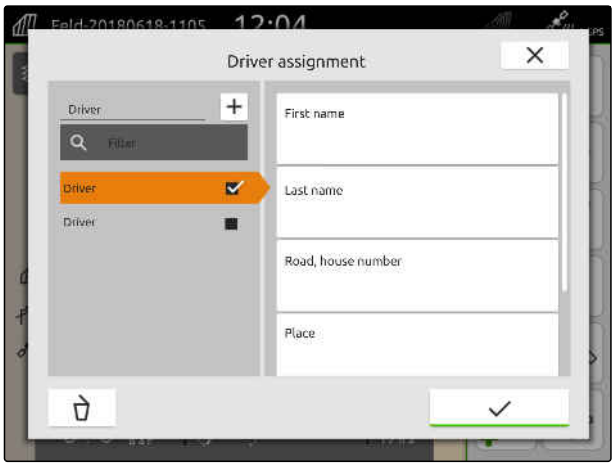
5. *To create a new driver,*
   select + .
6. Enter the driver data.
7. Confirm with ✓ .



8. *To assign a driver to a job,*
   select the desired driver.

➡ The selected driver is marked with a checkmark.

9. Confirm with ✓ .



19.8 Exporting job data as a PDF

CMS-T-00003637-D.1

The job data for the current job can be saved as a PDF on the USB flash drive.

The PDF contains the following job data:

- Job summary
- Job details
- Total values for the implement
- Details on the spread/application rate per setpoint receiver
- Representation of a coverage map per setpoint receiver

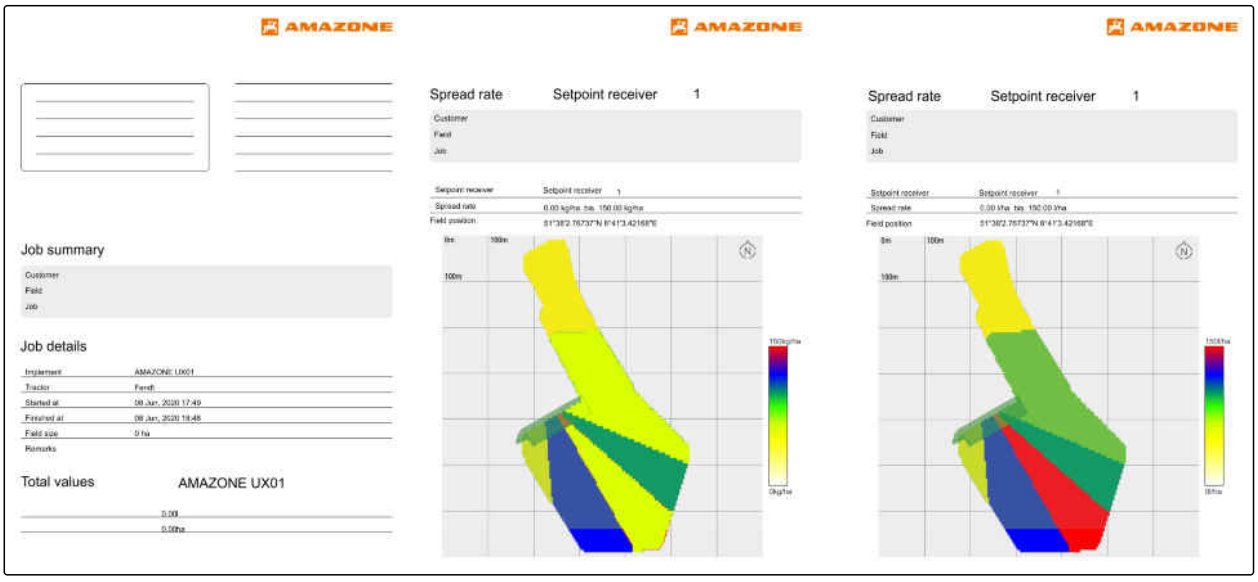
REQUIREMENTS

- ⊘ USB flash drive is inserted
- ⊘ The desired job is loaded in the field data; see page 83

1. Open the quick-start menu.
2. select PDF.

CMS-I-00000278

➡ The job data is saved in the *"PDF export"* folder on the USB flash drive. The PDF file is named after the date and time of the export as well as the field name and the job name.



CMS-I-00004117

Using part-width section control 20

CMS-T-00000189-J.1

20.1 Overlap, setting

CMS-T-00000286-H.1

20.1.1 Defining the overlap in the direction of travel

CMS-T-00000287-H.1

The overlap in the direction of travel indicates how far the part-width sections can protrude over a boundary in the direction of travel before the part-width sections are switched off. Overlap in the direction of travel prevents gaps from occurring between the headlands and the rows or between the worked areas.

The overlap in the direction of travel can be set separately for switching the part-width sections on and off.

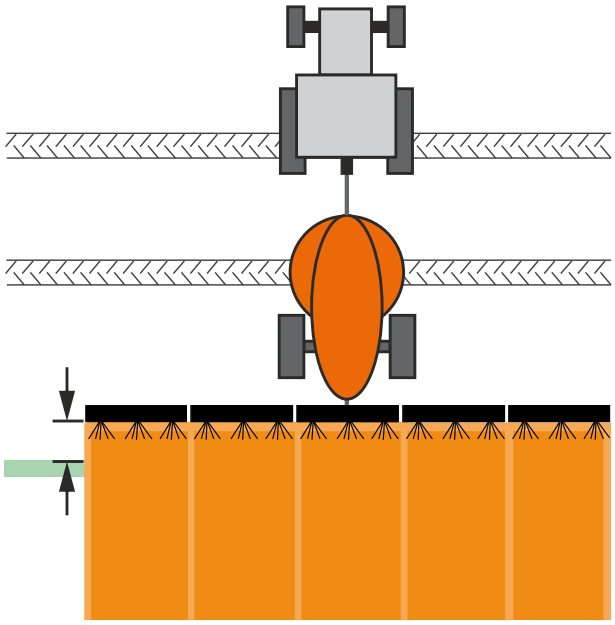
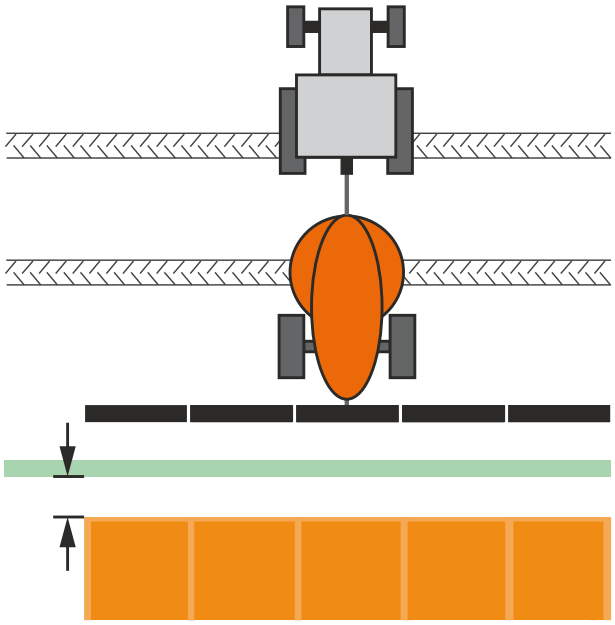
Boundaries for the overlap in the direction of travel:

- Boundary from unworked to worked area
- Headland boundary

NOTE

For the correct overlap in the direction of travel, the following applies:

- The correct switching times without overlap must be set in the implement controls.
- If a gap is intended between the headlands and the rows or between the worked areas, a negative value can also be entered for the overlap in the direction of travel.

Positive value for overlap in the direction of travel	Negative value for overlap in the direction of travel
	

REQUIREMENTS

- ⊘ License available for *"GPS switch basic"* or *"GPS switch pro"*

1. In the Work menu, select ⚙ > *"Overlap settings"*.

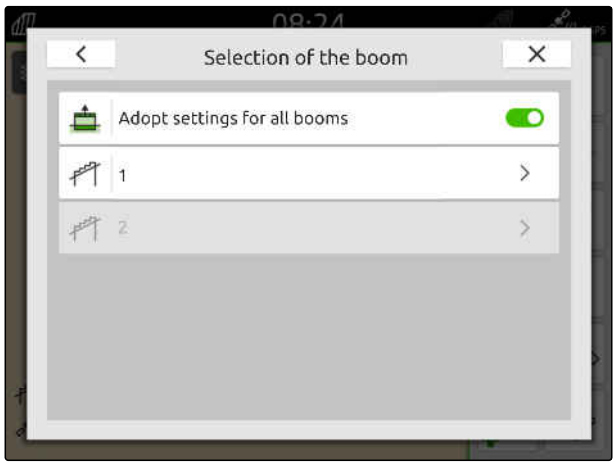
➡ If the connected implement supports MultiBoom, a selection of the booms is shown.

➡ If the connected implement only has one boom, the boom selection is skipped.

2. *If the overlap settings should be adopted for all of the booms,*
activate *"Adopt settings for all booms"*.

➡ If *"Adopt settings for all booms"* is activated, only the first boom can be selected.

3. Select a boom from the list.



CMS-I-00004943

4. Select *"Overlap in the direction of travel when switching on"*.

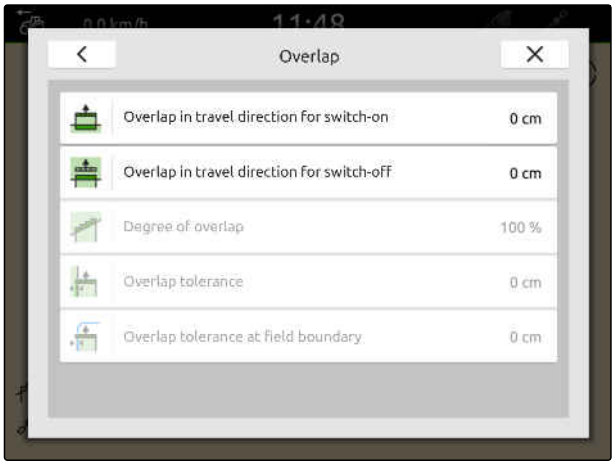
5. Enter a value between -1000 cm and 1000 cm.

6. Confirm with ✓.

7. Select *"Overlap in the direction of travel when switching off"*.

8. Enter a value between -1000 cm and 1000 cm.

9. Confirm with ✓.



CMS-I-00000198

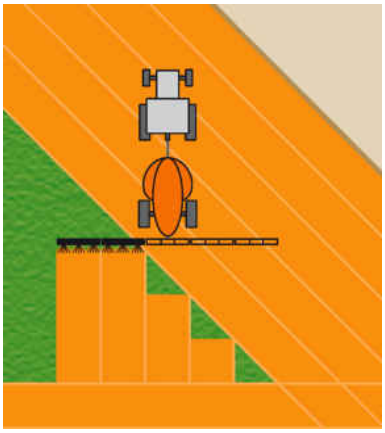
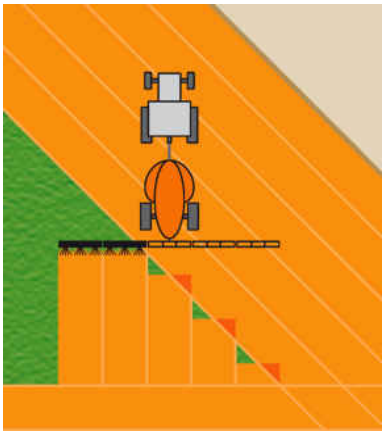
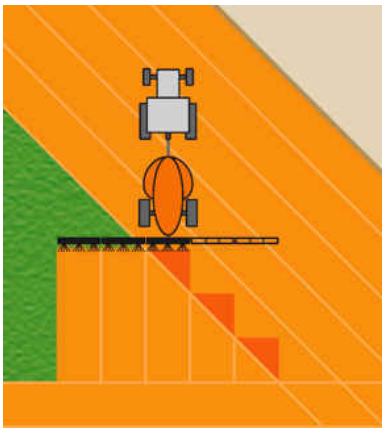
20.1.2 Defining the degree of overlap

CMS-T-00000288-H.1

The degree of overlap defines the percent by which a part-width section can protrude over a boundary before it is switched off. The set degree of overlap is shown in the map view.

Boundaries for the degree of overlap:

- Boundary from unworked to worked area
- Headland boundary

Possible settings	Explanation	Figure
0 %	The part-width sections are switched off before any overlap occurs.	
50 %	The part-width sections are switched off when they half protrude over a boundary.	
100 %	The part-width sections are switched off when they fully protrude over a boundary.	

REQUIREMENTS

- ⊘ License available for *"GPS switch basic"* or *"GPS switch pro"*

1. In the Work menu, select ⚙ > *"Overlap settings"*.

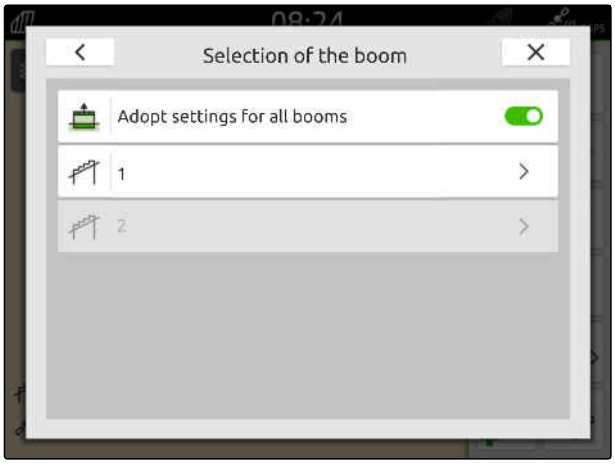
➡ If the connected implement supports MultiBoom, a selection of the booms is shown.

➡ If the connected implement only has one boom, the boom selection is skipped.

2. *If the overlap settings should be adopted for all of the booms,*
activate *"Adopt settings for all booms"*.

➡ If *"Adopt settings for all booms"* is activated, only the first boom can be selected.

3. Select a boom from the list.

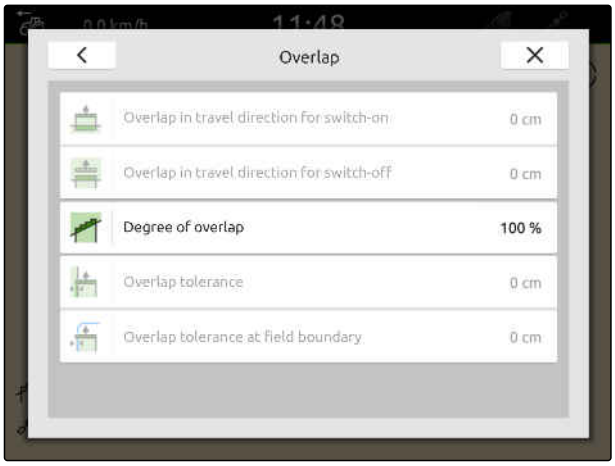


CMS-I-00004943

4. Select *"Degree of overlap"*.

5. Select the percent value.

6. Confirm with ✓.

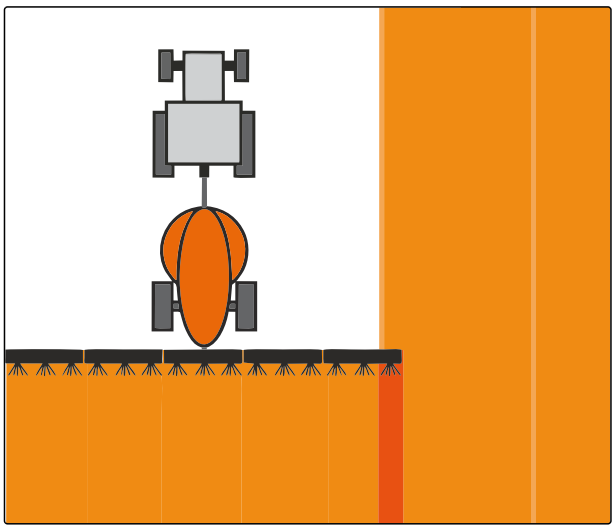


CMS-I-00000199

20.1.3 Defining the overlap tolerance

CMS-T-00000289-H.1

The overlap tolerance defines how far the outer part-width sections can protrude over a worked area before they are switched off. Overlap tolerance prevents that the outer part-width sections are constantly switched on and off when they touch on boundaries during parallel driving.



CMS-I-000594

Boundaries for the overlap tolerance:

- Boundary from unworked to worked area
- Headland boundary

NOTE

The overlap tolerance only applies when the degree of overlap is set to 0 % or 100 %, see page 104.

REQUIREMENTS

- ⊘ License available for *"GPS switch basic"* or *"GPS switch pro"*

1. In the Work menu, select ⚙ > *"Overlap settings"*.

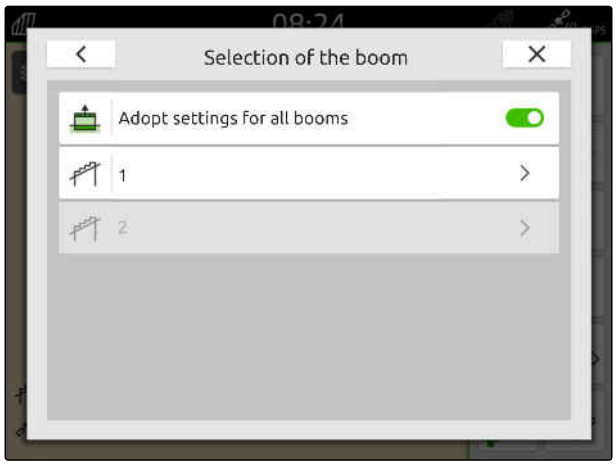
➡ If the connected implement supports Multi Boom, a selection of the booms is shown.

➡ If the connected implement only has one boom, the boom selection is skipped.

2. *If the overlap settings should be adopted for all of the booms,*
activate *"Adopt settings for all booms"*.

➡ If *"Adopt settings for all booms"* is activated, only the first boom can be selected.

3. Select a boom from the list.

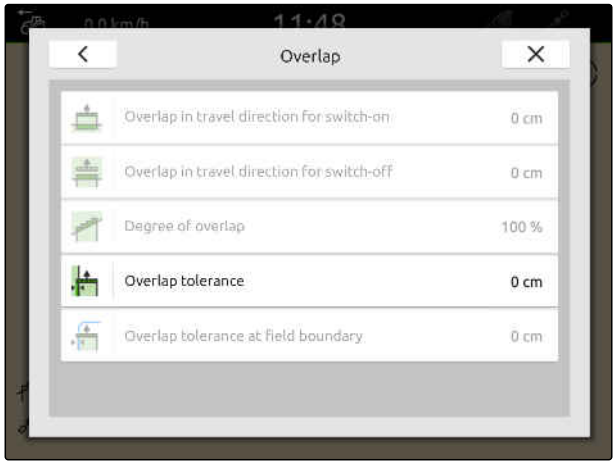


CMS-I-00004943

4. Select *"Overlap tolerance"*.

5. Enter the desired value.

6. Confirm with ✓.

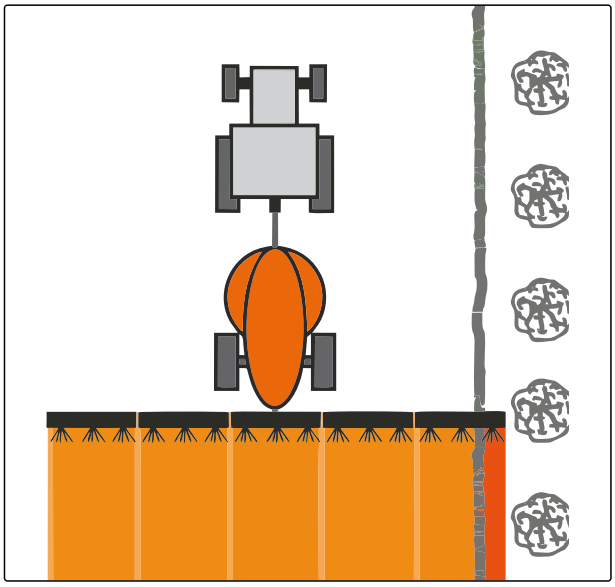


CMS-I-00000200

20.1.4 Defining the overlap tolerance at the field boundary

CMS-T-00000290-H.1

The overlap tolerance at the field boundary defines how far the outer part-width sections can protrude over the field boundary before they are switched off. Overlap tolerance at the field boundary prevents the outer part-width sections from being constantly switched on and off when driving along and touching a field boundary.



CMS-I-001467

REQUIREMENTS

- ⊘ License available for *"GPS switch basic"* or *"GPS switch pro"*

1. In the Work menu, select ⚙ > *"Overlap settings"*.

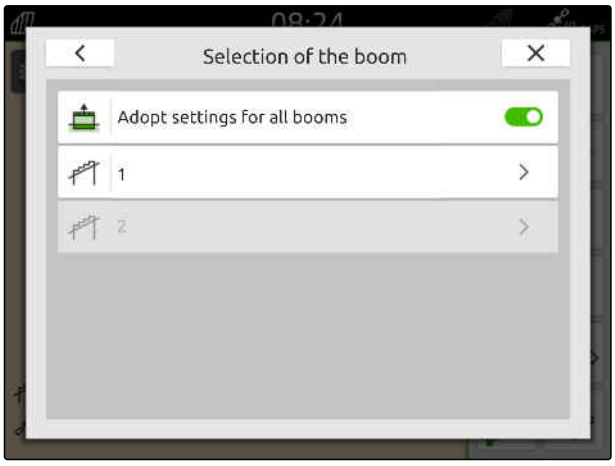
➡ If the connected implement supports MultiBoom, a selection of the booms is shown.

➡ If the connected implement only has one boom, the boom selection is skipped.

2. *If the overlap settings should be adopted for all of the booms,*
activate *"Adopt settings for all booms"*.

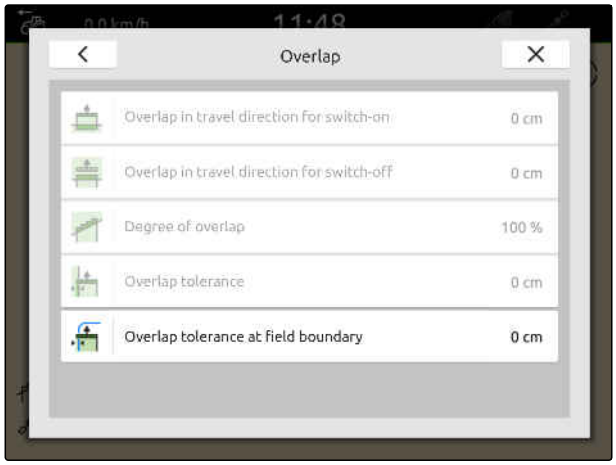
➡ If *"Adopt settings for all booms"* is activated, only the first boom can be selected.

3. Select a boom from the list.



CMS-I-00004943

4. Select *"Overlap tolerance at the field boundary"*.
5. Enter a value between 0 cm and 150 cm.
6. Confirm with ✓.



CMS-I-00000201

20.2 Starting a recording

CMS-T-00000264-I.1

When the recording has been started and the part-width sections are switched on, the AmaTron 4 saves the position data of the worked area. Worked areas are shown in green in the map view.

The recordings include the following data:

- Worked area
- Field boundaries
- Obstacles
- Headlands
- Track lines

NOTE

Without a correction signal, the received signal is corrected by a software. It can take up to 5 minutes for the corrected signal to be available.

If no corrected signal is available, the worked area will be shown in yellow in the map view. When a corrected signal is available, the worked area will be shown in green.

The following table shows an overview of the part-width section status and the corresponding colours of the part-width sections in the implement symbol.

Implement with automatic part-width section control	
Part-width section status	**Colour of the part-width section in the implement symbol**
Implement not in working position	Grey
Recording stopped, part-width section switched off manually	Orange
Recording stopped, part-width section switched on manually	Green
Part-width section switched off via automatic part-width section control	Orange
Part-width section switched on via automatic part-width section control	Green
Part-width section switched on via automatic part-width section control, part-width section has not reached the setpoint	Yellow
Recording started, part-width section stopped manually	Red

NOTE

If the part-width sections of the implement are switched manually, a switching recommendation is given through the colours of the part-width sections in the implement symbol.

Implement with manual part-width section control	
Switching recommendation	**Colour of the part-width section in the implement symbol**
Part-width section off	Orange
Part-width section on	Green

REQUIREMENTS

- ISOBUS is configured, see page 42
- GPS signal available
- The correct tractor is selected, see page 65
- The correct implement is selected, see page 55
- The overlap is set, see page 102
- License available for *"GPS switch basic"* or *"GPS switch pro"*

For automatic part-width section control:

- The implement is configured for automatic part-width section control

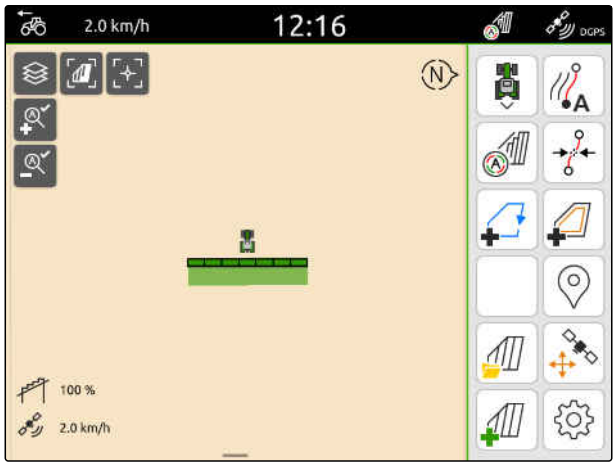
▶ *When the connected implement supports automatic part-width section control,*

select in the Work menu

or

When the part-width sections of the connected implement are switched manually,

select in the Work menu.



CMS-I-00000132

20.3 Terminating a recording

CMS-T-00000265-B.1

▶ *When the connected implement supports automatic part-width section control,*
switch all of the part-width sections off using the implement controls

or

Stop

or

When the part-width sections of the connected implement are switched manually,

select in the Work menu.

Using field boundaries 21

CMS-T-00001745-G.1

21.1 Creating the field boundary

CMS-T-00000298-H.1

The AmaTron 4 can create a field boundary from the worked area. The AmaTron 4 can calculate the size of the field from the field boundary. The worked area and the remaining area result from the field size. When automatic part-width section control is used, the application stops at the field boundary.

If a field boundary is intended to be created without actually working the area, the worked area can be deleted on the AmaTron 4.

If an ISOBUS spreader is connected, a safety zone is automatically created inside the field boundary. When the ISOBUS spreader is driven into the safety zone, the part-width sections are switched off. This prevents spreading beyond the field boundary. The safety zone can be deactivated through the field boundary configuration.

For AMAZONE spreaders of the latest generation, the safety zone is automatically deactivated for boundary spreading.

REQUIREMENTS

- ✓ License available for *"GPS switch basic"* or *"GPS switch pro"*
- ✓ Completely work the field edge

1. In the Work menu, select .

CMS-I-00000215

➡ The field boundary is laid around the worked area. The sizes of the worked areas and the remaining areas are shown on the map: 1

CMS-I-00000217

2. *To delete the worked area,* tap on the worked area.

3. Select .

CMS-I-00003261

4. *To create exclusion zones,*
see page 114.

5. *To configure the field boundary,*
see page 116

21.2 Creating exclusion zones

CMS-T-00013057-A.1

With exclusion zones, areas can be marked on the field that should not or cannot be worked. Exclusion zones have their own boundary. When exclusion zones are created and there is no field boundary yet, a field boundary is automatically created. The boundaries of the exclusion zones are placed around unworked areas within the field boundary.

The exclusion zone must be at least 10 m².

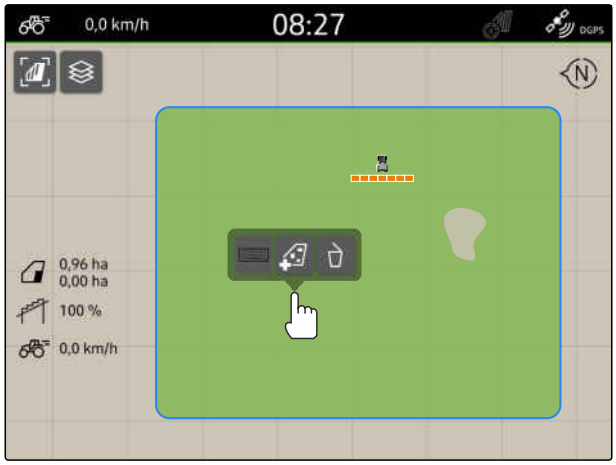
If an ISOBUS spreader is connected, safety zones are automatically created around exclusion zones. When the ISOBUS spreader is driven into the safety zone, the part-width sections are switched off. This prevents spreading into the exclusion zones. The safety zone can be deactivated through the field boundary configuration.

For AMAZONE spreaders of the latest generation, the safety zone is automatically deactivated for boundary spreading.

REQUIREMENTS

- ✓ Field completely worked
- ✓ Unworked area of at least 10 m² existing within the worked area

1. Tap on the worked area.
2. Select .



CMS-I-00008351

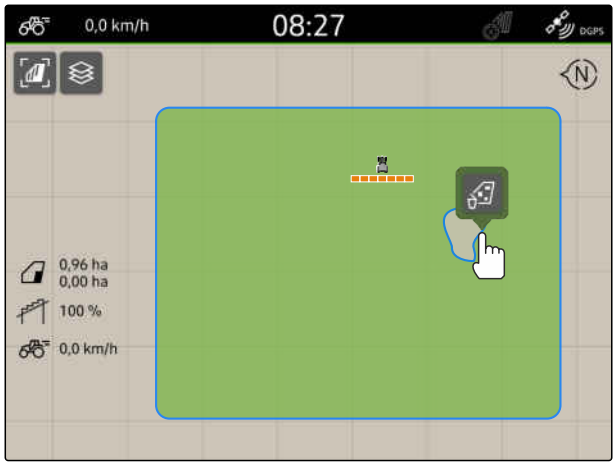
➡ If there is no field boundary yet, a field boundary will be created.

➡ Exclusion zones will be created around the unworked areas inside the field boundary.

CMS-I-00008350

3. *To delete an exclusion zone:*

   Tap on the exclusion zone and select .



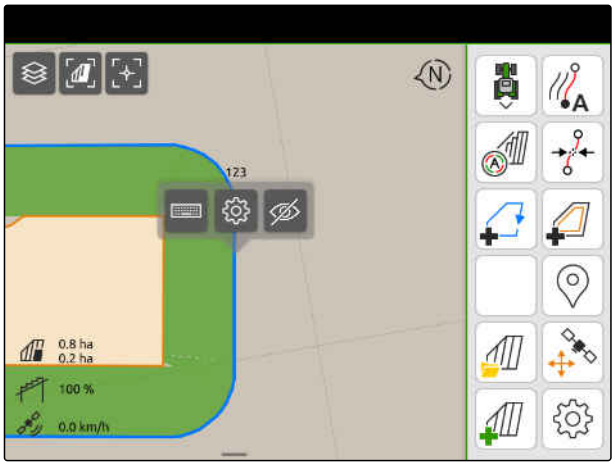
CMS-I-00008349

21.3 Hiding the field boundary

CMS-T-00000308-G.1

When the field boundaries are hidden, they are no longer shown in the map view. The hidden field boundaries remain stored in the field data and can be reloaded.

1. Tap on the field boundary.
2. Select .
3. *To reload the field boundaries,* see page 83.



CMS-I-00001053

21.4 Configuring the field boundaries

CMS-T-00013056-A.1

21.4.1 Deactivating the safety zone

CMS-T-00013058-A.1

If an ISOBUS spreader is connected, safety zones are automatically created inside field boundaries and around exclusion zones. When the ISOBUS spreader is driven into a safety zone, the part-width sections are switched off. This prevents spreading beyond the field boundary or into the exclusion zone. The safety zones can be deactivated.

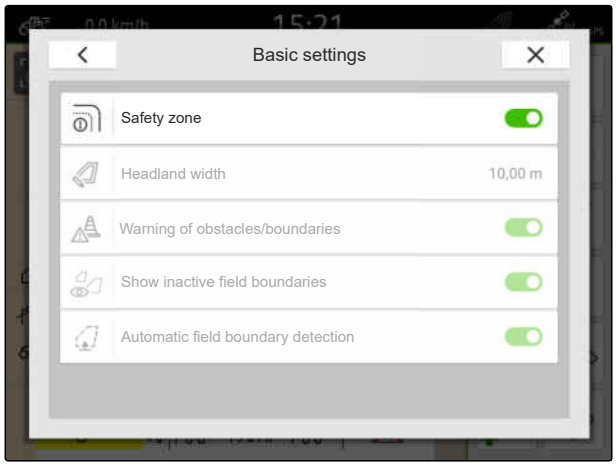
For AMAZONE spreaders of the latest generation, the safety zones are automatically deactivated for boundary spreading.

1. In the Work menu, select > *"Field boundary"*.

2. Activate the *"Safety zone"*

   or

   Deactivate the *"safety zone"*.



CMS-I-00008327

21.4.2 Activate warnings for obstacles and boundaries

CMS-T-00000225-G.1

Warnings are shown at the top edge of the screen and an acoustic signal is issued.

If warnings are activated, warnings will be issued for the following events:

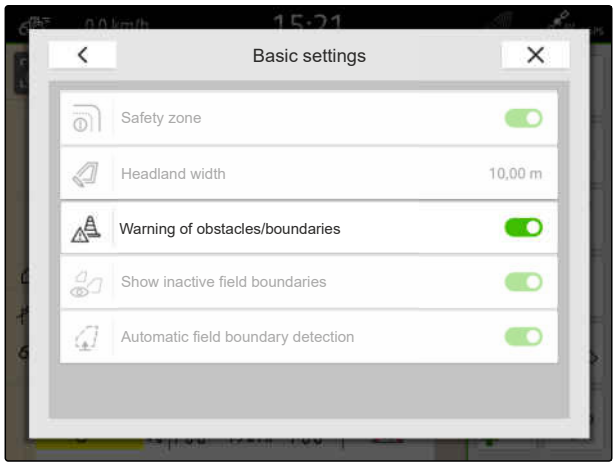
- Proximity to a field boundary
- Proximity to an obstacle

1. In the Work menu, select > *"Field boundary"*.

2. Activate *"Warning of obstacles/boundaries"*

   or

   Deactivate *"Warning of obstacles/boundaries"*.



CMS-I-00000189

21.4.3 Show inactive field boundaries

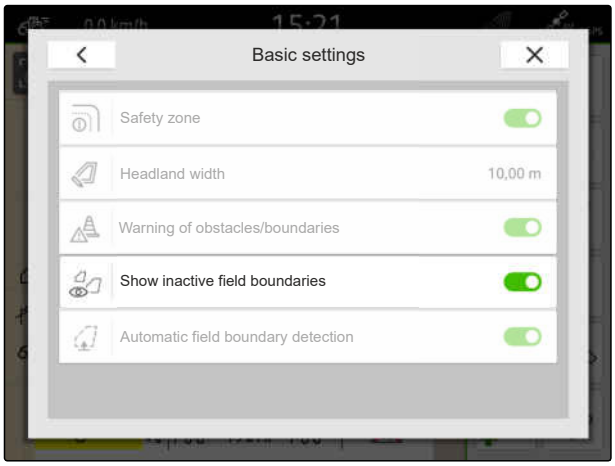
CMS-T-00013059-A.1

When this function is activated, inactive field boundaries are shown as thin grey lines in the map view.

1. In the Work menu, select > *"Field boundary"*.
2. Activate *"Show inactive field boundaries"*

   or

   Deactivate *"Show inactive field boundaries"*.



CMS-I-00008328

21.4.4 Activating the automatic field boundary detection

CMS-T-00003639-C.1

If the automatic field detection is activated, the AmaTron 4 automatically detects whether a saved field is nearby. The field data for this field can be loaded to work the field. If the function is deactivated, the field data has to be manually selected to work the field.

REQUIREMENTS

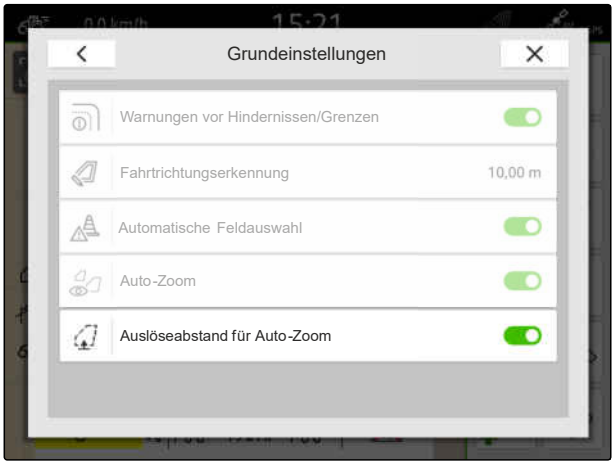
- ⊘ License available for *"GPS maps&docs"*

1. In the Work menu, select ⚙ > *"Field boundary"*.

2. Activate *"Automatic field boundary detection"*

   or

   Deactivate *"Automatic field boundary detection"*.



CMS-I-00008291

Using virtual headlands 22

CMS-T-00001746-H.1

22.1 Creating virtual headlands

CMS-T-00000300-I.1

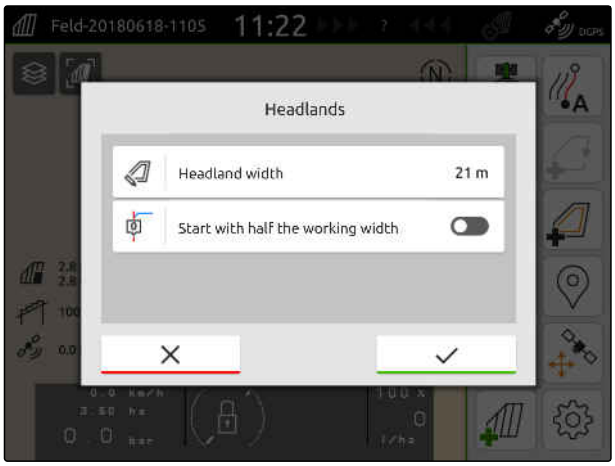
With virtual headlands, the actual headlands can be defined in the map view. As a result, the headland area can be worked independently of the rest of the field. The part-width sections are switched at the headland boundary.

Track lines are automatically created on the virtual headlands.

REQUIREMENTS

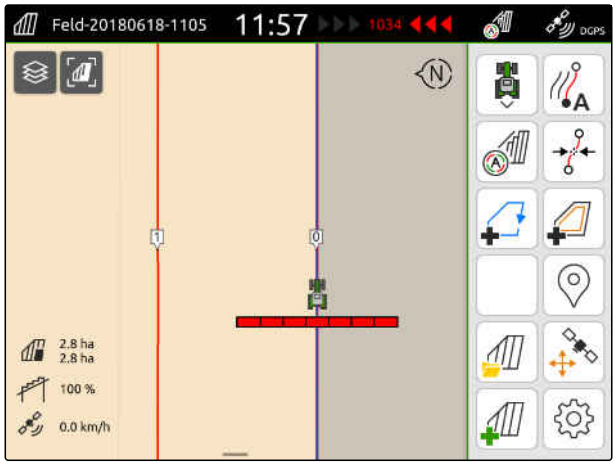
- ✓ License available for *"GPS switch basic"* or *"GPS switch pro"*
- ✓ Field boundary has been created, see page 112

1. In the Work menu, select .
2. Enter the headland width.



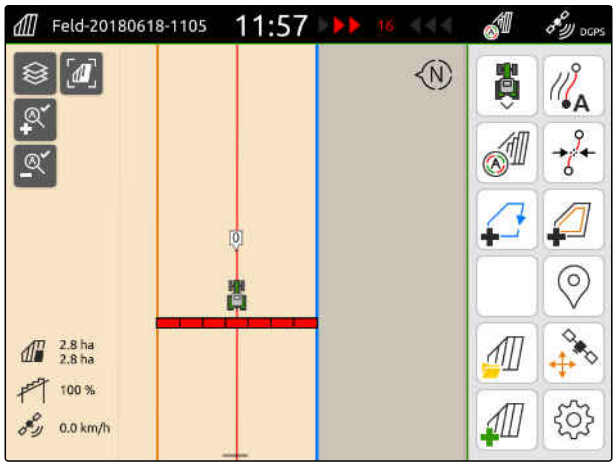
CMS-I-00000219

When starting work with half the working width, the first track line *"0"* lies on the field boundary and the second track line lies one working width away from the field boundary inside the field.



CMS-I-00000221

When starting with the full working width, the first track line *"0"* lies half of the working width away from the field boundary inside the field.



CMS-I-00000220

3. *To create the first track line on the field boundary:*
   Activate *"Start with half the working width"*

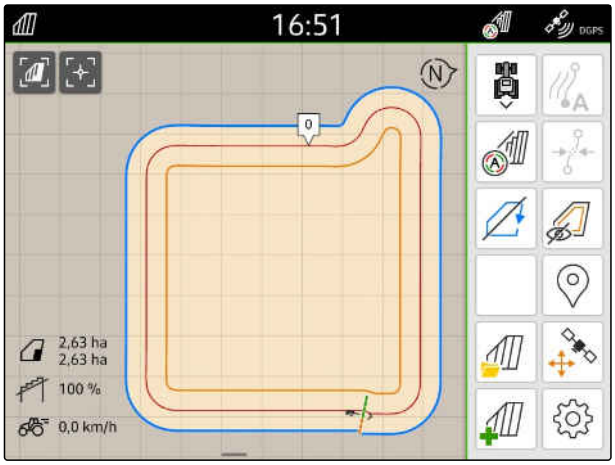
   or

   To create the first track line half of the working width away from the field boundary inside the field:
   Deactivate *"Start with half the working width"*.

4. Confirm with ✓.

➡ After the virtual headlands have been created, the headlands are shown as a grey area inside the field boundary.

To be able to start the application/spreading within the virtual headlands and use the track lines inside the virtual headlands, the virtual headlands must be unlocked.



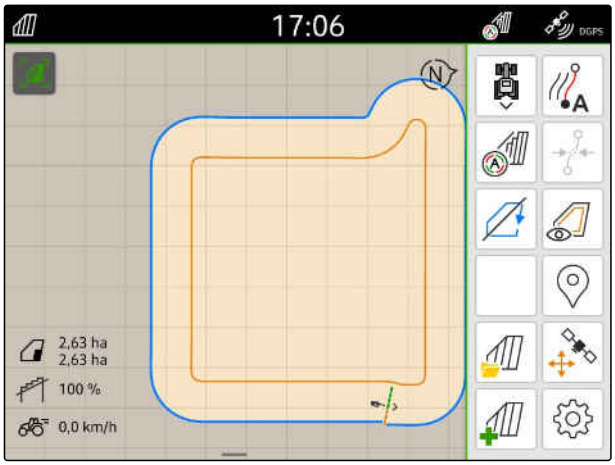
CMS-I-00009412

5. *To unlock the virtual headland,*

   select in the Work menu.

6. *To hide the track lines inside the virtual headland,*

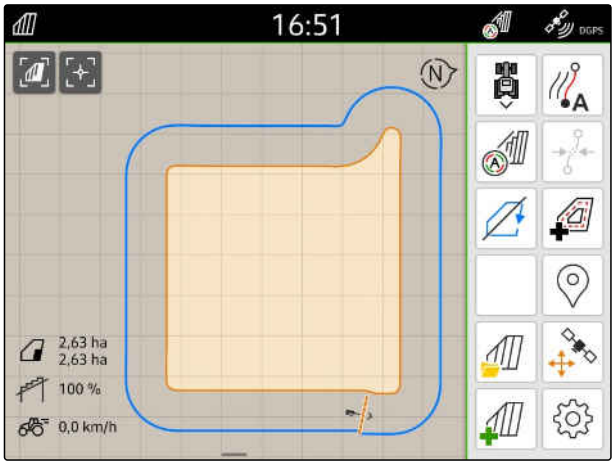
   select in the Work menu.



CMS-I-00009411

7. *To lock the virtual headland,*

   select in the Work menu.



CMS-I-00009413

22.2 Editing the virtual headlands

CMS-T-00000309-G.1

1. Tap on the virtual headland.

2. *To delete the virtual headland,*

   select

   or

   To change the headland width,
   enter the desired headland width in the Work menu under > *"Field boundary"* > *"Headland width"*

   or

   To shift the first track line,
   activate or deactivate *"Start with half the working width"* in the Work menu under > *"Parallel driving"*.

CMS-I-00000315

Marking obstacles

23

CMS-T-00000299-G.1

If there are obstacles on the field, such as water holes, electricity pylons, boulders or trees, these obstacles can be marked on the map of the AmaTron 4. If the vehicle is moving towards an obstacle, a warning is issued and the screen zooms onto the vehicle symbol.

The warning is only issued if warnings are activated in the settings; see page 117.

The map is only zoomed if autozoom is activated; see page 69.

The marked obstacle can be used for GPS drift correction, see page 75.

REQUIREMENTS

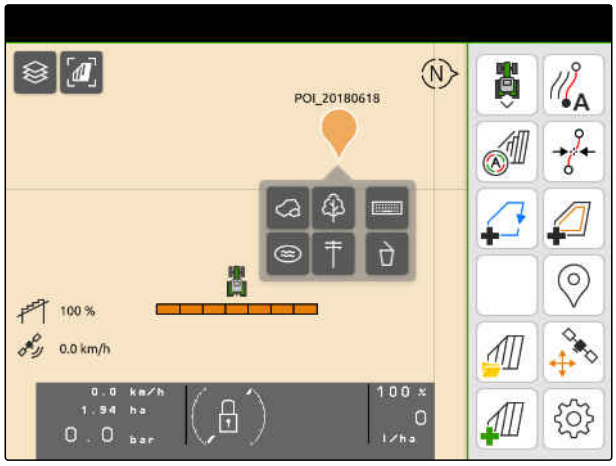
- ⊘ License available for *"GPS switch pro"*

1. Drive to the obstacle with the vehicle.

2. *If the marked obstacle should be used for GPS drift correction,*
   take note of the vehicle orientation and position.

3. In the Work menu, select .

➡ An obstacle symbol is shown on the map.



CMS-I-00000222

4. Use your finger to move the obstacle symbol to the desired position.

5. *If a symbol for a certain type of obstacle should be added,*
select the desired symbol.

6. *If the obstacle should be renamed,*
enter the desired name under .

7. *If the obstacle symbol should be deleted,*
Select .

8. *To set the obstacle symbol,*
tap on any spot on the map.

Using parallel guidance 24

CMS-T-00000190-J.1

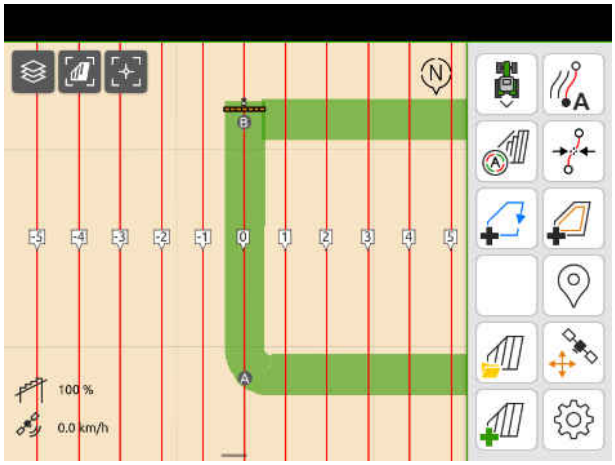
24.1 Configuring parallel guidance

CMS-T-00000231-H.1

24.1.1 Selecting the track line pattern

CMS-T-00000293-H.1

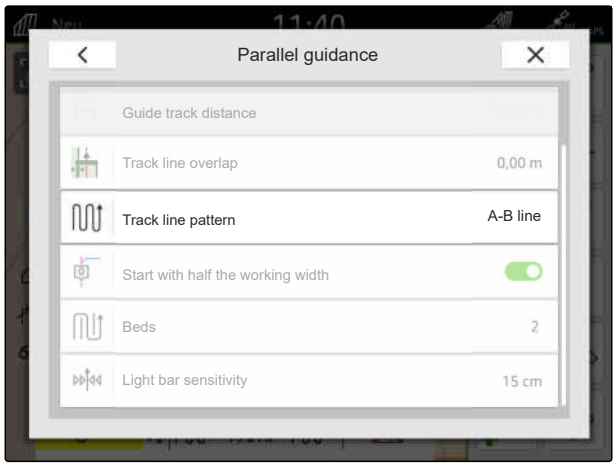
With the AmaTron 4, different types of track lines can be recorded.

Available track line patterns	Explanation	Figure
A-B	Straight track line that is laid between 2 points.	
Smoothed contour	Curved track line that is recorded while driving between 2 points. The contours will be automatically smoothed.	

REQUIREMENTS

- ⊘ License available for *"GPS track"*

1. In the Work menu, select ⚙ > *"Parallel driving"* > *"Track line pattern"*.
2. Select the desired track line pattern.
3. Confirm with ✓.



CMS-I-00000207

24.1.2 Editing the track lines

CMS-T-00007040-B.1

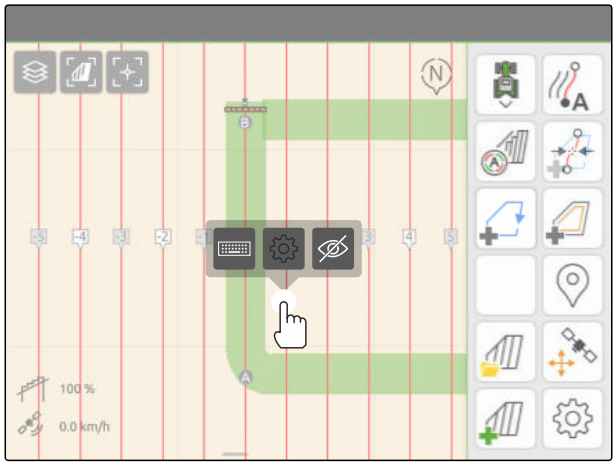
When track lines are created, the track line spacing corresponds to the working width of the connected implement. The track line spacing can be changed manually.

If the implement should drive on the track lines and still generate overlap or a gap, the overlap of the track lines can be changed.

1. Tap on a track line.

➡ The configuration buttons will be shown.

2. Select ⚙.

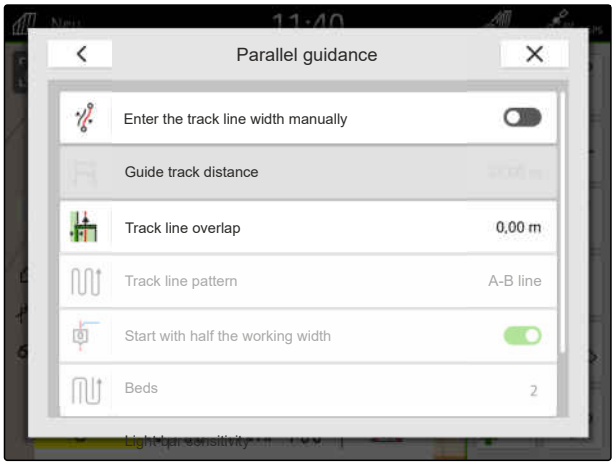


CMS-I-00004944

3. *To change the track line spacing,*
activate *"Manual entry"*

or

To change the track line overlap,
deactivate *"Manual entry"*



CMS-I-00004952

Possible entries for the track line overlap:

- Positive value: overlap
- Negative value: gap in the cultivation

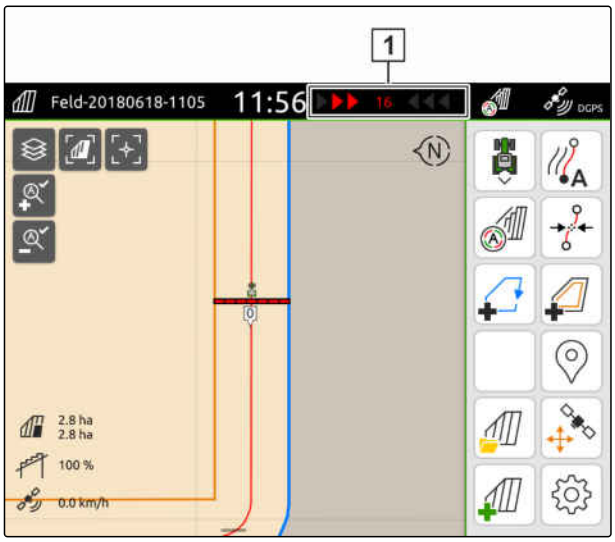
4. Enter the desired track line spacing or the desired overlap of the track lines.

24.1.3 Adjusting the light bar sensitivity

CMS-T-00000291-H.1

The light bar 1 shows the deviation of the tractor from the closest track line and supports the driver in staying on track.

The triangular symbols on the light bar light up when the track line deviation exceeds the entered value.



CMS-I-00000204

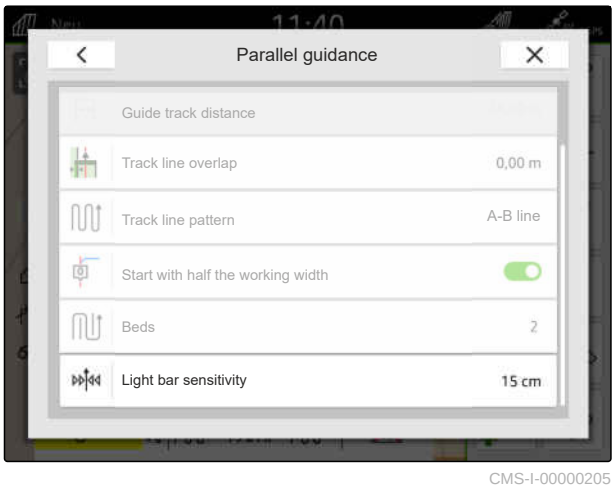
REQUIREMENTS

✓ License available for *"GPS track"*

1. In the Work menu, select ⚙ > *"Parallel driving"* > *"Light bar sensitivity"*.

2. Enter a value between 1 cm and 100 cm.

3. Confirm with ✓.



CMS-I-00000205

24.2 Creating track lines

CMS-T-00001688-F.1

24.2.1 Creating an A-B line

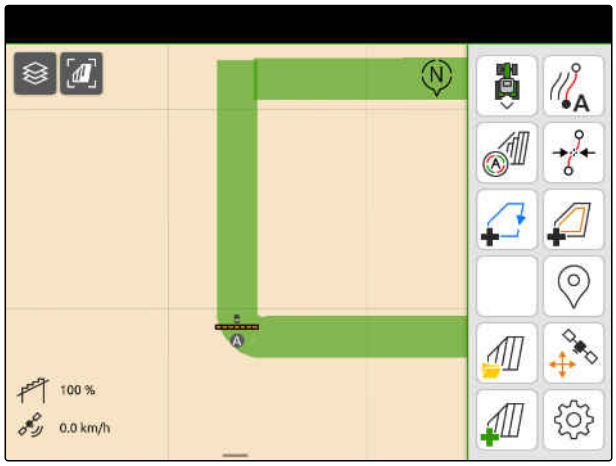
CMS-T-00000296-G.1

REQUIREMENTS

- ⊘ License available for *"GPS track"*
- ⊘ *"A-B"* track line pattern is selected, see page 126

1. Drive to the beginning of the row.
2. Select A.

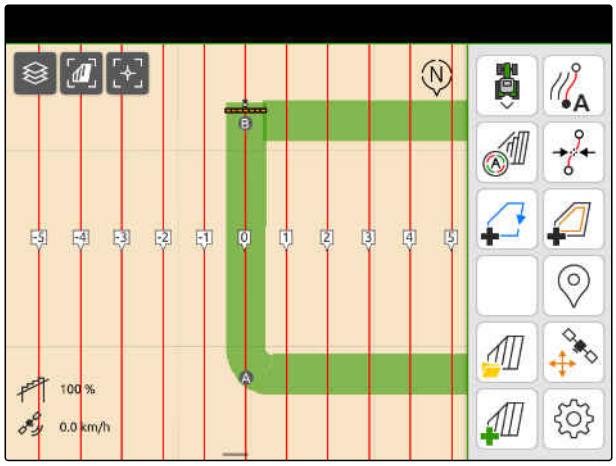
➡ The start point of the track line is set on the vehicle position.



CMS-I-00000208

3. Drive to the end of the row.
4. Select B.

➡ The end point of the track line is set on the vehicle position. Other track line are added.



CMS-I-00000209

24.2.2 Creating smoothed contours

CMS-T-00000297-G.1

REQUIREMENTS

- ✓ License available for *"GPS track"*
- ✓ The track line pattern *"Smoothed contour"* is selected; see page 126

1. Drive to the beginning of the row.
2. Select A.

➡ The start point of the track line is set on the vehicle position.

CMS-I-00000211

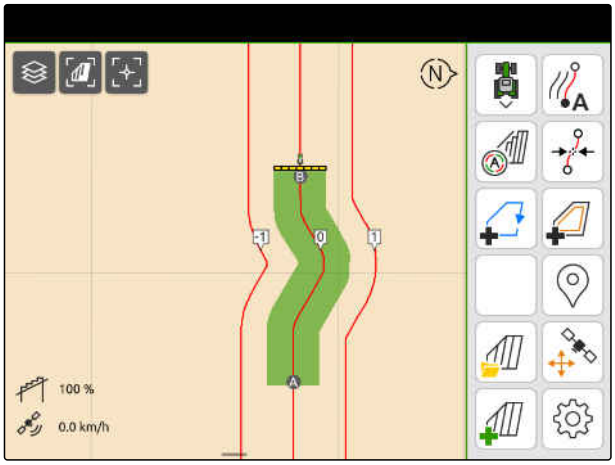
3. Drive to the end of the row.

NOTE

The end point of the track line must be at least 15 m away from the start point.

4. Select B.

➡ The end point of the track line is set on the vehicle position. Other track line are added.



CMS-I-00000210

24.3 Creating beds

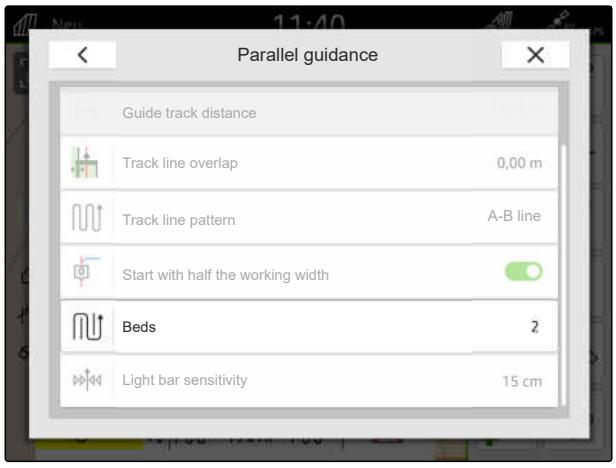
CMS-T-00000292-H.1

To create beds, certain track lines can be highlighted. The highlighted track lines show the row in which the worked area must be travelled to create a bed of the desired size. The entered number indicates the rhythm in which the track lines must be followed. If, for example, a 2 is entered, every second track line must be followed. In this way, one track line is always left out and therefore creates beds of one working width.

REQUIREMENTS

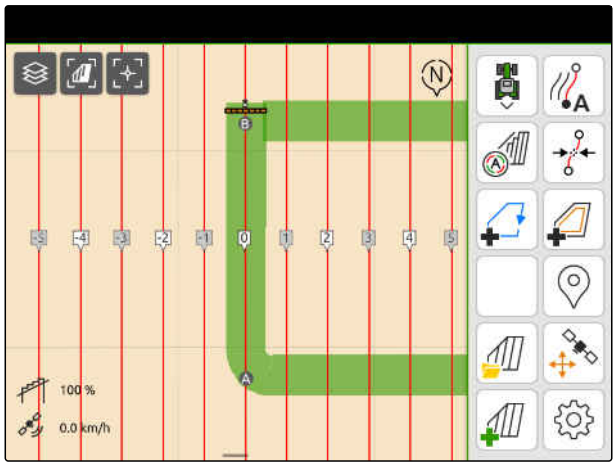
- ⊘ License available for *"GPS track"*

1. In the Work menu, select ⚙ > *"Parallel driving"* > *"Beds"*.
2. Enter a value between 1 and 20.
3. Confirm with ✓.



CMS-I-00000206

➡ The track lines will be highlighted in the specified rhythm.

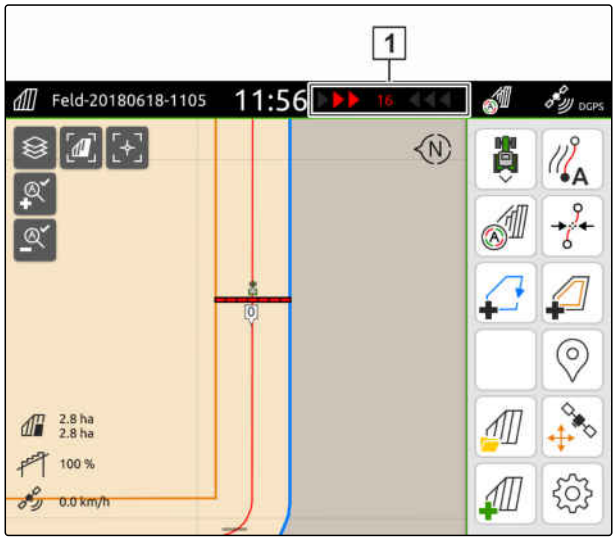


CMS-I-00001095

24.4 Parallel driving

CMS-T-00000295-H.1

During travel, the light bar 1 shows the deviation of the vehicle from the driven track line in centimetres. When the track deviation reaches the set value, a triangular symbol beside the centimetre specification turns red. This shows the driver the direction in which the vehicle must be steered.



CMS-I-00000204

REQUIREMENTS

- ⊘ License available for *"GPS track"*
- ⊘ Light bar added to the status bar; see page 23
- ⊘ Light bar sensitivity is defined; see page 128
- ⊘ Track lines are created; see page 129
- ⊘ Beds created if necessary; see page 130

► *To keep the vehicle on the track,*
steer the vehicle by the displayed distance towards the track line.

24.5 Shifting the track lines

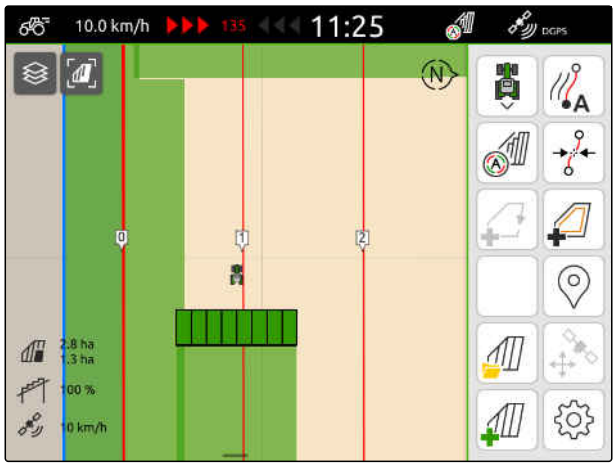
CMS-T-00003615-B.1

Track lines can be shifted to compensate for deviations that are caused by GPS drift. When the displayed track lines no longer match the real tracks on the field, the displayed track lines can be manually nudged on the AmaTron 4. To do so, the track line closest to the vehicle symbol is shifted to the position of the vehicle symbol. All of the other track lines will be shifted by the same distance and in the same direction.

REQUIREMENTS

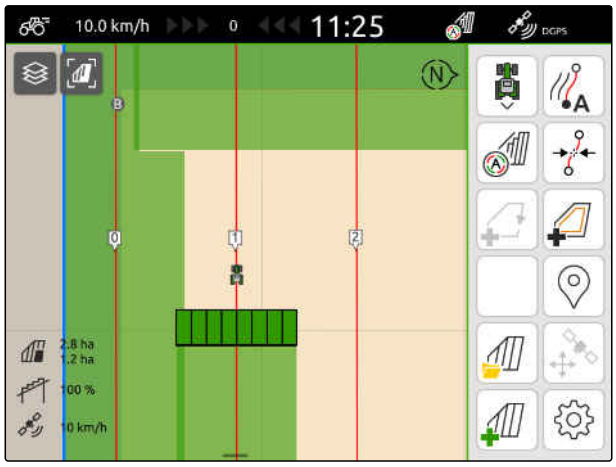
- ⊘ License available for *"GPS track"*

▶ In the Work menu, select .



CMS-I-00002601

➡ The track lines have been nudged.



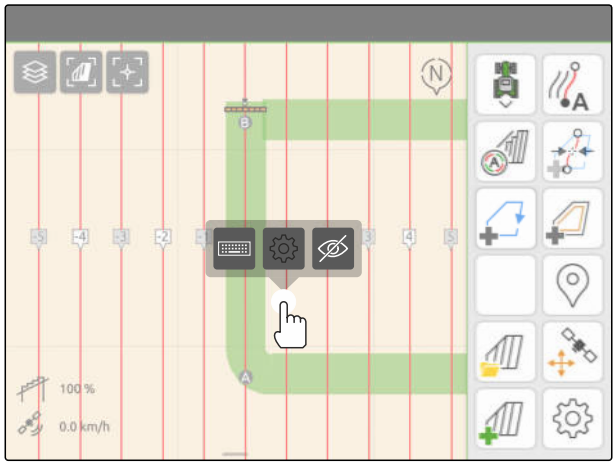
CMS-I-00002602

24.6 Renaming track lines

CMS-T-00007022-B.1

1. Tap on a track line.

➡ The configuration buttons will be shown.



CMS-I-00004944

2. select .

3. Enter the desired name for the track lines.

4. Confirm with .

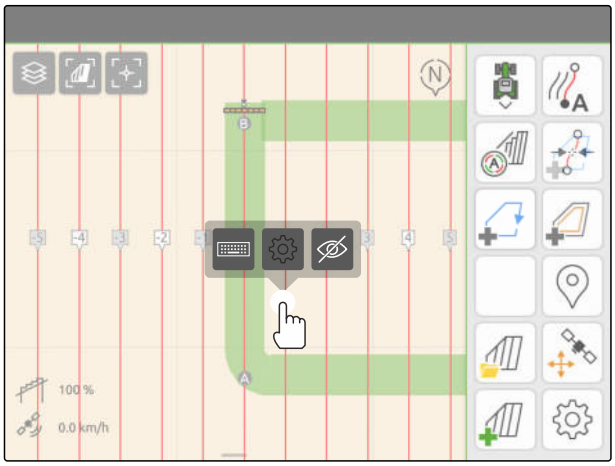
24.7 Hiding the track lines

CMS-T-00007039-B.1

When the track lines are hidden, the track lines are no longer shown in the map view. The hidden track lines remain stored in the field data and can be reloaded.

1. Tap on a track line.

➡ The configuration buttons will be shown.



CMS-I-00004944

2. select .

➡ The track lines will be hidden.

3. *To reload the track lines,*
see page 83.

Using automatic boom lowering

25

CMS-T-00000284-H.1

The automatic boom lowering automatically lowers the boom when the sprayer moves onto an unworked area.

The value to be entered refers to the time at which the AmaTron 4 lowers the boom before the unworked area is reached.

The value for the time of the lowering procedure must be determined manually.

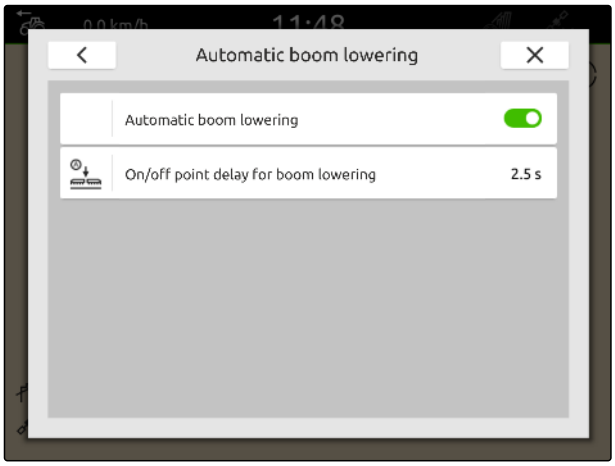
The correct timing of the automatic boom lowering function depends on the following factors:

- Forward speed
- Tractor equipment
- Implement equipment
- Lifting distance of the boom

REQUIREMENTS

- License available for *"GPS switch basic"* or *"GPS switch pro"*
- A compatible AMAZONE field sprayer is connected
- Field boundary has been created, see page 112

1. In the Work menu > select *"Automatic boom lowering"*.
2. Activate *"Automatic boom lowering"*.
3. Under *"On/off point delay for boom lowering"*, enter the duration of the lowering procedure in seconds.
4. Confirm with .



CMS-I-00000214

Configuring AUX-N input devices 26

CMS-T-00000359-H.1

26.1 Setting up AUX-N input devices

CMS-T-00005926-C.1

26.1.1 Assigning AmaTron 4 functions to the AUX-N input device

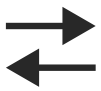
CMS-T-00000324-G.1

Using the AmaTron 4, the buttons of AUX-N input devices can be assigned. It can be used to actuate AmaTron 4 with the AUX-N input device.

NOTE

Only AUX-N input devices can be assigned with functions using the AmaTron 4.

The following table shows the functions of the AmaTron 4:

							
Reverse the direction of the vehicle symbol in the map view	Activate automatic part-width section control	Call up map view	Call up the Main menu	Call up the Universal Terminal	Confirm	Call up the camera image	Switch between the swipe gesture applications

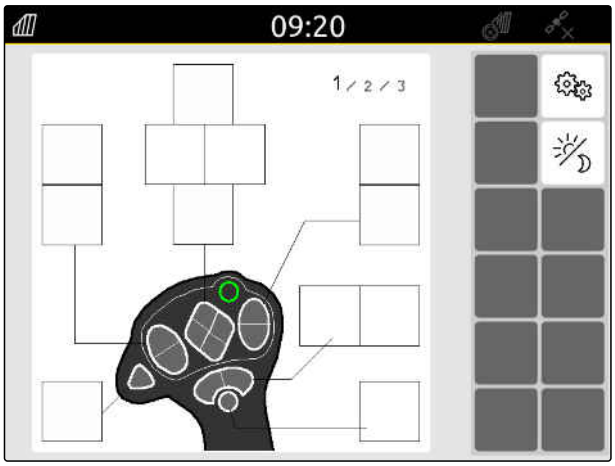
REQUIREMENTS

- ⊘ AUX-N input device is connected
- ⊘ UT number of the AmaTron 4 is set to 1; see page 42

1. In the Main menu, select .

➡ The interface sent by the input device is shown.

2. Select the desired key.

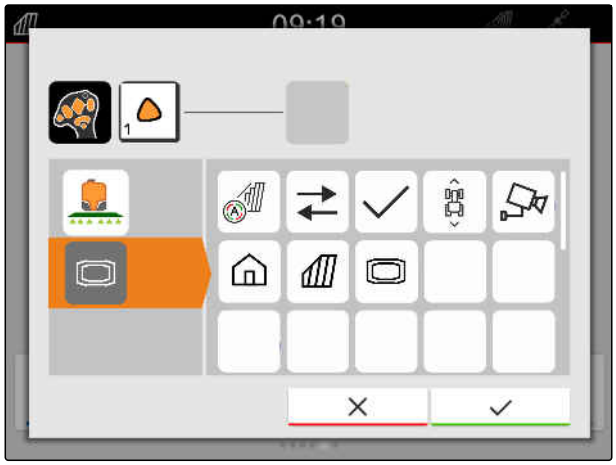


CMS-I-00000250

The AUX-N input device is shown symbolically together with the selected button. Underneath, there is a button representing the AmaTron 4. With this button, the AmaTron 4 functions can be opened.

3. Open the AmaTron 4 functions.

4. Select the AmaTron 4 function from the list.



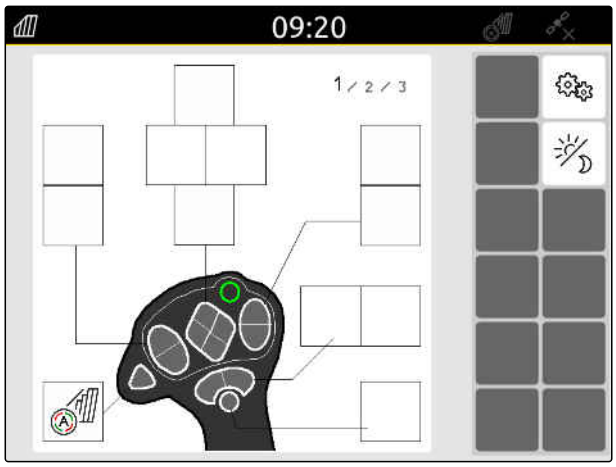
CMS-I-00004280

➡ The selected AmaTron 4 function is assigned to the button.

CMS-I-00004281

5. Confirm with ✓

➡ In the overview, the selected AmaTron 4 function is shown on the key of the assigned button.



CMS-I-00004279

26.1.2 Assigning implement functions to the AUX-N input device

CMS-T-00005927-C.1

Using the AmaTron 4 , the buttons of AUX-N input devices can be assigned. Therefore, implement

functions can be actuated with the AUX-N input device.

NOTE

Using the AmaTron 4 , only AUX-N input devices can be assigned with functions.

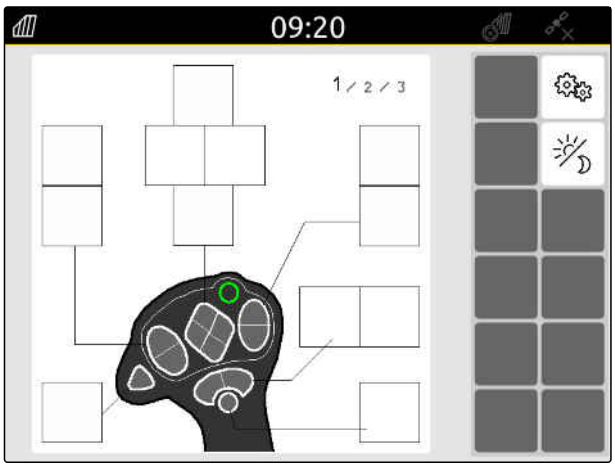
REQUIREMENTS

- ⊘ AUX-N input device is connected
- ⊘ UT number of the AmaTron 4 is set to 1; see page 42

1. In the main menu, select .

➡ The interface sent by the input device is shown.

2. Select the desired key.

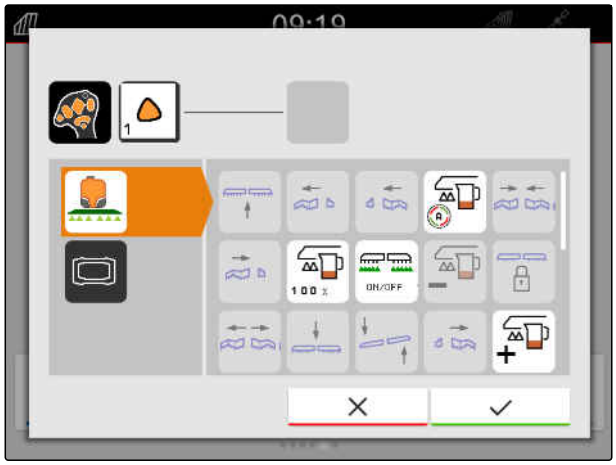


CMS-I-00000250

The AUX-N input device is shown symbolically together with the selected button. The keys that represent the connected implements are shown underneath. With these keys, the implement functions can be opened.

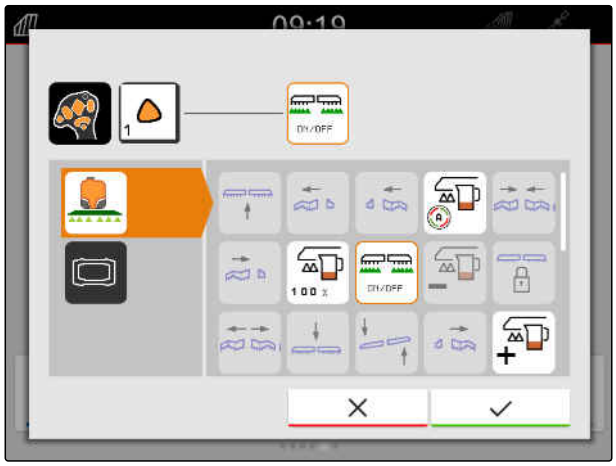
3. Open the implement functions.

4. Select an implement function from the list.



CMS-I-00000247

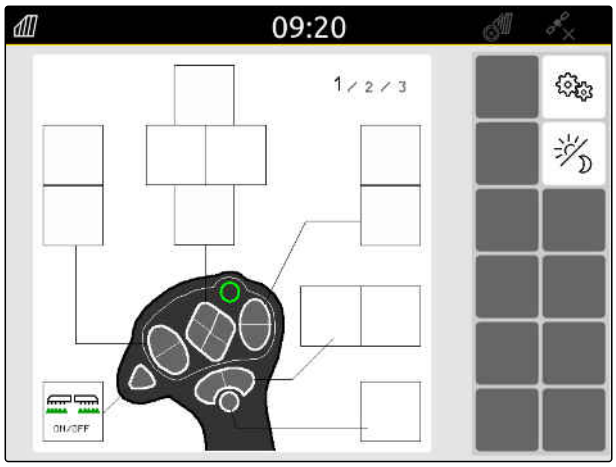
➡ The selected implement function is assigned to the button.



CMS-I-00000245

5. Confirm with ✓.

➡ In the overview, the selected implement function is shown on the key of the assigned button.



CMS-I-00000248

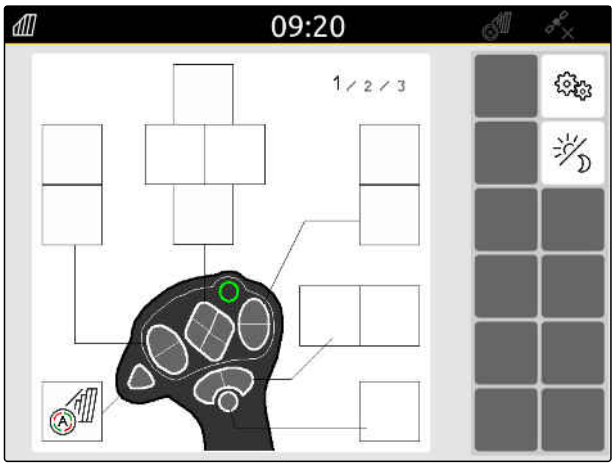
26.1.3 Removing the AUX-N assignment

CMS-T-00014703-A.1

1. In the Main menu, select .

➡ The interface sent by the input device is shown.

2. Select the button with the function to be deleted.



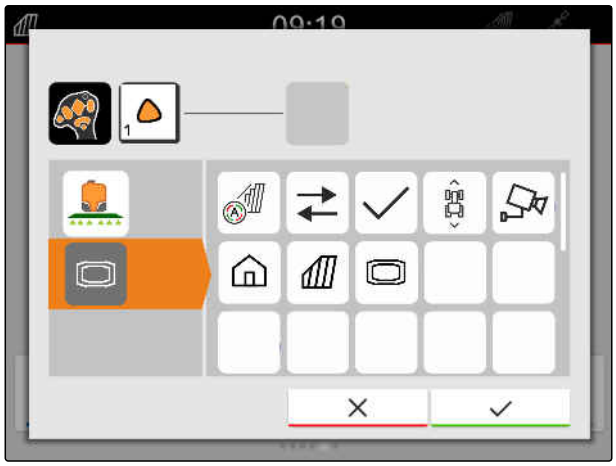
CMS-I-00004279

The AUX-N input device is shown symbolically together with the selected button. The assigned function is shown beside it.

3. Tap the assigned function.

CMS-I-00004281

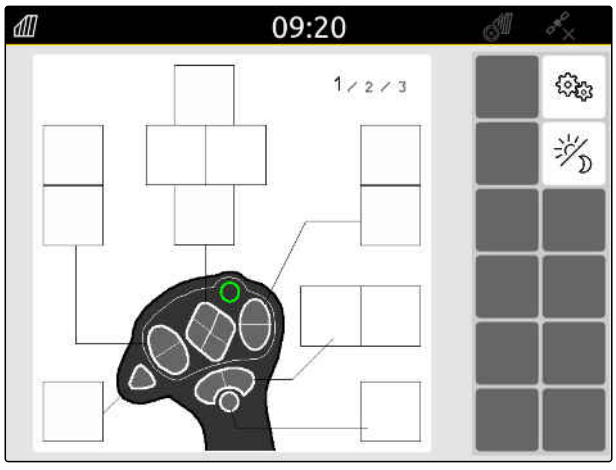
➡ The assigned function will be removed.



CMS-I-00004280

4. Confirm with ✓.

➡ In the overview, the button of the pushbutton is free.



CMS-I-00000250

26.2 Managing preferred assignments

CMS-T-00000361-E.1

26.2.1 Confirming the AUX-N assignment

CMS-T-00000360-C.1

When an AUX-N input device is connected, the AUX-N assignments for the connected implement must be confirmed each time the AmaTron 4 is restarted.

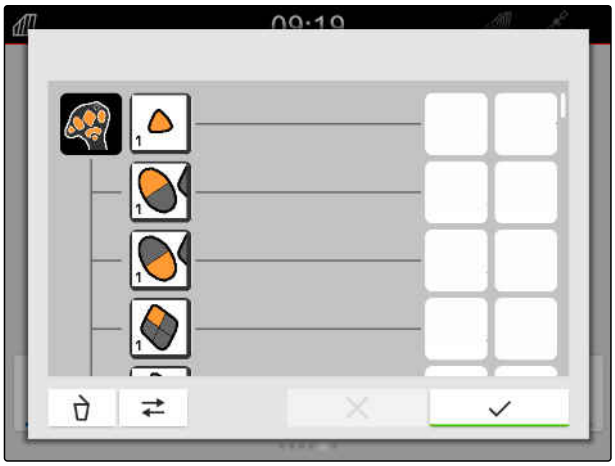
The menu for the *"Preferred assignment"* is automatically opened.

1. Check the AUX-N assignment.
2. *If the AUX-N assignment should be changed,* see page 144

   or

   If the AUX-N assignment is ok,

   confirm with ✓.



26.2.2 Changing the AUX-N assignment

CMS-T-00000365-E.1

26.2.2.1 Changing the AUX-N assignment using the functions list

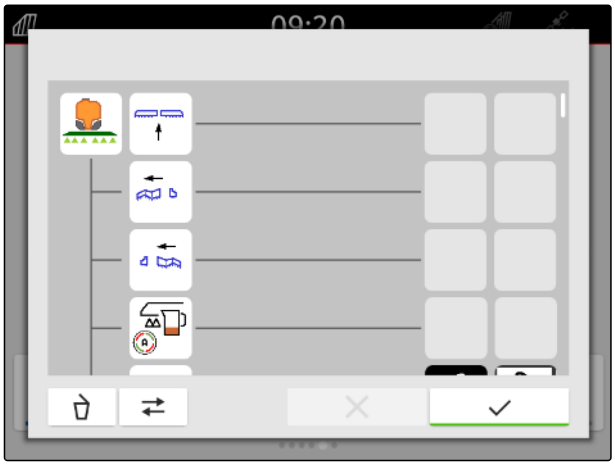
CMS-T-00000362-D.1

For the AUX-N assignment using the functions list, all of the available functions are listed on the left side. The buttons of an AUX-N input device can be assigned to these functions.

1. *If the functions are not listed on the left side:*

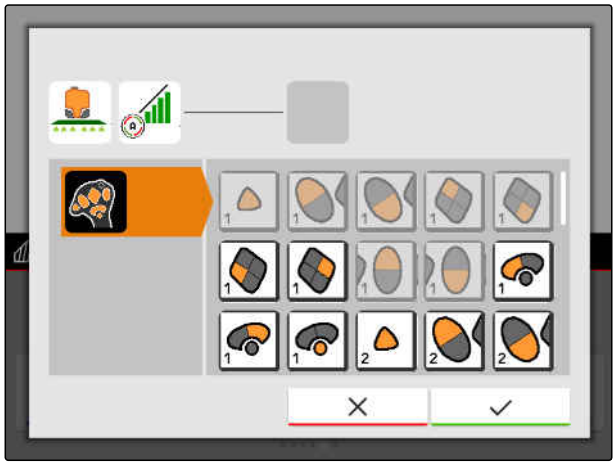
   select ⇄.
2. Select a function from the list.

➡ A list of available AUX-N input devices will be shown.



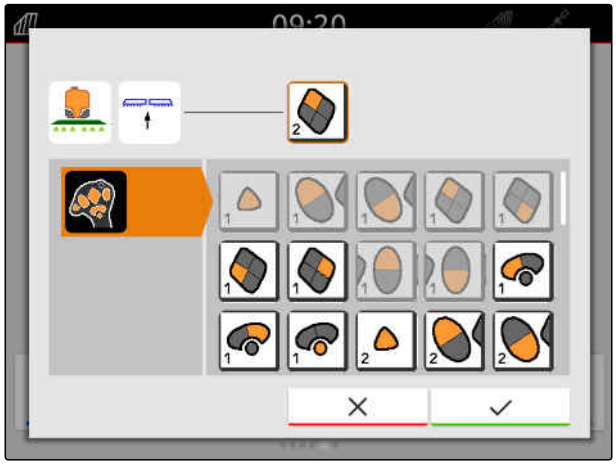
3. Select the desired AUX-N input device.

➡ An overview of available buttons will be shown.



4. Select the desired button.

➡ The selected button is shown beside the function.



5. Confirm with ✓.

➡ In the overview, the button is assigned to the selected function.

6. Assign other buttons

   or

   Confirm the AUX-N assignment with ✓.

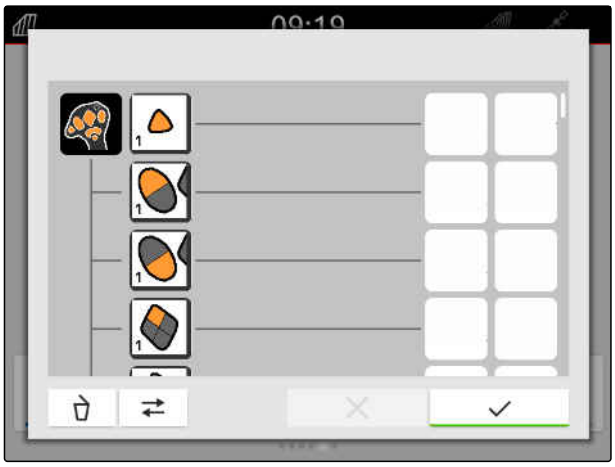
26.2.2.2 Changing the AUX-N assignment using the input list

CMS-T-00000363-C.1

For the AUX-N assignment using the input list, all of the available buttons are listed on the left side. These buttons can be assigned to functions.

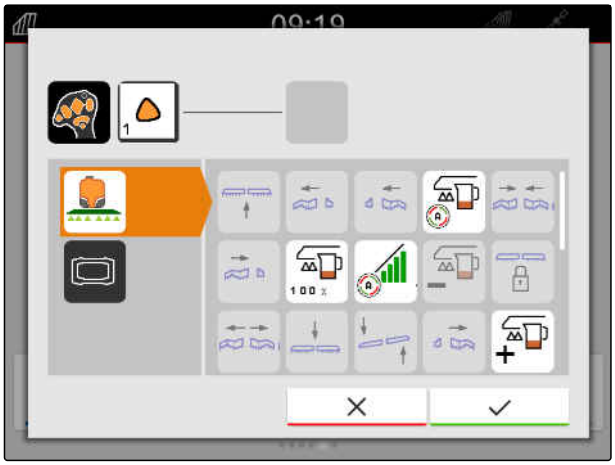
1. *If the buttons are not listed on the left side:*
   select ⇄.
2. Select a button from the list.

➡ An overview of connected implements is shown.



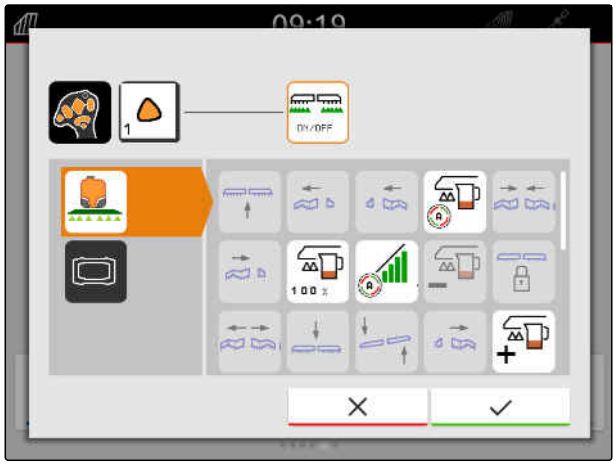
3. Select the desired implement.

➡ An overview of available functions is shown.



4. Select the desired function.

➡ The selected function is shown beside the button.



5. Confirm with ✓.

➡ In the overview, the button is assigned to the selected function.

6. Assign other functions

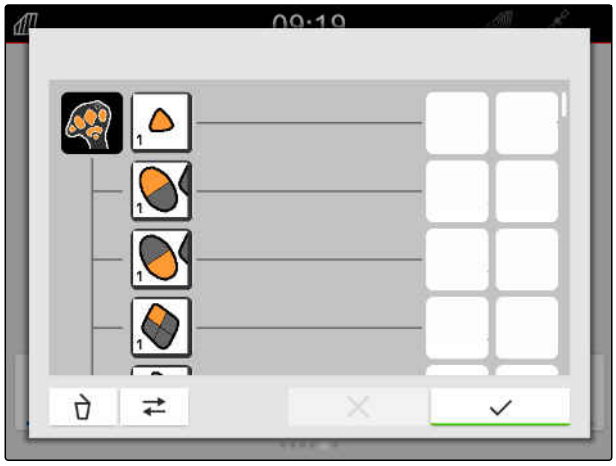
   or

   Confirm the AUX-N assignment with ✓.

26.2.2.3 Deleting the AUX-N assignment

CMS-T-00000364-D.1

1. In the function list or input list, select the function to be deleted.



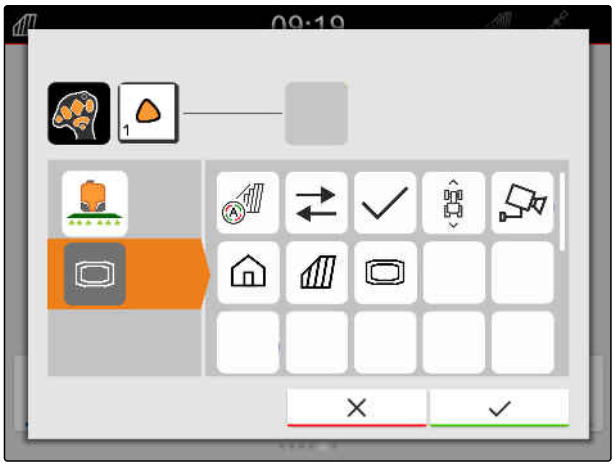
CMS-I-00000289

The selected function or the associated button on the AUX-N input device is shown at the top centre.

2. Tap the function or the associated button on the AUX-N input device.

CMS-I-00004281

➡ The assignment will be removed.



CMS-I-00004280

3. Confirm with ✓.

26.3 Eliminate AUX-N conflicts

CMS-T-00010642-A.1

One button on the AUX-N input device can only be assigned with one function. If buttons on the connected AUX-N input device are assigned with multiple functions, AUX-N conflicts arise.

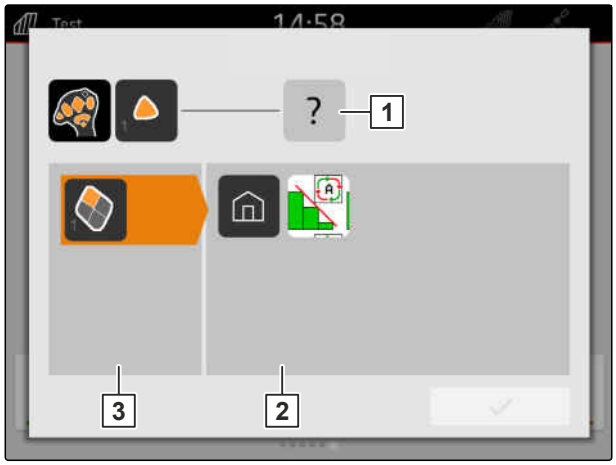
If the AmaTron 4 detects these AUX-N conflicts, a selection window will be shown for the affected buttons and functions.

1. Select the button in the list **3**.
2. Select one of the functions in the list **2**.

➡ The selected function is shown in the field **1**.

3. *When all of the AUX-N conflicts have been eliminated,*

   confirm selection with ✓.



CMS-I-00007284

Taking screenshots

27

CMS-T-00000201-B.1

A screenshot refers to an image of the current display on the screen. The image is saved to the USB flash drive as a graphic file. The file name is composed of the current date and time.

REQUIREMENTS

- ⊘ USB flash drive is inserted

► Press and hold the main menu button 1.

➡ A camera symbol is shown on the display. The screenshot is saved to the USB flash drive.

Using the camera

28

CMS-T-00000323-H.1

The AmaTron 4 can show images from a connected camera.

REQUIREMENTS

- ⊘ License available for *"AmaCam"*
- ⊘ Camera is connected
- ⊘ Camera is configured; see page 29

▶ In the main menu, select .

or

When automatic reverse drive detection is activated,
drive in reverse.

➡ The camera image is displayed.

Troubleshooting

29

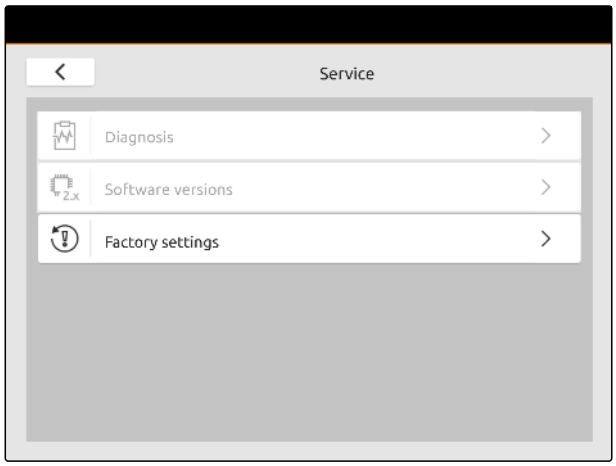
CMS-T-00003627-E.1

Errors	Cause	Solution
GPS reception disturbed	The GPS receiver is not working properly.	▶ Check the connections. ▶ Reset the GPS receiver to factory settings, see page 40.
Display of the implement controls on the UT is faulty	The pool was not correctly loaded.	▶ Delete stored pools, see page 153.
The connected implement is not displayed	The pool was not correctly loaded.	▶ Delete stored pools, see page 153.
	The implement not connected properly.	▶ Reconnect the implement.
	ISOBUS incorrectly configured.	▶ Configure the ISOBUS, see page 42
The part-width sections are not correctly displayed in the map view	Error in the implement management	▶ Reset the implement management, see page 153.
Implements is not shown on the terminal.	Second terminal is connected.	▶ Configure the ISOBUS, see page 42
Part-width section control is not working properly.	Second terminal is connected.	▶ Configure the ISOBUS, see page 42

Resetting to factory settings 30

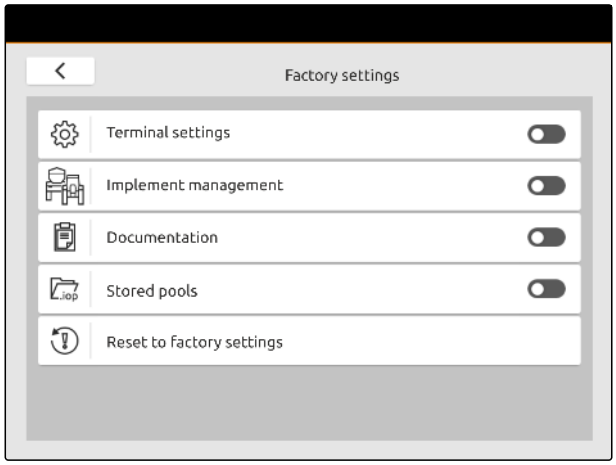
CMS-T-00001736-D.1

1. In the Setup menu, select *"Service"* > *"Factory settings"*.



The following application areas can be reset:

- Terminal settings: Resets all settings on the AmaTron 4
- Implement management: Deletes all created tractors and implements
- Documentation: Deletes all job data
- Saved pools: Deletes the saved views of the implement controls



2. Select the desired application area.
3. Select *"Reset to factory settings"*.
4. Confirm with ✓.

Appendix 31

CMS-T-00003616-C.1

31.1 Other applicable documents

CMS-T-00003617-C.1

- Operating manual for the implement and the software for the implement controls
- Operating manual for the GPS receiver
- Tractor operating manual

Directories

32

32.1 Glossary

CMS-T-00005867-B.1

A

Application map

Application maps contain data that can be used to control an element of an implement. This data includes application rates or working depths.

AUX

AUX stands for "Auxiliary" and refers to an additional input device, e.g. a multi-function stick.

B

Baud rate

Data transfer rate, measured in bits per second.

Boom

The boom designates a group of part-width sections.

C

Correction source

Correction sources are the different systems used to improve and correct the GPS signal.

E

ECU

ECU refers to the implement control that is installed in the implement. The implement control can be accessed using control terminals to operate the implement.

EGNOS

European Geostationary Navigation Overlay Service. European system for satellite navigation correction.

F

Farm Management Information System

A Farm Management Information System, or FMIS for short, is a program for managing agricultural operations. Such programs can be used to manage jobs and master data.

Firmware

A computer program that is permanently embedded in a device.

G

GPS drift

GPS drift is defined as the deviations of the GPS signal that result from the use of correction sources with low precision. GPS drift can be recognised when the vehicle symbol on the control terminal no longer corresponds to the actual position of the vehicle.

GLONASS

Russian global navigation satellite system

H

HDOP

(Horizontal Dilution of Precision) Measurement for the precision of the horizontal position data (longitude and latitude) that is sent by the satellites.

M

MSAS

Multifunctional Satellite Augmentation. Japanese system for satellite navigation correction.

R

RTK

Paid system for the correction of satellite data.

S

shape file

The shape file saves geometry information and attribute information in a data set. The geometry information forms shapes that can be used as boundary lines. The attribute information is required for the applications, e.g. to control the application rate. The shape file is in ".shp" format.

Setpoint receiver

The setpoint receiver refers to the controllable element of the implement. On a field sprayer, the spray pressure controller can be defined as a controllable element, which then regulates the application rate.

T

TASK.XML

The TASK.XML is a file that contains data on the jobs.

U

Universal Terminal

The Universal Terminal can be used to display the user interface of the ECU on the control terminal.

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