

User Manual

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Machine identification

In order to provide you with good service various details about your machine may sometimes be required. Please complete these details here in order to have them at hand when they are requested.

Type

EDW 3

Options

Address
dealer

Address
manufacturer

Kverneland Group Nieuw-Vennep B.V.
Hoofdweg 1278
NL-2153 LR Nieuw-Vennep
The Netherlands

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Target group of this manual

This manual is intended for agrarians and others trained in working in the field of agriculture, people that are competent to operate these machine, as required by national legislation, and who have knowledge of assembly activities.

For your safety

Ensure that you are familiar with the contents of this manual before you start using or assembling the implement. This will ensure that you obtain an optimum result and are working safely.

→ See paragraph »Safety requirements« on page 6.

Should you have any questions or if anything is unclear, please contact the manufacturer.

Ensure that this manual is available to all persons who will be working with this machine. In this way, you will:

- avoid accidents,
- respect the warranty conditions,
- always have a good functioning machine in perfect working order.

For the employer

- All personnel who operate this machine must be authorised to do so in terms of the applicable national legislation.
- All personnel are to be trained in the use of the machine regularly (at least once a year) in accordance with employers' liability insurance association guidelines. Untrained or unauthorised individuals are not permitted to use the machinery.
- You are responsible for the safe operation and maintenance of your machine. You must ensure that you and anyone else who is going to operate, maintain or work around the unit be familiar with the operating and maintenance procedures and related safety information as mentioned in this manual.
- You are responsible for providing personal protective gear to personnel who use the machine or who are performing maintenance or repairs on it. This includes: safety goggles, safety shoes, safety gloves, etc.

Meaning of symbols

Various symbols are used to provide a clear understanding of the text. These are explained below:

- A dot is placed before lists.
- ▶ A triangle marks tasks you have to perform.
- An arrow refers to a different place in the text.

In addition, we use pictograms to help you to easily find certain text sections.

TIP The words “Tip“ and “Hint“ are followed by tips or hints for operation.



The warning triangle indicates important safety instructions. Failing to comply with these may result in:

- serious operating malfunctions of the machine;
- damage to the machine;
- injuries or accidents.



The spanner indicates tips for assembly or adjustment work.



A star indicates that examples will follow that are intended to clarify the text.



Safety requirements

This part contains all the requirements, everything that is not permitted and requirements for each form of usage, maintenance and reparation of the machine.

The chapters in the manual contain additional safety measures.

Knowledge of the safety regulations forms the basis for safety and proper usage of the machine.

Always follow the safety instructions. Most accidents are avoidable. Do not run the risk of serious or fatal accidents through ignorance of these safety instructions.

Intended use

This software, along with the machine, is exclusively intended to spread granular products, specifically fertiliser types and seeds.

Any other application would be considered to be irregular. The manufacturer is not responsible for damage that may result from such usage; risks are taken exclusively by the user.

The instructions, maintenance requirements and reparation stipulations as indicated by the manufacturer must be adhered to at all times.

→ See the user manual of the spreader.

Authorisation

Only to be used by an authorised person

The machine may be used by authorised people only. A person is authorised if he/she:

- received training as required by the national authorities,
- has taken responsibility as described in
 - the machine's manual.



Maintenance

Performed by an authorised person

Always have an authorised expert perform maintenance and repairs, as described in

→ paragraph »Authorisation« on page 6.

Maintenance performed in an inexperienced manner could lead to unsafe work situations or damage to the machine or crops.

Never use the tractor in a closed area

The tractor must never be used in a closed area. Exhaust fumes collect without being noticed. Exhaust fumes can cause serious or deadly injuries.

Prevent unintentional operation

Render all parts that could contain residual energy safe, as well as all parts that conduct energy such as compressed air, hydraulics and electricity. Release all pressure from the system and disconnect the pipes and cables. Unintended operation could lead to injury.

Checking for technical failures

Check before using the terminal whether it returns in perfectly working state. In case there are any defective components, contact your supplier for replacement. Defective components can cause failure, which can lead to damage or injury.

Keep in good working condition

Keep the terminal in good working condition.

Use original parts

Only use original parts from the Kverneland Group. Using other products can cause failure or lower safety. The validity of the guarantee is voided

if non-original spare parts are used.

You can use the supplied parts manual (either as a printout or as a PDF in the included memory card) to locate the correct part number.

Do not open the terminal

Do not open the housing of the terminal. Opening the housing can lead to shortening of the life cycle and can compromise the working

of the terminal. Opening of the terminal voids the guarantee.

**Avoid contact with materials**

You may easily come into contact with materials when cleaning the machine. Always wear protective clothing, such as safety gloves, shoes and goggles. Read and adhere to the additional safety instructions and the of the material producer. Contact with the materials could lead to injury. Contact your physician in such an event!

Risk of explosion because of nitrate

Fertilisers hat contain nitrate can create an explosion danger if they come into contact with fire. All fertiliser remnants should therefore be removed from voids, corners, tubes and tubing before welding, cutting or grinding on the machine. Explosions could cause damage to the machine and lead to personal injury.

Prevent unintentional operation

Render all parts that could contain residual energy safe, as well as all parts that conduct energy such as compressed air, hydraulics and electricity. Release all pressure from the system and disconnect the pipes and cables. Unintended operation could lead to injury.

Applications of the software

Along with the machine, this software is suited for spreading granular fertiliser on the field and grazing land.

It is attached

Any other application would be considered to be irregular. The manufacturer is not responsible for damage that may result from such usage; risks are taken exclusively by the user.

The instructions, maintenance requirements and reparation stipulations as indicated by the manufacturer must be adhered to at all times.

Users must follow the relevant instructions for accident prevention and other generally accepted rules concerning safety, working conditions and traffic.

GEOSPREAD system

The GEOSPREAD system consists of:

- Machine cabinet for actuators etc. and reading out different sensors.
- Software.

To operate the GEOSPREAD system, an ISOBUS control box is required in the tractor cab.

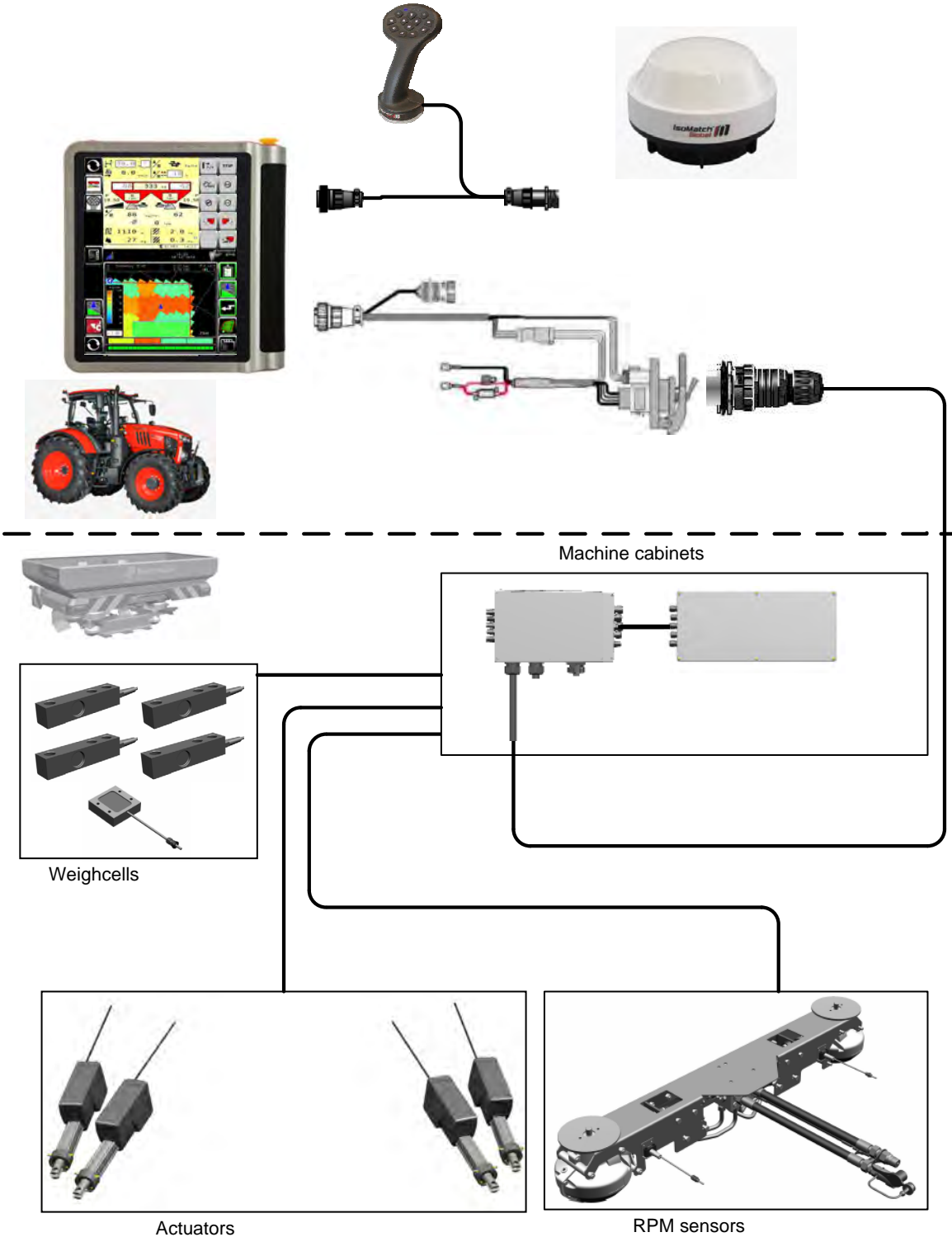
Kverneland supplies the following control cabinets:

- Tellus PRO
- Tellus GO+

The GEOSPREAD system supports every ISOBUS task controller, which makes it possible to spray using specific locations via GPS.

Kverneland itself offers the GEOCONTROL task controller that has already been installed on the Tellus GO or PRO.

System overview



IsoMatch Tellus PRO



ISOMatch as full ISO terminal

Tractors with an extension to ISOBUS connection use a separate ISO control box for operation.

Many functions and programmes on one control box

The divided screen has a flexible division to:

- Operate 2 programmes or functions simultaneously on screen, e.g. spray computer and a separate boom operating system. This can be done without having to switch.
- Operate all keys directly on the touch screen.
- Instruction booklet in the correct language on screen.
- Check the following by camera in the cabin while working:
 - a specific point on the machine,
 - the crop
 - or the vicinity.
- Extra functions:
 - Calculator
 - Internet browser
 - Camera screen (Camera is optional)
 - Status bar for time, GPS signal strength and driving direction
 - Save and read:
 - Documents
 - Tractor data
 - Field particulars
 - Work particulars of various ISO machines.
 - Client particulars



With the main switch on the top left in the extension, you can switch the control box on and off.

Press the button for at least 1 sec.



- ▶ Always switch off the control box when you leave the tractor.

If the box is engaged, unintended functions can be activated while you are in the danger area. Moreover, the control box uses power, as a result of which the tractor battery could be flattened.

After starting up, the screen with the last (two) selected applications appears.

Becoming familiar with the software

IsoMatch Tellus



Compact and complete

IsoMatch Go, as a handy and more compact variant of the double-screen version, offers complete ISO control with all functions. Besides the smaller dimension with the single screen, the number of USB connections and the absence of Wlan/Wifi constitutes the biggest difference.

Many additional functions.

The latest developments in ISOBUS communication between tractor and implement and ease-of-use are all incorporated into the IsoMatch Tellus GO.

Connect the ISOBUS tractor via IM Tellus 9-point in Cab cable

If your tractor is provided with a full ISOBUS connection, a connection with the 9-pins in Cab cable between your tractor and the IsoMatch Tellus GO control box is sufficient.

Other connections are made via the "Input IM Tellus" cable, supplied as a standard item.

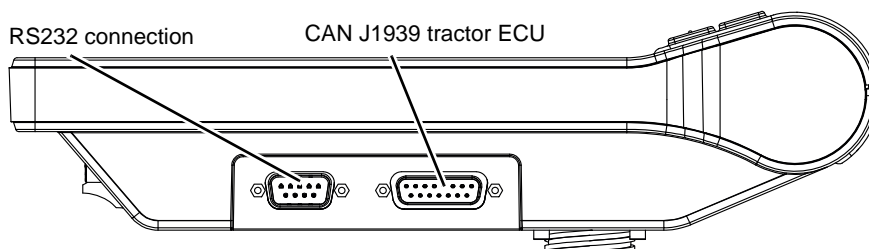
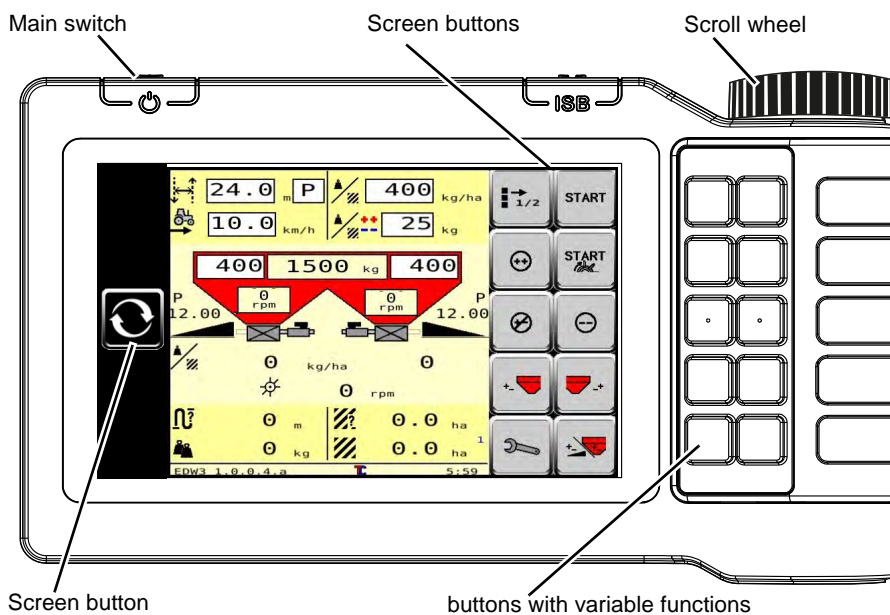
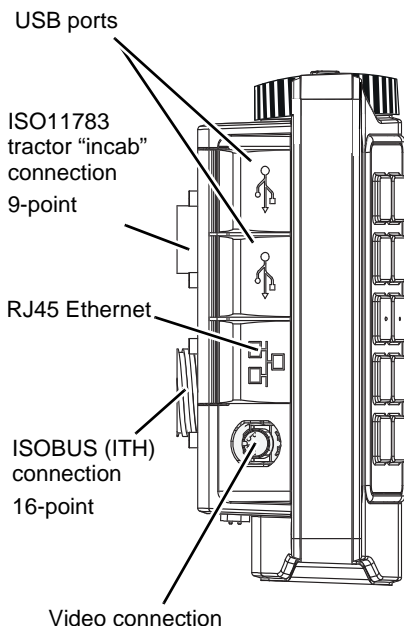
Scroll-wheel navigation

Quick menu navigation with the scroll wheel and additional buttons

A scroll wheel on the top right of the box makes it easy to scroll through the menu.

Keyboard linked to screen buttons

Buttons placed on the right in the hand-grip support the control of the screen buttons in the menu and the pop-up numerical keyboard.



The ISO control system

The ISO control system uses the ISOBUS communication protocol, which makes it suitable for tractors that are also equipped with an ISOBUS communication system. For tractors that still do not have an ISOBUS connection, your dealer can supply the universal IsoMatch terminal to which you can connect all ISOBUS machines.

The automatic weighing system

The spreader uses weighcells to continuously measure the quantity of fertiliser that is being spread. The computer in the distribution box compares these values with the set application rate and corrects as needed by further opening or closing the dosing unit. The tractor's electronics or an extra (gps) sensor measures the current required driving speed and localisation.

→ See paragraph »Operation Settings« on page 33.

The working width and the start/stop time is controlled with field boundaries and headlands. Field data imported from a new management system or a newly created field boundary is used for this purpose.

Configuration screen



With the configuration screen key, you directly reach the screen where you can modify the various settings of your IsoMatch.

→ Consult the user's manual of the control box or tractor for further information.

Control box menu



Pressing the programme change key will take you back to the basic screen of the control system on the control box, irrespective of which screen is currently being displayed. Both screens have their own programme change key. Various applications can be used together on the divided screen in this manner.

→ Consult the user's manual of the control box or tractor for further information.

Selecting application



With a programme change key, you can switch between the several applications or implements in both screens separately.

Becoming familiar with the software

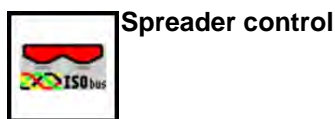
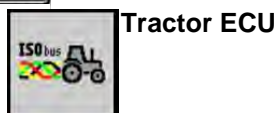
The ISOBUS tool screen

The top tab displays the ISOBUS tools.
The tractor and tools connected to the ISOBUS can be found here.



Tools tab
The tools screen can be opened with this tab.

The ISOBUS tools screen
The screen displays the following ISOBUS connection:



Tractor ECU

Spreader control

If you have connected more implements, you can operate the relevant implements in both screens simultaneously.

Applications screen



The Applications tab
The screen with additional functions can be opened with this tab.



The applications screen
The screen displays the following additional functions:

Manuals screen



Manuals tab
The manuals screen can be opened with this tab.



Manuals screen
The operating manual of the IsoMatch and all other applications are given here.

- You can go up and down through the list with the arrows
- You open the manual with this key



Back tab
This will return you to the previous screen.

Key functions and the procedure to set or adjust their values can be found in
→ the user's manual of your control box.
→ You will find a graphical overview of the menu structure on page 20.

Entering and modifying values

Touchscreen operating buttons

Navigation through the menu is done as in the menu structure
→ described on page 20.

Touch-sensitive screen fields with variable values

The buttons and windows can be operated and opened directly on the touchscreen.

Entering and modifying values in the menu screens can be done via the

- Keyboard (pop-up)
- pull down menu

A keyboard or pull down menu appears on the screen as soon as you touch a value to be changed.

→ See the below examples.

Keyboard (pop-up)



Let us suppose that you want to change the working width:

- ▶ Touch the working width value in the main screen.
The keyboard comes up in the main screen.



IsoMatch keyboard



Main screen with
GEOSPREAD keyboard

Current working width: 24m



Value to be modified

The values chosen by you on the screen are shown at the top of the keyboard displayed. Enter here the working width of 24 metres.

You can immediately change the displayed value with the keys.

Becoming familiar with the software



Saving change

The change is saved when you press the OK button. Thereafter, you can choose a following value in order to change it.



Interrupting change

The change menu is interrupted with the "Cancel" key and control is returned to the menu. The original value on the screen remains unchanged.

IsoMatch Grip



The IsoMatch Grip accessory is a control unit on which most of the implement functions used can be operated centrally with one handle. This is available in addition to the ISOBUS terminal such as the IsoMatch.

Handle control

While working attention and visibility is often required to follow the work process. By locating the control buttons on the handle by touch, it will enable you to keep your eyes on the driving system control and remain focussed while driving.

If operating buttons can be located by the sense of touch reaction speed can be increased and operating mistakes avoided.

44 functions under 11 buttons

The IsoMatch Grip has 11 function buttons and one selector that are operated with the thumb and under which there are 44 functions.

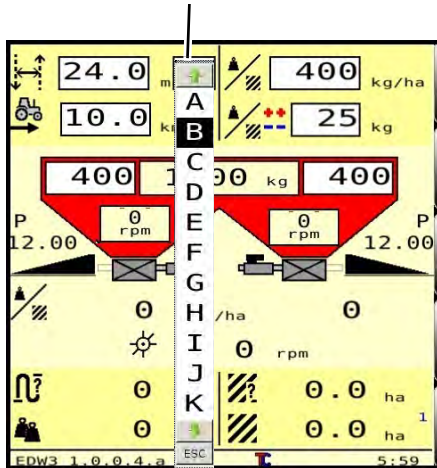
Becoming familiar with the software

Pull down menu

Discharge point letter pull down menu



You want to change the discharge point letter value:



- ▶ Look for the new letter value in the spreading chart.
- ▶ Touch the letter value in the main screen.

The pull down menu opens up on the screen.

Select the new letter on the touchscreen

- ▶ Touch the new letter to be chosen

The pull down menu closes and the new letter is set.

Other control box or tractor terminal

The display of screens and key functions could differ slightly in a tractor with an ISOBUS communication system through an independent terminal. The ISO-tractor terminal may have 5 or 6 buttons left or right of the screen. In that case, you can use a switching key to alternate between toolbars with key functions beside the screen.

Key functions and the procedure to set or adjust their values can be found in

→ the user's manual of your control box or tractor terminal.

→ You will find a graphical overview of the menu structure on page 20.

The control box does not have a separate feeder cable. The ISOBUS plug that you plug in behind the control box also contains the supply.

Menu structure

The operating system (the software) of the control system has 4 levels:

- Main menu with spreader functions that you need during spreading,
- Settings and service menu with basic settings and functions that you need before or after spreading,
- Diagnosis menu for identifying faults in the event of failure
- ISOBUS communication menu for various terminal- and machine-related settings.

Becoming familiar with the software



By pressing the home key, you can return to the main screen from any random point in the program.



With some types of ISO control boxes, change the functions of the function key by pressing the change key.



Some screens have multiple layers; browse the strokes by pressing the key.

Main menu

In the main menu you will find all the information related to the spreading process or the machine while spreading. Moreover, you can use the function keys to carry out the most important functions immediately, such as over- and underdosing or closing a spreading disc.

Settings and service menu

In the first screen of the settings and service menu, you must enter some necessary data for correct spreader operation before use. For some functions, such as emptying the hopper, calibration test and field registration, there is a function key that takes you to a following function-specific screen.



Pressing the key symbol accesses the first screen of the settings and service menu.



By pressing the scroll keys, you reach the next screen of this menu. There you will find settings that you do not have to modify regularly. Behind the PIN code, there are screens where you alone must make changes in the event of any modification to the machine.

Becoming familiar with the software

Diagnosis menu



You can reach the diagnosis menu from any screen of the settings and service menu by pressing the lens key.



By pressing the scroll keys, you can browse the diagnosis menu screens. The values in this menu serve to identify faults and do not have to be modified.



By pressing the key switch, you can return from any diagnosis menu screen to the 1st screen of the settings and service menu.

ISOBUS communication menu



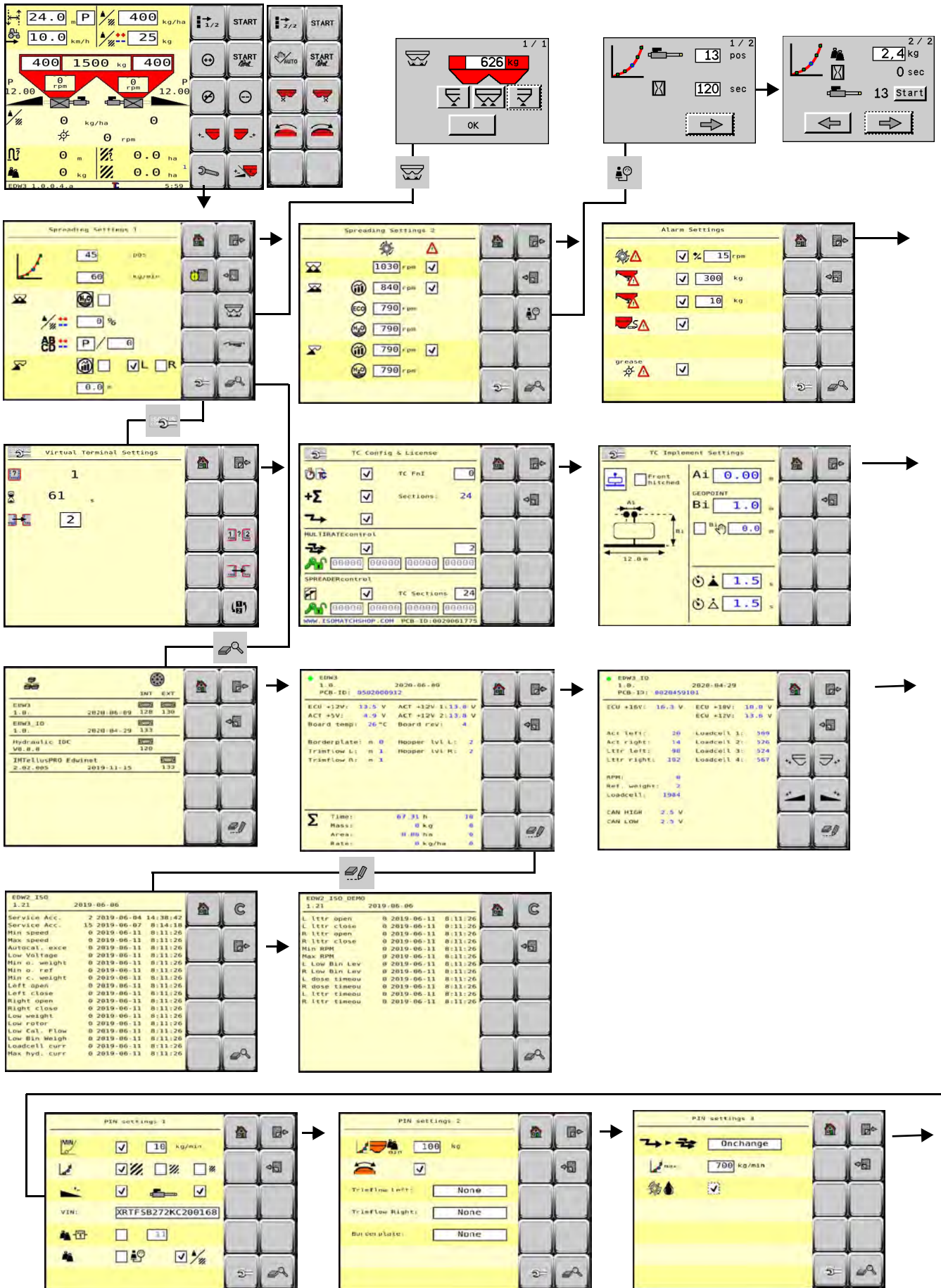
Pressing the ISOBUS symbol accesses the first screen of the ISOBUS communication menu.

In the ISOBUS communication menu, you can change the settings of

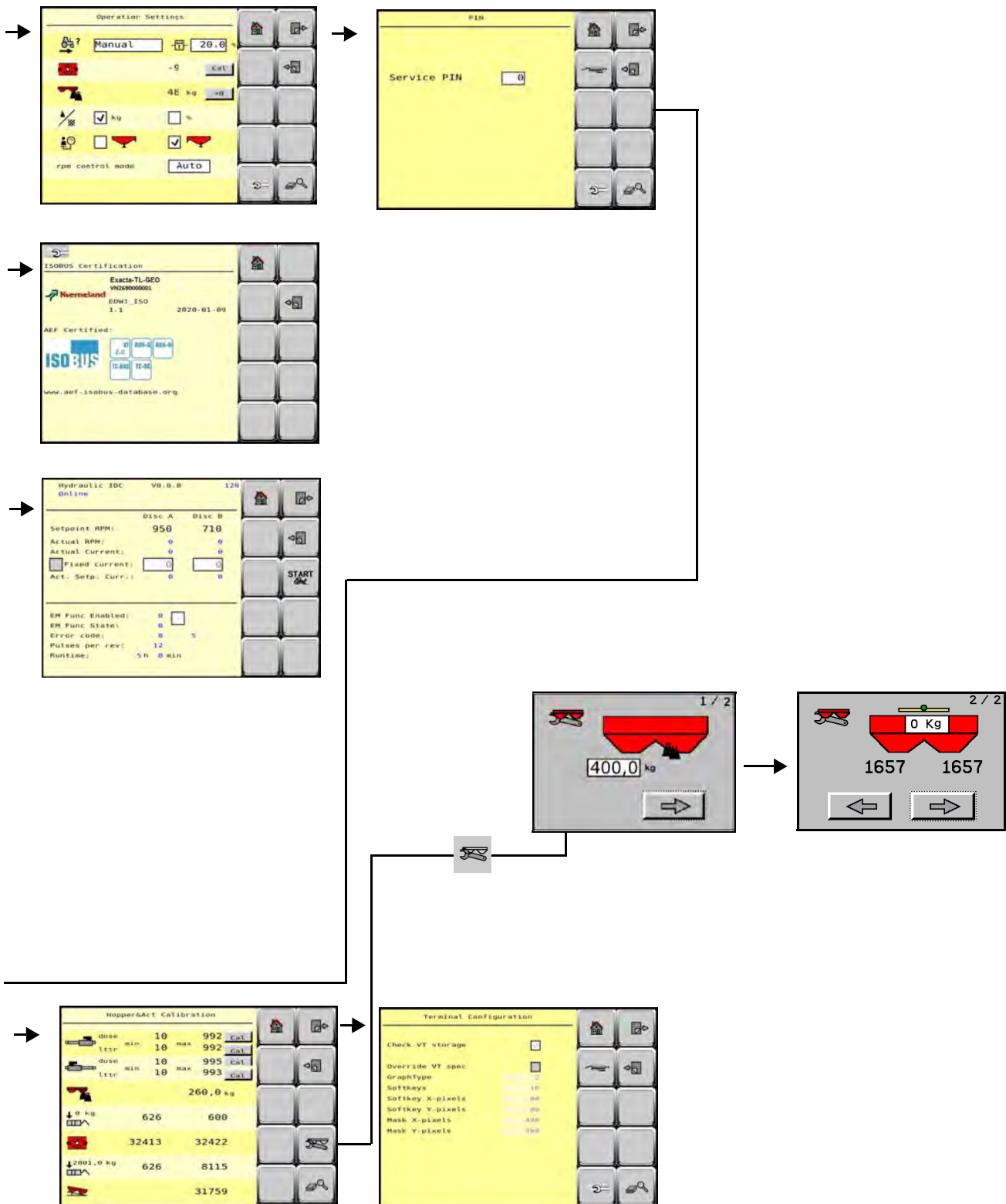
- terminal use,
- external control,
- data storage,
- licence use,
- and data of implements to be connected.

Becoming familiar with the software

Menu structure



Becoming familiar with the software



Becoming familiar with the software

GEOCONTROL Menu

The GEOSPREADER with specific site control via GEOCONTROL has its own application screen.

If you have the spreader control as an application in the top screen, the GEOCONTROL application can be selected in the bottom screen.

INDICATION Besides the current GEOSpread and GEOCONTROL licence, you then also need to connect a GPS signal to the IsoMatch. This can be done from:

- the ISO tractor via the INCAB connection
 - or via a separate GPS on the RS232 connection.
- See paragraph »Directly to the ISO 11786 in cab tractor connection in the tractor cabin« on page 93.



▶ The application screen can be accessed with the programme change and application keys.

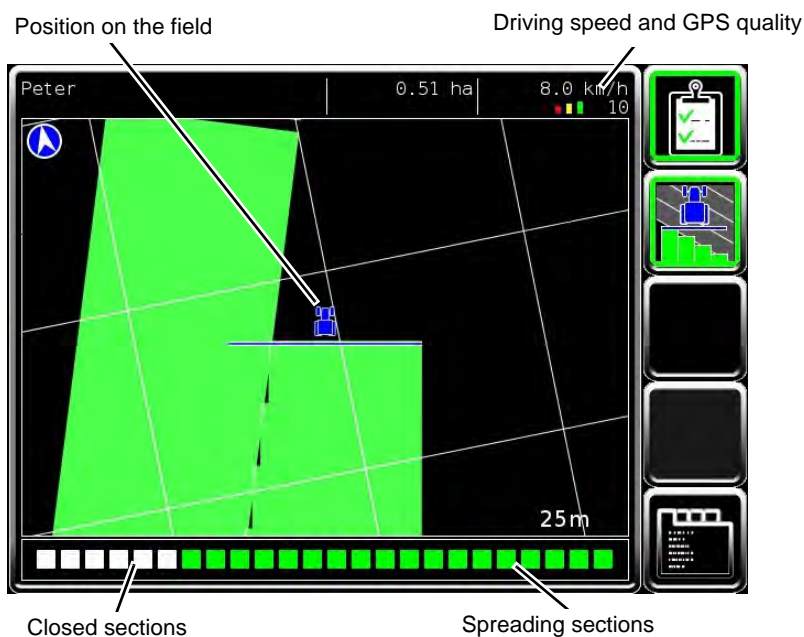
The screen displays the other functions.



▶ Choose the GEOCONTROL function. The main screen of GEOCONTROL appears on the lowest screen.

GEOCONTROL main screen

The control keys of the GEOCONTROL are located to the right on the main screen:



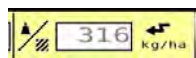
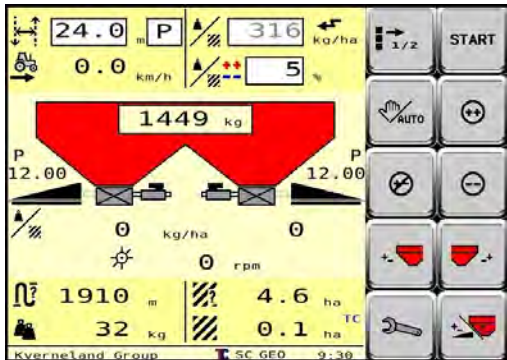
- Tasks
- GEOCONTROL section control on / off key
-
-
- Site registration



Also read the GEOCONTROL manual which is placed in the manuals tab of the IsoMatch after the installation.

Becoming familiar with the software

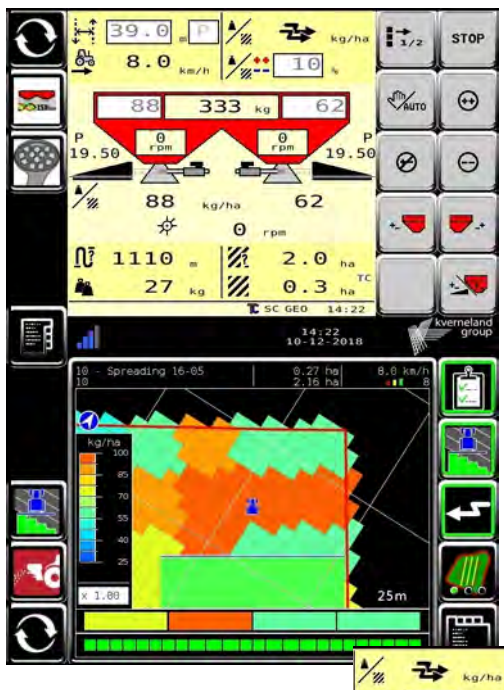
RATE control



RATE control is a variable application rate triggered by an external signal.
No additional licence key is required.

→ See the GEOCONTROL instruction manual.

MULTIRATE



MULTIRATE can be used on your ISOBUS weighing spreader.

An additional licence key is required to enable the software module.
→ See »Using the SPREADER control and MULTIRATE software« on page 39,

MULTIRATE automatically adjusts the amount of fertiliser per side. The application rate to the left and right is independently based on a rate map. You can do this on the basis of a maximum of 8 measuring points of the rate map.

This is a combined functionality between the spreader and the terminal, providing the option of using two or more variable quantities in the working width of the spreader. A total of 8 VRA sections are supported by the spreader. This feature is independent of the GEOSPREAD and is only available from software version V1.21 and higher.

To achieve full functionality with the IsoMatch PRO Terminal, you also need the IsoMatch GEOCONTROL licence key.

When MULTIRATE signals are received, the following icon is visible.

→ See the GEOCONTROL instruction manual.

Greenseeker

The ISOBUS supports the Farmfacts Greenseeker sensor. From Greenseeker version 06.00.00.0257 onwards, the software supports the reception of the external signal. Section control continues working through the Task Controller.

Becoming familiar with the software

Technical specifications

	IsoMatch	Tellus GO
Operating voltage (Vdc)	8-28	8-28
Fuse (A)		
IM power supply cable	25	25
Ambient temperature (°C) during		
work	-10 to +50	
save	-20 to +60	
Screen	Double touch screen	Only touch screen
Display	colours	
Dimension	12.1 inches	7 inches
Resolution	1024 x 768	800 x 480
Connections		
Serial I/O	RS232 DB9	
ISO or CAN	ISOBUS and ISO 11783	
Ethernet	RJ45	
WLAN/WIFI possible	Yes	No
USB (type) number	4x	2x
Video	Yes	Yes
Audio	Yes (on/off)	No

Inspection of the supplied machine

The machine would generally be assembled and delivered ready-for-use by the dealer. The dealer is also responsible for providing instructions for use and maintenance. He/she must also ensure that the required documents are provided, such as:

- manual,
- software instruction manual,
- spare parts manual
- spreading chart book,
- testing and approval documents where required.

If parts are missing or have been damaged during transport, you should report that to your dealer directly on delivery.

Control box

If you use the IsoMatch or another loose-standing control box to operate the spreader, you must first assemble the support. The fixing materials and the assembly instructions are delivered with the control box. Additionally, you will find brief assembly instructions below.

If you use the IsoMatch or another loose-standing ISO-control box with a tractor equipped with the ISOBUS communication system, you can connect it with the supplied CAN cable to a standard tractor CAN connection.

- ▶ Connect the side of the cable to which 1 plug is attached to the tractor CAN connection.
- ▶ Connect the side of the cable to which 2 plugs are attached to both control box connections.

If you use the IsoMatch or another loose-standing ISO-control box with a tractor that is not equipped with the ISOBUS communication system, you need a tractor ECU. Your dealer can supply this. This tractor ECU has an outgoing CAN plug.

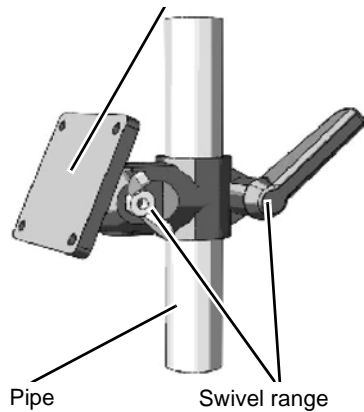
- ▶ Connect the CAN-plug to the control box.



Before first use

Console assembly

Console for the control box



Console on mounting level



Mount the control box in a place where it would:

- be well visible,
- easy to operate while spreading,
- and result in minimal visual hindrance while driving the tractor.

The console has two range and height adjustments to provide optimal view of the control box.

- ▶ Mount the console to the back of the control box with the accompanying fixing materials.
- ▶ Mount the pipe for console foot to a firm base.

If there is no suitable place in the cabin a footplate should be made to which the pipe can be welded.

- ▶ Weld a footplate to the pipe for it to be assembled on the selected level in the cabin.
- ▶ Ensure that there is sufficient free room behind the assembly level for drilling and assembly activities.
- ▶ Drill a hole pattern in the footplate and on the assembly level in the cabin.
- ▶ Mount the foot of the console.
- ▶ Place the control box on the base of the pipe.
- ▶ Bundle excessive feeder cable together with cable ties.

→ Also refer to the manual that comes with your control box.

IsoMatch terminal on an ISO tractor

If you use the IsoMatch control box with a tractor manufactured with the ISOBUS communication system, you can connect it with the supplied CAN cable to a standard tractor CAN connection.

- ▶ Connect the side of the cable to which 1 plug is attached to the tractor CAN connection.
- ▶ Connect the side of the cable to which 2 plugs are attached to control box connections.

IsoMatch terminal on a NON-ISO tractor

If you use the IsoMatch control box with a tractor that is not equipped with the ISOBUS communication system, an extra cable set is needed. This cable set is included in the order or can be supplied via your dealer.

With the non-ISO adaptor cable set, you can equip any tractor type with a full ISOBUS communication system.

The fixing materials and the assembly instructions are delivered with the IsoMatch control box.

- ▶ Connect the cables so that you can work safely.

GPS signal for GEOCONTROL

If you want to use the GEOCONTROL functionality, you should use a localisation system on the tractor. If you mount a separate GPS receiver on the tractor, you should connect the plug to the rear on the control box. Then switch on the appropriate external signal as described in

→ paragraph »Operation Settings« on page 33

and the reception of an external signal and the required speed reduction,

→ paragraph »TC Config & License« on page 38.

See also the user's manual of the

- ISO control box,
- tractor,
- and GPS.

For a correct control system operation, it is necessary to set and calibre the spreader before first use or after an alteration to the machine, for example after fitting extra accessories. Moreover, you can enter a number of system settings to increase your ease of use.

The working method and work performance of the IsoMatch control box are described in this user's manual.

Differences in operation

If your tractor has an ISOBUS communication system with an independent terminal which you use to operate the spreader, the performance of screen and key functions can deviate slightly. The procedure to enter values or changing settings can be different.

Differences in screen layout and interchangeable keys

The ISO tractor terminal may have 5 or 6 buttons to the right of the screen. In that case, you switch between the function keys with a switch key. The operation of this terminal is described in → the user's manual of the tractor or control box.

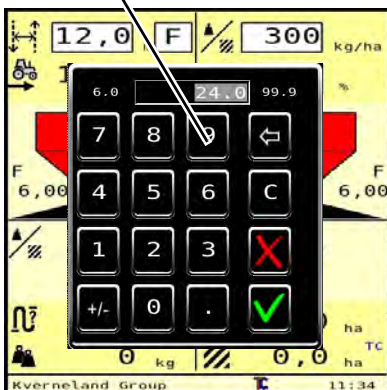


Differences in operation of fixed buttons and touchscreen and popup numeric keyboard (IsoMatch)

Keys of the IsoMatch control box are assumed in the description. The IsoMatch uses a touchscreen to execute all settings. If you touch a value on the screen in order to change it, a numeric keyboard or pull-down menu appears to change it immediately.

Certain functions, such as date, time, communication with an external system, etc., must be set in the operating system of the control box. → Refer to the user's manual of the tractor or the control box.

Keyboard popup



Main screen with popup IsoMatch keyboard

Main screen

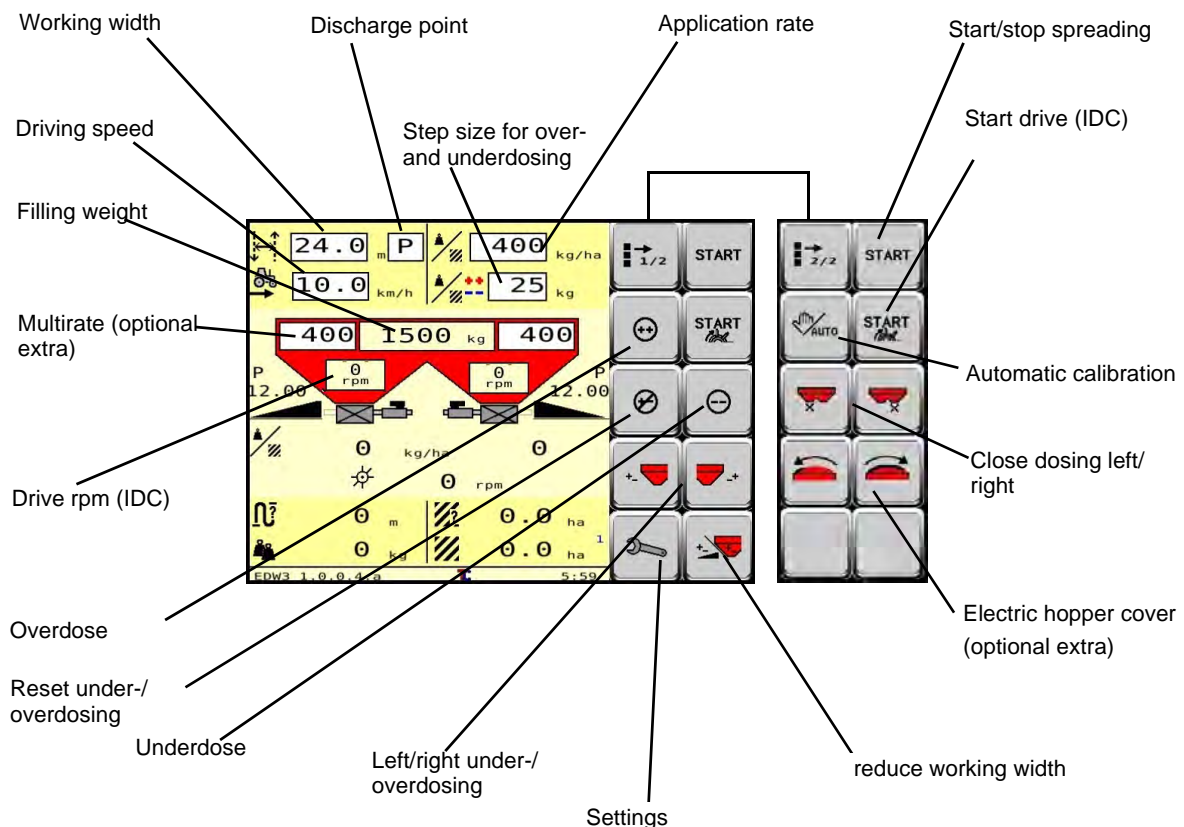
Entering system settings

The system settings are needed for the good operation of the control system. Moreover, this enables you to enter your user preferences, for example, for alarm signals.

- ▶ Connect the machine.
- See the machine's manual
- ▶ Check that the machine is clean and all accessories are fitted.
- ▶ Position the spreader horizontally and vertically, by means of the top link and the lift rod adjustment.
- ▶ Start the tractor and drive to a place with a firm, horizontal base.
- ▶ Engage the parking brake of the tractor, but do not switch off the engine.
- ▶ Switch the control box on.

The main screen of the spreader will appear on the control box after a few seconds.

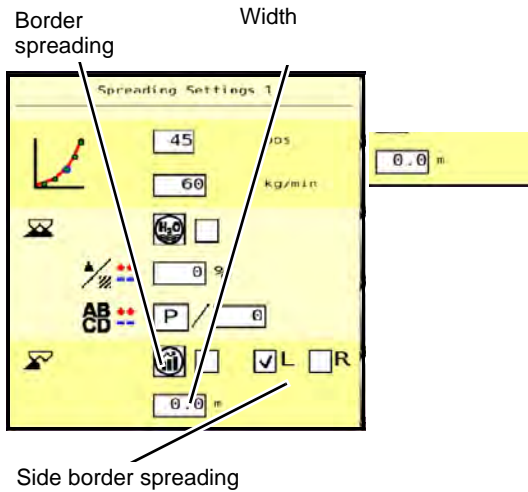
→ See »Menu structure« on page 17 to navigate to the setting screens.



system settings

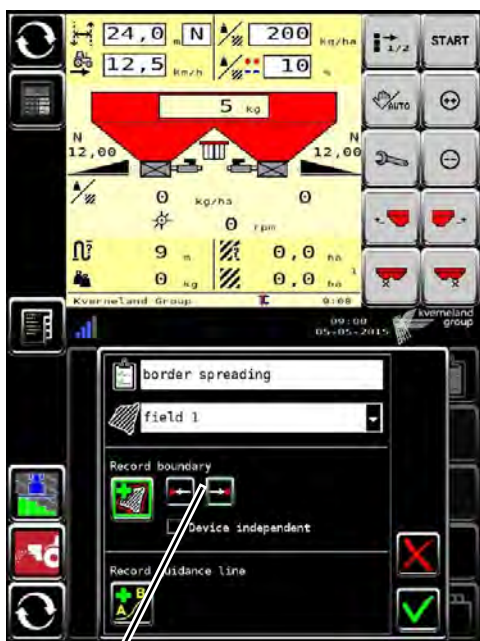
Spreading Setting 1

Border spreading with the GEOSPREAD system



To let the GEOSPREAD system calculate with the border spreading width when surveying the field.

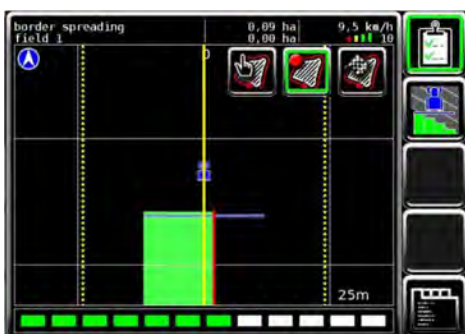
- ▶ Proceed to the 'Spreading Setting 1' screen.
- ▶ Put a check mark on the side at which the border spreading plate must run.
 - This can be (L) or (R) in case of the hydraulic border spreading plate.
- ▶ Enter the width that the system must include, a distance of 2 metres from the centre of the spreader to the edge of the field is assumed to be standard.
- ▶ Set the border spreading plate.
 - See the machine's manual



Select the side of the field boundary for recording the field edge. This can be (R) or (L) in case of the hydraulic border spreading plate.

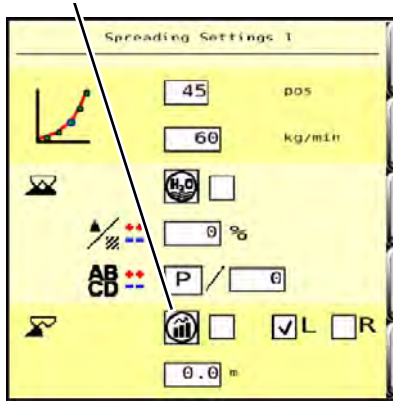
- ▶ Start spreading.

The field edge will now be recorded with the specified width on the 'Spreading Setting 1' screen.



ExactLine and hydraulic border spreading plate settings

Selection of border spreading pattern



Select the border spreading pattern here.

With the selected image, the rpm is automatically set by the system (AutosetApp) but can also be set manually.



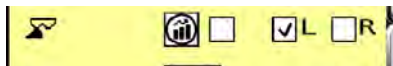
In the yield setting (YIELD), the loss over the field edge is higher than what is allowed by the environmental standard (EN-13739-2). Therefore, never use this setting next to surface water. Cover to the border is very good with this option.



In the environmental setting (ECO) the loss over the field edge is equal to or less than what is required by the environmental standard (EN-13739-2). The result is that the cover at the border of the property is not optimum.



In the H2O setting (H2O) there is no loss on the field edge. The result is that the cover at the field edge is not optimal. Always use this setting when working next to a surface water!



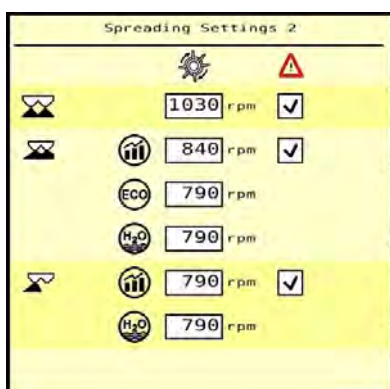
When the sensor is not working, you can select the side of the border spreading here.

With the H2O setting, the dosing adjustment and letter setting are automatically selected by the system (AutosetApp) but can also be set manually using the spreading chart.



Press the scroll key to go to the next 'Settings' screen.

Spreading Setting 2



Here, the revolutions selected by the system (AutosetApp) can also be set manually.

Here, the torque arms can be switched on and off separately.

system settings

Alarm Settings

Spreading disc rpm alarm

Spreading disc rpm alarm



If you have commanded the control system to start spreading, you could possibly have forgotten to switch on the drive. Then you waste fertiliser and time. Switching on this alarm ensures that a warning will appear on the screen at once should you start spreading with the stationary spreading discs.

Alarm lubrication

This alarm gives a warning every 8 hours that it is time to lubricate the machine.

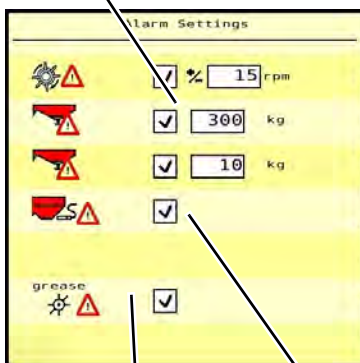
Hopper alarm

This setting enables you to let an alarm signal appear on the main screen as soon as the hopper content goes below a preset weight.

Hopper sensor alarm

These sensors (optional extra) sound an alarm when the hopper capacity falls below the level of the sensors.

Hopper alarm



Alarm lubrication

Hopper sensor alarm

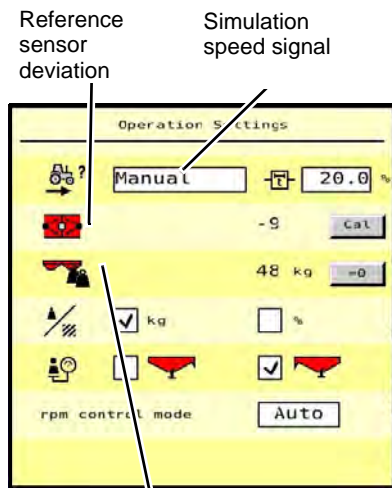
Operation Settings

Driving speed signal



The remaining system settings are on the 'Operation Settings' screen.

- ▶ Press the scroll key to move from the 'Spreading Setting 1' screen to the 'Operation Settings' screen.



Actual weight in the hopper

You must enter the source of the driving speed signal on the top line. By means of the signal, the spreader adapts the dosing setting so that the application rate remains the same when the driving speed changes.

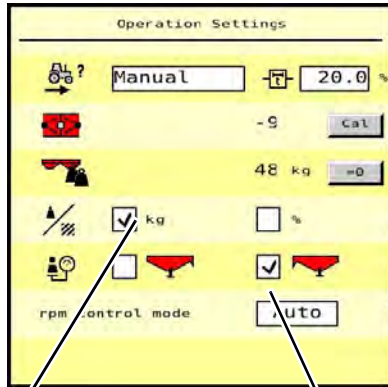
The driving speed signal can come from:

- 'Manual', if there is no speed measurement at all. The control system is then dealing with a fixed, input value and therefore does not correct for changes in driving speed!
- 'ISO radar'; if the signal comes from the tractor electronic unit or radar,
- 'ISO wheel', if the signal comes from a speedometer connected to the tractor ECU,
- 'GPS J1939', if the signal comes from the GPS receiver. Reception of an external signal must of course be connected,
- 'NMEA2000' if the signal is from an NMEA 2000 System.
→ See paragraph »TC Config & License« on page 38.

→ See the manual of the signal emitter or tractor.

system settings

Over- and under dosing unit



Over- and underdosing unit
calibration test side



During spreading, you can manually (one-sided) over- or under dose on the main screen. By pressing 1 time on the plus key or minus key beside the screen, you can adjust the application rate by a percentage of the application rate or a preset number of kilograms. You can enter the percentage or number of kilograms on the main screen.

► Press on the field of your choice:



- Percentage

Or



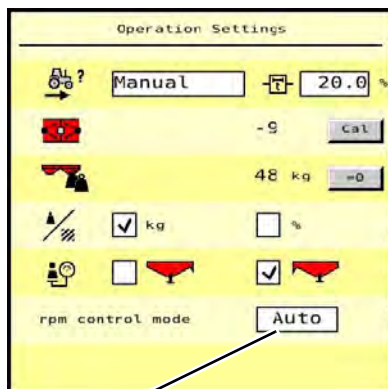
- kg.

The choice is engaged (ticked).

Calibration test side

You can perform the calibration test on the left or right spreading disc. The control system must know what side you want to do the calibration test on to open the correct dosing unit.

RPM control mode



RPM mode

For machines equipped with Intelligent Drive Control (IDC), the RPM control mode allows you to choose between automatic and manual speed control.

In Auto mode, the RPMs are set using the data from Spreading settings 2.

In Manual mode, the rpm can be set by pressing the keys on the main screen.

TIP This setting is only visible on spreaders with an independent hydraulic drive (Intelligent Drive Control (IDC)).

If the machine is equipped with (Intelligent Drive Control (IDC)), the start/stop button for switching the drive on and off is visible on the main screen.



ExactLine position

If the spreader is equipped with a hydraulic border-spreading plate and/or ExactLine (left/right), the position, working or transport setting will be displayed on the main screen. The position is poorly visible from the tractor. By means of the display on the main screen, you should make fewer spreading errors caused by incorrect hydraulic border spreading plate and/or ExactLine positioning. In working setting, the hydraulic border-spreading plate and/or ExactLine symbol appears on the main screen. In transport position, the symbol does not appear.



Press the scroll key to go to the next 'Settings' screen.

Hopper weight calibration

The weighcells weigh the hopper's mass, including accessories fitted to the hopper and the hopper content. The control system must know the weight of the hopper content in order to, for example, to calculate how many more hectares you can spread before the hopper is empty. Or to sound the hopper alarm at the right time. For that reason, the system memory must contain the weight of the empty hopper and the accessories fitted to the hopper, such as the hopper extensions and hopper cover. You can see the saved values on the 'Hopper&Act calibration' screen.



Whenever you fit or remove hopper accessories, you must recalibrate the hopper weight each time. You must also do this when you have emptied the hopper but the control system indicates that a few kilograms of fertiliser are still in the hopper.

- ▶ Empty the hopper, clean the machine and wait for it to dry.
- ▶ Place the tractor on a horizontal base.
- ▶ Position the spreader horizontally and vertically, by means of the top link and the lift rod adjustment.

From the 'Hopper&Act Calibration' screen:



- ▶ Press the hopper calibration key to go to the hopper calibration screens.
- ▶ Press on the input field.

The popup keyboard appears on the screen.

- ▶ Enter the actual hopper weight value, as shown in the chart in the machine's instruction manual.

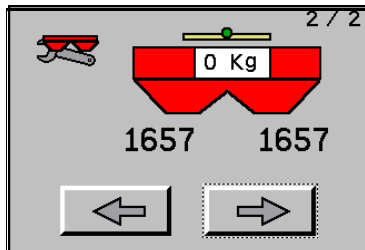
The values in the table include the sieves and the hopper extensions corresponding to the mentioned operation.

Other optional extras that influence the hopper weight are shown in the table below.

Drain kit	3 kg
Wing staircase	2 kg
Level meter	1 kg

Add these weights to the hopper weight when mounting these optional extras.

INDICATION If you attach something to the hopper yourself, you must increase the hopper weight with the weight that appears on the main screen when the hopper is empty. The hopper content will then be 0 kg again when it is empty.



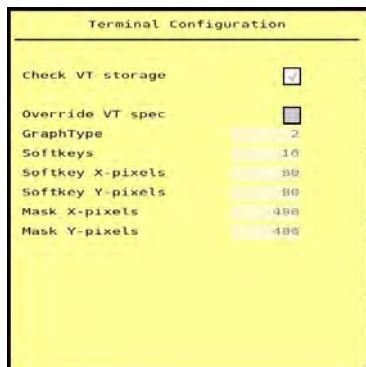
► Press the right arrow to overwrite the value.

The new value is saved and the screen is closed.

The signal value in the control system memory is now replaced by the signal value belonging to the current hopper weight. The control system will now use this value to calculate the hopper content.

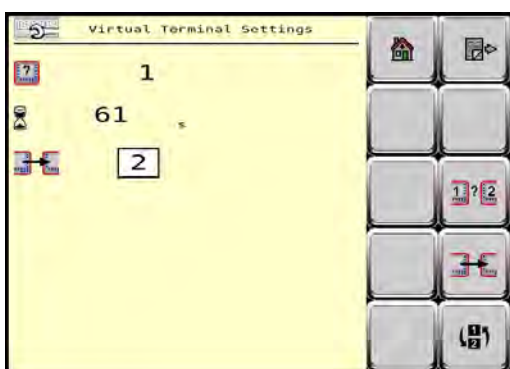
Terminal Configuration

Control box information



You can find some control box data can be found in the 'Terminal Configuration' screen. The top half concerns date and time, among other things, while the bottom half displays data on the screen. You do not have to adjust these data.

Virtual Terminal Settings



The order of the screens can be adjusted on the 'Virtual Terminal Settings' screen.

► Go from one of the setup screens to the 'Virtual Terminal Settings' screen.

→ See »Menu structure« on page 20.

system settings

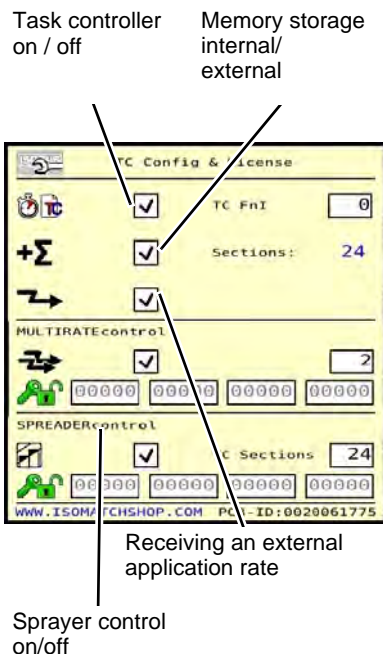
TC Config & License

Set ISOBUS communication

Setting communication with an external system

The spreader can be driven by an external signal, which could for instance be transmitted by a GPS receiver, nitrogen sensor or memory card. To assign a controlling function to the external signal, it must be received in the 'Task Controller' screen.

Acceptance of an external signal and the correct form of communication must be checked and adjusted as required.
 → Also, refer to the user manual of the tractor or control box.



► Scroll to the 'TC Config & License' screen.

In this screen, you can control and/or modify the settings of the Task controller:



- Task controller on / off

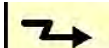


- 2 options of memory cache are:

- Reception of an external signal, whereby spreading details are stored in the field registration of the control system (internal). This setting is activated when a "tick" is visible in the input field.
- Reception of an external signal, in which the spreading details are sent back to the source of the external signal, for example a memory card. This setting is activated when the "+E" sign is enabled in the input field

If you return the spreading details to the source of the external signal, you cannot reach the system's field registration. Dual storage is not possible.

→ See then paragraph »Variable, externally driven application rate« on page 68.



- Receipt of an external application rate on / off.

With this option, you allow the set application rate to be modified by the externally defined application rate.



- MULTIRATE control

By selecting this option, you allow MULTIRATE control to change the set application rate.

→ See »RATE control« on page 23,



- Sprayer control On/Off

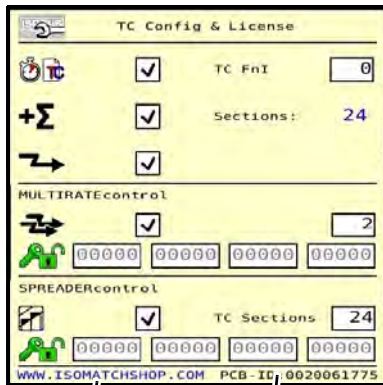
The Spreader Control function can be switched on or off here.

The lowest part of the screen displays the setting of the working width distribution before spreading with Spreader control:



The tick in the option box displays the function engaged.

Using the SPREADER control and MULTIRATE software



Webshop address

Identification of the spreader control

First 25 hours of use free

If the spreader is capable of

- being driven by an external acceptance rate
- or is equipped as a 'GEOSPREAD' machine

this can be used for 25 hours free of cost.

A counter indicates how long you can still use the software free of cost

TIP This counter starts as soon as you have activated the software!

Time of use alert

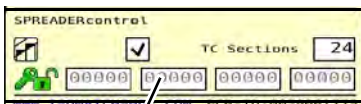
After some time, you receive an initial alarm that the free time of use is about to expire. The remaining free time of use is also displayed upon each start-up of the system.

TIP Purchase the software licence in good time!

You need to purchase the licence via the IsoMatch webshop in good time in order to be able to continue working without disturbance after the free time of use has expired.

- NOTE**
- The spreader must be capable of working with the Spreader control software!
 - You also need to provide the location and control of the working width to your tractor via the ISOBUS. This can also be done by building another module in the IsoMatch or tractor.
- See the options »Accessories« on page 91 or ask your dealer about them.

Purchasing the software licence



Input field for licence code

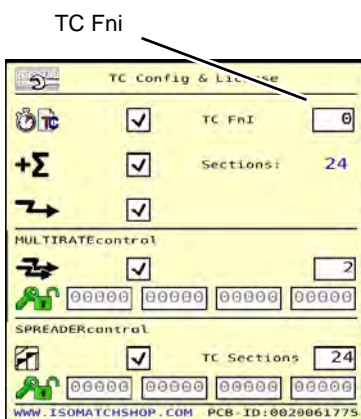
- ▶ Read the product identification code in the TC config & License screen and write it down.
- ▶ Go to www.isomatchshop.com/webshop.

You will see the possible software packages which you can purchase via the IsoMatch terminal in the webshop.

- ▶ Enter the licence code that you have received.
- ▶ You can now continue working with the spreader software.

TC Sections indicates the number of sections.

TC Fni represents the Address for the connection between spreader and GEOCONTROL; it must be the same as the digit in the settings screen of GEOCONTROL.



system settings

TC Implement Settings

Setting implement data

The position of the signal receiver and the place where the implement works effectively are mostly different.

Distance of spreading disc to work pattern on the ground

Your spreader will, depending on the fertiliser characteristics:

- shape and roughness of the granules,
- granule size,
- similar weight,

Deposit the centre of the work patten between 12 and 15 metres behind the discs. With 8° forward tipping, this is 21 metres.

To allow the implement to operate correctly or stop in the right place, you must run the following settings:



- ▶ Go from one of the settings screens to the ISOBUS communication menu.

→ See »Menu structure« on page 20.



- ▶ Scroll to the "TC Implement Settings" screen.

In this screen, you can control and/or modify the settings of the vehicle:

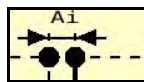
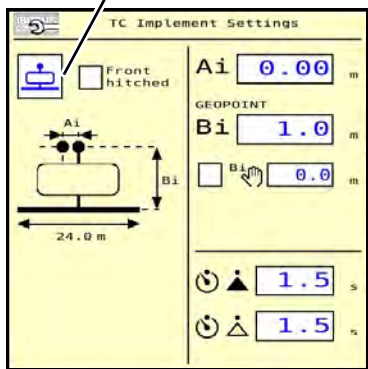
Mounted machine



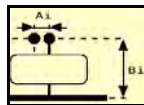
- Mounted machine selection button

In this screen, you can run the following settings:

Selector for mounted machine



- Offset connecting point with respect to the tractor track (A)



- Distance from signal receiver to the GEOPOINT® spreading pattern (B)

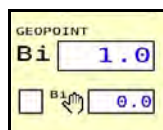
NOTE: The distance B between the signal receiver and the spreading pattern is given in the spreading chart as GEOPOINT® (centre spreading pattern)

This value will already be populated if the AutosetApp is used.

→ See »AutosetApp« on page 58.

The GEOPOINT® can also be changed manually.

- Check the box of the manual GEOPOINT®.
- Enter the desired manual GEOPOINT® distance.



The control system can now calculate the correct speed reduction for subsequent spreading on the headland and during gored spreading.

Move the choice in the input field Task controller and external application rate.

→ See paragraph »Setting communication with an external system« on page 38.

With control by means of an external signal, it is often better to switch off the automatic calibration when the dosing setting goes below a specific value.

→ See paragraph »PIN Settings 1« on page 51.

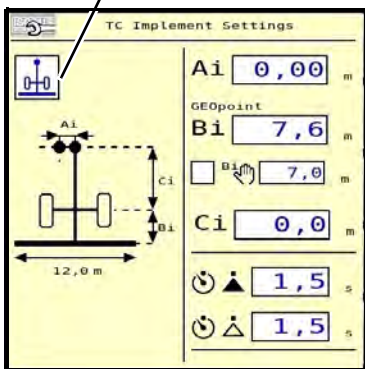
Or:

Drawn machine

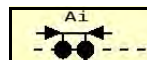


- Trailed machine

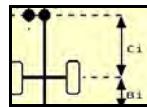
Selector for trailed machine



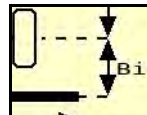
In this screen, you can run the following settings:



- Offset connecting point with respect to the tractor track (A)



- Distance from signal receiver to hard wheel axle (C)



- Distance from the centre of the wheel axle to the GEOPOINT® (B) spreading discs; look for the correct value in the spreading charts handbook.

NOTE: The distance B between the signal receiver and the spreading pattern is given in the spreading chart as GEOPOINT® (centre spreading pattern)

The control system can now calculate the correct speed reduction for subsequent spreading on the headland and during gored spreading.

Move the choice in the input field Task controller and external application rate.

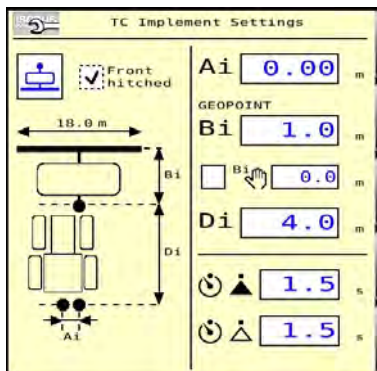
→ See paragraph »Setting communication with an external system« on page 38.

With control by means of an external signal, it is often better to switch off the automatic calibration when the dosing setting goes below a specific value.

→ See paragraph »PIN Settings 1« on page 51.

system settings

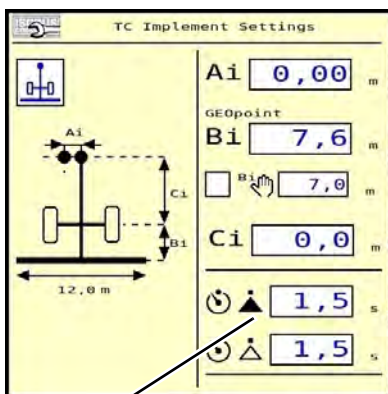
Front hitched.



The front hitched option can be selected when the machine is mounted on the front hitch of the tractor.

The distances required for a machine on the front hitch are now displayed.

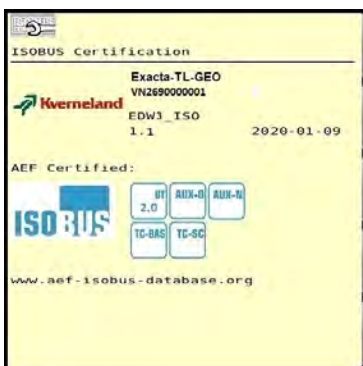
Correction time



Correction time

Correction time for opening and closing the dosing; the time can be adjusted, shorter for a low application rate and longer for a high application rate.

ISOBUS Certification



The last screen in the ISOBUS communication menu shows the statement that this software system complies with the AEF ISOBUS database standards.

The AEF, Agricultural Industry Electronics Foundation, tests the software system for communication with other systems. By means of this it can be checked beforehand whether the systems on sale can work together.

Alarms

If the control system cannot perform the requested function, a warning will appear on the screen. The system has 3 different types of alarm:

- User's alarms; this appear when the spreading function cannot be performed adequately or at all.
- System alarms; parts of the system are not functioning well or at all.
- Weighcell alarms; the signal value conflicts with the calibrated values stored in the control system memory.

User's alarms

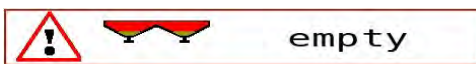
If a user's alarm appears on the control box screen, the spreader cannot carry out the requested function adequately or at all. However, the machine is in good condition; nothing is broken. You can fix the cause of the alarm yourself.



The spreading discs are not turning. The drive is not switched on, or the coupling shaft is not coupled. The alarm does not appear if you have set an incorrect rpm.



The hopper content has gone below the set alarm level.



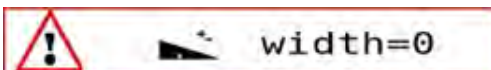
The hopper content has gone below the 2nd set alarm level.



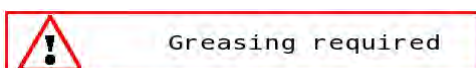
The driving speed is too low for accurate spreading. The dosing units are almost closed. Use the fine application kit or increase the driving speed.



The driving speed is too high for accurate spreading. The dosing units are completely open. Decrease driving speed.



One or both dosing units are closed



It is time to lubricate the machine. This alarm is displayed every 8 hours.



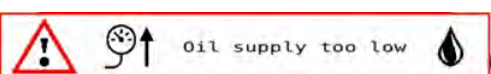
Level hopper right low alarm



Level hopper left low alarm



Speed too high for the electric hopper cover.

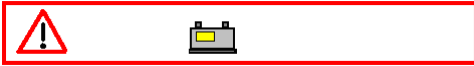


Disc rpm not achieved due to insufficient flow hydraulic system with the hydraulic drive (IDC).

system settings

System alarms

If a system alarm appears on the control box screen, you must stop immediately. The spreader cannot perform the requested function adequately because the power supply is insufficient or the actuators are not responding correctly. Fix the failure before working any further.



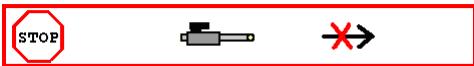
The supply voltage of the control system has gone below the set alarm level. Repair the power supply, recharge the battery or replace it.
→ See also paragraph »Spreading disc rpm alarm« on page 32.



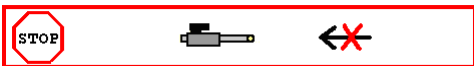
The dosing actuator on the left cannot open. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



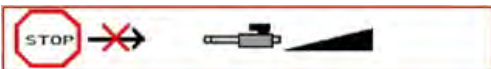
The dosing actuator on the left cannot close. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



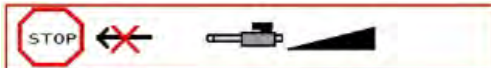
The dosing actuator on the right cannot open. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



The dosing actuator on the right cannot close. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



The letter setting actuator on the left cannot close. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



The letter setting actuator on the left cannot open. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



The letter setting actuator on the right cannot close. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.



The letter setting actuator on the right cannot open. Check the power cable to the actuator and ensure no hard objects or dirt are blocking the dosing units.

Weighcell alarms

If a weighcell alarm appears on the control box screen, you must stop immediately. The spreader cannot carry out the requested function adequately because the signal value conflicts with the saved calibrated weighcells or reference sensor signal value.



The signal value of the weighcells does not correspond to the standard value.
Consult your dealer.



When the spreader is at an angle, the reference sensor signal value is higher than when the spreader is level. The signal value must be highest when the spreader is level. The spreader reference sensor must be recalibrated. Consult your dealer.



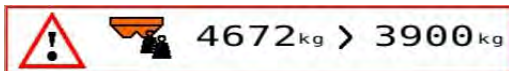
The weighcell signal value for an empty hopper is too low. Consult your dealer.



The signal value for the displayed weight of a level machine does not agree with the signal value when the machine is at an angle. Consult your dealer.



Alarm auto-calibration has a different value. Consult your dealer.



Overload alarm, the weight in the hopper exceeds the maximum load capacity of the machine.

system settings

Service information

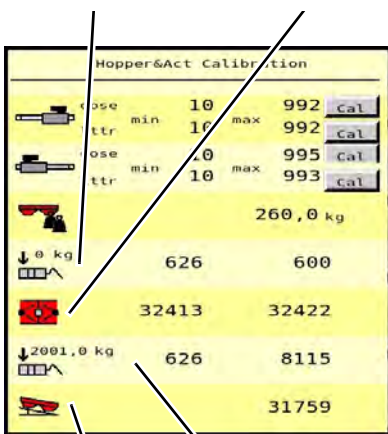
The control system can provide all kinds of information on the machine as well as store it in some cases. This information will be used by the dealer when checking the machine or by service engineers in case of problems and failures.

Weighing system information

The bottom half of the 'Hopper&Act Calibration' screen contains information on signal values of the weighcells and reference sensor. The left column contains the current signal values, the right column contains the signal values that are saved in the control system during calibration of the relevant cell.

By means of the current and saved signal values, calibration can be controlled and failures can be detected.




Empty hopper signal value Reference sensor signal value




Signal value in slanting position

Signal value for given hopper filling

The 'Hopper&Act Calibration' screen can be reached from the main screen as follows:

-  ▶ Press the wrench key on the main screen; you are now on the 'Spreading Setting 1' screen.
-  ▶ Press the scroll key to move from the 'Spreading Setting 1' screen to the 'PIN' screen.
- ▶ Enter the pin code (= 5).
→ see paragraph »Alarms« on page 43,
-  ▶ Press the OK key. The 'Settings' screen will now appear.

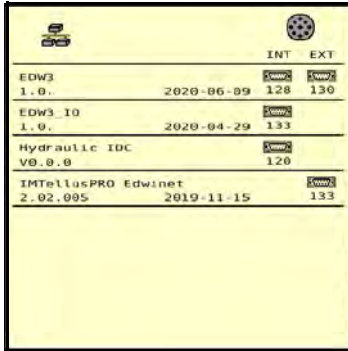
-  ▶ Press the scroll key to go to the 'Hopper&Act Calibration' screen.
- The meaning of the symbols and values in the top half of the screen is explained in
→ paragraph »Alarms« from page 43.

Diagnosis menu



You will find the lens key in every settings and service menu screen. By pressing this key, you will reach the diagnosis menu. In the diagnosis menu, you will find information on the control system, software, current measurement data, etc.

Software version

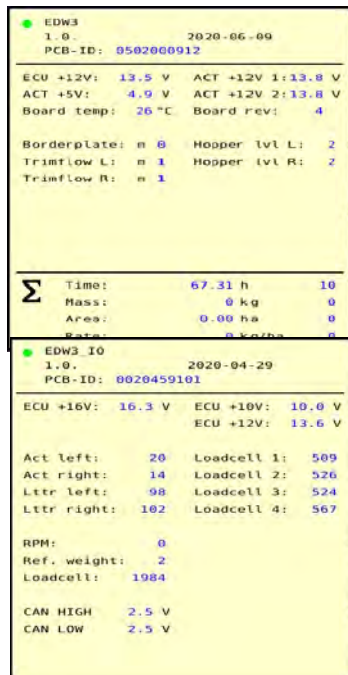


In this screen, you will see the software version and the date on which it entered service.

System information and totals



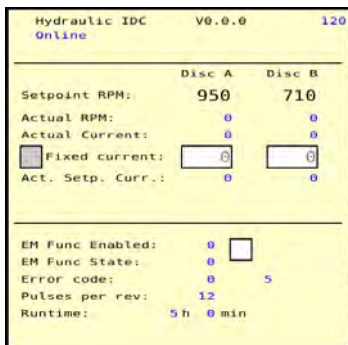
By pressing the scroll key on the screen that displays the software version, you will reach the screens with system information and machine totals.



The control system constantly registers all incoming signals. The control system uses some of them to drive the spreader, while others form limiting conditions for a well functioning control system, which are therefore continuously compared with minimum values. The alarm is sounded, for instance, based on these details.

The machine also registers the following details:

- total working time (Time),
- total mass distributed (Mass),
- total area treated (Area),
- average application rate (Rate).



system settings

Logbook

EDW3			
1.0.0.5.a			
2020-09-09			
Service Acc.	1	2020-09-16	09:42:16
Service Acc.	21	2020-09-16	11:44:52
Min speed	0	2020-09-16	11:47:30
Max speed	0	2020-09-16	11:47:30
Autocal. exce	0	2020-09-16	11:47:30
Low ECU Volt.	0	2020-09-16	11:47:30
Min o. weight	0	2020-09-16	11:47:30
Min o. ref	0	2020-09-16	11:47:30
Min c. weight	0	2020-09-16	11:47:30
Left open	0	2020-09-16	11:47:30
Left close	0	2020-09-16	11:47:30
Right open	0	2020-09-16	11:47:30
Right close	0	2020-09-16	11:47:30
Low weight	0	2020-09-16	11:47:30
Low rotor	0	2020-09-16	11:47:30
Low Cal. Flow	0	2020-09-16	11:47:30
Low Bin Weigh	0	2020-09-16	11:47:30
Loadcell curr	0	2020-09-16	11:47:30
Max hyd. curr	0	2020-09-16	11:47:30

EDW3			
1.0.0.5.a			
2020-09-09			
L ltrr open	0	2020-09-16	11:47:30
L ltrr close	0	2020-09-16	11:47:30
R ltrr open	0	2020-09-16	11:47:30
R ltrr close	0	2020-09-16	11:47:30
Min RPM	0	2020-09-16	11:47:30
Max RPM	0	2020-09-16	11:47:30
L Low Bin Lev	0	2020-09-16	11:47:30
R Low Bin Lev	0	2020-09-16	11:47:30
L dose timeou	0	2020-09-16	11:47:30
R dose timeou	0	2020-09-16	11:47:30
L ltrr timeou	0	2020-09-16	11:47:30
R ltrr timeou	0	2020-09-16	11:47:30
Int comm err.	0	2020-09-16	11:47:30
Low ACT Volt.	0	2020-09-16	11:47:30
Ref Sensor	0	2020-09-16	11:47:30
Overload	0	2020-09-16	11:47:30
Event reset	1	2020-09-16	11:47:30



The screen indicating important events is displayed by pressing the logbook key on the screen in which the software version is displayed. The control system registers when and how often important events took place. An alarm is also displayed in most instances. The history can be very useful in solving failures.

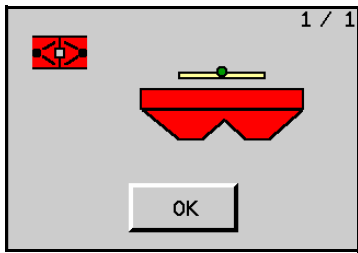


A few less important events can be deleted by pressing the 'Clear' key. It is not recommended that this key be used, however.



Press the Browse button for the second screen.

Deviation of the reference sensor



During calibration of the reference sensor, the outgoing signal is set at '0'. As a result of changing circumstances, for example, temperature differences, or in the event of wear and tear, the reference sensor can produce a deviating signal after some time. If the signal value is greater than 25 for a machine placed horizontally and vertically, the reference sensor must be recalibrated.

- ▶ Place the tractor on a horizontal base.
- ▶ Empty the hopper, clean the machine and wait for it to dry.
- ▶ Position the spreader horizontally and vertically, by means of the top link and the lift rod adjustment.



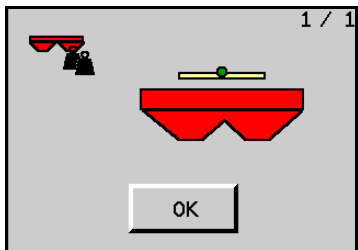
- ▶ Press on the 'Cal' button.

The reference sensor is recalibrated.



- ▶ Close with "OK".

Actual weight in the hopper



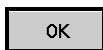
The field shows you the actual weight of the hopper content. If you have emptied the hopper but this value is different to '0', you can overwrite it. Only use this function for small deviations. For large deviations and especially for modifications to the machine, for example after assembly or disassembly of a hopper extension or hopper cover, you must recalibrate the hopper weight.

→ See paragraph »Hopper weight calibration« on page 36.

- ▶ Place the tractor on a horizontal base.
- ▶ Empty the hopper, clean the machine and wait for it to dry.
- ▶ Set the machine horizontally and vertically by means of the top link and the lift rod adjustment.

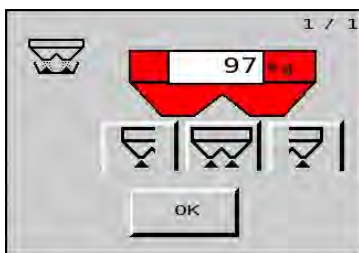


- ▶ Press on the '= 0' button.



- ▶ Press the OK key to set the current weight as the hopper's basic weight.

Empty the hopper



To remove residual fertiliser from the hopper, a 'Empty hopper' function is present.

- ▶ Set the fine application handle to the normal dosing setting.
- ▶ Start the tractor and engage the control box.



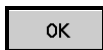
- ▶ Press the wrench key on the main screen to proceed to the 'Spreading Settings 1' screen.



- ▶ Press the empty hopper key to go to the screen for emptying the hopper.



- ▶ Press the 'empty hopper' button in order to empty the hopper on both sides simultaneously.



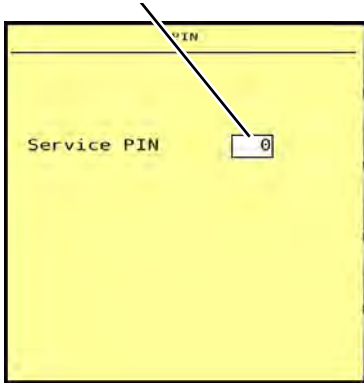
- ▶ Press the OK key to stop emptying the hopper.



- ▶ The buttons on the left and right side of the hopper can be used to empty the hopper left or right.

Settings behind the PIN code

Input screen of pin code



- ▶ Press the scroll key to go to the next 'Settings' screen. The PIN screen appears. The remaining screens are present behind the pin code.

From the main screen:



- ▶ Press the wrench key on the main screen; you are now on the 'Spreading Setting 1' screen.



- ▶ Press the scroll key several times to move from the 'Spreading Setting 1' screen to the 'PIN' screen.

- ▶ Press on the input field.

The popup numeric keyboard with the number to be changed appears on the screen.

- ▶ Key in the new value on the numeric keyboard

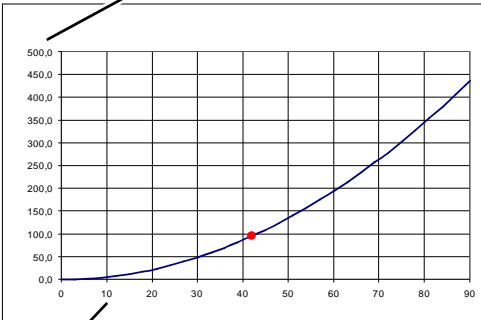
the PIN code is 5

The next screen, 'PIN Settings 1', appears.

PIN Settings 1

Automatic calibration limit

flowrate (kg/min)



Dosing setting

Auto-calibration with external control of the application rate

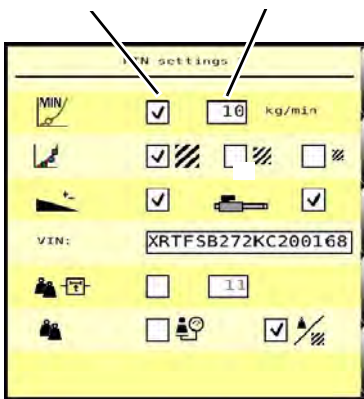
In some cases, it is advisable to switch the automatic calibration off temporarily. For example, if you are spreading by means of an external signal. It can also happen that the dosing unit is closed at any time while the spreader is connected. If the spreader automatically recalibrates at that time, it might determine a partially incorrect discharge curve. If the external system drives the dosing units open shortly thereafter, the application rate will deviate from the desired value because in the discharge curve, the flowrate calculated for the highly deviant dosing setting is not totally correct.

→ See also paragraph »The ISO control system« on page 13.

You can prevent similar errors by entering a flowrate limit in the 'Settings 3' screen. Below this flowrate, the control system will perform automatic calibration but will continue to use the last set discharge curve.

Limit On/Off

Limit



Setting calibration limit on or off

► Press the option field calibration limit on/off.

The tick indicates that the automatic calibration is switched off below the set limit.

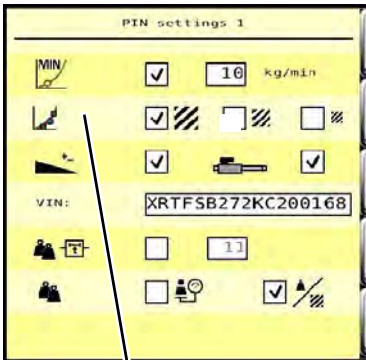
Setting calibration limit

If you switch the limit on, you can then enter in the input field the flowrate value under which automatic calibration is switched off.

Automatic calibration stops below the new flowrate.

system settings

Adapting auto-calibration to field size



Choice of field size with auto-calibration

Perform auto-calibration more often on smaller parcels

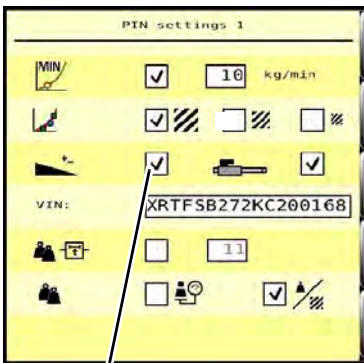
If you predominantly spread over larger parcels, the factory setting of auto-calibration is sufficient. If once per minute or 75 kg is not sufficient, choose the medium-sized or small field setting.

▶ Press the current option field for field size:

- Large field
- Mid-sized field
- Small field

▶ Press on the checkbox of your choice.

Gored spreading is not/is possible



Gored spreading On/Off

Spreading subsequently in case of field boundaries which are not right-angled

Sometimes you cannot spread across the full working width during passes.

A spreader with the option of adjusting the working width automatically via a GPS can perform gored spreading. You can then spread without compromising on the quality of the spreading.

TIP If the spreader is equipped with the GEOSpread system, it is checked as factory setting.

NOTE Use this function only if your spreader is suitable for it.

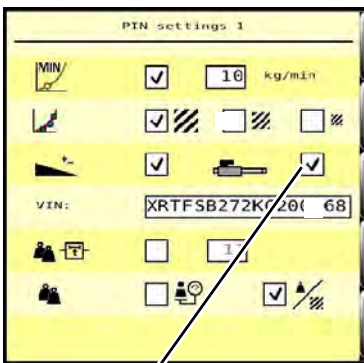
With

- GEOSPREAD dosing,
- activated GEOSPREAD and GEOCONTROL license,
- GPS signal.

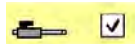
To use GEOSPREAD, tick both boxes.

INDICATION ▶ Switch the TC functions on as well.

→ See paragraph »TC Config & License« on page 38.



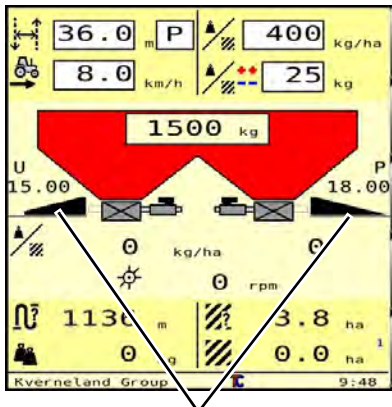
Basic section control



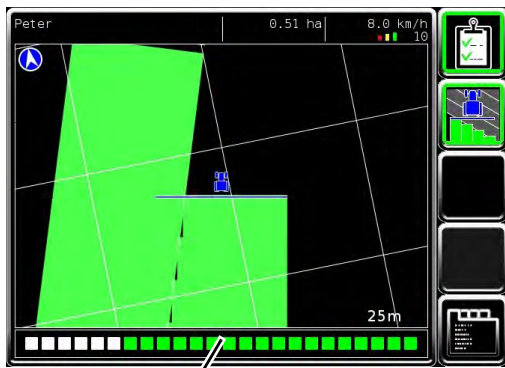
Basic section control is a function for non-GEOSPREAD machines.

Display of gored spreading in the main screen

The changed working width, to the left and/or right, is displayed graphically on the main screen along with numerical values, with the gored spreading function turned on.



Display of gored spreading

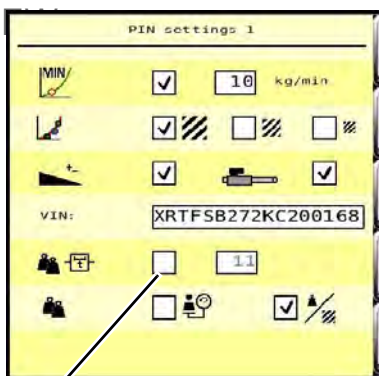


Display of spreading sections

The spreading and closed sections can also be seen graphically in the GEOCONTROL application.

Weighing system filter for Exacta-CL

While spreading on very hilly terrain, the weight in the main screen may sometimes vary. You can select the weighing system filter in order to counter this variation.



Filter



▶ Press the filter field on/off.



The weighing system is enabled (check-mark).



▶ choose a value between 5 and 15. The weighing system now operates with an average of the number of values given.

NOTE Only use this filter with an Exacta-CL EW machine.

▶ Proceed to the next 'PIN Settings 2' settings screen.

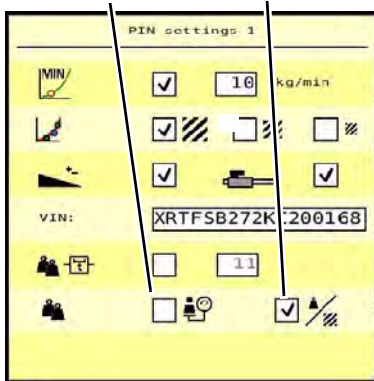
system settings

Actual or calculated value

On this screen you can choose the actual or calculated value that is spread; the calculated value is set by default.

Actual value

Calculated value



PIN Settings 2

Automatic calibration limit

Automatic calibration threshold



If the hopper content becomes less than 100 kg, the control system switches off the automatic calibration. Measurement accuracy declines in such a way that new automatic calibration cannot produce a better discharge curve.

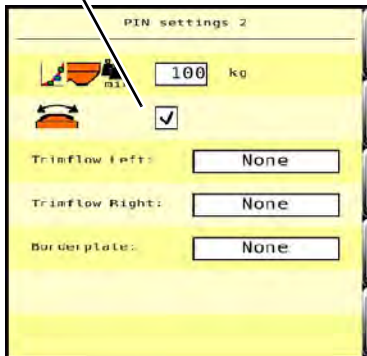
At low doses of <math><50 \text{ kg/ha}</math>, the system reduces the minimum hopper capacity for automatic calibration to 20 kg.

When an application rate of >math>50 \text{ kg/ha}</math> is set, the system again sets the limit at 100 kg.

The limit can be set manually.

Electric hopper cover selection

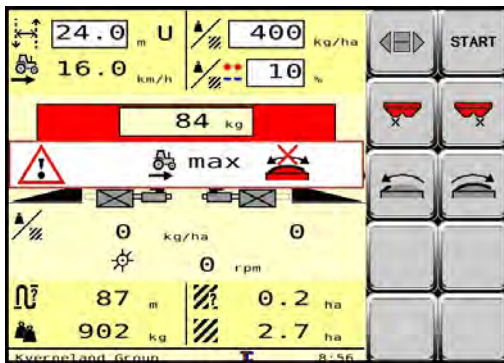
Electric hopper cover selection



For fitted electric hopper cover (optional), tick the option.

If an electric hopper is mounted, the control buttons will be visible in the Main screen.

NOTE If the speed exceeds 15 Km/h, the buttons will become inactive and an alarm will be visible on operation.



TrimFlow L+R border spreading plate settings



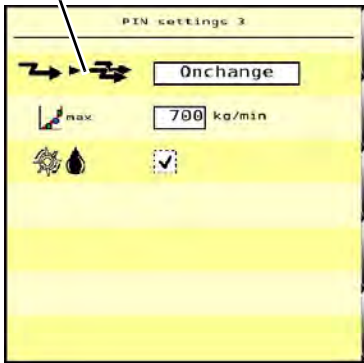
The ExactLine and border spreading plate can be set here with the available options:

- None (not available)
- sensor (sensor reports the mode)
- manual (manual, e.g. in case of a broken sensor).

PIN Settings 3

Rate Inheritance

Rate Inheritance



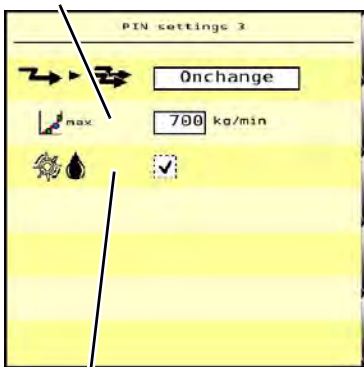
Rate inheritance is a dealer setting when using MULTIRATE and has three possibilities:

- No inheritance
- Onchange inheritance
- Always inheritance

This is a dealer setting.

Maximum flow

Maximum flow

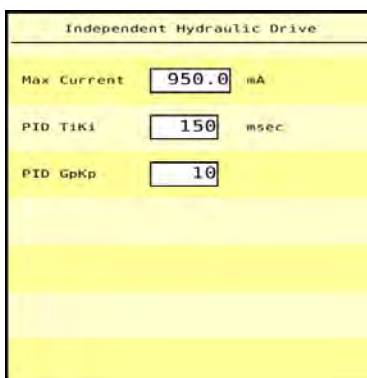


The maximum flow of the machine is used to ignore deviations in the Auto calibration. If these deviations persist, an alarm signal then follows.

Hydraulic drive

Intelligent Drive Control (iDC) selection (Dealer setting)

Hydraulic drive



Intelligent Drive Control (iDC) dealer settings.

Max current of hydraulic valve

PID TiKi

PID GpKp

These are dealer settings

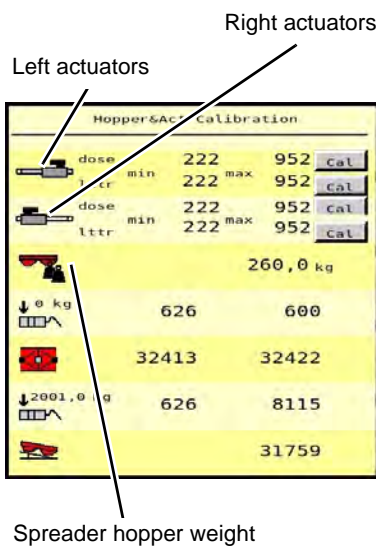
Hopper&Act Calibration

Spreader calibration

For the spreader to function properly, the actuators must be calibrated correctly. Your spreader is supplied calibrated. The actuators need only be recalibrated if one or both of them are replaced. Incorrect calibration will result in a deviating application rate and consequent damage to the crop. For this reason, the paragraphs in which you carry out calibration are secured with a PIN code.

Actuators calibration

Actuator calibration is completely automatic. After calibration, the minimum ('min') and maximum ('max') values must be 215 and 950. The highest values relate to the left actuators, the lowest values to the right actuators.



- Cal**
- ▶ Press on the 'Cal' button of the actuator that you wish to calibrate.
 - ▶ Wait until calibration is complete and the new values appear on the screen.

INDICATION For safety reasons, you can stop the actuators at any time during calibration by pressing the OK key. You must then restart calibration.

To be done before spreading

Finding the correct data for setting the spreader



Avoid contact with the fertiliser and other material

You will most likely get into contact with the fertiliser and other material you may wish to spread while filling, adjusting and testing the spreader. Wear protective clothing and gloves, read the safety instructions provided by the supplier and follow their directions. Contact with these materials could cause physical harm.

The data for the correct setting of your spreader can be found in the spreading charts of the spreading chart book, the online spreading chart service on the website or via the free application (App) for mobile phones.

→ See the machine's manual.

Online spreading chart service

Information about the settings of the spreader can be found in the spreading chart book, but also via the online spreading chart service on the website or via the free application for mobile phones with an iOS and/or Android operating system. This will also provide information about additional types of fertiliser that have been tested recently.

See <https://www.kvernelandspreedingcharts.com>

You can make use of the online spreading chart service as an alternative to the spreading chart book. You must enter the characteristics of the fertiliser, your working width, application rate, driving speed and the type of fertiliser. You will then receive advice from the website for setting your spreader: dosing setting, discharge point, flowrate and angle of the spreader.

AutosetApp



AutosetApp gives you the option to download these spreading charts to the IsoMatch Tellus terminal in order to set the spreader automatically. After choosing the desired fertiliser type, the working width, application rate, driving speed, dosing and discharge opening are transmitted to the spreader using the AutosetApp. The spreader then automatically gets the correct setting. Automatic adjustment of the discharge point only applies to GEOSPREAD spreaders. The same data may be transmitted to the spreader via the AutosetApp for the other weighing spreader models such as Exacta-CL EW and Exacta-TL(X). Except for the discharge opening, the spreader then has to be set manually.

Telephone App



Using the Kverneland Group spreading charts application, you can easily find the right settings for your spreader.

The spreading charts application gives you immediate access to the most up-to-date test results of fertiliser.

In just a few steps, the application will lead you to the correct settings for your spreader, anytime of the day, wherever you want for almost any type of fertiliser.

The spreading chart application (App) can be downloaded free of charge through the Apple App Store and/or through the Google Play Store.

Setting the spreader



Avoid contact with the fertiliser and other material

You will most likely get into contact with the fertiliser and other material you may wish to spread while filling, adjusting and testing the spreader. Wear protective clothing and safety gloves, read the safety instructions provided by the supplier and follow their directions. Contact with the materials could lead to personal injury.

Be careful that nothing gets jammed

It is easy for parts to get jammed while adjusting the spreader.

Work carefully while making adjustments:

- switch the tractor off and remove the keys from the ignition,
- engage the parking brake of the tractor,
- wait for all machine parts to come to a standstill before you start with filling, adjusting or testing,
- Never go underneath an elevated, unsecured spreader,
- Comply carefully with the instructions.

Being jammed in could cause physical injury.

Protect the environment

Spreading a very high dose of materials outside the field edge, especially on surface water, creates a heavy burden on the environment. Protect the environment by applying a correct application rate in a correct procedure.

Work with a closed cabin

Fertiliser dust can blow indoors through open windows, doors or other openings. Moreover, the sound level is higher in an open cabin. It is therefore recommended to always work with a closed cabin with active carbon filters in the air inlets. Fertiliser dust and a high sound level can cause physical damage.

Set the spreader based on the details obtained from the correct spreading chart, the desired application rate (kg/ha) and the driving speed (km/h).

You can find the methods for determining the correct spreading chart in the machine's manual.

To be done before spreading

Working width

The working width must be selected to set the spreader. This could for instance be the distance between the sprayer tramlines.

In the spreading chart book, via the online spreading chart service or via the free application (App) for mobile phones with an iOS and/or Android operating system, look for the page that shows the desired working width of the fertiliser type with the most similar properties.

INDICATION Various types of fertiliser have a limited maximum working width. This is due to their physical qualities whereby they do not spread evenly over large working widths. If a working width is not given in the spreading charts, the relevant type of fertiliser cannot be spread evenly over that width.

INDICATION If you want to spread with a working width not given in the spreading chart book, use the settings for the working width closest to the selected working width. For example: the settings given in the spreading chart for a required working width of 25 metres could, for instance, be approximated to 24 metres. Enter the actual working width into the control system so that the selected application rate is correctly distributed.

The working width is adjusted with:

- the correct rpm and
- the discharge point.

To be done before spreading

Discharge point

AB
CD

It is necessary to correctly set the discharge point in order to obtain a good spreading pattern and the correct working width. The point at which the granules or seeds come onto the spreading disc can be changed by setting the discharge point. The position of the discharge point combined with the position of the coupling shaft on the central gearbox, the rpm and the flowrate determines the spreading pattern.

The discharge point can be set between positions **C** to **U**.

The correct settings are determined on the basis of the selected application rate and the required driving speed. The position that would most likely provide the best spreading pattern is given in the third column, *Discharge Point*, of the spreading chart.

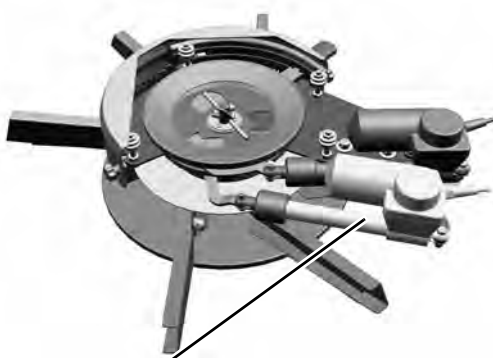
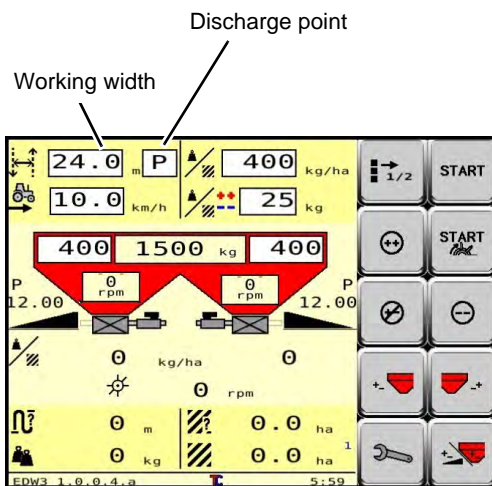
Always check the accuracy of the discharge point by conducting spreading pattern tests (tray test).

→ See procedure in the machine's manual.

Setting discharge point with GEOSPREADER

Setting the discharge point is done in the main screen.

The latter value from the spreading chart can be set according to the working width of the field.

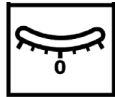


An actuator on the outside of the dosing units controls the set position.

Actuator discharge point setting

To be done before spreading

Inclination



In the (online) spreading chart, look for the *Hoek spreader* symbol to get advice on the angle of your spreader. The spreader is normally in the horizontal position. It may be necessary to adjust the spreader's angle with large working widths or with top dressing.

You can set the correct angle by adjusting the top link. There is an indicator on the spreader which displays the angle of the spreader.

TIP Set the spreader angle before you fill the hopper. It is easier to adjust the top link if the hopper is empty. Check the position again after the hopper has been filled!

Modification during GEOCONTROL use

If the inclination is at 4° or 8°, the spreader area slides further behind the spreader.

- ▶ Increase the length B by 10% or 20% at 4° or 8° on the »Setting implement data« screen (see page 40).

RPM

The required RPM of the spreading discs are given in the (online) spreading chart. The actual RPM of the spreading discs is displayed on the control box screen.

In case of border spreading it is often necessary to adjust the rpm. When using the ExactLine and the border spreading plate, you can find the recommended rpm and associated spreading disc rpm in the spreading charts handbook, via the online spreading chart service on the website or via the free application (App) for mobile phones.

On a machine with (IDC), the rpm is set automatically but can also be set manually.

Also, refer to the software manual.

Application rate

The control system can drive the spreader in three different ways:

- distribution that resembles the settings for the preset application rate must be determined under changing circumstances through automatic calibration and driving speed correction,
→ see the paragraph below, »Constant application rate«.

with similar or lower application rates (< 40 kg/min) the fine application kit should be used,

- with very low application rates on very uneven terrain, preset application rates must be checked manually to ensure that the correct dosing setting is being distributed, without automatic calibration but with driving speed correction,
- under changing circumstances location specific application rate driven by an external signal, through automatic calibration and driving speed correction,
→ See paragraph »Variable, externally driven application rate« on page 68.

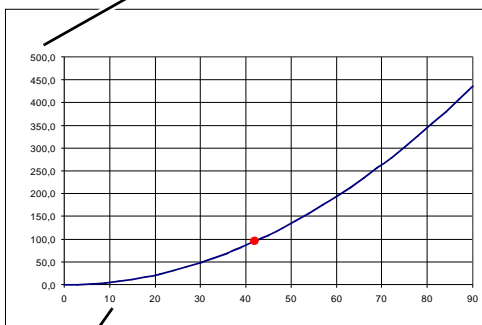
Constant application rate

The control system can spread an equal amount of fertiliser over the entire field. In doing so, the control system corrects changes in driving speed, while maintaining the option to adjust the application rate manually for over- or underdosing.

The control system can search for the correct dosing setting with the preset application rate through automatic calibration. The disadvantage is that the application rate for the second automatic calibration (= approx. 2 minutes) could differ markedly from the selected application rate. It is therefore strongly recommended that the starting values be taken from the spreading charts. This can be done on the 'Spreading Setting 1' screen. The control system calculates the discharge curve from the starting values. The control system corrects the spreader for changing circumstances, based on this curve, e.g. as a result of changes in driving speed.

→ See also paragraph »The ISO control system« on page 13.

flowrate (kg/min)



Dosing setting

Look for the most comparable fertiliser type and the correct settings for the selected working width in the (online) spreading chart:



- ▶ Read the setting of the dosing in the *Dosing Setting* column that goes with the selected application rate and driving speed.



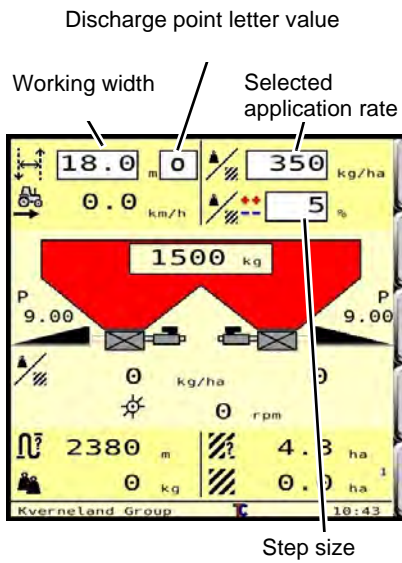
- ▶ The corresponding flowrate is given in the *Kg/min* column.

- ▶ The given values are to be entered in the control system.

If the selected application rate is not given in the spreading charts, use the settings that are the closest to the selected application rate.

If the selected driving speed is not given, use the settings closest to the selected driving speed.

To be done before spreading



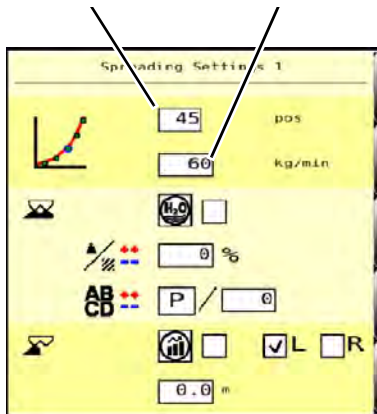
- ▶ Switch the control box on.
 - ▶ Press on the input field for the working width.
- The popup keyboard appears on the screen.
- ▶ Input the desired working width.
 - ▶ Press the OK key to confirm the working width.
 - ▶ Press the letter value of the discharge point.
 - ▶ Touch the new letter.



- The new letter appears on the screen.
- ▶ The selected application rate is entered in the same manner.
 - ▶ The selected step increments are entered in the same manner as with over or under dosing.
 - See also paragraph »Over- and under dosing unit« on page 34.
 - ▶ When using a simulated driving speed the selected driving speed is entered in the same manner.

If the tractor is equipped with a speedometer or GPS the actual driving speed will appear in this field while spreading.
 → See also paragraph »Operation Settings« on page 33.

Dosing setting flowrate



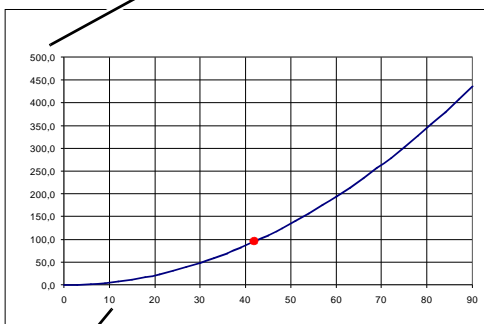
- From the main screen:
- ▶ Press the wrench key on the main screen; you are now on the 'Spreading Setting 1' screen.



- ▶ Press on the input field for the dosing setting
- ▶ Change the dosing setting in the pop-up keyboard.
- ▶ Press the OK key to confirm the dosing setting.
- ▶ The required flowrate is entered in the same manner.

The control system calculates the discharge curve with the preset dosing setting and the relevant flowrate. With changing circumstances, e.g. with a different driving speed, the control system calculates the required flowrate. The relevant dosing setting is determined and set through the discharge curve.

flowrate (kg/min)



Dosing setting

The control system will set the dosing units for the preset position when spreading commences. The dosing setting will then be corrected based on automatic calibrations performed by the control system once every minute or after 75 kg have been spread. With automatic calibration the control system determines the new discharge curve. The dosing setting can be carefully adjusted with the new dosing setting based on changing circumstances.

To be done before spreading

GEOPOINT®

The GEOPOINT® (centre spreading pattern) is the distance between the signal receiver and the centre of the spreading pattern. To allow the implement to operate correctly or stop in the right place, you must run the following settings:



- ▶ Go from one of the settings screens to the ISOBUS communication menu.

→ See »Menu structure« on page 20.



- ▶ Scroll to the "TC Implement Settings" screen.

In this screen, you can control and/or modify the settings of the vehicle:

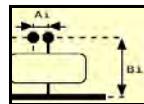
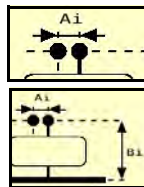
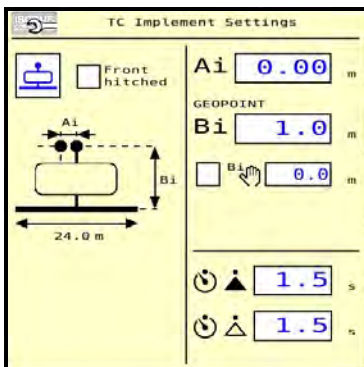
Mounted machine



- Mounted machine selection button

In this screen, you can run the following settings:

- Offset connecting point with respect to the tractor track (A)
- Distance from signal receiver to spreading pattern (B)



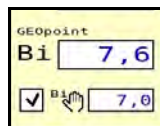
NOTE: The distance B between the signal receiver and the spreading pattern is given in the spreading chart as GEOPOINT® (centre spreading pattern)

This value will already be populated if the AutosetApp is used.

→ See »AutosetApp« on page 58,

The GEOPOINT® can also be changed manually.

- Check the box of the manual GEOPOINT®.
- Enter the desired manual GEOPOINT® distance.



The control system can now calculate the correct speed reduction for subsequent spreading on the headland and during gored spreading.

To be done before spreading

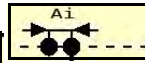
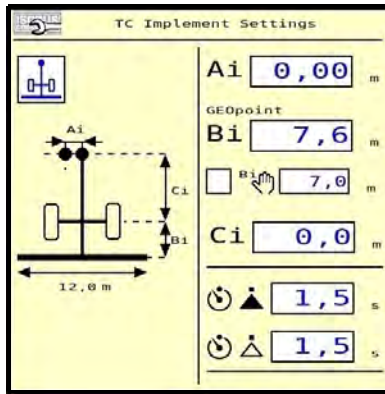
Or:

Drawn machine

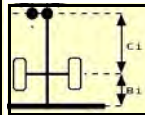


- Trailed machine

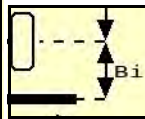
In this screen, you can run the following settings:



- Offset connecting point with respect to the tractor track (A)



- Distance from signal receiver to hard wheel axle (C)



- Distance from the centre of the wheel axle to the spreading discs (B); look for the correct value in the spreading charts handbook.

→ See »Setting implement data« on page 40,

Adjust or switch off automatic calibration

Working on smaller parcels

With low application rates and small parcel size, the time interval between automatic calibration needs to be reduced.

→ See »Adapting auto-calibration to field size« on page 52.

Working with very low application rate

If very low application rates are to be distributed, e.g. only a few kilograms per hectare, the control system cannot perform automatic calibrations. In that case, a limit must be set, below which automatic calibration stops and the last value is used.

→ See »PIN Settings 1« on page 51.

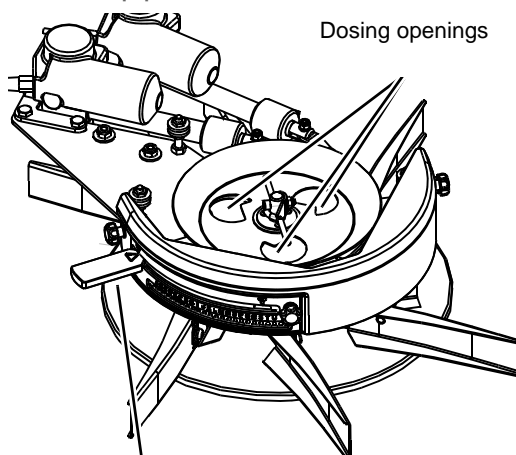
A manual calibration test could also be performed in order to determine the correct dosing setting.

Working with low application rates

If the flowrate entered is lower than 40 kg/min, use fine dosing. There is a danger that the dosing openings could become clogged with low flowrates. 2 of the 3 dosing openings can be closed of to prevent this, while the remaining opening must be opened further.

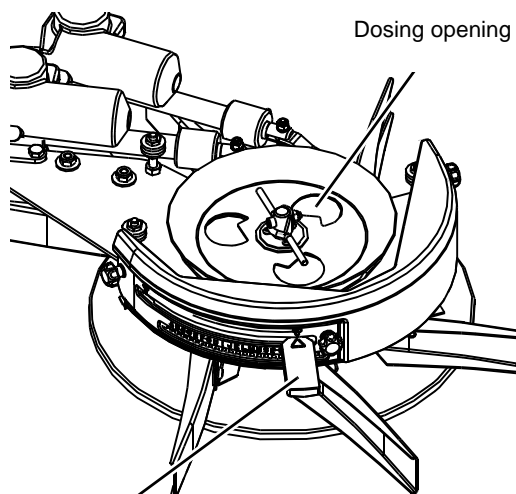
→ See the machine's manual

Fine application



Fine application handle
Normal dosing setting

All three dosing openings normally open uniformly with the selected application rate and the corresponding flowrate that you set. With a low application rate and/or a low driving speed the dosing openings are only opened a slight bit so that very little fertiliser would stream through the dosing openings of the spreader. This could easily cause blockage, which would lead to a bad spreading pattern and possible damage the crops.



Fine application handle
Fine application setting

We, therefore, advise that you make use of the fine application if the flowrate is **lower than 40 kg/min**.

→ See the machine's manual.

To be done before spreading

Variable, externally driven application rate

The control system provides the options to distribute the same application rate all over the field and the option to spread a variable, externally driven application rate. This provides the option to spread as per requirements, e.g. through a nitrogen sensor.

An application rate that had been preset in the corresponding management system for the relevant field can also be entered through the GPS system.

→ For the options and corresponding settings, see the user's manuals for the external system and the control box, e.g. the IsoMatch.

The control system of the spreader in combination with the IsoMatch control box also transmits the application rate and working width used back to the external system.

The external system and the control system of a spreader with an IsoMatch control box communicate through a serial port with an RS 232 connection. This connection is located at the back of the control box. The occupation of pins in the 9-point RS 232 plug and the settings required are given in

→ the user manual of the IsoMatch control box.



RS 232 connection

To be done before spreading

Setting the control system

A few settings in the control system must be checked and adjusted to enable communication with an external system.

→ See paragraph »TC Config & License« on page 38.

A few settings must also be entered in the driver (software) of the control box or tractor terminal. This is specifically concerned with accepting an external signal and communication settings.

For the options and exact settings, always consult

→ the user's manuals for the external system, control box or tractor.

From the main screen:

- ▶ Press the system change key to display the opening screen of the control box.
- ▶ Follow the procedures described in the relevant user's manual.

Driving through an external signal must then be accepted in the 'TC config&licence' screen.

→ See paragraph »TC Config & License« on page 38.

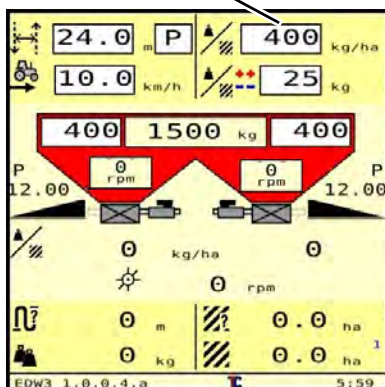
The drive for the external system is switched on or off with this screen, as required. The external system can also be disengaged by switching to distributing a preset similar application rate. The selected application rate must then first be entered.

→ See paragraph »Application rate« on page 63.

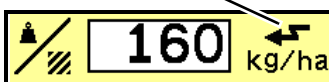
If control through an external system has been engaged a 'TC' symbol will appear at the bottom of the screen next to the clock

If the control system receives a value for the application rate of the external system a symbol will be blinking shortly at the input field for the application rate at the top of the main screen.

Selected application rate



Symbol for receiving application rate



Manual over- and underdosing is still possible. As soon as the control system receives a new application rate that is different and the application rate is adjusted, manual adjustment will no longer be possible. If you would like to keep over or underdosing it will have to be entered anew.

Filling



Avoid contact with the fertiliser and other material

You could come into contact with materials when filling the machine. Always wear protective clothing, such as safety gloves, shoes and goggles. Read and adhere to the additional safety instructions and the of the material producer. Contact with the materials could lead to injury. Contact your physician in such an event!

Chemical reactions caused by mixing fertilisers

Mixing different types of fertiliser could lead to a chemical reaction whereby poisonous vapours, liquids or other materials could come about. Possible danger of explosion! This could lead to personal injury and damage to the crop and machine.

Only mix different types of fertiliser if allowed by the manufacturer(s). Chemical reactions could lead to damage to the machines and personal injury.

Read the safety instructions provided by the supplier

Read the safety instructions provided by the supplier and apply that. Protective clothing should be worn when necessary.

Disregarding the safety instructions could result in personal injury and damage to the machine.

Use proper tools

Great volumes of material is often handled during the filling process. Use proper tools such as lifting devices when moving and filling the machine. Keep legislation concerning working conditions in mind. Work carefully and responsibly. Inferior tools can cause serious injuries.

Only fill mounted machines

Never place a machine in the ground while filling it. Always keep it in the power lift of the tractor. The machine is designed to be loaded while in a suspended state. Never park a filled machine on the ground. Filling the machine while it is on the ground could lead to damage.

Work with a closed cabin

Fertiliser dust can blow indoors through open windows, doors or other openings. Moreover, the sound level is higher in an open cabin. It is therefore recommended to always work with a closed cabin with active carbon filters in the air inlets. Fertiliser dust and a high sound level can cause physical damage.

Before taking to the road



Observe the permissible and safe height with regard to

- prescribed maximum height for vehicles in the road traffic regulations,
- high-voltage cables or other cables over the road;
- anticipated maximum headroom.

Pay close attention to these aspects to prevent dangerous situations that could lead to major material damage and possibly to serious physical injury.

Before leaving the tractor:

- switch off the drive,
- release the pressure from the hydraulic system,
- switch the electronic control system off,
- switch the tractor off,
- remove the key from the ignition,
- engage the parking brake of the tractor.

That way you make sure that the tractor cannot be started and that the machine cannot be moved when you are working on it, which could cause severe physical injury.

Before travelling on a public road with your tractor and machine, you should do the following:

- ▶ Check whether tractor and machine are roadworthy.
- ▶ Check that the lights, warning indicators, protectors and brakes are attached properly and are working.
- ▶ Check whether the reflector, motor vehicle with limited speed (<40km/h) on your tractor, is hidden by the implement.
- ▶ Then fit an additional reflector at the back of the implement.
- ▶ Check the run of the quick coupling ropes of the power lift.

→ See the machine's manual

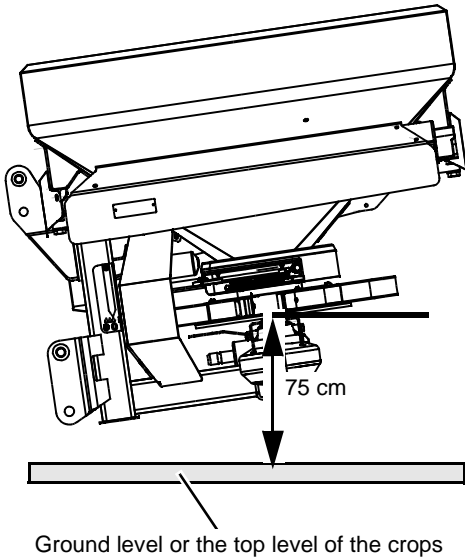
Preparing the machine to be transported

Before travelling on a public road with your tractor and machine, you should do the following:

- ▶ Check whether tractor and machine are roadworthy.
- ▶ Check that the lights, warning indicators, protectors and brakes are attached properly and are working.
- ▶ Check the run of the quick coupling ropes of the power lift.
- ▶ Fit extra lighting and warning signs, if necessary.
- ▶ Check all folding parts and their locking devices:
 - hopper cover,
 - ExactLine (left and/or right),
 - Hydraulic border spreading plate.
- ▶ Set all parts of the machine and the tractor, especially the drive, the hydraulics, the wheels and the electric system, to transport mode.
- ▶ Check the weight distribution between front and rear axles.
- ▶ Mount front weights, if necessary.
- ▶ Check the headroom of the combination.
- ▶ Lower the power lift, if necessary.
- ▶ Lock the control lever of the power lift while moving so that the mounted machine is not lowered by accident.
- ▶ Check whether the dosing units are closed.
- ▶ Switch the control box off.
- ▶ Remove dirt that could fall off while on the road. A dirty road could be hazardous for other drivers.
- ▶ Ensure that parts such as ropes, hoses, etc., for remote actuation of devices such as cylinders, are positioned in a way they never inadvertently release nor block them.
- ▶ Always ensure adequate lateral securing of a mounted machine in transport position.

Adjusting the machine

Spreading height



Before you can make the first pass, you must make adjustments in the field to:

The following is important to ensure that the spreader works properly:

- set it to the correct height from the ground or above the crop and
- by levelling it with the lift rod adjustment and top link.

Measured from the bottom of the vanes, the distance to the ground or the crop must be 75 cm.

- ▶ Use the power lift to lift the machine to the correct height.
- ▶ Set the spreader horizontally with the lift rod adjustment and the top link.
- ▶ Lock the lift limiter in this position.

Height correction with top dressing

If the required height of 75 cm above the crop is not possible with your power lift

- ▶ use the high spreading setting of the linkage pins and/or
- ▶ set the spreader forward as indicated in the spreading charts.

→ see the machine's manual.

	75 cm	< 55 cm
	0°	4°

Setting the control system Check the settings of the control system before starting to spread.

In the main screen:

- Working width,
- Discharge point letter value,
- Selected application rate,
- Step increments with over- and underdosing.
- Simulated driving speed if the tractor is equipped with working speedometer / localisation (you then work without the GEOCONTROL function!),
- ExactLine position (left/right) and/or hydraulic border spreading plate,

On the 'Spreading Setting 1' screen:

based on the spreading chart and

→ paragraph »Application rate« on page 63.



- ▶ Press the wrench key on the main screen to proceed to the 'Spreading Settings 1' screen.
- Dosing setting,
- Corresponding flowrate,
- Reception and level of the hopper alarm,
→ See paragraph »ExactLine position« on page 35.
- Display of the position of the ExactLine (left/right) and/or hydraulic border spreading plate,
→ See paragraph »ExactLine position« on page 35.

In the 'TC Config & License' screen:



- ▶ Press the ISOBUS key button on the 'Spreading Setting 1' screen.
- ▶ Scroll to the 'TC Config & License' screen.
- Task Controller enabled,
- Receiving an external signal if the application rate is driven by an external system,
- Section switching enabled,
→ See also paragraph »TC Config & License« on page 38.
- ▶ Scroll to the 'TC Implement Settings' screen.
- The GPS-antenna offset setting is correct with respect to the tool used and working width set.
→ See »Setting implement data« on page 40.

On the GEOCONTROL application screen

- Correct task selected,
- Section switching on (switch off when border spreading with the border spreading plate),
- Variable application rate engaged.
→ See the GEOCONTROL manual saved in your control box

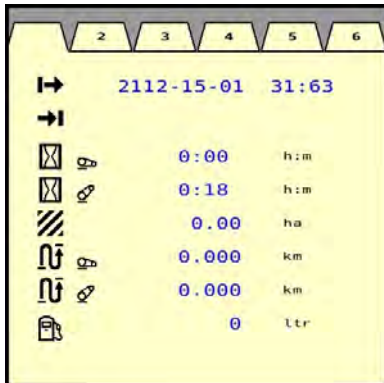
Field registration in the GEOCONTROL application

A field registration is provided in the GEOCONTROL application. The task data made and saved in GEOCONTROL can be transferred to a USB stick.
 → See the GEOCONTROL manual saved in your control box as soon as the application is loaded.

Field registration in the spreader operation

If the Task Controller is switched off, you can carry out the field registration via the control system.

The control system can register and save a few details of every site. V



▶ Press the field registration key in the ISOBUS.



▶ Press the scroll keys in order to select a particular field.



▶ Press the enter key to start registration of the selected field number. The field number will start to blink and the time and date will change to the current time and date.

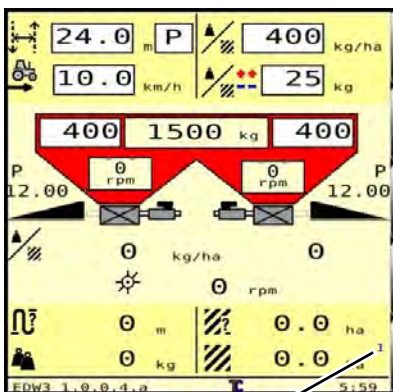


▶ Press the delete key if you want to delete the totals already entered and start registration of the particular field number anew.

If the totals already saved are not deleted the new totals will be added to the totals saved before and an average is calculated. The date on which registration of the particular field number was started is displayed on the top line of the screen. If the date given differs from the date on which the last application rate was distributed the totals given are average values for multiple application rates.

The site number is shown in the main screen as soon as it is activated. If the application rate is driven by an external signal field registration will not work with certain settings.

→ See paragraph »TC Config & License« on page 38.



Activated field number

Last setting check

To ensure good spreading results, follow this last check as indicated below.

Are you working with the correct settings from the correct spreading chart, based on:

- distribution,
- similar weight,
- type of fertiliser,
- desired working width,
- desired driving speed?

Did you set the spreader in the correct way?

Did you:

- set the height over the ground or crops to 75 cm?
- set the spreader horizontally, forward?
- was the correct vane combination mounted?
- are the correct number of dosing openings opened (fine application)?
- is the correct discharge point set?
- is the correct application rate set?
- is the correct GEOPOINT® (centre spreading pattern) set?
- is the coupling shaft fitted to the correct point on the gearbox?
- is the ExactLine (left/right) or hydraulic border spreading plate in the transport setting (or working position)?
- are the data required entered in the control system?

Did you check the following settings:

Did you:

- have you checked the control system settings?
- perform a tray test to check the spreading pattern?

Are you working correctly:

- Is the field data selected or input correctly?
- Is the GEOCONTROL application setting correct?
- Is the offset setting correct?
→ See »Setting implement data« on page 40.
- Did you set the correct rpm?
- Are you driving at the correct driving speed?
- Did you set the tramlines at the correct distance?
- Is the wind speed too high?

Spreading on field

Working with GEOCONTROL

Starting a new task is done from a saved field or one to be created newly with the GEOCONTROL application.

→ Refer to the GEOCONTROL manual in your terminal for this purpose.

Spreading on the headland

A broad headland is desirable in order to make the connection to the headland before turning in from the pass. The headland acts as the field boundary and is saved in GEOCONTROL.

A broad headland is desirable in order to make the connection to the headland before turning in from the pass.

- ▶ Spread a broad or double headland so that you make the connection while driving straight before making a turn.

Filling passes

Thereafter, the field can be filled in full passes. You can create a (spray)track pattern for following processes.

Set tramlines

Prevent drive errors

It is important that the spreading patterns overlap well to ensure good distribution. A deviation in the overlapping is less vital with average working widths, using a triangular spreading pattern.

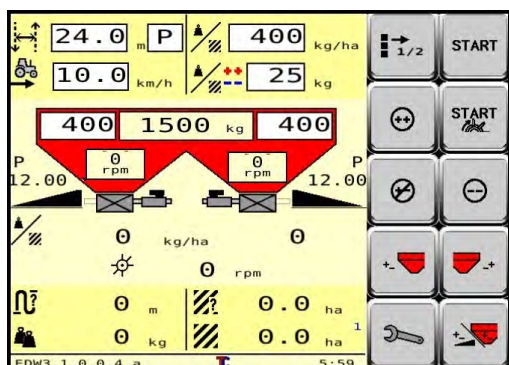
Deviations in the spreading pattern would easily be noticed with a trapezium shape on very large working widths, in particular. The overlap of the spreading pattern is then much smaller and therefore more sensitive to mistakes.

This can be prevented by setting tramlines before hand. This can be done by setting out and marking tramlines on the headlands.

Visibility of the from headland to headland is very important. Place additional markers in the field if necessary to ensure that the track is clearly visible.

When controlled by the GEOCONTROL the spreader has the option of reducing the working width in order to connect the incomplete final pass with the next one.

Start spreading



To begin spreading, proceed as follows:

- ▶ Close all the doors and windows in the cabin.
- ▶ Drive the tractor to the first tramline, depending on the driving pattern required, which may be recognised by the marker in place.
- See paragraph »Set tramlines« on page 77.
- ▶ Switch the control box on.
- ▶ Check the settings as described in
- paragraph »Setting the control system« on page 74.
- ▶ Without GEOCONTROL, select and activate a site number in the field registration,
- See paragraph »Field registration in the spreader operation« on page 75.
- ▶ Switch on the drive and set the correct rpm of the spreading discs as reported in the spreading chart.

INDICATION If the machine is equipped with (Intelligent Drive Control (IDC)), the start/stop button for switching the drive on and off is visible on the main screen.



INDICATION Do not allow the spreading disc to run for longer than is necessary while the dosing units are closed. This will prevent the agitator from grinding the fertiliser.



- ▶ Start driving and open the dosing units at the same time by pressing the start key.

Connect headland with the GEOCONTROL function

Based on the offset set in the 'TC Implement Settings' screen, the GEOCONTROL will switch the spreading sections off by itself when passing the headland limit. This happens if the spreading pattern overlaps completely and you run up the headland.

→ See paragraph »Setting implement data« on page 40.

Overlap on the headland

Depending on the set overlap percentage, the connection on the headland and gores will more or less overlap.

The usual setting is 50%.

→ Refer to the 'Overlap settings' in the GEOCONTROL manual for the overlap setting.

Overlap on the field boundary

Even the extent of overlap of the field boundary created can be separately set in the GEOCONTROL manual.

TIP Set the overlap on the field boundary to 0 if you do not wish to spread over the field boundary.

approaching headland with the GEOCONTROL function switched off:



- ▶ Close the dosing units by pressing the stop key before turning to the headland. The drive can continue to run if you intend to start spreading immediately again.

You will find the correct working method and corresponding distances on the headland in

- the next paragraph »Working method on the headland« and paragraph »Set tramlines« from page 77.
- ▶ Drive to the next tramline and re-start the spreader at the right time, as displayed in the next paragraph »Working method on the headland«.

INDICATION If the hopper content becomes less than 100 kg, the control system switches off the automatic calibration. Measurement accuracy declines in such a way that new automatic calibration cannot produce a better discharge curve.

At low doses <50 kg/ha, it is possible to reduce the minimum hopper capacity for automatic calibration to minus 15 kg.

→ See »Automatic calibration limit« on page 51

INDICATION If the spreader is filled during the spreading process, e.g. from an auger riding alongside the vehicle the automatic calibration must be switched off. With automatic calibration the control system weighs the dispersed quantity of fertiliser (kg) within a certain time. It also checks these values in terms of the selected, preset application rate. The distributed quantity can therefore not be correctly weighed if the hopper is filled while spreading. The weight in the hopper could even increase during the measurement period. The correction performed by the control system would be inaccurate as a result, which could lead to crop damage.

Use in the field

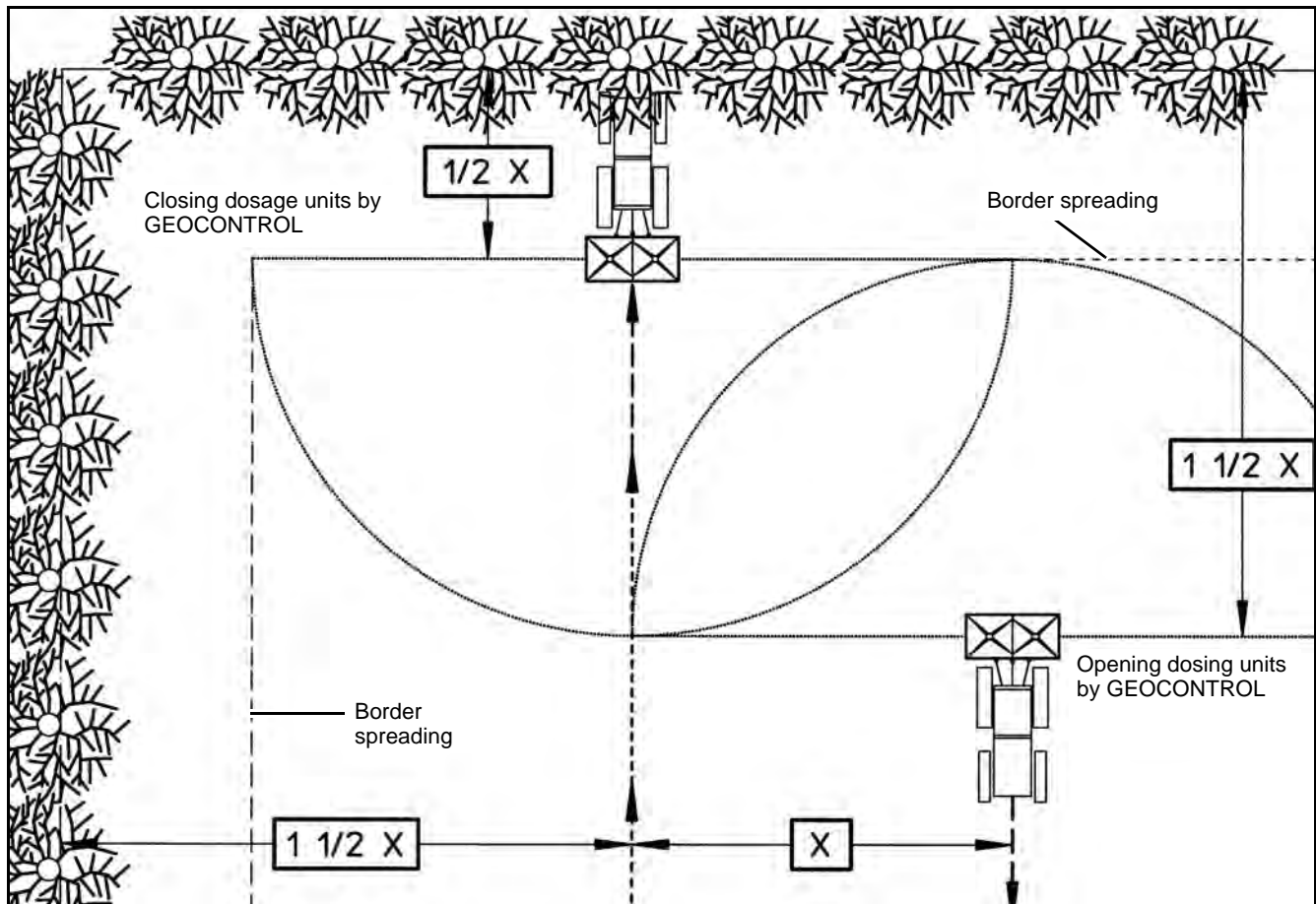
Working method on the headland

The driving pattern that you use, in other words how you must turn on the headland, depends on your border spreading method.

- spreading the border from the sprayer tramline with the ExactLine/ border spreading plate (situation A), or
- spreading the border by closing off one disc and using a border spreading plate (situation B).

Do the following when spreading the headland:

For boundary track spreading from the sprayer tramline (ExactLine and situation A)



GEOCONTROL headland function **ExactLine**

- ▶ Begin with creating the field boundary where you spread on edges with the ExactLine while driving to the left or right through the first sprayer tramline.
- ▶ Make a second round with the ExactLine switched off for a double headland, if required.
- ▶ Fill the field with injections on your sprayer tramline defined previously.

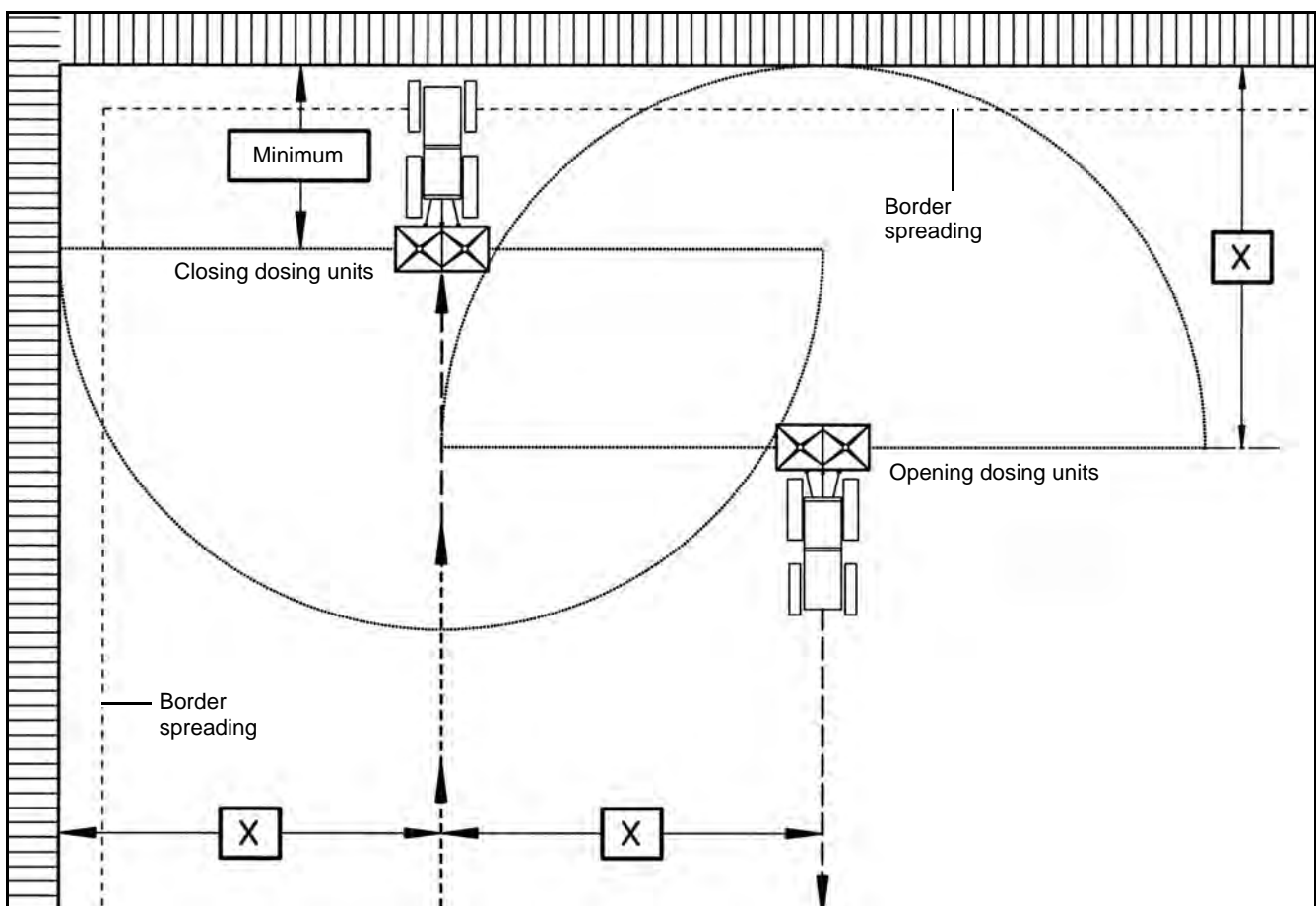
The GEOCONTROL will itself determine the correct start/stop moment while approaching and turning from the spread headland.

Spreading without GEOCONTROL headland:

- ▶ Stop spreading by closing the dosing units of the machine when you are half a working width from the end of the land.
- ▶ Let the spreading discs turn and do not switch off the drive.
- ▶ Open the dosing units again at one and a half the working width of the field edge.
- ▶ Finally spread the field edges with the ExactLine.

→ See paragraph »Failure and stoppage« on page 86.

With one-sided border spreading (situation B)



GEOCONTROL headland function

- ▶ Begin with creating the field boundary where you spread down to the border along the field boundary while driving to the left or right with the border spreading plate and the correct dosage switched off.
- ▶ Fill the field with injections on your sprayer tramline defined previously.

The GEOCONTROL will interrupt and start the process at the correct time while turning on the headland.

Without GEOCONTROL

- ▶ Drive as closely as possible to the end of the property and stop spreading by closing the dosing units before you turn.
- ▶ Let the spreading discs turn and do not switch off the drive.
- ▶ Open the dosing units again when you are a full working width down from the end of the land.
- ▶ Finally spread the field edges with the border spreading plate.

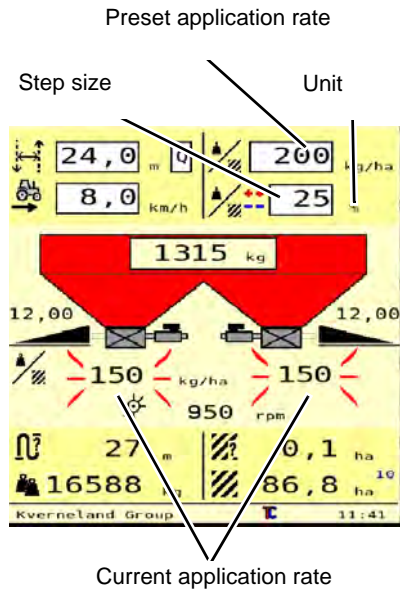
Over- and underdosing

Depending on soil or crop composition, it is preferable to spread more or less fertiliser locally. With the control system, you can over- or underdose to the left, right or on both sides during spreading. You will find all the control keys on the main screen. You have set the step size on the main screen and the unit (kg or %) on the 'Operation Settings' screen.

→ See also paragraph »Over- and under dosing unit« on page 34.

Two-sided over- and under dosing

If you want to over- or underdose on the left or right at the same time and in the same quantity:



- ▶ Press the plus or minus key until the required application rate is set.

The current application rate, as displayed on the main screen under the figure of the spreader, will blink to show that you are over- or underdosing.

If you want to reset the application rate to the preset value, as displayed in the box at the top right of the main screen, there are two ways to go about it:

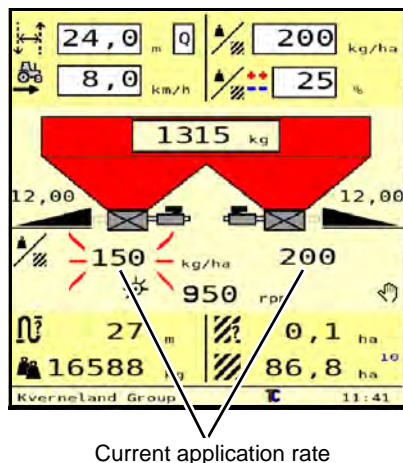
- ▶ Press the plus or minus key until the current application rate corresponds with the application rate you want.

Or:

- ▶ Press the end key to go to the preset application rate at once.

One-sided over- and under dosing

If you want to over- or underdose on one side, left or right:



- ▶ Choose the side, left or right, on which you want to over- or underdose by pressing the relevant key.

- ▶ Press the plus or minus key until the required application rate is set.

If you want to switch to two-sided over- or under dosing:

- ▶ Press in the relevant key for the other side, left or right.

This side will spread at the same application rate as the side you were over- or under dosing on before. Because both sides are spreading at the same application rate again, the control system will resume automatic calibration.

If you want to reset the application rate to the preset value, as displayed in the box at the top right of the main screen, there are two ways to go about it:

- ▶ Press the plus or minus key until the current application rate corresponds with the application rate you want.

Or:

- ▶ Press the end key to go to the preset application rate at once.

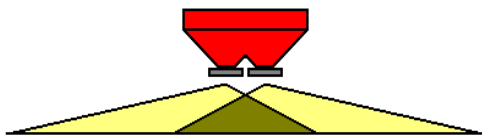
Use in the field

INDICATION If you are over- or under dosing on one side, switch the control system over to manual mode. Consequently, automatic calibration will be halted. For this reason, we advise not to start over- or under dosing immediately at the beginning of spreading. Otherwise the control system cannot accurately determine the correct dosing setting for the required application rate



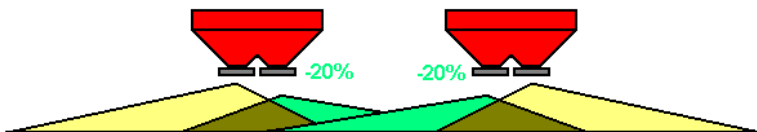
Results of one-sided over- or underdosing

The spreading pattern of both spreading discs overlap partially, especially in the middle behind the spreader. For this reason, the real application rate will deviate from the one that you set during one-sided over- and under dosing. You will see the effect especially with narrow working widths because that is when the spreading patterns overlap the most.



With small working widths in which you spread in a triangular spreading pattern, the first and second passes of the spreading patterns overlap each other completely.

To distribute an adjusted application rate you must therefore over- or underdose on the first as well as the second pass in the following tramline.



Reducing the working width manually

Depending on the field or crop, it may be advisable to reduce the working width manually by pressing the toggle button in the main screen.



▶ Press the change button

The buttons for under- and overdosing change to buttons for reducing left and right working widths



▶ Press the reduce left or right button



In this example, the left working width reduction is active.

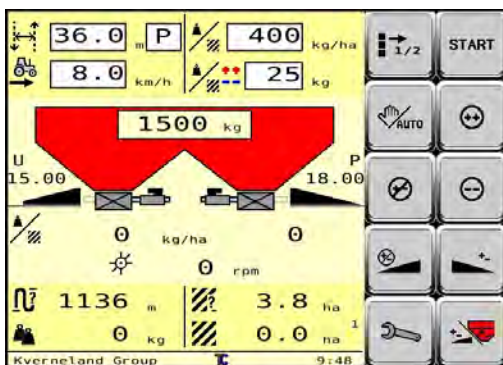


▶ Press the plus or minus key until the current working width corresponds to the required one.

Or:



▶ Press the end key to go to the full working width in one go.



In this case, the reduced value on the left will continue to flash for 15 metres until the end key is pressed.

Failure and stoppage



Be careful that nothing gets jammed

It is also easy to get injured while working with the spreader.

Work safely with the machine:

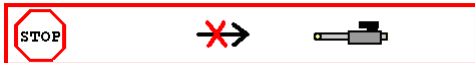
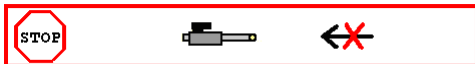
- releasing the pressure from the hydraulic system,
- switching off the electronic control system,
- switching the tractor off and removing the key from the ignition,
- engaging the parking brake of the tractor,
- wait for all machine parts to come to a standstill before you approach it,
- wearing protective clothing, such as safety gloves and shoes,
- carefully follow the instructions given.

Being jammed in could cause physical injury.

Avoid contact with the fertiliser and other material

While working with the spreader, you might come into contact with fertiliser or other substances that you want to spread. Wear protective clothing and gloves, read the safety instructions provided by the supplier and follow their directions. Contact with these materials could cause physical harm.

Causes



During spreading, if you:

- see that a spreading disc is spreading irregularly or not at all while the dosing units are open,
- hear a loud noise,
- become aware that the machine is vibrating seriously,
- the main screen shows the alarm to indicate that the drive is not switched on while it is running,
- an alarm will appear on the main screen, indicating that the dosing units cannot be closed,

→ See paragraph »Alarms« on page 43.

Stop spreading immediately!
Switch off the drive immediately!

These failures are probably caused by one of the following:

- a hard object blocks the agitator,
- a hard object or a large piece of fertiliser is (partially) blocking the supply from flowing to the agitator,
- a hard object or a large piece of fertiliser is (partially) blocking fertiliser from flowing through the dosing opening or discharge bushing,
- crushed and/or damp fertiliser forms an encrusted layer beneath the agitator and blocks the flow through the dosing openings,
- a lump of damp fertiliser has formed in the discharge bushing and is blocking flow from the discharge bushing opening. This happens especially when the spreader has not been thoroughly cleaned after it was last used.

INDICATION Most types of fertiliser attract water and can thereby form large chunks. These chunks can block the spreader or distort the spreading pattern.

- When working under moist conditions, use a hopper cover that closes well.
- Do not spread without a hopper cover under moist conditions.
- Never leave the fertiliser for a long period of time in the spreader. Chunks can also be formed through moisture in the air.
- Always clean the spreader well after use, including the dosing openings and the discharge bushings.

Working method



Handle with care

Cautiously approach the machine and handle with care. There could be hot or live parts! Contact with these materials could cause physical injury.

To find the cause of the failure or stoppage and solve it as far as possible, proceed as follows.

- ▶ Switch off the drive immediately!
- ▶ Switch off the electronic control system.
- ▶ Switch the tractor off, remove the key from the ignition and engage the handbrake of the tractor.

INDICATION Do not place the machine on the ground. Placing a filled machine on the ground damages the structure!

**Do not modify the machine**

Do not modify the machine in any way. Unauthorised modifications may impair the function and/or safety and affect the life of the machine.

Only use original parts when replacing

Using other non-genuine parts could lead to problems and unsafe situations when using the machine.

Accessories and parts must be correctly mounted

Assemble accessories and parts according to specifications and attach them only for their designated purpose; ensure that they are locked correctly. Accessories and parts which are not fastened securely could lead to personal injury and damage the crop and machine.

Tighten all bolts and nuts

Check that all the nuts and bolts are well set. Check this again after one hour of use

- after delivery and
- after maintenance or repairs have been carried out.

Avoid contact with materials

You may easily come into contact with materials when cleaning the machine. Always wear protective clothing, such as safety gloves, shoes and goggles. Read and adhere to the additional safety instructions and the of the material producer. Contact with the materials could lead to injury. Contact your physician in such an event!

Risk of explosion because of nitrate

Fertiliser that contains nitrate can create an explosion danger if it should come into contact with fire. All fertiliser remnants should therefore be removed from voids, corners, tubes and tubing before welding, cutting or grinding on the machine. An explosion will cause damage to the implement and could lead to personal injury.

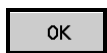
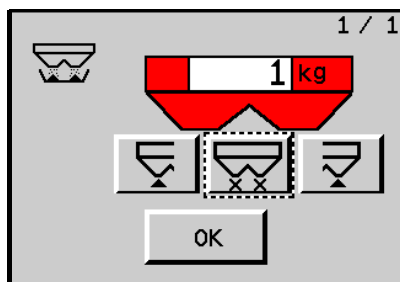
Adhere to all the safety precautions as described in
→ paragraph »Safety requirements« from page 6.

Cleaning

It is advisable to first lubricate, clean and again lubricate the machine before storing it for a short or longer period of time. If it is lubricated first you will prevent dirt, fertiliser and water from entering the bearings. After cleaning, grease and oil all items once again for conservation.

The advantages of this working order are:

- additional checks on the machine right after work,
- ensuring the longevity of the machine,
- less delays due to problems while working with the machine.



- ▶ Lower the spreader until it is 10 cm above the ground
- ▶ Set the fine application handle to the normal dosing setting.
- ▶ Start the tractor and engage the control box.
- ▶ Press the wrench key on the main screen to proceed to the 'Spreading Settings 1' screen.
- ▶ Press the empty hopper key to go to the screen for emptying the hopper.
- ▶ Press the arrow key until you reach the 'empty hopper' button to empty the hopper on both sides at the same time.
- ▶ Press the OK key to start emptying the hopper. Both actuators now open to their maximum.
- ▶ Wait until both actuators are completely extended and the dosing units are completely open.
- ▶ Place the machine on the ground or on firm supports on a firm, level ground.
- ▶ Switch the electronic control system and the tractor off, remove the key from the ignition and engage the parking brake of the tractor.
- ▶ Lubricate the machine grease nipples.
- ▶ Clean the machine.
- ▶ Lubricate the machine grease nipples once again.

INDICATION When using a high-pressure cleaner, do not aim it at the seals and the breathers. That way you will prevent dirt and moisture from entering the gearboxes.

Furthermore, do not set up electrical components. Water can cause electrical failures.

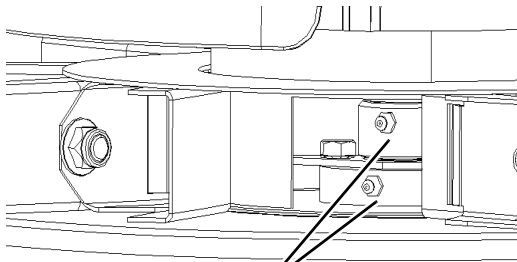


Maintenance

Discharge bushings

The discharge bushings are attached lower down to the agitator axle and have 2 grease nipples.

- ▶ In the main screen of your ISOMatch Tellus (GO), press the key to go to the 'Spreading Setting 1' screen, then press the scroll key to go to the 'Settings' screen.
- ▶ Press the grease gun icon, the discharge bushings will now open.
- ▶ Turn the spreading disc by hand until both grease nipples are visible.
- ▶ Grease the 2 nipples of both discharge bushings.



Grease nipples

→ See the machine's manual for all additional points.

General

The following accessories are available for your machine to adapt it to your tractor and/or working conditions.

The manufacturer has no kind of liability or guarantee (they become null and void) if non-genuine parts are used.

IsoMatch control box



For complete ISO control, the IsoMatch control box offers many extra new functions.

The latest developments in the field of ISOBUS steering, coupling of the tractor and machine and ease-of-use are all incorporated in the IsoMatch.

IsoMatch Tellus GO control box



Compact and complete

IsoMatch Go, as a handy and more compact variant of the double-screen version, offers complete ISO control with all functions. Besides the smaller dimension with the single screen, the number of USB connections and the absence of Wlan/Wifi constitutes the biggest difference.

Many additional functions.

The latest developments in ISOBUS communication between tractor and implement and ease-of-use are all incorporated into the IsoMatch Tellus GO.

A scroll wheel on the top right of the box and an additional keyboard make menu navigation easy.

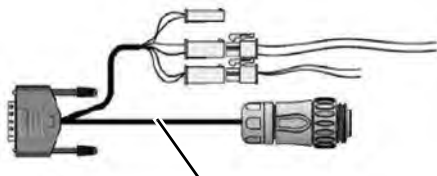
Connect the ISOBUS tractor via IM Tellus 9-point in Cab cable

If your tractor is provided with a full ISOBUS connection, a connection with the 9-pins in Cab cable between your tractor and the IsoMatch Tellus GO control box is sufficient.

Other connections are made via the "Input IM Tellus" cable, supplied as a standard item.

Accessories

ISOBUS tractor connection



Input IM Tellus with ISO11786 In cab connection

Connect the ISOBUS tractor via IM Tellus 9-point in Cab cable

If your tractor is provided with a complete ISOBUS connection, a connection with the 9-pins in Cab cable between your tractor and the IsoMatch control box is sufficient.

Other connections are made via the "Input IM Tellus" cable, supplied as a standard item.

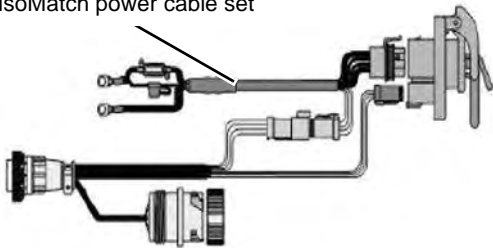
Input IM Tellus with ISO11786 In cab connection

A connection set is supplied as a standard item with the IsoMatch for:

- ISO 11786 In cab
- lights and ignition
- Tractor CAN (optional plug specific to the tractor required)
- Video input.

Conversion to non-ISO tractor with IsoMatch power

IsoMatch power cable set



IsoMatch power cable set for non-ISO tractors

If the tractor does not have an ISOBUS communication, it can be added with the IsoMatch power cable set.

Hereafter, your tractor is entirely ISOBUS ready, and you can connect and operate the machine with the IsoMatch control box.

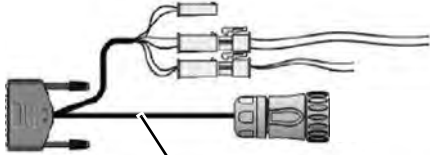
The "Input IM Tellus" cable, supplied as a standard item, can be used for other connections.

Cable with plugs for ISO 11786 in cab connection

Directly to the ISO 11786 in cab tractor connection in the tractor cabin

You can mount an optional extension cable to the ISO 11786 in cab tractor connection on the plug of the "Input IM Tellus" cable supplied as a standard item.

Sensor input IM Tellus



Sensor input IM Tellus with sensor connection

Directly to the tractor radar or wheel sensor

You can connect the tractor's speed sensor or radar to the IsoMatch control box with the optional "Sensor input IM Tellus". This is needed if your tractor does not have the ISO 11786 in cab connection. Other connections are the same as the "Input IM Tellus" cable set, supplied as a standard item.

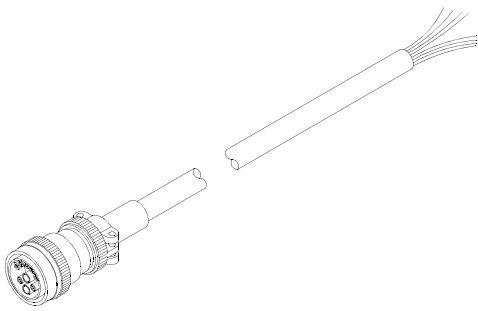
Various cables and extension cables for many different types of radar are available.

→ Also see the spare parts manual.

Extended ISO cable

An extended ISO cable is available for a tractor-trailed spreader. This replaces the short cable that is already fitted. Exchange the whole cable.

→ The wire-connecting diagram is displayed in the spare parts manual.



RS232 cable

The Tellus control box communicates with an external system via an RS232 connection. You can use a cable with an RS232 plug to connect the signal from an external system to the Tellus control box. You can find the plug pin occupation in

→ The Tellus control box operating manual.

Accessories

Spreader control software

A user licence can be purchased via the IsoMatch shop which, after the expiry of the free test period, allows your machine to work with

- Task controller
- external application rate
- control for headland management and GEOSPREAD functions.

→ See the website www.isomatchshop.com and »TC Config & License« on page 38.

GEOCONTROL software

IsoMatch GEOCONTROL is an advanced software application for more precise and efficient use of fertiliser spreaders.

Site-dependent control of your spreader

Around the spreader

- to get spreading done specific to the site
- with automatic headland control
- and working width reduction with gored spreading,

you require additional software.

→ See the website www.isomatchshop.com and »TC Config & License« on page 38.

IsoMatch Grip



The IsoMatch Grip is a control unit on which most of the machine functions used can be operated centrally with one handle. This is available in addition to the ISO tractor or IsoMatch control box.

Handle control

While working attention and visibility is often required to follow the work process. If operating buttons can be located by the sense of touch reaction speed can be increased and operating mistakes avoided. By locating the control buttons on the handle by touch while you are looking where you are driving system control can remain focussed.

→ See the website www.isomatchshop.com.

IsoMatch InLine



To complement the GEOcontrol functions, there is an optically guided steering instrument that helps you in finding and maintaining the A-B line during various activities.

DGPS driven steering

The top and middle section shows the DGPS driven steering while spraying and for other treatments, where close monitoring of the pass is required.

GEOCONTROL Section Activity

At the bottom of the display you will see the enabled and disabled sections displayed.

→ See the website www.isomatchshop.com

IsoMatch Global GPS antenna



An extension to the IsoMatch terminal for those tractors that cannot provide their own locational information. The GPS antenna with DGPS accuracy allows satellite navigation for field-specific section control, variable dosing and field registration.

→ See the website www.isomatchshop.com

IsoMatch Wireless



Connection with local Wireless Internet and IsoMatch. With IsoMatch Wireless, you can easily connect the IsoMatch Tellus (GO) to any wireless network. Think of hot spot, home network, etc.

→ See the website www.isomatchshop.com

IsoMatch Eye



IsoMatch Eye is an accessory for better visibility, day and night. The camera can be connected to the IsoMatch Tellus and IsoMatch Tellus GO terminal.

→ See the website www.isomatchshop.com

Accessories

IsoMatch MultiEye

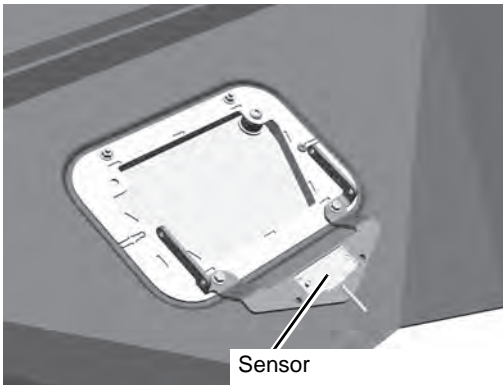


IsoMatch MultiEye is an accessory that enables connecting several cameras to the IsoMatch Tellus and the IsoMatch Tellus GO terminal.
→ See the website www.isomatchshop.com

Empty hopper sensors

The empty hopper sensors are equipped with an alarm that goes off when the hopper is almost empty.

The sensors usually come with the drain kit.



Troubleshooting table

Problem	Possible cause	Solution	Page
Incorrect application rates (kg per hectare)			
	Incorrect setting for fine dosage	Set the dosing setting for fine application as per the instructions	67
	Driving speed signal not correctly set	Set the correct source of the driving speed signal in the control system, as well as the control box	33
	Incorrect driving speed signal	Calibrate the driving speed	
	Incorrect distance between the driving tracks	Always set the driving tracks before spreading	77
	New type of fertiliser spread with the same settings as the previous type. Quality varies greatly between types.	Determine the characteristics of the fertiliser, look for the relevant spreading chart and set the spreader again	58, 59
	Dosing setting and flowrate not entered on the 'Spreading Settings 1' screen before work is started	Find the correct values in the spreading chart and enter them	63
	Incorrect application rate, working width and/or letter value discharge point entered	Enter the correct values in the control system	59
	The control system is being operated manually, so it does not perform automatic calibration	Switch to automatic operation	
The speedometer is incorrect or not measuring	Check the sensors and cables and calibrate the wheel sensor or radar	27	
For a tractor without driving speed measurement: the simulated and real driving speeds do not correspond	Adjust the simulated driving speed on the main screen or the real driving speed	27	
Alarm on the control box screen	The control system cannot perform requested function correctly	Refer to paragraph »Alarms« for the meaning and advice	43

Troubleshooting

Problem	Possible cause	Solution	Page
The external system is not communicating with the control box.	RS232 plug does not have the correct connection on the side of the control box for the signal from the external system	Check and modify the plug pin occupation on the side of the control box, see user's manual for control box and external system	
	The control box and external systems are not communicating with each other in the same language	Check the control box settings by means of the external system data, see user's manual for the control box, tractor, Tellus and external system	
	Application rate control by means of an external signal is not connected	Switch on the external signal reception	38
	External system not switched on or incorrectly set	Check external system operation	
Spreader does not appear on the screen	Control box displays another system	Press the switch key to choose the spreader display	25
	Spreader ISO plug not connected	Connect the spreader ISO plug	
	Power supply to the spreader and/or control box interrupted	Check the electrical cables and fuses	

When the lifespan of the machine has finished, its separate parts must be properly disposed of. Keep local legislation in mind with this!

Metal parts

You must deliver all metal parts to a metal recycling company.

Plastic parts

All plastic parts can be disposed of as unwanted garbage.

Oil and grease

You must send oil and grease to a processing company for used oil and grease.

Rubber

Rubber parts such as tyres and hoses must be disposed of at a rubber processing company.

Electronic waste

Electronic waste, such as the electronic control box and the machine boxes, must be disposed of by specialist companies.

Fertiliser

Remaining fertiliser must be stored or disposed of in accordance with the regulations for chemicals.

Liability

Without prejudice to the other stipulations of these General Conditions and the stipulations of the act on product responsibility, the seller is only responsible for damage caused by culpable breach of contract and by unlawful actions in the framework of the regulations below:

1. He/she is completely responsible for damage that result from gross neglect due to his/her own actions or due to gross negligence of his/her legal representatives or supervising employees.
2. He/she can be held responsible for not abiding to the main contractual requirements and to the other requirements of the contract insofar as that is of vital importance for the purpose of the agreement (cardinal requirements) in principle, through each of his/her own culpable acts or through each culpable act of his/her legal representatives or those under his/her supervision, insofar as responsibility is not already indicated under point 1.
3. The seller is also responsible for intentional and gross neglect caused by him/her or by someone under his/her supervision for so far as responsibility has not been determined under point 1 yet. Responsibility for his/her own neglect in terms of simple neglect by his/her legal representatives or on his behalf by people under his/her supervision excluded, will the requirements of point 2 remain valid.
4. Insofar as there is responsibility in terms of points 2 and 3, the extent thereof is limited to normal remuneration for damage incurred.
5. The above regulations under 1 to 4 can be applied to any responsibility with the conclusion of the agreement. These stipulations are limited with retroactive effect to damages based on this legal title.

Complaints

The following stipulations apply, along with national legislation:

- The buyer must check the equipment, accessories and spare parts upon delivery for transport damage and completeness. Any possible shortcomings must be reported without delay.
- The seller will only consider complaints if the buyer reports that in writing within fourteen days after delivery by the seller.
- The buyer must report hidden damage as soon as it becomes visible, but no later than six months after delivery of the equipment. The legal period of limitation remains valid.

Guarantee

You can obtain the applicable guarantee conditions for your machine from your dealer. He is also responsible for the first settlement of guarantee cases.

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Accessories			
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