

Visus

Operating manual

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For software from	1.05
For	-
Reference number	AC753751

Identification of the machine

In order for your dealer to assist you as fast as possible, you will need to provide some information about your machine.

Please enter the details here.

Designation

Visus

Working width

Weight

Machine number

Accessories

Address of dealer

Address of manufacturer

Kverneland Group Soest GmbH
Coesterweg 42
D-59494 Soest
Germany

Tel. +49 (0) 2921/974-0

Preliminary information	4
Safety	4
Instruction	4
Other applicable documents	4
Symbols	5
Safety	6
Familiarising yourself with the device	7
Range of application	7
Characteristics	8
An overview of the device	9
Technical data	11
Functions	11
Delivery and assembly	12
Assembly	12
Connecting	13
Safety	13
Connecting the device	13
Operation	14
Using the keys	14
Basic settings	15
Tramline rhythm instructions	28
Removal, storage	31
Removal	31
Storage	31
Eliminating faults	32
Disposal	34
EC Declaration of Conformity	35
In accordance with EC Directive 2004/108/EG	35
Index	36

Preliminary information

Target group

This operating manual is intended for trained farmers and individuals who are otherwise qualified to perform agricultural activities and who have received instruction in the operation of this machine.

Safety

Study the contents of this operating manual carefully, which are relevant for your activity, before initial operation or assembly of the machine. Always read through the safety instructions in the chapter "Safety" and observe the warning information in the individual chapters. In this way, you will achieve optimum work results and operational safety.

For the employer

Provide instruction in these safety instructions for personnel working with the machine on a regular basis and provide information on statutory regulations. Untrained or unauthorised persons are not permitted to use the machine.

The following are included in this training:

- Checking that staff possess the necessary requirements for safely handling the machine
- Handing out the operating manual and the other relevant and applicable documents or an intensive course of training which, in particular, includes the safe handling of the machine

Regular instruction sessions

Instruct your staff regularly, but at least once a year, concerning the basic procedural measures for safely handling the machine.

Instruction

You will receive training from your dealer concerning using the controls, safe operation and care of the machine. Initial operation without first receiving training is not permitted.

Other applicable documents

In addition to the operating manual, other documents also form an integral part of the machine:

Operating manual of the seeding machine	Integral part of the delivery of the seeding machine
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Symbols

In order to make this manual clear and easy to read, we have used various symbols. They are explained below:

- A bullet point accompanies each item in a list
- ▶ A triangle indicates operating functions which must be performed
- An arrow indicates cross-references to other text passages

[+] A plus sign indicates an accessory that is not included in the standard version.

Pictograms

We have also used pictograms to help you find instructions more quickly:



The warning triangle indicates warning information. Failure to observe these safety instructions can result in:

- Moderate to serious injury
- Fatal injury

You will find the warning information associated with individual operations, where it is important to observe the warning information before these operations are carried out.

In the »Safety« chapter, you will also find safety instructions which are not related to individual operations, but rather are designed to encourage safety-conscious behaviour in various situations.



This sign indicates important instructions regarding the machine. Failure to observe these safety instructions can result in:

- Serious faults in the correct operation of the machine
- Damage to the machine



This symbol indicates information, tips and notes on operation.



This symbol indicates tips for assembly or adjustment work.



This symbol indicates examples that assist a better understanding of the instructions.

Parts in the text which refer to individual machines or to conditions have a coloured background. After the coloured section, the text then again applies to all conditions and machines. For example:

Before folding out only

- ▶ Release the locking mechanism for transport

- ▶ Actuate the control unit

Check the cables

Check cables before connecting them and replace damaged cables. Damaged cables can result in damage to the machine or cause uncontrolled behaviour in the electronic control system.

Observe the temperature range

The device will only operate reliably within the specified temperature range. Higher or lower temperatures cause uncontrolled behaviour in the electronic control system.

Behaviour in the event of faults

Stop working immediately if a fault occurs and switch off the device. Refer to the chapter »Eliminating faults« and attempt to eliminate the fault yourself. Inform our Customer Service Department if the fault cannot be removed. Continuing to operate a faulty machine can cause major damage to the machine and errors in the grain deposit.

Maintenance work

Disconnect from the power supply to the machine before conducting maintenance work. It may prove impossible otherwise to exclude damaging the device.

Familiarising yourself with the device

This chapter contains general information on your machine and information on:

- Range of application
- Characteristics
- Technical data
- Functions

Range of application

The device is designed for use in agriculture. It controls agricultural machinery and devices.

Proper use

The device is designed to be used in conjunction with agricultural machines and devices for controlling and monitoring their functions. Any other use is forbidden.

Mode of operation

Functions can be monitored, and track markers and the setting up of tramlines can be controlled automatically.

Familiarising yourself with the device

Characteristics

Control and monitoring are possible using a terminal in connection with further components on the respective machine which can be matched to the type of machine being used.

The overall system consists of the components:

- Terminal
- Job computer
- Travel sensor
- And possibly other sensor or actuators

The individual functions are shown graphically in the display. We have dispensed with text as far as possible.

Terminal

The terminal serves to enter and monitor seeding values.

Job computer

The job computer creates the connection between the terminal, sensors and actuators. It is mounted on the seeding machine.

Travel sensor

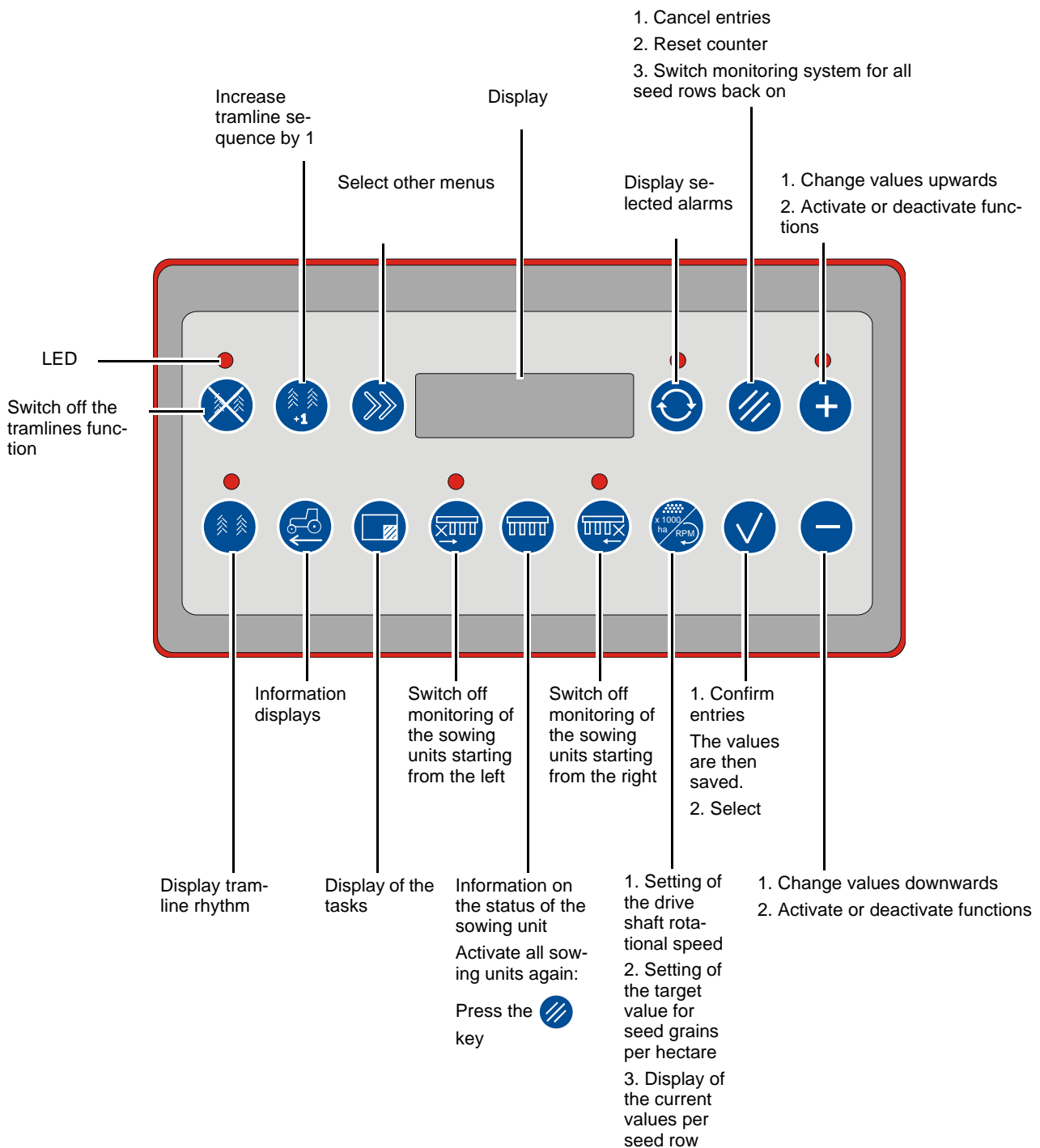
A travel sensor determines the distance travelled.

Familiarising yourself with the device

An overview of the device

Front side

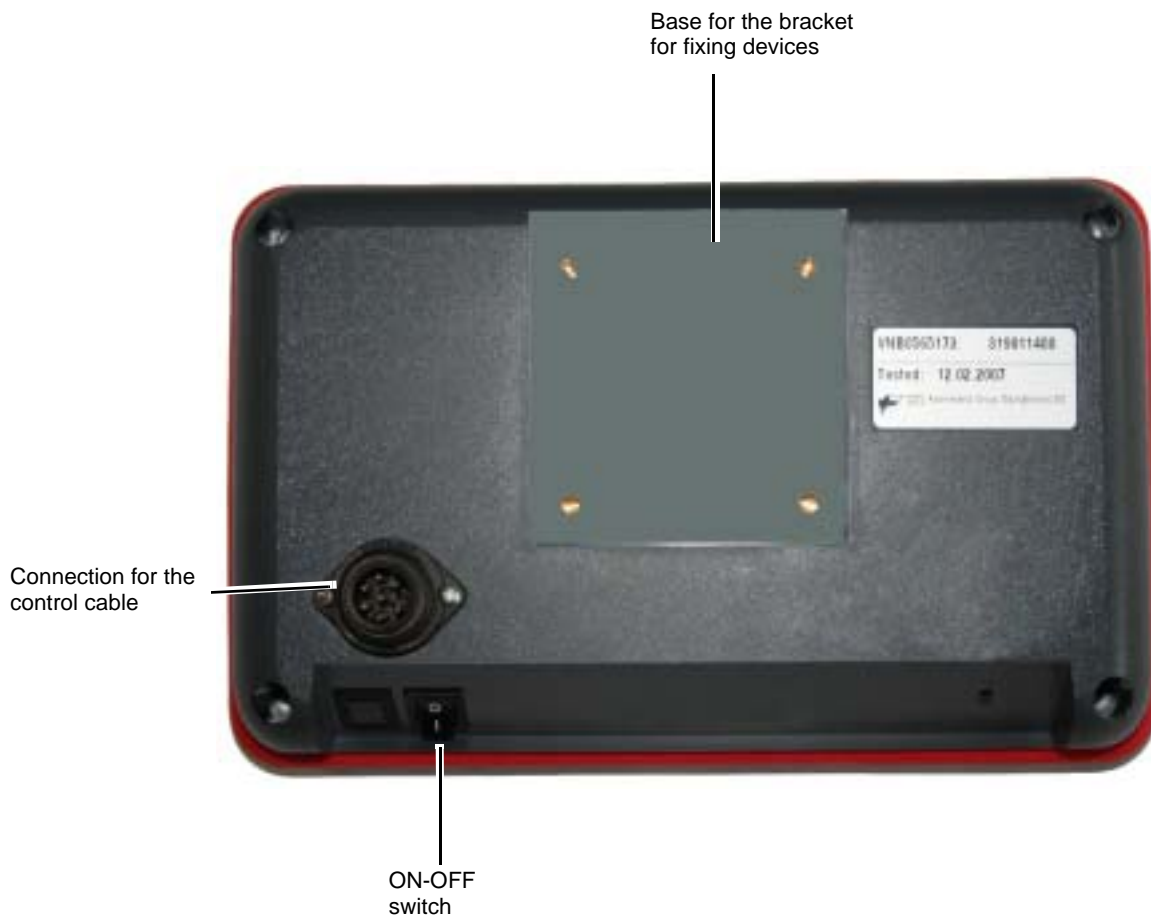
The overview shows the display and all keys which have each been allocated a function. The exact functions involved are described in the appropriate place.



Familiarising yourself with the device

The rear side

The overview shows all connections on the back.



Familiarising yourself with the device

Technical data

Visus	
Power supply [V] DC voltage	12 – 14
Fuse [A] <ul style="list-style-type: none">• Job computer	30
Protection classes <ul style="list-style-type: none">• Terminal• Job computer	IP 54 IP 67
Temperature range [°C]	-10 to +50

Functions

The device has the following functions for pneumatic precision seeding machines:

- Automatic tramlining control system
- Automatic tramlining if pre-emergence marker fitted
- Monitoring of driving speed and power supply
- Determination of the cultivated area
- Display of driving speed
- Display of the rotational speed of the fertiliser metering device shaft

The device has the following functions for mechanical precision seeding machines:

- Automatic tramlining control system
- Automatic tramlining if pre-emergence marker fitted
- Monitoring of driving speed and power supply
- Determination of the cultivated area
- Display of driving speed

Delivery and assembly

Checking the scope of delivery

For the electrical controller:

- Terminal
- Bracket for mounting on tractor
- Power cable from tractor battery, including socket for mounting on tractor



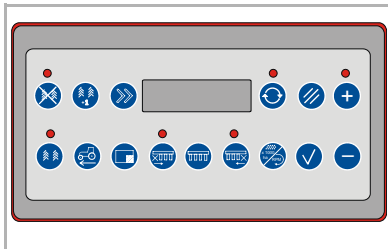
If parts are missing or have been damaged during transportation, please submit a claim immediately to your dealer, importer or the manufacturer.

Assembly

The following items are mounted on the seeding machine at delivery:

- Job computer with connection cable to terminal
- Travel sensor
- Possible additional sensors, which, for example, monitor the rotational speed of the fertiliser metering device shaft

Terminal



Ensure clear visibility

The terminal must not limit the operator's view. Access to all functions of the tractor must remain unimpaired.

Accidents can arise if the operator's view is blocked or there are impairments to operating tractor functions.



Keep a minimum distance

When mounting the terminals, a minimum distance of one metre from mobile telephones, radios or radio antennae must be maintained .

Unpredictable faults could occur if the distance is too small.

- ▶ The terminal should be mounted in the tractor in such a way that you can easily read the display and can easily reach all operating keys

Prerequisites for connecting up the machine are:

- The machine is coupled to the tractor
- All components are fitted in an orderly manner
- All cables and plugs are in perfect condition

Safety



Check the cables

Check cables before connecting them and replace damaged cables.

Damaged cables can trigger unexpected faults.

Observe the temperature range

The device will only operate reliably within the specified temperature range.

Higher or lower temperatures can trigger unpredictable faults.

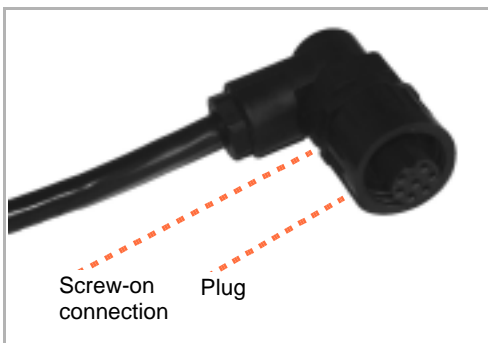
Connecting the device

For operation, it is necessary to connect up two cables:

- Cable from job computer on seeding machine to terminal
- Power cable from job computer to tractor.

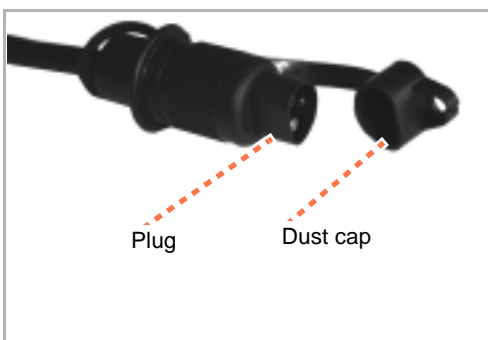
Cable from job computer on seeding machine to terminal

- ▶ Connect plug to the rear of the terminal
- ▶ Secure the plug with screw connections



Power cable from job computer to tractor

- ▶ Remove dust cap
- ▶ Connect plug to socket on tractor



Operation

Switching on

The system is ready to operate after being connected up and can be switched on.



- ▶ Press the On-Off switch on the terminal

The system performs a short self-test. You will then see the current driving speed on the display.

Using the keys

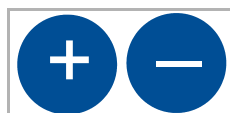
The following is an explanation of the keys required for entering, deleting and confirming.



Key for scrolling through or selecting items in menus



1. Confirm entries
The values are then saved.
2. Select menu items



1. Change values up or down
2. Activate or deactivate functions

Basic settings

A few settings need to be made so that the electronic control system can perform at its best with your machine.

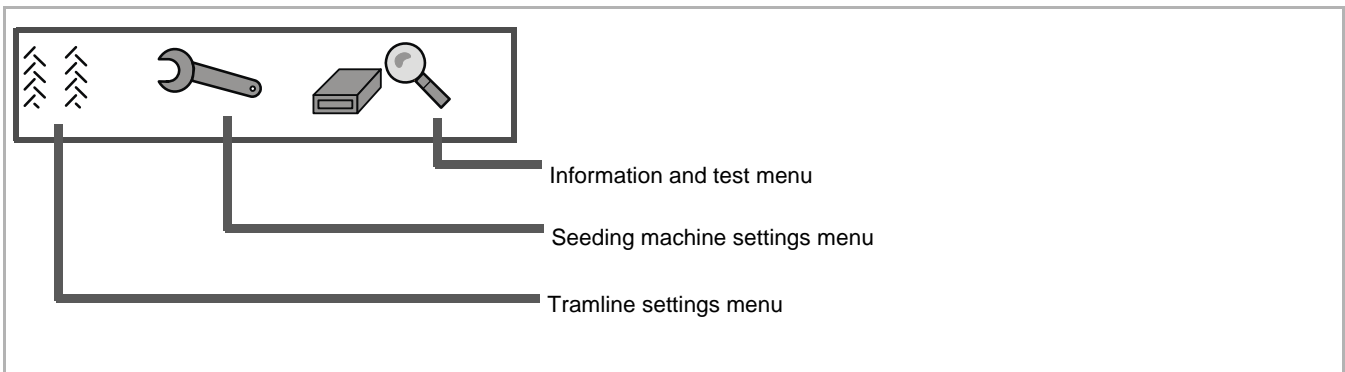


- ▶ Press the key. Press several times to scroll through the options in the selection menu.



- ▶ Press key to select

Selection menu



Tramline settings menu



Tramlines are laid down for spraying/fertilising units such as field sprayers or fertiliser spreaders. The details of the machine's working width are vital for a correct calculation.

→ Chapter »Operation«, section »Seeding machine settings menu«, page 18

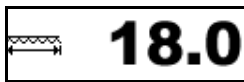
The tramlines are calculated automatically. However, by way of information, we have provided some basic details on setting up tramlines.

→ Chapter »Operation«, section »Tramline rhythm instructions«, page 28



Choose whether to set up tramlines or not

For combinations of the working widths of the machine and spraying/fertilising unit which are not valid for tramlines, the selection will be automatically cancelled.



Working width of the spraying/fertilising unit in metres

For example, field sprayers or fertiliser spreaders

▶ Set the value with  , save with 



Settings may only be carried out by authorised persons. The working width must correspond to the values in the table for the tramline rhythms. If entered incorrectly, the tramlines will not be set up correctly.

→ Chapter »Operation«, section »Seeding machine settings menu«, page 18

Selecting the creation of tramlines

(this will only be displayed when selection is possible)



Setting up symmetrical tramlines

Both marks will be created during one pass.



Setting up asymmetrical tramlines

Just one mark will be set up in one pass.

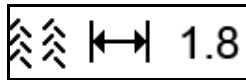


Display of field side where seeding work starts:

Beginning the seeding work at the left side of the field



Beginning the seeding work at the right side of the field



Spraying/fertilising tractor track width

If the spraying/fertilising tractor track width has altered, please contact your dealer.



Settings may only be carried out by authorised persons. The track width must correspond to the values in the table for the tramline rhythms. If entered incorrectly, the tramlines will not be set up correctly.

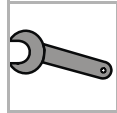
→ Chapter »Operation«, section »Seeding machine settings menu«, page 18



When lowering the machine, the tramline rhythm counts on by 1.

Operation

Seeding machine settings menu



Basic settings refer to machine data which is important for controlling functions or triggering alarms.



Enter the working width of the machine in metres

- ▶ Set the value with , save with



Selecting the travel sensor

Track sensor from seeding machine drive wheel

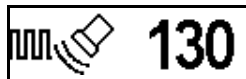


Radar sensor on the tractor



If the seeding machine has a drive wheel: Enter number of pulses over 100 metres

- ▶ Set the value with , save with



If the tractor has a radar sensor: Enter number of pulses over 100 metres

- ▶ Set the value with , save with

There are options for entering values:

1. Calibrating the travel sensor

The travel sensor receives one pulse per rotation of the drive wheel. The travel sensor must first be calibrated in order to assign a number of pulses to a track. To do this, you need to travel exactly 100 m in the field.



- ▶ Press key in the menu. The memory is cleared.
- ▶ Drive exactly 100 m in the field, then save the number of pulses shown by pressing the key.



2. Accepting table values (drive wheel)

The values in the table depend on the outside circumference of the drive wheel on your seeding machine and the soil conditions. The current soil conditions may produce different values. Calibration using the distance actually travelled on the field is more accurate.

Seeding machine	Pulse generator	Pulses/100 m
Monopill	Drive wheel 5.00 – 15	62
Optima	Drive wheel 7.00-12, Drive wheel 26 – 12.00	49, 49
Unicorn	Drive wheel 5.00 – 5	62

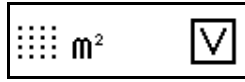
You can find the table values for the radar sensor on the tractor in the relevant operating manual.

Selecting alarms

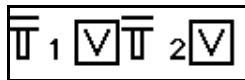
- ▶ Activate or deactivate with  




Activate or deactivate the sensor on the fertiliser metering device shaft.



Selection of whether the display shows grains per square metre or the distance of seed grains in cm
The default display is seed grains in cm.




Switch monitoring of individual sowing units with the opto-sensor on or off

You can switch between the sowing units with the  key.

We recommend that the alarm is always switched on. If you do not wish to monitor individual sowing units, the alarm can be switched off. For example, when individual sowing units are lifted at the edge of the field, so that the full working width is not used to sow.



Two seed rows are shown in the display. For advancing from seed rows 1 and 2 to seed rows 3 and 4, for example, the  key must be pressed three times.



Machines with more than 12 seed rows

Machines with up to 12 seed rows are equipped with one job computer. Machines with more than 12 seed rows are equipped with two job computers.

The second job computer must be activated when Visus is first switched on. To do this, connect through all the seed rows once. If the seed rows are not connected through, they cannot all be monitored. This activation is also necessary after a software update.



PIN

Enter PIN. The subsequent menu items can only be changed using a PIN. Changes should only be made by a trained service technician. Sole responsibility for entries made without the dealer's written authorisation lies with the user.

The set values can be displayed for information purposes without using a PIN.



This menu item can also be changed without a PIN. Increase or decrease the sensitivity of the opto-sensor. For example, frequent false alarms occur in sandy or dusty conditions, so it is practical to decrease the sensitivity of the opto-sensor. In the illustration, the sensitivity of the opto-sensor is now increased.

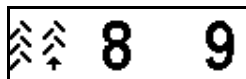


If the opto-sensor is set for decreased sensitivity, the alarm only sounds if the number of individual seeds falls below the target quantity. If the number of individual seeds is above the target quantity, the alarm will not sound.



Display without PIN

With a calculated tramline rhythm, the seed rows which are automatically switched off when setting up the left mark are displayed. The setting depends on the position of the mechanical coupling.



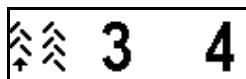
With a calculated tramline rhythm, the seed rows which are automatically switched off when setting up the right mark are displayed. The setting depends on the position of the mechanical coupling.

Input with PIN

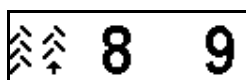
The values correspond to the required position of the mechanical coupling on the machine. Check the position of the mechanical couplings. Should the mechanical couplings not be on the required sowing units, they must be refitted. This refitting may only be carried out by a repair specialist.

In the table, you can find which values are possible:

→ Chapter »Operation«, section »Table for tramline rhythms«, page 21



You can switch between the values with the key. You can set the seed rows which are automatically switched off when setting up the left mark.

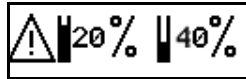


You can switch between the values with the key. You can set the seed rows which are automatically switched off when setting up the right mark.

Table for tramline rhythms

These values are intended for the trained service technician.

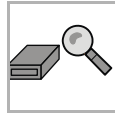
Tramline rhythms Visus SW 1.04														
Machine data 1. Number of rows 2. Row width 3. Tractor width	Sprayer width [m]	Rhythm	Track number where clutches are switched	Start with half of the working width	Symmetric start from field side		Asymmetric start from field side		Start from field side		right side	right side		
					left	right	left	right	left side	right side				
12 rows 45 cm 1.80 m Working width 5.40 m	16.20 m	3+3	2L5R or 2R5L	no	519	418	-	-	-	-	-	-	-	
	21.60 m	4S	2=LR	yes	418	418	-	-	yes	yes	no	no	no	
	21.60 m	4L	2=L 3=R	no	-	-	313	212	-	-	-	-	-	
	21.60 m	4R	2=L 3=R	no	-	-	-	10110	-	-	-	-	-	
	27.00 m	5+5	3L8R or 3R8L	no	418	519	-	-	-	-	-	-	-	
	32.40 m	6S	3=LR	yes	519	519	-	-	-	yes	yes	no	no	
	32.40 m	6L	3=L 4=R	no	-	-	10110	11111	-	-	-	-	-	
	32.40 m	6R	3=L 4=R	no	-	-	-	313	212	-	-	-	-	
	43.20 m	8S	4=LR	yes	418	418	-	-	-	yes	yes	no	no	
	43.20 m	8L	4=L 5=R	no	-	-	313	212	-	-	-	-	-	
	43.20 m	8R	4=L 5=R	no	-	-	-	10110	11111	-	-	-	-	
	12 rows 45 cm 2.25 m Working width 5.40 m	16.20 m	3+3	2=LR & 5=LR	no	419	419	-	-	-	-	-	-	-
21.60 m		4S	2=LR	yes	419	419	-	-	yes	yes	no	no	no	
21.60 m		4L	2=L 3=R	no	-	-	313	313	-	-	-	-	-	
21.60 m		4R	2=L 3=R	no	-	-	-	10110	10110	-	-	-	-	
27.00 m		5+5	3=LR & 8=LR	no	419	419	-	-	-	-	-	-	-	
32.40 m		6S	3=LR	yes	419	419	-	-	-	yes	yes	no	no	
32.40 m		6L	3=L 4=R	no	-	-	10110	10110	-	-	-	-	-	
32.40 m		6R	3=L 4=R	no	-	-	-	313	313	-	-	-	-	
43.20 m		8S	4=LR	yes	419	419	-	-	-	yes	yes	no	no	
43.20 m		8L	4=L 5=R	no	-	-	313	313	-	-	-	-	-	
43.20 m		8R	4=L 5=R	no	-	-	-	10110	10110	-	-	-	-	
12 rows 50 cm 2.00 m Working width 6.00 m		18.00 m	3+3	2L5R or 2R5L	no	519	418	-	-	-	-	-	-	-
	24.00 m	4S	2=LR	yes	418	418	-	-	yes	yes	no	no	no	
	24.00 m	4L	2=L 3=R	no	-	-	313	212	-	-	-	-	-	
	24.00 m	4R	2=L 3=R	no	-	-	-	10110	11111	-	-	-	-	
	30.00 m	5+5	3L8R or 3R8L	no	418	519	-	-	-	-	-	-	-	
	36.00 m	6S	3=LR	yes	519	519	-	-	-	yes	yes	no	no	
	36.00 m	6L	3=L 4=R	no	-	-	10110	11111	-	-	-	-	-	
	36.00 m	6R	3=L 4=R	no	-	-	-	313	212	-	-	-	-	
	42.00 m	7+7	4L11R or 4R11L	no	519	418	-	-	-	-	-	-	-	
	16.20 m	2S	1=LR	yes	7111	7111	-	-	-	yes	yes	no	no	
	16.20 m	2L	1=L 2=R	no	-	-	16116	17117	-	-	-	-	-	
	16.20 m	2R	1=L 2=R	no	-	-	-	313	212	-	-	-	-	
18 rows 45 cm 1.80 m Working width 8.10 m	24.30 m	3+3	2L5R or 2R5L	no	812	7111	-	-	-	-	-	-	-	
	32.40 m	4S	2=LR	yes	7111	7111	-	-	-	yes	yes	no	no	
	32.40 m	4L	2=L 3=R	no	-	-	313	212	-	-	-	-	-	
	32.40 m	4R	2=L 3=R	no	-	-	-	16116	17117	-	-	-	-	
	48.60 m	6S	3=LR	yes	812	812	-	-	-	yes	yes	no	no	
	48.60 m	6L	3=L 4=R	no	-	-	16116	17117	-	-	-	-	-	
	48.60 m	6R	3=L 4=R	no	-	-	-	313	212	-	-	-	-	
	18.00 m	2S	1=LR	yes	812	812	-	-	-	yes	yes	no	no	
	18.00 m	2L	1=L 2=R	no	-	-	16116	17117	-	-	-	-	-	
	18.00 m	2R	1=L 2=R	no	-	-	-	313	212	-	-	-	-	
	18 rows 50 cm 2.00 m Working width 9.00 m	27.00 m	3+3	2L5R or 2R5L	no	812	7111	-	-	-	-	-	-	-
		36.00 m	4S	2=LR	yes	7111	7111	-	-	-	yes	yes	no	no
36.00 m		4L	2=L 3=R	no	-	-	313	212	-	-	-	-	-	
36.00 m		4R	2=L 3=R	no	-	-	-	16116	17117	-	-	-	-	
45.00 m		5+5	3L8R or 3R8L	no	7111	812	-	-	-	-	-	-	-	



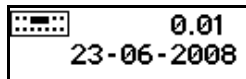
Long black bar:
The values for “increased sensitivity” can be adjusted between 5 % and 40 %. Factory setting: 20 %

Short black bar:
The values for “decreased sensitivity” can be adjusted between 10 % and 60 %. Factory setting: 40 %

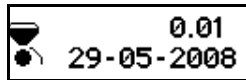
Test menu



The test menu provides a summary of software versions and allows you to check individual seeding machine functions.



Terminal software version



Job computer software version
More software version displays may follow, depending on the configuration.



Voltage [V] at terminal



Voltage [V] at job computer
More power supply displays may follow, depending on the configuration.

Testing sensors

The display switches between 0 and 1 during testing. If the display does not change, the sensor or the signal line is defective. Sensors may or may not be fitted, depending on machine equipment.



Testing drive wheel sensor of seeding machine

- ▶ Turn the drive wheel manually



Test the sensor on the fertiliser metering device shaft

- ▶ Turn the drive wheel manually



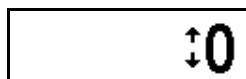
Test the left side sensor on the track marker

- ▶ Lift and lower the track marker



Test the right side sensor on the track marker

- ▶ Lift and lower the track marker





Test the limit switch for the work position

- ▶ For this, lift or lower the machine



A limit switch is only fitted to machines which are equipped for setting up tramlines. The tramline rhythm is controlled using the limit switch.

Test actuators

- ▶ Activate or deactivate with  



Test the magnetic coupling on the left side

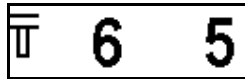


Test the magnetic coupling on the right side

Information for the service technician

Display of the last active opto-sensor

- Left: Number of sowing units
- Right: Number of the last active opto-sensor




Test the operation of the LED displays

- ▶ Press the top left key on the terminal

All LEDs come on.

End the test:

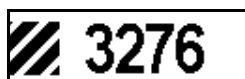
- ▶ Press the  key

PIN

Enter PIN. The subsequent menu items can only be changed using a PIN. Changes should only be made by a trained service technician. The set values can be displayed for information purposes without using a PIN.

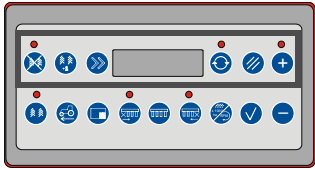


Reverting to factory settings



Total number of prepared fields in hectares

The keys



The keys and functions are described here in turn, running from left to right, as they occur on the terminal.

Switching off the tramlines

The tramline sequence is then not counted any further.

When the key is pressed, its LED comes on to indicate that the tramline sequence is not being increased.

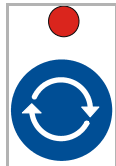


Increasing current tramline sequence by 1



Scrolling

Press several times to scroll through the options in each menu.



Alarm confirmation

The LED above the key stays on until the alarm is confirmed. If several alarms occur at the same time, you can use the key to scroll through the alarm messages.



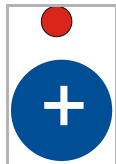
1. Cancel entries

Here, either a previously saved value or one of the factory settings will be used. A new value must be saved in any case.

2. Reset counter

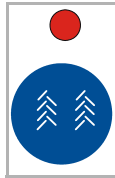
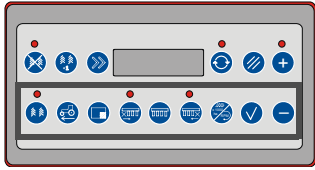
For example, the hectare counter in the tasks can be reset.

3. Switch monitoring system for all seed rows back on



1. Within menus, change values upwards

2. Activate or deactivate functions such as activating or deactivating sensors



Display current pass in tramline rhythm

For example: 2:4 means that 4 passes are needed for a tramline rhythm, and the current pass is no. 2. If a tramline is being set up during the current pass, the LED above the key comes on for information purposes.

If a "0" is shown for the first pass, it is being driven at half working width.

- ▶ Turn off half the working width and begin drilling on the corresponding side of the field. This pass is not counted in the tramline sequence.
- ▶ Drive on the return pass using the complete working width. This is then pass "1" of the tramline sequence. Do not drive in the track marker track, but along the boundary of the surface cultivated in the first pass.



Display of various information:

Press once:	Display of current driving speed This information comes from either the drive wheel on the seeding machine or the radar on the tractor.
Press twice:	Sum of the distance travelled in km
Press three times:	Cultivated hectares per hour
Press four times:	Sum of working hours



Display of the tasks

The total cultivated area in hectares is displayed first. By pressing repeatedly, up to 9 tasks can be displayed.


Activating a task:

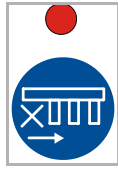
- ▶ Press the  key. The active task is identified by a "+".



Only one task at a time can be active. If a second task is activated, the original task is then automatically deactivated. The value is saved when the computer is switched off.


Delete the task data for each of the tasks viewed:

- ▶ Press the  key



Switch off monitoring of the sowing units starting from the left
When the key is pressed, its LED comes on to indicate that at least one sowing unit has been switched off.


Activate monitoring for all sowing units:

- ▶ Press the  key




Display of information on which sowing units are being monitored and which sowing units are not.

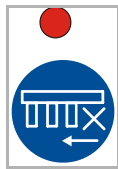
Activate monitoring for all sowing units:

- ▶ Press the  key




Machines with more than 12 seed rows

To display the seed rows which are monitored by the second job computer (greater than 12), press the  key twice.






Switch off monitoring of the sowing units starting from the right
When the key is pressed, its LED comes on to indicate that at least one sowing unit has been switched off.

Activate monitoring for all sowing units:

- ▶ Press the  key



<p>Press once:</p> 	<p>Display of the current drive shaft rotational speed for the fertiliser metering device and entry of the target value for an alarm.</p> <p>Transfer the displayed value to a target:</p> <ul style="list-style-type: none"> ▶ Press the  key <p>The value can be set with the  key; an alarm is triggered below this predefined value.</p>
<p>Press twice:</p>	<p>Set the target of released seed grains per hectare. It can also be set to display the distance of the seed grains in the row.</p>
<p>Press three times:</p>	<p>Displays the current values for each sowing unit of individual seed discharged per hectare. The value is calculated from the data from each opto-sensor.</p> <p>A different sowing unit is automatically displayed every 7 seconds. During operation, the terminal automatically switches from other screens to this display.</p>



1. Confirm entries

The values are then saved. The old values are not changed unless this key is pressed.

2. Select menu items



1. Within menus, change values downwards

2. Activate or deactivate functions such as activating or deactivating sensors

Tramline rhythm instructions

The correct tramline rhythm is calculated automatically from the combination of the working widths of the seeding machine and the spraying/fertilising unit. This chapter is just for information purposes.

The tramline rhythm defines when tramlines are to be set up on the field. The number of blocked coulters is determined by the track width and tyre width of the tractor you use for fertilising and spray work. At the factory, all settings are based on the information you provided at the time you ordered the machine.



If the working width of the spraying/fertilising unit or the tractor's track width changes, please contact your dealer.

Basics

Before you can set up tramlines, it may be necessary to make alterations to the seeding machine. This is always required if you want the tramlines for the spraying/fertilising unit to be different from the previous width. If necessary, have the modifications performed before setting up the tramlines.

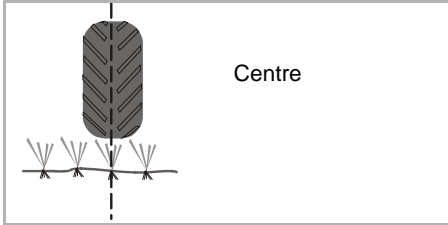
The tramline rhythm is calculated from the ratio of the spraying/fertilising unit working width and that of the seeding machine.



Example of calculating the tramline rhythm	
Working width of the field sprayer	20 m
Working width of the seeding machine	4 m
Calculation	$20/4 = 5$
Resulting tramline rhythm	5

The working width ratio may also result in a remainder.

Setting up tramlines



Setting tramlines by blocking the sowing units is dependent on:

- The tractor's track width
- the width of the spraying/fertilising unit, and
- The row spacing

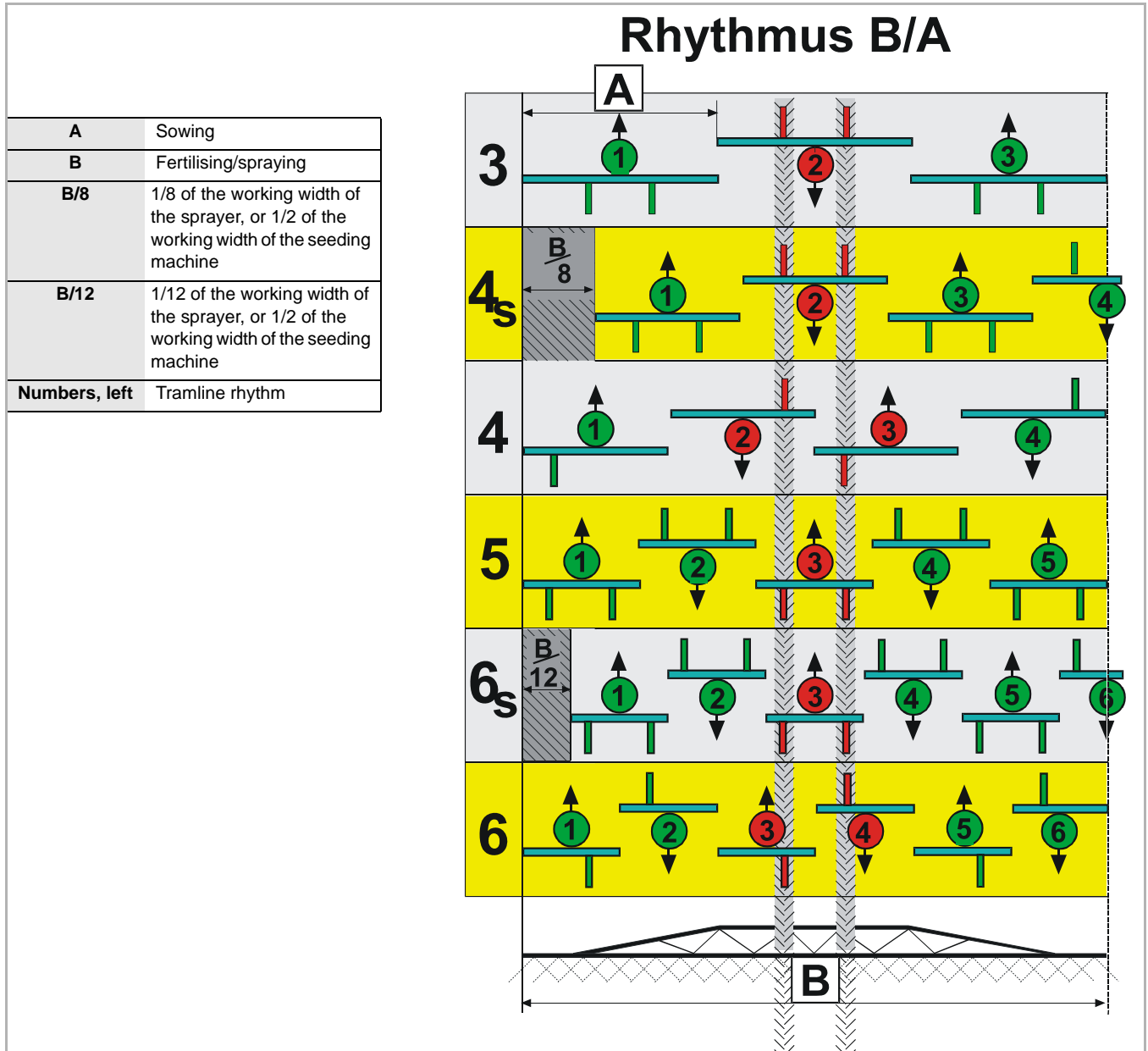
Drive over the centre of a seed row



Select the number of blocked seed rows so that the tractor tyres do not drive over any seed rows.

Operation

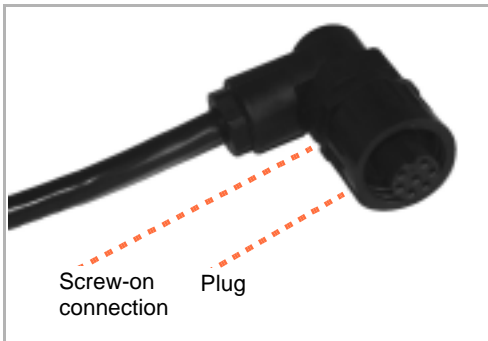
The following illustration contains several examples of tramline rhythms.



Select the correct side of the field

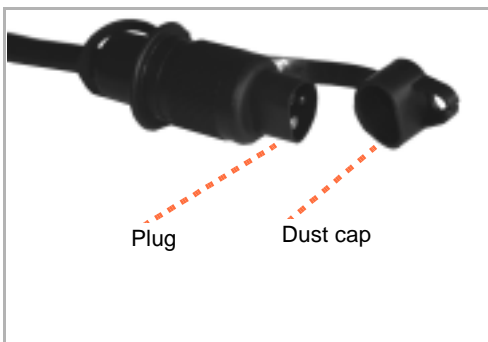
Ensure that you choose the correct side of the field for the first pass.
 If you start on the wrong side of the field, the spraying/fertilising unit will not fit in the tramlines.

Removal



Cable from job computer on seeding machine to terminal

- ▶ Release the screw-on connection
- ▶ Remove plug from rear of terminal



Power cable from job computer to tractor

- ▶ Remove plug from socket on tractor
- ▶ Slip on dust protection cap






Storage

There should be no major fluctuations in temperature where the terminal is stored. The temperature range figures given in the technical data should be observed during storage as well. A dry and frost-free storage location is a prerequisite for a long service life of the device.

Eliminating faults

Faults can often be eliminated in a fast and easy manner. Before calling Customer Service, refer to the table below to check whether you can eliminate the fault yourself.

Fault	Cause	Remedy
The device cannot be switched on	The poles of the supply voltage are reversed	<ul style="list-style-type: none"> • Have the polarity checked
	Power supply interrupted	<ul style="list-style-type: none"> • Check the connector cable • Check the terminals on the battery • Check the fuse • If required: Replace the 30 A fuse • Connect the power cable if the power supply was disconnected • Check the voltage: The supply voltage must be 12 – 14 V
	System failure	Inform the Customer Service
No read out on the display Terminal displays unexpected values	No power to display	Start the device again. If, after restarting, there is still nothing shown in the display or the display cannot be changed, send the device back to the manufacturer.
	A mobile telephone, radio or radio antenna is operating too close to the device	Keep a minimum distance of 1 metre
Speed is not displayed or is displayed too low	Entry of an pulse missing	Enter pulse details
	Cable on the wheel sensor is defect or the wheel sensor is defective	Check cable and replace if necessary
	Terminal is defective	Inform the Customer Service

Fault	Cause	Remedy
<p>If you get an alarm message, stop and search for the cause of the alarm. Alarms can be confirmed using the  key. The audible warning signal will stop and you can look for and eliminate the cause of the alarm without being disturbed.</p>		
	<p>Insufficient voltage supply for the job computer</p>	<p>Check the battery</p> <p>Check the opto-sensor if the indicator shows "0"</p>
	<p>Different software versions in main distributor and terminal</p>	<p>Inform the Customer Service</p>
	<p>Error in the linkage between the machine and the terminal</p>	<p>Check the lines and the linkages</p>
	<p>Higher deviation in the amount of seed released than specified in the target quantity</p> <p>The number of seed rows is also shown</p>	<p>Check the seeding heart and verify the settings in the software</p> <p>It is possible that the opto-sensor is defective</p>
	<p>The metering device drive shaft turns slower than specified</p>	<p>Check the fertiliser spreader metering device for clogging or blockages</p> <p>Increase the driving speed</p>

When the service life of your device is over, it must be properly disposed of. Please observe the currently valid disposal regulations.

Plastic parts

The plastic parts can be disposed of in the normal domestic waste depending on specific national regulations (residual waste).

Metal parts

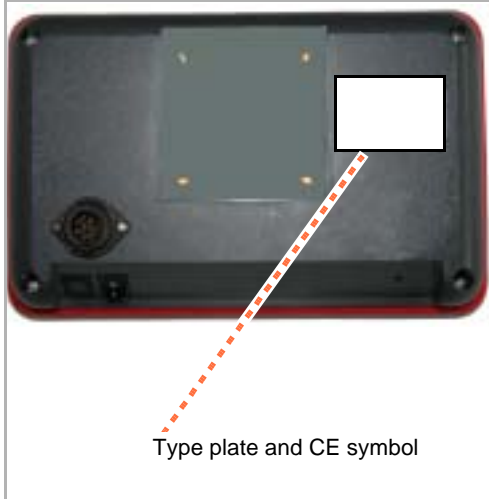
All machine components can be sent for scrap metal recycling.

Electronics

The printed circuit board is classified as electronic waste and must be disposed of as special waste. If there is no special waste handling facility in your area, you can return the electronic component to the manufacturer for proper disposal. It will then be disposed of in an environmentally-friendly manner.

EC Declaration of Conformity

In accordance
with EC Directive
2004/108/EG



Kverneland Group Soest GmbH
Coesterweg 42
D-59494 Soest

declares under its sole responsibility that the following product complies with EC Directive 2004/108/EC:

Visus

Kverneland Group Soest GmbH
Soest, 24.02.2015

Friedrich Pehle
Managing Director

Index

A

Alarms 33

B

Basic settings 15

C

Conformity Declaration 35

Connecting 13

Connections 10

D

Display 9

Disposal of the device 34

E

Eliminating faults 32

Employer 4

F

Front side 9

I

Instruction 4

M

Mode of operation 11

R

Range of application 7

Removal 31

S

Safety 6

Scope of delivery 12

Switching on 14

Symbols 5

T

Technical data 11