

INSTRUCTION MANUAL



**Please read carefully
before using the ma-
chine.**

Keep for future reference.

This instruction manual/assembly instruction is to be considered as part of the machine. Suppliers of new and second-hand machines are required to document in writing that the instruction manual/assembly instruction was delivered with the machine and handed over to the customer.

GPS CONTROL

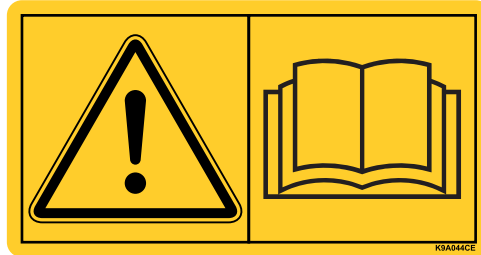
Original instructions

5903026-a-en-0220

Preface

Dear customer

By purchasing this **CCI 800 terminal** and the GPS Control **machine control unit**, you have shown confidence in our product. Thank you very much! We want to justify this confidence. You have purchased a powerful and reliable product. If any unexpected problems should occur: Our customer service team is always there for you.



Please read this operator's manual as well as the operator's manual of the implement carefully before commissioning and follow the advice given.

This manual may also describe equipment that is not included in your **machine control unit**.

Please note that damage caused by incorrect operation or improper use may not be covered by warranty claims.

Technical improvements

We are continuously improving our products. Therefore, we reserve the right to make any improvements and changes to our machine that we consider necessary without notice. This constitutes no obligation to make such improvements or changes on machines that have already been sold.

We will be pleased to answer any other questions that you might have.

Yours sincerely

RAUCH

Landmaschinenfabrik GmbH

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1 User instructions

1.1 About this operator's manual

This operator's manual is an **integral part** of the control unit.

The operator's manual contains important instructions for **safe, proper** and economic **use** and **maintenance** of the control unit. Compliance with its stipulations helps to **avoid risks**, reduce repair costs and downtime and to increase the reliability and service life of the machine controlled with it.

The operator's manual must be kept in an easily accessible location close to where the control unit is used (e.g. on the tractor).


The operator's manual does not replace your **own responsibility** as the operator and operating personnel of the control unit.

1.2 Notes on the depiction of information in this manual

1.2.1 Significance of warnings

The warning instructions in this manual have been structured according to the degree of danger and the probability of their occurrence.

Danger signs and symbols inform the user about other construction-related and unavoidable residual risks that may be encountered when operating the machine. The warning notes used are structured as follows:

Signal word	
Symbol	Explanation
Example	
⚠ DANGER	
	<p>Risk to life if warning is not observed</p> <p>Description of the danger and possible consequences.</p> <p>Ignoring these warnings will result in very serious or even fatal injury.</p> <p>► Measures to prevent the danger.</p>

Warning severity level

The degree of danger is indicated by the signal word. The levels are classified as follows:

⚠ DANGER



Type and source of danger

This warning warns of a danger posing an immediate threat to the health and life of persons.

Ignoring these warnings will result in very serious or even fatal injury.

- ▶ Always observe the measures described to prevent this danger.

⚠ WARNING



Type and source of danger

This warning warns of a possible dangerous situation for the health of persons.

Ignoring these warnings will result in very serious injury.

- ▶ Always observe the measures described to prevent this danger.

⚠ CAUTION



Type and source of danger

This warning warns of a potentially dangerous situation for personal health or of material and environmental damage.

Ignoring this warning can result in injuries and damage to the product or the general area.

- ▶ Always observe the measures described to prevent this danger.

NOTICE

General information containing application tips and particularly useful information, but which constitutes neither warnings nor hazards.

1.2.2 Instructions and procedures

Steps that the operator must carry out are shown as a numbered list.

1. Instruction for action step 1
2. Instruction for action step 2

Instructions involving only one step are not numbered. The same applies for action steps that do not have a specific sequence.

A bullet is placed in front of these instructions:

- Handling instruction

1.2.3 Listings

Listings without a specific sequence are shown with bullet points (level 1) and dashes (level 2):

- Property A
 - Point A
 - Point B
- Property B

1.2.4 References

References to other text passages in the document are indicated with section number, headline text and page number:

- **Example:** See also Chapter [3: Safety, page 5](#).

References to other documents are indicated as note or instruction without exact chapter or page number:

- **Example:** Please also observe the instructions contained in the manual for the universal drive shaft.

1.2.5 Menu hierarchy, keys and navigation

The menus list **sub-menus** and/or **menu items** where settings can be made (selection lists, text or number entries, starting a function).

The various menus and function keys are illustrated in **bold** letters:

- Example: Open the **selection menu**.

The hierarchy and the path to the requested menu item are marked with > (arrow) between menu, sub-menu and the menu item:

- **Settings > General** means that the menu item **General** can be accessed via the menu **Settings**.

2 Layout and function

2.1 Supported implements and control units

- All **AXIS** spreaders with
 - QUANTRON-A version 3.40.00 or higher
 - QUANTRON-E2 version 3.03.00 or higher
- CCI 800 version CCI.OS 2.0.3 or higher

2.2 CCI 800 ISOBUS terminal, overview

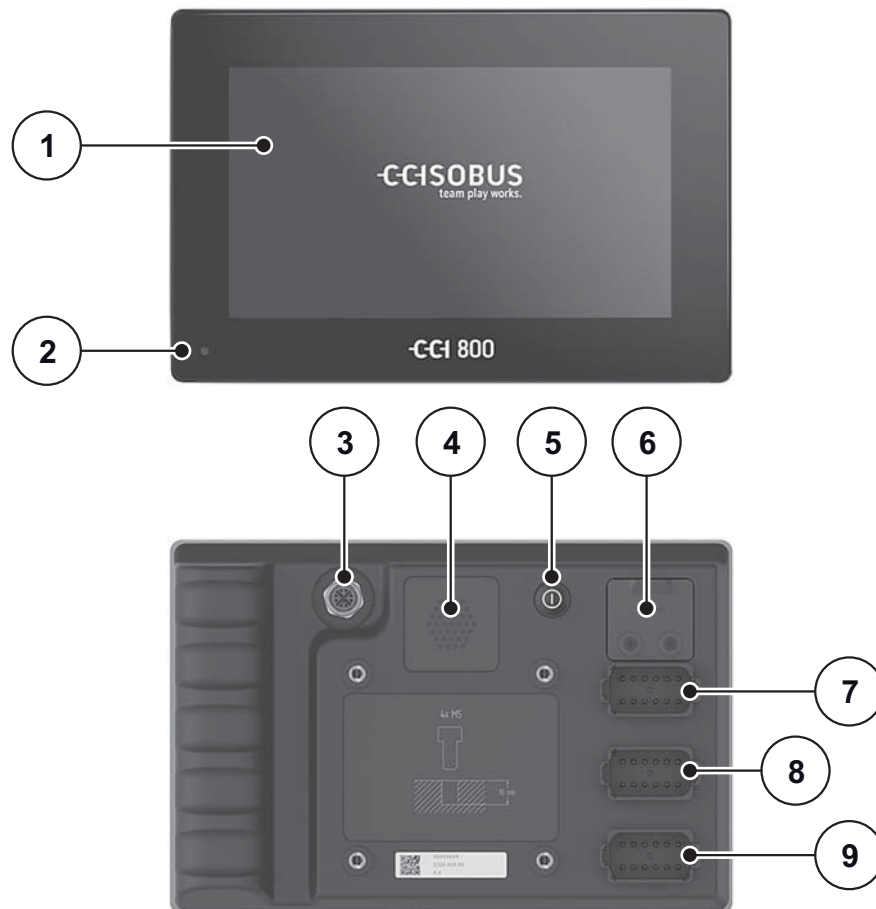


Figure 2.1: CCI 800, overview

- [1] 8" touch screen
- [2] Light sensor
- [3] Ethernet port
- [4] Buzzer
- [5] ON/OFF button
- [6] USB 2.0
- [7] Port C: Camera, video multiplexer
- [8] Port B: Signal socket, GPS
- [9] Port A: ISOBUS, supply voltage, ECU power

For a detailed description of the terminal, please refer to the CCI.OS x.x operator's manual.

2.3 Operating screen

The display shows the current status information as well as the selection and input options for the CCI 800 terminal.

The basic information on the operation of the implement are displayed in the **operating screens** and the subordinate menu screens.

Operating screen description

NOTICE

The exact representation of the operating screen depends on the actual settings selected.

- For additional information and display options, refer to the CCI.OS x.x. operator's manual.
- The CCI.OS x.x operator's manual is included in the scope of delivery. If it is missing, please contact your salesperson.

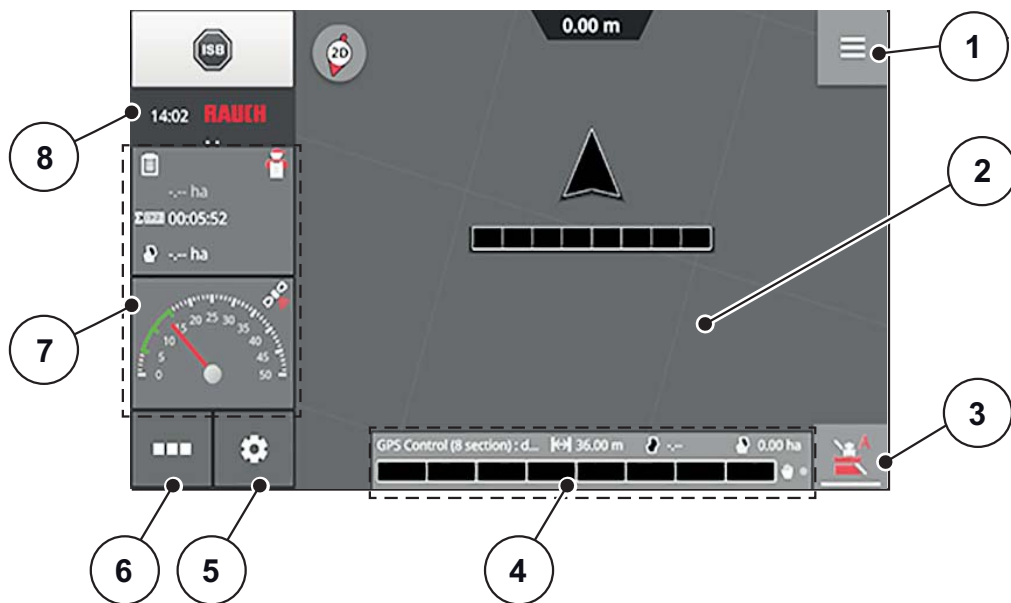










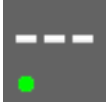

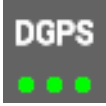



Figure 2.2: CCI 800 Operating screen panes (example)

- [1] Burger menu
- [2] Standard view
- [3] Section Control (switch between manual and automatic mode)
- [4] Implement and job information
- [5] Setting menu
- [6] App menu
- [7] Mini view
- [8] Status bar (switchable between time and status information)

2.4 Library of symbols used

The screen of the CCI 800 terminal displays symbols for menus and functions.

Symbol	Meaning
	Setting menu
	App menu
	Burger menu
	CCI.Config - Implement settings
	CCI.Command - Maps
	CCI.Control - Data management
	Section Control - Automatic section control Switch between manual and automatic mode (green bar: automatic mode is active)
	CCI.Help
	No GPS signal - GPS receiver not connected
	GPS signal received - GPS receiver connected
	GPS signal invalid
	GPS signal received, GPS standard accuracy
	GPS signal received, DGPS accuracy
	Back to the previous screen

3 Attachment and installation

3.1 Preconditions

3.1.1 Tractor

Before installing the terminal, ensure that your tractor meets the following requirements:

- A minimum voltage of **12 V** must **always** be guaranteed, even if multiple loads are connected simultaneously (e.g. air conditioning system, lights).
- The tractor must be equipped with a 3-pin power supply socket (DIN 9680/ISO 12369).
- The QUANTRON-A/E2 control unit is installed.

3.1.2 Software

- The implement settings must be entered in the QUANTRON-A/E2 control unit.
- The section control software license is available.

3.1.3 GPS antenna

- The tractor or implement is fitted with a GPS antenna.

3.2 CCI 800 connection

Proceed in the following order.

- Connect the CCI 800 terminal to the fertiliser spreader.
 - see [“Schematic connection diagram” on page 11](#).
- Select a suitable position in the tractor cabin (within **the driver's field of vision**) to attach the CCI 800 terminal.
- Secure the CCI 800 terminal with the **mounting bracket** in the tractor cabin.
- Connect the power supply from the tractor to **port A** of the terminal.
- Connect the null modem cable (RS232 interface) to **port C** of the control unit (QUANTRON-A/E2 and forward speed sensor).

NOTICE

To use the GPS Control functions of the QUANTRON-A/E2, the serial communication must be activated in the **System/test** menu, sub-menu **Data transmission**, sub-menu item **VRA GPS control!**

⚠ CAUTION



Damage caused by short circuits

The GPS receiver can be damaged if it is connected to a running control unit.

- ▶ The GPS receiver may only be connected to **switched-off** control units.
-

- Connect the GPS receiver to **port B** of the control unit.

Schematic connection diagram:

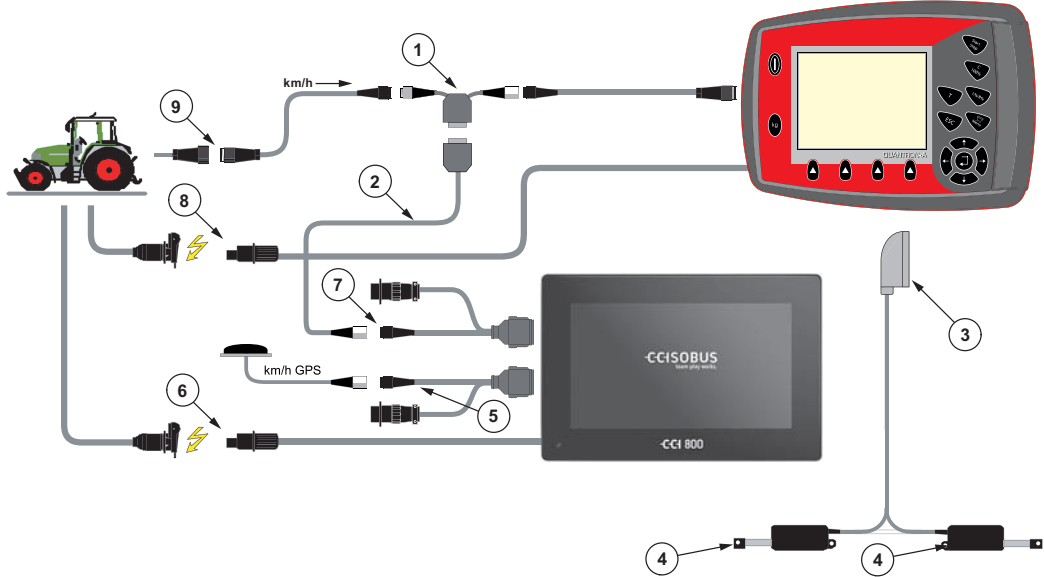


Figure 3.1: Schematic connection diagram

- [1] Y cable (V24 RS232 interface)
- [2] Cable M8 to Sub D9
- [3] 39-pin machine plug
- [4] Metering slide actuator left/right
- [5] GPS cable and receiver
- [6] CCI 800 power supply
- [7] Null modem cable (V24 RS232 interface)
- [8] QUANTRON-A/E2 power supply
- [9] 7-pin plug connector conforming to DIN 9684

3.3 GPS setup

For use of GPS position data, the GPS device settings must be made. The detailed procedure is described in the CCI.OS x.x operator's manual.

- Set the GPS device as described in the CCI.OS x.x operator's manual.

4 Operation GPS Control

4.1 Activating the terminal

Preconditions:

- The terminal is correctly connected to the implement and the tractor (see chapter [3.2: CCI 800 connection, page 10](#)).
 - A minimum voltage of **12 V** is guaranteed.
1. Press the **ON/OFF button** at the rear of the terminal.
 - ▷ After a few seconds, the **start-up screen** with the application that was last used is displayed.

4.2 Basic settings (CCI 800)

Before starting to spread, specify the implement and the settings you are working with.

1. Open the operating screen of the terminal.



Figure 4.1: Operating screen (not connected)

1. Press **Mini view** (window with tachometer) [1].
 - ▷ The **CCI.Config** is displayed.

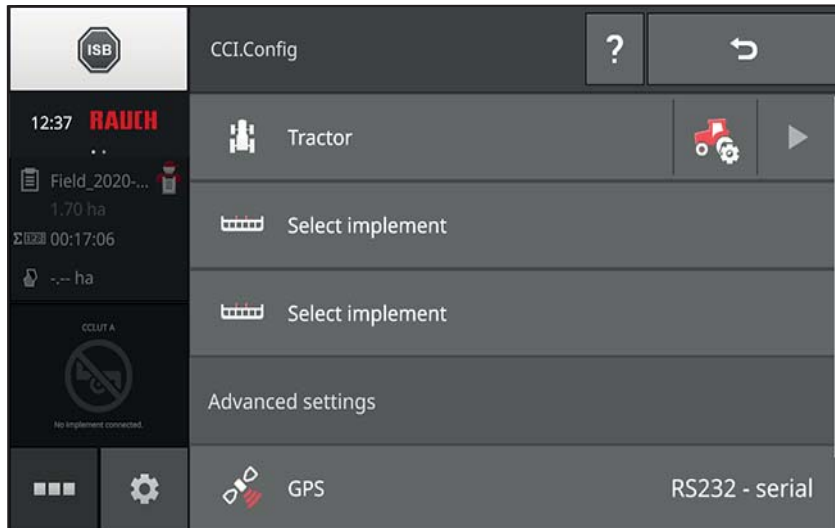


Figure 4.2: CCI.Config menu

2. Scroll down. Select the **CCI.Convert** [2] menu item.

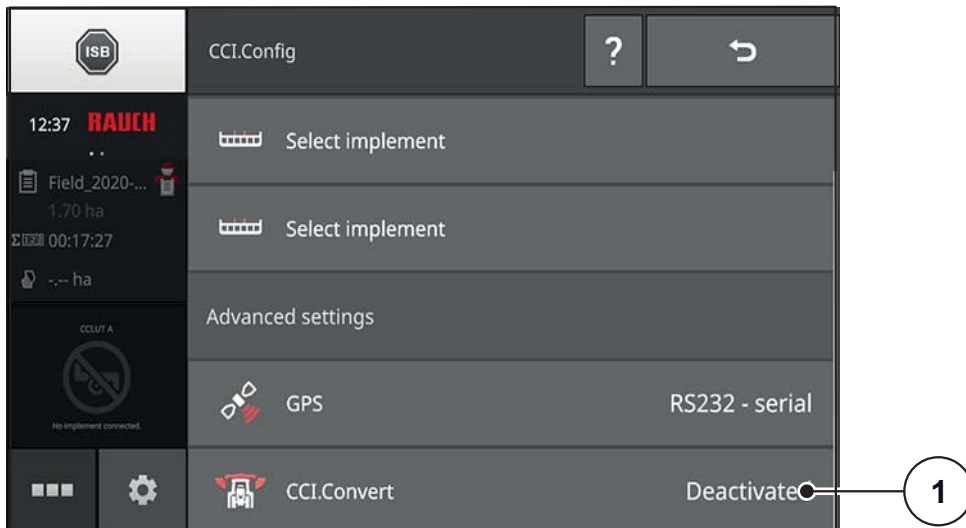


Figure 4.3: CCI.Config menu, bottom

3. Activate **CCI.Convert** [3].

▷ The serial interface is automatically selected.

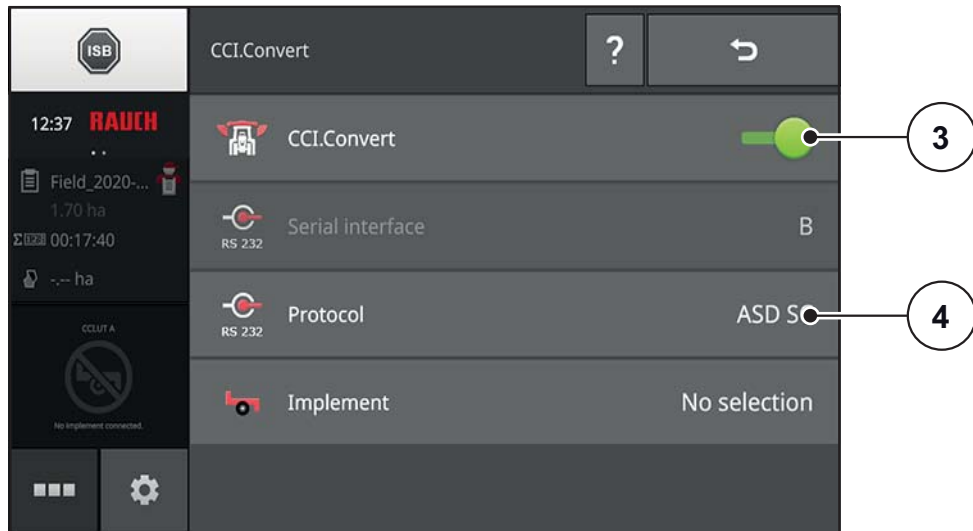


Figure 4.4: CCI.Convert menu

4. Return to **CCI.Config** menu.

5. Select the **Protocol** [4] menu item.

6. Enable **ASD Section Control** [5].

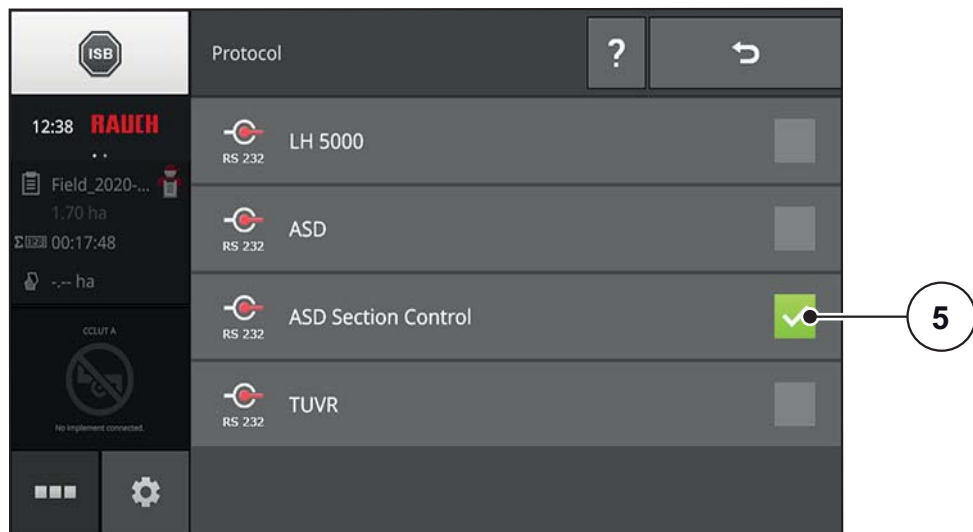


Figure 4.5: Menu protocol

7. Return to **CCI.Config** menu.

8. Select the **Implement** [6] menu item.

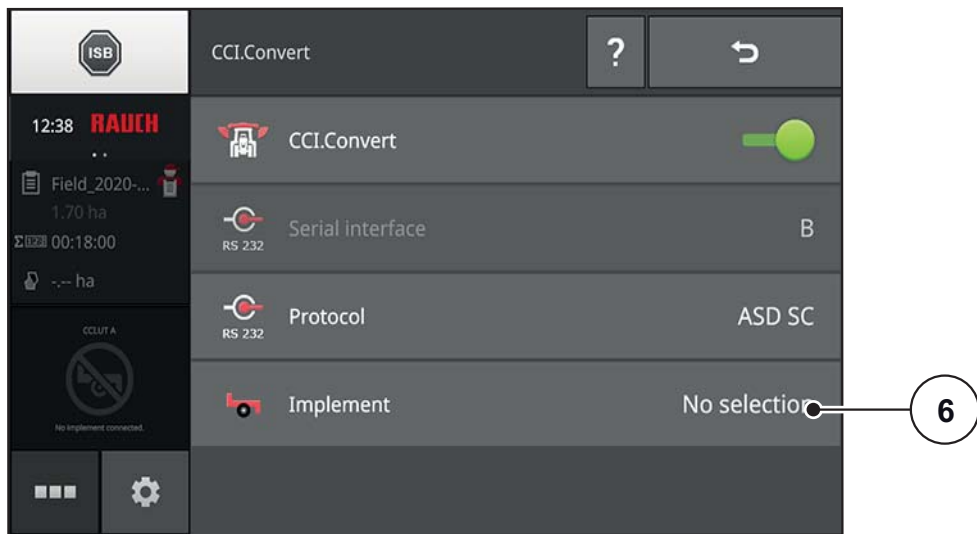


Figure 4.6: CCI.Config menu

9. Enable **Automatically select the implement** [7].

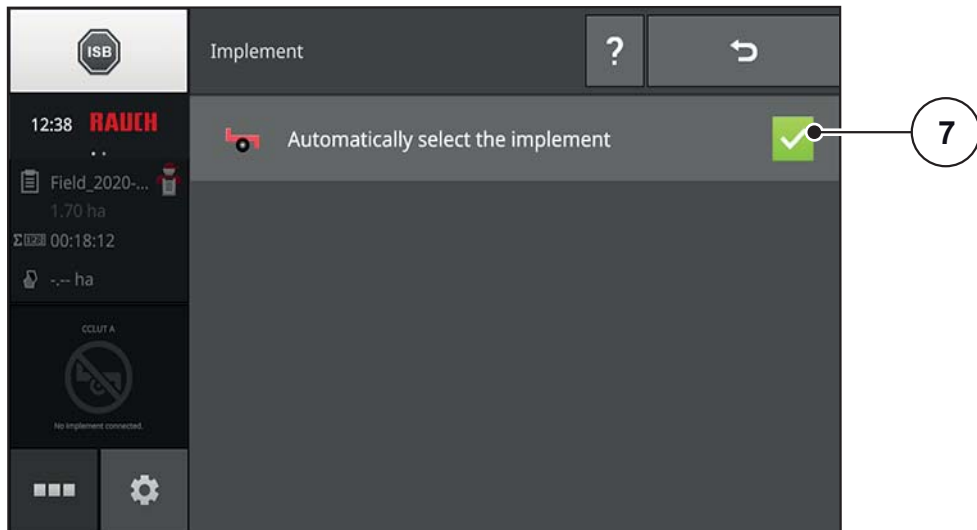


Figure 4.7: Implement menu

10. Return to **CCI.Config** menu.

4.3 Data transmission settings (QUANTRON-A/E2)

The type of data transmission is set at the **QUANTRON-A/E2** control unit.

1. At the control unit in **system/test** menu, open the **Data transmission** sub-menu.
2. Enable **VRA GPS control**.
 - ▷ **VRA GPS control** is activated.

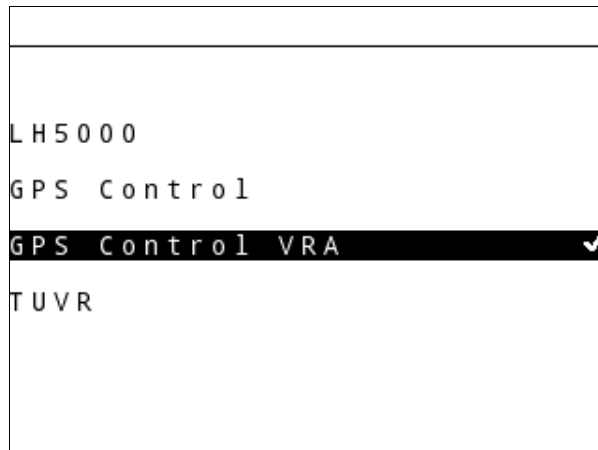


Figure 4.8: QUANTRON-A/E2 data transmission menu

NOTICE

For correct communication at QUANTRON-A/E2, section control must be set to type **DIST./LENGTH**. For the correct setting, please contact your salesperson.

3. Return to the operating screen.

4.4 Checking the implement settings (CCI 800)

Within a few seconds, the values are transmitted from the QUANTRON-A/E2 control unit to the terminal.

If the transmission is finished, the implement name **GPS Control (XX section)** is displayed in the **CCI.Config** menu. All values preset and calculated at the control unit are applied in the profile of this implement.

NOTICE

The views described in this chapter are intended for verification of automatically transmitted values. **No inputs need to be made.**

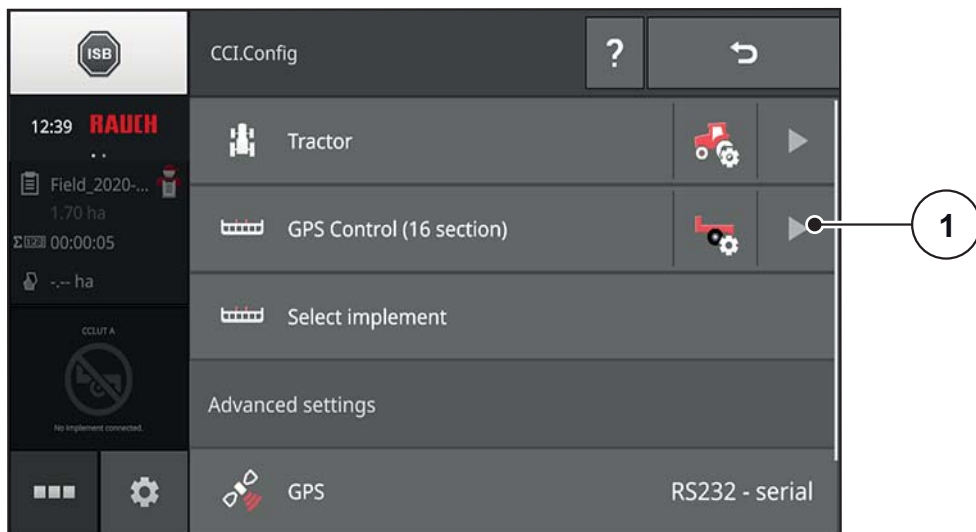


Figure 4.9: CCI.Config menu

1. Press the arrow in line **GPS Control (XX section)** [1].
 - ▷ A schematic illustration with the layout of the implement and the most important values is illustrated.

2. Select the light grey field with the schematic illustration [2].
 - ▷ The implement settings menu is displayed.

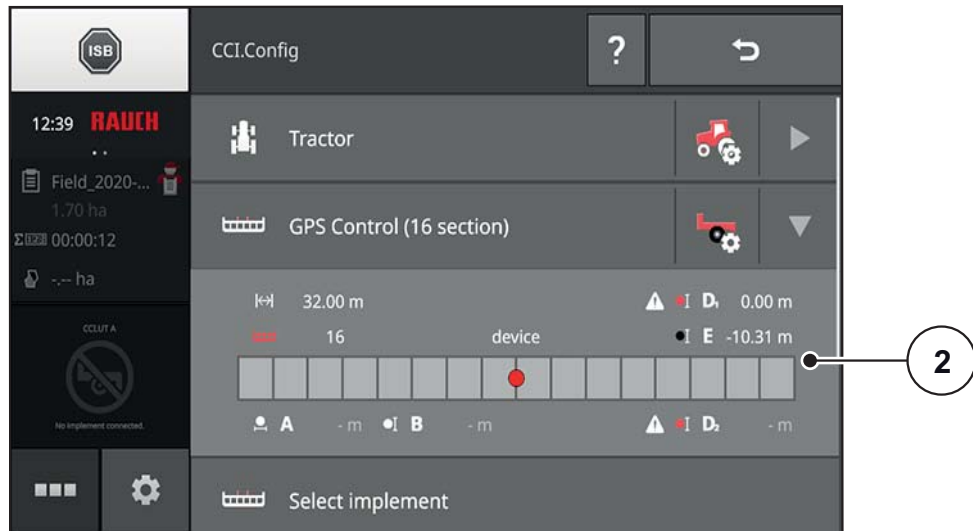


Figure 4.10: Schematic illustration of the implement

3. Select the **Section geometry** [3] menu item.
 - ▷ A table with the section values is displayed (see CCI.OS x.x operator's manual).
This table generally complies with the **VariSpread calculation** table at the QUANTRON-A/E2 control unit.

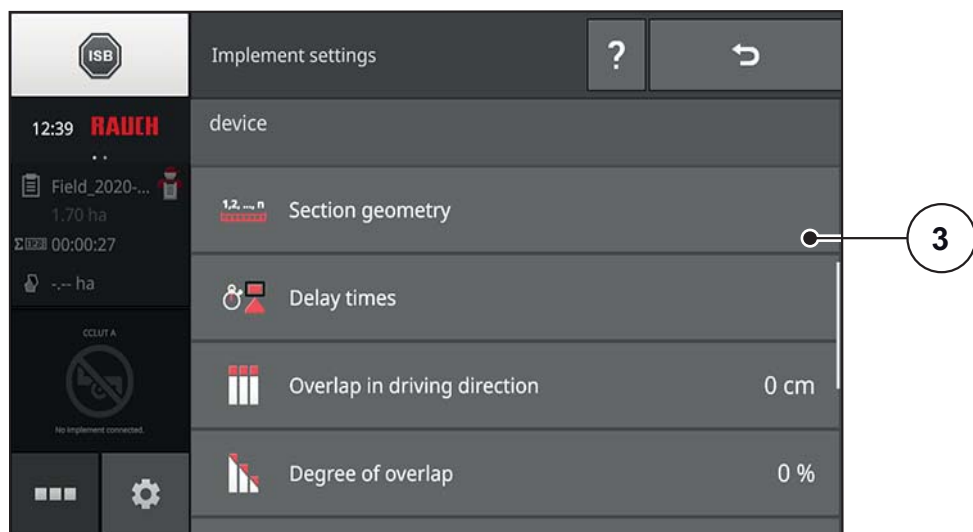


Figure 4.11: Implement settings menu

1		1	2	3	4	5	6	7	8
2		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3		0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4		-	-	-	-	-	-	-	-
5		-	-	-	-	-	-	-	-
6		-	-	-	-	-	-	-	-
7		-	-	-	-	-	-	-	-
8		-9.73	-9.73	-9.73	-9.73	-9.73	-9.73	-9.73	-9.73
9		-10.50	-7.50	-4.50	-1.50	1.50	4.50	7.50	10.50

Figure 4.12: Section geometry table

- [1] Number of section (in direction of travel from left to right)
- [2] Working width of section (m)
- [3] Working depth of sections (m, corresponds to the "Length" value in GPS Control info)
- [4] Delay ON (ms)
- [5] Delay ON (ms), customised
- [6] Delay OFF (ms)
- [7] Delay OFF (ms), customised
- [8] Distance E (m, corresponds to the "Distance" value in GPS Control info)
Distance between reference point of the implement and centre of the section **in the direction of travel**
- [9] Distance F (m)
Distance between reference point of the implement and centre of the section **transversely to the direction of travel**

4.5 Spreading work

During spreading in **Automatic** mode, the sections are opened and closed automatically.

1. Press the **Section Control** function key at the terminal [2].
 - ▷ **Automatic** mode is active.
2. Press the **Start/Stop** function key at the QUANTRON-A/E2 control unit.
3. Start spreading.
 - ▷ The metering slides open and close automatically.
 - ▷ At the terminal, the status of the metering slides is displayed by machine bars in different colours [1 and 7].
 - Blue: Section activated, metering slides open
 - Black: Section deactivated, metering slides closed

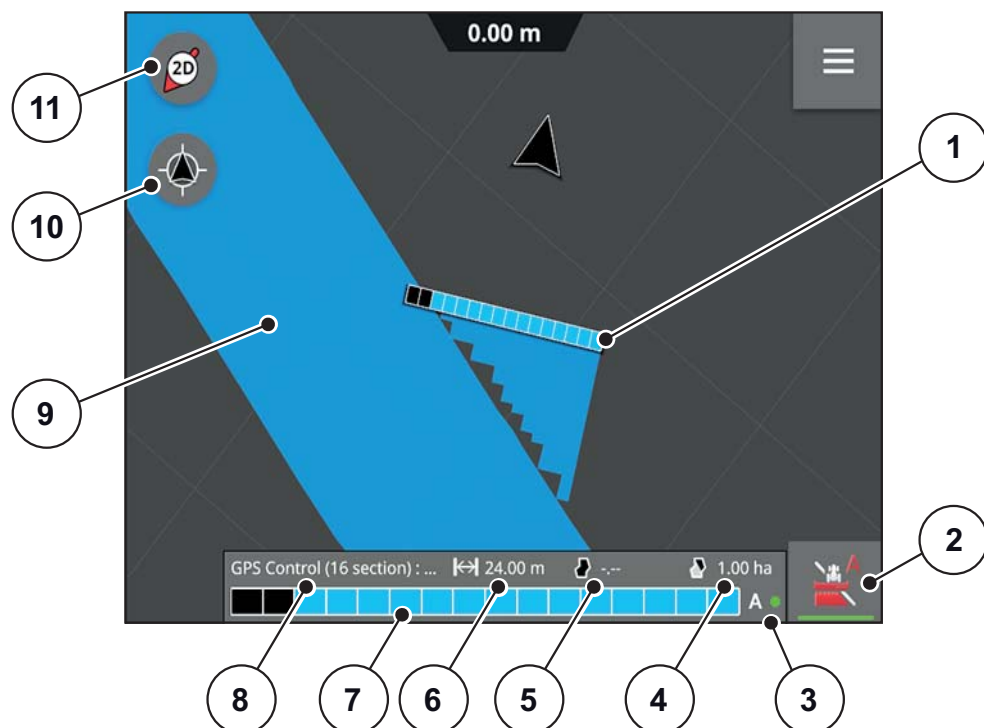


Figure 4.13: Spreading operating screen

- [1] Machine bar
- [2] Section Control (switch between manual and automatic mode)
- [3] Automatic mode status indicator
- [4] With field border: Residual area
Without field border: processed area
- [5] Field size
- [6] Working width
- [7] Machine bar scheme with section/metering slide status
- [8] Implement
- [9] Area already spread
- [10] Centre map
- [11] Compass: switch between 2D view, 3D view and overview

NOTICE

Automatic mode is only possible if GPS quality is set to DGPS.

NOTICE

During spreading, in the area of the activation/deactivation position of the metering slides, the forward speed of the tractor must correspond to the underlying forward speed OptiPoint in order to achieve an optimal spreading result!

NOTICE

The fertiliser distribution indicated on the display of the GPS Control control unit does not necessarily correspond to the actual fertiliser distribution in the field!

4.5.1 Spreading with field border

A field border can be set by circling a field. Outside of this field border, spreading is then deactivated.

During circling of the field, the automatic mode must be deactivated.

For further information, please refer to the CCI.OS x.x operator's manual.

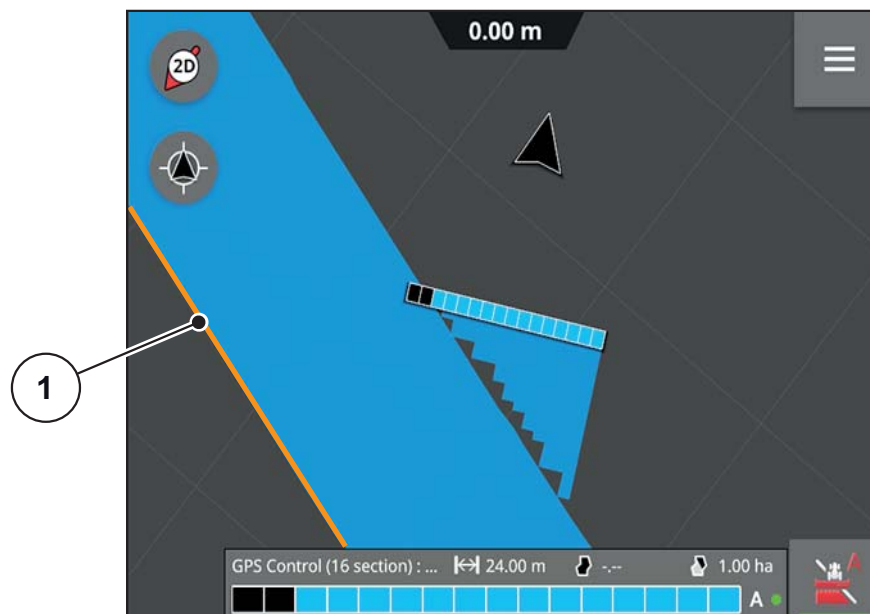


Figure 4.14: Spreading with field border

[1] Field border

NOTICE

Implements with **VariSpread pro** can also circle the field in automatic mode. Automatic mode does not work on the limited border spreading side.

4.5.2 Spreading with application card

Precondition: the **CCI.Control license** is available.

The application card contains information on field geometry and target values in the individual areas

During driving over the field, the required quantity is precisely set for each area of the field. Metering slide opening and application rate are automatically adjusted.

For further information, please refer to the CCI.OS x.x operator's manual.

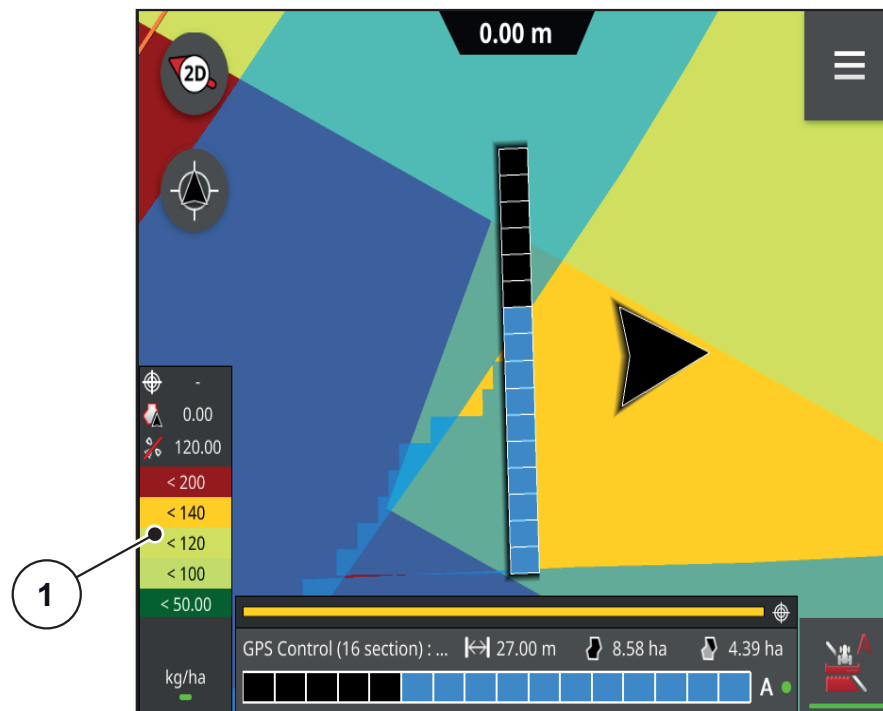


Figure 4.15: Spreading with application card

[1] Legend for target value colour scheme

4.5.3 GapSpreading

During **GapSpreading** individual inside sections are also opened and closed.

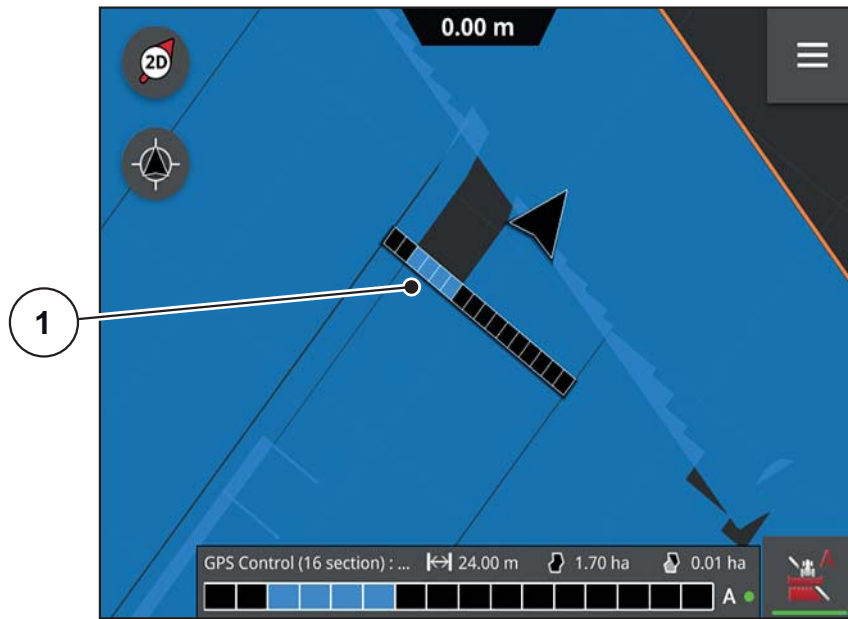


Figure 4.16: GapSpreading

[1] Activated sections

5 Alarm messages and possible causes

Various alarm messages can be displayed on the terminal CCI 800 and the QUANTRON-A/E2 control unit.

NOTICE

If the fault cannot be corrected, please promptly consult a specialist.

5.1 Alarm messages of QUANTRON-A/E2 control unit

Alarm messages on the display	Possible cause
Data transmission error. No RS232 connection.	Broken cable or plug disconnected

For further information on messages and their acknowledgement, refer to the operator's manual of the manufacturer.

5.2 Alarm messages of the CCI 800 terminal

For information on messages and their acknowledgement, refer to the CCI.OS x.x operator's manual.

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Garantie und Gewährleistung

RAUCH-Geräte werden nach modernen Fertigungsmethoden und mit größter Sorgfalt hergestellt und unterliegen zahlreichen Kontrollen.

Deshalb leistet RAUCH 12 Monate Garantie, wenn nachfolgende Bedingungen erfüllt sind:

- Die Garantie beginnt mit dem Datum des Kaufs.
- Die Garantie umfasst Material- oder Fabrikationsfehler. Für Fremderzeugnisse (Hydraulik, Elektronik) haften wir nur im Rahmen der Gewährleistung des jeweiligen Herstellers. Während der Garantiezeit werden Fabrikations- und Materialfehler kostenlos behoben durch Ersatz oder Nachbesserung der betreffenden Teile. Andere, auch weitergehende Rechte, wie Ansprüche auf Wandlung, Minderung oder Ersatz von Schäden, die nicht am Liefergegenstand entstanden, sind ausdrücklich ausgeschlossen. Die Garantieleistung erfolgt durch autorisierte Werkstätten, durch RAUCH-Werksvertretung oder das Werk.
- Von den Garantieleistungen ausgenommen sind Folgen natürlicher Abnutzung, Verschmutzung, Korrosion und alle Fehler, die durch unsachgemäße Handhabung sowie äußere Einwirkung entstanden sind. Bei eigenmächtiger Vornahme von Reparaturen oder Änderungen des Originalzustandes entfällt die Garantie. Der Ersatzanspruch erlischt, wenn keine RAUCH-Original-Ersatzteile verwendet wurden. Bitte beachten Sie darum die Betriebsanleitung. Wenden Sie sich in allen Zweifelsfragen an unsere Werksvertretung oder direkt ans Werk. Garantieansprüche müssen spätestens innerhalb 30 Tagen nach Eintritt des Schadens beim Werk geltend gemacht sein. Kaufdatum und Maschinenummer angeben. Reparaturen für die Garantie geleistet werden soll, dürfen von der autorisierten Werkstatt erst nach Rücksprache mit RAUCH oder deren offiziellen Vertretung durchgeführt werden. Durch Garantiarbeiten verlängert sich die Garantiezeit nicht. Transportfehler sind keine Werksfehler und fallen deshalb nicht unter die Gewährleistungspflicht des Herstellers.
- Ein Anspruch auf Ersatz von Schäden, die nicht an den RAUCH-Geräten selbst entstanden sind, ist ausgeschlossen. Hierzu gehört auch, dass eine Haftung für Folgeschäden aufgrund von Streufehlern ausgeschlossen ist. Eigenmächtige Veränderungen an den RAUCH-Geräten können zu Folgeschäden führen und schließen eine Haftung des Lieferanten für diese Schäden aus. Bei Vorsatz oder grober Fahrlässigkeit des Inhabers oder eines leitenden Angestellten und in den Fällen, in denen nach Produkthaftungsgesetz bei Fehlern des Liefergegenstandes für Personen- oder Sachschäden an privat genutzten Gegenständen gehaftet wird, gilt der Haftungsausschluss des Lieferanten nicht. Er gilt auch nicht beim Fehlen von Eigenschaften, die ausdrücklich zugesichert sind, wenn die Zusicherung gerade bezweckt hat, den Besteller gegen Schäden, die nicht am Liefergegenstand selbst entstanden sind, abzusichern.

RAUCH Streutabellen
RAUCH Fertilizer Chart
Tableaux d'épandage RAUCH
Tabele wysiewu RAUCH
RAUCH Strooitabellen
RAUCH Tabella di spargimento
RAUCH Spredetabellen
RAUCH Levitystaulukot
RAUCH Spridningstabellen
RAUCH Tablas de abonado



<http://www.rauch-community.de/streutabelle/>



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