Quick Start Instructions



...die Spezialisten



Machine Controls

CCI50 CCI200 ISOBUS

Software: Product: Type of document: As of: Document number BSG100: 2.09 - ... / BSG200: 3.06.00 - ... Silage trailers Original operating instructions 201803 de BTK_Maschinensteuerung_SL_CCI50+CCI200+ISOBUS_201803_en





1



General

1.1	Identification	
	CCI50	
	CCI200	
	ISOBUS	
Туре:		
Vehicle identification number (VIN):		
Delivery date:		

1.2 Manufacturer

	+49 (0)4444 - 2008-0
Ludwig Bergmann GmbH	+49 (0)4444 - 2008-88
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1.5 Preface

Dear customer,

You have made a good choice! We would like to thank you for placing your trust in us by purchasing a BERGMANN Product.

The Ludwig Bergmann GmbH, 49424 Goldenstedt (Lower Saxony) - a medium sized family business in its third generation - has been successfully active in the manufacturing of agricultural machinery and transport equipment for over one hundred years. It is one of the major manufacturers and providers of adapted technology for professional farming operations and farm contractors.

The combination of experience and a contemporary, innovative technology is one of our greatest strengths. Constant alignment with the needs and desires of customers, adapting to changing technical requirements, the continual development and improvement of our products and not to forget the "feel" for the customer, have made BERGMANN a reliable worldwide farming partner.

With our wide range of products, consisting of manure spreaders, universal spreaders, forage transport trailers, silage trailers, transfer trailers, and special bodies, we offer economical solutions that prove themselves in the field day after day.

Please check the product for possible shipping damage upon receipt. Check the product against the delivery note to ensure that no parts or special equipment are missing. In order to reimburse you for damages, we need your complaint immediately.

Read these operating instructions and all other supplied operating instructions carefully before using the product for the first time. Follow the instructions for proper operation, care and maintenance in order to ensure that your product is always ready for use and has a long service life. It is important that the safety notices listed in these operating instructions are observed. All product operators must have read these operating instructions prior to operation and must be familiar with the product functions.

We wish you every success with your BERGMANN product.

Ludwig Bergmann GmbH – Maschinenfabrik Goldenstedt

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1.9 Using These Operating Instructions

1.9.1 Indexes and References

Table of contents / Headings

The table of contents and the headings in these operating instructions provide for quick orientation in the chapters.

Table of Figures:

The table of figures in these operating instructions makes it possible to scroll directly to the desired images using the respective name

Index of Technical Terms:

In the index of technical terms it is possible to find specific topics in the operating instructions using keywords which are listed in alphabetical order. The index of technical terms can be found at the end of these operating instructions.

Cross References:

For further information on a topic in these operating instructions or another document, a cross-reference to the relevant section can be found at the end of the section. Chapters, subchapters and sections are enclosed in quotation marks.

Example:



BERGMANN contact information can be found in the chapter "Contact Info & Contact Persons".

The page number of the respective chapter, subchapter or section can be found in the table of contents or in the index of technical terms.

1.9.2 Depiction of Action Instructions and Listings

Action Step:

A dot (•) in front of the sentence defines an action step which must be carried out.

Example:

• Carry out action.

Action Sequences:

Multiple dots (•) in front of the sentence define an action sequence which must be carried out. Example:

- Carry out action 1.
- Carry out action 2.
- Carry out action 2.

Listings:

Multiple dashes (-) before each sentence define listings.

Example:

- Listings 1
- Listings 2
- Listings 3.

General



1.9.3	Depiction of Action-Related Warning Symbols	
1.9.3.1	Design of warning symbols	
	SIGNAL WORDS!	
	Type and source of danger	
	Possible result(s) of the danger	
	Measures to avoid the danger	

1.9.3.2 Signal words and colouring



DANGER!

The signal word "Danger" identifies a hazard with a high degree of risk. Failure to avoid the hazard will result in death or serious injury.



WARNING!

This signal word identifies a hazard with a moderate degree of risk. Failure to avoid the hazard can result in death or serious injury.



CAUTION!

This signal word identifies a hazard with a low degree of risk. Failure to avoid the hazard can result in minor or moderate injury.

1.9.4 Depiction of Important Notices



NOTICE

Indicates a requirement for particular behaviour or an action, as well as tips for use and particularly useful information for proper use of the machine. This information will help you to make optimum use of all machine functions. Failure to observe these notices can lead to machine malfunctions or damage to the environment.



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Definition of Terms 1.9.5

Term	Explanation
Machine	SILAGE TRAILERS is referred to using the term machine in this document.
Danger	Danger is a condition or situation in which the possibility of a health risk exists. The danger arises from a possible injury or disease-causing spatial and/or temporal coincidence from a source of danger.
Manufacturer	Ludwig Bergmann GmbH
Adjustment elements	Adjustment elements are parts of the controller that detect operator input signals, usually made by hand or foot. There are many different adjustment elements, such as buttons, levers, switches, knobs, slide controllers, joysticks, handwheels, pedals, keyboards, and tactile screens. Adjustment elements may be located on the machine itself or, as with remote controls, at a certain distance from the machine and connected to the machine for example by cable or by radio, optical or acoustic signals.
Third persons	Third persons are all other persons other than the operator themselves.

1.9.6 **Directional References**

Directional references such as

- front -
- rear -
- left -
- right -
- etc.

Are always indicated in the direction of travel. (see Image 1).



Image 1: Directional references



2 Safety

This chapter contains important information for the owner and the operator to ensure safe and trouble-free operation of the machine.



NOTICE

Observe all safety instructions in these operating instructions and in the supplementary documents!

Most accidents happen when the simplest safety regulations are not observed. By observing all safety instructions in these operating instructions, you will help to prevent accidents.

2.1 Intended Use

The terminal

- is intended exclusively for use on approved compatible machines and equipment for agricultural applications.

Intended use also includes:

- observing all notices and instructions in these operating instructions,
- compliance with the operating, maintenance and repair conditions prescribed by the manufacturer,
- the exclusive use of original spare parts.

All other uses are not permitted and are therefore considered improper.

The owner bears sole responsibility for damages resulting from improper use

- and
- the manufacturer assumes no liability whatsoever.



2.2 Basic Safety Instructions

Basic safety instructions always apply to the safe operation of the machine and are summarized in the following sections.



NOTICE

- Failure to observe the safety instructions may endanger persons, the environment or property.
- In addition to the basic safety instructions, also observe the special safety instructions listed in the other chapters of these operating instructions as well as the machine specific safety instructions.

2.2.1 Electric System

- Always disconnect the negative battery terminal before working on the machine's electrical system.
- All work on the machine's electrical system must be carried out by trained electricians.
- Touching damaged live parts can cause serious electric shock, injury or death. Damaged insulation and electrical system components must be repaired immediately by qualified personnel.
- Check electrical equipment regularly: Retighten loose connections and replace damaged lines or cables immediately.
- Only use prescribed fuses. The system could be destroyed if stronger fuses are used! Fire hazard!
- Be sure to follow the correct sequence when connecting and disconnecting the battery!
 - o Connecting: first connect the positive terminal, then the negative terminal.
 - Disconnecting: first disconnect the negative terminal, then the positive terminal.
- The positive terminal must always be covered with the provided protective cover.
- Avoid sparks and open flames near the battery. There is a risk of explosion!
- The machine is equipped with electronic components and assemblies whose function may be affected by electromagnetic emissions from other devices. Such affects can be hazardous to personnel if the following precautions are not followed.
 - If electrical and electronic equipment and / or components are subsequently installed in the vehicle with a connection to the electrical system, the user must independently verify whether the installation causes disturbances to the vehicle electronics or other components.
 - It is important to ensure that subsequently installed electrical and electronic components meet the requirements of the EMV - Directive 89/336/EWG in accordance with the current version and that they bear the CE symbol.
 - For wiring and installation as well as the max. allowable power use the machine manufacturer's installation instructions must be followed.
- Never equip the machine with unauthorised work lights. The manufacturer assumes no responsibility or liability for consequential damage to the electrical system.
- Learn to operate the terminals properly.
- Press the terminal keys with your fingertip. Avoid using your fingernails.
- Keep the terminals and accessories in good condition.
- Only clean the terminals with a soft cloth moistened with clear water or a bit of glass cleaner.



3 Operation

The "Operation" chapter contains information on the possible machine controls. It describes the individual functions, the handling and the procedure for operating the machine using a terminal.

The components and machine functions listed in the operating instructions may differ from the machine standard equipment and are available as optional equipment in some cases. Since these operating instructions are general, various equipment options can be listed that are not available for your trailer. This also applies to the images. Images, drawings and 3D illustrations in these operating instructions do not always represent the exact machine type. However, the information which refers to the illustrations always corresponds to the machine type in this document.

Failure to observe the safety instructions may result in serious injury or death.

• In order to prevent accidents, the operator of the machine must read and observe the safety instructions in the "Safety" chapter.

WARNING!

WARNING!

Reaching into the machine can cause crushing, shearing, cutting, severing, being caught, entangled, pulled in and struck in the machine.

These hazards may arise when

- the unsecured tractor and the trailer unintentionally roll,
- power driven tools are not switched off,
- hydraulic functions are activated unintentionally,
- tools or machine components are in operation,
- the tractor engine is switched on inadvertently,
- raised machine components are lowered inadvertently.

All machine operations are dangerous due to possible unintentional contact with driven, unsecured parts and raised, unsecured machine components.

• Therefore the machine must be secured against unintentional rolling and starting before any work is done on the machine, e.g. Making adjustments or correcting malfunctions.



For this, the notices and instructions in the operating instructions in section "Commissioning" under "Securing vehicle against unintentional rolling and starting" are to be observed.

3.1 ISOBUS terminal CCI50 / CCI200

The hydraulic functions are operated using the CCI50 / CCI200 terminal. The terminals are characterised by

- ISOBUS UT function (certified), for operating existing ISOBUS machines,
- ISOBUS AUX-N function (certified), for assigning machine functions to a joystick,
- Large, clear displays (CCI50 - 5.6" diagonal, CCI200 - 8.3" diagonal)
- Illuminated display with membrane keypad,
- Touch screen for intuitive operation,
- Ergonomically arranged keys, with the possibility to mirror them from left to right,
- ISB switch for stopping machine functions (depending on the machine),
- Interfaces incl. USB, wifi, video and more.
- Up to eight video cameras possible,
- Optional wide range of apps: CCI.CONTROL, CCI.COMMAND, CCI.CAM, CCI-Courier, CCI.FIELDNAV, CCI.TECU etc., Fig. 2: CCI terminal



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For this, the instructions and notices in the separate operating instructions for the "CCI 50 / CCI 200 terminal" machine controls must also be observed!

Additional hydraulic functions without control block connection have no terminal functionality. Such functions can be operated directly by the tractor control units according to the hydraulic system manual control after coupling the supply lines to the tractor.



For this, observe the notices and instructions in the operating instructions in chapter "Functions and Settings" in the "Hydraulics" section.

NOTICE
 Protect the terminal from water. Store the terminal in a dry room if it is not used for a long period (e.g. in winter). Disconnect the power supply during installation and repair work. Remove all electronic components (terminal, BSG, ISO-Gate, etc.) during welding work. Overvoltage can damage the terminal's electronics.





3.1.1 Emergency Control

WARNING!

- Danger due to moving components during emergency control!
- Ensure third persons leave the vehicle danger area before using the emergency control on the control block.



NOTICE

In case of a power failure, check the fuses in the tractor and control unit (supply line). Check cables and connections.

Electrically controlled hydraulic valves which are used for "Emergency control" can be controlled manually.



For this, observe the notices and instructions in the operating instructions in chapter "Functions and Settings" in the "Hydraulics" section.

3.1.2 Installing the CCI50 / CCI200 Terminals



NOTICE

The terminal must be mounted in the driver's field of vision and reach so that it is easy to read and operate. It must not obstruct the view of the tractor's controls or to the surrounding area.

To install the terminal (Fig. 3 / Pos.1) proceed as follows:

- Select a suitable position in the tractor cab where you would like to mount the terminal (Fig. 3 / Pos.1).
- Loosen the screw (Fig. 3 / Pos.4) on the bracket (Fig. 3 / Pos.3) on the back of the terminal (Fig. 3 / Pos.1).
- Guide the rod (Fig. 3 / Pos.2) through the holes in the bracket (Fig. 3 / Pos.3) (the rod is not included, ø20mm & ø30mm).
- Position the terminal (Fig. 3 / Pos.1) in the desired height. Ensure that the rod (Fig. 3 / Pos.2) protrudes at least 2cm above the bracket (Fig. 3 / Pos.3).
- Fasten the terminal (Fig. 3/ Pos.1) by tightening the screw (Fig. 3 / Pos.4) on the rod (Fig. 3 / Pos.2).
- If the angle of the terminal (Fig. 3 / Pos.1) needs to be adjusted, loosen the locking mechanism using the handle (Fig. 3 / Pos.5) and adjust the terminal (Fig. 3 / Pos.1) to the desired position. Fix the terminal in place by tightening the locking mechanism using the handle (Fig. 3 / Pos.5).



Fig. 3: Installation



NOTICE

Ensure that all screws are tightened firmly and that the terminal position cannot change.

3.1.3 Connecting the Terminal

WARNING!
Danger due to incorrect system and supply line connection
Incorrect connection of the supply lines can lead to considerable hazards for persons due to machine malfunctions.
Before commissioning, check for proper supply line connection.
• When connecting the supply lines, ensure that both plugs and sockets are clean and dry. Dirt and moisture can lead to a short circuits!
• Supply lines between tractor and trailer must be laid in such a way that they cannot be rubbed, clamped, crushed, bent or rub against foreign parts during trailer movement (e.g. cornering).





Pos.	Name	Design
1	Terminal	CCI50 / CCI200
2	Controller	BSG100
3	Controller	ISO-GATE
4	Extension cable	CAN-BUS
5	Supply cable	CCI50 / CCI200
6	Terminating resistor	

3.1.3.1.1 CAN-BUS extension cable

 Connect the BSG100 controller (Fig. 4 / Pos.2) with the ISO-GATE controller (Fig. 4 / Pos.3) using the CAN-BUS extension cable (Fig. 4 / Pos.4) taking the following data into consideration:

	CAN-BUS extension cable			B10-0244
	Plug / CAN, M12, 8 pin	Connect with: Connections:	BSG100 controller CAN	
	Socket / CAN, M12, 8 pin	Connect with: Connections:	ISO-GATE controller CAN IN	

3.1.3.1.2 CCI50 / CCI200 terminal supply cable

 Connect the power supply cable (Fig. 4 / Pos.5) to the corresponding connections on the wiring harness, the terminal (Fig. 4 / Pos.1), on the ISO-GATE control unit (Fig. 4 / Pos.3) and the power supply on the tractor, taking the following data into consideration:

	CCI50 / CCI200 Terminal Supp	ly Cable	18-14-0622
	Socket / CAN, M12, 8 pin	Connect with:	Terminal
		Connections:	CAN1-IN
	Socket / CAN, M12, 4 pin	Connect with:	ISO-GATE controller
		Connections:	ISOBUS OUT
	Socket / 2 pin (DIN 9680)	Connect with:	Wiring harness
		Connections:	Q01
	Socket / 2 pin (DIN 9680)	Connect with:	Tractor
		Voltage:	12 V DC

3.1.3.1.3 Terminating resistor

 Connect the terminating resistor (Fig. 4 / Pos.6) with the BSG ISO-GATE controller (Fig. 4 / Pos.3) taking the following data into consideration:

ISO-GATE Terminating Resistor		B10-0239
Plug / 8 pin	Connect with: Connections:	ISO-GATE controller CAN OUT

 Connect the terminating resistor (Fig. 4 / Pos.6) with the terminal(Fig. 4 / Pos.1) taking the following data into consideration:

	Terminating Resistor Terminal			B10-0239
	Plug / 8 pin	Connect with: Connections:	Terminal CAN1-OUT	





Fig. 5: CCI50 / CCI200 terminal connection diagram with BSG100 and ISO-GATE

18-14-0727-BTA

Pos.	Name	Design
1	Terminal	CCI50 / CCI200
2	Controller	BSG100
3	Controller	ISO-GATE
4	Extension cord	CAN-BUS
5	Supply cable	CCI50 / CCI200
6	Connecting cable	InCab
7	Terminating resistor	



3.1.3.2.1 CAN-BUS extension cable

 Connect the BSG100 controller (Fig. 5 / Pos.2) with the ISO-GATE controller (Fig. 5 / Pos.3) using the CAN-BUS extension cable (Fig. 5 / Pos.4) taking the following data into consideration:

	CAN-BUS extension cable			B10-0244
	Plug / CAN, M12, 8 pin	Connect with: Connections:	BSG100 controller CAN	
	Socket / CAN, M12, 8 pin	Connect with: Connections:	ISO-GATE controller CAN IN	

3.1.3.2.2 CCI50 / CCI200 terminal supply cable

• Connect the power supply cable (Fig. 5 / Pos.5) to the corresponding connections on the wiring harness, the ISO-GATE controller (Fig. 5 / Pos.3) and the power supply on the tractor, taking the following data into consideration:

	CCI50 / CCI200 Terminal Supply Cable		
	Socket / CAN, M12, 4 pin	Connect with:	ISO-GATE controller
		Connections:	ISOBUS OUT
	Socket / 2 pin (DIN 9680)	Connect with:	Wiring harness
		Connections:	Q01
	Socket (2 pip (DIN 9680)	Connect with:	Tractor
		Voltage:	12 V DC

3.1.3.2.3 Supply cable for CCI50 / CCI200 terminal

Connect the connection cable (Fig. 5 / Pos.6) to the corresponding connections on the terminal (Fig. 5 / Pos.1) and the tractor, taking the following data into consideration:

	Connection cable for CCI50 / CCI200 terminal			B10-0283
	Socket / CAN, M12, 8 pin	Connect with:	Terminal	
		Connections:	CAN1-IN	
	Plug / CAN, M12, 8 pin Socket / InCab, 9 pin	Connect with:	Terminal	
		Connections:	CAN1-OUT	
		Connect with:	Tractor	
		Connections:	InCab	

3.1.3.2.4 Terminating resistor

 Connect the terminating resistor (Fig. 5 / Pos.7) with the BSG ISO-GATE controller (Fig. 5 / Pos.3) taking the following data into consideration:

100 M	ISO-GATE Terminating Resistor		B10-0239
	Plug / 8 pin	Connect with: Connections:	ISO-GATE controller CAN OUT





Fig. 6: CCI50 / CCI200 terminal connection diagram with BSG200

18-14-0712-BTA

Pos.	Name	Design
1	Terminal	CCI50 / CCI200
2	Controller	BSG200
3	Supply cable	
4	Terminating resistor	
5	Adapter cable	CAN

3.1.3.3.1 CAN adapter cable

Connect the BSG200 controller (Fig. 6 / Pos.2) to the corresponding supply cable connections (Fig. 6 / Pos.3) using an adapter cable (Fig. 6 / Pos.5), taking the following data into consideration:

	CAN adapter cable		10-42-0154
	Plug / CAN, M12, 8 pin	Connect with:	BSG200 controller
		Connections:	CAN
	Plug / CAN, M12, 4 pin	Connect with:	Terminal power supply cable
		Connections:	A02

3.1.3.3.2 CCI50 / CCI200 terminal supply cable

• Connect the connections of the supply cable (Fig. 6 / Pos.3) to the corresponding cable harness, terminal (Fig. 6 / Pos.1), the adapter cable (Fig. 6 / Pos.5) and power supply connections on the tractor, taking the following data into consideration:

	CCI50 / CCI200 Terminal Supply	Cable		18-14-0622
	Or sheet (OANL M40, 0 min	Connect with:	Terminal	
	Socket / CAIN, MTZ, 8 pin	Connections:	CAN1-IN	
	Socket / CAN, M12, 4 pin	Connect with:	Adapter cable	
and the second se		Connections:	-	
	Socket / 2 pin (DIN 9680)	Connect with:	Wiring harness	
× •		Connections:	Q01	
	Socket / 2 pin (DIN 9680)	Connect with:	Tractor	
		Voltage:	12 V DC	

3.1.3.3.3 Terminating resistor

 Connect the terminating resistor (Fig. 6 / Pos.4) with the terminal(Fig. 6 / Pos.1) taking the following data into consideration:

th: Terminal s: CAN1-OUT	
h	ith: Terminal ns: CAN1-OUT

Operation



1 00.	Name	Design
1	Terminal	CCI50 / CCI200
2	Controller	BSG200
3	Extension cord	CAN-BUS
4	Supply cable	CCI50 / CCI200
5	Terminating resistor	

3.1.3.4.1 CAN-BUS extension cable

Connect the terminal (Fig. 7 / Pos.1) to the BSG100 / BSG200 controller (Fig. 7 / Pos.2) using the CAN-BUS extension cable (Fig. 7 / Pos.3) while taking the following data into consideration:

	CAN-BUS extension cable		B10-0237
	Diug / CANI M12 8 pip	Connect with:	BSG 200 controller
	Plug / CAN, MTZ, 8 pln	Connections:	CAN
	Socket / CAN, M12, 8 pin	Connect with:	CCI50 / CCI200 Terminal
		Connections:	-

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3.1.3.4.2 CCI50 / CCI200 terminal supply cable

• Connect the power supply cable (Fig. 7 / Pos.4) (/ pos.4) to the corresponding connections on the wiring harness and the power supply on the tractor, while taking the following data into consideration:

	CCI50 / CCI200 Terminal Supply Cable			
of the second se	Socket / 2 pin (DIN 9680)	Connect with: Connections:	Wiring harness Q01	
and the second s	Socket / 2 pin (DIN 9680)	Connect with: Voltage: Fuse:	Tractor 12 V DC 25 Amp	

3.1.3.4.3 Terminating resistor

 Connect the terminating resistor (Fig. 7 / Pos.5) with the terminal(Fig. 7 / Pos.1) taking the following data into consideration:

	Terminating Resistor Terminal			B10-0239
N E	Plug / 8 pin	Connect with:	Terminal	
		Connections.	CANT-OUT	





Fig. 8: CCI50 / CCI200 terminal connection diagram with BSG200

18-14-0728-BTA

Pos.	Name	Design
1	Terminal	CCI50 / CCI200
2	Controller	BSG200
3	Supply cable	
4	Connecting cable	

3.1.3.5.1 CCI50 / CCI200 terminal supply cable

• Connect the supply cable (Fig. 8 / Pos.3) to the corresponding cable harness connections, the BSG200 controller (Fig. 8 / Pos.2) and power supply on the tractor, taking the following data into consideration:

	CCI50 / CCI200 Terminal Supply Cable				
	Plug / CAN, M12, 8 pin	Connect with:	BSG200 controller		
		Connections:	CAN		
	Socket / 2 pin (DIN 9680) Connect Connect	Connect with:	Wiring harness		
		Connections:	Q01		
	Socket / 2 pin (DIN 9680)	Connect with:	Tractor		
		Voltage:	12 V DC		



3.1.3.5.2 Supply cable for CCI50 / CCI200 terminal

Connect the connection cable (Fig. 8 / Pos.4) to the corresponding connections on the terminal (Fig. 8 / Pos.1) and the tractor, taking the following data into consideration:

	Connection cable for CCI50 / CCI2		B10-0283	
	Socket / CAN, M12, 8 pin	Connect with:	Terminal	
		Connections:	CAN1-IN	
	Plug / CAN, M12, 8 pin C	Connect with:	Terminal	
		Connections:	CAN1-OUT	
	Socket / InCab, 9 pin	Connect with:	Tractor	
		Connections:	InCab	

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Fig. 9:	Connection	Diagram fo	or ISOBUS	Terminal v	with BSG10	and ISO-GATE
---------	------------	------------	-----------	------------	------------	--------------

18-14-0711-BTA

Pos.	Name	Design
1	Terminal	ISOBUS (on tractor)
2	Controller	BSG100
3	Controller	ISO-GATE
4	Extension cord	CAN-BUS
5	Supply cable	ISOBUS
6	Terminating resistor	

3.1.3.6.1 CAN-BUS extension cable

 Connect the BSG100 controller (Fig. 9 / Pos.2) with the ISO-GATE controller (Fig. 9 / Pos.3) using the CAN-BUS extension cable (Fig. 9 / Pos.4) taking the following data into consideration:

1	CAN-BUS extension cable		B10-0244
	Plug / CAN, M12, 8 pin	Connect with: Connections:	BSG100 controller CAN
87	Socket / CAN, M12, 8 pin	Connect with: Connections:	ISO-GATE controller CAN IN



3.1.3.6.2 ISOBUS supply cable

 Connect the power supply cable (Fig. 9 / Pos.5) to the corresponding connections on the wiring harness, the ISO-GATE controller (Fig. 9 / Pos.3) and the power supply and data connection on the tractor, taking the following data into consideration:

	ISOBUS supply cable		18-14-0623
	Socket / CAN, M12, 4 pin	Connect with:	ISO-GATE controller
		Connections:	ISOBUS OUT
	Socket / 2 pin (DIN 9680)	Connect with:	Wiring harness
		Connections:	Q01
	Socket / 9 pin (DIN 11783 / IBBC)	Connect with:	Tractor
		Voltage	12 V DC

3.1.3.6.3 Terminating resistor

 Connect the terminating resistor (Fig. 9 / Pos.6) with the BSG ISO-GATE controller (Fig. 9 / Pos.3) taking the following data into consideration:

ISO-GATE Terminating Resistor		B10-0239
Plug / 8 pin	Connect with: Connections:	ISO-GATE controller CAN OUT

3.1.3.7





Pos.	Name	Design
1	Terminal	ISOBUS (on tractor)
2	Controller	BSG200
3	Supply cable	
4	Adapter cable	CAN

3.1.3.7.1 CAN adapter cable

Connect the BSG200 controller (Fig. 10 / Pos.2) to the corresponding supply cable connections (Fig. 10 / Pos.3) using an adapter cable (Fig. 10 / Pos.4), taking the following data into consideration:

	CAN adapter cable			10-42-0154
	Plug / CAN, M12, 8 pin	Connect with:	BSG200 controller	
		Connections:	CAN	
	Plug / CAN, M12, 4 pin	Connect with:	Supply cable	
		Connections:	A01	



3.1.3.7.2 ISOBUS supply cable

Connect the supply cable (Fig. 10 / Pos.3) to the corresponding cable harness connections, the adapter cable (Fig. 10 / Pos.4) and power supply on the tractor, taking the following data into consideration:

	ISOBUS supply cable			18-14-0623
	Socket / CAN, M12, 4 pin	Connect with:	Adapter cable	
		Connections:	-	
	Socket / 2 pin (DIN 9680)	Connect with:	Wiring harness	
		Connections:	Q01	
	Socket / 9 pin (DIN 11783 / IBBC)	Connection with	Tractor	
		Voltage:	12 V DC	

Operation

3.1.3.8	ISOBUS terminal connection diagram in conjunction with BSG200	
Standard 2		
Fig. 11: IS	OBUS terminal connection diagram with BSG200	18-14-0729-BTA

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Pos.	Name	Design
1	Terminal	ISOBUS (on tractor)
2	Controller	BSG200
3	Supply cable	

3.1.3.8.1 ISOBUS supply cable

• Connect the supply cable (Fig. 11 / Pos.3) to the corresponding cable harness connections, the BSG200 controller (Fig. 11 / Pos.2) and power supply on the tractor, taking the following data into consideration:

ISOBUS supply cable			18-14-0723
 Plug / CAN, M12, 8 pin	Connect with: Connections:	BSG200 controller CAN	
Socket / 2 pin (DIN 9680)	Connect with: Connections:	Wiring harness Q01	
Socket / 9 pin (DIN 11783 / IBBC)	Connection with	Tractor	
	vollage.	12 V DC	



3.1.4 CCI50 / CCI200 Terminal Operating Panel



1	Main switch		Switching the terminal On / Off
2	Home key	â	Pressing the home button will take you directly to the main menu. Apps that are active at the time of the switch will remain active in the background. <u>Notice</u> When switching from an active machine function, some running machine functions may switch off automatically. More detailed information can be found in the machine operating instructions.
3	Switch key	\bigcirc	Pressing the switch key repeatedly and shortly, switches sequentially between the machine operations and the individual apps, which are selected in the user settings under "Switch Apps", for example from machine operation to CCI.Control. <u>Notice</u> When switching from an active machine function, some running machine functions may switch off automatically. More detailed information can be found in the machine operating instructions.



4	i - key		The i key can be configured as desired. It allows direct access to an app or machine operation which is selected in the user settings under "Configuring unassigned keys".
5	Acknowledge key (ACK)	ACK A	The acknowledgement key (ACK) is used to confirm error messages.
6	Touch screen		The terminal is equipped with a high-quality touch screen for menu navigation and convenient input of values and texts. By touching the screen, functions can be directly called up and values can be changed.
7	Function keys F1 – F6	FI	Six function keys (F1-F12) are arranged to the right and left of the display. By pressing a function key, the
8	Function keys F7 – F12	F7	function shown in the display next to the function key is executed.
9	Scroll wheel		 The scroll wheel is used for direct, fast input of set points and for navigation through list elements: <u>Turning the scroll wheel to the right</u> The value is increased in an input dialogue for numeric values. The system switches to the next element in a list. <u>Turning the scroll wheel to the left</u> The value is decreased in an input dialogue for numeric values. The value is decreased in an input dialogue for numeric values. The system switches to the previous element in a list. <u>Pressing the scroll wheel</u> The changed value is confirmed. A marked listed element is selected.
10	ESC key	ESC	Pressing the ESC key cancels inputs and functions. Changes which were made are not accepted and the previously valid value is retained. <u>Notice</u> The ESC key can only be used if there is an ESC key on the control panel display which can be operated via the touch screen. The key and touch screen functions are identical.
11	Day light sensor		The daylight sensor provides the value for the display illumination on/off switch point. The display illumination can be set in the terminal menu.



12	ISB switch (Stop switch)	A stop command (ISO stop) is sent to the ISOBUS when the terminal's ISB emergency stop button is pressed. This command can be evaluated using a connected ISOBUS machine in order to initiate appropriate automatic measures or to deactivate functions in a hazardous situation
		TUNCTIONS IN A NAZAROOUS SITUATION.

WARNING!

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Risk of injury from running machines!

Not all ISOBUS machines support the stop function. This means that a machine can continue to run even after the stop switch has been pressed. This can lead to injury. Under no circumstances does the stop switch affect tractor functions, meaning neither PTO shaft nor hydraulics are affected.

13 Soft key switcher	CCI50:Key located in frontCCI200:Key located in rearBy pressing the soft key switcher, the two soft-key rows on the left and right edge of the screen are switched. This makes one handed terminal operation possible.NoticeThe soft-key row positions can only be changed under machine operation.
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3.1.5 CCI50 / CCI200 / ISOBUS Terminal Displays

The display is divided into the following areas:



3.1.6 CCI50 / CCI200 / ISOBUS Terminal Menu Design



3.1.6.1 Menu 1/4: Driving on roads



<u>Menu</u>	
	Active menu 1/4 "Driving on Streets" – can be selected directly via touch or scroll wheel
	Inactive menu 2/4 "Unloading" - can be selected directly via touch or scroll wheel
12:	Inactive menu 3/4 "Trip Counter" – can be selected directly via touch or scroll wheel
A 00	Inactive menu 4/4 "Loading" – can be selected directly via touch or scroll wheel
Soft keys	
	Paging through further functions not possible in this menu
2/4	Change to menu 2/4 "Unloading" Press and hold: Service Access
a a	Open steering axle
	Close steering axle
()	Switch work light III / surrounding lights on (Display shows that work light is off)
	Switch work light 3 / surrounding lights off (Display shows that work light is on)



		66 %
Data mask		
b	Steering axle open	
	Steering axle closed; blinks	in display: Controller closes steering axle
12.95t	Payload in t	
30 %	Fill level information (100%	= full)
66 %	Tailgate opening 0% = closed 100% = completely open	
	Cutting unit completely retracted	
*	Cutting unit not completely retracted	
! !!	Cutting unit completely extended	
0 rpm	PTO speed in RPM	
0 %	Drawbar position	0% = drawbar up (cylinder retracted)
		100% = drawbar down (cylinder extended)
71%	Front wall position	0% = front wall in cargo space 100% = front wall out of cargo space
	Work light III switched on	



3.1.6.2 Menu 2/4: Unloading



Menu	
	Inactive menu 1/4 "Driving on Street" – can be selected directly via touch or scroll wheel
	Inactive menu 2/4 "Unloading" - can be selected directly via touch or scroll wheel
122	Inactive menu 3/4 "Trip Counter" – can be selected directly via touch or scroll wheel
	Inactive menu 4/4 "Loading" - can be selected directly via touch or scroll wheel
Soft keys	
3/4 12	Change to menu 3/4 "Trip Counter" Press and hold: Service Access
	Browse for more functions
A inactive	See the following section "Function sequences A and B".
B inactive	See the following section "Function sequences A and B".
b a	Open steering axle
a	Close steering axle
	Switch scraper floor on Automatic speed control With this display, the scraper floor is switched off.
	Scraper floor off (Automatic) With this display, the scraper floor is switched on.



	Reverse scraper floor
	Scraper floor manual in unloading direction, control in % mode
	Lower drawbar With coupled machine Raise machine
- (↓	Raise drawbar With coupled machine Lower machine
↑ Ø	Raise pick-up
↓ \$\$	Lower pick-up (working position)
	Raise front wall top element
	Lower front wall top element
	Move front wall bottom element forward (toward the tractor)
	Move front wall bottom element back (toward the cargo space)
	Raise tailgate
	Lower tailgate
^ '	Switch spotlight I on (Display shows that work light is off)
L'2	Switch spotlight I off (Display shows that work light is on)
	Switch spotlight II on (Display shows that work light is off)
	Switch spotlight II off (Display shows that work light is on)
↑ **	Switch work light III / surrounding lights on (Display shows that work light is off)
	Switch work light 3 / surrounding lights off (Display shows that work light is on)
T vo	Switch work light VI / surrounding lights on (Display shows that work light is off)
U VI	Switch work light VI / surrounding lights off (Display shows that work light is on)



O s o rpm	Einstellungen
Data mask	
Einstellungen	Go to submenu "Settings"
	Scraper floor 1. Gear
\mathbf{x}	Scraper floor 2. Gear (overdrive for emptying)
+	Increase scraper floor speed in steps
-	Decrease scraper floor speed in steps
AUTO	Scraper floor automatically on
C	Steering axle open
	Steering axle closed; blinks in display: Controller closes steering axle
50	Display and input field current scraper floor speed
8	Increase scraper floor speed to 100%
12.95t	Payload in tons
30 %	Fill level information (100% = full)
66 %	Tailgate opening0% = closed 100% = completely open
↓ ↓	Preset value exceeded. When value is not reached: Additional key for automatic opening to preset value.



	Cutting unit completely retr	acted
*	Cutting unit not completely retracted	
<u>1</u>	Cutting unit completely extended	
	Run pick-up by touch	
<u> </u>		0% = drawbar up (cylinder retracted)
0 %	Drawbar position	100% = drawbar down (cylinder extended)
0 rpm	PTO speed in RPM	
77.0		0% = front wall in cargo space
71-8	Front wall position	100% = front wall out of cargo space
	Work light I switched on	
	Work light II switched on	
	Work light III switched on	
VI	Work light VI switched on	

3.1.6.2.1 Function sequences A and B

Function sequence A:	
Ainactive	Hold key: Stored functions run in sequence. Release key: Function stops.
Aactive	Press key briefly "Settings A" screen opens, briefly pressing the key again closes the "Settings A" screen and saves the settings.
Function sequence B:	
B inactive	Hold key: Stored functions run in sequence. Release key: Function stops.
Bactive	Press key briefly: "Settings B" screen opens, briefly pressing the key again closes the "Settings B" screen and saves the settings.

Notice on Function sequences

	A 1 () 3.0
	Sec Sec
A: Step 1: Raise machine for 3	.0 seconds.
	B
	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
B: Step 1: Lower machine for 3	3.0 seconds.
A	Settings for function sequence A
B	Settings for function sequence B
1	Step number: Up to eight functions can be stored Step 1 is the first function and step 8 is the last function It is possible to select via touch or scroll wheel
-	Function selection field All displayed functions can be selected It is possible to select via touch or scroll wheel
~	Selecting the direction or mode Up/back, down/forward, off (X) or on (Auto) It is possible to select via touch or scroll wheel
3.0 sec	Duration for this step Settings from 0 to 25 seconds in 0.1 second steps It is possible to select via touch or scroll wheel



	AUTO	0.1 sec	Scraper floor (Automatic) on
	X	0.1 sec	Scraper floor (Automatic) off
13	AUTO	0.1 sec	Open steering axle
13	X	4.0 sec	Close steering axle
	X	0.1 sec	Work light on
	K	0.1 sec	Work light off

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die Spezi 3.1.6.2.2 Settings la > Einstellungen m/min mar 50 50 Θ 0.0 Ŧ 8 m 00 act start act Θ 8 1000 1.00 Schlupf -faktor kg/m³ Data mask Einstellungen Indicator: Submenu "Settings" c_{r} Return to main menu "Unloading" Scraper floor mode "Manual adjustment" A green tick means that this mode is activated For this, also observe the instructions and notices in the operating instructions in the "Scraper Floor Mode" section! Scraper floor mode "Controlling the scraper floor speed" For this, also observe the instructions and notices in the operating instructions in the "Scraper Floor Mode" section! m/min Scraper floor mode "Controlling the unloading length, fixed driving speed" For this, also observe the instructions and notices in the operating instructions in the "Scraper Floor Mode" section! man 50 Scraper floor speed in %: current value, or set value act 50 Scraper floor speed in %: Start value - the current value of the scraper floor is ₽6 replaced by the starting value when the scraper floor is switched off. start 0.00 m/min Scraper floor speed in m/min: current value, or set value act 0.00 Scraper floor speed in m/min: Start value - the current value of the scraper m/min floor is replaced by the starting value when the scraper floor is switched off. start Θ m Desired swath length in meters act

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0.0 ±	Driving speed in km/h	
	Set tailgate height	0% = closed
		100% = completely open
	Delay time Start automatic loading system	
G G Start sec	Example: 0 seconds = scraper floor starts in 2 seconds = scraper floor starts 2 Increase value for dry material!	nmediately after sensor signal seconds after sensor signal
	Delay time stop automatic loading system	
O Coo Stop sec	Example: 0 seconds = scraper floor stops immediately after inactive sensor signal 2 seconds = scraper floor stops 2 seconds after inactive sensor signal Increase value for moist material!	
	Cutting mode activated	
	Cutting mode deactivated	
	Weight summation activated	
	Weight summation deactivated	
1000 kg/m ³	Density setting	
	Key for setting the density For determining the material den corresponding volume is inquired	sity using the currently loaded weight, the using the input mask.
1.00 Schlupf -faktor	Slip factor setting Standard value 1.00 Factor 2.00: double scraper floor speed Factor 0.50: half scraper floor speed	

3.1.6.2.3 Scraper floor mode

Switching is carried out via touch or scroll wheel by directly selecting the icons

∞	Manual settings
	Control in % of the maximum possible scraper floor speed; at 70% overdrive is switched on automatically (if available)
m/min	Scraper floor speed control
	Controlling scraper floor speed in meters per minute Example: 1.25 m/min means that the scraper floor moves exactly 1.25 m toward the back in one minute. Overdrive switches on automatically when a factory-preset speed is reached.
man	Unloading length control, fixed driving speed:
	Based on the entered values of swath length and driving speed, the controller regulates the scraper floor speed according to the desired swath length. The second stage switches on automatically when a factory-preset speed is reached.



3.1.6.3 Menu 3/4: Trip	counter
	$ \begin{array}{c} \mathbb{E} \\ \mathbb{E} $
Menu	
	Inactive menu 1/4 "Driving on Street" - can be selected directly via touch or scroll wheel
	Inactive menu 2/4 "Unloading" - can be selected directly via touch or scroll wheel
122	Active menu 3/4 "Trip Counter" - can be selected directly via touch or scroll wheel
	Inactive menu 4/4 "Loading" - can be selected directly via touch or scroll wheel
Soft keys	
	Deactivate trip counter memory
	Deactivate trip counter memory
\mathbf{x}	Activate trip counter memory
×↓	Activate trip counter memory
12 ³	Increase trip counter memory
122 👃	Decrease trip counter memory
	Browse for more functions



4/4	Press and hold: Service Access
1 (II)	Open steering axle
(A m	Close steering ayle
	Increase the number of trips step by step.
	Decrease the number of trips step by step.
	Press and hold: When released the number of trips in this memory location will
↑ <u>.</u>	No function
La	Press and hold: When released the time in this memory location will be deleted
	Increase load capacity
	Decrease load capacity
1 m ³	Indicator for increasing spread volumes in steps
	Indicator for decreasing spread volumes in steps Press and hold: When released the spread volumes indicator in this memory
(m [*]	location will be deleted



	FUHRENZÄHLER	
	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \end{array} \end{array} \\ \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \end{array} \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $	
	0.0 III 0	
	0.0 m ³ 0.0	
Data maak	t 0.0	
FUHRENZÄHLER	Notice: Trip counter indicator information	
к÷	Return to first memory location	
+	Back one memory location	
1/10	Trip counter memory, 1/10 to 10/10	
Σ	Total (= \sum)	
тс	TC – memory: Information that is sent to Task-Controller.	
Ŷ	One memory location forward	
Ŧ	Forward to last memory location	
(†)	Delete all counters in current memory location	
N	The displayed memory location is active; Memory location deactivates when pressed	
3	The displayed memory location is inactive; Memory location activates when pressed	
0.0 <u>m</u> 3 00	Bin volume display and entry	
0.0	Display time for current memory location: Example: 8.4 h = 8 hours and 24 min. (4 x 6 min = 24 min)	
0.0	Display loading time for current memory: Example: 8.4 h = 8 hours and 24 min. (4 x 6 min = 24 min)	

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• •	Display trips for current memory location: 1 trip = 0.5 min. transport floor on + 4 min. transport floor paused
m³ ⊙.⊙	Display spread volume for current memory location:
t 0.0	Display spread mass for current memory location:
<u>20</u> 14.8	Total time
0.0	Total loading time
● ●	Total number of trips
∑m³ 60.0	Total volume
Σ t 116.9	Total mass

3.1.6.4	Menu 4/4: Loading	
	-(↑ -(↓ ^A ^B [] '/*//	
Menu		
		Inactive menu 1/4 "Driving on Street" – can be selected directly via touch or scroll wheel
		Inactive menu 2/4 "Unloading" – can be selected directly via touch or scroll wheel
12		Inactive menu 3/4 "Trip Counter" – can be selected directly via touch or scroll wheel
		Inactive menu 4/4 "Loading" - can be selected directly via touch or scroll wheel
Soft keys		
1/4		Change to menu 1/4 "Driving on streets" Press and hold: Service Access
		Browse for more functions
A in	active	See the following section "Function sequences A and B".
B in	active	See the following section "Function sequences A and B".
b x		Open steering axle
		Close steering axle
		Switch scraper floor on Automatic: Speed control With this display, the scraper floor is switched off.
		Scraper floor off (Automatic) With this display, the scraper floor is switched on.



	Reverse scraper floor
	Scraper floor manual in unloading direction, control in % mode
	Lower drawbar With coupled machine Raise machine
	Raise drawbar With coupled machine Lower machine
(↑ ☆)	Raise pick-up
\uparrow	Lower pick-up (working position)
	Raise cutting unit
() , , , , , , , , , 	Lower cutting unit
	Raise front wall top element
	Lower front wall top element
← ¹ / _∞	Move front wall bottom element forward (in the direction of the tractor)
	Move front wall bottom element back (toward the cargo space)
^'	Switch spotlight I on (Display shows that work light is off)
↓ ' ≫	Switch spotlight I off (Display shows that work light is on)
	Switch spotlight II on (Display shows that work light is off)
	Switch spotlight II off (Display shows that work light is on)
	Switch work light III / surrounding lights on (Display shows that work light is off)
	Switch work light 3 / surrounding lights off (Display shows that work light is on)
	Switch work light VI / surrounding lights on (Display shows that work light is off)
	Switch work light VI / surrounding lights off (Display shows that work light is on)



0 rpm	Einstellungen 30 % 1/10 12.95 t 66 % 71 %
Data mask	
Einstellungen	Go to submenu "Settings"
1/10	Display active trip counter memory
30 %	Fill level information (100% = full)
66 %	Tailgate opening0% = closed 100% = completely open
12.95t	Payload in t
Θ	Display and input field current scraper floor speed
*	Increase scraper floor speed to 100%
AUTO	Scraper floor automatically on
æ	Steering axle open
	Steering axle closed; blinks in display: Controller closes steering axle
	Cutting unit completely retracted
*	Cutting unit not completely retracted
2	Cutting unit completely extended
0 rpm	PTO speed in RPM



71 %	Front wall position	0% = front wall in cargo space 100% = front wall out of cargo space
	Reverse pick-up	
Θ	Pick-up contact pressure	
	Pick-up float position or wo	king position activated
	Work light I switched on	
	Work light II switched on	
	Work light III switched on	
VI JA	Work light VI switched on	

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3.1.6.4.1 Function sequences A and B		
Function sequence A:		
A inactive	Hold key: Stored functions run in sequence. Release key: Function stops.	
active	Press key briefly "Settings A" screen opens, briefly pressing the key again closes the "Settings A" screen and saves the settings.	
Function sequence B:		
B inactive	Hold key: Stored functions run in sequence. Release key: Function stops.	
Bactive	Press key briefly: "Settings B" screen opens, briefly pressing the key again closes the "Settings B" screen and saves the settings.	

Notice on Function sequences

	Α	
	1 3.0 sec	
A: Step 1: Raise machine for 3	.0 seconds.	
	B	
	1 – 3.0 sec	
B: Step 1: Lower machine for 3.0 seconds.		
A	Settings for function sequence A	
B	Settings for function sequence B	
1	Step number: Up to eight functions can be stored Step 1 is the first function and step 8 is the last function It is possible to select via touch or scroll wheel	
Ĺ	Function selection field All displayed functions can be selected It is possible to select via touch or scroll wheel	
$\mathbf{\lambda}$	Selecting the direction or mode Up/back, down/forward, off (X) or on (Auto) It is possible to select via touch or scroll wheel	
3.0 sec	Duration for this step Settings from 0 to 25 seconds in 0.1 second steps It is possible to select via touch or scroll wheel	



Special functions

AUTO Se	.l ec	Scraper floor (Automatic) on
	.l ec	Scraper floor (Automatic) off
AUTO O	.l ec	Open steering axle
	.0 ec	Close steering axle
	.l ec	Work light on
	.l ec	Work light off
	.0 ec	Float position / working position active

- - - - -

S. I.O.4.2 Settings	
Eins % 0 % sta 50 % PickL	tellungen
Data mask	
Einstellungen	Indicator: Submenu "Settings"
ß	Return to main menu "Unloading"
∞	Scraper floor mode "%" A green tick means that this mode is activated For this, also observe the instructions and notices in the operating instructions in the "Scraper Floor Mode" section!
0 % start	Scraper floor speed in %: Start value - the current value of the scraper floor is replaced by the starting value when the scraper floor is switched off.
0 % act	Scraper floor speed in %: current value, or set value
50 % PickUp	Pick-up speed in %
⊖ ↓ Start sec	Delay time Start automatic loading system Example: 0 seconds = scraper floor starts immediately after sensor signal 2 seconds = scraper floor starts 2 seconds after sensor signal Increase value for dry material!
O Stor sec	Delay time stop automatic loading system Example: 0 seconds = scraper floor stops immediately after inactive sensor signal 2 seconds = scraper floor stops 2 seconds after inactive sensor signal Increase value for moist material!



3.1.6.4.3 Scraper floor mode

Switching is carried out via tout	ch or scroll wheel by directly selecting the icons
	Manual settings
°6	Control in % of the maximum possible scraper floor speed; at 70% overdrive is switched on automatically (if available)



Data mask	
Version 3.5.20	Software version number
25645 0	"22645" random number - please give this number to Bergmann Service
"0"	Select input field for the access code via touch/Poti
! New MType !	Display when connecting a new Bergmann control unit (BSG) or when changing a control unit (BSG) to another machine type, e.g. from spreader to loading trailer and vice versa.
! No MType !	Display when no clearly allocation of the machine type. Also appears if the control unit supply voltage is too low (e.g. below 10 volts)

4 Index of Technical Terms

In the index of technical terms it is possible to find specific topics in the operating instructions using keywords which are listed in alphabetical order.

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