CE

CERIAtronic

PRELIMINARY VERSION

EN: Operating Instructions

Translation of the original operating instructions

RABE

⚠️ **Valid only in combination with the original operating instructions!**

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Features of the Terminal

Electrical Connection

The sowing monitor's electricity is supplied via a plug in accordance with DIN 9680 from the tractor's 12 V on-board electrical system. These 3-pin plugs are also used in a 2-pin version as only the two mainconnections (+12 V, earth) are required.

⚠ **Caution!**

Plugs and sockets of a different design are not permissible as functional safety is not guaranteed.

Technical Data

Operating voltage:	+10/5 V ...... +16.0 V
Power consumption of sowing monitor:	100 mA
Temperature range:	-20°C ...... +70°C
Degree of protection:	IP65
Fuse:	15 A fuse in operating voltage plug.
LCD display:	backlit

⚠ **Caution!**

Protect the terminal against wet and cold! The terminal is not intended for storage outdoors!

Usable Functions

The CERIAtronic is a compact on-board computer with many useful functions. It carries out important control and monitoring tasks and makes work easier for you by means of display and auxiliary functions.

Overview of usable functions:

Control functions:
- Setting up of tramlines
- Additional setting up of tramline marks
- Manual or automatic stepping of the tramline pulses by, for example, track marker alternating valve, signal box or sensors
- Manual or automatic stepping of the tramline pulses (when bypassing obstacles)
- Controlling the seed distribution rate (optional)

Display functions:
- Tramline pulse and tramline rhythm display
- Sub-area hectare meter
- Full area hectare meter
- Travelling speed
- Sowing shaft speed
- Current seed distribution rate

Monitoring functions:
- Monitoring of sowing shaft
- Monitoring of filling level

Auxiliary functions:
- Sensor test
- Turning aid for calculating and counting number of turns of the crank handle
- Adjustable time delay for automatic stepping of the tramline pulse
- Optional menu navigation in different languages

Commissioning

The CERIAtronic is switched on using the [I/O U/min] key. The machine type configured and the software version appears for approx. 3 seconds on the display then subsequently the speed display.

The CERIAtronic is switched off using the [I/O U/min] key (press for 3 seconds).

☞ **Check and adjust the correct basic setting (machine type, language, etc.) in advance when commissioning.**

CERIAtronic user interface

The CERIAtronic's User Interface

(**0**)   Screen/display
(1)   Menu
(2)   Arrow
(3)   Calibrate
(4)   Travelling speed
(5)   Hectare meter
(6)   Seed distribution rate
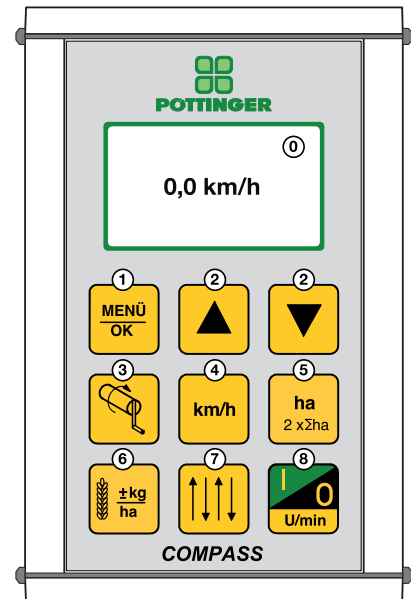(7)   Tramline
(8)   I/O

Operating Notes

[▲] [▼] to navigate and change the set values

[MENÜ/OK] to save, press key for 3 seconds or until signal tone is heard
to step through menu levels without saving, press key briefly

[km/h] to leave a sub-menu without saving

Displays and functions

[km/h] Display **travelling speed** (**4**)
Press once = display travelling speed (in km/h)

[ha 2xΣha] Display **hectare meter (5)**
Press once = display sub-area hectare meter

Cancel sub-area hectare meter = [ha 2x2ha] press for 3 seconds or until signal tone is heard

Press twice = display total area hectare meter (indicated by the symbol "")

Cancel total area hectare meter = [ha 2xΣha] press for 3 seconds or until signal tone is heard

[I/O U/min] Display **turns (8)**
Press once = display sowing shaft speed (in rpm)

Display **tramline pulse** and **tramline rhythm (7)**

Press once =	Current tramline pulse and rhythm
	The tramline pulse must be changed by way of the arrow keys ▲ ▼

asym- li. 4
❀ akt. 1

Press key 2 seconds =	The tramline counter is reset to the starting value of the tramline rhythm set.
	The symbol ❀ appears flashing when travelling speed is identified.

⋙ ⋙ STOP

Note:

☞ **If the symbol ❀ does not appear, this indicates a fault.**

Check the power train and the sensors.

Press twice =	STOP appears on screen, counting is paused and the current value is stored (e.g. avoid an obstacle) Pressing again = Counting starts again with the saved value.

Display **Seed distribution rate (6)**

Press once =	Display of seed distribution rate set and gear setting (requirement: the calibration has been performed)

240 kg/ha
100%   G: xx

Calibration

Key (7) calibration: Sequence control to find the correct gear setting for an exact distribution of the seed quantity per hectare

Calibration sequence

Requirement: The calibration tray is attached.

Change the display values using the ▲ ▼ **keys**

Save and continue to next menu using key [MENÜ OK]

Calibr. test

Menge

3,1 kg / ha [a]

[MENÜ OK]

Calibr. test

Area

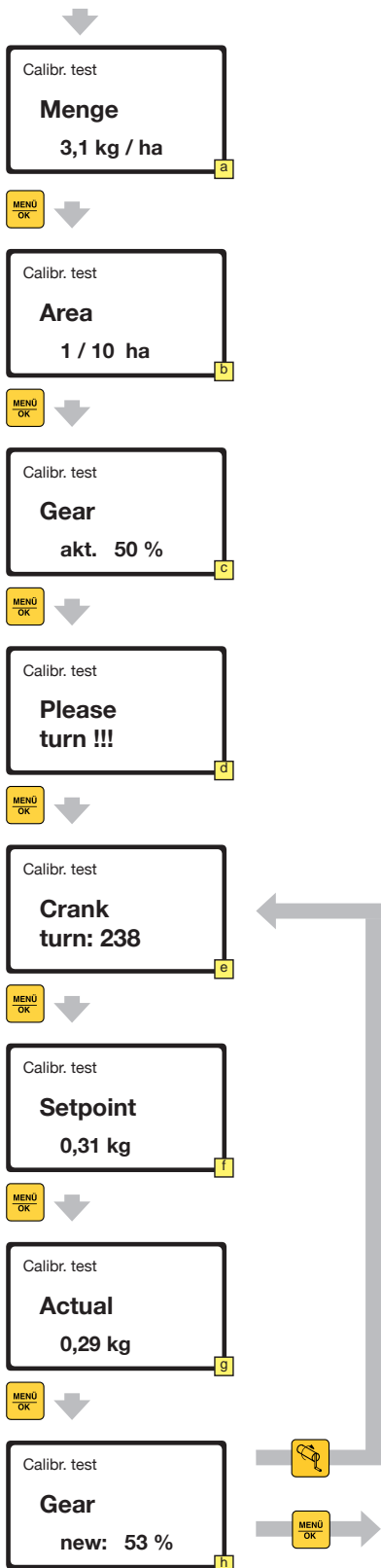**1 / 10 ha** [b]

[MENÜ OK]

Calibr. test

Gear

akt. 50 % [c]

[MENÜ OK]

Calibr. test

**Please
turn !!!** [d]

[MENÜ OK]

Calibr. test

**Crank
turn: 238** [e]

[MENÜ OK]

Calibr. test

Setpoint

0,31 kg [f]

[MENÜ OK]

Calibr. test

Actual

0,29 kg [g]

[MENÜ OK]

Calibr. test

Gear

new: 53 % [h]

[MENÜ OK]

---

[a] Enter the desired seed quantity per hectare

[b] Enter the area to be calibrated

Possible set values are: 1/10 ha, 1/20 ha, 1/40 ha and 1/100 ha

This setting affects the number of turns of the crank handle required and thus the accuracy of the calibration.

[c] Enter the current gear setting

The current gear setting must be read off the gear lever of the seed drill and entered in the terminal.

[d] Turn with the crank handle until the sowing wheels are completely filled with seed.

[e] Calibrate the number of turns displayed using the crank handle.

The CERIAtronic now counts the number of turns of the crank handle backwards from the value displayed. As a result the display always shows how many turns of the crank hand are still to be made. The last 5 turns of the crank handle are signalled additionally acoustically to prepare the operator to end the calibration process. On reaching the value <**0**>, a continuous signal tone is triggered to cause the operator to end the calibration immediately.

[f] Display of seed quantity theoretically distributed

[g] Enter the seed quantity distributed

The seed collected in the calibration tray must be weighed and the value must be entered. (A fast forwarding of the figures begins if an arrow key is held)

[h] The necessary gear setting is calculated and displayed for the desired amount of seed per hectare. This value must be set on the gear lever of the seed drill.

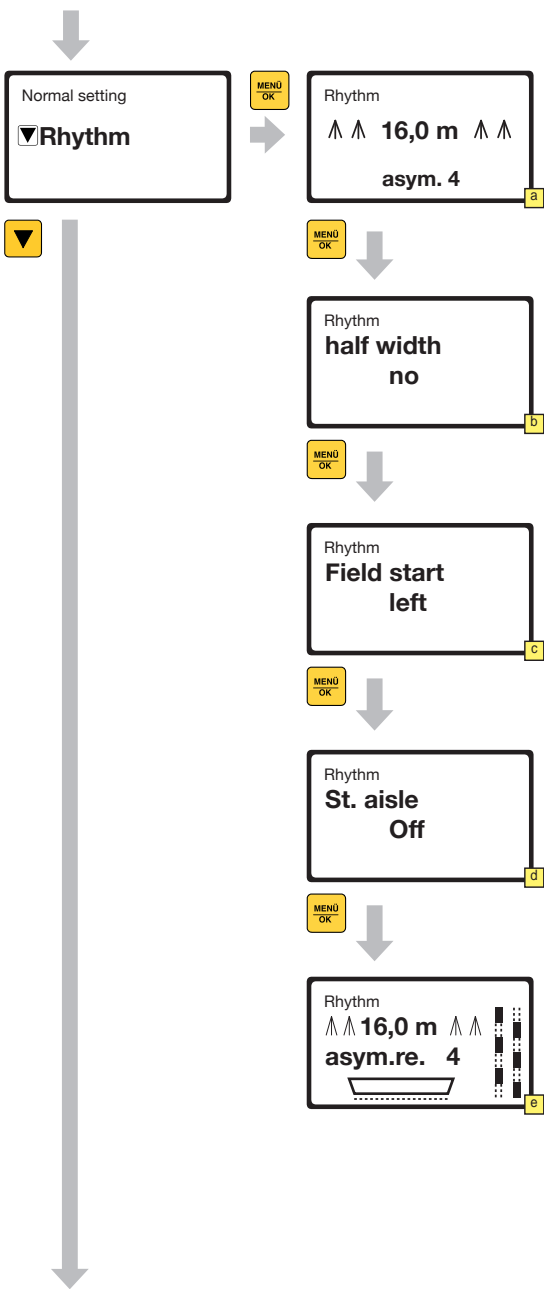The sequence can be performed several times to check.

Press key [icon] at the end of calibration for 2 seconds, starts the sequence control automatically from the point "f"

Key [MENÜ OK] (press for 2 seconds until signal tone is heard) save the gear setting

Basic setting

MENÜ OK

Key (1) menu: In the default settings, in addition to the machine type and language it is also possible to configure options, monitoring messages and the display brightness.

Normal setting
▼**Rhythm**

▼

MENÜ OK

Rhythm
⋀ ⋀ **16,0 m** ⋀ ⋀
asym. 4
[a]

MENÜ OK

Rhythm
half width
no
[b]

MENÜ OK

Rhythm
Field start
left
[c]

MENÜ OK

Rhythm
St. aisle
Off
[d]

MENÜ OK

Rhythm
⋀ ⋀ **16,0 m** ⋀ ⋀
asym.re. 4
[e]

Rhythm

To settings of the tramline rhythm. This is calculated automatically after entering the spray width and working width.

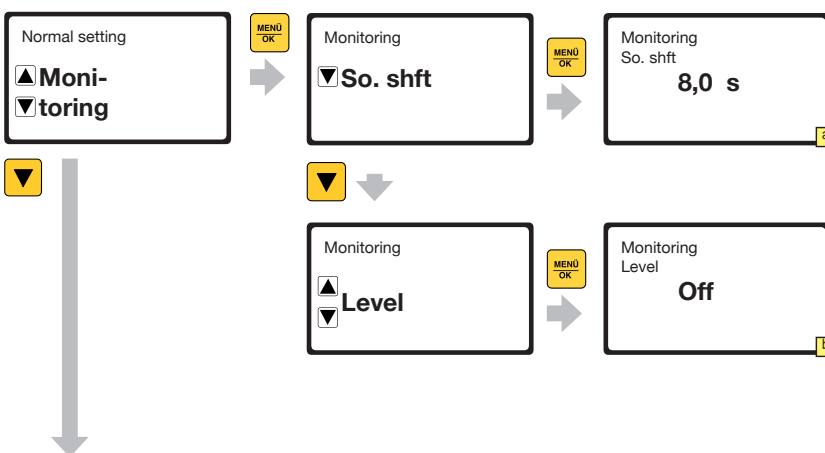**Change the display values using the** ▲ ▼ **keys**

Save and continue to next menu using key [MENÜ OK]

[a] Enter the spray width:

The spray width may be set between 5 - 50 m (in half-metre steps). Symmetrical or asymmetrical is calculated automatically.

The entry must be switched to OFF if no tramline is desired.

[b] Half width (only appears with asymmetrical)

yes/no

(yes = the asymmetrical tramline becomes a symmetrical tramline)

[c] Half width (only appears with asymmetrical, half width NO and special tramlines):

Start work on left/right edge of field

[d] Stotter FG: off = continuous tramlines

Stotter FG: Xm = the tramlines are not laid continuously but rather in adjustable strips of 1 - 20 m

[e] Rhythm overview: Summary of the setting

⋀⋀ ⋀⋀	->	Display of spray width
	->	Display of rhythm, field start and pulse
(illustration)	->	Display the starting width
(illustration)	->	Display of Stotter tramlines

(see also Section "Examples for Setting Up Tramlines)

Normal setting
▲**Moni-**
▼**toring**

▼

MENÜ OK

Monitoring
▼**So. shft**

▼

Monitoring
▲**Level**
▼

MENÜ OK

Monitoring
So. shft
8,0 s
[a]

MENÜ OK

Monitoring
Level
Off
[b]

Monitoring

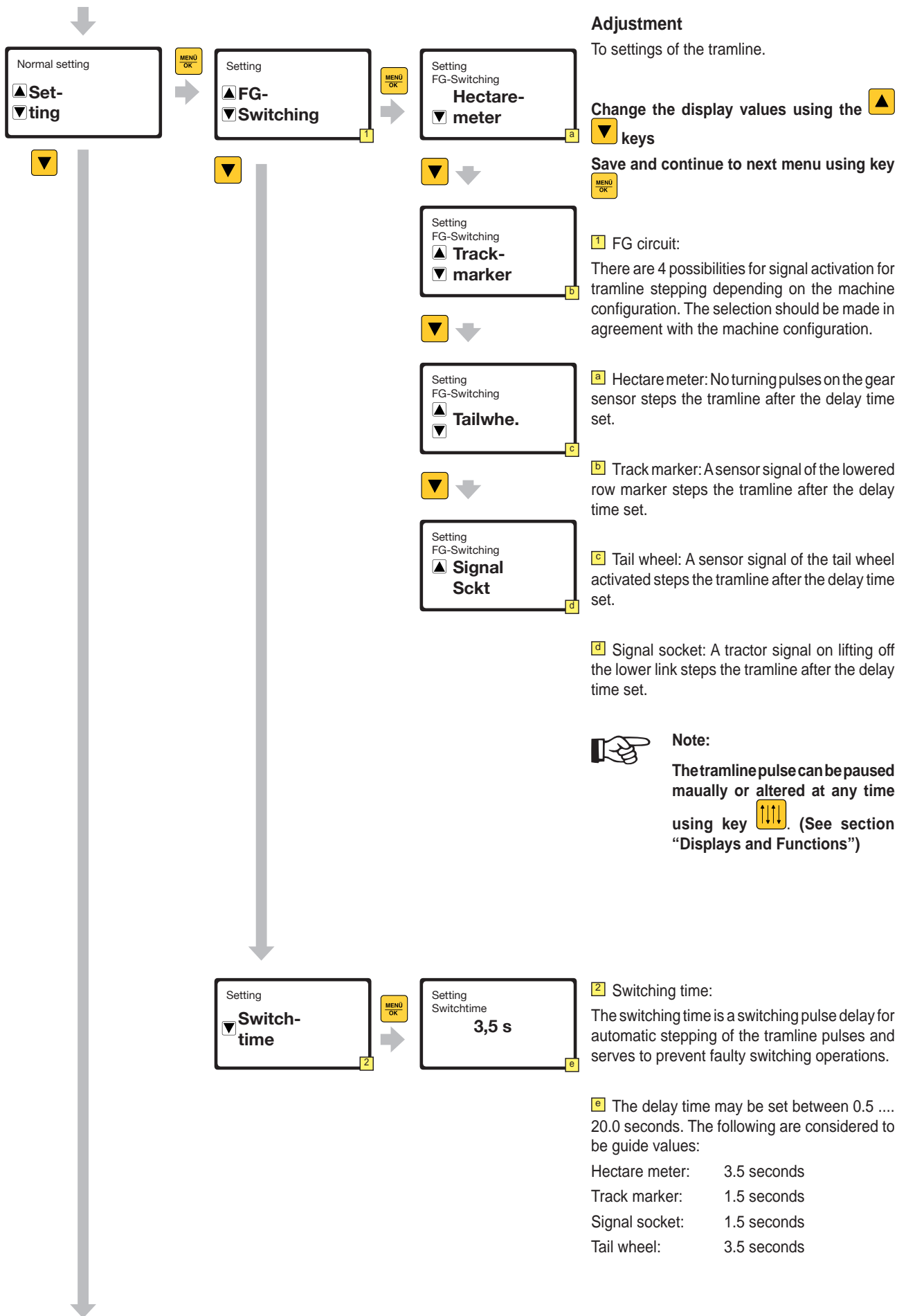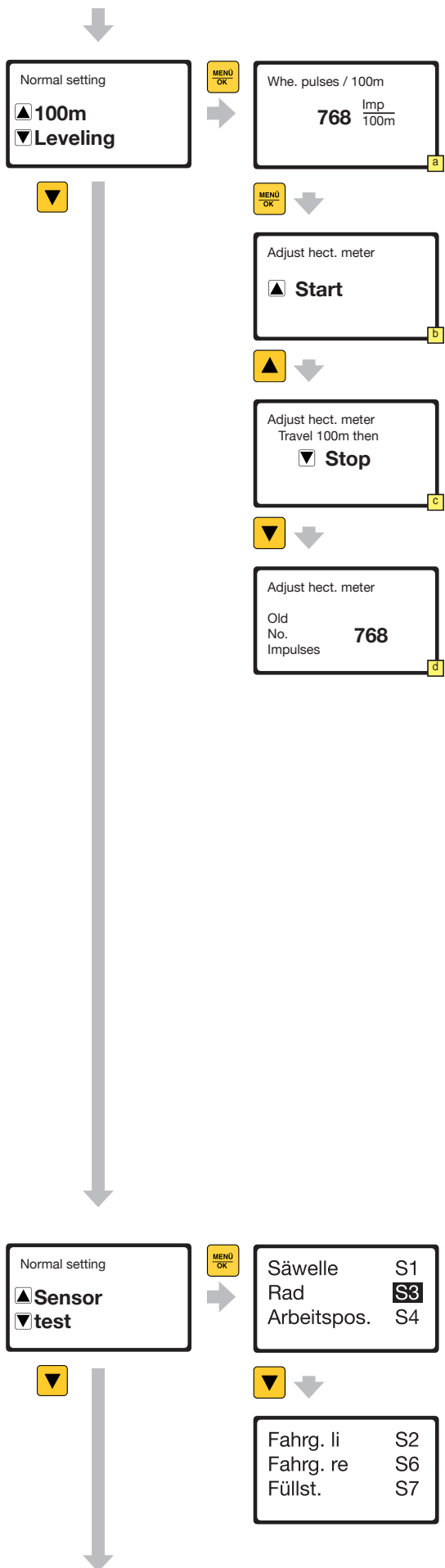To settings of alarm thresholds

Change the display values using the ▲ ▼ **keys**

Save and continue to next menu using key [MENÜ OK]

[a] Sowing shaft:

off = no alarm or not present

3.0 - 20.0 sec = Time from when the alarm is activated when the sowing shaft is not turning.

[b] Filling level:

off = no alarm or not present

on = filling level below sensor level results in alarm

Adjustment

To settings of the tramline.

Normal setting

▲ Set-
▼ ting

▼

Setting

▲ FG-
▼ Switching

1

▼

Setting
FG-Switching

Hectare-
▼ **meter**

a

▼

Setting
FG-Switching

▲ **Track-**
▼ **marker**

b

▼

Setting
FG-Switching

▲ **Tailwhe.**
▼

c

▼

Setting
FG-Switching

▲ **Signal**
Sckt

d

Change the display values using the ▲ ▼ keys

Save and continue to next menu using key MENÜ/OK

[1] FG circuit:

There are 4 possibilities for signal activation for tramline stepping depending on the machine configuration. The selection should be made in agreement with the machine configuration.

[a] Hectare meter: No turning pulses on the gear sensor steps the tramline after the delay time set.

[b] Track marker: A sensor signal of the lowered row marker steps the tramline after the delay time set.

[c] Tail wheel: A sensor signal of the tail wheel activated steps the tramline after the delay time set.

[d] Signal socket: A tractor signal on lifting off the lower link steps the tramline after the delay time set.

☞ **Note:**

The tramline pulse can be paused maually or altered at any time using key [↑↓↑]. **(See section "Displays and Functions")**

Setting

▼ **Switch-**
time

2

Setting
Switchtime

3,5 s

e

[2] Switching time:

The switching time is a switching pulse delay for automatic stepping of the tramline pulses and serves to prevent faulty switching operations.

[e] The delay time may be set between 0.5 .... 20.0 seconds. The following are considered to be guide values:

Hectare meter:	3.5 seconds
Track marker:	1.5 seconds
Signal socket:	1.5 seconds
Tail wheel:	3.5 seconds

Normal setting

▲**100m**
▼**Leveling**

`MENÜ/OK`

Whe. pulses / 100m

768 $\frac{Imp}{100m}$

a

`MENÜ/OK`

Adjust hect. meter

▲ **Start**

b

▲

Adjust hect. meter
Travel 100m then

▼ **Stop**

c

▼

Adjust hect. meter

Old
No.   **768**
Impulses

d

100 m adjustment

The machine requires a pulse number for 100 m travelling distance adapted to the soil condition to enable an exact seed distribution rate and hectare counting.

Change the display values using the ▲ ▼ keys

Save and continue to next menu using key `MENÜ/OK`

a The pulse number can be set directly according to the following table of guide values

Machine type (tyres)	Working width[m]	Pulses/100m
Vitasem 252	2.5	805
Vitasem 302 (6.00-16)	3.0	805
Vitasem 302 (10.00-15,3)	3.0	762
Vitasem 402	4.0	762
Vitasem A 252	2.5	720
Vitasem A 302	3.0	720
Vitasem A 402	4.0	720

100 m adjustment to determine the pulse number/100 m distance travelled

If the table of guide values does not agree with the soil condition (e.g. the hectare counter is inaccurate or the travelling speed displayed is not correct) the pulse number can be determined as follows:

b Bring the machine to the beginning of the 100 m track.

Press the key ▲ to start the measurement.
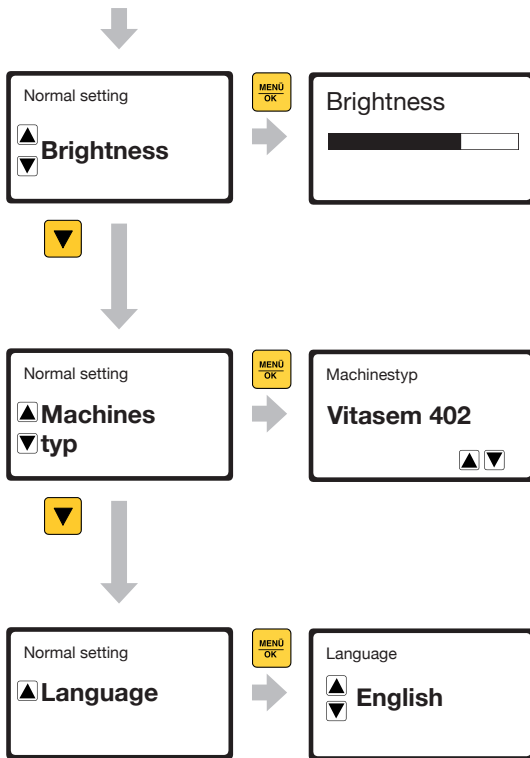
c Travel the 100m distance.

Press the key ▼ to end the measurement.

d The pulse number must be saved after successful measurement.

Normal setting

▲**Sensor**
▼**test**

`MENÜ/OK`

Säwelle	S1
Rad	**S3**
Arbeitspos.	S4

▼

▼

Fahrg. li	S2
Fahrg. re	S6
Füllst.	S7

Sensor Test

To checking of monitoring sensors.

A sensor number on a black background means "sensor active".

Brightness

To setting of display brightness.

Change the display values using the [▲] [▼] **keys**

Save and continue to next menu using key [MENÜ/OK]

Machine type

To setting of machine type

Change the display values using the [▲] [▼] **keys**

Save and continue to next menu using key [MENÜ/OK]

Language

To setting of language displayed.

Language options: RO - DK - PO - CZ - I - E - F - GB - D

Change the display values using the [▲] [▼] **keys**

Save and continue to next menu using key [MENÜ/OK]

Alarm messages			
Message	**Meaning of message:**	**Remedy**	**Switching off message**
Sowing shaft stopped	It is not possible to guarantee an exact seed distribution rate. Work must be stopped and the error remedied.	Check the power train. The position and function of the sensor must be checked.	The message can be switched off briefly with key [km/h] .
Filling level too low	The seed quantity in the tank is too low for exact seed distribution. Seed must be refilled before continuing the work.	Refill seed.	The message can be switched off briefly with key [km/h] until the next start-up. The message can be switched off until next opening of the seed tank lid with key [MENÜ/OK] (press for 5 seconds).

Examples for Setting Up the Tramlines

Working width Seed drill	Spraying width Distribution width	Switch rhythm	driven tramline	Examples for setting the tramlines
				Symmetrical tramlines in one drill track
3,00 m 4,00 m 5,00 m 6,00 m	9 m 12 m 15 m 18 m	**3**	**2**	
3,00 m 4,00 m 4,50 m 5,00 m 6,00 m	12 m 16 m 18 m 20 m 24 m	**4**	**3**	
3,00 m 4,00 m 5,00 m 6,00 m	15 m 20 m 25 m 30 m	**5**	**3**	
3,00 m 4,00 m 4,50 m 5,00 m	18 m 24 m 27 m 30 m	**6**	**4**	
3,00 m 4,00 m	21 m 28 m	**7**	**4**	
3,00 m 4,00 m	24 m 32 m	**8**	**5**	
				Tramlines in different drill tracks (asymmetric)
3,00 m 4,00 m 4,50 m 5,00 m 6,00 m	12 m 16 m 18 m 20 m 24 m	**4**^{A}	**2**^{3}	
3,00 m 4,00 m 4,50 m 5,00 m	18 m 24 m 27 m 30 m	**6**^{A}	**3**^{4}	
3,00 m 4,00 m	24 m 32 m	**8**^{A}	**4**^{5}	