

Operating Manual

AMAZONE

EasySet 2

**Control computer
for ZG-TX**



MG7813
BAG0255.1 12.23
Printed in Germany

SmartLearning



**Read and comply with this
operating manual before initial
operation!
Keep this operating manual in a
safe place for future use!**

en

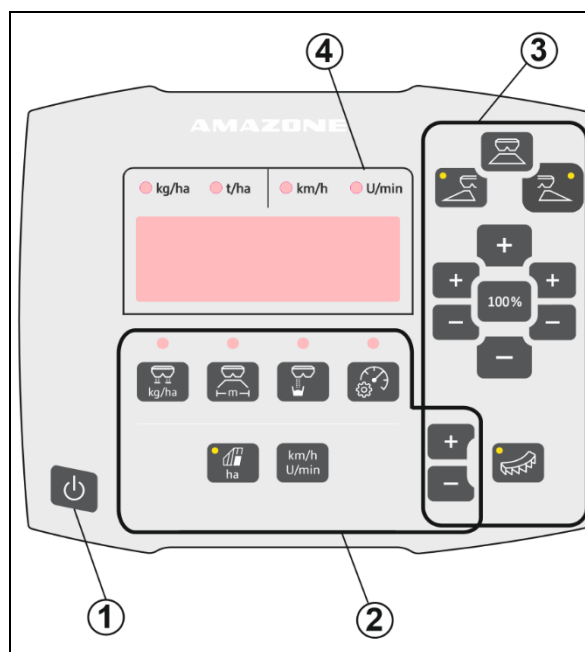


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1 Product description

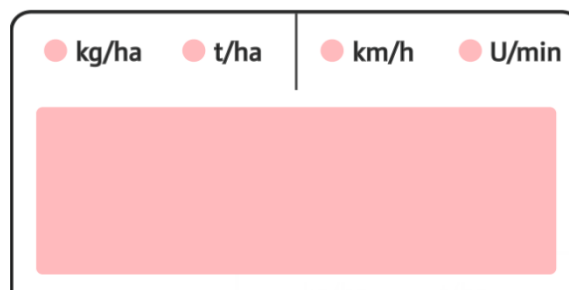
1.1 Overview

- (1) Button for switch-On / switch-Off
- (2) Buttons for adjustment
Some with LEDs for indication of the activated function
- (3) Buttons for operation in use
Some with LEDs for indication of the activated function
- (4) Display with LEDs









1.2 Display

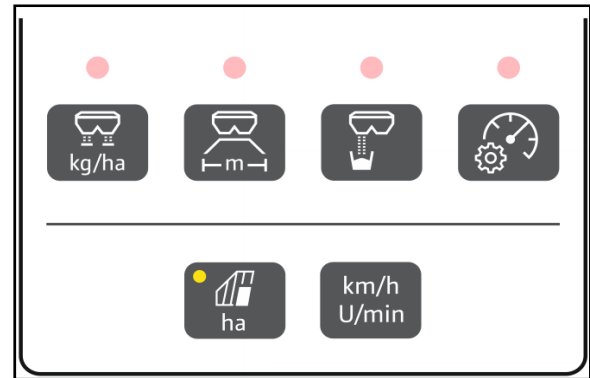
- Display for showing values with a maximum of 6 characters
- LEDs above the display show the unit of measurement of the displayed value.



1.3 Buttons for adjustment

-  Adjusting the spread rate
 -  Adjusting the working width according to the setting chart and spreading disk
 -  Determining / adjusting the calibration factor
 -  Selecting the simulated speed. Calibrate the distance sensor, enter the pulses per 100 m.
 -  Display of daily output in ha
- Press and hold the button (6 seconds) to re-set the daily output
-  Change the display between spreading disk speed and forward speed

The LEDs show the selected setting.

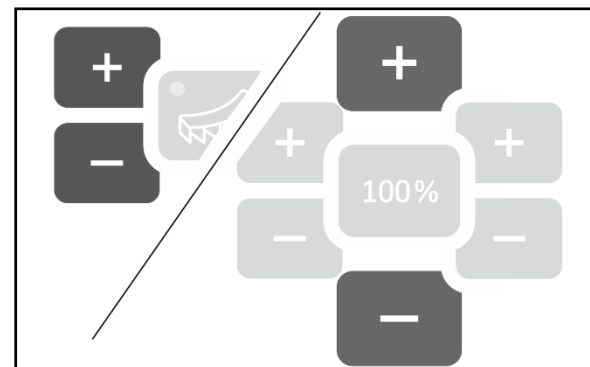



Changing settings

In the active Settings menu, use the marked +/- buttons to change the settings.

Pressing and holding the +/- buttons changes the values rapidly.

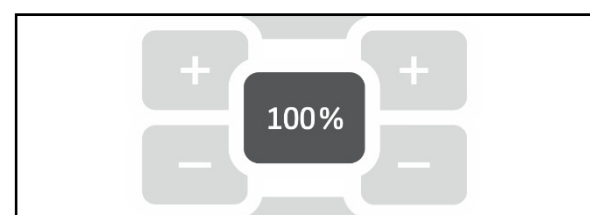
Set values are saved automatically.





100%

From the settings menu, use the 100% button to return to the work display.



1.4 Buttons for operation

Start / stop spreading

Start / stop spreading on the left side
(ZG-TX with double shutter)

LED for spreading on



Start / stop spreading on the right side
(ZG-TX with double shutter)

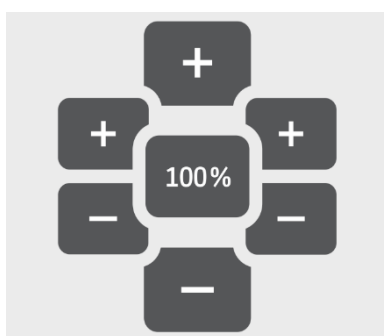
LED for spreading on

Higher rate

Higher rate on the left side
(only for ZG-TX with double shutter)

Reset rate to 100%

Lower rate on the left side
(only for ZG-TX with double shutter)



Lower rate

Higher rate on the right side
(only for ZG-TX with double shutter)

Lower rate on the right side
(only for ZG-TX double shutter)

Increase / reduce the speed
for boundary spreading



AutoTS boundary spreading
system
on / off
(ZG-TX with double shutter)

LED for AutoTS on or boundary
spread deflector on



- LEDs (if present) indicate the selected function.
- Pressing and holding the +/- buttons changes the values rapidly.
- Set values are saved automatically.

2 Preparing the EasySet 2

2.1 Switching the EasySet 2 on and off



Switch on the EasySet2.

- Current software version is shown for 2 seconds.
- The set mode is shown for one second.
- The work display appears.



Switch off the EasySet 2.

- Stop is shown for 2 seconds.
- Total area efficiency is shown for 2 seconds.

2.2 Entering the spread rate



1. Select the spread rate setting.

→ The spread rate is shown in kg/ha.



Spread rates greater than 999 kg are shown in tons (1000 kg).

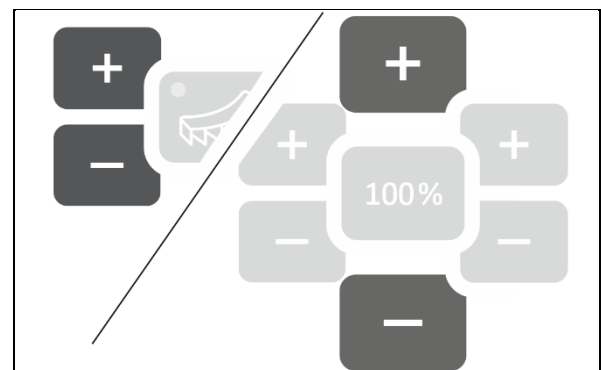


2. Enter the spread rate.


The value is automatically saved



3. Return to the work display.



2.3 Entering the working width


1.  Select the working width setting.

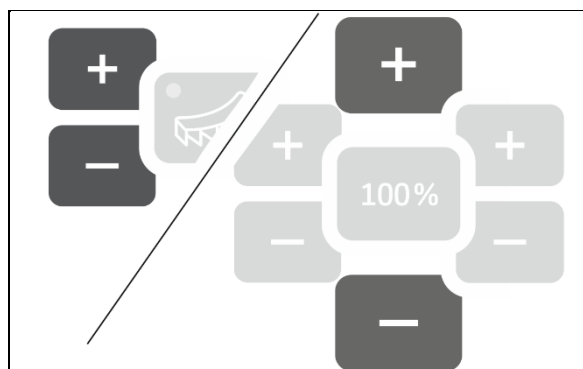
→ Working width is shown in m.



2.  ,  Enter the working width.

The value is automatically saved

3.  Return to the work display.



2.4 Determining/entering the calibration factor for fertilizer or lime

The calibration factor determines the control behavior of the implement computer and it depends on the flow characteristics of the material to be spread.

The calibration factor is determined using the spread rate that was spread and weighed at calibration.

- At calibration, a small quantity can be spread and collected using two collection buckets.
- Less precise method
- At calibration, a large quantity can be spread in a warehouse.
- Precise method
- Vehicle scale required
- Automatic termination of calibration after 999 seconds.

Fertilizer



- The calibration factor is specified in the setting chart for each fertilizer.
- Use the fertilizer calibration factor from the setting chart as a base value before calibration.
- The value of the setting chart is optimized through the calibration procedure.
- The determined calibration factor overwrites the value from the setting chart.



Realistic calibration factors for fertilizer (0.7 to 1.4):

- 0.7 for urea
- 1.0 for calcium ammonium nitrate (CAN)
- 1.4 for heavy PK fertilizers

Lime



- The calibration factor for lime approximately corresponds to the specific weight in kg/l, approximately 1.6 kg/l
- Use the specific weight in kg/l as the base value before calibration.
- The base value is optimized through the calibration procedure.
- The determined calibration factor overwrites the base value.






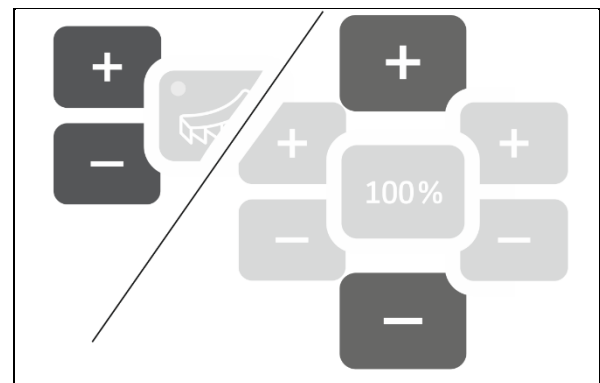
The value for the last used spread rate for fertilizer and lime and the calibration value are saved and automatically set after a conversion.

Entering the calibration factor

If the calibration value is known, it can be entered directly.



- 
 Select calibration.
 - The mode will be displayed.
 - TS – double shutter
 - C1 to C2 – lime
 - F1 to F3 fertilizers with single shutter
 - Calibration factor is displayed.
- 
 Set the calibration factor.
 The value is automatically saved
- 
 Return to the work display.




Determining the calibration factor




Calibration is performed when the implement is at a standstill and without the spreading disk drive!

1. Prepare for fertilizer calibration, refer to the implement operating manual.
2. When calibrating with large quantities, weigh the implement with sufficient spreading material.
3. Enter the working width and spread rate.



4.  Select calibration.
5. Enter the calibration value as base value.
 - o For lime: bulk density in kg/l
 - o For fertilizer: Value from the setting chart

6.  Press and hold the button for 6 seconds.

→ The calibration routine starts.

→ LED flashes rapidly.

For constant flow of the spreading material, perform a test run:

7.  Start spreading.


→ The calibration time is shown.

8.  Stop spreading after 10 seconds.

→ Do not use the spread quantity for the calibration.


9.  Confirm.

Perform the calibration:

10.  Start spreading.
→ The calibration time is shown.



- Calibration can be stopped at any time.
- Large quantities produce a more precise calibration value.

11.  Stop calibrating as soon as sufficient spreading material has been collected.
Small quantities: Fill the collection bucket completely.

or



Large quantities: If necessary, you can wait until automatic end of calibration after 999 seconds.

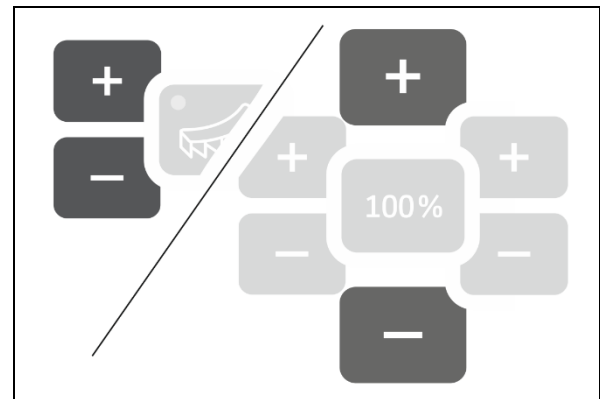
- The theoretically spread fertilizer quantity is shown in **kg**.

12. Small quantities: Weigh the collected quantity of fertilizer,

or


Large quantities: Weigh the implement and determine the difference in weight.



13.  ,  Overwrite the theoretical fertilizer quantity with the spread fertilizer quantity.



14.  End calibration.

The new calibration factor will be displayed.

15.  Back to the work display.

-   Switching off the implement discards the calibration.

2.5 Simulated speed / distance sensor



Select

- Depending on the last entered setting, either the value for the pulses per 100 m, or the value for the simulated speed will be displayed.

Display pulses per 100 m:

- Possible values from 250 to 35,000.



Display simulated speed:



- Possible values from 2 to 30 km/h.



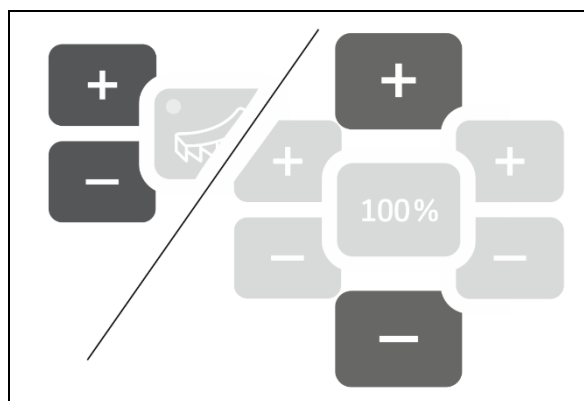
Changing from distance sensor to speed simulator



Shutter must be closed.

1.  Press until the distance sensor display reaches 250 (pulses).
2.  Press until the display changes from 250 (pulses) to 12 (km/h).


- The desired speed can now be entered.
- Speed simulator active
- Speed-proportional spread rate not active




Changing from speed simulator to distance sensor

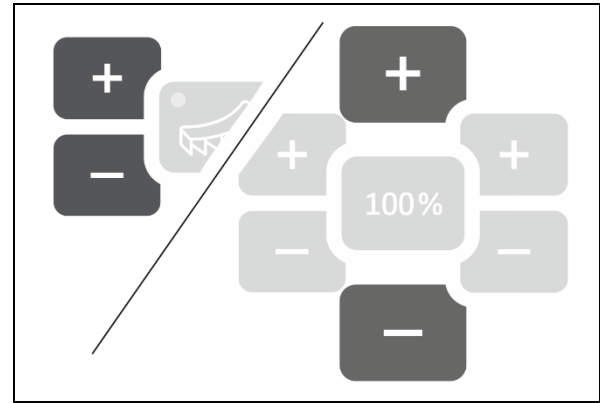


Shutter must be closed.

1.  Press until the speed simulator display reaches 30 (km/h).

2.  Press until the display changes from 30 (km/h) to 250 (pulses).

- The pulses per 100 m can now be entered.
- Speed-proportional spread rate active
- Speed simulator not active



2.5.1 Calibrating the distance sensor (pulses per 100 m)



The on-board computer needs the "Pulses per 100 m" calibration value to determine

- the current forward speed [km/h].
- the worked area.

If the calibration factor is unknown, you must determine the calibration value "Pulses per 100 m" by means of a calibration run.

If the calibration value "Pulses per (100 m)" is precisely known you can enter the calibration value manually.



Always determine the precise calibration value for "Pulses per 100 m" by means of a calibration run:

- Before initial commissioning.
- If there are differences between the determined and actual forward speed / distance traveled.

You must determine the "Pulses per 100 m" calibration value under the prevailing operating conditions.

Entering the pulses per 100 m



1. Select the distance sensor.

→ Pulses per 100 m will be displayed.

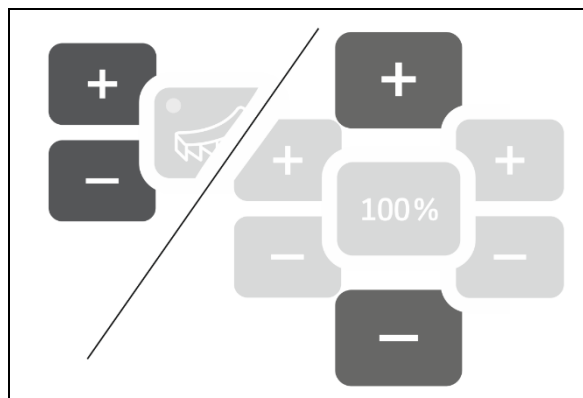


2. Enter the pulses per 100 m, if known.

The value is automatically saved

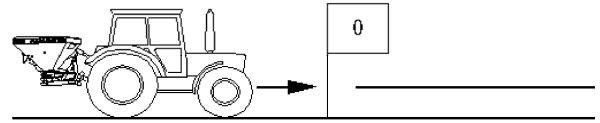



3. Return to the work display.



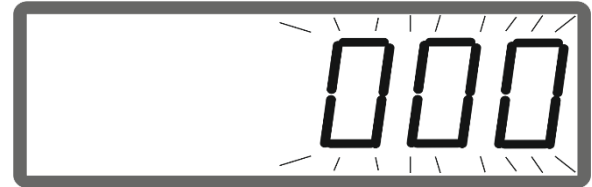
Determining the pulses per 100 m

1. Measure a calibration distance of exactly 100 m.
2. Mark the start point and end point.
3. Move to the starting point.



4.  Press and hold the button for 6 seconds.

→ The display is flashing.



5. Drive the calibration distance of exactly 100 m.


The pulses will be counted.

6. Stop.

→ The determined value for the pulses per 100 m will be displayed.

→ The display is flashing.



7.  Confirm the value and return to the work display.

2.5.2 Set the simulated speed.



Selecting a simulated speed makes it possible to work with the implement without a speed signal (distance sensor / pulses per 100 m).

The forward speed must equal the simulated speed in operation. If not, the correct spread rate will not be spread.



1. Select the simulated speed.

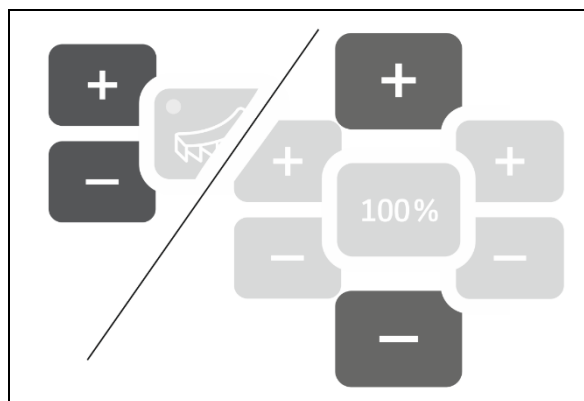
If the distance sensor display (values greater than 250) first switches to simulated speed, see page 12.



2. Enter the value for the simulated speed.





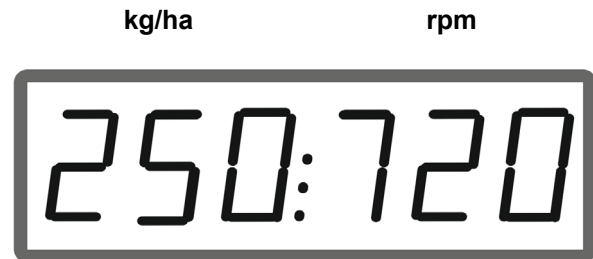
3. Return to the work display.





2.6 Switching spreading disk speed monitoring on/off

Switching on the speed monitoring for normal spreading

1. The spreading disk speed to be monitored is provided in the setting chart.
 2.  Change over the right side of the work display to spreading disk speed.
 3. Switch on tractor PTO shaft and run the spreading disks at target speed.
 4.  Press and hold the button for six seconds.
- The current spreading disk speed will be saved as the target speed for normal spreading.



Switching off speed monitoring for normal spreading

1.  Change over the right side of the work display to spreading disk speed.
 2. Do not run the spreading disks.
- Display for spreading disk speed must be 0.
3.  Press and hold the button for six seconds.
- Speed monitoring is switched off.



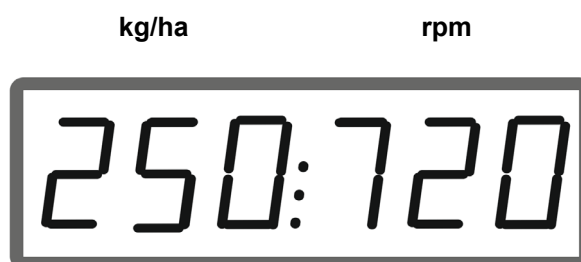
Switching on speed monitoring for boundary spreading


1. The spreading disk speed to be monitored is provided in the setting chart.




2. Switch on boundary spreading.

i When spreading lime, only the LED shows the status.





3.  Change over the right side of the work display to spreading disk speed.
4. Switch on tractor PTO shaft and run the spreading disks at target speed.

5.  Press and hold the button for six seconds.

→ Current spreading disk speed will be saved as the target speed for boundary spreading.


Switching off speed monitoring for boundary spreading

1.  Switch on boundary spreading.

2.  Change over the right side of the work display to spreading disk speed.

3. Do not run the spreading disks.

→ Display for spreading disk speed must be 0.

4.  Press and hold the button for six seconds.

→ Speed monitoring is switched off.



3 Using the EasySet 2

3.1 Spreading



- Before operation, enter the values for the spread rate in kg/ha and the working width.
- Determine the calibration factor.

1. Determine the switch-on point and switch-off point from the setting chart.



2. Switch on the implement and the work display will be shown.

3. Start driving with the spreading disks running.



4. Start spreading.



Double shutter: For one-sided spreading, select the appropriate side.

The LED indicates the selected side.



Work display in operation

- Spreading rate on both sides
- Forward speed

kg/ha

km/h



kg/ha

rpm





km/h
U/min

Changing the work display


- Spreading rate on both sides
- Spreading disk speed

3.1.1 Adjusting spreading disk speed monitoring

1.  Show the spreading disk speed on the work display.
2.  Press and hold the button to save the current spreading disk speed as the target speed.



→ The target speed is monitored at +/- 50 rpm.

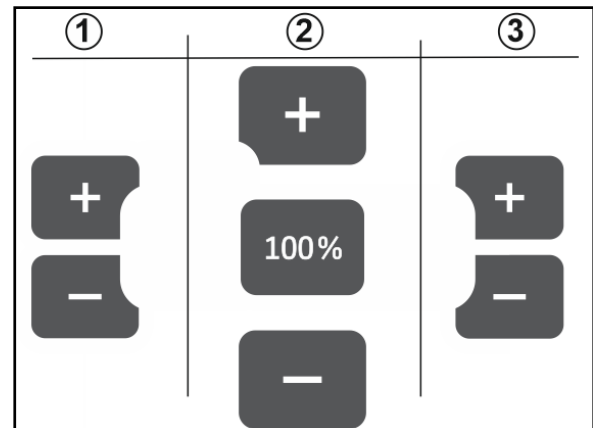
3.  Pressing and holding the button without spreading disk drive, deletes the monitoring.

3.1.2 Changing the spread rate

In operation, the spread rate can be changed by 10% each time the button is pressed.

In addition, you can return to the originally set spread rate (100%).

- (1) Change the spread rate on the left (only with double shutter)
- (2) Change the spread rate on both sides
- (3) Change the spread rate on the right (only with double shutter)



Work display in operation, if the spread rate is changed on one side or on both sides:

- The spread rate in kg/ha is shown separately for both shutters.



If the deviation from the setpoint is greater than 5%, the work display alternately shows the current value and error message E11.



3.1.3 Wedge-shaped field spreading

The multi-stage, one-sided rate change can also be used as manual part-width section control when driving into a wedge and when driving out of a wedge.

This improves the overlap and therefore fertilizer distribution between the area inside the field and the headlands area.

3.2 Boundary spreading

3.2.1 Boundary spreading with AutoTS for fertilizer



Depending on the boundary spreading method, the spread rate must be reduced on the boundary side.

1. The percent of rate reduction is provided in the setting chart.



2. Before boundary spreading / ditch spreading, reduce the rate on the boundary side.



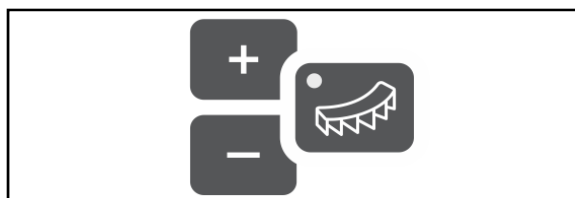
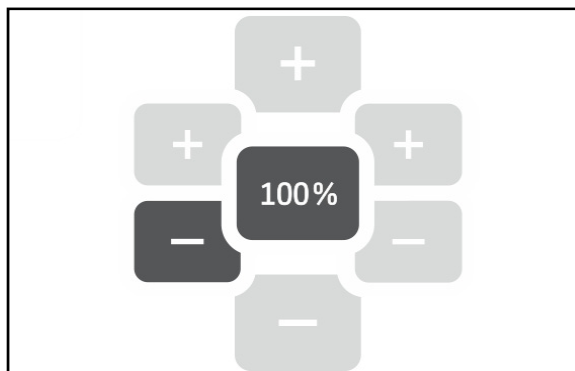
3. Switch on AutoTS.

The LED indicates that boundary spreading is active.



→ Display ON and target speed for boundary spreading appears for 5 seconds when speed monitoring is activated.



If spreading is started with the boundary spreading system switched on, a signal tone will sound.



After boundary spreading:

1.  Switch off AutoTS.
→ The LED goes out.
2.  If necessary, increase the spread rate on the boundary side back to 100%.



3.2.2 Boundary spreading with boundary spreading device for lime

1. Activate the tractor control unit.
→ Activate boundary spreading device.
The LED indicates that boundary spreading is active.



- Display ON appears for 5 seconds.



If spreading is started with the boundary spreading system switched on, a signal tone will sound.



After boundary spreading:

1. Activate the tractor control unit.
→ Activate the boundary spreading device for boundary spreading.
The LED goes out.



3.3 Displaying area efficiency

Day counter:



Display the worked area in ha since the last reset.




Press and hold the button for 6 seconds to reset the daily counter.

Total area efficiency:

Total area efficiency in ha is shown for 2 seconds after switching off and cannot be reset.




3.4 Performing residual emptying

1.  Press and hold the button for 6 seconds.


→ Emptying function is active, display is flashing

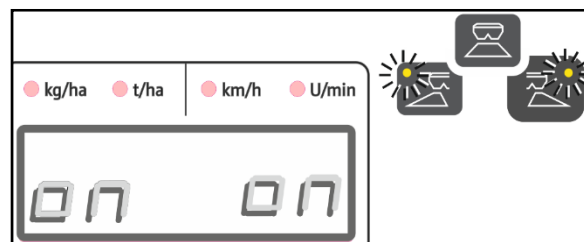
2.  Start spreading.

→ Display shows steady light.

3.  Stop spreading after residual emptying.

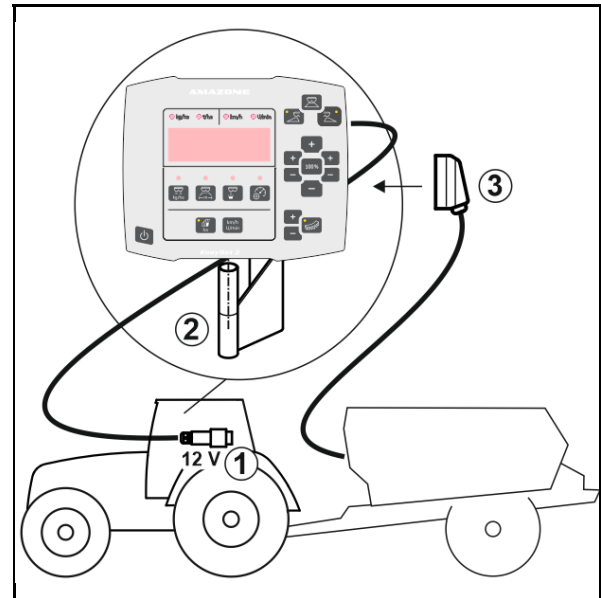
→ Display is flashing.

4.  Switching off the device ends the emptying function.



4 Connection

- (1) Connection cable 12 V
- (2) Equipment for mounting the EasySet 2 in the tractor cab
- (3) Implement plug connector for connecting the implement to the EasySet 2.



Store the control computer in a dry place when you take it out of the tractor cab.

5 Configuring the EasySet 2

5.1 Setting modes

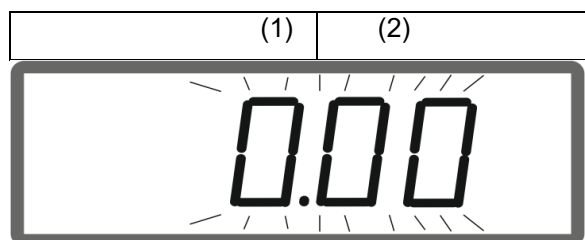
When replacing the on-board computer, it must be configured.

It is configured by setting the modes.

EasySet 2 is switched off!


1. Press and hold  , at the same time press and hold  until the the display ConF appears briefly.

→ Modes are shown flashing, LED is flashing.



2.  ,  Select implement mode (1).


- 0 – delivery status spare part
- 4 – ZG-TX with belt afterrun (standard)
- 6 – ZG-TX without belt afterrun
- 3 – not for use

3.  Save implement mode.

4.  ,  Select boundary spreading device mode (2).

- 00 – No boundary spreading device
- 01 – Lime boundary spreading device hydraulically activated with position sensor
- 03 – Boundary spreading AutoTS
- 04 – Lime boundary spreading device hydraulically activated with position sensor and AutoTS boundary spreading

Automatic changeover for lime and fertilizer conversion

5.  Save boundary spreading device mode separately.

→ EasySet 2 switches off automatically.

5.2 Calibrating the double shutter




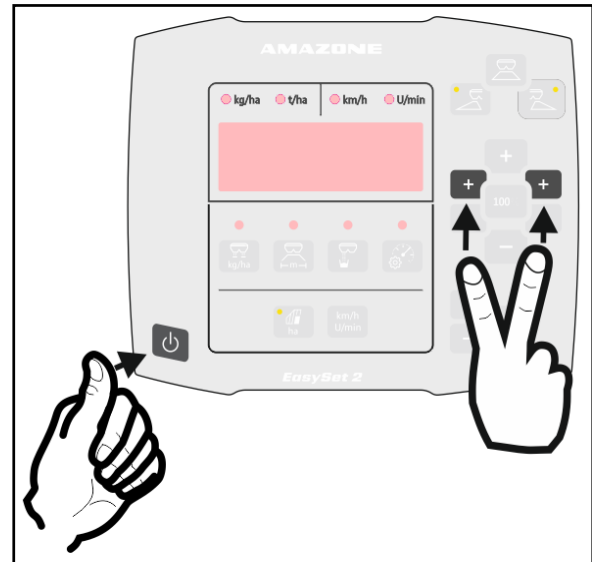
The double shutter must be calibrated in the following situations:

- If the desired spreading rate and actual spreading rate do not match.
- After mounting the double shutter.



EasySet 2 is switched off!

1. Press the buttons, switch-on rate left + and right +, simultaneously for 3 seconds.
→ First "ConF" appears briefly, and then the current calibration value appears briefly.
→ Shutter LEDs flash simultaneously.
2.  Start spreading.
→ Double shutter opens.






- The voltage values in volts for the left and right shutters are shown flashing.



Floor belt must be free of deposits.

Clean the floor belt in the area of the double shutter if necessary → **Workshop task**.



3.  Close right shutter for calibration.
→ New calibration value not flashing.
4.  Close left shutter for calibration.
→ New calibration value not flashing.
5.  Switch off EasySet 2.


5.3 Calibrate AutoTS




EasySet 2 is switched off!

1. Press  ,  simultaneously until "ConF" appears.


→ The current calibration values are flashing.

2.  Calibrate the normal spreading position.

→ New calibration value not flashing.





3.  Calibrate boundary spreading position.

→ New calibration value not flashing.

4.  Switch off EasySet 2.



5.4 Diagnostic menu

1. Press the buttons, switch-on rate left + and right +, simultaneously for 3 seconds.
 - First "ConF" appears briefly, and then the current calibration value appears briefly.
 - Shutter LEDs are flashing rapidly
2. Use the +/- buttons to adjust the shutters
The current voltage of the motors is displayed.
3.  Start the floor belt.
The pulses from the distance sensor are displayed.
4.  Display AutoTS diagnostics.
5. Adjust the AutoTS motor with the +/- buttons.
The current voltage will be displayed.
6.  Press and hold the button for 15 seconds.
The current value is displayed.
7.  Switch off the EasySet 2 to exit the diagnostics.



In the Diagnostics menu, the setting motors are directly activated with full power.

After a diagnosis has been performed, it may be necessary to recalibrate AutoTS.

6 Error messages

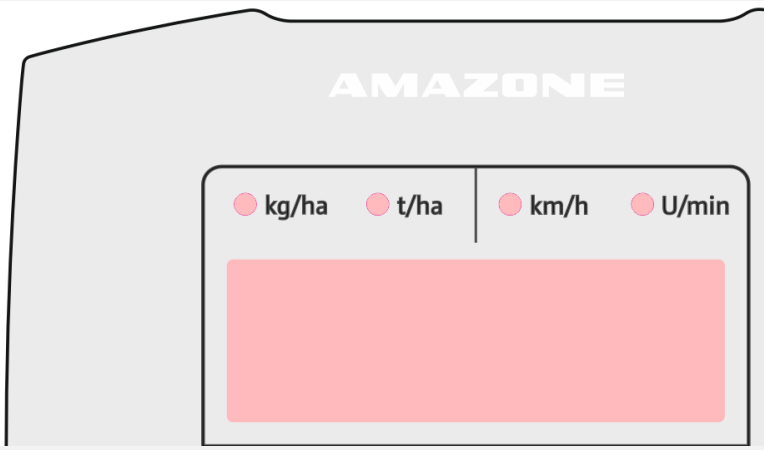
Message	Type	Description / trigger condition	Time until triggering	Effect	Remedy
E1	Warning	Mode 0 active.	0 s	No operation possible.	Set mode, see page 30
E2	Warning	Implement plug connector not plugged in.	0 s	No operation possible.	Plug in the implement plug connector on the EasySet 2
E6	Warning	Left shutter not responding; the activated setpoint position cannot be reached.	2 s	Drive deactivated. Restart required.	Check motor Eliminate the blockage, see implement operating manual.
E7	Warning	Right shutter not responding.	2 s	Drive deactivated. Restart required.	Check motor Eliminate the blockage, see implement operating manual.
E11	Warning	Setpoint cannot be maintained.	10 s	Alternating display: 1 s / E11, then 5 s ACTUAL value.	Adapt forward speed. Adjust the oil quantity.
E13	Warning	Setpoint spreading disk speed cannot be maintained.	10 s	Alternating display: 1 s / E13, then 5 s ACTUAL value	Adjust PTO shaft speed
E20	Warning	Calibration value is outside of the prescribed limits.	0 s	Display left: E20 Right: Calculated value	Repeat calibration
E32	Warning	Boundary spreading setting motor is not responding.	2 s	Drive deactivated. Restart required.	Check motor
E39	Warning	Angle sensor of the left shutter has failed.	0 s	E39 and ACTUAL value alternating.	Check sensor. Check motor plug connection.
E40	Warning	Angle sensor of the right shutter has failed.	0 s	E40 and ACTUAL value alternating.	Check sensor. Check motor plug connection.
E41	Warning	Boundary spreading sensor has failed.	0 s	E41 and ACTUAL value alternating.	Check sensor. Check motor plug connection.
E42	Warning	Fertilizer sluice sensor has failed.	0 s	E42 and ACTUAL value alternating.	Check sensor. Check motor plug connection.
E43	Warning	Fertilizer sluice sensor has failed.	0 s	E43 and ACTUAL value alternating.	12 V electronics or electronics ground has failed.
E44	Warning	Position for normal spreading is not reached.	5 s	The value deviates from the calibration factor.	Recalibrate. Check the position and the free-wheeling of the spreading vanes.

E45	Warning	Position for boundary spreading is not reached.	5 s	The value deviates from the calibration factor.	Recalibrate. Check the position and the free-wheeling of the spreading vanes.
E46	Warning	Calibration factor for boundary spreading outside of the prescribed limits for normal spreading is not reached.	5 s	The motor does not reach the tolerance range intended for the function. The motor has deviated from the calibration factor.	Check the spreading vanes / motor. Check the position and the free-wheeling of the spreading vanes.
E47	Warning	Position for normal spreading is not reached.	5 s	The motor does not reach the tolerance range intended for the function. The motor has deviated from the calibration factor.	Check the spreading vanes / motor. Check the position and the free-wheeling of the spreading vanes.
E48	Warning	Timeout when starting up the boundary spreading modes.	10 s	The motor does not reach the target position within 10 seconds.	Check the spreading vanes / motor. Check the position and the free-wheeling of the spreading vanes.
E49	Warning	Floor belt does not respond.	5 s	Activation will be stopped. E49 and oil alternating.	Switch on oil circulation. Check the floor belt sensor. At LS operating: Ensure oil flow.
E50	Warning	Spreading disk speed not present.	0 s	5 s continuous tone. "PTO off" and E50 alternating.	Switch-on the PTO shaft.

Error messages

7 Overview

MI20



Target quantity

kg/ha

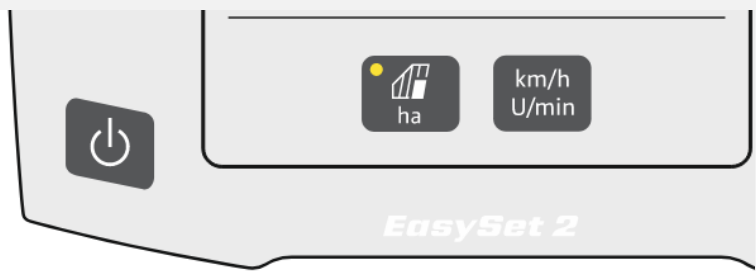
Working width

m

Calibrate (hold 6 seconds)

Calibrate distance sensor / simulated speed

On / Off




1. Area efficiency

2. **6** Seconds → area 0

1. Spreading disk speed / forward speed

2. **6** seconds → speed monitoring on

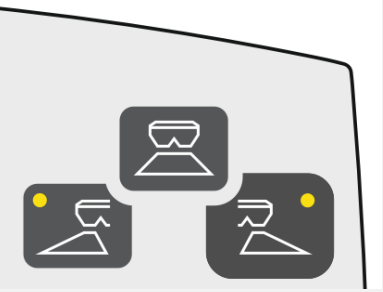
Boundary spreading on / off



+/- without function

1. Spreading on / off

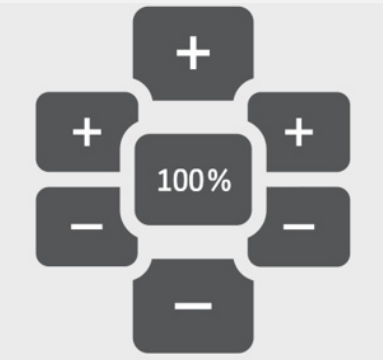
2. **6** seconds → residual emptying



Spreading left on / off (ZG with double shutter)

Spreading right on / off (ZG with double shutter)

Target rate on both sides higher / lower / 100%



Spreading left higher / lower (ZG with double shutter)

Spreading right higher / lower (ZG with double shutter)



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