

Operating Manual

AMAZONE

EasySet 2

Control computer
for

ZA-M

ZA-V

ZA-X



MG6764
BAG0217.9 06.22
Printed in Germany

SmartLearning



Please read this operating
manual before initial operation.
Keep it in a safe place for future
use!

en

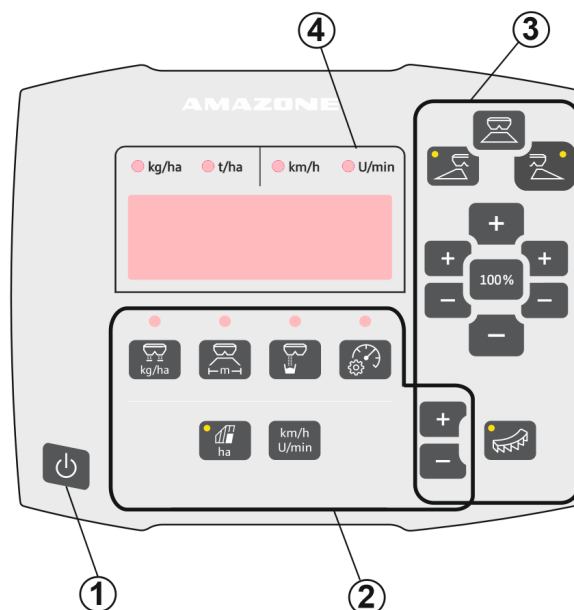


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1 Product description

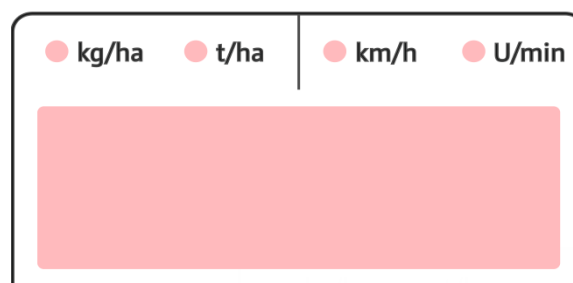
1.1 Overview

- (1) Switch On and Off button
After being switched on, the display shows the set shutter position
- (2) Adjustment buttons
Some with LED light for showing the activated function
- (3) Buttons for control during operation
Some with LED light for showing the activated function
- (4) Display with LED lights









1.2 Display

- Display for showing a maximum of 6 characters
- LED lights above the display show the units of the displayed value.



1.3 Adjustment buttons

-  Adjust the spread rate
 -  Adjust the working width, according to the setting chart and spreading disc
 -  Determine / set the calibration factor
 -  Select the simulated speed. Calibrate the distance sensor, enter the pulses per 100 m.
 -  Display of the daily output in ha
- Press and hold the button to reset the daily output
-  No function!



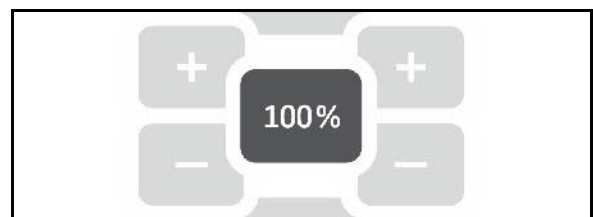
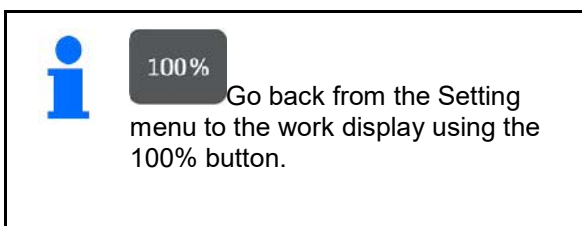
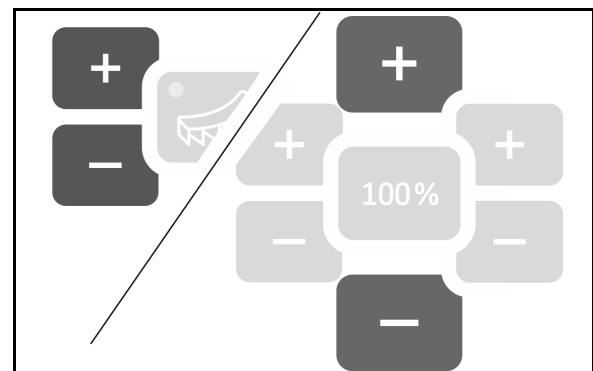
The LED lights show the selected setting.

Changing the setting values

In the active Setting menu, the setting values can be changed using the marked +/- buttons.

By pressing and holding the +/- buttons, the value changes rapidly.

Set values are automatically saved.



1.4 Buttons for operation

Open/close both shutters

Open/close left shutter



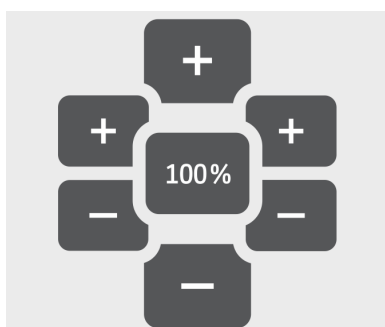
Open/close right shutter

Higher rate

Higher rate on the left

Reset rate to 100%

Lower rate on the left



Higher rate on the right

Lower rate on the right

Lower rate

Raise limiter electrically

Lower limiter electrically



Activate limiter



- LEDs (if equipped) show the selected function.
- By pressing and holding the +/- buttons, the value changes rapidly.
- Set values are automatically saved.

2 Preparing the EasySet2

2.1 Switching the EasySet2 on and off



Switch on the EasySet2.

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



Switch off the EasySet2.

- STOP is shown for 2 seconds.
- The total area efficiency is shown for 2 seconds.

2.2 Enter spread rate




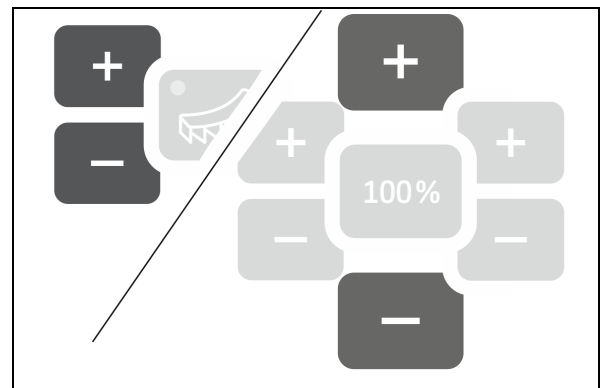
1. Select the spread rate setting.

→ The spread rate is shown in kg/ha.







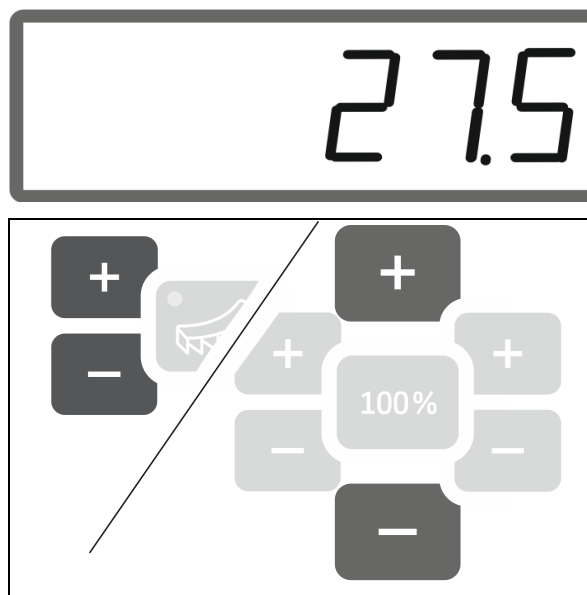
2.  ,  Enter the spread rate.

3.  Save the value and go back to the work display.



2.3 Entering working width

1.  Select the working width setting.
→ The working width is shown in m.
2.  ,  Enter the working width.
3.  Save the value and go back to the work display.



2.4 Determining/entering the fertiliser calibration factor

The fertiliser calibration factor determines the regulating behaviour of the implement computer and depends on the flow characteristics of the fertiliser to be spread.

In turn, the fertiliser flow characteristics depend on:

- fertiliser storage, storage time and climatic factors.
- working conditions.



- The fertiliser calibration factor can be found in the setting chart for each fertiliser.
- Use the fertiliser calibration factor from the setting chart as a base value before calibration.
- The value of the setting chart is optimised by calibrating the fertiliser.
- The determined fertiliser calibration factor overwrites the value from the setting chart.



Realistic calibration factors for fertiliser (0.7 to 1.4):

- 0.7 for urea
- 1.0 for calcium ammonium nitrate (CAN)
- 1.4 for fine, heavy PK fertilisers

Entering the fertiliser calibration factor


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

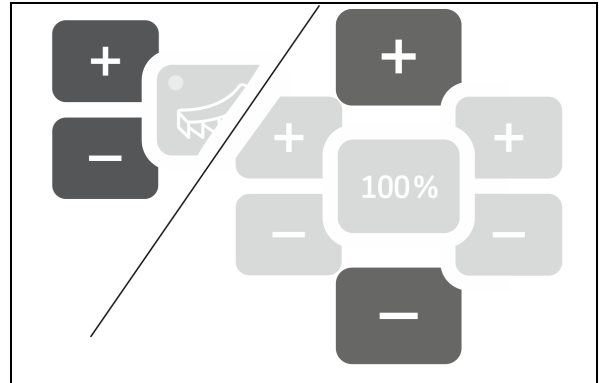


Select calibration.

→ The calibration factor will be displayed.

4.  ,  Set the calibration factor.

5.  Save the value and go back to the work display.




Determining the fertiliser calibration factor with the left shutter


1. Prepare for fertiliser calibration using the left shutter, refer to the implement operating manual.
2. Arbeitsbreite und Ausbringmenge eingeben.

3.  Select calibration.


4. Enter the calibration value as a base value.

5.  Press and hold the button for 6 seconds.

→ The calibration routine starts.

6.  Open the left shutter.

→ The calibration time is shown.

3.  Close the left shutter as soon as enough spreading material has been collected.



- o Fertiliser: Fill the collection bucket completely.
- o Slug pellets and fine seeds: Collect approx. 5 kg.

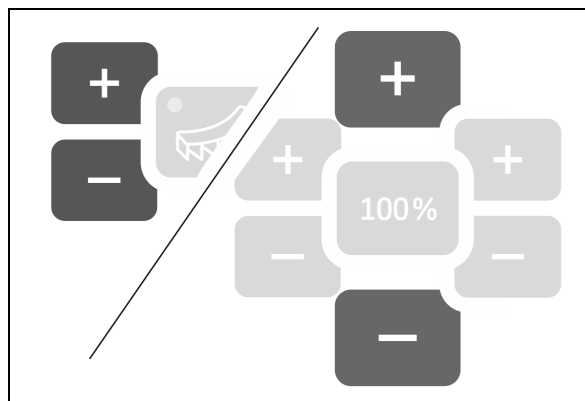
→ The theoretically spread fertiliser quantity is shown in kg.



Preparing the EasySet2



8. Weigh the collected fertiliser quantity.


9.  ,  Overwrite the theoretical fertiliser quantity with the collected fertiliser quantity.



10.  Terminate the calibration.

→ The new calibration factor will be displayed.

-   By switching off the device, the calibration will be discarded.

11.  Save the value and go back to the work display.

Determining the fertiliser calibration factor with the lateral calibration device



See also operating manual for the implement.

1. Perform a spread rate check with the lateral calibration device.
2. Enter the collected quantity of fertiliser and the required time in the calculation formula and calculate the calibration factor.

Enter the calibration factor:



3. Select calibration.

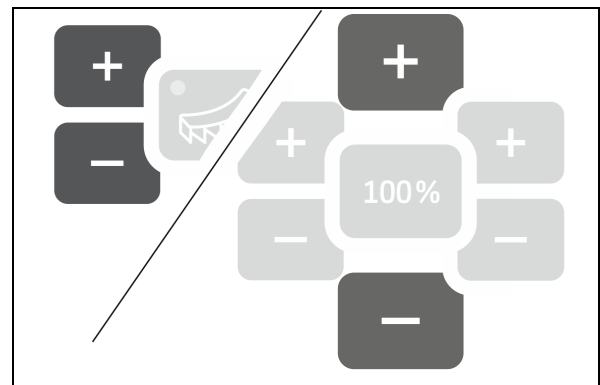
→ The calibration factor will be displayed.



4. Set the calibration factor.



5. Save the value and go back to the work display.



Formula to calculate the calibration factor:

ZA-M:	Calibration factor =	2.2 x	$\frac{\text{Collected fertiliser quantity [kg]}}{\text{Time [s]}}$
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ZA-V:	Calibration factor =	0.65 x	$\frac{\text{Collected fertiliser quantity [kg]}}{\text{Time [s]}}$
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ZA-X:	Calibration factor =	1,89 x	$\frac{\text{Collected fertiliser quantity [kg]}}{\text{Time [s]}}$
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2.5 Simulated speed / distance sensor



Select

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

Pulses per 100 m display:

- Possible values from 250 to 350.



Display of the simulated speed:



- Possible values from 2 to 30 km/h.



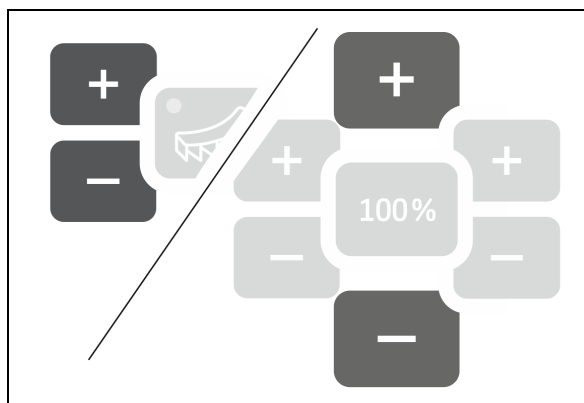
Switching from the distance sensor to the speed simulator



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 metering not active

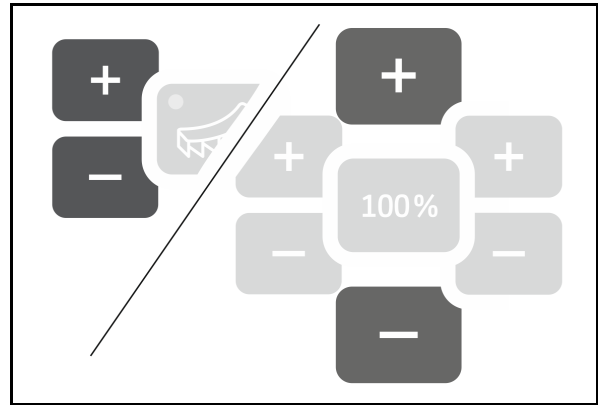


Switching from the speed simulator to the distance sensor



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

If the calibration value is not known, it must be determined by means of a "Pulses per 100 m" calibration run.

You can enter the "Pulses per 100m" calibration value manually in the if the precise calibration value is known.



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

- before initial operation.
- when using a different tractor or after changing the tractor tyre size.
- if there are differences between the measured and actual forward speed / distance travelled.
- if there are differences between the measured and actual worked area.
- if there are different soil conditions.

The "Pulses per 100 m" calibration value must be determined under the prevailing operating conditions. If operation is carried out with all-wheel drive switched on, you must also switch on the all-wheel drive when determining the calibration value.

Entering the pulses per 100 m



1. Select the distance sensor.

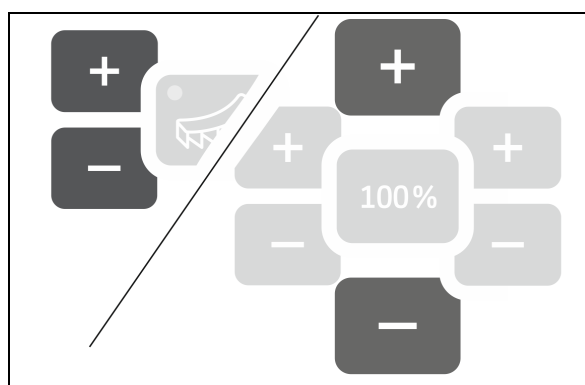
→ The pulses per 100 m will be displayed.



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

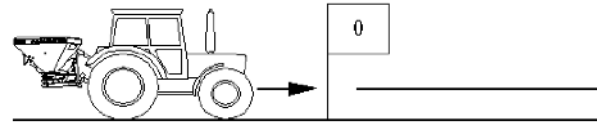



3. Save the value and go back to the work display.



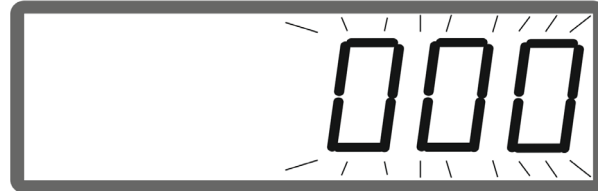
Determining the pulses per 100 m

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



4.  Press and hold the button for 6 seconds.

→ The display flashes.



5. Drive the calibration distance of exactly 100 m.


→ The pulses are being counted.

6. Stop.

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

→ The display flashes.




7.  Confirm the value and go back to the work display.

2.5.2 Setting the simulated speed.



Selecting a simulated speed enables working with the implement without a speed signal (distance sensor / pulses per 100 m).

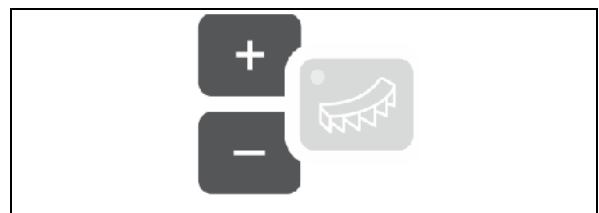
The forward speed must correspond to the simulated speed during operation. Otherwise, the correct spread rate will not be achieved.

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 Using the EasySet2

3.1 Spreading fertiliser



- Enter the values for the spread rate in kg/ha and the working width before operation.
- Determine the fertiliser calibration factor.

Work display at a standstill:

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



When the spreading discs are driven, start driving and simultaneously open the shutters.



For spreading on one side, select the corresponding shutter.



The LED shows which shutter is open on one side.



After pressing the button, you must start driving within 6 seconds.

"SPEED" display

Then error message E50 appears.

→ Press the button again.



The shutters are closed when the speed is lower than 1.5 km/h.

→ When the implement accelerates within 6 seconds, the shutters are opened again.
"SPEED" display

→ If the implement accelerates after more than 6 seconds, the shutters remain closed. Press the button again if necessary.
Error message E50

Work display while driving:

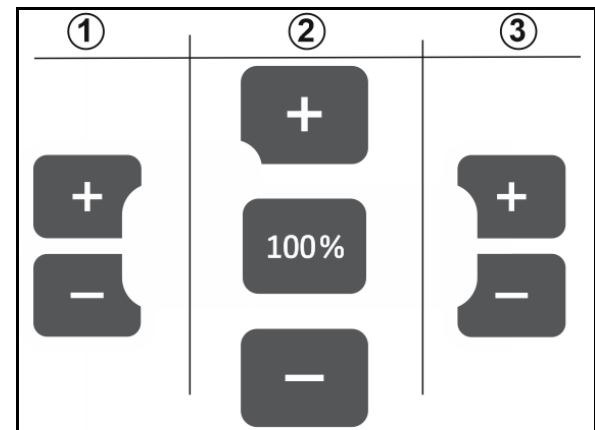
- The spread rate on both sides and the forward speed are shown.



During operation, the spread rate can be changed on both sides or on one side by 10% each time the button is pressed.

Moreover, the originally set spread rate (100%) can be restored.

- (1) Rate on the left
- (2) Rate on both sides
- (3) Rate on the right



Work display while driving when the spread rate is changed on one side or 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.




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 the fertiliser distribution between the area inside the field and the headland area.

3.2 Performing boundary spreading


Electrically operated limiter


 Read the value for adjusting the angle of the limiter (0-100) from the setting chart.

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



Read the value for the reduction of the shutter position from the setting chart.


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

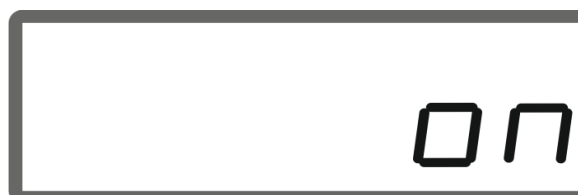
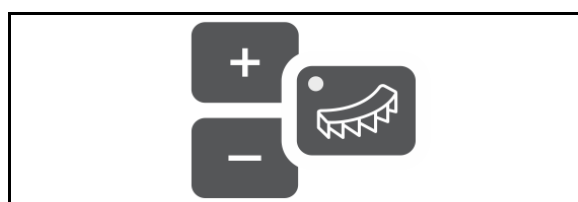
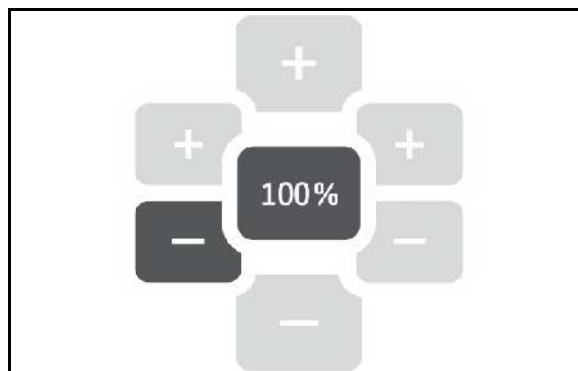
2.  Activate the limiter for boundary spreading.

The LED shows the activated limiter.

→ Brief display of the limiter position (1-100)

→ Display ON for 5 seconds after opening the shutter. Then it switches back to the Work display.

 If the shutters are opened when the limiter is activated, an signal tone is issued. This also indicates boundary spreading.



The limiter position can be adjusted.



Lift the limiter higher.

- Smaller effect of the boundary spreading deflector.
- Greater throw distance.



Displayed value becomes smaller.

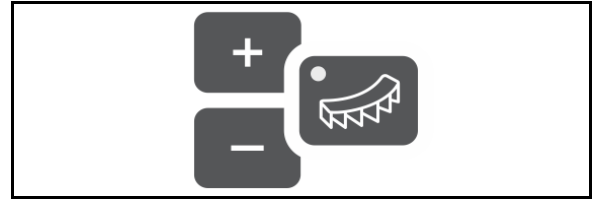


Lower the limiter further down.

- Greater effect of the boundary spreading deflector.
- Smaller throw distance.



Displayed value becomes larger.



After boundary spreading:



1. Deactivate the limiter.

- The LED is turned off.



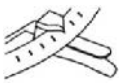
2. If necessary, set the rate on the boundary side back to 100%.



Hydraulically operated limiter with position sensor



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



Read the value for the reduction of the shutter position from the setting chart.

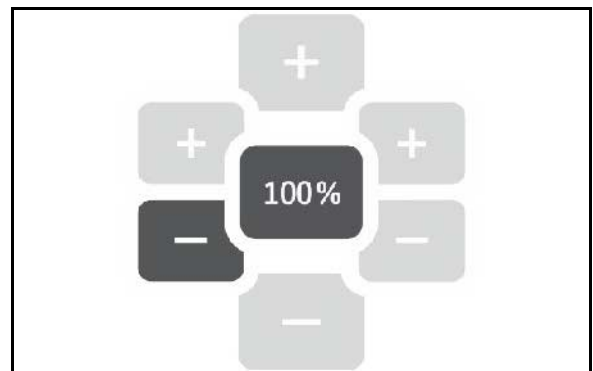


1. Before boundary spreading / ditch spreading, reduce the rate on the boundary side.

2. Actuate the tractor control unit.

- Activate the limiter for boundary spreading.

The LED shows the activated limiter.



Using the EasySet2

Limiter activated

→ Display ON for 5 seconds after opening the shutter.



If the shutters are opened when the limiter is activated, a signal tone is issued. This also indicates boundary spreading.



After boundary spreading:

1. Actuate the tractor control unit.

→ Deactivate the limiter for boundary spreading.

The LED is turned off.




2. If necessary, set the rate on the boundary side back to 100%.

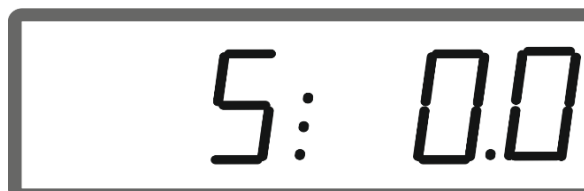



3.3 Spreading slug pellets and fine seeds



- Enter the values for the spread rate in kg/ha and the working width before operation.
- Determine the calibration factor for slug pellets or fine seeds, see page 9.
- Set and maintain the simulated speed, see page 12

1.  Switch on the implement and the work display will be shown:
2. Set the simulated speed.



3.  When the spreading discs are driven, start driving and simultaneously open the shutters.



For spreading on one side, select the corresponding shutter.

The LED shows which shutter is open on one side.



Reach the set simulated speed as quickly as possible. Maintain the simulated speed while spreading slug pellets or fine seeds.

Work display while driving:

- The spread rate on both sides and the forward speed are shown.

kg/ha

km/h



3.4 Displaying the area efficiency

Daily 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:

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



3.5 Performing residual emptying



1. Press and hold the button for 6 seconds.

- The emptying function starts, the display flashes



2. Open the left / right shutter for residual emptying.

- The display is continuously illuminated.

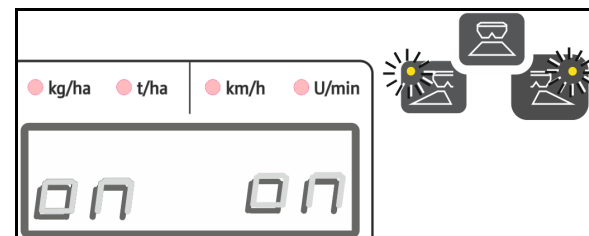


3. Close the left / right shutter after residual emptying.

- The display flashes.

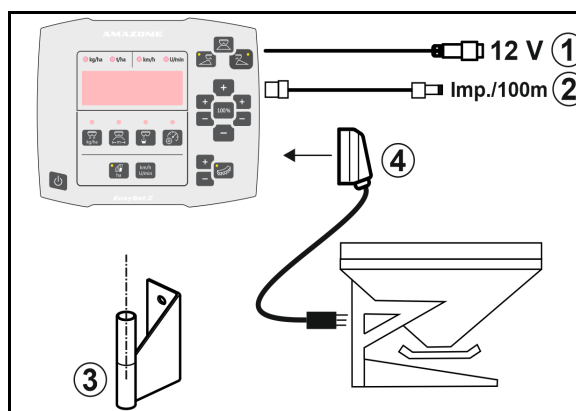


4. Switching off the device terminates the emptying function.



4 Connection

- (1) Connection cable 12V
- (2) Connection cable for the speed signal
For ground speed-related spread rate control (Mode 4, 5), the connection cable for the speed signal (pul./100m) must be connected to the signal socket or to a wheel sensor.
- (3) Equipment for installing the EasySet in the tractor cab
- (4) Implement plug to connect the implement to the EasySet.



Store the control computer in a dry place when you remove it from the tractor cab.

5 EasySet 2 configuration

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

Configuration is performed by setting the modes.

Setting the modes


EasySet is switched off!

1. Press and hold , and press  at the same time and hold until the display briefly shows ConfF.

→ Modes are shown flashing, LED flashes.


2.   Select implement mode (1).

- 0 - Delivery status spare part
- 1 - ZA-M
- 2 - ZA-V
- 3 - ZA-X

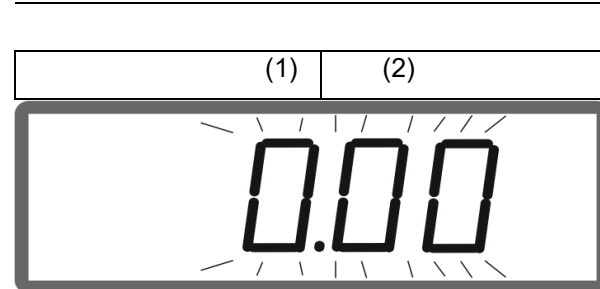
3.  Save implement mode.

4.   Select boundary spreading device mode (2).

- 00 – No boundary spreading
- 01 – Hydraulically operated limiter with position sensor
- 02 – Electrically operated limiter

5.  Save boundary spreading device mode.

→ EasySet is automatically switched off.



5.1.1 Calibrating the shutters



The shutters must be calibrated in the following situations:

- After working on the bottom group.
- If the desired and actual spread rate do not concur.

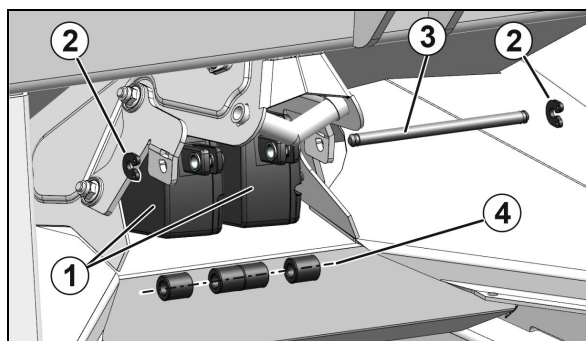
Calibrate both shutters on the ZA-X



Prerequisite:

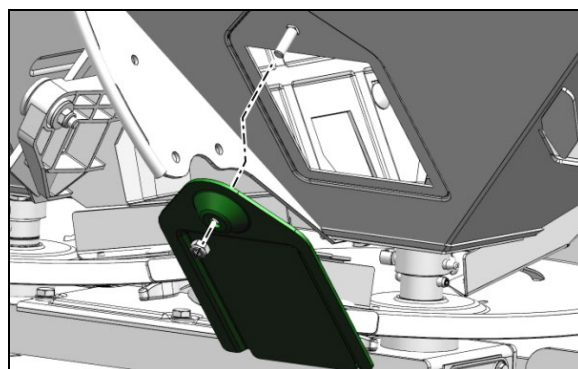
- Round steel with a diameter of 20 mm and a length of approx. 10 cm.
- Two persons

1. Unhook the motor (1) on the left and right. To do so, remove the locking clip (2), pull out the pin (3) and remove the sleeves (4).



2. Open shutter. For this purpose, slide both motors slightly to the rear.

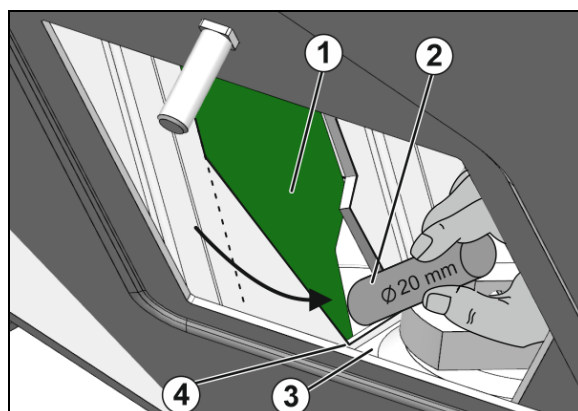
3. Remove the maintenance flaps on the left and right.



4. Insert the round steel (2) through the right maintenance flap vertically relative to the shutter (1) into the right shutter opening and hold it tight.



The round steel must touch the shutter opening (4) and must not rest on the bottom plate (3)!



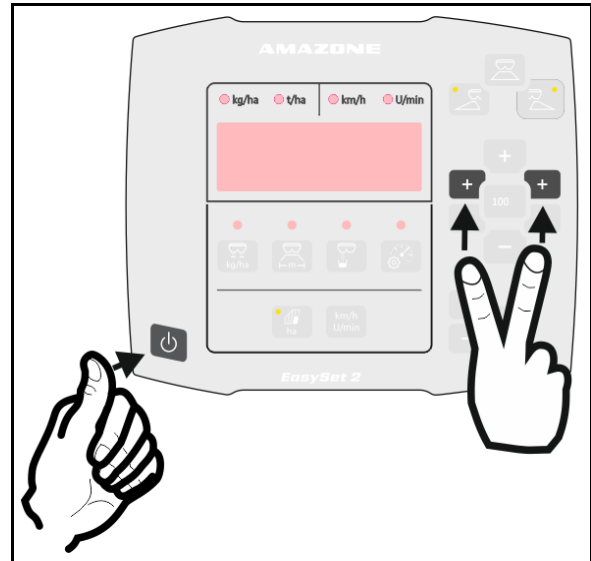
5. Close the right shutter manually until the shutter touches the round steel. To do so, pull the right motor back towards the front.



EasySet is switched off!

6. Press the Power on, rate left + and right + buttons simultaneously and hold for 3 seconds.

- "ConF" and the current calibration value appear briefly consecutively.
- The shutter LEDs are flashing.



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



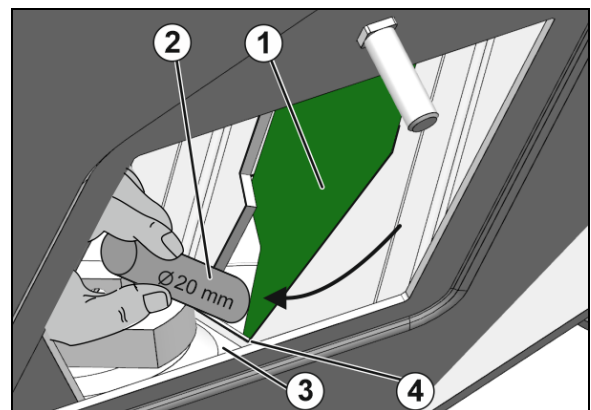
7. Confirm the calibration for the right shutter.

8. Insert the round steel (2) through the right maintenance flap vertically relative to the shutter (1) into the left shutter opening and hold it tight.



The round steel must touch the shutter opening (4) and must not rest on the bottom plate (3)!

9. Close the left shutter manually until the shutter touches the round steel. To do so, pull the left motor back towards the front.



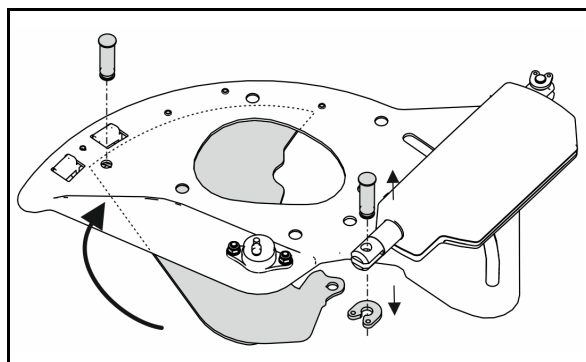
10. Confirm the calibration of the left shutter.

- EasySet then switches itself off automatically and the calibration is finished.

11. Remove the round steel.
12. Attach the motor to the shutter again.
13. Install the maintenance flaps.

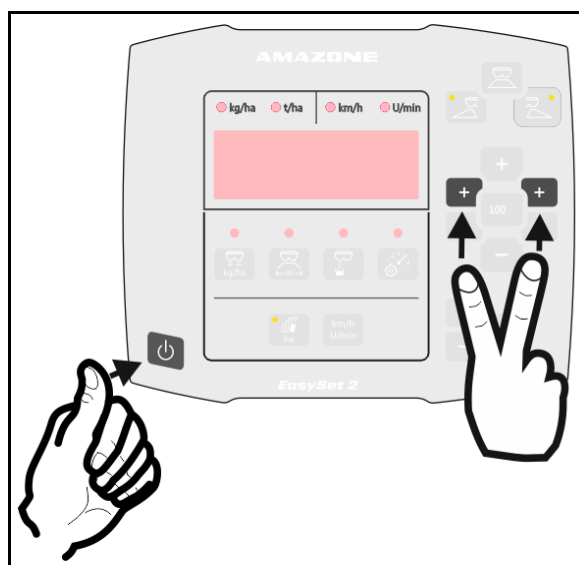
Calibrating both shutters on the ZA-X

1. Remove the locking clip from the pin on the motor and remove the pin.
2. Put the shutter into the calibration position.
To do so, turn the shutter manually such that the holes in the shutter and in the floor plate are aligned.
3. Secure the calibration position with the pin for fastening the motor.
4. Perform work steps 1-3 on both sides.



EasySet is switched off!

5. Press the Power on, rate left + and right + buttons simultaneously and hold for 3 seconds.
- "ConF" and the current calibration value appear briefly consecutively.
- The shutter LEDs are flashing.



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

6.



Confirm the calibration of the left shutter.

7.



Confirm the calibration for the right shutter.

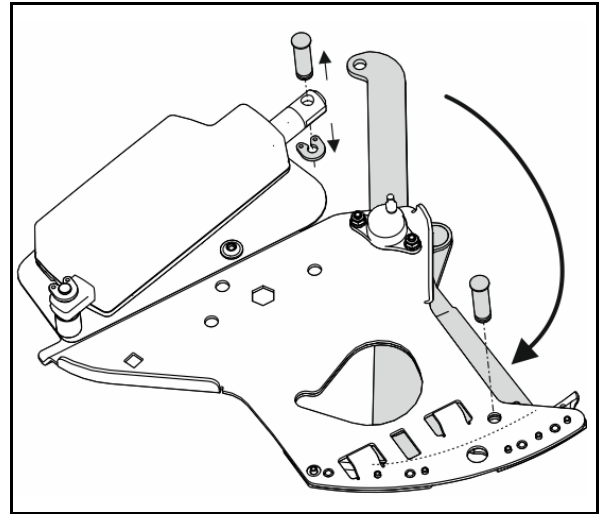
→ EasySet then switches itself off automatically and the calibration is finished.

8. Connect the motor and shutter again with the pin and locking clip.



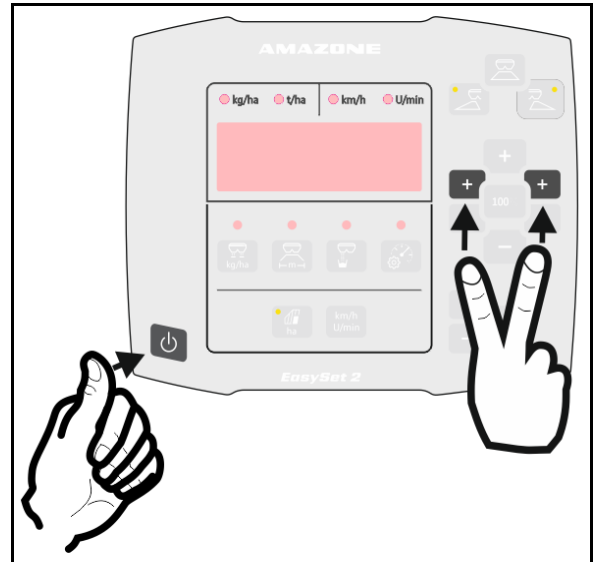
Calibrating both shutters on the ZA-M

1. Remove the locking clip from the pin on the motor and remove the pin.
2. Put the shutter into the calibration position.
To do so, turn the shutter manually such that the holes in the shutter and in the floor plate are aligned.
3. Secure the calibration position with the pin for fastening the motor.
4. Perform work steps 1-3 on both sides.



EasySet is switched off!

5. Press the Power on, rate left + and right + buttons simultaneously and hold for 3 seconds.
- "ConF" and the current calibration value appear briefly consecutively.
- The shutter LEDs are flashing.



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



6. Confirm the calibration of the left shutter.



7. Confirm the calibration for the right shutter.

- EasySet then switched itself off automatically and the calibration is finished.
8. Connect the motor and shutter again with the pin and locking clip.



5.2 Error messages

Message	Type	Description / trigger condition	Time until trigger	Effects	Remedy
E1	Warning	Mode 0 active	0 s	Operation not possible	Set the mode, see page 28
E6	Warning	Left shutter is not responding; the actuated setpoint position cannot be reached	2 s	-	Check motor Eliminate the blockage, see below.
E7	Warning	Right shutter is not responding	2 s	-	Check motor Eliminate the blockage, see below.
E11	Warning	Setpoint value cannot be maintained	10 s	Alternating display: 1 s / E11, then 5 s ACTUAL value	Adjust forward speed
E20	Warning	The calibration value is outside of the prescribed limits	0 s	Display on the left: E20 On the right: calculated value	Repeat calibration
E32	Warning	Boundary spreading setting motor is not responding	2 s	The output of the boundary spreading system must be switched off	Check motor
E39	Warning	Angle sensor of the left shutter has failed	0 s	-	Check the sensor
E40	Warning	Angle sensor of the right shutter has failed	0 s	-	Check the sensor
E41	Warning	Boundary spreading sensor failure	0 s	-	Check the sensor
E50 / SPEED	Warning	With the safety function, the shutters only open when a forward speed signal is available after 6 seconds.	0 s	5 s continuous tone	Open the shutter when the forward speed is reached.

Eliminating blockage

1. Activate the simulated speed, see page 12.
2. Open and close the shutter through the Emptying menu, see page 21.

**WARNING**

Risk of crushing fingers in the electrically actuated shutters.

There may not be anybody else working on the shutters when they are opened and closed.

3. Before working on the bottom group, switch off the control computer.

6 Overview

AMAZONE

kg/ha t/ha km/h U/mi

1. Open/close both shutters
2. 6 seconds → residual emptying

Open/close left shutter Open/close right shutter

Target rate on both sides higher/lower/100%

Target rate Working width Calibrate (hold for 6 seconds) Calibrate distance sensor / Simulated speed

Target rate on the left higher/lower Target rate on the right higher/lower

On / Off

1. Area efficiency
2. 6 seconds → area 0

Activate / deactivate limiter

1. Limiter tilt
2. Change the setting values

EasySet 2





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