User Manual

Acre meter AGRETO AgriCounter Drive

Content

1 Introduction

Thank you for choosing an AGRETO AgriCounter Drive. You have acquired a robust tool for daily use.

Please read this manual carefully before using the equipment.

2 Scope of delivery

- 1 Display unit
- 1 Mounting plate
- 2 AAA batteries
- 5 Seals
- Mounting parts
- Manual

3 Intended use

The AGRETO AgriCounter Drive is designed to measure the number of revolutions of wheels and other rotating parts on all types of machines and devices.

Activation takes place by direct rotation of the counter itself.

By multiplying the revolutions with the wheel circumference, a traveled distance can be calculated. An area can be calculated by multiplying it by the working width of the implement.

The counter has different operating modes. Depending on the setting, the operating hours can also be counted. The operating hours are determined by movement or vibration of the machine, regardless of the rotation.

4 Security

4.1 Safety instructions for the buyer

Important!

Make sure that every person who works for the first time with the AGRETO AgriCounter, has read and understood this manual.

4.2 Safety instructions for the operator

DANGER!

The AGRETO AgriCounter may only be operated by persons who are familiar with the operation of the device.

CAUTION!

Keep the work area clean! Soiled areas contributes to accidents.

RISK!

Risk of injury from tip-over / fall and inattention while working with the measuring instrument during getting on and off the tractor.

4.3 Personal protective equipment

WARNING!

For individuals who work with the device or reside in the working area the wearing of safety shoes are required.

4.4 Residual risks

When using the device residual hazards for persons and objects may occur that can‘t be prevented by design or technical protection measures.

WARNING!

The AGRETO AgriCounter must not be operated in explosive areas.

5 Technical specifications

- Packaging dimensions: 220x160x50 mm (LxWxH)
- Package weight: 450 g
- Device dimensions: 73 x 52 x 33 mm (WxHxD)
- Weight: 230 g
- Dust and waterproof plastic housing
- 3 internal control buttons for configuration
- Six-digit display with 11 mm digit height
- Icons for displaying additional information
- Powered by 2 x AAA batteries
- Battery life approx. 3 years

6 Configuration

6.1 Selection of the operating mode

The AGRETO AgriCounter Drive has 7 operating modes, in which various data can be recorded.

First, decide which operating mode is suitable to your application, set the required settings if necessary, and then mount the counter on your machine!

Operating mode 2A – Area (standard)

In this operating mode, the counter registers the number of revolutions around its own axis. The area is calculated from the number of revolutions per 100 m and the working width, the sum oft he area is displayed.

The counter is mounted on the rim of a wheel or on a part that rotates depending on the path.

Operating mode 2B – Area and hours

In this mode, the area is counted as in 2A.

Additionally the operating hours are recorded. The counter reacts to vibrations and movements of the machine independently of the rotation and shows the total number of operating hours too.

Operating mode 2C – Distance

In this mode, the counter registers the number of revolutions around its own axis. The distance is calculated from the number of revolutions per 100 m and the total is displayed.

The counter is mounted on the rim of a wheel or on a part that rotates depending on the path.

Operating mode 2D – Distance and hours

In this mode, the distance is counted as in 2C.

Additionally the operating hours are recorded. The counter reacts to vibrations and movements of the machine independently of the rotation and shows the total number of operating hours too.

Operating mode 2E – Revolutions

In this mode, the counter registers the number of revolutions around its own axis, the total is displayed.

The counter can be mounted on any rotating part.

Operating mode 2F – Revolutions and hours

In this mode, the revolutions are counted as in 2E.

Additionally the operating hours are recorded. The counter reacts to vibrations and movements of the machine independently of the rotation and shows the total number of operating hours too.

Operating mode 2F – Speed

In this mode, the current speed is displayed by recording the revolutions of the counter around its own axis and the set number of revolutions per 100 m.

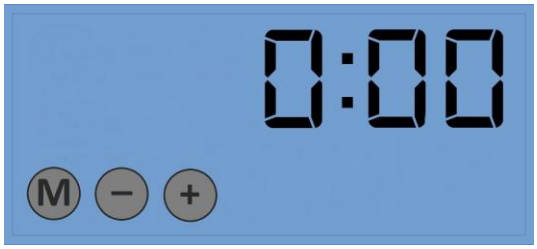
The counter is mounted on the rim of a wheel or on a part that rotates depending on the path.

Overview:

Operating mode	Output	Activation by
2 A (default)	Area	Rotation
2 B	Area Operatin hours	Rotation Vibration / movement
2 C	Distance	Rotation
2 D	Distance Operatin hours	Rotation Vibration / movement
2 E	Revolutions	Rotation
2 F	Revolutions Operatin hours	Rotation Vibration / movement
2 G	Speed	Rotation

6.2 Operating Keys

The control buttons are located inside the device and accessible from the back with the mounting plate removed.



To change settings, look at the buttons and then turn the device with the display to the front to read the display.

Button	Definition	Function
M	Menu	Entry into the menu Continue to the next parameter, exit from the menu
-	Minus	Back to the previous step Decrease a parameter by 1
+	Plus	Continue to the next step Increase a parameter by 1

6.3 Setting the operating mode

On delivery, the operating mode 2A is preset.

To change the operating mode, press and hold the "M" button for 3 seconds. After releasing the key, the display briefly shows "MOdE" and then the current setting of the operating mode appears.

Change to the desired operating mode with the "+" or "-" buttons.

The "M" key (or if you wait 10 seconds) will save the selection and exit the menu.

Please note: Changing the operating mode will reset all totals to 0.

6.4 Setting the parameters

In order to customize the working method of the counter for the individual purpose, various parameters can be set. Not all parameters are available in each mode.

To determine the area, distance or speed, the parameter **r100 - revolutions per 100 m** must be set in any case.

To determine the area, the parameter **WidE - working width** must be set.

The parameters **SENS** and **hoLd** are only relevant for the hour counting; the default settings should be suitable for most applications.

To open the parameter menu, briefly press the "M" key. The first parameter that is relevant for the set operating mode appears on the display.

The name of the parameter is displayed for two seconds, then the set value appears.

Use the "+" or "-" keys to change the value of the parameter. For parameters with a large setting range, the value can be changed more quickly by holding the "+" or "-" button for 3 seconds.

Use the "M" key to change to the next parameter, the set value is saved. After the last parameter, the first parameter is displayed again.

To exit the menu, press and hold the "M" button for three seconds, or simply wait 10 seconds without pressing a button.

Parameter r100 – Revolutions per 100 m (modes 2A, 2B, 2C, 2D, 2G)

This parameter specifies the number of revolutions of the counter around its own axis per 100 meters traveled.

You can calculate the number from the circumference of the wheel on which the meter is mounted by dividing 100 by the circumference in meters.

It is better to mark out a distance of 100 meters, drive along it and count the number of revolutions.

The number can be set with an accuracy of 0.05.

Adjustable range: 10 to 300, default value: 60

Parameter WidE – Working width (modes 2A, 2B)

This parameter defines the working width of the device in meters. This width is used to calculate the area. Therefore, take into account possible overlaps.

The number can be set with an accuracy of 0.05.

Adjustable range: 0.05 to 50, default value: 3

Parameter SENS - Sensitivity (modes 2B, 2D, 2F)

This parameter determines from which intensity of a movement the count is triggered, ie how strong the vibration or movement must be. The higher the value, the stronger the movement must be to trigger or continue the count.

0 = highest sensitivity (counts even on very small movements)

2 = a running internal combustion engine is already detected

4 = default

10 = lowest sensitivity (only counts for extreme movements)

The parameter SENS is related to the parameter hoLd, since a movement must always have a certain intensity and must be present for a certain period of time in order to trigger the summation.

Parameter hoLd – Holding time (mode 2B, 2D, 2F)

In idle mode, this parameter determines the time in seconds that the counter waits after a first move to actually start the totalization permanently. If there is another movement within the set time (which is strong enough), the time from the first movement is added up and the counter is in counting mode. If there is no further movement within the set time, the counting is stopped and the sum is reset to the initial value.

1 = summation starts immediately after the first movement

20 = default

100 = summation is started after 100 seconds

In counting mode, this parameter determines the length of a rest period in seconds, during which the count continues without interruption. If another movement follows within the set time (which is strong enough), the complete time is added up, including the rest phase. If the rest period lasts longer than the set time, the count stops and the sum is reset to the value at the beginning of the rest phase. The meter is now in idle mode.

1 = summation is stopped immediately at the end of the movement

20 = default

100 = A rest period of up to 100 seconds is counted

As long as the meter is not sealed, you can remove it at any time and change the angle settings. For optimization, place your machine on a horizontal surface.

Parameter UnIt - Display format (modes 2B, 2D, 2F)

This parameter determines the format of the hour display.

00:59 = default setting, display in hours and minutes (hhhh:mm)

00,99 = display in hours with 2 decimal places (hhhh,hh)

By default, the display is in hours and minutes, and the colon is used as the separator.

If necessary, you can change the display to decimal hours, here the comma is used as separator.

Parameter LOSP – Low speed (modes 2E, 2F)

This parameter can be used to switch to a special counting method at low speeds for calculating the number of revolutions.

0 = normal calculation mode (default)

1 = low speed calculation mode

Set the parameter to 1 if the counter rotates slower than approximately one revolution per minute.

6.5 Zeroing the counter

To reset the counter, press and hold all 3 buttons together for 3 seconds. When released, all totals are set to 0.

7 Assembly

Only start with the assembly once you have clarified whether a change in the configuration is necessary for your application. Please read the chapter "Configuration" before.

7.1 Positioning of the meter

Fort he accurate counting process the AgriCounter Drive must rotate depending to the path. It must be mounted directly on the rim of a wheel or on another path-dependent rotating part. The number of revolutions should be between 5 and 200 per minute during operation.

The meter must be aligned so that:

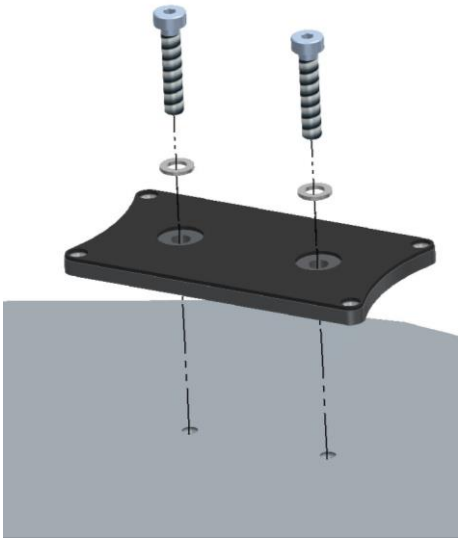
- the underside of the meter (the side opposite the label) points approximately towards the center of the axis of rotation

- the front of the meter is approximately parallel to the plane of rotation

- the meter is mounted as close as possible to the center in order to reduce centrifugal forces

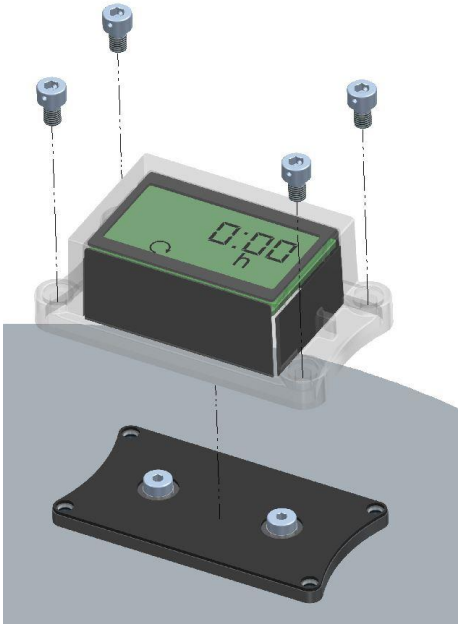
Mounting examples:

7.2 Fixing the mounting plate



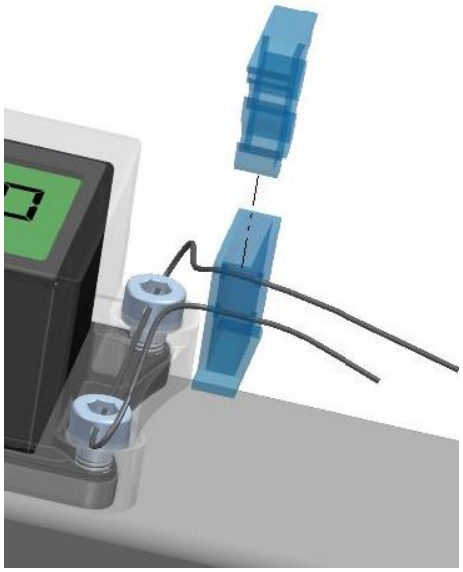
- On delivery, the meter is mounted on the mounting plate. Disassemble the meter from the mounting plate.
- Hold the mounting plate in the desired position to the desired mounting position.
- Use the mounting plate as a template and mark the 2 holes with a pin.
- Hit one notch each with a grain.
- Drill the 2 holes with a 4.2 mm diameter drill.
- Deburr the 2 holes.
- Use a M5 screw tap to cut a thread in each hole.
- Use the 2 M5x25 allen screws and the 2 aluminum washers and screw the base plate to the machine. Note that the sealing surface of the base plate is pointing towards the meter.

7.3 Fastening the counter



- Place the counter on the base plate.
- Use the 4 allen screws M5x8. Two of them have a small hole for the seal wire, use these two on the side where you want to attach the seal.
- First, pull slightly down all 4 screws, and then tighten every screw again so that the housing is evenly pressed against the mounting plate.

7.4 Attaching the seal



- Thread the seal wire through the holes in the two screws.
- Thread both ends of the wire through a hole in the seal.
- Slide the seal as close as possible tot he meter and at the same time tighten the wire.
- Close the seal.

If the hole of one oft he screws is not accessible, you can also drill a small hole in the housing bar between the two screws and pull through the seal wire here.

8 Working with the device

The AgriCounter Drive permanently shows the results of the summation or calculation depending on the mode, operation for reading is not provided. The display is updated approximately every 5 seconds.

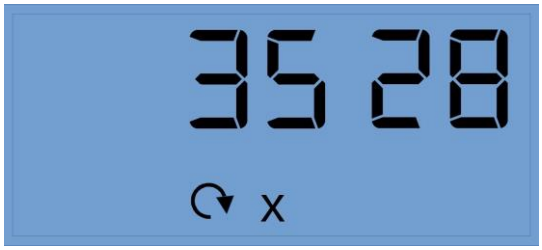
8.1 **Reading the area** (mode 2A, 2B)

The sum of the counted area in hectares is displayed with 2 decimal places, and the ha symbol lights up.

8.2 **Reading the distance** (mode 2C, 2D)

The total of the counted distance in kilometers is displayed with 2 decimal places, and the km symbol lights up.

8.3 **Reading the revolutions** (mode 2E, 2F)



The sum of the counted revolutions is displayed, the symbol with the rotary arrow and the x light up.

8.4 **Reading the speed** (mode 2G)

The current speed is displayed with 2 decimal places, and the km and h symbols light up.

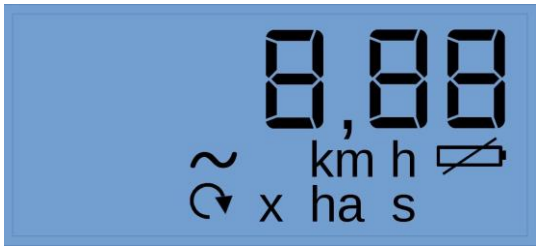
8.5 Reading the hours (mode 2B, 2D, 2F)

In these operating modes, the sum of the area (or distance or revolutions) and the sum of the hours counted are displayed alternately every approx. 5 seconds. The symbol h indicates that the number displayed is the sum of the hours.

If the colon is visible as a separator, it is hours and minutes.

If the comma is visible as a delimiter, it is decimal with 2 decimal places.

8.6 Symbols on the display



Below the hour display there are various icons for displaying additional information.

The wavy line means that the counter is currently detecting movement or vibration and is in counting mode.

The rotation arrow together with the x means that the number displayed is the sum of the revolutions

Both light up in the setting mode when entering the number of revolutions per 100 meters.

The km display means that the number displayed is the sum of the kilometers.

The h means that the displayed values are hours.

ha The display ha means that the number displayed is the sum of the hectares.

s The s lights up in the setting mode when a parameter value is expected in seconds.

m The m lights up in setting mode when a parameter value in meters is expected.

 The crossed-out battery icon lights when the batteries are low and you need to replace them.

9 Maintenance and cleaning

The AgriCounter basically does not require ongoing maintenance.

- If the display is dirty, clean it for reading.
- If the battery symbol is lit, replace the batteries.

10 Troubleshooting

10.1 The battery symbol lights up

The batteries need to be replaced, follow these steps:

- Remove the seal and the seal wire.
- Remove the housing and remove the meter.
- Remove the old batteries and dispose them properly.
- Insert 2 new AAA batteries into the device in the specified direction.
- Mount the counter again on the mounting plate.
- Seal the device again with a new seal wire and a new seal.

10.2 Area is not counted correctly

- Observe the specifications according to chapter „Positioning oft he meter“
- Check the parameter **r100 – Revolutions per 100 m**
- Check the parameter **WidE – Working width**

10.3 Distance or speed is not counted correctly

- Observe the specifications according to chapter „Positioning oft he meter“
- Check the parameter **r100 – Revolutions per 100 m**

10.4 Revolutions are not counted correctly

- Observe the specifications according to chapter „Positioning oft he meter“

10.5 Operating hours are not counted completely

The movements or vibrations on the machine are probably relatively low, so that the necessary intensity for the count is not reached.

- Set the parameter **SENS** down so that the counter triggers even with minor movements.
- To hold longer periods of rest during operation, set the parameter **hOLd** upwards.

10.6 Too many operating hours are counted

Perhaps the machine is exposed to light movements at standstill, which are recorded as operating hours.

- Set the parameter **SENS** upwards so that the counter only triggers for larger movements
- To prevent idle phases from being counted during operation, set the **hOLd** parameter down.

10.7 Damage to the device

- Contact the manufacturer or your dealer

11 Warranty

Over and above statutory warranty for AGRETO AgriCounter Drive following warranty provisions apply :

- The AGRETO electronics GmbH guarantees the function and repairs or replaces all the parts that have a material or manufacturing damage within the warranty period.
- Warranty services will be performed by the AGRETO electronics GmbH.
- The decision on the existence of a warranty claim is sole responsibility of the AGRETO electronics GmbH.
- The warranty period begins with the first accounting to an end customer and ends 5 years from this date of invoice.
- Prerequisite for warranty service are the presentation of the original invoice and compliance with all elements of this instruction manual.
- Excluded from warranty are wear, normal wear and tear, damage due to misuse, negligence or accident.
- When processing a warranty claim transport costs incurred will be charged to the buyer.

12 Disposal

Dispose of the device as part of the final shutdown or parts of it environmentally friendly and sorted (metal to the respective metal scrap, plastic to the plastic waste, etc. - do not dispose as household waste)!

Detailed information can be found in directive 2002/96 / EC

13 Imprint

All information, specifications and illustrations are as of 2020, subject to technical changes or design changes.

All information in this manual are supplied without liability despite careful preparation. A liability by the author is excluded.

AGRETO electronics GmbH
Pommersdorf 11
A-3820 Raabs

Tel.: +43 2846 620
Fax: +43 2846 620 19
E-Mail: office@agreto.com
Internet: www.agreto.com