

User manual

AGRETO Drive-over-scale with PC-software

June 1, 2022

Agreto-Überfahrwaage 2018.0.7 - 9.4.2018

edit dynamic weighing static weighing manual weighing

date from/to: 01.01.2006 31.12.2099 ← →

article: alle setting: alle

cust./supplier: alle vehicle 1: alle

field: alle vehicle 2: alle

direction	nr.	date	time	weight	ok	article	net weight
→	1573	01.10.13	18:17	21.750	✓	Grassilage	7.190
→	1576	01.10.13	18:34	34.470	✓	Maissilage	15.060
→	1577	01.10.13	18:47	21.520	✓	Grassilage	6.960
→	1578	01.10.13	18:56	31.110	✓	Maissilage	11.460
→	1579	01.10.13	19:09	37.830	✓	Maissilage	
→	1581	01.10.13	19:18	20.040	✓	Grassilage	
→	1582	01.10.13	19:25	19.740	✓	Maissilage	7.680
→	1584	01.10.13	19:31	16.380	✓	Maissilage	6.210
→	1586	01.10.13	19:37	29.120	✓	Maissilage	9.470
→	1587	01.10.13	19:46	36.740	✓	Maissilage	17.330
→	1588	01.10.13	19:47	21.630	✓	Maissilage	9.570
→	1589	01.10.13	19:48	19.950	✓	Grassilage	5.390
→	1591	01.10.13	19:52	17.330	✓	Maissilage	7.160
→	1592	01.10.13	20:01	35.540	✓	Maissilage	15.890
→	1593	01.10.13	20:12	36.650	✓	Maissilage	17.240
→	1594	01.10.13	20:18	21.410	✓	Maissilage	9.350
→	1595	01.10.13	20:19	18.160	✓	Grassilage	3.600
→	1596	01.10.13	20:27	15.430	✓	Maissilage	5.260
→	1597	01.10.13	20:29	34.540	✓	Maissilage	14.890
→	1598	01.10.13	20:39	35.790	✓	Maissilage	16.380
→	1599	01.10.13	20:42	19.730	✓	Maissilage	7.670
→	1600	01.10.13	20:48	16.200	✓	Maissilage	6.030
→	1601	01.10.13	20:53	31.400	✓	Maissilage	11.750
→	1602	01.10.13	21:05	38.570	✓	Maissilage	
→	1603	01.10.13	21:10	21.460	✓	Maissilage	
sum:				652.490			211.540
average:				26.100			8.462

edit weighings Stop +/- 0 L1 | L2

0kg

weighing measured values

weighing data

number: 1576

date: 01.10.2013

time: 18:34:01

weight: 34.470

note

Anmerkung



category weighing 1576

article: 1 Maissilage presettings

customer/supplier: 3 Huber Karl delete presettings

field: 0 nicht zugeordnet

category: 0 nicht zugeordnet TM: 26,00

vehicle 1: 2 Fendt + Joskin 19.410

vehicle 2: 0 nicht zugeordnet 0

vehicle 3: 0 nicht zugeordnet 0

use empty weight as tare 19.410

weighing form list delete settings master data end

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1 Introduction

Thank you very much for choosing the AGRETO drive-over-scale. You have just purchased a robust scale for everyday use.

Please read this manual carefully before installing the scale and putting it to use.

As in common parlance, the word 'load' is used instead of 'mass' in this user manual.

2 Scope of delivery

Please, check on delivery whether you have received all parts for the AGRETO drive-over-scale. Also check the parts for shipping damage.

- 1 Software-CD
- 1 USB-Box
- 1 Power supply
- 1 USB-Cable
- 1 Manual

3 Intended use

The AGRETO drive-over-scale can be used to weigh vehicles and trailers of any kind that are used for commercial and agricultural purposes. It determines a vehicle's axle weight and total weight, independent of number of axles, tyre size, and wheelbase. This means it is also suitable for agricultural vehicles with large tyres, and tandem/tridem trailers.

Normally, a weighing is done dynamically, whilst driving over the scale at walking speed. The scale's controller recognizes and automatically weighs individual axles. When the vehicle has crossed the scale, the total weight is indicated.

We advise static weighings for vehicles carrying containers or tanks that are partially filled with liquids. In this case every axle is weighed separately on the platform while standing still.

Axle load scales are not calibratable when it comes to indicating vehicle weights, and can therefore not be used as legal for trade scales, or as a replacement for a calibrated weighbridge.

The AGRETO drive-over-scale is ideal for check-weighings and for automatic documentation of transport volumes.

Note to users

Pay attention to the operating requirements that are described in detail in the construction manual!

4 Safety

4.1 Safety guidelines for the purchaser



IMPORTANT!

Make sure that every person who works with the AGRETO drive-over-scale for the first time, has read and understood this user manual.

4.2 Safety guidelines for operating and assembling personnel



The product contains two lifting rings for transport with lifting machinery. When transported with pallet handlers, the platform must be lifted in the middle and attention must be paid to the platform's width. Appropriate equipment must be used when employing lifting machinery for transport.



Persons who work with the platform, must wear safety shoes.



Persons who work with the platform, must wear safety gloves.



During transport the pallet can slip on the vehicle. Transport and loading personnel must be instructed to securely attach loads.



During mounting be aware of the risk of crushing between platform and foundation.



The scale must not be stored or used in a potentially explosive environment.



Be aware of tripping hazards near the platform.

Be aware of tripping hazards due to parts or tools lying around, and the risk of falling near the foundation.



Be aware of slipping hazards near the platform.



Don't come near the drive-over-scale during thunderstorms.



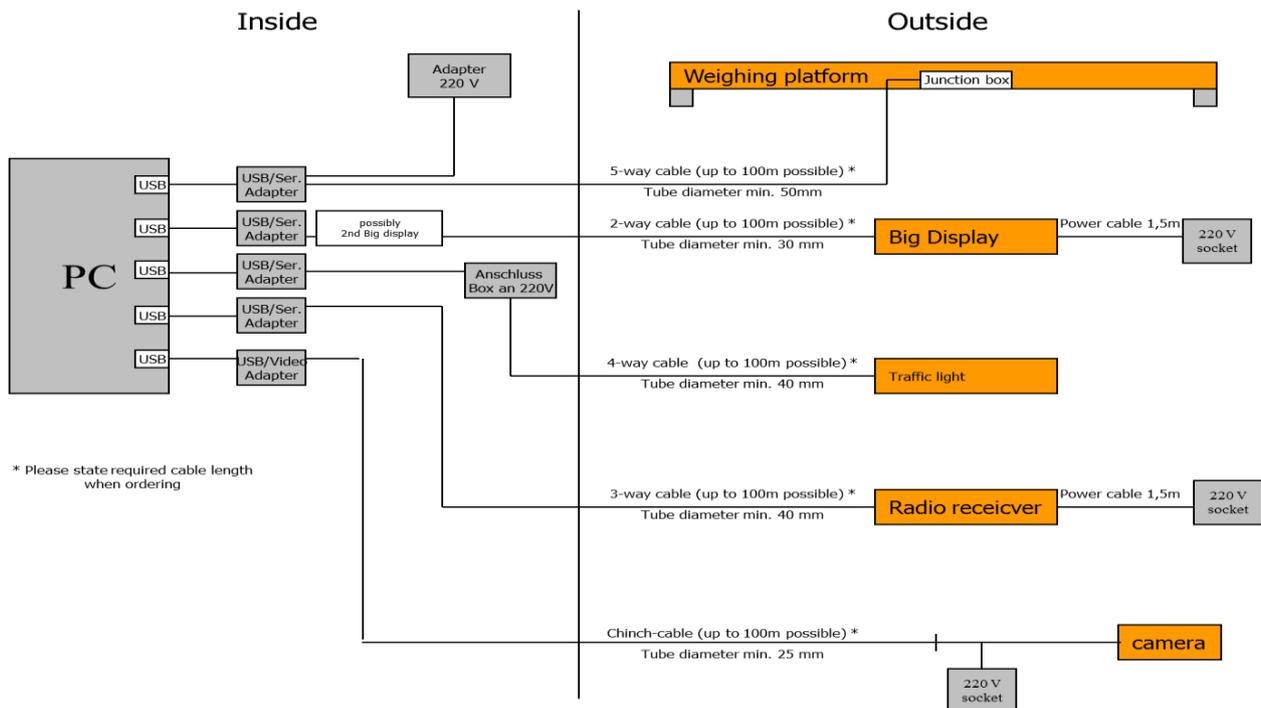
Be aware of the risk of falling near the foundation.

Secure the danger area with appropriate means.

5 Commissioning of the scale

It is assumed that the scale is already installed according to the instructions in the construction manual and the scale is already wired. To put the scale into operation, proceed the following steps:

5.1 Overview wiring



5.2 System requirements PC

- Microsoft Windows 2000, XP, Vista, 7, 8, 10 (32 or 64 bit)
- At least 10 GB of free hard disk space for smooth operation
- A USB port (at least USB 2.0) for connection the scale
- One serial interface each with 9-pin D-Sum connector for connecting a large display, traffic light or radio remote control. If your computer has too few serial ports, either an expansion card with serial ports can be installed or the supplied USB adapters can be used. A driver must be installed for the USB adapters.
- One USB port (USB 2.0 or higher) when using cameras. The USB video converter also requires a driver installation.

5.3 Installing the software

- When you install the software from the CD, the installation routine usually starts automatically. Otherwise start the application "setup.exe" on the CD manually.

- For all input options of the installation routine it is recommended to operate the standard button. Please change the suggested parameters only in justified exceptional cases.
- If you have already installed an older version of the software, you can install a newer version at any time. All existing data and settings are retained.

5.4 Installing the driver for the USB box

The driver for the USB box can already be done with the installation of the weighing software. For a subsequent installation, proceed as follows:

- Select the entry (Applications / All Programs) - Agreto - Driver_USB-Box from the Start menu
- Click on the <Install Drivers> button in the installation window
- Agree to any security inquiry
- As soon as "Complete" appears in the text box of the installation window, the installation is complete and you can close the installation window

5.5 Connecting the USB box

- Connect the weighing signal cable with the screw connector to the USB box
- Plug the power adapter into a 220 volt outlet
- Connect the USB box to the PC with the USB cable

5.6 Starting the software

- From the Start menu, select the menu item (Programs / All Programs) - Agreto - Überfahrwaage or use the shortcut created on the desktop.
- When starting the software, the COM port is automatically searched for, which is provided by the driver of the USB box and establishes a connection to the scale.
- If error messages appear at the start of the software, please refer to the chapter "Troubleshooting".

5.7 Startup parameters

The following start parameters can be used:

/d	Software switches to dynamic mode
/s	Software switches to static mode
/n	Software switches to manual mode
/t	Zeroing is executed
/m	The main window is minimized
/o	The software does not connect to the scale and the accessories (to use the software without any components connected)

To start the software automatically when starting the computer, put a shortcut in the startup menu.

5.8 Zeroing the scale

Click on the small button < +/- 0 > in the software. If on the screen in the field of the weight display is not already 0, this should definitely be the case.

5.9 Checking the scale

Stand (or an object with at least 50kg) in each corner for a few seconds on the weighing platform. On the screen should show the same weight for each corner. If you can not see from the scale to the screen you need a second person.

If you have a deviation of 20 kg or more in one corner of the scale, then please refer to the chapter "Troubleshooting".

6 Commissioning of the accessories

It is assumed that the components are installed according to the instructions in the construction manual and are already wired.

The accessories used must be selected in the weighing software, sometimes additional settings are necessary. Click on the <Settings> button in the weighing software and on the General tab, select those components that you have used and connected. It is recommended to proceed step by step, to put the parts into operation one after the other and test them immediately.

The light barriers have not been part of the scope of delivery since July 2022.

A description of the other settings can be found in the chapter "Operating the software".

settings

general	scale	external display	camera	printouts	quality	remote control	diagnosis	additional infos
name / adress:								
name:	Agris GmbH			addition 1:	+43 2846 620			
adress 1:	Pommersdorf 11			addition 2:	office@agris.at			
adress 2:	3820 Raabs			addition 3:				
used components								
scale:	AGRETO Überfahrwaage ab BJ 2015			camera:	AGRETO USB-Kamera (WDM)			
photoelectric barrier:	-			standard printer:	-			
external display:	AGRETO Großanzeige mit Ampel			protocol printer:	-			
traffic light	-							
remote control	AGRETO Funkfernbedienung							

6.1 External display (if available)

To put the external display into operation, proceed as follows:

- Make sure the external display is powered.
- Plug the serial plug of the data cable of the external display into a serial interface of the PC.
- If you do not have a serial port, use the supplied MOXA USB adapter. The driver for this is either installed immediately during the installation of the weighing software or later. To do this, select the entry (Programs / All Programs) - Agreto - Driver_MOXA from the start menu and carry out the driver installation.
- In the settings window of the weighing software, set the additional display you are using in the general tab as follows:

Used External display	Setting in the software
AGRETO Display, black housing	AGRETO Zusatzanzeige
VTEC Display without traffic light	VTEC Fernanzeige
VTEC Display with traffic light	VTEC Fernanzeige mit Ampel
LEDiT/Rinstrum Display with traffic light	LEDiT Fernanzeige mit Ampel
AGRETO Display with traffic light, stainless housing	AGRETO Großanzeige mit Ampel

- If you use the "AGRETO display with traffic light", the COM port is automatically searched for at program start and a connection to the external display is established.
- For all other large displays, set the COM port provided for the additional display in the settings in the "External display" tab in the weighing software. The setting is saved with the <OK> button. The COM ports are visible in the device manager at the ports.
- After restarting the software, the external display is ready for operation.
- Switch to dynamic weighing mode in the software. On the external display must now appear a "0". This is the driver's note that the scale is now ready for weighing. If this is not the case, please read the "Troubleshooting" chapter.

6.2 Remote control (if available)

To put the remote control into operation, proceed as follows:

- Make sure that the box with the receiver is powered.
- Connect the serial plug of the data cable of the radio receiver to a serial interface of the PC or via the supplied MOXA USB converter on the PC. If the MOXA driver is not yet installed, select the entry (Programs / All Programs) - Agreto - Driver_MOXA from the Start menu and carry out the driver installation.
- In the weighing software, set the "AGRETO Funkfernbedienung" item for the remote control.
- In the weighing software, open the remote control tab and set the COM port provided for the radio receiver. The setting is saved with the <OK> button. The COM ports are visible in the device manager at the ports.
- After restarting the software, the radio remote control is ready for operation.

- As soon as you press a button of a radio hand transmitter, the number of the sender and the number of the pressed key appear in the main window of the weighing software above the weight display, even if you have not yet made any assignments in the master data. If this is not the case, then read the chapter "Troubleshooting".

6.3 Cameras (if available)

To put one or two cameras into operation, proceed as follows:

- Make sure the cameras are powered.
- Connect the coaxial cables of the cameras to the yellow video input of the included USB video converter.
- Install the driver for the USB video converter. The drivers can be found in the folder drivers on the CD or for downloading on the website www.agreto.com. The driver provides a video source in the system. In the Windows Device Manager you can see the entry for the converter in the "Audio, Video and Game Controllers".
- In the weighing software, open the settings and the camera tab, set the camera to "AGRETO USB Camera (WDM)" or "AGRETO USB Camera 2x (WDM)".
- In the camera tab, select the image source for each camera used.
- After restarting the software, the cameras are ready for operation.
- If the software is in a weighing mode, you will see the live image of the first camera in the weighing tab. If this is not the case, please read the "Troubleshooting" chapter.
- In edit mode you can see at this point the first image of the first camera from the weighing that is currently highlighted. Only if your screen is large enough and the weighing window is displayed large enough you will see live images of the cameras in the lower right-hand corner of the edit mode.
- For a reliable recording of images, disable the graphics card power saving mode and screen saver.

6.4 Standard printer / Log printer

If more than one printer is installed in the system, it is best to select that printer as the default printer normally used to print weigh notes and lists.

If you want to automatically create a weighing log printout after each weighing, set the printer name on the settings where you want to print the log. Detailed settings for log printing can be found in the chapter "Settings".

7 The first weighing

7.1 Static weighing

Static weighing is the weighing of the individual vehicle axles at standstill. In the weighing software change to the mode "static weighing", the external display now shows the 0.

If you weigh vehicles with tanks or containers that are only partially filled (for example, a tractor with a half-full slurry tank), then you must use static weighing and stay on the platform with each axle long enough.

Drive the first axle of your vehicle at a right angle centered on the weighing platform. Make sure that the whole wheel is in the middle of the weighing platform if possible. If possible, let the vehicle roll out without braking or, at least when stationary, release the brake to avoid tension in the trailer.

The external display shows the position of the axle on the platform with an 8. When you drive on the platform, you will first see the 8 in the first digit "8----" and then in the second "-8---" on the display. As soon as you stand approximately in the middle of the platform, the weight of the axle is displayed and the axle begins to be weighed automatically. If you drove too far and the 8 is in the fourth digit "---8-" or fifth digit "----8", push back slightly.

If the visualization of the position does not match your driving direction, you can swap the direction in the settings for the external display.

Now wait until the display jumps back to 0. This 0 is the sign for continue driving. If you do not use the external display, there must be a second person on the screen who give the signal.

If an axle weight permanently fluctuates so much that the deviation during weighing exceeds the set percentage value, the axle can't be weighed and the message "Err3" appears on the external display. In this case, read the "Troubleshooting" chapter.

Drive on the weighing platform with the next axle and repeat the procedure with each axle of the vehicle. After weighing the last axle, the weighing is completed after the set seconds, the total vehicle weight is calculated and displayed on the external display. The software stores the weighing and displays it in the weighing table.

Switch to the "edit" mode in the software and click on the "Measurements" tab. Here you can see the weights of each axis.

Repeat this weighing several times in both directions. Check for deviations in different direction of travel. If differences occur despite careful weighing, you are likely to have a problem with the street before or after the scale (see Troubleshooting).

7.2 Dynamic weighing

Dynamic weighing is the weighing during driving over the platform. This form of weighing is the most commonly used in practice, the entire AGRETO drive-over system is optimized for dynamic weighing.

In the weighing software change to the mode "dynamic weighing". Cross the weighing platform in the middle at a right angle with approx. 2-4 km / h. Begin driving at the recommended speed about 10 m in front of the scale and drive as evenly as possible until the last axle has rolled over the platform.

The vehicle may not vibrate, rock, teeter or the like during weighing. All load changes during the crossing are to be avoided. Try to find a combination of gear and throttle position in which your vehicle rides as smoothly as possible at the recommended speed. For tractors with active suspension

on the front axle we recommend, if possible, to switch it off. For all-wheel drive vehicles, we recommend turning off the four-wheel drive.

After each axis, the scale waits for the set number of seconds for another axle. If this time elapses without reloading the platform, the weighing is completed and the total weight displayed. The software stores the weighing and displays it in the weighing table.

Repeat this weighing several times in both directions. Check for deviations in different direction of travel or different weighing modes. If differences occur despite careful weighing, you are likely to have a problem with the street before or after the scale (see Troubleshooting).

7.3 Manual weighing

A manual weighing is the weighing by manually triggering the weighing process by clicking on one of the buttons <Save output weighing> or <Save input weighing>. This mode is used only for weighing items placed on the platform or when using the weighing software for a scale other than the AGRETO drive-over scale. A manual weighing consists of only one weight, no axes can be summed up.

7.4 Information on the external display

The external display is mainly used to indicate the weights to the driver. The duration of this weight display in seconds can be set in the settings in the scale tab. In addition, the number of the weighing can also be displayed after the weight. This allows the driver to assign the weighing in his records.

Furthermore, the following information can appear on the external display depending on the mode:

Edit:	- - - - -	Scale is not ready for weighing
Static Weighing:	0	Scale is ready
	- 8 - - - -	Position off he axle on the platform
	888888	Weighing is proceeded, waiting for another axle
	Err3	No stable weight could be determined for this axle
Dynamic Weighing:	0	Scale is ready
	888888	Weighing is proceeded, waiting for another axle
	Err3	At least one axle has exceeded a quality criterion

When registering a radio transmitter to the scale, either the transmitter number or the number entered is displayed on the external display depending on the setting.

8 Operation of the software

8.1 The main window of the program

The main window of the software is the most important working window. All standard functions are housed in the main window. This window is variable in size and can also be maximized. The size and position of the window is saved on exit and restored when opened.

8.1.1 Working mode

At the top of the main windows the working mode of the program is set:



- In the "edit" mode, you can operate the program (filter, view and postprocess existing weighings, print weigh notes and lists, edit master data and set settings ...). In this mode, although the load on the scale is displayed on the screen, no weighings are saved. The external display shows "- - - - -". If you use a traffic light, it will be red.
- In the dynamic weighing mode, the program waits for a dynamic weighing process, the external display is set to 0. The weighing is recorded automatically. To add additional data, you must switch back to edit mode. If you use a traffic light, it will be green.
- In the "static weighing" mode the program waits for a static weighing process, on the external display stands a 0. The weighing is recorded automatically. To add additional data, you must switch back to edit mode. If you use a traffic light, it will be green.
- In the "manual weighing" mode, the program waits for the triggering of a weighing process by clicking on one of the two buttons <Save outgoing weighing> or <Save incoming weighing>. If you use a radio remote control, the manual weighing can also be triggered by radio remote control.

8.1.2 Display of existing weighings

date from/to:		01.01.2006	31.12.2099	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
article:	alle	setting:	alle										
cust./supplier:	alle	vehicle 1:	alle										
field:	alle	vehicle 2:	alle										
direction	nr.	date	time	weight	ok	article	customer/supplier	vehicle 1	empty weight	net weight	dry	net dry matter	
▶	1576	01.10.13	18:34	34.470	✓	Maissilage	Huber Karl	Fendt + Joskin	19.410	15.060	26,00	3.916	
◀	1578	01.10.13	18:56	31.110	✓	Maissilage	Meier Franz	Fendt + Pöttinger	19.650	11.460	23,00	2.636	
▶	1579	01.10.13	19:09	37.830	✓	Maissilage	Meier Franz	Fendt + Joskin			21,00		
▶	1582	01.10.13	19:25	19.740	✓	Maissilage	Meier Franz	John Deere + 3S-Kipper	12.060	7.680	19,20	1.475	
◀	1584	01.10.13	19:31	16.380	✓	Maissilage	Meier Franz	John Deere + Kipper	10.170	6.210	20,00	1.242	
▶	1586	01.10.13	19:37	29.120	✓	Maissilage	Meier Franz	Fendt + Pöttinger	19.650	9.470	22,00	2.083	
◀	1587	01.10.13	19:46	36.740	✓	Maissilage	Meier Franz	Fendt + Joskin	19.410	17.330	24,00	4.159	
▶	1588	01.10.13	19:47	21.630	✓	Maissilage	Meier Franz	John Deere + 3S-Kipper	12.060	9.570	26,00	2.488	
▶	1591	01.10.13	19:52	17.330	✓	Maissilage	Meier Franz	John Deere + Kipper	10.170	7.160	23,00	1.647	
▶	1592	01.10.13	20:01	35.540	✓	Maissilage	Meier Franz	Fendt + Pöttinger	19.650	15.890	22,00	3.496	
▶	1593	01.10.13	20:12	36.650	✓	Maissilage	Meier Franz	Fendt + Joskin	19.410	17.240	19,60	3.379	
▶	1594	01.10.13	20:18	21.410	✓	Maissilage	Meier Franz	John Deere + 3S-Kipper	12.060	9.350	18,80	1.758	
▶	1596	01.10.13	20:27	15.430	✓	Maissilage	Meier Franz	John Deere + Kipper	10.170	5.260	20,00	1.052	
▶	1597	01.10.13	20:29	34.540	✓	Maissilage	Meier Franz	Fendt + Pöttinger	19.650	14.890	21,00	3.127	
▶	1598	01.10.13	20:39	35.790	✓	Maissilage	Meier Franz	Fendt + Joskin	19.410	16.380	23,00	3.767	
▶	1599	01.10.13	20:42	19.730	✓	Maissilage	Meier Franz	John Deere + 3S-Kipper	12.060	7.670	24,00	1.841	
▶	1600	01.10.13	20:48	16.200	✓	Maissilage	Meier Franz	John Deere + Kipper	10.170	6.030	25,00	1.508	
▶	1601	01.10.13	20:53	31.400	✓	Maissilage	Meier Franz	Fendt + Pöttinger	19.650	11.750	27,25	3.202	
▶	1602	01.10.13	21:05	38.570	✓	Maissilage	Meier Franz	Fendt + Joskin			26,00		
▶	1603	01.10.13	21:10	21.460	✓	Maissilage	Meier Franz	John Deere + 3S-Kipper			24,00		
▶	1573	01.10.13	18:17	21.750	✓	Grassilage	Müller Dietmar	John Deere + Erntewagen	14.560	7.190	23,30	1.675	
▶	1577	01.10.13	18:47	21.520	✓	Grassilage	Müller Dietmar	John Deere + Erntewagen	14.560	6.960	23,51	1.636	
◀	1581	01.10.13	19:18	20.040	✓	Grassilage	Müller Dietmar	John Deere + Erntewagen			22,95		
▶	1589	01.10.13	19:48	19.950	✓	Grassilage	Müller Dietmar	John Deere + Erntewagen	14.560	5.390	24,50	1.321	
▶	1595	01.10.13	20:19	18.160	✓	Grassilage	Müller Dietmar	John Deere + Erntewagen	14.560	3.600	23,44	844	
sum:				652.490					323.050	211.540		48.251	
average:				26.100					12.922	8.462	22,81	1.930	

The table in the left area of the main window shows the existing weighings in tabular form. The table is divided horizontally, the basic data of the weighing are in the left part, the additional information in the right part of the table, which can be moved with a scroll bar. If you change the overall size of the main window by dragging the mouse over a corner of the window, the size of the table is automatically adjusted.

The width of each column and the arrangement can be customized. This arrangement is saved and will be available again at the next program start.

The weighings displayed can be sorted in ascending order after each column by clicking on a column heading.

Totals and averages are shown in the 2 footers of the table.

With the input possibilities above the table, the displayed weighings can be filtered according to the criteria date from / to, direction of travel, goods / article, customer / supplier, field, assignment, vehicle1 and vehicle2. Only the weighings corresponding to all filters are displayed. For example, if you want to see all weighs created for a particular supplier on a particular day, enter the date range (from / to) and the supplier.

As soon as you switch to the dynamic or static mode, the date field is filled with the current date and the six selection filter criteria are cleared so that the newly recorded weighings are visible in any case.

8.1.3 Weight and status display



In the upper right corner of the main window, the current load of the scale is continuously displayed. In weighing mode, this value can also be seen on the external display. In weighing mode, additional information can also be output in this field and thus also on the additional display in order to give instructions to the driver. See "Information on the external display".

If the weight display shows a red background, the communication with the scale is interrupted and no weights are received.

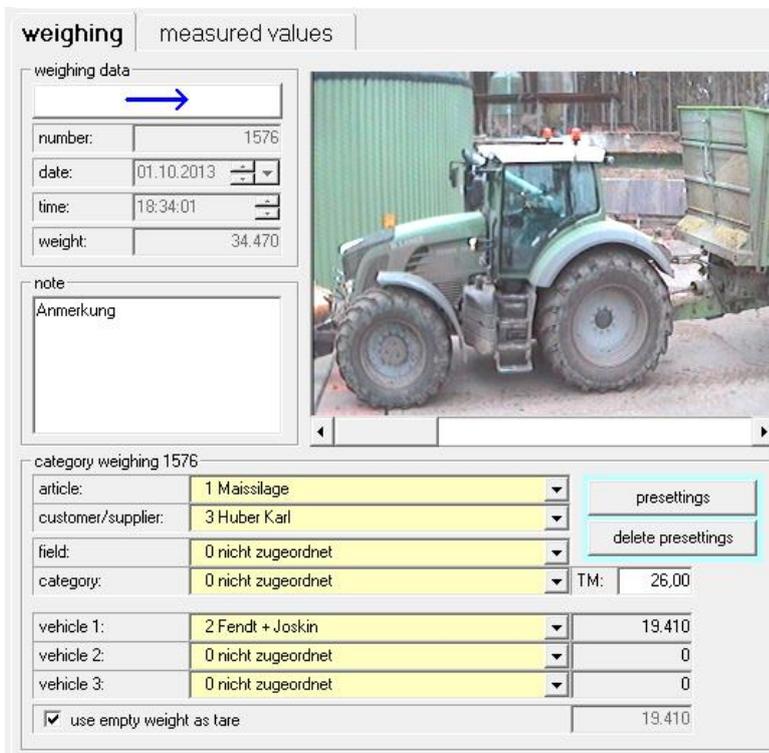
Above the weight display, the current status of the scale is displayed. While a weighing process is running you can read the currently running process here. In the "Waiting for next axle" status, you can use the small <Stop> button to manually trigger the end of the vehicle to shorten the set waiting time for the end of the vehicle.

With the small button < +/- 0 > the balance can be tared in the edit mode.

If you use the traffic light, you will also see the current status of the traffic light in this area (green/red).

8.1.4 Data of the current weighing

In the right area of the main window you will find all the information of the existing weighing, which is currently selected in the left table. The basic information and the assignments are located in the "Weighing" tab.



The screenshot shows the 'weighing' tab in the software. It includes a 'weighing data' section with a direction arrow pointing right, and fields for number (1576), date (01.10.2013), time (18:34:01), and weight (34.470). A 'note' field contains 'Anmerkung'. Below is a camera image of a green tractor. The 'category weighing 1576' section contains dropdown menus for article (1 Maissilage), customer/supplier (3 Huber Karl), field (0 nicht zugeordnet), and category (0 nicht zugeordnet), along with a TM field (26,00) and buttons for 'presettings' and 'delete presettings'. The 'vehicle' section lists three vehicles: vehicle 1 (2 Fendt + Joskin, 19.410), vehicle 2 (0 nicht zugeordnet, 0), and vehicle 3 (0 nicht zugeordnet, 0). A checkbox 'use empty weight as tare' is checked, with a value of 19.410.

The button with the arrow determines the direction of travel of the vehicle. If the direction of the arrow does not correspond to the practical direction, you can swap the load cells in corners 1 and 4 with the load cells in corners 2 and 3 in the settings for the scale.

The fields Number, Date, Time and Weight are automatically filled when creating a weighing.

In the Note field, any information about this weighing can be entered.

In the Assignment area, you can assign articles / goods, customer / supplier, field and other assignments for existing weighings. These entries must first be created in the master data and be active. In the field TM, the percentage of dry matter for the calculation of the net dry mass can be entered.

In the lower area, up to 3 vehicles can be assigned.

If you want to use the empty weights of the vehicles as tare weight, then mark the corresponding check box. This is only useful for a full weighing without a corresponding empty weighing. The weights are taken over from the master data at the time of the assignment. Later changes in the master data do not affect existing weighings.

The top right shows the first camera image of the weighing. In edit mode, the other images of the current weighing can be viewed with the horizontal scrollbar, in the weighing mode you can see the live image of the camera here.

8.1.5 Measurements of the current weighing

The AGRETO drive-over-scale stores not only the axle loads and axle load sums but also every single measured value supplied by the weighing electronics. The measured values tab shows the measured values of each axle of the weighing in tabular and graphic form.

Weighing curve:

In the illustrated weighing curve you can see the course of the weighing for each axle during the crossing. Each measurement point is displayed as a red or green dot on the blue curve. Normally, the cradle rises from the bottom left (steep at small wheels, flatter at larger wheels), forms a plateau in the middle and then drops off on the right side of the graph. The smaller the wheels, the longer the plateau phase. The green dots are determined by the axis measuring method set above and are used for the weight calculation. The average of the green measuring points gives the axle weight. In addition, the values of the individual corners and side totals can be displayed.

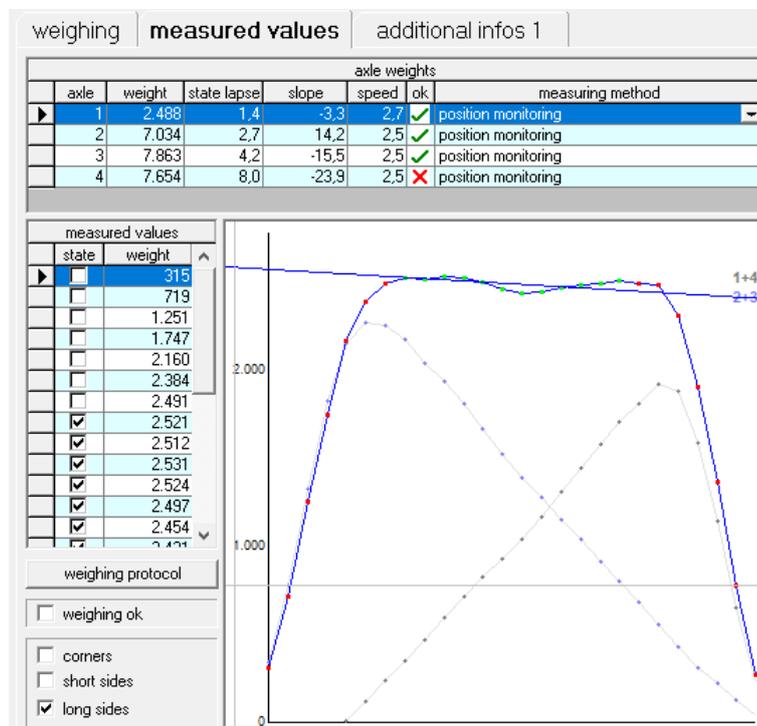


Table axle weights:

In the upper part of the window, you see the table with the individual axles. For each axle, besides the number and the axle weight, you can see the parameters for the quality, the driving speed, the classification and the measuring method used.

Standard deviation:

In the column state lapse% the standard deviation of the measuring points selected for the calculation is displayed. The standard deviation indicates how far the individual measuring points used for calculate the axle weight deviates from the average of these. The lower this value, the quieter the vehicle is rolled over the weighing platform and the more reliable the axle weight determined. If the value

is above the set maximum value, the axis is marked with a red X. This does not mean that the determined weight is wrong, but that it has fluctuated more during the crossing.

Variations mainly arise from pitching movements of vehicles due to vehicle-specific conditions and from unevenness or level differences in the roadway. If you can not manage to avoid these fluctuations (eg a tractor with a front loader or an active front axle suspension), then drive slower over the platform (approx. 2 km / h), thus provides a longer time to calculate the axle weights and so that a sufficient number of movements are included in the calculation. The standard deviation remains higher, but the average is more meaningful.

Regression line:

This function determines the trend in a series of measured values and is displayed in the column slope. The regression line of the selected measuring points is displayed as a blue line in the measured value graphic. This line should ideally be level. There should be neither an uptrend nor a downtrend. If the line rises or falls more than specified in the quality settings, the axis is marked with a red X. If the line increases, then the weight has increased during this crossing. If the line drops, then the weight has decreased during this crossing. High values in the slope of the regression line arise mainly from an uneven driving with acceleration or deceleration phases or from bumps / steps in the roadway. These irregularities in the roadway may also be further from the scale. For example, if the last axle of the second trailer has to be pulled up over a step when the front axle of the tractor is straight on the platform, then the front wheel is greatly relieved and the weight drops off.

Speed:

From the course of the curve, the software roughly calculates the speed driven.

If the speed of an axle is above the maximum permitted value, the axis is marked with a red X. For the first axle, it may happen that the measured values on the PC are not processed in real time. Therefore, the speed at the first axis is not controlled.

Number of measuring points:

If the number of measurement points used to calculate the axle weight (displayed in green in the curve) is less than the minimum value according to the quality settings, the reliability of the weight is no longer given and the axle is also marked with a red X. This occurs mainly with very large tires that just barely fits on the platform. However, it may happen that the weight then deviates downward, which usually indicates another quality feature then.

8.1.6 Measurements of the individual corner/load cells

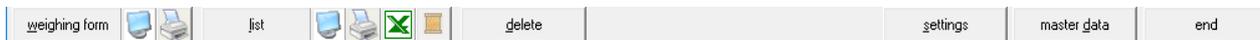
For a detailed analysis and error prognosis, the determined weight values of the individual load cells in each corner can be additionally evaluated for each measuring point of a weighing.

If the checkbox "Corners" is marked, the diagram shows 4 additional lines with measuring points. Here, the course of the load for each corner 1 to 4 of the weighing platform can be read. The sum of the 4 measurement points on these curves at a specific time gives the total load of the scale at this time.

If one of the checkboxes "sides" is marked, the graphic 2 shows additional lines with measuring points. Here, the load cells on the long or short side of the scale are summed. These curves thus represent the load on the sides of the scale. The sum of the 2 measurement points on these curves at a specific time also gives the total load of the scale at this time.

8.1.7 buttons

At the bottom of the main window are the buttons for special program functions.



The individual buttons are described in the next chapters. The <End> button closes the program.

8.2 Recording of weighings

To perform a weighing, the program must either be in "dynamic weighing", "static weighing" or "manual weighing" working mode.

Weighing is constantly expected in the weighing modes and the live image of the camera is displayed. The weighing process is fully automatic in the program and no intervention by the user is provided during dynamic or static weighing in this period. The weighing is started each time the threshold weight on the platform is exceeded. After each axle, the software waits the specified period of time for another axle. Only when the weighing is completed, you can switch back to edit mode.

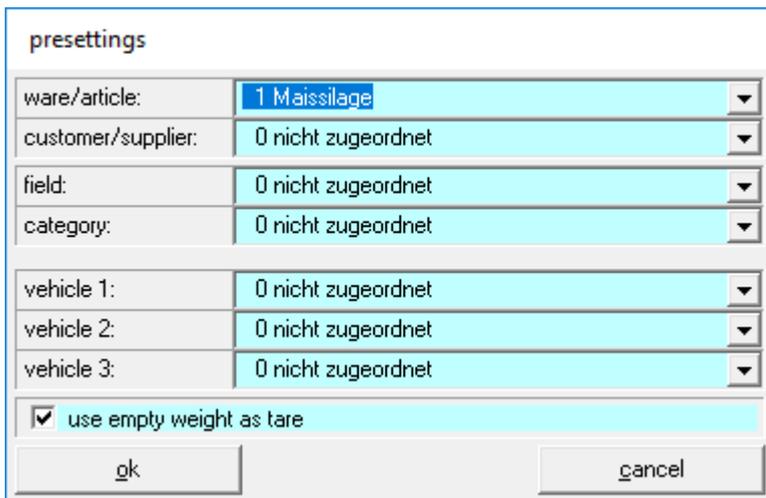
Only with a manual weighing the weighing process must be triggered manually.

Each new weighing is stored in the database with the date, time, direction of travel, vehicle weight and all details.

If no default settings are entered, no assignments are entered for the new weighings. All entries can be added later also.

8.3 Presettings

With the <Presettings> button, you can open the presettings window and specify which data should be automatically assigned for new weighings.



presettings	
ware/article:	1 Maissilage
customer/supplier:	0 nicht zugeordnet
field:	0 nicht zugeordnet
category:	0 nicht zugeordnet
vehicle 1:	0 nicht zugeordnet
vehicle 2:	0 nicht zugeordnet
vehicle 3:	0 nicht zugeordnet
<input checked="" type="checkbox"/> use empty weight as tare	
<input type="button" value="ok"/> <input type="button" value="cancel"/>	

If, for example, several weighings with the same product are carried out, then for example you can already preset the goods / article.

If you want to predefine that the empty weights of the vehicles should be used as a tare, then you can also preset this.

The <ok> button saves the default settings.

The presettings can be changed as needed and only apply to future weighings. Data from already existing weighings are not changed.

With the button <Delete> the presettings are deleted again..

If the software is ready for a weighing, in the main window those fields for which a preset exists are marked with light blue instead of yellow background. This indicates which data is entered in the new weighings.

In addition, the area around the two preset buttons turns light blue when presets exist.

8.4 Subsequent entries in existing weighings

For the weighing, which is marked in the left table, the details are displayed in the right area. To change data simply click in the corresponding input field and enter the value or select the required entry from the list. In the selection fields, only records that are available and active in the master data can be selected.

To save the data simply click on another weighing in the table. You immediately see that the values are also included in the table.

8.4.1 Multiple entries

In order to save time in the post-processing of weighings, it is possible to save the inputs simultaneously for several weighings. Proceed as follows:

- In the table, select by click on the first weighing to be affected by the change.
- To additionally mark individual weighings, hold down the Ctrl key and click with the mouse in the line of further weighing on the small block on the far left of the line. Repeat the process for all weighings that should be affected by your change. All clicked weighings are highlighted.
- To mark an entire contiguous block of weighings, hold down the Shift key and click with the mouse on the block in the row of the last weighing to be affected by the change. The whole block of weighings is marked.
- Now set the desired setting in one of the input fields in the right-hand area. Then click with the right mouse button on this input field and answer the following question with Yes.
- If you want to make changes in several fields, you can enter several pieces of information one after the other with the same marking. But right-click once in each field.
- You can also filter the weighing table before in order to rationalize the multiple markings.

8.5 Deleting weighings

The <Delete> button deletes one or more marked weighings and any existing images.

To delete several weighings in one operation, proceed as follows:

- In the table, select the first weighing to be deleted by clicking on it.
- To additionally mark individual weighings, hold down the Ctrl key and click with the mouse in the line of further weighing on the small block on the far left of the line. Repeat the process for all weighings to be deleted.
- To mark an entire contiguous block of weighings, hold down the Shift key and click with the mouse on the block in the row of the last weighing to be deleted. The whole block of weighings is marked.
- Click the <Delete> button and answer the confirmation prompt with Yes.

If you answer the first security prompt with No, you have the option of deleting only the measured value details of a weighing. **Attention: A deleted weighing can not be restored.**

8.6 Reprocessing a weighing

This program section allows you to intervene directly in the calculation of the axle loads. These functions should be used with care, since already determined weights can be changed here. However, it is also possible to obtain a proper weight from a weighing of poor quality.

Basically, the scale must be properly installed and the weighing carried out carefully. The functions in the software can by no means compensate for existing installation defects.

It is more about intervening in individual outliers or special cases so that a realistic weight comes about, or a lost believed weighing can be saved.

If you often get weighings with a red X, and reference weighs show that the weights are in the acceptable range, then set the quality criterion for the red X higher to avoid unnecessary work.

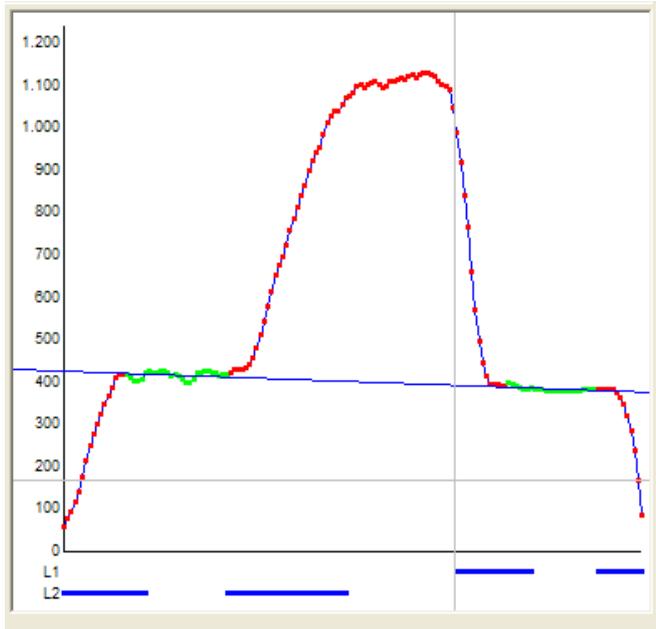
For those weighings that still exceed a quality criterion, proceed as follows:

- In the list of weighings mark the corresponding weighing with the red X..
- In the table of axle weights, mark the corresponding line with the axis marked with a red X..
- Click in the right column "Measuring procedure" and click in this column on the small button for opening the selection list. Select the measuring method "Manual" from the selection list. "
- Answer the confirmation prompt if you want to change the calculation with <Yes> .
- You can now use the mouse to select in the measured value graph the area in the plateau of the curve that appears to you most regularly (usually the area in the middle of the curve). To do this, click on the beginning of this area in the diagram with the left mouse button, keep the mouse button pressed, drag the mouse cursor to the right end of the area and release the left mouse button.
- You can repeat this marking process as often as you like. Observe how the quality criteria change. In the middle of the curve, try to find a range of points where the regression line is as horizontal as possible and the standard deviation is as small as possible. But do not use the ascending and descending part of the curve at the beginning and at the end of the weighing.
- In order to select or deselect individual measuring points in detail, you can also set or remove a tick in the small table with the measuring points in the corresponding line, but this should only be necessary in exceptional cases.
- If your mark has created a range of weight calculation points that meets all quality criteria, the axle will be marked with a green checkmark. If you can not manage to meet all quality criteria, just stay with the variant that delivers the best quality criteria and that pleases you the best.
- Repeat the procedure with all axles of this weighing, which are marked with a red X.
- Put the hook "Weighing OK" below. This is the sign that you have reworked the weighing, which will put a green checkmark in the left table of weighings.

Multiple selection:

If you notice that 2 axles are being plotted in one curve, you can make a double range marker.

This is the case if you weigh tandem axles without photocells, or have such a small center distance that both axles fully fit on the platform (for example car trailer, see picture).



In this example, although the area in the middle could be used as the total weight of the tandem axle, but usually this area is not so clearly available.

Mark the area of the first axle exactly as described above.

To additionally mark the second area, hold down the [Ctrl] key. Thus, several axles can be worked out from a single curve. However, these are summed up in one line, the standard deviation and the slope of the regression line are no longer meaningful.

8.7 Reports

8.7.1 Weighing note

With the button <Weighing form> you can display or print a weighing note on the screen. There are 3 variants:

- A weighing note from a weighing with stored empty weights of the vehicles. In this case you only need to mark the row of the weighing. The net weight results from the weighing less the stored empty weights of the registered vehicles.
- A weighing note from a full weighing and an empty weighing. In this case, you must mark both weighings in the list. To mark the second weighing, hold down the [Ctrl] key and click on the weighing data record pointer. Regardless of the direction of travel, the program automatically uses that weighing with the larger weight as a full weigh and those with the smaller weight as empty weighing.
- A weighing certificate consisting of two full weighings and two empty weighings. The weighings in the direction of travel with the greater total weight are used as full weighs.

The additional informations of the full weighing are printed on the weighing ticket.

To display a weigh note on the screen, use either the <Weighing form> button itself or the screen icon next to the word.

To print a weigh ticket, use the printer icon next to the <Weighing form> button.

8.7.2 List

The <List> button at the bottom of the main window allows you to create a standard list of all displayed weighings. If you narrow down the weighings with the filter functions or sort them beforehand, the weighings are displayed accordingly in the list.

The sum line of the list shows the sum of weighings per direction of travel and the difference between them.

To display a list on the screen, use either the <List> button itself or the screen icon next to the word.

To print a list, use the printer icon next to the <List> button.

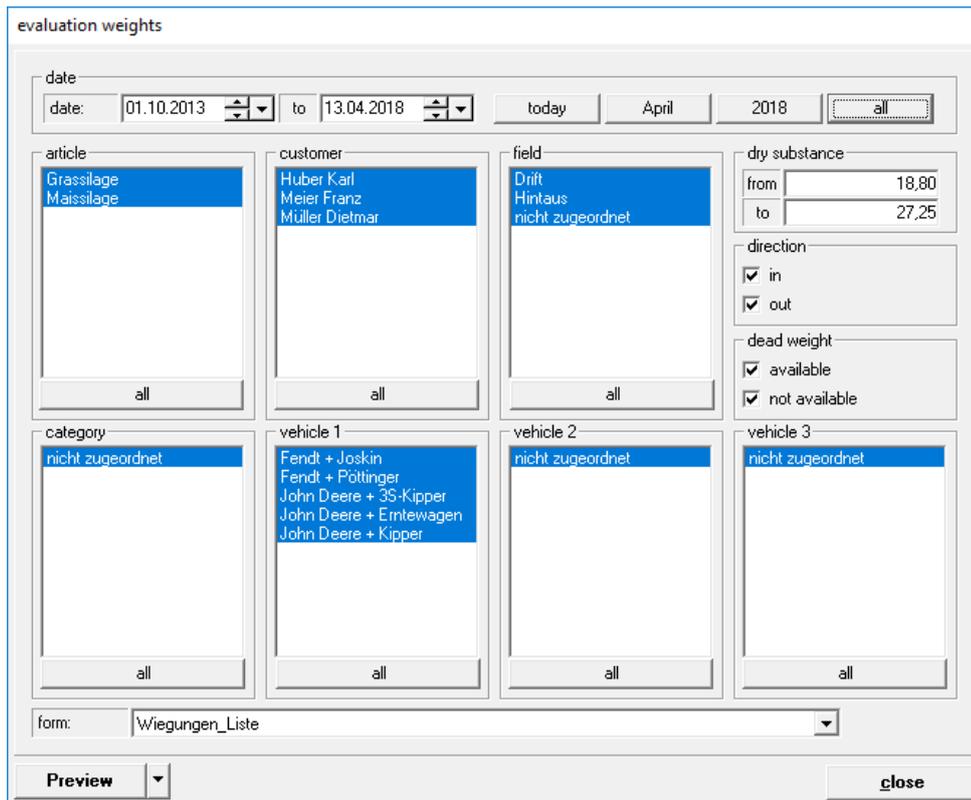
To submit the data to Microsoft Excel, use the EXCEL icon next to the <List >.

With the next symbol the individual evaluation with the report designer can be started.

8.7.3 Individual lists with report designer

Next to the button for the list you will find the small button for the special reports. This opens a separate window for individual selections. In the upper part of the window you can see the limits of the weighing by date range, articles, customers, beats, dry weight range, driving direction empty weight, allocations and vehicles. In the list boxes, you can also use the [Ctrl] or [Shift] keys to make multiple markings.

Below is selected with which form layout the weighings should be displayed. The <Preview> button creates a screen view of the list.



The screenshot shows a software window titled "evaluation weights". It contains several selection panels:

- date:** date: 01.10.2013 to 13.04.2018, with buttons for "today", "April", "2018", and "all".
- article:** Grassilage, Maissilage. Button: "all".
- customer:** Huber Karl, Meier Franz, Müller Dietmar. Button: "all".
- field:** Drift, Hintaus, nicht zugeordnet. Button: "all".
- dry substance:** from: 19,80 to: 27,25.
- direction:** in, out.
- dead weight:** available, not available.
- category:** nicht zugeordnet. Button: "all".
- vehicle 1:** Fendt + Joskin, Fendt + Pöttinger, John Deere + 3S-Kipper, John Deere + Erntewagen, John Deere + Kipper. Button: "all".
- vehicle 2:** nicht zugeordnet. Button: "all".
- vehicle 3:** nicht zugeordnet. Button: "all".

At the bottom, there is a "form:" dropdown menu set to "Wiegungen_Liste", a "Preview" button, and a "close" button.

The <Preview> button has a multiple function. You can also start the list designer with the set form. It is a complete version of the list designer List & Label, which comes with the software.

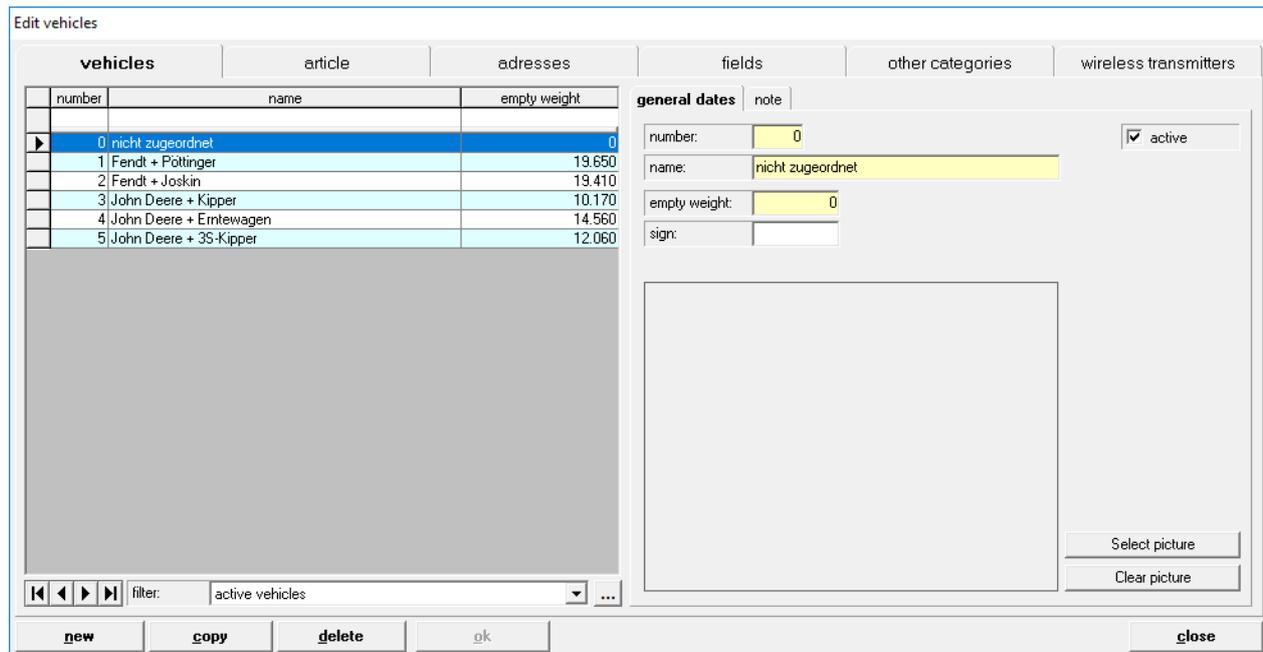
You can use it to change the lists provided or to create completely customized lists according to your needs and tastes. The list designer itself is not described here, however, the help functions of the designer are included.

8.8 Master data

The <Master data> button opens the window for creating and maintaining the master data. In this window, vehicles, articles, addresses, fields, and other categories are created in order to be able to assign the information for the individual weighings.

You can therefore only select data records that have been created in the master data during weighing.

In addition, the radio hand transmitter used and the pre-assignments are set here.



number	name	empty weight
0	nicht zugeordnet	0
1	Fendt + Poltinger	19.650
2	Fendt + Joskin	19.410
3	John Deere + Kipper	10.170
4	John Deere + Erntewagen	14.560
5	John Deere + 35-Kipper	12.060

In the upper area of the window, first select the desired tab to go to the respective master data area.

The table on the left shows the existing records, in this example the vehicles.

Below the table a filter can be set. Here either only the active, only the inactive or all data sets can be displayed.

In the right area you can see the detailed information for the record marked on the left. Whether a record is active or not determined the tick in the field Active. Only active records can be assigned during a weighing.

To create a new data record, use the <New> or <Copy> buttons, fill in the input fields and save the data record with <Ok >.

Changes to existing data records can easily be made in the right-hand input fields. As soon as you click on another data record or close the window, the changes are saved.

8.9 Operation of the scale via radio hand transmitter

8.9.1 Detection of radio hand transmitters

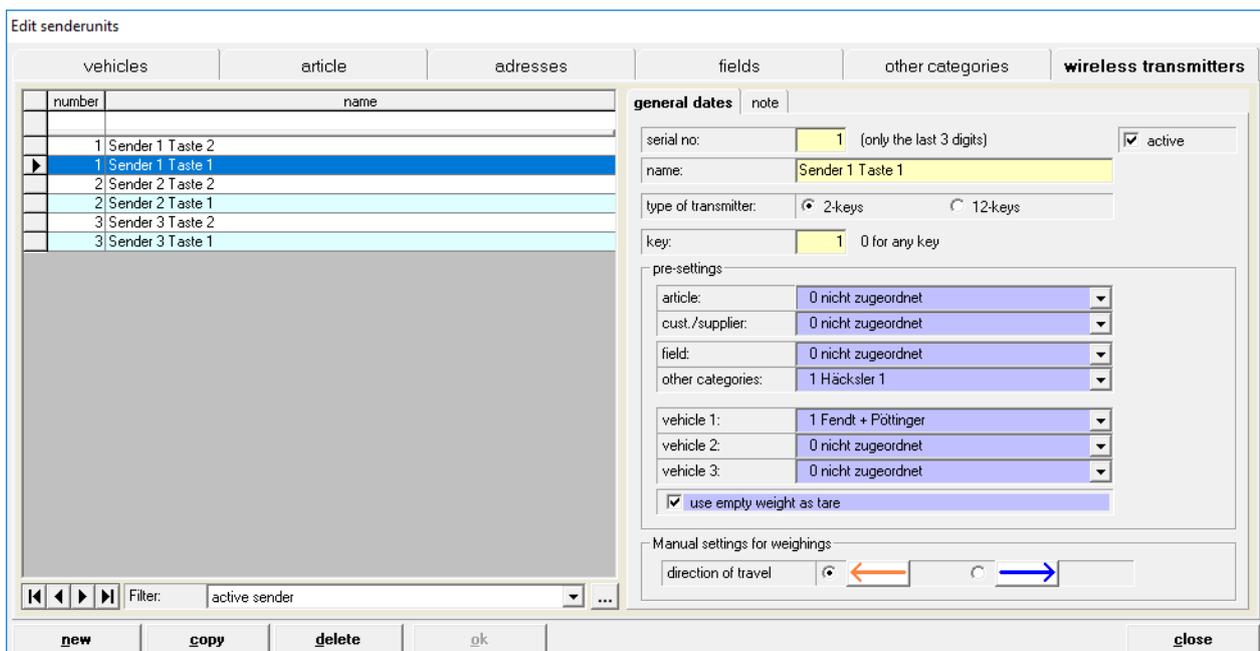
By using radio hand transmitters to register the vehicles or other information, the workload of reworking the weighings can be significantly reduced. The main purpose is to identify the vehicles and thus the tare weight of the vehicles. This is also the main application of the remote control system.

In addition, with the use of radio hand transmitters, further allocations can be automatically stored in the weighings. Depending on the application, these can be customers, suppliers, articles, fields or other assignments.

Information that must apply to all vehicles or should not be created in the radio transmitter, as these can generally be stored in the general default settings.

For radio transmitters with 2 buttons, a combination of information can be stored either globally for the transmitter or for each button.

The radio hand transmitters must be created in the master data in the wireless transmitters tab.



In this example you will see the data of the transmitter with the number 1, for the key 1.

The right 3 digits of the number shown on the remote control are entered as serial number. This identifies the transmitter. If your serial number is greater than 255, then subtract from the stuck number 256 and enter this number. If the transmitter has been set up, you can simply press a button on the transmitter and see the information in the main window.

As name, any text can be entered.

If different assignments are to be made for the buttons of the transmitter (as in this example) then the number of the key must also be entered for which this assignment applies.

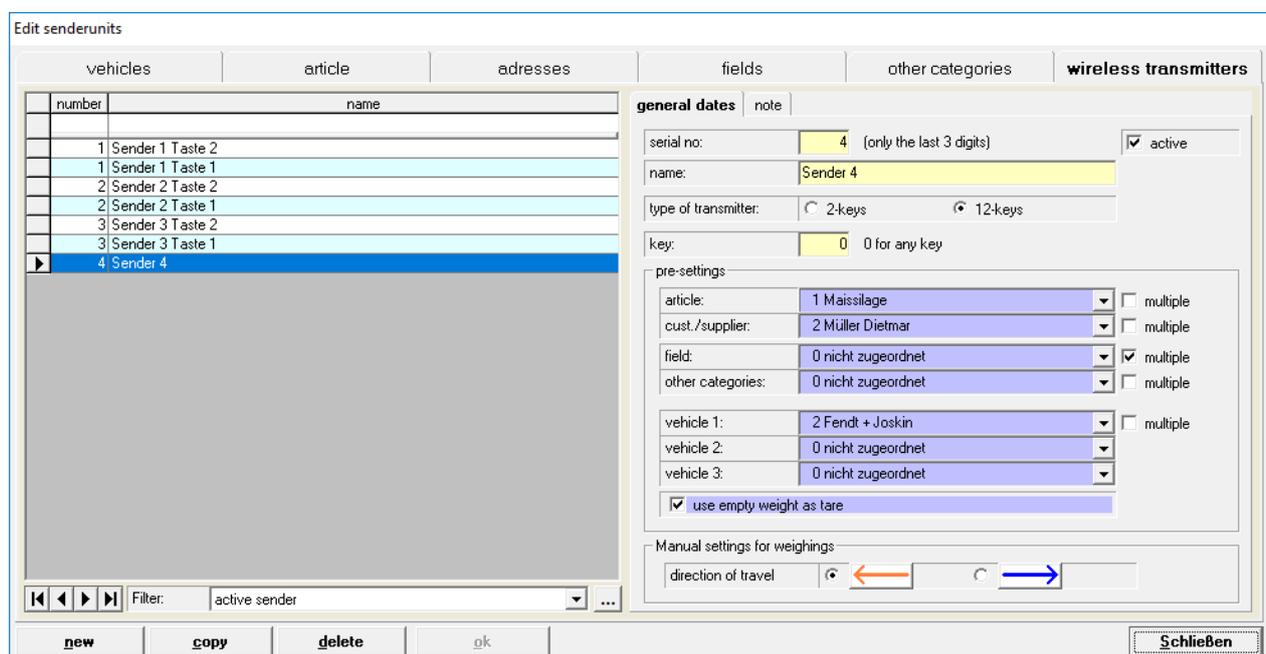
The defaults are set in the blue fields, which should be assigned when this radio transmitter logs on with this button.

The most important default setting here is the vehicle selected and the empty weight hook. If this checkbox is set, the program assumes that only a full weighing is carried out and that the empty weight is used from the master data.

In addition, the information "Chopper 1" is transmitted as a different assignment. For the key 2, another information can be stored here.

The direction of travel is only used when a manual weighing is in progress. In this case, the weighing process is only triggered by pressing the button on the remote control. Since this is not a weighing with crossing, the scale can not determine the direction of travel by manual weighing. With different assignment of 2 buttons on the radio hand transmitter, the direction of travel can be transmitted via the button press on the radio hand transmitter.

For a radio hand transmitter with 12 keys, a multiple entry can be made for one criteria by typing in the number of the respective criterion. This allows you to select up to 999 records.



The screenshot shows the 'Edit senderunits' window with the following details:

- Sender List:**

number	name
1	Sender 1 Taste 2
1	Sender 1 Taste 1
2	Sender 2 Taste 2
2	Sender 2 Taste 1
3	Sender 3 Taste 2
3	Sender 3 Taste 1
4	Sender 4
- General Data:**
 - serial no: 4 (only the last 3 digits)
 - name: Sender 4
 - type of transmitter: 12-keys
 - key: 0 (0 for any key)
- Pre-settings:**
 - article: 1 Maissilage
 - cust./supplier: 2 Müller Dietmar
 - field: 0 nicht zugeordnet
 - other categories: 0 nicht zugeordnet
 - vehicle 1: 2 Fendt + Joskin
 - vehicle 2: 0 nicht zugeordnet
 - vehicle 3: 0 nicht zugeordnet
- Manual settings for weighings:**
 - direction of travel: (Control with left and right arrows)

In this example, the multiple number input is active for the fields. The driver can thus tell the scale from which field the load is coming.

The fields must be created in the master data. If a number is transmitted via the radio hand transmitter for which there is no fields in the master data, then that field is used which is preset here (in this case, none or the fields "0 not assigned").

No matter what number is typed on the radio transmitter, the vehicle data and possibly other stored information arrive in any case.

Multiple entries can only be made for one criteria. It is not intended, for example, to enter the number of an article and the number of a supplier at the same time.

8.9.2 Registration of the radio hand transmitter on the scale

Now, if a driver logs on to the scale before weighing with a radio hand transmitter, the data stored at the radio transmitter will be used for the following weighing.

When button 1 of the 2-button transmitter is pressed as in the first example, the data on the screen is displayed as follows:

presettings for new weighings		Sender 253, Taste 1	
article:	1 Maissilage	presettings	
customer/supplier:	2 Müller Dietmar	delete presettings	
field:	0 nicht zugeordnet	TM:	23,30
category:	1 Häcksler 1	vehicle 1:	1 Fendt + Pöttinger 19.650
vehicle 1:	1 Fendt + Pöttinger	vehicle 2:	0 nicht zugeordnet 0
vehicle 2:	0 nicht zugeordnet	vehicle 3:	0 nicht zugeordnet 0
vehicle 3:	0 nicht zugeordnet	<input checked="" type="checkbox"/> use empty weight as tare	19.650

The light blue information comes from the general presets, which are stored in the software. These are used for every new weighing, regardless of whether or not a radio transmitter registers.

The dark blue fields are the information that is stored on the radio hand transmitter for the key you just pressed. This information

takes precedence and overrides any values stored in the general preferences.

The upper right shows the transmitter number and the button number of the active radio transmitter.

The information for goods / article and customer / supplier are already stored in the general presettings. Since these data are not stored at the radio hand transmitter they remain upright.

The information assignment and vehicle1 come from the current radio message and are highlighted in dark blue.

The information on the use of the empty weight as a tare would already be stored in the general preferences. Since the data of the radio message has priority, this field is also highlighted in dark blue.

The data of the radio message apply to the validity period stored in the settings. After expiry of the validity period, the dark blue deposited values disappear and only the general default settings in the light blue filed fields remain upright.

For the duration of the signaling stored in the settings, the number of the remote control sender is displayed on the external display. For an existing traffic light both lamps (red and green) are on.

The registration of a transmitter with 12 keys can be done in 2 ways:

If the sender is created in the master data without multiple entry, the registration takes place just as with the small sender simply by pressing the desired button on the sender.

If a number entry has been entered in the master data for the sender, log in by entering the number for the desired data record and then pressing the OK key with the green tick. The typed number appears on the external display. If a record with the entered number exists for the set criteria, the record is selected, otherwise the standard stored in the master data is used.

Up to three-digit numbers can be used (1 to 999). The buttons must each be pressed within the signaling duration, otherwise the input is completed.

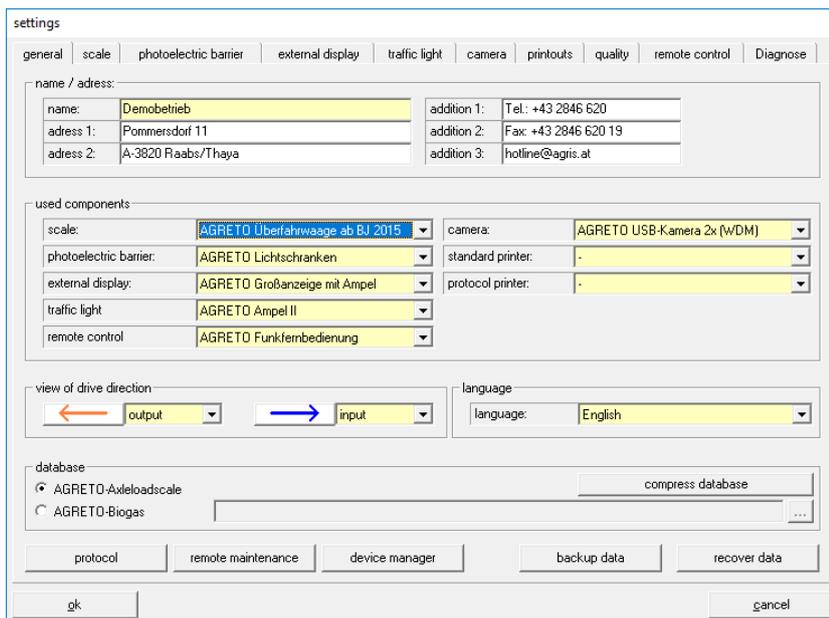
To cancel a number entry press the button with the red X on the remote control.

8.10 Settings

The <Settings> button in the main window will open the settings window. The settings are divided into a total of 10 tabs. To save changes, close the window with the button <Ok>. With the button <Cancel> the initial state is restored.

8.10.1 Settings general

In the first General tab you enter your operating data above, these are printed on the weighing list on the standard list.



The screenshot shows the 'settings' window with the 'general' tab selected. The 'name / address' section contains fields for name (Demobetrieb), address 1 (Pommersdorf 11), address 2 (A-3820 Raabs/Thaya), and three addition fields (Tel: +43 2846 620, Fax: +43 2846 620 19, hotline@agris.at). The 'used components' section has dropdown menus for scale (AGRETO Überfahrwaage ab BJ 2015), photoelectric barrier (AGRETO Lichtschranken), external display (AGRETO Großanzeige mit Ampel), traffic light (AGRETO Ampel II), remote control (AGRETO Funkfernbedienung), camera (AGRETO USB-Kamera 2x (WDM)), standard printer (-), and protocol printer (-). The 'view of drive direction' section has radio buttons for 'output' (selected) and 'input', and a 'language' dropdown set to 'English'. The 'database' section has radio buttons for 'AGRETO-Axleloadscale' (selected) and 'AGRETO-Biogas', with a 'compress database' button. At the bottom, there are buttons for 'protocol', 'remote maintenance', 'device manager', 'backup data', 'recover data', 'gk', and 'cancel'.

For the components used, you specify which additional equipment you use.

These settings are described in the chapter "Commissioning the accessories".

Changes to various settings will only take effect after the program has been restarted and become effective. When saving the settings, you will be alerted to the necessary restart if necessary.

To be able to recognize from the direction of travel whether it is outgoing or incoming issue, you can assign this in the area of the direction of travel.

The language selection selects the language for the software.

If you use the weighing software in combination with the AGRETO biogas software, the database of the biogas software must be selected.

Use the Compress Database button to reduce the memory requirements of your database after deleting weighings.

The <Log> button opens an accurate log of the main tracking steps performed in the program. The main issue is that the manual changes and weight corrections are documented.

The <Device Manager> button opens the Windows Device Manager. There, the drivers of the connected USB converter can be controlled.

The other buttons are described in separate chapters.

8.10.2 Settings scale

In the second tab scale, the presettings for the weighing process and for the measuring amplifier can be adjusted if necessary. The measuring amplifier is the component in the scale that sends the weights to the PC. The default values are optimized for the usual software applications.

settings

general | **scale** | external display | camera | printouts | quality | remote control | diagnosis | additional infos

settings scale

standard weighing method: position monitoring

alternative weighing method: 4 measured values in the middle

min. weight for automatic tare (kg): 50

min. weight for weighing begin/end (kg): 200

max. lapse for static weight(%): 1,00

time after last axle (seconds): 12

period of displaying weight (seconds): 6

period of displaying number (seconds): 4

Change to dynamic weighing after 1 minute inactivity

settings weighing device

com-port: (57600) COM 7

average for calculation (number): 2

average for displaying (number): 10

calibration factor software: 1000,00000000

Position of load cells

Corner / load cell (connection) No.	1	2	3	4
1	1		4	4
2	2		3	3

Type plate towards corner 1

ok cancel

The standard measuring method is the calculation mode with which the axles weights are calculated from the individual measured values. This calculation can be changed in special cases afterwards, or corrected manually. It is best to stick with the default setting "position monitoring".

The alternative measuring method is used for older versions of scales if there is a problem with the light barriers.

The threshold for the automatic taring is that weight which is automatically deducted after weighing. If, for example, dirt remains on the weighing platform after weighing, and this is lighter than the threshold, then the balance is reset to zero. To deactivate the automatic taring, a 0 must be entered here.

The threshold for the beginning or the end of a weighing (= start and end of an axle) determines from which weight a weighing is started. This value must in any case be greater than the threshold for automatic taring. For example, if you want to prevent a person from accidentally activating the scale, then you must set the threshold accordingly.

The maximum deviation for the static weighing determines how large the fluctuation range of the weight in percent may be until the axle weight is assumed. The smaller the maximum deviation, the longer the axle must stand still on the platform. If this value is assumed to be too small, then it may happen that the axis is not weighed at all because of almost always existing small fluctuations. On the external display is then the words "Err".

The waiting time after the last axle determines how long the balance expects a next axle of a vehicle. The time starts to run below the threshold weight of the previous axle. If the scale is loaded again within this period (at least with the threshold weight), then a next axle weighing is initiated. If the scale is not loaded within this period, it is assumed that the weighing of the vehicle has been completed and the display of the vehicle weight and weighing number (if set) begins. Within this display no new weighing can be started. If, after that, even the same vehicle's axles are being weighed (for example, because the driver has traveled too slowly or the time is too short), then these axles are already being treated as the next vehicle. In this case, it makes sense to repeat the weighing.

The duration of the weight display determines how long the total vehicle weight should be displayed on the large display after completing vehicle weighing. Of course, the display does not start until after

the waiting time for a next axle, because only at this time the end of the vehicle has been reached. Entering 0 deactivates this function.

The duration of the number display determines how long the number of the weighing automatically assigned by the program should be displayed on the external display. Entering 0 deactivates this function.

The COM port of the amplifier must refer to the number of the COM port provided by the USB box. When starting the software, the COM port is automatically searched for and entered.

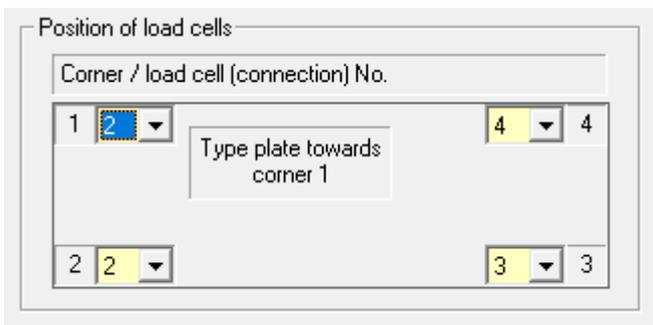
By averaging measured values for the calculation, the number of further processed measured values is reduced. A number of 2 means that an average is calculated from every 2 measured values of the measuring amplifier and this average is stored as a measured value and used for the axle weight calculation.

By averaging measured values for the display, the measured values used for the calculation for the weight display are averaged again in order to avoid excessive fluctuation of the weight display on the screen and on the external display and thus poor readability.

With the software calibration factor, the determined weights of the balance can be adjusted with a correction factor. The calibration of the balance is described in chapter "Calibration". This value determines the accuracy of your balance, change this value only in justified cases.

The position of the loadcells can be changed at the bottom right (which loadcell is connected to which connection in the electronics box).

If your load cells are not attached to the correct connections, you can assign the load cells correctly here. To do this, first determine the position of the platform by locating the type plate in the center of the scale below the maintenance cover. This is always closer to corner 1. Then start the diagnostic mode in the settings. If you now stand on a corner of the platform, you will see the number of the connection on the external display to which plug the load cell in this corner is connected. Now assign the displayed connection number to the corresponding corner.



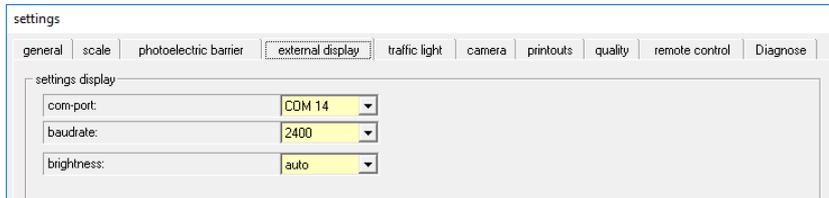
For example, if you stand on corner 1 of the scale and the display shows "2-080", then the load cell that you installed at corner 1 is connected to plug 2 in the connection box. Therefore, change the loadcell number for corner 1 to 2.

After the minus, the load on the scale is also displayed.

If one load cell needs to be changed, then at least one other load cell is also incorrectly assigned and needs to be changed.

8.10.3 Settings external display

The fourth tab external display defines settings for data transfer to the external display.



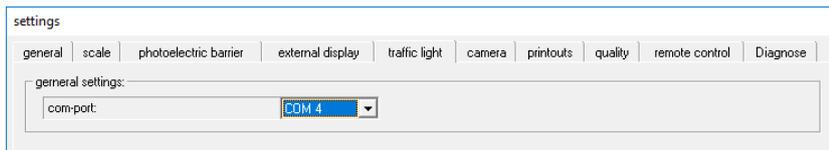
The COM port must refer to the number of the COM port to which the serial cable of the external display is connected.

In the case of the AGRETO external display with traffic light, the correct COM port is automatically found and entered when the program starts. In addition, the brightness of the display can be set. The entry "auto" automatically adjusts the brightness based on the environment with the built-in brightness sensor.

The baud rate and update interval control the speed of data transmission and the response of the display. Only change these values in exceptional cases.

8.10.4 Settings traffic light

In the fifth register traffic light, the settings for a possibly connected traffic light are set.

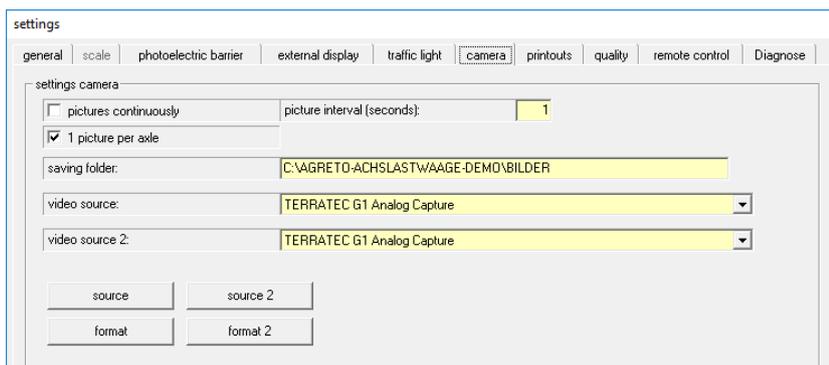


The COM port must refer to the number of the COM interface to which the serial cable of the traffic light is connected. Normally, the software should find the port

itself. If not, this can be set manually here.

8.10.5 Settings camera

The sixth tab camera defines the settings for the image recording to the connected cameras.



You can decide whether you want to have pictures continuously (at the given second distance) and / or a picture with each axle.

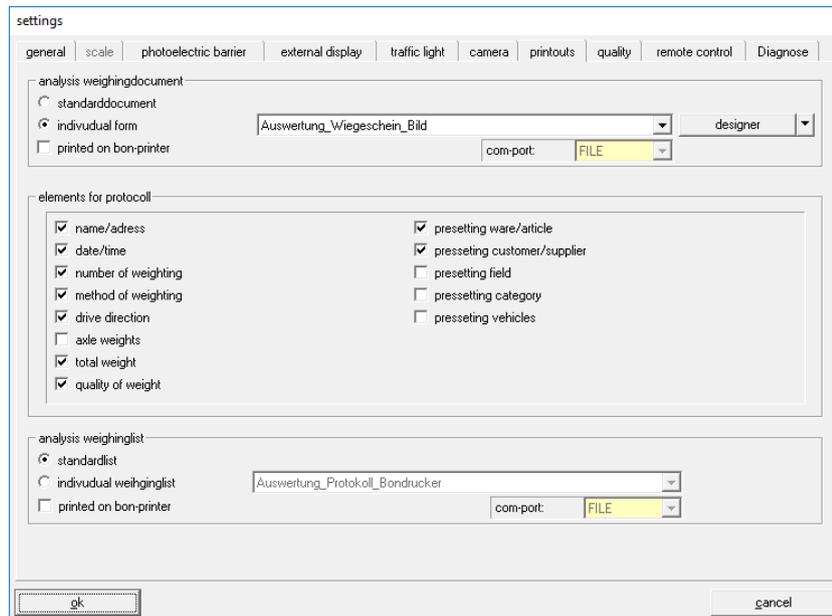
In a static weighing, you will only ever get one image per axle at that time when the weight is stable and stored for weighing.

If you do not want to save your pictures in the suggested folder, you can change this folder here. If you are using the WDM driver, you can select the image source for the cameras.

The additional functions of the driver are accessible via 3 buttons. It starts windows own settings, which can vary depending on the system. Change these values only in exceptional cases.

8.10.6 Settings printouts

In the seventh tab printouts you can make settings for the weighing note and the weighing protocol.



In the upper area, it is set whether the weighing note integrated as standard in the software (without the possibility of a change) or an individual weighing note should be used.

To use an individual weighing note, set the item to the second option to use the editing options.

We also provide templates for the individual weighing note that you can use. To customize this, use the second function <designer> of the <preview> button. This starts the report designer with the set form. It is a complete version of the list designer List & Label,

which comes with the software.

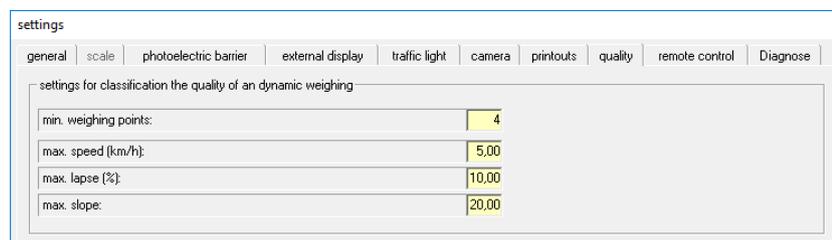
You can use it to change delivered weighing notes or create your own weighing note form according to your needs and tastes. The report designer itself is not described here, however, the help functions of the designer are included.

The center of the window is used to set what information should be printed on the weighing Log. The log will be printed automatically after each weighing, provided that you have set a log printer in the first tab general for the components used.

In the lower area, you can make the same settings for the log print just as for the weight certificate above.

8.10.7 Settings quality

In the eighth quality register you can set the parameters for the minimum quality of weighing.



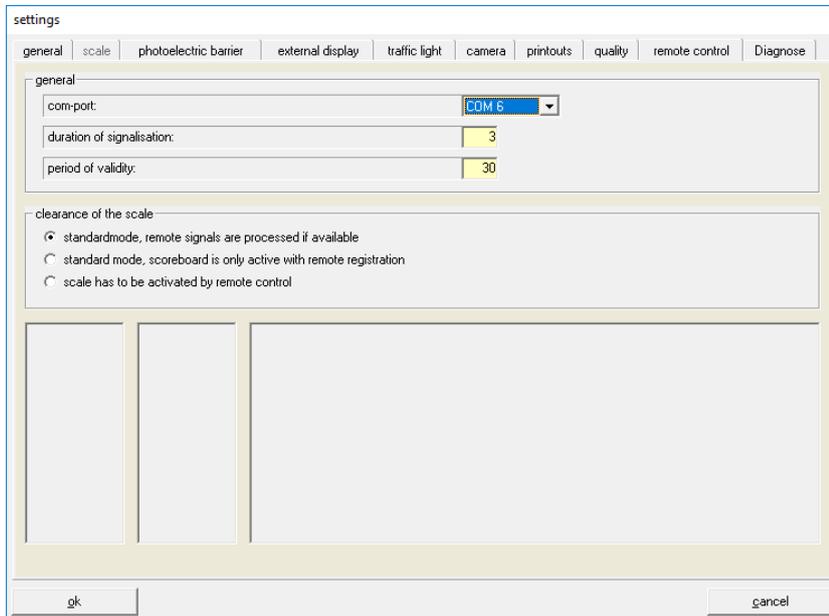
If one of these parameters is exceeded for an axle of a vehicle, then the axle and thus also the entire weighing is marked with a red cross (instead of the green checkmark), and the weight on the external display flashes.

As a result both in the software and for the driver it can be seen that this weighing may not be in order and should be reworked or repeated.

The description and meaning of the values are described in the chapter "Measured values of the current weighing".

8.10.8 Settings remote control

The ninth register remote control defines settings for the operation of the radio remote control.



The COM port must refer to the number of the COM port to which the radio receiver's serial cable is connected.

You can define, how long the number of the transmitter is shown on the external display, how long the signal is valid and the working mode of the scale

normal weighing mode, radio signals are processed if available:

This mode is the standard, all weighings are performed and recorded with all functions of the scale. If there is a radio message this will be considered.

Normal weighing mode, external display and traffic light are only active when radio registration is active:

In this mode, all weighings are performed and recorded. The external display and the traffic light are only active if a valid radio message has been sent. The data of the radio message are used.

Use this mode to show only authorized persons or vehicles the weight on the external display, but nevertheless weigh all vehicles and possibly document them with a camera image.

Scale must be activated by radio signal:

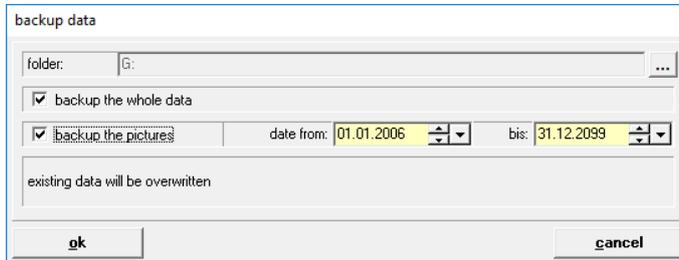
In this mode weighings are recorded only when a valid radio message has been received. The data of the radio message are used. Weighings without radio notification will not be recorded.

8.10.9 Diagnostics

The diagnostics tab shows measured values of components for diagnostic purposes. Here all data transmitted by the scale can be read off.

8.11 Back up data

To back up your data or transfer data from one computer to another, use the <Save Data> button in the Settings window.



It is best to use a USB stick or an external hard disk.

Select the drive of the backup media and, if necessary, a folder for the backup.

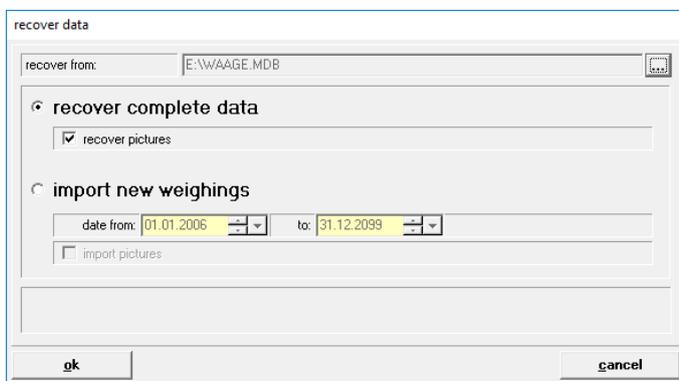
With the option "backup the whole data" the complete database with all weighings, settings and master data is copied to the backup volume. Only the images of the vehicles are not included in the database and are not copied here.

In order to save also or only the created pictures you must select the second option. Here you can narrow down the period. Only the images created in the entered period will be saved.

8.12 Restoring Data

8.12.1 Restoring the entire database

In order to restore data from a backup in the event of damage or to import data from a backup volume into the software, use the <Restore data> button in the settings window.



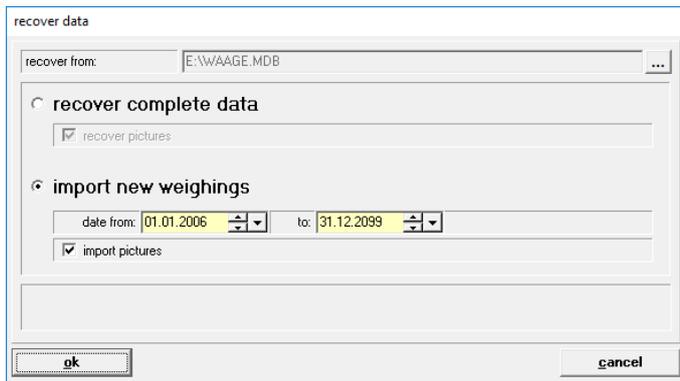
Use the browse button to select the drive of the backup media and the file waage.mdb.

Select the option "Restore the entire dataset" and set the check mark for the pictures, if you also want to restore them.

With the button <OK> the copying process is started, possibly existing data on this computer will be overwritten.

After recovery, the program is closed and must be restarted.

8.12.2 Restoring individual weighings



To import individual weighings from a saved database, select the option "Import new weighings" and select a period for the weighings.

If you also want to import images for the selected weighings, set the hook to "import pictures".

With the button <OK> the restore process is started.

The following data is imported / copied:

- Newly created master data
- Updates in the master data
- All weighings whose number does not exist in the entered period
- All images of imported weighings if the option is checked

With this range of functions, the original data stock can remain at the computer at the scale, and in the desired period, only the new weighings are read in on a second computer.

On the second computer (for example in the office), the weighings can be reworked without having to transfer the data back to the weighing computer.

8.13 Calibration

Basically, the balance is correctly calibrated in the delivery condition, ie the displayed weights are correct. Only in exceptional cases, if, for example, the platform is not installed horizontally should a calibration be carried out.

In the absence of a suitable calibration weight, it has been proven in practice not to calibrate the scale with a single weight, but to correct the displayed weight by percentage up or down.

Proceed as follows:

- Use a heavy vehicle or a trailer with no tandem or tridem axles to exclude the effects of the roadway on the weighing.
- Make a reference weighing on a calibrated weighbridge in the highest possible resolution and use this weighing as the **reference weight**.
- Drive the same vehicle in each direction 3 times over your scale.
- Make the average of these 6 weighings and use this average as **your weight** for the calibration.
- Start the settings and make a note of the value in the "Calibration factor software" field in the "scale" tab as the **initial value**. Usually this value is 1000.
- Calculate the new calibration factor as follows:

$$\text{New value} = \text{initial value} * \text{reference weight} / \text{your weight}$$

Thus, the value in the field is multiplied by the reference weight and divided by the weight on the own balance.

example:	reference weight:	18900 kg
	Your weight:	18830 kg
	Initial value:	1000

calculation: $1000 * 18900 / 18830 = \mathbf{1003,72}$ (rounded to 2 decimal places)

- Perform this calculation on at least 2 decimal places and enter the result in the field "Software calibration factor". Save the setting with the button <Ok>. The change does not affect existing weighings, but only future ones.
- Check the calibration by carrying out test weighings again. If the result is not satisfactory, you can repeat this process as often as you like.
- The calibration factor is just a multiplier. In principle, it can be increased or decreased in percentage by the percentage by which the weights are to be corrected.
- With a calibration, it is not possible to compensate for any faults in the street, as faults in the street have a different effect with each axle combination and each axle spacing.

8.14 Remote maintenance

In order to be able to help professionally in case of problems, a remote maintenance tool is provided in the program.



The remote maintenance is started with the <Remote maintenance> button in the Settings window. Of course, the PC must have Internet access.

For a remote support, all you need to do is to let us know the ID shown on your screen.

The remote maintenance tool is not integrated in your system but merely executed. After finishing the tool nothing remains on your PC and no one can access your PC anymore.

9 Maintenance and cleaning

The maintenance of the AGRETO drive-over scale is limited to a few points:

- Lift the weighing platform out of the foundation once a year and clean the concrete sump. Check the water drain on this occasion.
- Make sure the PC remains operational. This is especially true when also other work is done on this computer. When working on the Internet, watch out for the latest virus protection.

10 Troubleshooting

Attention: Parts of the Agreto axle load scale are supplied with 220 volts. Be sure to unplug all power before starting maintenance.

10.1 The determined vehicle weights are not correct

If you have reason to believe that the calculated vehicle weights are incorrect, there are several reasons. The best way to solve the problem is in the order described here.

10.1.1 Checking the load cells

Place yourself (or an object with at least 50kg) in each corner for a few seconds on the weighing platform. On the screen should show the same weight for each corner. If you can not see from the scale to the screen you need a second person. If you use an external display and the software switches to dynamic weighing mode, you can also read the weight on the external display.

If you have a deviation of 20 kg or more in one corner of the scale, then a load cell or the cabling of a load cell is defective. In this case, contact your responsible supervisor.

10.1.2 Checking the calibration

Click the <Settings> button in the software and select the Scale tab. Check whether the entry "1.000" appears in the field "Software calibration factor". Another number means that the calibration has been changed. This deviation must be justified.

10.1.3 Checking the correct position of the weighing platform

Check whether the weighing platform hits the side of the foundation or the edge protection frame. If this is the case, then you must correct the position of the platform.

Check that the weighing platform is absolutely level with the foundation.

Place an alignment bar or a longer spirit level in the area of both lanes in the direction of travel over the weighing platform (where the wheels roll over it) and check whether the weighing platform is installed without a level difference to the roadway connection. If the platform is lower than the surrounding area, tandem axles will be weighed too low as weight is transferred to the other axles. If the platform is higher than the surrounding area, tandem axles are weighed too high as weight is taken over by other axles.

Check if the platform can tip by standing on each corner of the scale and checking if the platform tips slightly or makes noises.

In any case, make sure that the platform is centered in the foundation without tilting and without any height difference to the roadway connection. If this is not the case, then you can fix the situation with suitable underlay material or adjusting the support plates.

The proper location of the platform is especially important for vehicles with tandem or tridem axles. A difference in level of a few millimeters can already cause great inaccuracies. For two-axle vehicles with large center distances, the deviation is rather small and often negligible even with small inaccuracies.

10.1.4 Checking the roadway connection to the foundation

Use a leveling bar or spirit level to check whether the carriageway on both sides of the weighing platform is guided without steps to the concrete foundation ring of the balance. Altitude differences in this area move the vehicles during weighing and can affect the reliability of weighing. In the case of tandem or tridem axles, this can also lead to very large deviations, since the weight of individual axles can be change.

10.1.5 Checking the street before and after the weighing platform

Check with a long leveling bar or other suitable measuring equipment, whether the street to the weighing platform and the street from the weighing platform over the entire length of the vehicles to be weighed is even and without steps and irregularities. This is the basic prerequisite for the fact that the determined sum of the axle loads also gives the total weight of the vehicle. Gradients up and down must be consistent over the entire length, otherwise the vehicles can not roll neutral over the scale. In two-axle vehicles with a larger center distance smaller bumps are often tolerable. On vehicles with tandem or tridem axles, even small inclines / gradients / bumps are already decisive for significant weight shifts from one axle to another and thus the reason for significantly wrong axle load sums. Even uneven parts of the street farther away from the weighing platform can, for example: lead to large deviations in a truck with semi-trailer.

Deficiencies in this area are the most common reason for unsatisfactory weighing results!

10.1.6 Restrictions on vehicles

If a vehicles tire has such large footprints that it just fits on the weighing platform, the track or the time for the possible weighing is very short. This increases the likelihood of deviation in a single weighing.

Active suspension systems can cause vibrations, which also increase the deviation in weighings. Active front axle suspensions on tractors should be deactivated if possible.

Vehicles that are very unstable with large pitching movements (eg: tractor with heavy front loader without rear weight) cause large fluctuations during the crossing.

In all cases should be weighed at a greatly reduced speed or possibly static.

In soft-sprung vehicles (cars, ev. Truck), the speed must be taken before the scale so far that the vehicle has calmed down to the weighing platform again.

10.1.7 Restrictions on cargo

Vehicles with liquid cargo in tanks that are not completely full must always be weighed statically. In the weighing of animal transports, the animals must behave completely calm on the vehicle, as far as this is possible.

10.1.8 Restrictions on small net loads

If you weigh a load of 500 kg on a vehicle weighing 10 tons, even a small percentage of inaccuracy will have a very negative effect on your net load (10,500 kg - 10,000 kg = 500 kg, 0.5% deviation from 10,000) are 50 kg, which is 10% of the net load to be weighed). Such loads should, if possible, be weighed with suitable small scales or placed directly on the scale.

10.1.9 Instructions for the drivers

In the case of dynamic weighing, the driving speed (selected gear and throttle position) must be selected so that the vehicle rolls neutrally (without braking, without accelerating and without steering) without load changes over the weighing platform. The recommended driving speed for agricultural tractors is between 2 and 4 km / h, for trucks possibly up to 6 km / h. For restless vehicles should be driven even slower.

The required speed must be maintained stably in front of the scale (at least 10 m) so that the vehicle can calm down sufficiently.

The scale may only be used when the 0 is on the external display or the traffic light is green. If both accessories are not in use, an assistant may be required.

The quality assurance of the software can signal to the driver on the external display that a weighing has exceeded the set quality criteria and may cause him to repeat the weighing.

10.2 Problems when starting the program

10.2.1 "Message "No connection to the scale" "

Cause: The software can not establish communication with the weigh electronics box in the scale. This can have different causes.

- Make sure that the power supply of the scale is powered
- Make sure that the USB box is connected to the PC with the USB cable
- Make sure that the weighing signal cable from the USB box to the weighing electronics box is connected and not damaged
- In the windows device manager, check whether the driver for the scale is available. In the group "ports (COM & LPT)" an entry with the name "chipKIT USB Serial" must be present if the USB box is connected. -> see driver installation for the USB box
- Check on the weighing electronics box in the scale whether the display shows an error code

10.2.2 Message "Error while initializing the display "

Cause: The software can not establish communication with the external display. This can have different causes.

- Make sure the external display is powered
- Make sure the data cable is OK and connected to the PC
- If you are using a USB adapter, check in the Windows Device Manager to see if the driver for the adapter is working. In the "Ports (COM & LPT)" group, if the adapter is plugged in, there must be an entry with the name "MOXA USB Serial Port" with a port number. -> see commissioning of the accessories
- In the weighing software for the settings in the external display tab, check whether the COM port to which the display is plugged or that the adapter provides is set

10.2.3 "Message "Error when initialising the traffic light"

Cause: The software can not establish communication with the control box for the traffic light. This can have different causes.

- Make sure that the control box of the traffic light is supplied with power
- Make sure the data cable is OK and connected to the PC
- If you are using a USB adapter, check in the Windows Device Manager to see if the drive for the adapter is working. In the "Ports (COM & LPT)" group, if the adapter is plugged in, there must be an entry with the name "MOXA USB Serial Port" with a port number. -> see commissioning of the accessories
- In the weighing software, check the settings in the traffic light tab to determine whether the COM port is set to which the traffic light is connected or which the adapter provides

10.2.4 "Message "Error while initializing the radio remote control"

Cause: The software can not establish communication with the radio receiver. This can have different causes.

- Make sure that the radio receiver is supplied with power
- Make sure the data cable is OK and connected to the PC
- If you are using a USB adapter, check in the Windows Device Manager to see if the drive for the adapter is working. In the "Ports (COM & LPT)" group, if the adapter is plugged in, there must be an entry with the name "MOXA USB Serial Port" with a port number. -> see commissioning of the accessories
- In the weighing software, check in the Settings tab in the radio tab whether the COM port is set to which the radio receiver is connected or which the adapter provides

10.2.5 "Message "Video source not available"

Cause: The set video source is not available.

Solution: Make sure the correct video source is installed and set in the camera tab settings

10.3 Status LEDs on the USB box

When the USB cable is connected, you can read the 5 LEDs of the USB box:

LED	Zustand	Beschreibung
BOX	Off	Normal state, no error code available
	Red	Error code available, you can see the error code in the box
USB	Green	Normal state, USB cable is connected
	Off	USB cable is not connected
Data	Off	Normal state, data available, data picked up by the PC
	Shining red	Data available, not picked up by the PC
	Flashing red	Scale sends no data
POWER	Green	Normal state, power supply is connected, weighing electronics box is supplied.
	Off	Voltage supply of the weighing electronics box not ok
DC	Off	Normal condition, power supply of the weighing electronics in order
	Red	Scale takes too little power

10.4 Error codes on the weighing electronic box in the scale

The weighing electronics box has a four-digit display, on which different states / errors of components are displayed:

Code	Beschreibung
0300	Power supply too low (below 18V) or short circuit at both photocells
0400	Communication to USB-BOX interrupted
0800	Error in the board

For multiple concurrent states, the codes are summed, for example: 0403 = 0400 + 0001 + 0002

10.5 Problems during the weighing process

10.5.1 The external display shows Err3 for a static weighing

Cause: During a static weighing, no stable weight could be determined for an axle after one minute.

Solution: For the settings in the scale tab, set the maximum deviation for the static weighing to a higher value. Make sure that the load does not move permanently (eg unsecured animals or similar)

10.5.2 On the external display Err3 flashes alternately with the total weight after a dynamic weighing

Cause: In the case of a dynamic weighing, one of the quality criterias was exceeded for at least one axle in the just weighed combination.

Solution: This message does not necessarily mean that the weighing is wrong or lost.

In any case, you should look in the program at which axle which problem has occurred and possibly repeat the weighing or possibly post-processing manually. The corresponding axles are marked with a red X. For the driver, this is the signal to possibly repeat the weighing. You can adjust the quality criteria for the settings in the quality tab. The stricter these quality criteria are set, the more often comes this warning Err3. If the weights are okay then you can weaken the quality criteria to a reasonable level.

10.5.3 The scale indicates weights, although the weighing platform is not loaded, eventually the weight will continue to run in one direction.

Cause: There is moisture in the measuring system of the balance that causes leakage currents.

Solution: Check if moisture has penetrated into the weighing electronics box. Open the maintenance cover of the balance and the cover of the weighing electronic box. If necessary, gently dry the weighing box inside with a hair dryer. Also check the connections for moisture.

Cause: The weighing signal cable has been damaged.

Solution: If damage has occurred to the data cable, it must be replaced.

Cause: Moisture has entered a load cell.

Solution: In the settings in the register Diagnostics, determine which load cell is responsible for the weight change and replace this load cell.

10.5.4 In the software weighings are marked with a red X.

Cause: Too high driving speed

Solution: Mark the weighing and click on the tab "measurements". Check whether the displayed speed values are plausible for the individual axles. At least one is greater than the maximum speed set for the settings in the "quality" tab. If the weighing is otherwise okay you may be able to increase the maximum allowed speed, but normally it would be better to slow down.

Note: The speed is calculated from the times at which the photocells interruptions are processed in the software. This can result in a greater inaccuracy of the calculated speed, especially in the first axle, if the PC can not process the weighing in real time. For the second axle, the speed is usually shown correctly.

Cause: too high standard deviation

Solution: Mark the weighing and click on the tab "Measurements". For at least one axis, the calculated standard deviation is greater than the maximum value set for the settings in the "quality" tab. Try to create less vibration in the vehicle during the crossing. If the weighings are basically okay, you can also increase the maximum value. The goal is that really only those weighings are provided with a red X where the vibrations are so great that the accuracy of the weighing is impaired.

Note: The standard deviation is a measure of how much the individual measurement points used for the weight calculation of an axle deviate from the average of these points.

Cause: Too large slope of the regression line

Solution: Mark the weighing and click on the tab "measurements". For at least one axle, the calculated slope (up or down) of the regression line is greater than the maximum value set for the settings in the quality tab. Take special care not to brake or accelerate during the crossing. If the weighings are basically okay, you can also increase the maximum value. The goal is to provide only those weighings with a red X where the drop or increase in weight is so great that the accuracy of the weighing is compromised.

Note: The regression line is a straight line that has the smallest possible distance from all the measuring points of an axle used for weight calculation and shows an increase or decrease in the weight during the movement of this axle over the platform.

10.6 Problems with the external display

10.6.1 On the external display is an E before the weight

Cause: The scale delivers a negative weight, on the external display a large E is displayed instead of a minus.

Solution: You should zero the scale. In the software, in the "edit" mode, click on the small button < +/- 0 > above the weight display.

Note: Small weights in the range of -10 to +10 are displayed on the external display with 0. The weights -20 and -30 are displayed on the large display as 20 and 30, respectively.

10.6.2 „ 10.6.2 Even in the weighing mode the external display shows only "- - - - -"

Cause: The COM port for the external display is not set correctly.

Solution: Check if the COM port for the external display is set correct in the settings. In Windows Device Manager, you can see which ports are in the system.

Cause: The driver for the USB converter is not installed or not installed correctly.

Solution: If the external display is connected with a USB converter, check that the converter in the device manager is properly plugged into the ports. If not, install the driver appropriate for your operating system for the USB converter you are using.

Cause: The serial cable for the external display is damaged.

Solution: Check the cable and the connectors

10.7 Problems with the camera

10.7.1 You do not see a picture, the field for the picture is light gray in edit mode

Cause: The camera is not activated in the software.

Solution: Check if the Agreto camera is set in the settings for the components used.

10.7.2 You do not see a picture, the field for the picture is green or blue in edit mode

Cause: The driver for the video converter is not installed properly.

Solution: Install the driver for the USB video adapter

10.7.3 You do not see a picture, the field for the picture is black in edit mode

Cause: The video cable to the camera is defective.

Solution: Check the cable and the connectors. It is a normal coaxial cable, which can be repaired in case of emergency on site.

Cause: The camera is not powered or defective.

Solution: Check the power cable with the camera power adapter and its connection.

10.7.4 The camera image has a poor resolution and is coarse-pixel

Cause: The resolution is either not set correctly or your PC is too weak for a reasonable resolution.

Solution: Check the video format for the settings in the "Camera" tab and increase the resolution if possible.

10.7.5 The camera image is blurry and out of focus

Cause: The camera is not set to the correct zoom or focus.

Solution: There are 2 knobs on the camera, 1 for zoom and 1 for sharpness, adjust both buttons to optimize the image quality.

10.7.6 The camera image has a poor quality in the dark

Cause: The night vision capability of the camera is insufficient for your distance to the weighing platform.

Solution: Mount the camera closer to the weighing platform or use external lighting.

10.7.7 The camera delivers images from the empty scale or no current images

Cause: The camera image on the screen is hidden.

Solution: The pictures are "snapped" directly from the screen. Turn off the screen saver and power-saving features of the monitor and graphics card. For some system configurations allowed the software are not minimized and the area of the camera image is not covered by other programs.

Solution: In the General tab of the camera settings, select the entry with the suffix (WDM).

10.8 Problems with the radio control

10.8.1 The weighing software does not respond to a keypress on the transmitter

Cause: The COM port for the radio receiver is not set correctly.

Solution: Check if the COM port for the radio receiver is set correctly in the settings. In Windows Device Manager, you can see which ports are in the system.

Cause: The driver for the USB converter is not installed or not installed correctly.

Solution: If the radio receiver is operated with a USB converter, check whether the converter in the device manager appears correctly at the connections. If not, install the driver appropriate for your operating system for the USB converter you are using.

Cause: The serial cable to the radio receiver is damaged.

Solution: Check the cable and the connectors. It is a two-pole cable, which can be repaired in case of emergency on site.

10.8.2 The weighing software reacts to the transmitter at the push of a button, but no data is provided

Cause: The radio hand transmitter is not created or not with the correct number in the master data.

Solution: Apply the wireless hand transmitter as described in the chapter "Operating the scale via radio remote control".

10.9 Other error messages in the software

10.9.1 Runtime Error 3050 or 3045

Cause: Software was not closing properly and is still open in the background. Several users have the software open at the same time

Solution: Open TASK Manager (STR + ALT + DEL) and exit the waage.exe, log out the currently logged in user, log out another user, reboot the PC and log ONLY with relevant users

10.9.2 Runtime Error 429 (Excel button)

Cause: There is no suitable version of Microsoft Excel on the PC you are using. The programs Open Office and Microsoft Office Starter Edition can not be used.

Solution: Install Microsoft Excel

10.9.3 The software terminates automatically (protection violation)

Cause: A driver for a used USB converter is not suitable for your operating system. If several USB devices are connected, the USB part of the computer (especially notebooks) may also be overloaded.

Solution: Updating the drivers & drivers Software (Download Internet), replacement USB converter to newer model, use USB hub with external power supply, use serial interface card instead of USB converter.

11 Warranty / Guarantee AGRETO drive-over scale

In addition to the statutory warranty, the following warranty conditions apply to the AGRETO drive-over scale:

- AGRETO electronics GmbH guarantees the function and repairs or replaces all parts that show material or manufacturing damage within the warranty period.
- Warranty services are only provided by AGRETO electronics GmbH.
- The decision on the existence of a warranty claim is made exclusively by AGRETO electronics GmbH.
- The warranty period starts with the first invoice to an end customer and ends 5 years from this invoice date.
- A requirement for warranty is the presentation of the original invoice and compliance with all the points in this user manual.
- Warranty doesn't apply to wear and tear, nor to damages due to improper use, negligence or accidents.
- In case of a warranty claim transport costs are to be paid by the purchaser.

12 Warranty / guarantee accessories

For the accessories traffic light, radio and camera the legal warranty and a possible guarantee of the supplier of the used components applies

13 Disposal



When the product has reached end-of-life, dispose of the product or parts thereof in an environmentally responsible manner, with materials separated according to type (scrap metal, plastic waste, etc. - do not add to household waste)! Detailed information can be found in Directive 2002/96/EG

14 Imprint

All information, specifications and illustrations are as of 2022, subject to technical changes or design changes.

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