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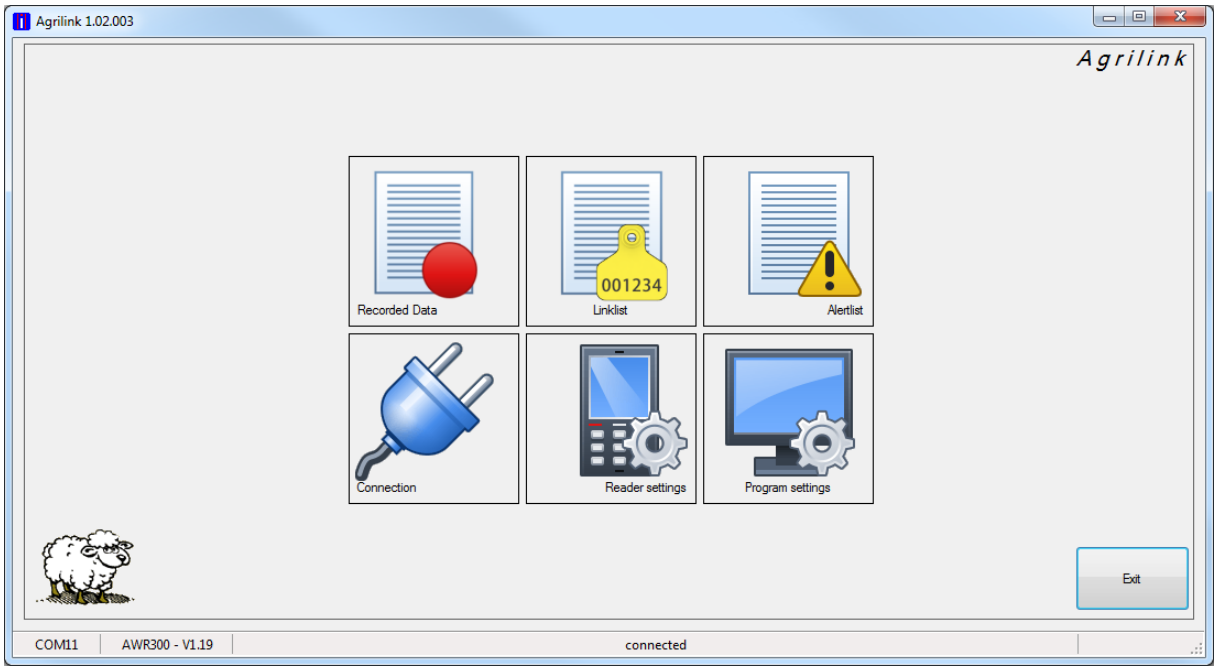
AgriLink

- PC-Software for Agrident mobile readers -

Manual



Version 1.2.3 and higher

V19/12/17

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1 Introduction

'*AgriLink*' is an easy to use software provided by Agrident free of charge. It supports the reader models AWR300 and AWL200. This application allows downloading collected data from the reader and uploading lists to the device, like *Link-Lists* and *Alert-Lists*. The data can be saved on your computer or they can be exported to Excel. In addition *AgriLink* can be used for configuring the devices.

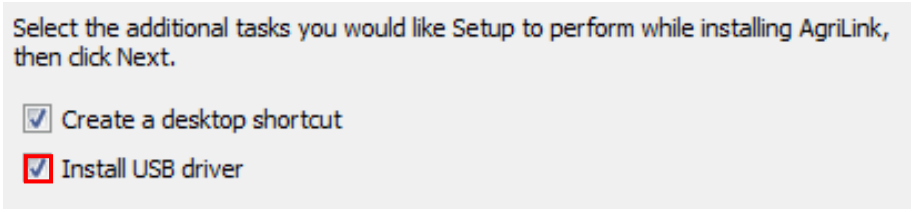
Please note that *AgriLink* does not offer any management functions.

The 'extended' capabilities, like *Task-Mode* or the *DataBase Function (DBF),* are **not** supported by *AgriLink* until now, just the basic functions like downloading collected records and uploading *Link-Lists* and *Alert-Lists*.

When you are looking for management software for Agrident mobile readers, please contact your local distributor. Agrident can also provide information on where to purchase such software but cannot directly offer it as the reader manufacturer.

2 Installation

Before *AgriLink* can be used, the setup has to be performed. Please execute the setup file, select the installation language and follow the instructions. During the setup process the installer will ask if you want to install the USB-Driver and if you want to launch the software after the setup has been finished:



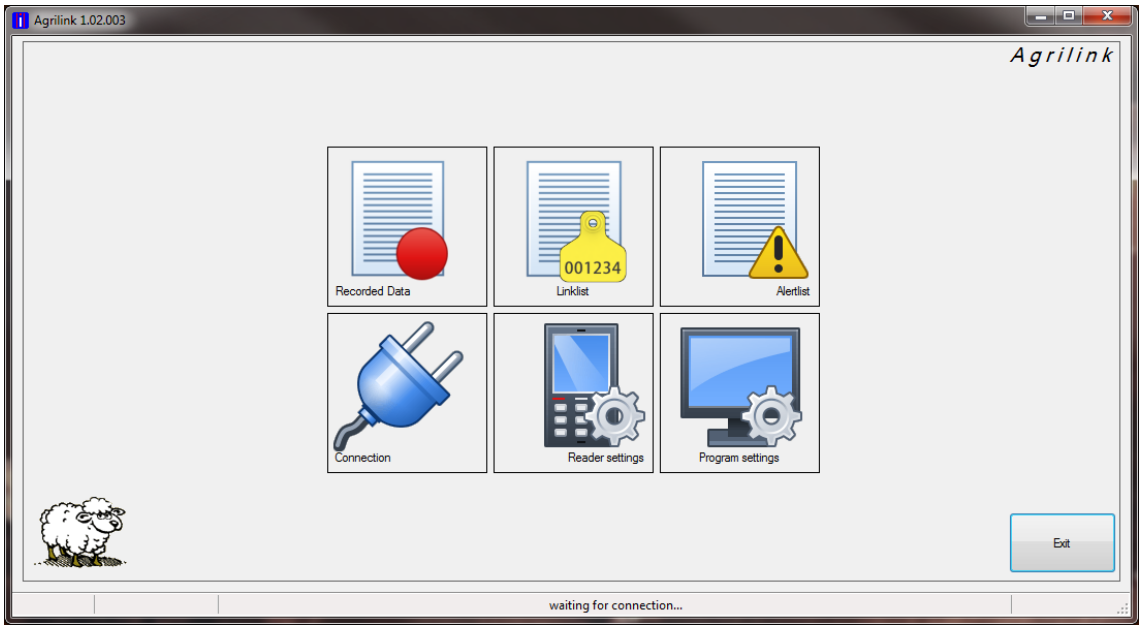
It is highly recommended to install the USB driver. Even if it might be already installed on your computer, you can keep this item checked. At least you should install it, if you are not sure whether it was already installed or not. Otherwise the USB-connection might fail and you might not be able to connect to the device by using the USB cable.

3 Starting *AgriLink*

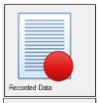
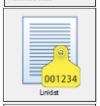
When you have selected to create a desktop shortcut during the installation, just double-click on the *AgriLink* symbol and the software will start.

4 The Start-Screen

After *AgriLink* was started, you will see the following screen:

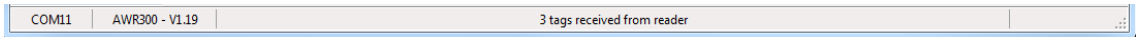


You can navigate to the desired category directly from here.

Category	Description
	Allows to download, save and export the collected data (organized in groups).
	Used for transferring *Link-Lists*, for editing and for saving them.
	Alert-Lists can be transferred, edited and saved here.
	Handles the settings required for connecting the reader. The device information, like serial number or Firmware version are shown here as well.
	Reader settings can be requested, modified and uploaded in this section.
	Contains all program settings, like display and export formats, language selection, etc.

5 The status bar

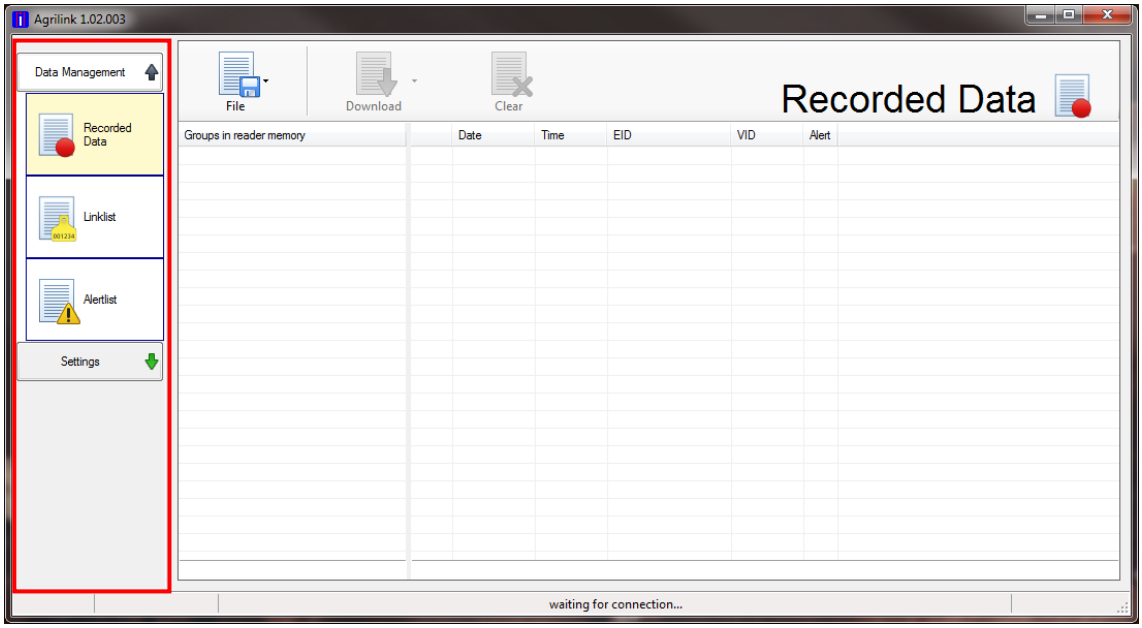
The main windows has a status bar at the bottom:



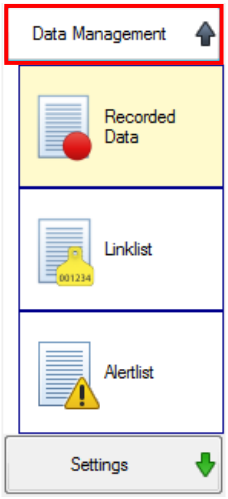
This shows connection information, like the name of the comport and the device type plus Firmware version, if there is a connection and status messages which indicate whether a particular operation has been successful or not.

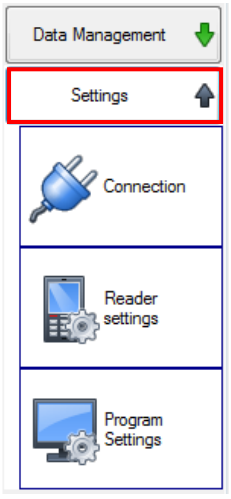
6 Navigating within *AgriLink*

There are several possibilities for switching from one category to another in *AgriLink*. On the left side, there are large buttons for changing the section.



The categories are organized in two groups: '*Data Management*' and '*Settings*'.





The group '*Data Management*' contains all function for transferring, editing, saving and exporting data.

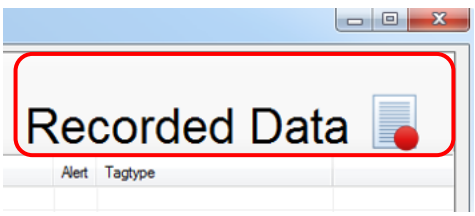
The group '*Settings*' includes the sections for the connection, for reader- and program settings.

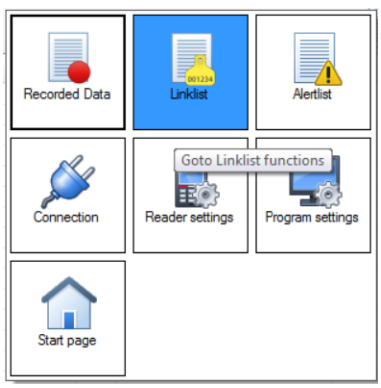
When one group is opened, the other group is closed automatically.

Active group: … click to close

Inactive group: … click to open

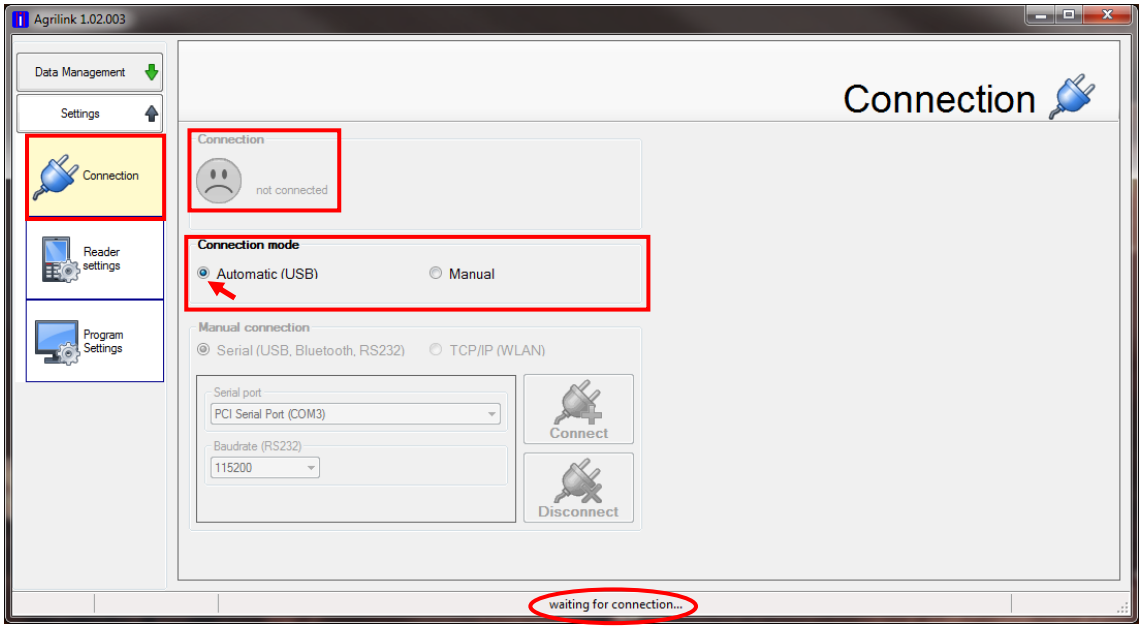
If you click into the area on the upper right side of the window, you will see another possibility of navigating to particular sections. You can even go back to the Start-Screen from this menu.



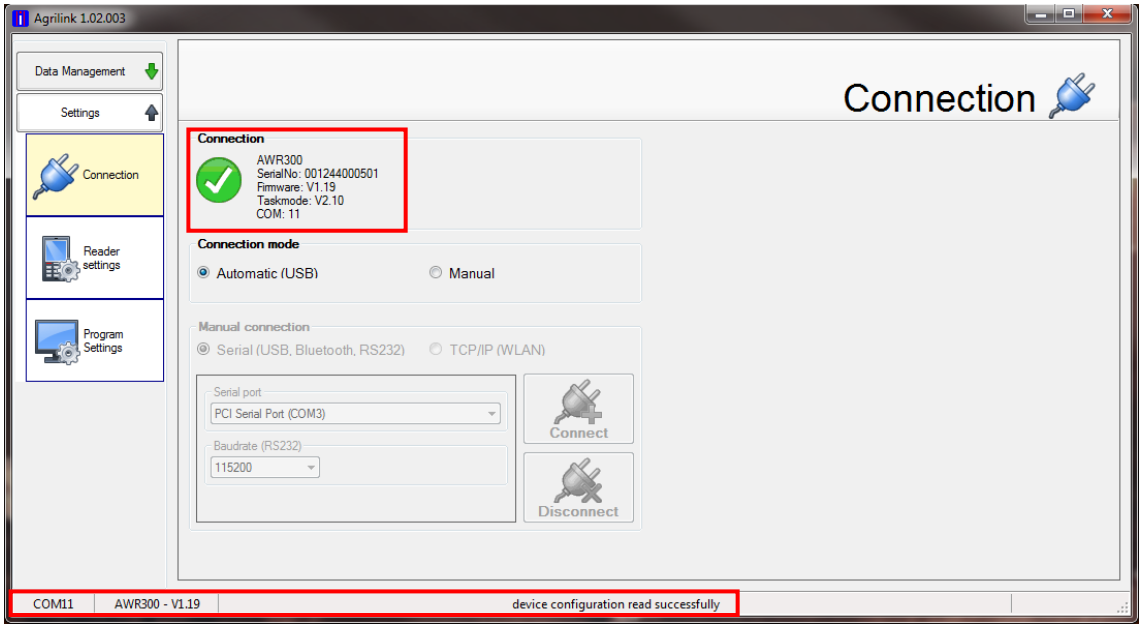


7 The Connection window

Because an active connection is essential for allowing the communication with a device, we will first have a look at this section. It is the first menu item in the group '*Settings*'.

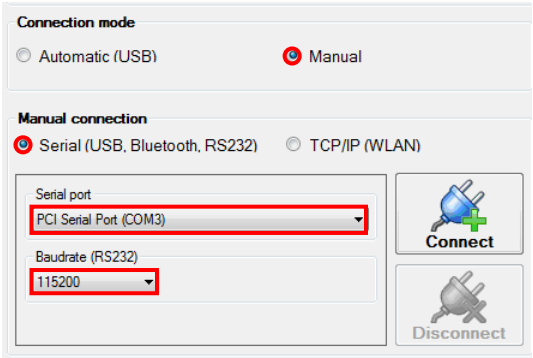


In the above screenshot, no device is connected. The connection mode is set to '*Automatic (USB)*'. It means that an Agrident mobile reader connected via USB would be detected automatically. The status bar shows a message '*waiting for connection…*'. As soon as *AgriLink* detects the presence of a reader now, the connection status will be updated.



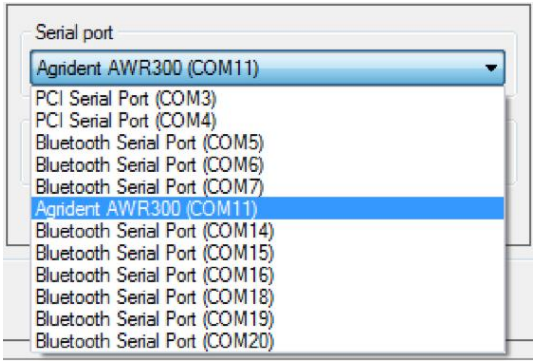
In this example an AWR300 was connected via USB. In the box '*Connection*' there is the device type displayed, as well as serial number, Firmware version, Task-Mode version and the name of the comport where the reader was detected. The status bar shows some of those information as well, so that they are also visible in other sections of *AgriLink*.

When you want to connect through other methods than the automatic USB connection, you first have to set the radio button '*Connection mode*' from '*Automatic (USB)*' to '*Manual*'.



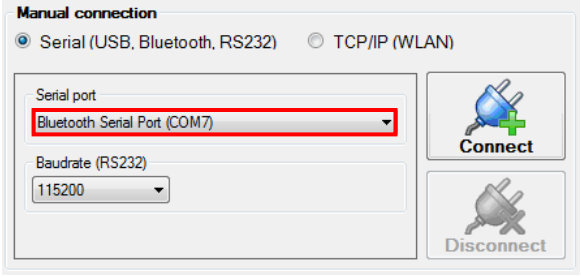
The connection can either be '*Serial*' or *TCP/IP* in case of using WLAN. All connections except WLAN are serial connections (USB, RS232 or Bluetooth).

You may select a serial port from the list of ports. Please also select the correct baud rate. In case of using USB, the baud rate setting does not matter because the devices automatically negotiate the connection speed. Then click '*Connect*'…



The drop-down-list shows all comports that are also listed in the Windows device manager, like RS232 ports, Bluetooth serial ports and the USB ports created when Agrident readers are connected. In case you want to connect via RS232 or Bluetooth, you have to know the correct port name or port number.

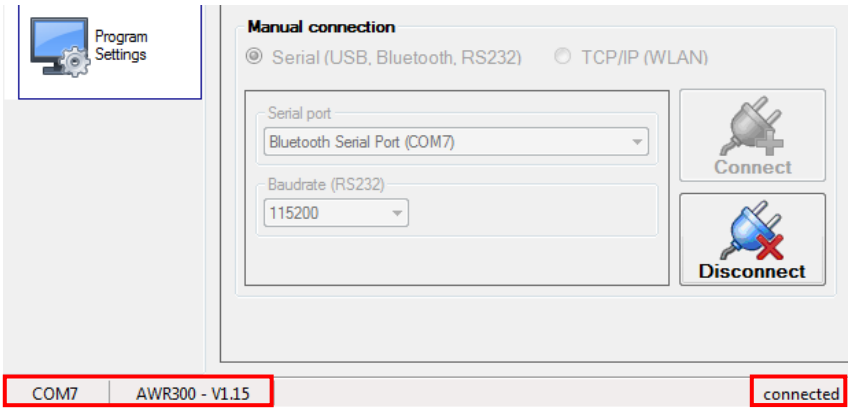
In this example Blue-Soleil software was used and the serial port is '*COM7*'. Hence *AgriLink* needs to be configured to this comport for connecting to the reader via Bluetooth.



The correct Bluetooth port can usually be found in the Bluetooth environment. This can be the standard Windows software or programs like Blue-Soleil.

Choose the correct port and click '*Connect*'…

AgriLink indicates that the connection has been established successfully:



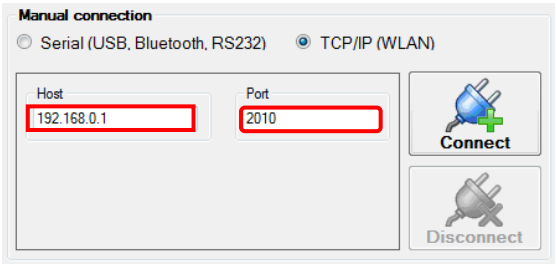
The status bar shows the connected port (here: *COM7*), the device type (here: *AWR300*) and its Firmware version. Before you can change the connection settings again, you have to click '*Disconnect*' first. Then the settings become available again.

For further details regarding the Bluetooth functions for Agrident mobile readers, please refer to the appropriate device manual or the Bluetooth manual.

If your Agrident reader contains the WLAN option, it is possible to connect to the reader using a TCP connection in *AgriLink*.

Please note that it is absolutely required to have a connection to an Access Point before a port can be opened! Therefore please ensure that all settings in the tab 'WLAN' match your WLAN infrastructure (STA-Mode). The reader can also be configured to be an Access-Point so that other devices can join it (AP-Mode).

When the reader has joined a network (STA-Mode) or another device is connected to the reader (AP-Mode), you can open a TCP port by entering the correct connection settings. In order to allow that, you have to know the AWR300s IP address and the correct port number.



AgriLink acts as '*TCP-Client*'. Hence the reader must be configured as '*TCP-Server*'. '*TCP-Client*' for *AgriLink* means that the connection always needs to be started on the computer, not by the reader.

Type in the correct IP address and the correct port number. Try to open the connection by clicking on '*Connect*'.

In the above example the reader was configured to be the Access Point. In this case its IP address is always '*192.168.0.1*'. Hence this must be configured as '*Host*'. The '*Port*' is configurable in the WLAN settings ('*Local Port*'). In this case the default value '*2010*' is used.

For further details regarding the WLAN functions for Agrident mobile readers, please refer to the appropriate device manual or the WLAN manual.

8 Downloading and Uploading data

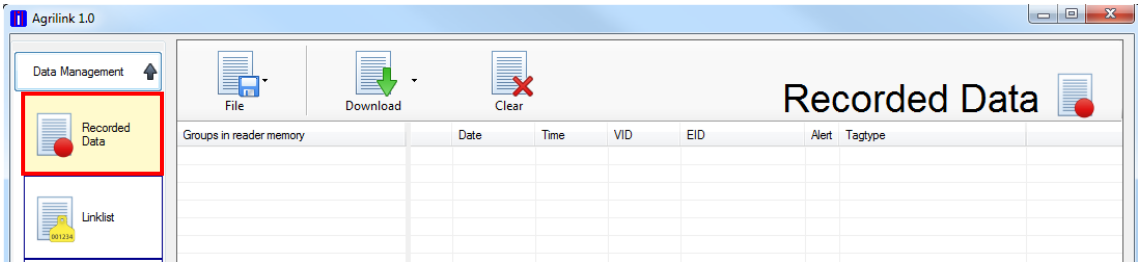
The data which are stored in the internal memory of the reader can be downloaded via *AgriLink*. These collected data are the records, which are organized in groups. It is also possible to upload *Link-List*s and *Alert-List*s. This software does not allow to download collected Task data or the content of the Database or to upload a Database at the moment.

8.1 Records

Records are the data saved to the readers memory directly after reading from the device main screen. The data are organized in groups. One group can contain a maximum of 10.000 records. Up to one million records can be stored in the internal memory of the AWR300, the AWL200 allows 'only' 100.000 records.

8.1.1 Downloading records

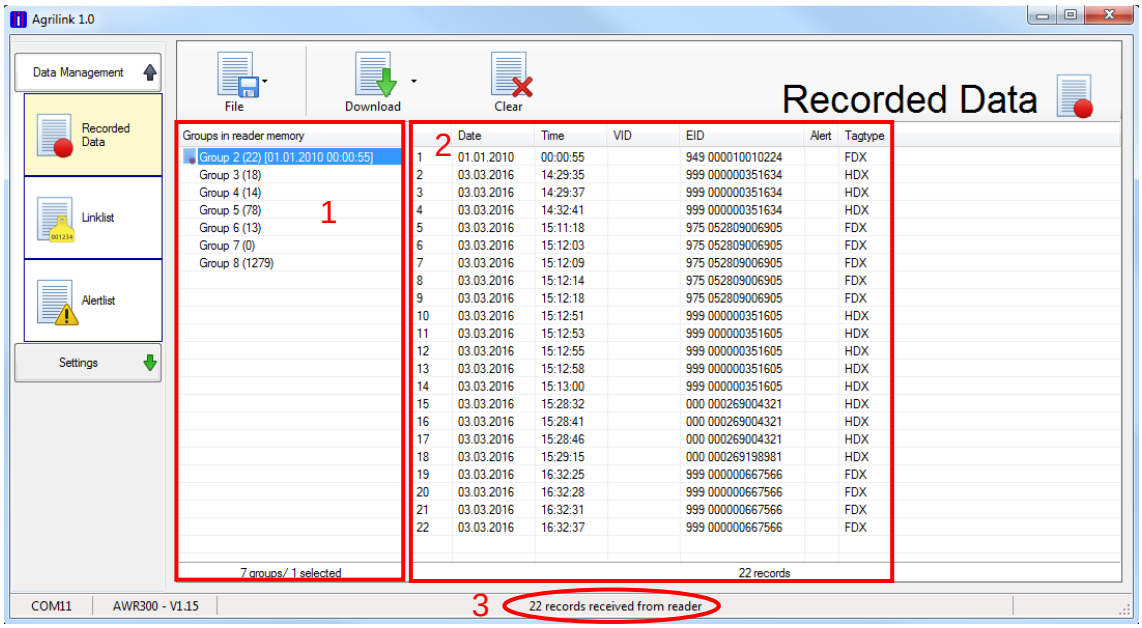
In order to download records from the reader using *AgriLink*, please select the category '*Recorded data*' in the '*Data Management*' group.



When a reader is connected, you can download the recorded data from the device here. You can either download the list of groups only (1) or all groups including the records they contain (2).

When downloading the '*groups list*' only, *AgriLink* will request the group information without all the records within the group. The records are just downloaded for the first group automatically.

The group information (1) are shown on the left side – the names of the groups and how many records each group contains. For the first group, the records have been downloaded automatically. These are shown on the right side (2).



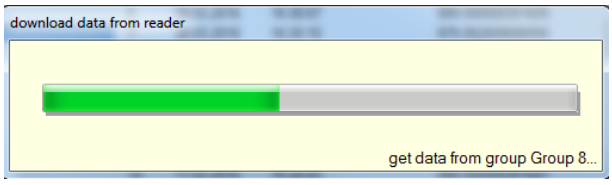
A notification indicating how many records have been received is shown in the status bar (3).

You can download the records for each group individually by clicking on it.

Groups in reader memory		Date	Time	VID	EID	Alert	Tagtype
Group 2 (22) [01.01.2010 00:00:55]	1	03.03.2016	16:33:19		999 000000667566		FDX
Group 3 (18) [03.03.2016 16:33:19]	2	03.03.2016	16:33:28		999 000000351648		HDX
Group 4 (14)	3	03.03.2016	16:33:31		999 000000351624		HDX

That was done for '*Group 3*' in this example. Behind the number of records in this group, here '*18*', you can see the date and time of the build of this group on the reader.

If the download takes longer, because the group contains many records, a progress bar is shown:



When clicking on '*Download all groups*', *AgriLink* will request the records from all groups that are available on the reader.

This can take some time depending on the amount of records that are present on the device.

The format used for displaying the downloaded records can be changed in the program settings. Please refer to chapter 10.2.1 for details.

The following screenshot shows the default display format for the downloaded records:

Groups in reader memory		Date	Time	EID	VID	Alert
Group 2 (22) [01.01.2010 00:00:55]	1	12.07.2016	15:14:19	1000000999000000667566		
Group 3 (18) [03.03.2016 16:33:19]	2	12.07.2016	15:14:26	1000000980000001005714		
Group 4 (14) [25.05.2016 15:51:02]	3	12.07.2016	15:14:28	1000000984000100091369		
Group 5 (78) [12.07.2016 15:14:19]	4	12.07.2016	15:14:39	1000000980000001010175	001099	Move to pen 4

First a sequential number is shown, then date and time of reading, the electronic ID (*EID*) and the visual ID (*VID*) and in the last column the alert message.

It is possible to select or de-select items to display and also to change the order of the columns.

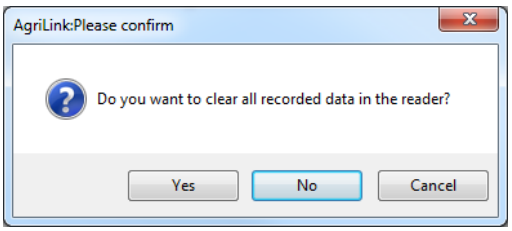
Groups in reader memory		EID	VID	Alert	Date	Time	Tagtype
Group 2 (22) [01.01.2010 00:00:55]	1	999000000667566			12.07.2016	15:14:19	FDX
Group 3 (18) [03.03.2016 16:33:19]	2	980000001005714			12.07.2016	15:14:26	FDX
Group 4 (14) [25.05.2016 15:51:02]	3	984000100091369			12.07.2016	15:14:28	HDX
Group 5 (78) [12.07.2016 15:14:19]	4	980000001010175	001099	Move to pen 4	12.07.2016	15:14:39	FDX

The order of the items and *EID* format were changed here and the tag type is also shown in the last column.

8.1.2 Deleting the records on the reader

In order to delete records from the device, please click on '*Clear*' in the '*Recorded Data*' section.

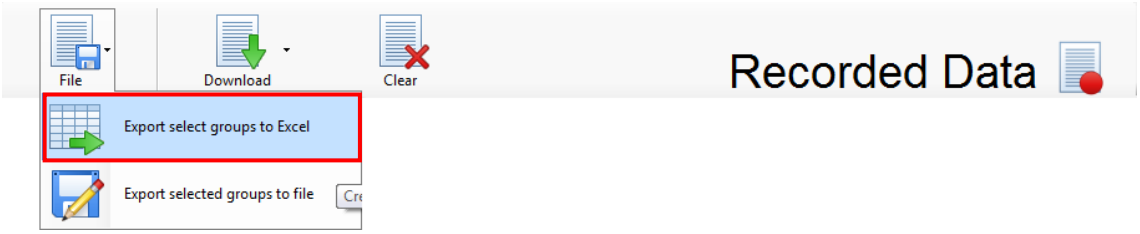
Please note that deleting data on the reader cannot be undone. Data are lost irreversibly. In case of any doubt you should save the data to your computer first.



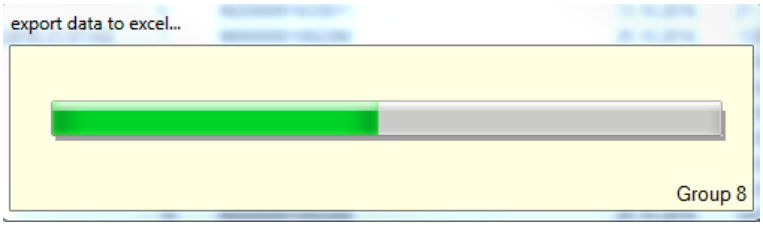
AgriLink will ask for a confirmation. Click '*Yes*' in order to confirm or '*No*' in order to abort. '*Cancel*' will also abort the deletion.

8.1.3 Exporting the downloaded records to Excel

AgriLink supports the export of the records to Excel. Please note that Excel has to be installed on your computer – otherwise this function will not work. Click on the menu '*File*' and then '*Export selected groups to Excel*'.



In case the groups contain lots of records, you can see a progress bar indicating how many data have been processed already.

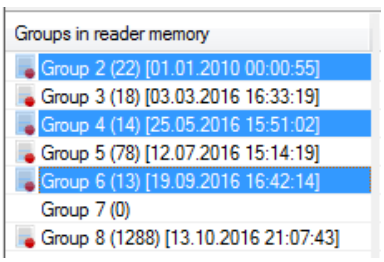


Once the export process is finished, Excel will be opened automatically and you can watch the data, edit them (if required) and save them.

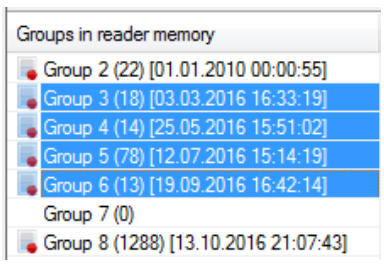
A1 | 15:14:19

	A	B	C	D	E	F
1	15:14:19	GROUP SEPARATOR	12.07.2016	Group 5		
2	15:14:19	999 000000667566	12.07.2016			FDX
3	15:14:26	980 000001005714	12.07.2016			FDX
4	15:14:28	984 000100091369	12.07.2016			HDX
5	15:14:39	980 000001010175	12.07.2016	1099	Move to pen 4	FDX
6	15:15:53	999 000000667566	12.07.2016			FDX
7	15:15:55	980 000001005714	12.07.2016			FDX

You can mark several groups by holding the <CTRL> key while clicking on the groups to select or you can mark a range of groups by holding the <SHIFT> key while clicking on the first and the last group to select. This works similar to the selection of items in the Windows Explorer.



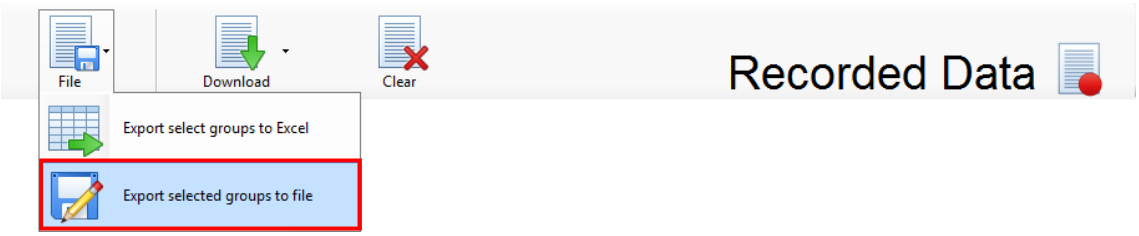
multiple groups selected



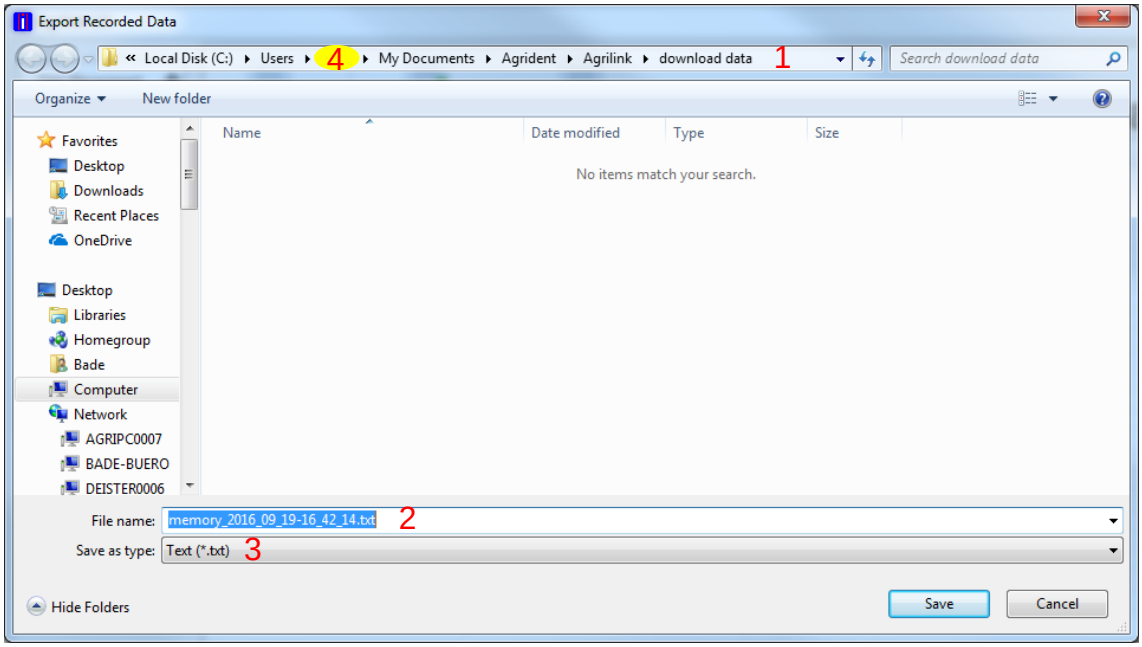
range of groups selected

8.1.4 Exporting the downloaded data to a file

If the downloaded data should be exported to a simple text file (file extension ‘txt’ or ‘csv’), this function has to be used.



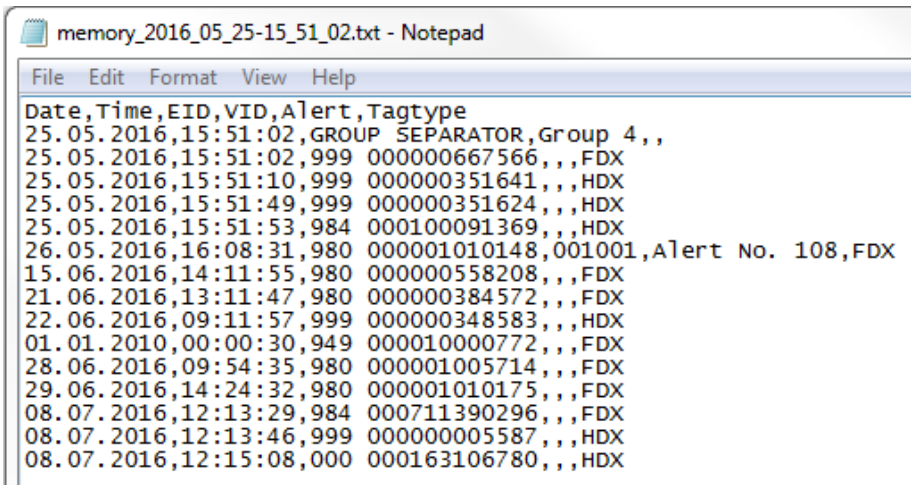
An Explorer window opens. Here you can specify the storage location (1), the file name (2) and the file extension (3). The name of the user in the documents folder (4) is different on every computer, of course.



The file name suggested by *AgriLink* is the term ‘*memory*’ followed by the date and time when the group was created on the device. You may enter alternative files names if you want. In case you have selected several groups, the suggested file name refers to the first selected group.

You may also change the storage location. *AgriLink* will remember the storage location so if you chose another folder, the program will suggest that one next time.

Text files can be opened with simple text editors like Notepad. The screenshot below shows an exported text file using the default export options.



The format used for exporting the downloaded records can be changed in the program settings. Please refer to chapter 10.3.1 for details.

8.2 Lists

There are two different types of lists which can be uploaded to the reader, the *Link-List* and the *Alert-List*.

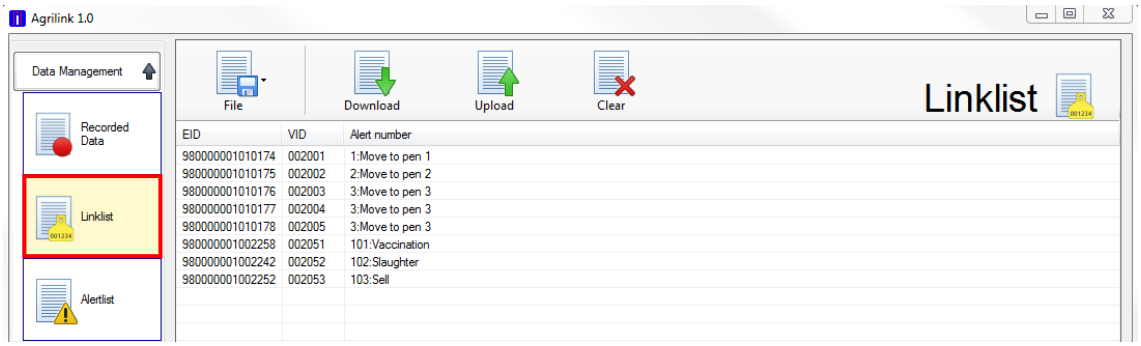
The *Link-List* contains assignments between the *EID* (Electronic ID) and the *VID* (Visual ID). The Visual ID can be the farm number, for example. If the reader is scanning a transponder and a *Link-List* is uploaded to the device, it will check this list concerning a match. If a particular *EID* has a match to a *VID*, the *VID* is displayed as well and stored together with the *EID* in the list of collected data. The *VID* is usually better 'readable' or 'understandable' than the *EID*.

In addition the *Link-List* can contain an Alert number, but this is no requirement. When there is a match for a particular *EID* in the *Link-List* after scanning and this entry also contains an Alert number, the *Alert-List* will be checked for the Alert String to be displayed. Additionally the device will give a clear visible and audible indication if an Alert event was detected in the *Link-List*.

The Alert List just assigns an Alert text to an Alert number. The *Link-List* just stores the Alert number, which makes an additional *Alert-List* necessary.

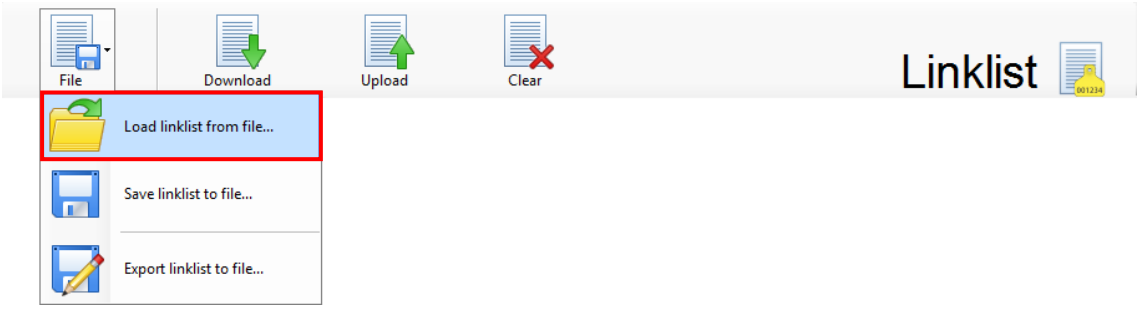
8.2.1 *Link-List*

The *Link-List* operations are available under the button '*Linklist*' in the '*Data Management*' section. Data can be downloaded from a device, uploaded to a device, they can be saved to a file or opened from a file and they can be erased on the reader. You can also edit the list here.

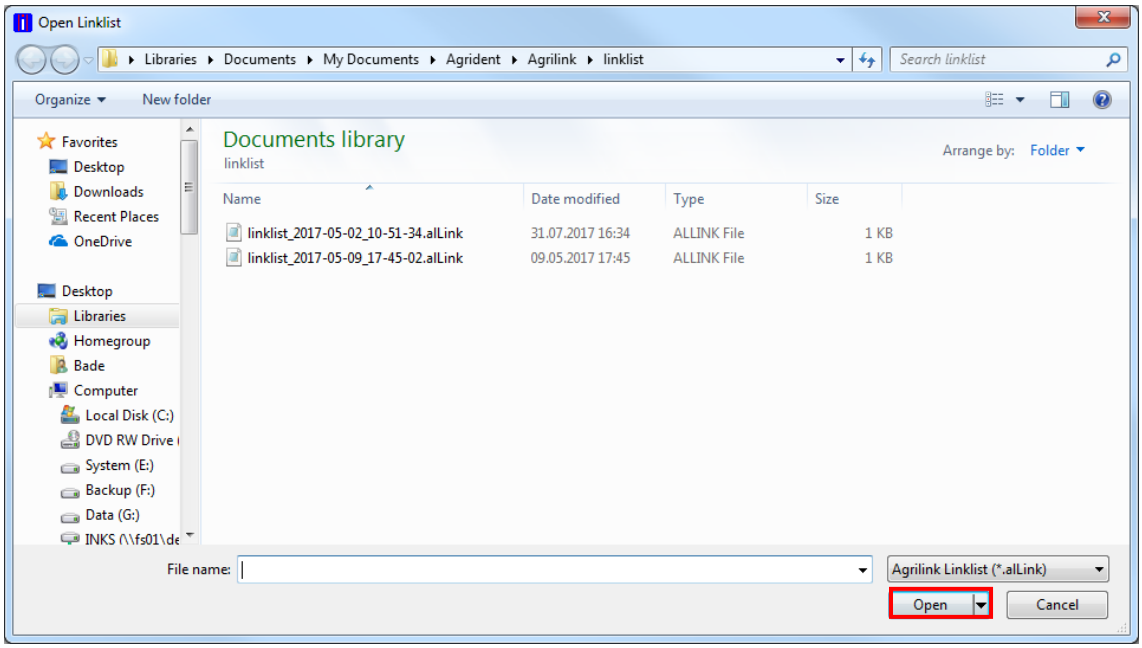


8.2.1.1 Loading Linklist from file

Click the button '*File*' and then '*Load linklist from file*' as shown below.



AgriLink will open an Explorer window for selecting a *Link-List* file:



Link-List files have the extension '*alLink*'. Select the file desired file and click '*Open*'. You may also change the file location, of course. *AgriLink* will remember the last used folder and it will automatically suggest this folder for the next *Link-List* file operation.

After the list was opened, you may upload it directly to the connected reader, modify it or save it as another *Link-List* file.

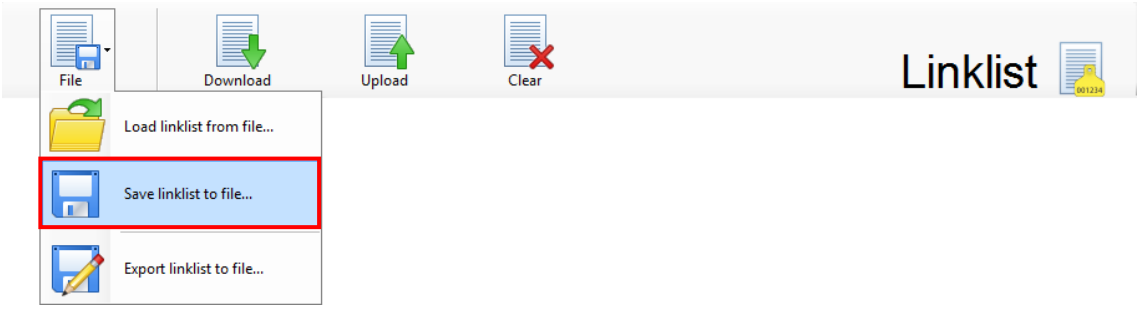
EID	VID	Alert number
980000001010174	002001	1:Move to pen 1
980000001010175	002002	2:Move to pen 2
980000001010176	002003	3:Move to pen 3
980000001010177	002004	3:Move to pen 3
980000001010178	002005	3:Move to pen 3
980000001002258	002051	101:Vaccination
980000001002242	002052	102:Slaughter
980000001002252	002053	103:Sell

Per default, the first column shows the *EID*, the second one the *VID* and the third one the Alert number plus the Alert text, if available.

The amount and the order of items to display might be changed as explained in chapter 10.2.2.

8.2.1.2 Saving Linklist to file

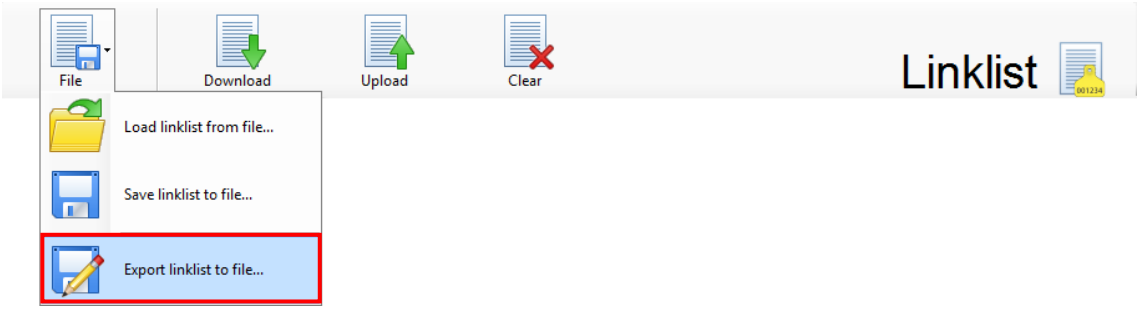
After a *Link-List* has been downloaded from the reader, or modifications have been made to a list, it makes sense to save the changes. This can be done via the button tagged below.



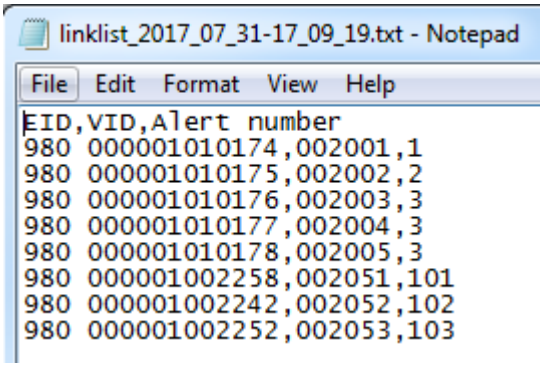
An Explorer window opens. The user may choose the file location and the file name.

8.2.1.3 Exporting the Linklist to a file

In case the *Link-List* should be further processed by other software, it is very likely that it needs to be exported into simple text format (file extension '*txt*' or '*csv*'). In order to do so, please click on '*Export linklist to file…*' as highlighted below.



Select the desired file location, file name and file type. An example of an exported file is shown below.

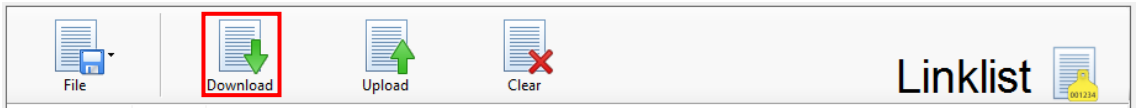


Per default, the first column shows the *EID* (Country-Code followed by a space and the 12 digit national ID), the second one the *VID* and the third one the Alert number. The column headers are exported as well.

The amount and the order of items to export might be changed as explained in chapter 10.3.2.

8.2.1.4 Downloading the Linklist from a device

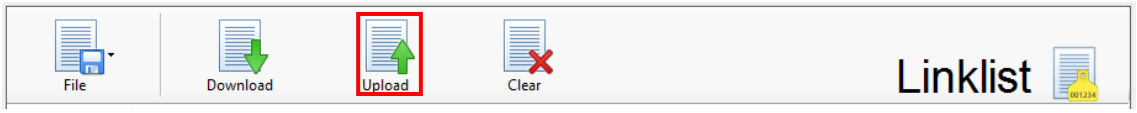
In order to receive the *Link-List* from a connected reader, click on the '*Download*' button.



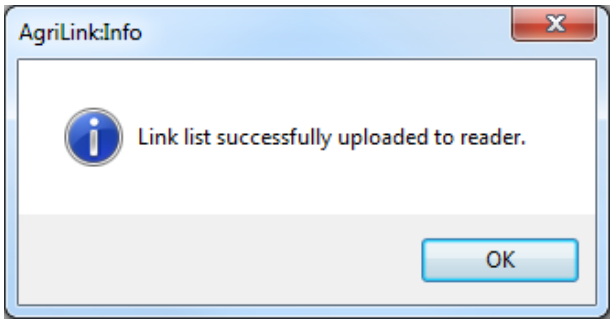
A progress bar will indicate the status of the download. In case there are not too many entries in the list, the progress bar will only be visible for a very short time. The received links are listed in the data area accordingly. You may now save the list, export it or modify it and upload it to the reader again.

8.2.1.5 Uploading the Linklist to a device

In order to load a *Link-List* from the computer onto a connected reader, please press the button '*Upload*'.



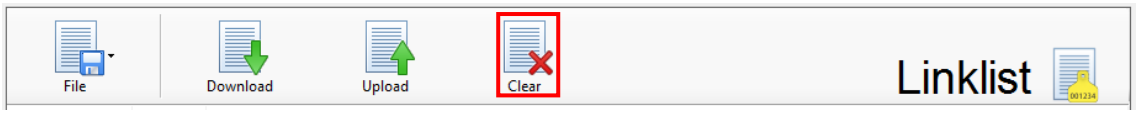
AgriLink will show a progress bar here as well. After the upload has been finished, a message box will be shown.

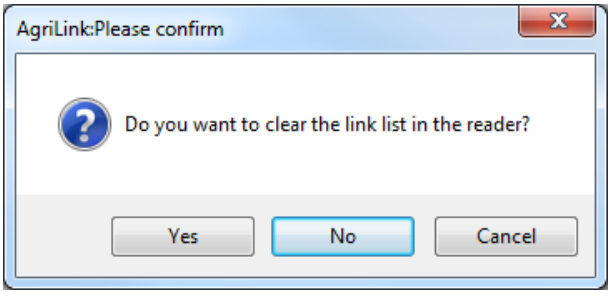


You can close the box by clicking '*OK*'.

8.2.1.6 Clearing Linklist on device

In order to delete the *Link-List* on the reader, you have to press the '*Clear*' button.



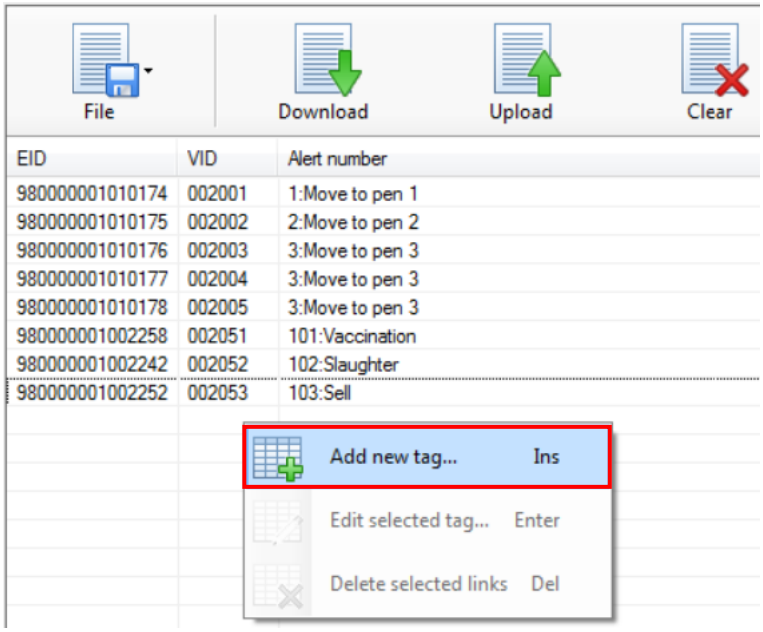


AgriLink will ask for a confirmation. Press '*Yes*' in order to confirm and '*No*' or '*Cancel*' for aborting the operation.

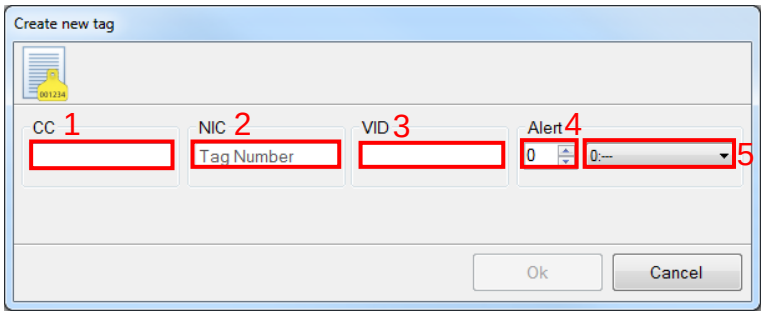
8.2.1.7 Editing the Linklist in *AgriLink*

When a *Link-List* is loaded in *AgriLink*, it is possible to edit it directly. The user may insert new Links, modify existing Links or delete entries.

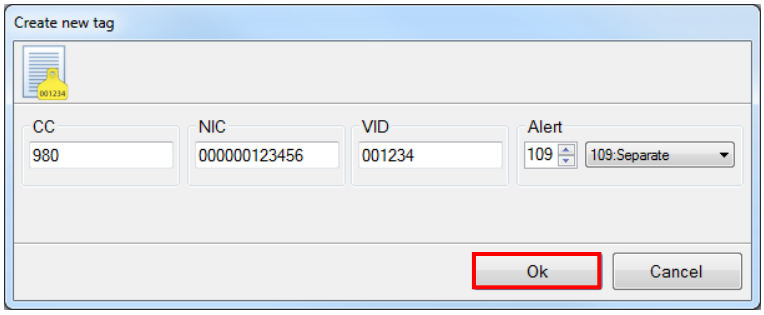
In order to add a new Link, just click somewhere in the data area for the *Link-List* with the right mouse button. A context menu will appear. Click '*Add new tag…*' in order to create a new Link. Alternatively you may press the <INSERT> key on your keyboard.



Another window will open:

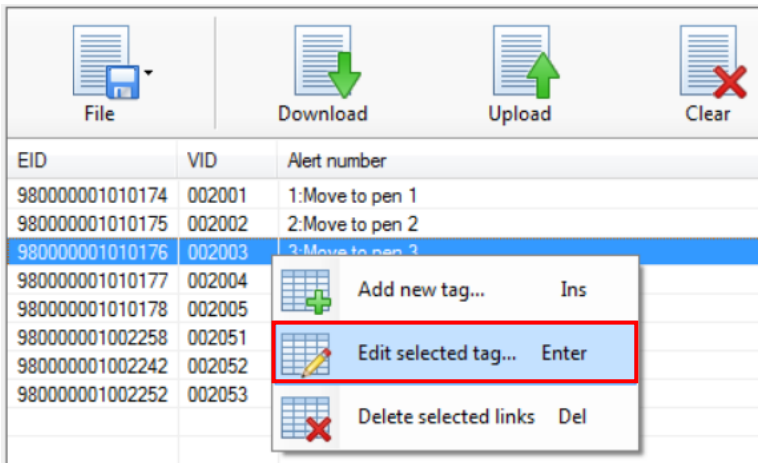


Enter the *EID* (divided into 3-digit country code (1) and 12-digit national ID (2)), the Visual ID (*VID*) (3) and an optional Alert number (4). If an appropriate *Alert-List* is loaded, the Alert message will be shown as well. In this case you can also select the message from the drop down list (5) directly.



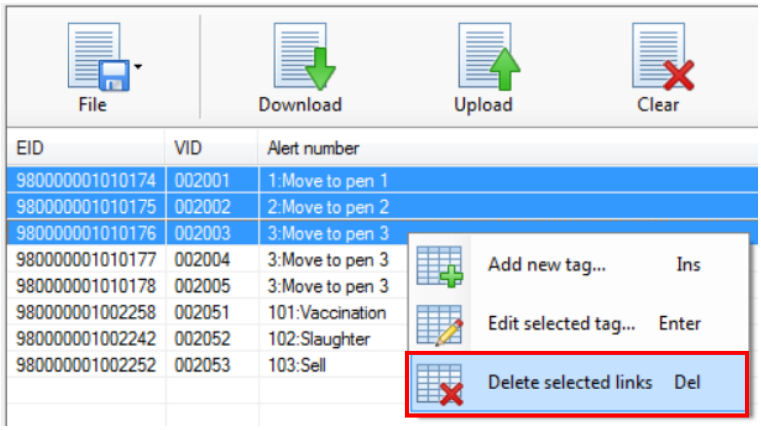
Click '*Ok*' in order to add the new Link to the *Link-List*.

When you need to edit an existing Link, the procedure is similar. Just open the context menu and select '*Edit selected tag…*'. Alternatively you may press the <ENTER> key on your keyboard while the appropriate entry is selected.



AgriLink will open another window. It looks equal to the previously shown window for creating a new Link. Modify the Link as intended and confirm the changes by clicking '*Ok*'.

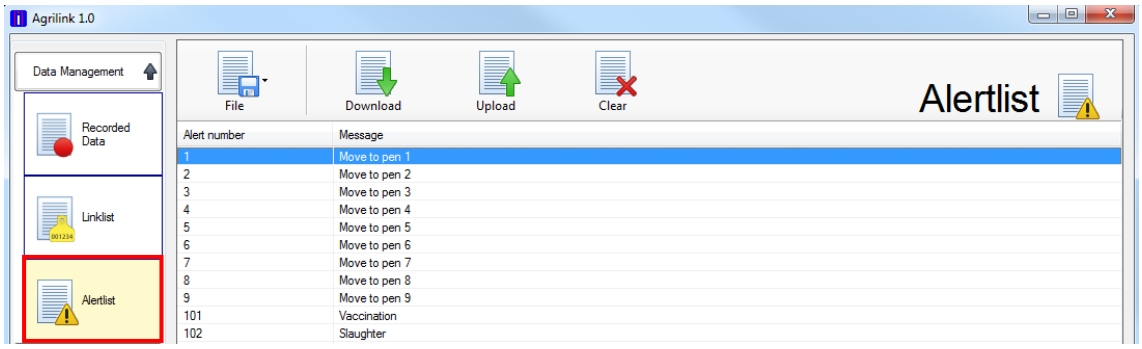
In order to delete one or more entries from the list, select them, open the context menu by a right mouse click and choose '*Delete selected links*'. Alternatively you may press the <DELETE> key on your keyboard while the appropriate entries are selected.



You can select several Links simultaneously by holding the <CTRL> key while clicking on the entries to select or you can mark a range of Links by holding the <SHIFT> key while clicking on the first and the last entry to select. This works similar to the selection of items in the Windows Explorer.

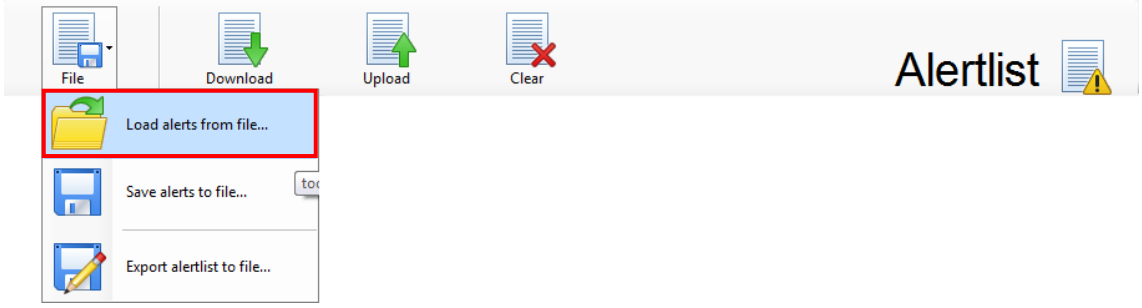
8.2.2 *Alert-List*

The *Alert-List* operations are available under the button '*Alertlist*' in the '*Data Management*' section. This list can be downloaded from a device, uploaded to a device, it can be saved to a file or opened from a file and it can be erased on the reader.

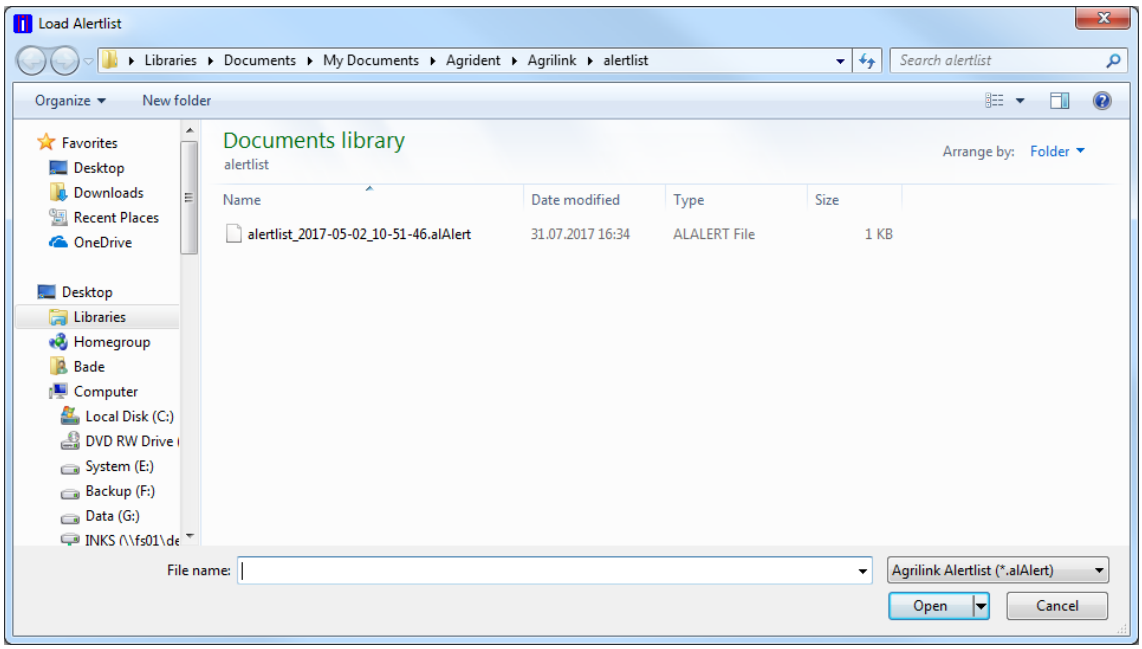


8.2.2.1 Loading Alerts from a file

Click the button '*File*' and then '*Load alerts from file*' as shown below.



AgriLink will open an Explorer window for selecting an *Alert-List* file:



Alert-List files have the extension '*alAlert*'. Select the desired file and click '*Open*'. You may also change the file location, of course. *AgriLink* will remember the last used folder and it will automatically suggest this location for the next *Alert-List* file operation.

After the list was opened, you may upload it directly to the connected reader, modify it or save it as another *Alert-List* file.

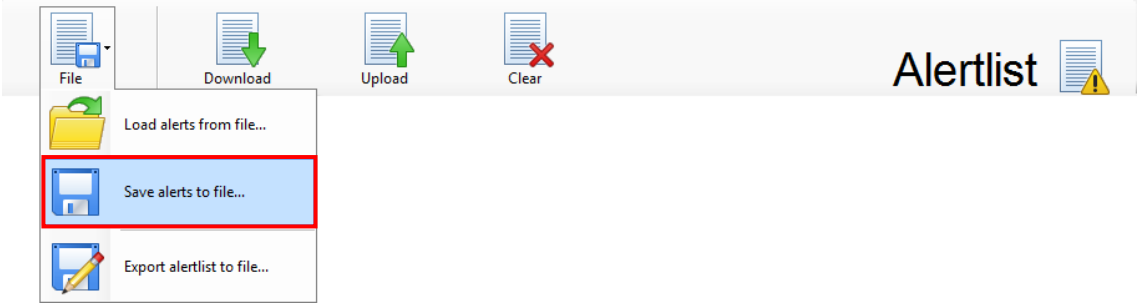
Alert number	Message
1	Move to pen 1
2	Move to pen 2
3	Move to pen 3
4	Move to pen 4
5	Move to pen 5
6	Move to pen 6

Per default, the first column shows the Alert number and the second one the Alert message.

The amount and the order of items to display might be changed as explained in chapter 10.2.3.

8.2.2.2 Saving Alerts to a file

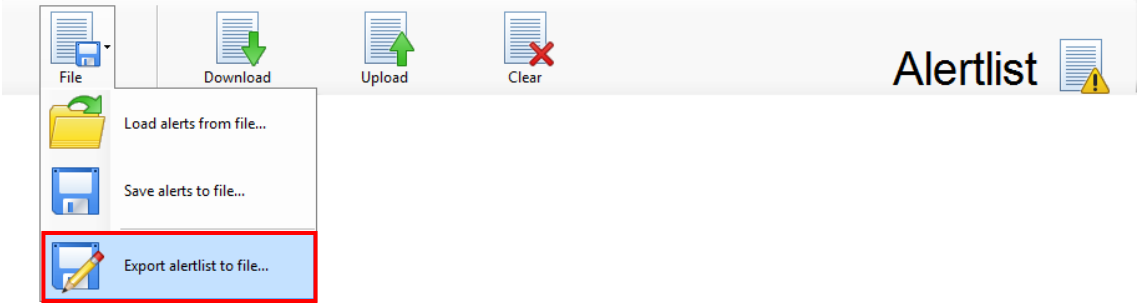
After an *Alert-List* has been downloaded from the reader, or modifications have been made to a list, it makes sense to save the changes. This can be done via the button tagged below.



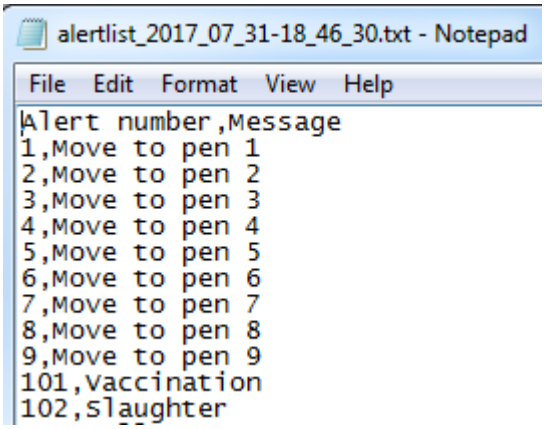
An Explorer window opens. The user may choose the file location and the file name.

8.2.2.3 Exporting Alerts to a file

In case the *Alert-List* should be further processed by other software, it is very likely that it needs to be exported into simple text format (file extension '*txt*' or '*csv*'). In order to do so, please click on '*Export alertlist to file…*' as marked below.



Select the desired file location, file name and file type. An example of an exported file is shown below.

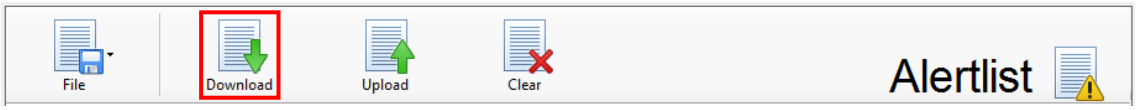


Per default, the first column shows the Alert number and the second the Alert message.

The amount and the order of items to export might be changed as explained in chapter 10.3.3.

8.2.2.4 Downloading Alerts from a device

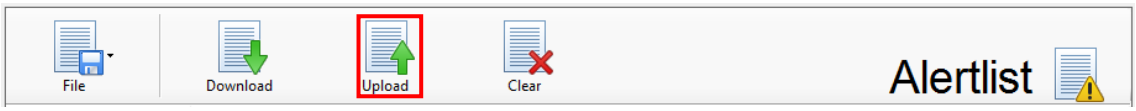
In order to receive the *Alert-List* from a connected reader, click on the '*Download*' button.



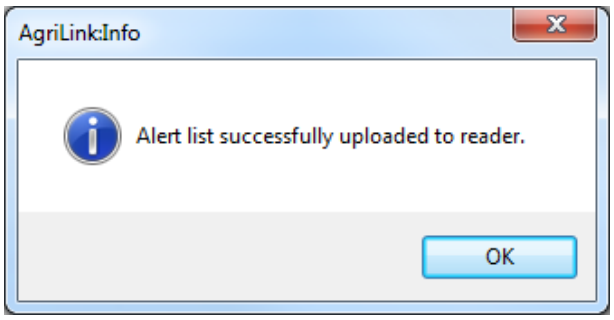
A progress bar will indicate the status of the download. This progress bar will only be visible for a very short time. The received alerts are listed in the data area accordingly. You may now save the list, export it or modify it and upload it to the reader again.

8.2.2.5 Uploading Alerts to device

In order to load an *Alert-List* from the computer onto a connected reader, please press the button '*Upload*'.



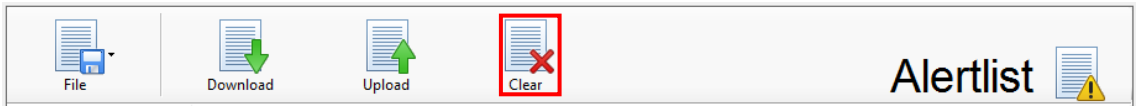
AgriLink will show a progress bar here as well. After the upload has been finished, a message box will be shown.

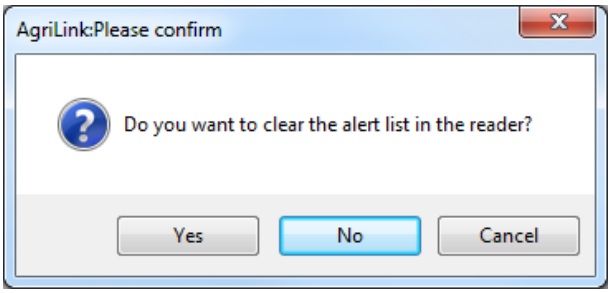


You can close the box by clicking '*OK*'.

8.2.2.6 Clearing Alerts on device

For deleting the *Alert-List* on the reader, you have to press the '*Clear*' button.



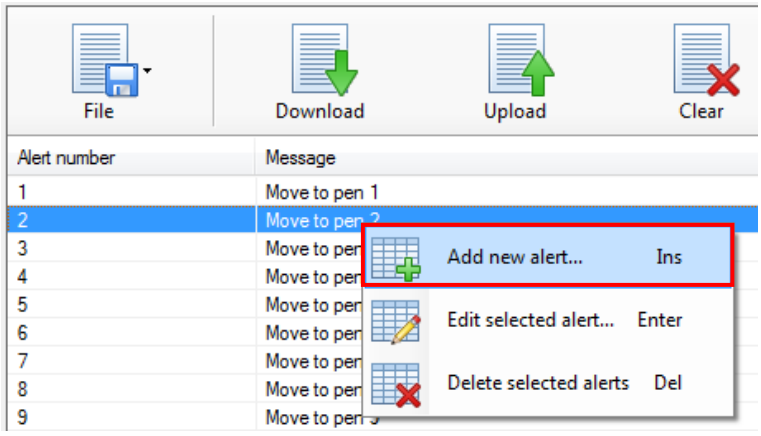


AgriLink will ask for a confirmation. Press '*Yes*' in order to confirm and '*No*' or '*Cancel*' for aborting the operation.

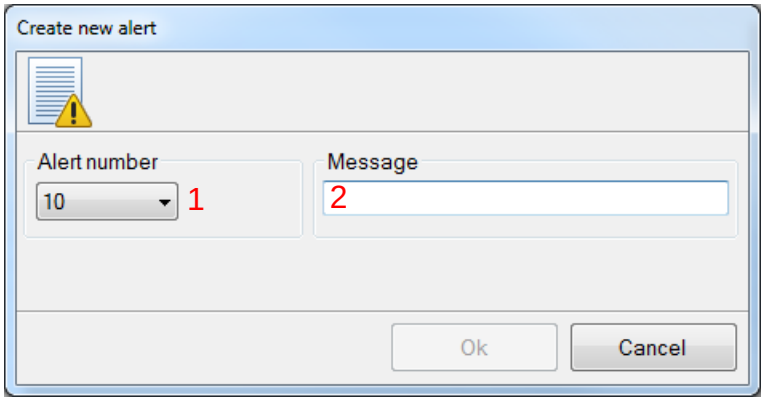
8.2.2.7 Editing Alerts in *AgriLink*

When an *Alert-List* is loaded in *AgriLink*, it is possible to edit it directly. The user may insert new Alerts, modify existing ones or delete entries.

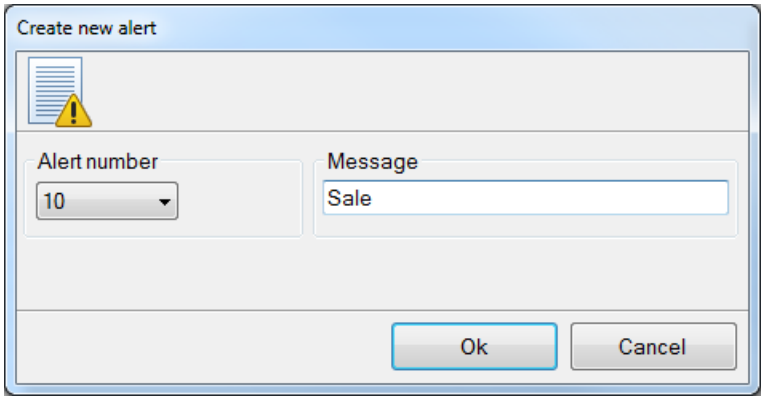
In order to add a new Alert, just click somewhere in the data area for the *Alert-List* with the right mouse button. A context menu will appear. Click '*Add new alert…*' in order to create a new entry. Alternatively you may press the <INSERT> key on your keyboard.



Another window will open:

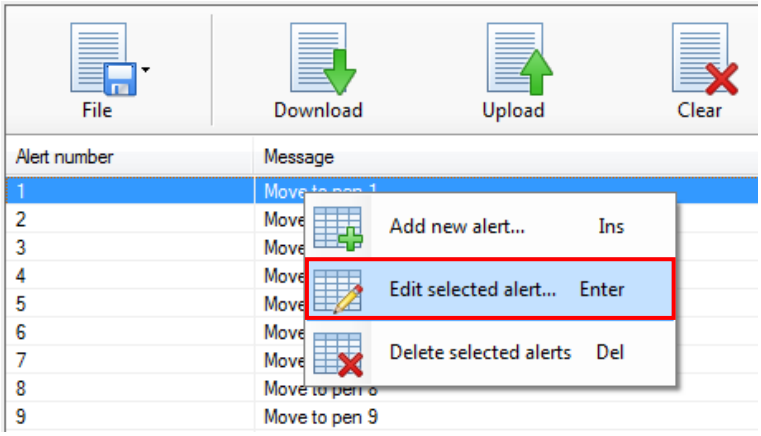


Select the Alert number from the drop-down list (1) first. The list will only show numbers which are not already used for other Alerts. Then enter the Alert message. This caption will be shown on the device display once an Alert event is fired.



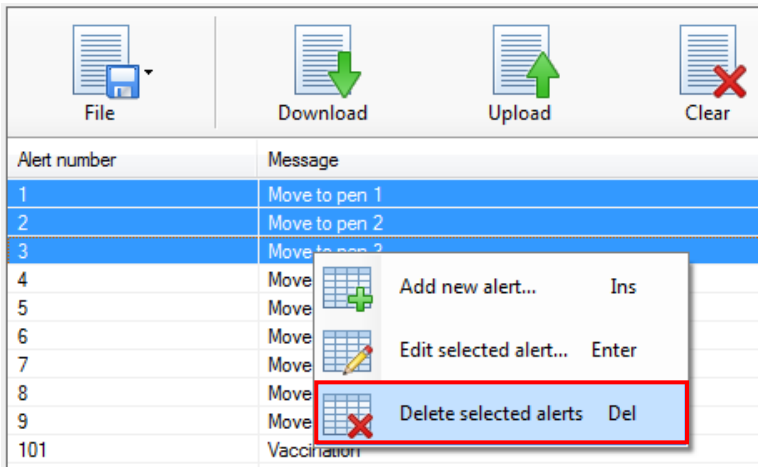
Add the new Alert to the list by clicking '*Ok*'.

When you need to edit an existing Alert, the procedure is similar. Just open the context menu and select '*Edit selected alert…*'. Alternatively you may press the <ENTER> key on your keyboard while the appropriate entry is selected.



AgriLink will open another window. It looks equal to the previously shown window for creating a new Alert. Modify the Alert as intended and confirm the changes by clicking '*Ok*'.

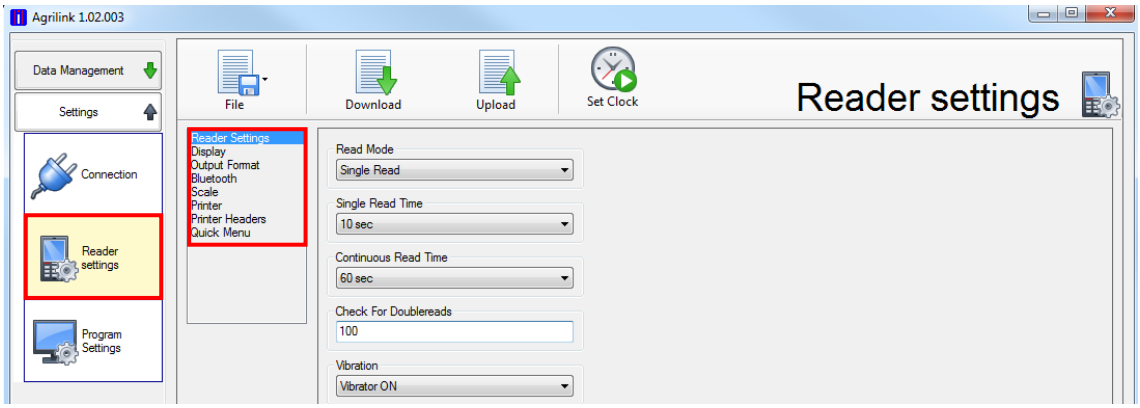
In order to delete one or more entries from the list, select them, open the context menu by a right mouse click and choose '*Delete selected alerts*'. Alternatively you may press the <DELETE> key on your keyboard while the appropriate entries are selected.



You can mark several Alerts simultaneously by holding the <CTRL> key while clicking on the entries to select or you can mark a range of Alerts by holding the <SHIFT> key while clicking on the first and the last entry to select. This works similar to the selection of items in the Windows Explorer.

9 Reader Settings

Beside the data management, *AgriLink* also allows the configuration of a connected reader. The settings are available under the button '*Reader settings*' and they organized in groups in accordance with the technical background.



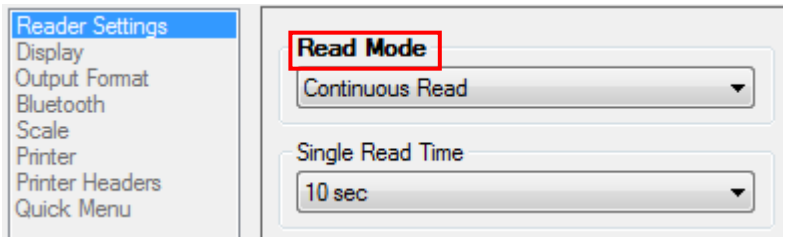
The Menu shown below is always available in the reader settings, independently of the selected category.

Button	Description
Load … file	loads a device configuration file from your computer
Save … file	saves the device configuration to a file on your computer
Download	requests the currently configured values for all settings in all sections from the device in one step
Upload	sends the configured values for all settings in all sections to the device in one step
Set Clock	synchronizes the reader clock with the computer clock

It is very useful to save a particular configuration to a file and to be able to apply it to other readers later on, if your devices should always use the same settings differing from the factory default values. The file only needs to be created once and can be applied to any number of readers later on.

Please note that it is necessary to press the '*Upload*' button after the settings have been imported from a file! The file loading operation does only set all values in the configuration window in *AgriLink*, it does NOT automatically apply them to a connected reader. In case of any doubt, you can request the complete configuration again by clicking on '*Download*'.

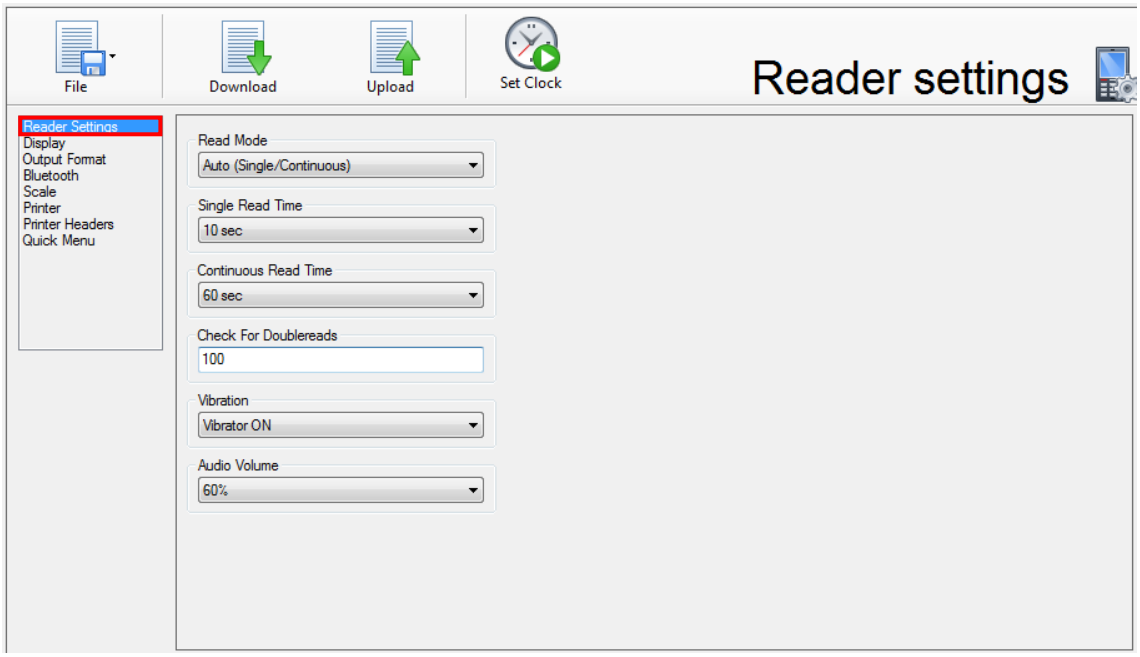
When a setting is changed in *AgriLink*, the format of the headline is shown in **bold** until the settings have been uploaded to the device:



This should remind you that settings has been modified in *AgriLink*, but were not uploaded to the reader yet. After the successful upload of the modified setting, the name of the setting should not be shown in **bold** any longer.

9.1 Configuration - Reader

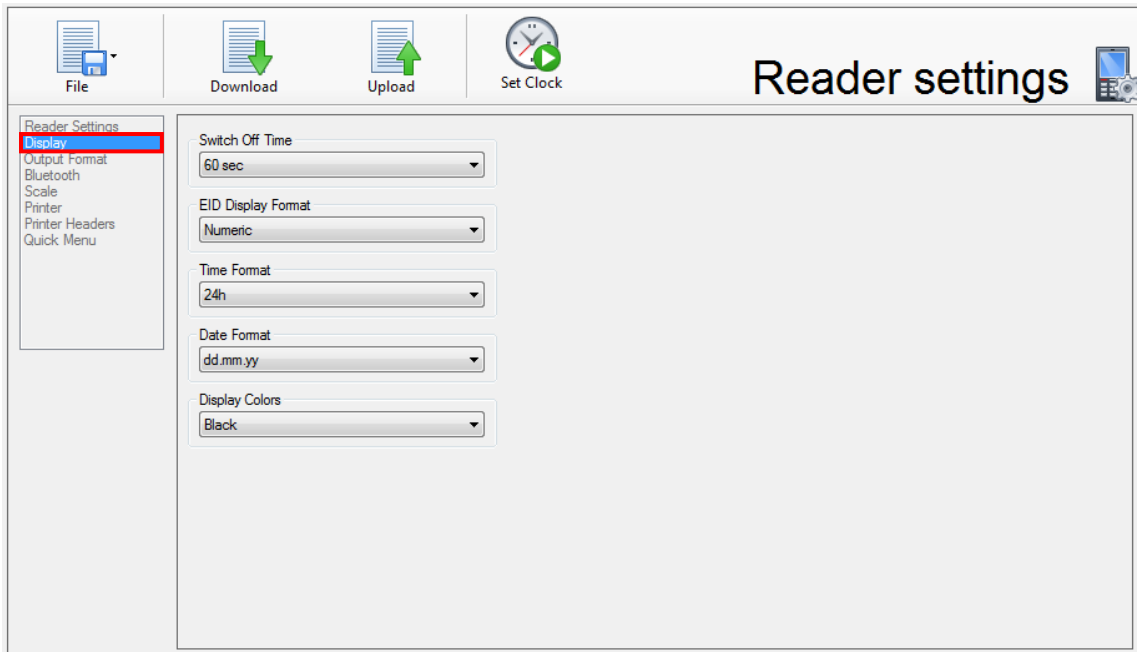
This tab mainly contains items that have to do with the RFID part of the device and with storage options. Please also refer to the reader manual for particular details.



The following table explains the settings within this category and shows allowed values. The default settings are shown in **bold**.

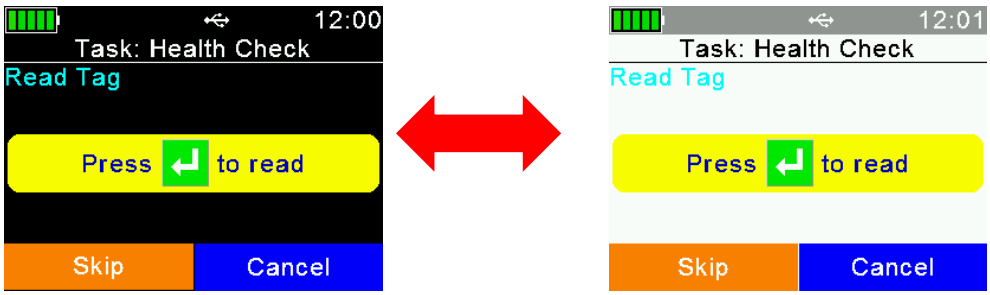
Setting	Values	Definition
Read Mode	**Single**, Continuous, Auto	Decides whether the reader should either perform a single reading attempt only or continuous reading. In continuous mode, reading is not aborted after a tag has been read. The device will read until the configured timeout has elapsed. '*Auto*' means; single read on short press and continuous read on long press.
Single Read Time	1 … 255 seconds (**10 seconds**)	Configures the timeout for single read attempt. If not transponder has been read after this time, the RF field will be switched off. If a tag is read before, RF is de-activated as well.
Continuous Read Time	1 … 255 seconds (**60 seconds**)	Sets the timeout for de-activating the RF in continuous reading operation. If a transponder is read, the timeout will be reset and the field will remain activated. This timeout only applies if no tag has been read within the configured time.
Check for double-reads	1 … 10.000 (**100**)	This setting decides how many records should be checked for duplicate *EID*s in the current group (reverse order). Please note that this setting will only be used when the 'Animal Counter' is enabled as well. For further details please see the readers user manual.
Vibration	**Enable** or Disable	Decides whether to use the vibrating motor in the handle or not.
Audio Volume	0% … 100% (**60%**)	Speaker volume in percent (in 20% steps)

9.2 Configuration - Display



Setting	Values	Definition
Switch Off Time	5 seconds … 3600 seconds (**60 seconds**)	This value decides about the time after which the reader enters standby mode. Please see the readers user manual for further details.
EID Display Format	**Numeric** Alphanumeric HEX	This setting determines the format used for displaying the *EID* on the device Display.
Time Format	**24h** or AM/PM	The time format might be changed between 24 hours or the AM/PM format.
Date Format	**dd/mm/yyyy** or mm/dd/yyyy	dd Day of month (2 digits) mm Month of year (2 digits) yyyy Year (4 digits)
Display Colors	**Black** or White	Depending on the light conditions it can make sense to invert the background color. It can also be a question of the users personal preference.

Display Color Example:



Black White

9.3 Configuration - Output Format

This setting refers to the format used for sending the *EID* to the interfaces after a transponder has been read. The reader is sending the *EID* directly after reading a transponder to all available interfaces like USB, RS232 (AWR300 only), Bluetooth or WLAN (AWR300, only optional). The tag number can be further processed on other devices, such as weighing indicators or smartphones, directly.

There are several different formats available for this so called 'Online Mode'. Depending on your requirements, you might have to change this format. Just select the required format in the drop down list (1) and apply the setting. An example of the configured output is shown below (2). For most formats, there is nothing else to configure (3). There are only two exceptions: The format '*ISO 24631*' allows the definition of an optional start character and the '*Custom Format*' provides several additional settings, as shown on the next page.

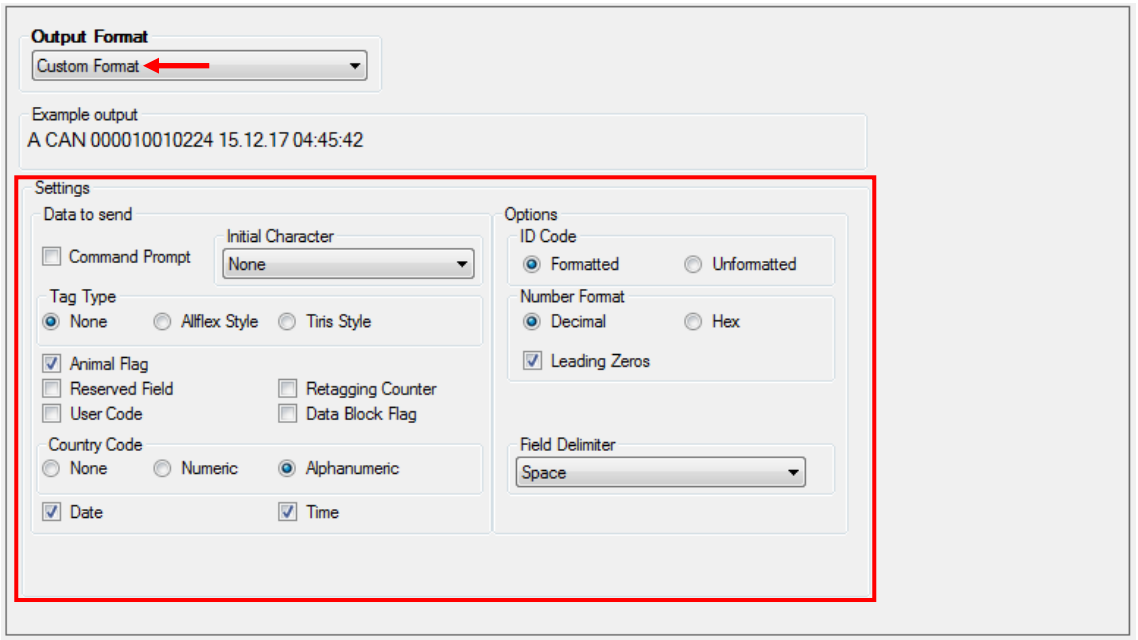
Please note that the 'Online Mode' must be activated on the device in order to let the reader transmit the *EID* after reading. If this is not the case, there won't be sent anything upon a tag read. For further details please refer to the readers user manual.

The default output format is '*Short ASCII 15*'. When this format is set, the reader will send the 15-digit *EID*, containing the 3-digit country- or manufacturer code followed by the 12-digit unique national ID without any separator, after a tag has been read. The telegram is finished by a carriage return plus line feed (<CR><LF>). This format is commonly used and accepted by most weighing indicators on the market.

There are other 'simple' formats, like *Custom Format*, *ISO24631*, *NLIS*, *Short ASCII16* or *ASCII+SCP*. In this case 'simple' means: these formats do not use any transmission frame that would require special software evaluation. All these formats do just send the *EID* in slightly different ways in ASCII notation, followed by <CR><LF>.

The formats *ASCII*, *Byte Structure*, *Compact Coding* and *Raw Data* are using a transmission frame containing control characters and a CRC8 (DLE protocol). Without special software implementation these formats cannot be evaluated by other devices.

The '*Custom Format*' works like a construction kit. It is possible to select or deselect several items in order to decide whether they should be included in the telegram to send or not. One can put together the frame as required. Just the position of items in the frame is fixed.



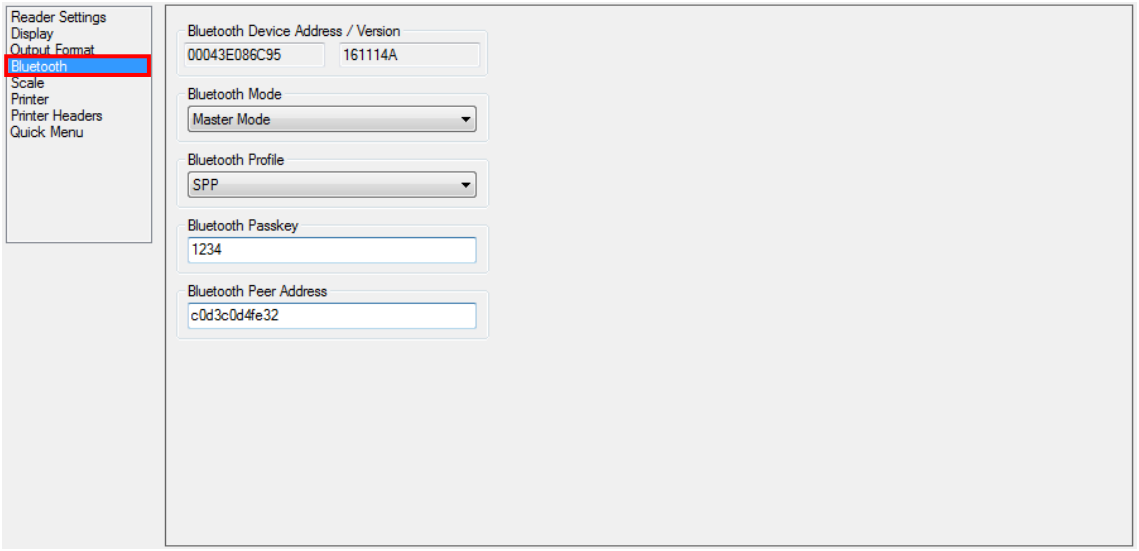
Please note that most options are only available if '*Formatted*' is selected for the '*ID Code*'. When '*Unformatted*' is selected, the raw ID is sent in hexadecimal format. This raw format already includes the so called 'advanced ISO information', like Animal Flag, Retagging Counter or Species Code – but all of them are coded within the hexadecimal raw data.

In the above example, the ID will be sent with the *Animal Flag* first, followed by the *Country Code* in *alphanumeric format* (here: '*CAN*' for Canada). The next item is the 12-digit *National ID with leading zeros* and then *Date* and *Time*. For the field delimiter, the '*Space*' is selected.

For further details concerning the output format, please see the document '*AWR300_Output-Formats_...*'.

9.4 Configuration - Bluetooth

The AWR300 and the AWL200 do always contain a Bluetooth interface. The Bluetooth settings can be made on the reader itself – please see the user manuals for details – but they are also software configurable, e.g. via *AgriLink*. Therefore please select the category '*Bluetooth*'.



Setting	Values	Definition
BD address	-	Bluetooth Device address of the reader, 12 digits hexadecimal.
Version	-	Bluetooth Firmware version of the reader.
Bluetooth Mode	Master, Slave or **OFF**	Determines which device should initiate the connection, the reader (Master) or the other device (Slave). Per factory default, Bluetooth is switched off, so if you want to use it, please set it to Master or Slave – depending on the requirements of your application.
Bluetooth Profile	**SPP**, HID, BLE	***SPP*** emulates a serial cable to provide a simple replacement for RS232 connections. Commands can be sent into both directions – it uses virtual serial ports. ***HID*** is used for 'typing in' the *EID* sent via Bluetooth into text fields of applications running on the host device. This removes the need to develop a serial interface for the reader. The AWR300 is connected to the host as a 'virtual keyboard'. When the cursor is in a text field in the app running on the host, the *EID* is filled into this field after a transponder has been read. Please note that it is not possible to send commands to the AWR300 in HID mode – communication only works one way here. ***BLE*** is reserved for special applications at the moment. ***HID smart***: Same as HID but the connection to the other device is only established after a transponder has been read. This is required for the use with Apple devices because as long as a Bluetooth device is connected as HID keyboard, the on-screen keyboard will not be available at all.
Bluetooth Passkey	alphanumeric characters (**1234**)	In case the Bluetooth partner requires a passkey, please configure this string here. The passkeys '1234' or '0000' are very common.
BT Peer Address	any address	Bluetooth Device address of the currently selected partner device.

For further details, please see the device manuals or the separate Bluetooth manual.

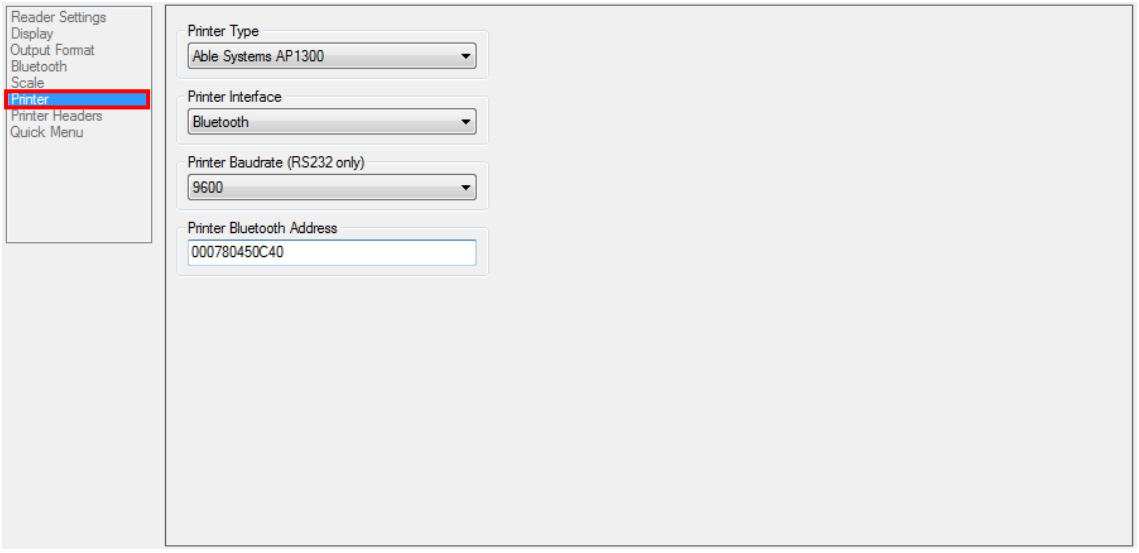
9.5 Scale

The readers are able to receive the weight from weighing indicators which can send it either via Bluetooth or via RS232 (AWR300 only). There are different scale types supported, also from the major brands on the market. This function can only be used for *Task-Mode* and *Database Function* (AWR300 only), where the so called '*Weight-from-Scale*' fields are available.

Setting	Values	Definition
Scale Type	see reader manual	Selects the scale model to be used.
Scale Interface	**Bluetooth** or RS232	Selects the interface for connecting to the scale. This setting is only available for the AWR300, for the AWL200 only Bluetooth can be used.
Scale Baudrate	300 to 115200 **(9600)**	Configures the RS232 baud rate for connecting to the scale (only for AWR300).

9.6 Printer

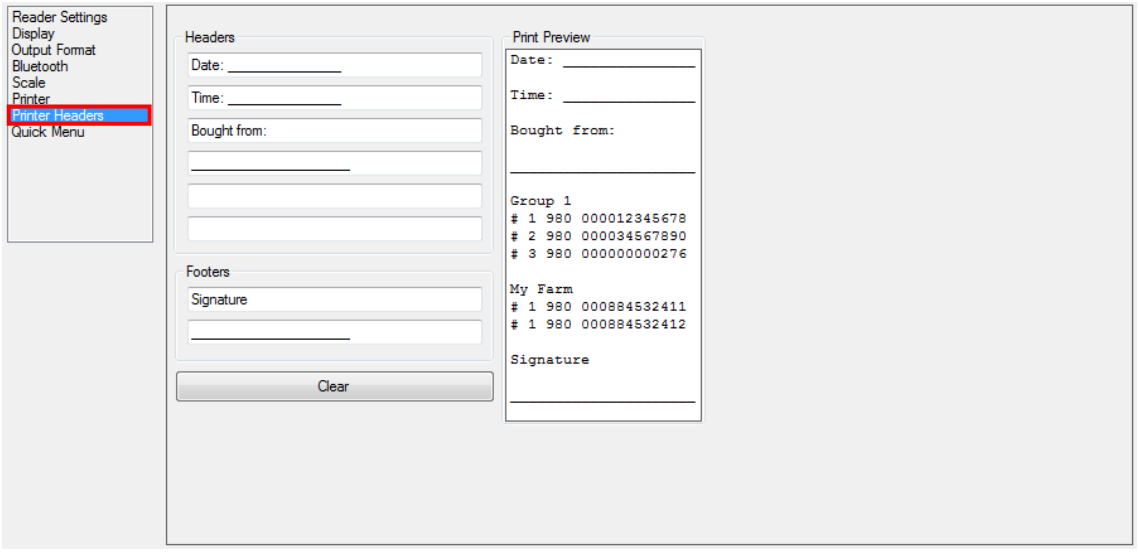
One of the readers features is the connection to particular mobile printers. For a list of supported printer models, please refer to the readers user manual.



Setting	Values	Definition
Printer Type	see reader manual	Selects the printer model to be used.
Printer Interface	**Bluetooth** or RS232	Selects the interface for connecting to the printer. This setting is only available for the AWR300, for the AWL200 only Bluetooth can be used.
Printer Baudrate	600 to 115200 **(9600)**	Configures the RS232 baud rate for connecting to the printer (only for AWR300).
Printer Bluetooth Address	any address	Bluetooth Device address of the Bluetooth printer, 12 digits hex.

9.7 Printer Headers

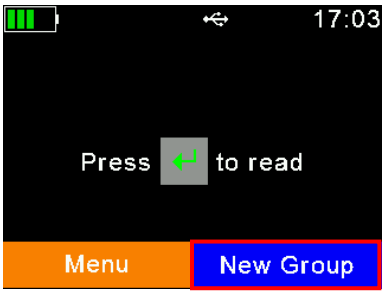
It might make sense to add fixed information at the beginning and at the end of each printout. Those fixed values can be set in this category. An example is shown below. Up to five lines may be defined for being printed before the actual data and up to two lines at the end.



In this example the header contains a line for writing down the date and the time and it offers the possibility to note the name of the seller ("*bought from*"). The footer allows a person to sign the printed data. Between the header and the footer, the actual data (groups) are printed.

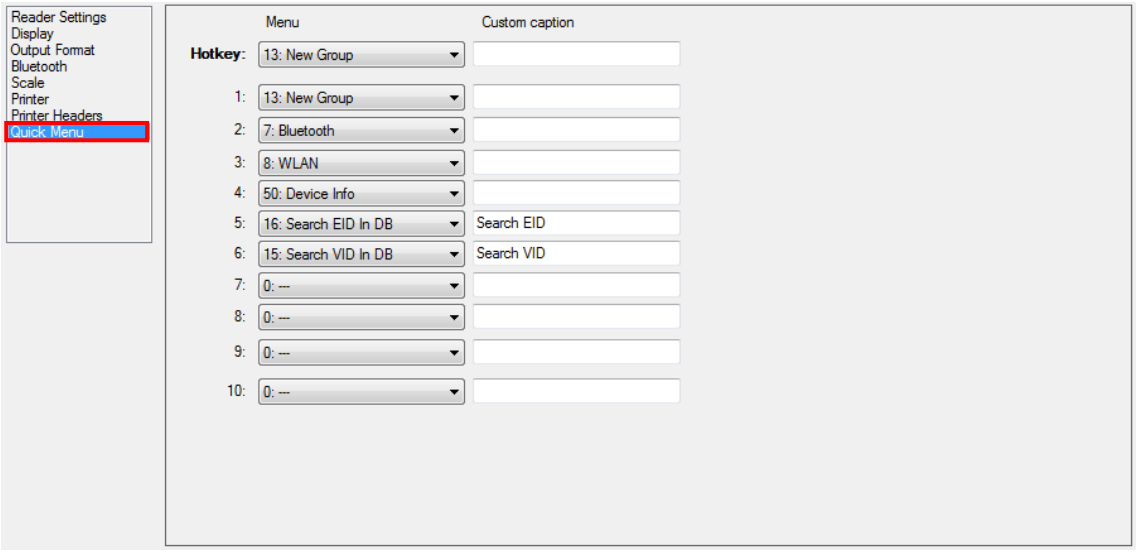
9.8 Quick Menu

The right soft key is used for creating a new group in the readers internal memory per default. Nonetheless, this button might be configured differently in order to quickly allow other actions to be performed – therefore this is called '*Quick Menu*'.



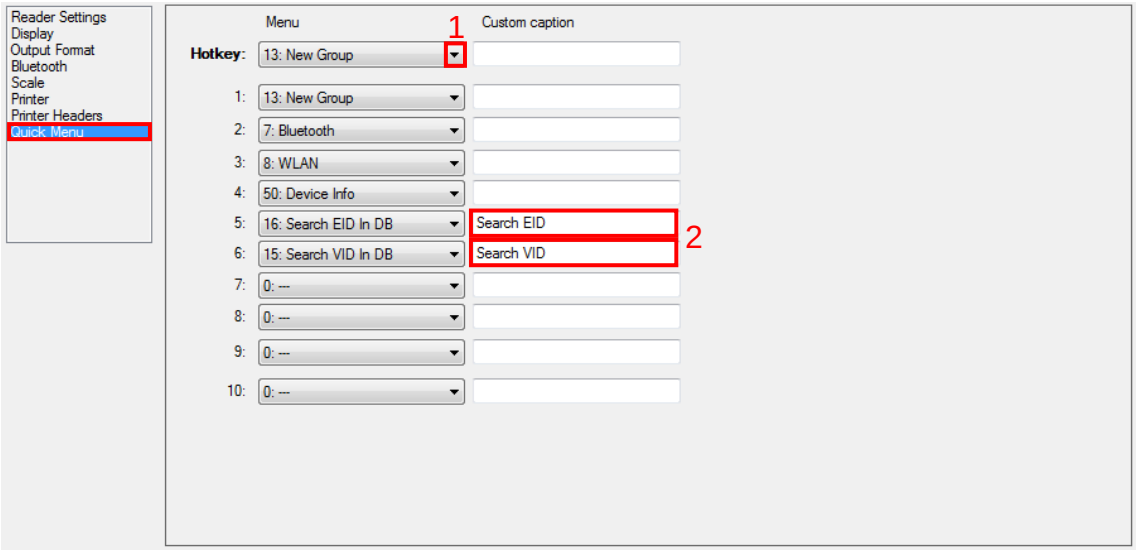
This screenshot shows the default action to perform when pressing the right soft key: '*New Group*'.

In order to allow other 'Quick Actions' you need to configure the reader accordingly first. This can be done in the category '*Quick Menu*'.



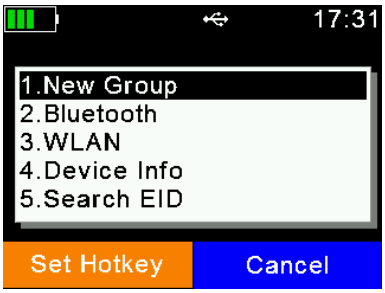
Basically any menu item available in the readers menu can be configured to be 'called' when pressing the right soft key – even though not all items might make sense. It is possible to upload up to 10 menu items to the reader, which then are available as quick actions on the device. The default action is '*new group*' as shown above – all other items are empty. In order to select a particular item as available quick action, click on the drop-down list for selecting one. The menu IDs are followed by the menu names in the lists.

The first drop-down menu (1) sets the active quick action. The default menu is '*New Group*'.



Because of the fact that some menu items might have a pretty long name but the right soft key info text in the display is limited to approximately the half display width, it is possible to enter an alternative caption for long menu names, as shown in the above example for the examples in lines 5 and 6 (2).

After uploading the new settings to the device, press 🔵 for at least one second.

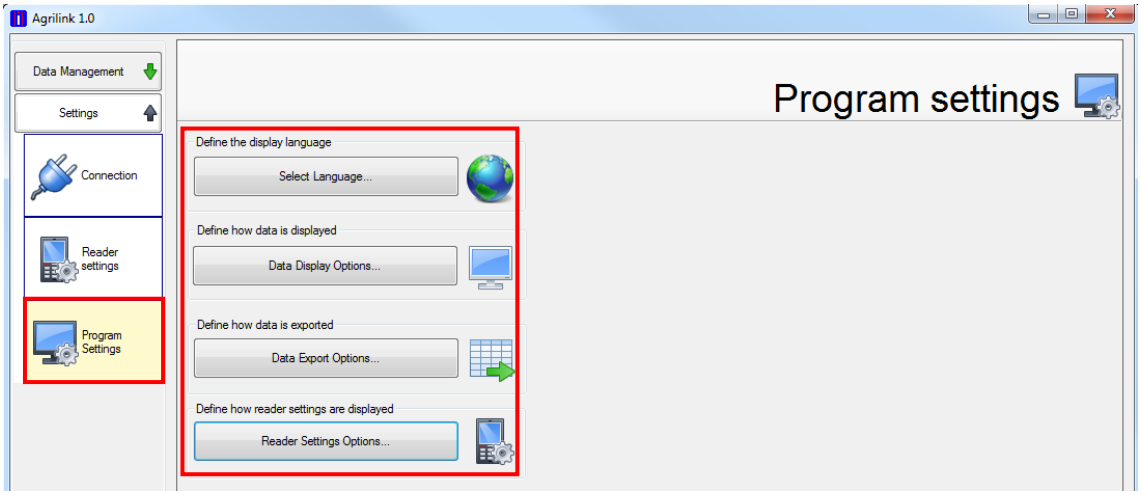


When pressing ↵ the selected menu will be called, but the 🔵 key will not change its function in the main screen yet.

In order to select another action for the right soft key in the main screen, select one of the uploaded items and press 🟠. This item will be performed each time 🔵 is pressed in the main screen until it is changed again. The text in the display will change according to the selected item.

10 Program Settings

The program settings are available when clicking the appropriate button in the '*Settings*' category. It provides configuration possibilities concerning the language used by *AgriLink* and the user can configure the display and export options for data very detailed.



10.1 Select Language

Click on the button '*Select Language*' in order to change the program language in *AgriLink*. Another window opens. There are three basic language settings, which are explained below.

10.1.1 Custom Language

The custom language applies when no other setting is selected. This is the default option.

What happens depends on the presence of a custom language file in the program folder. Whether there is a custom language file or not depends on the setup package which might have been modified by a local distributor. If the file exists in the language folder, the program texts will be loaded from this file.

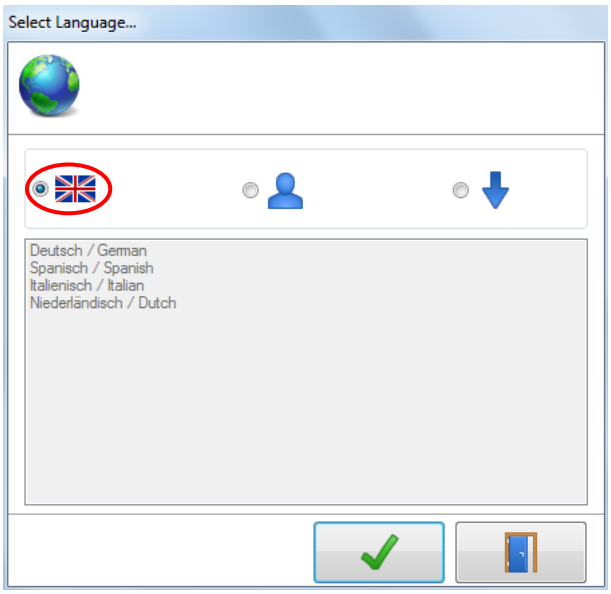
When the file does not exist, *AgriLink* tries to find a suitable language file from the selectable files, depending on the detected language of the Operating System. If *AgriLink* detected, that the system language is Italian, for example, it would try to find an appropriate language file and if successful, use the strings from this file.

When no language file is present, the default English texts will be used. Agrident does NOT provide a custom language file with the *AgriLink* Setup because the 'preferred' custom language is unknown during production.

Confirm the changes and close the window.

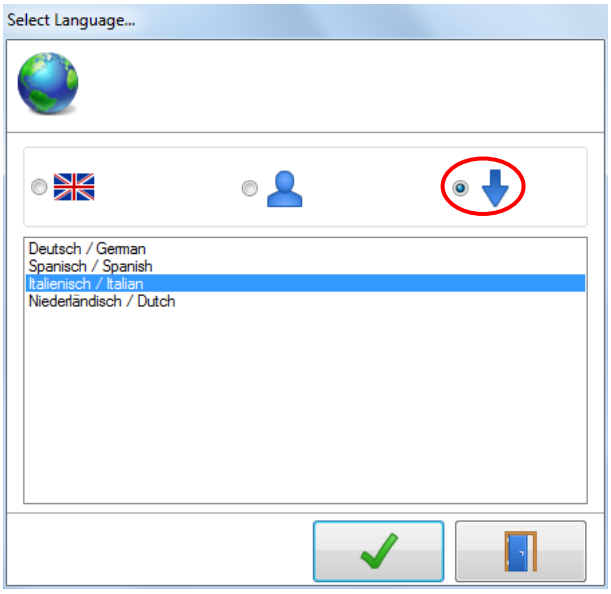
Close the window without applying any changes.

10.1.2 Built-in English



When no language files are present, only the default English strings can be used, of course. But even if there are language files present, it is possible to switch to the default English texts.

10.1.3 Selectable Languages



The language selection in the program settings shows all available languages.

When one of them is selected, all program strings from this file will be read and used immediately.

The names of the available files are shown in the language of the Operating System first and then in English.

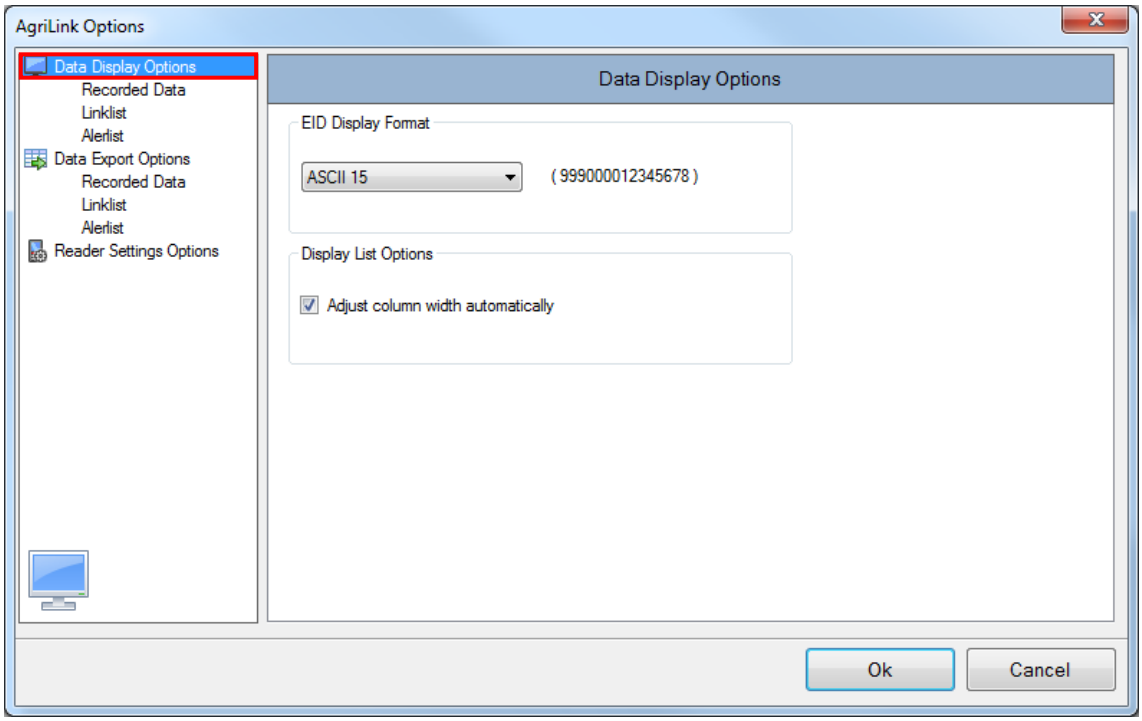
German OS: Italienisch / Italian

Italian OS: Italiano / Italian

Concerning the availability of certain languages, Agrident is dependent on the help of partners who translate the strings. If your preferred language is not listed here, it means that there is no translation for this language yet.

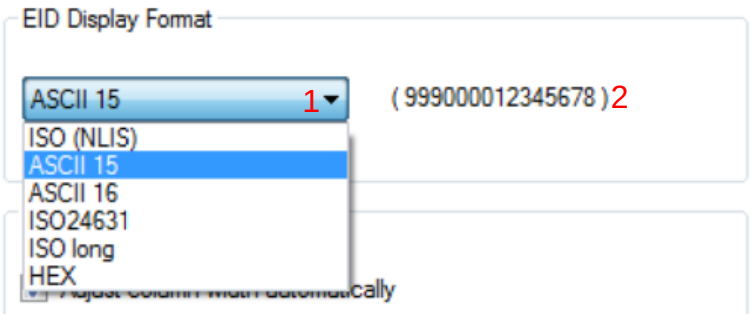
10.2 Data Display Options

As the name of this menu already indicates, those settings are responsible for defining how data and lists are being shown in *AgriLink*.



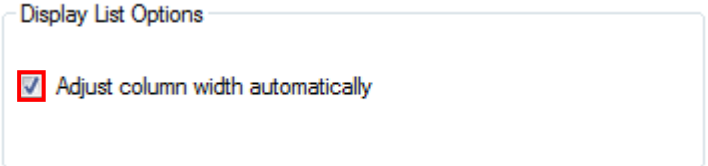
The menu level shown above deals with general settings that apply to ALL data views (recorded data, *Link-List* and *Alert-List*). In order to apply any modifications made within this window, click '*Ok*' or click '*Cancel*' for discarding the changes.

The '*EID Display Format*' configures the presentation of the Electronic ID.



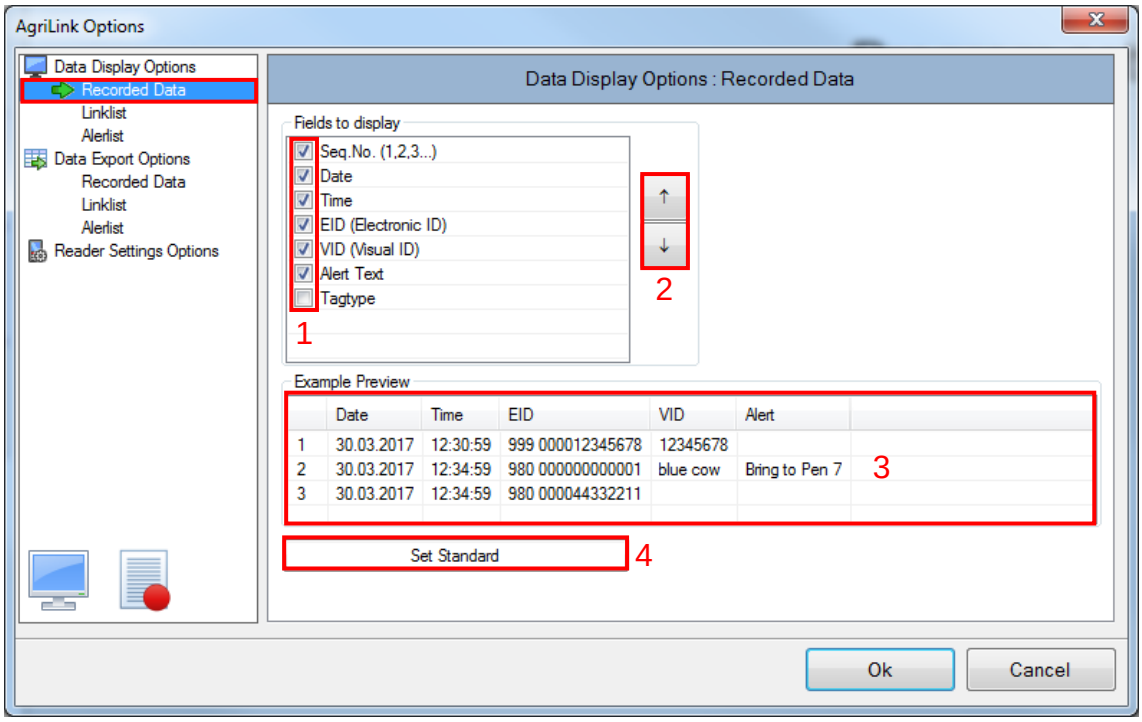
Select your desired format from the list (1). An example preview of the result (2) is shown on the right side.

When the checkbox '*Adjust column width automatically*' is activated, *AgriLink* will adapt the width of all columns according to the length of the data that are shown.



10.2.1 Data Display Options - Recorded Data

This menu allows to adjust the columns to display for the recorded data. You can either select or de-select items (1) and you can also change the order of the columns (2). An example preview (3) is shown below.



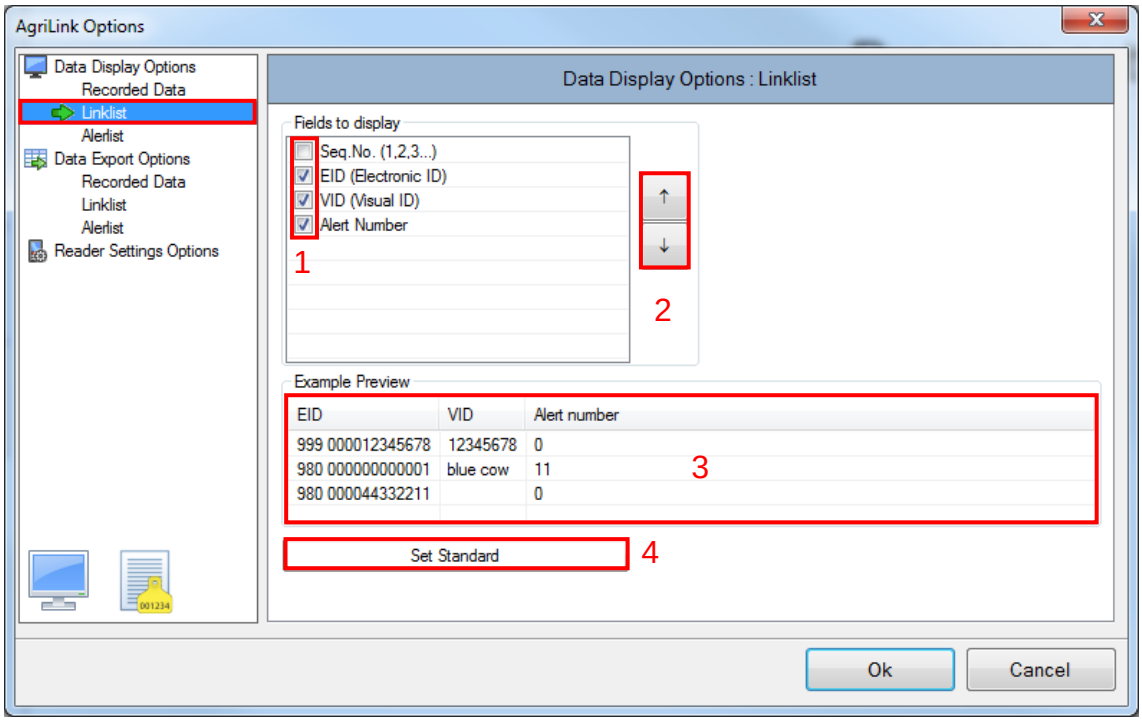
The button '*Set Standard*' (4) restores the *AgriLink* default values.

Setting	Definition
Seq.No. (1,2,3…)	Sequential number (index) of the record within the group
Date	Date of reading in the format DD/MM/YYYY
Time	Time of reading in the format HH:MM:SS
EID (Electronic ID)	Electronic ID in the format configured under '*Data Display Options*' (see chapter 10.2)
VID (Visual ID)	Visual ID (assigned to the *EID* in the *Link-List* or *Database**)
Alert Text	Alert message (assigned to the *EID* in the *Link-List* and *Alert-List* or *Database**)
Tagtype	Transponder type (usually either FDX-B or HDX)

* The *DBF* (***D****ata****B****ase****F****unction*) is only available for the AWR300, not for the AWL200. In case a Database is uploaded to the reader, a possibly uploaded *Link-List* will be ignored.

10.2.2 Data Display Options - Linklist

In this menu you can adjust the columns to show for the *Link-List*. You can either select or de-select items (1) and you can also change the order of the columns (2). An example preview (3) is shown below.



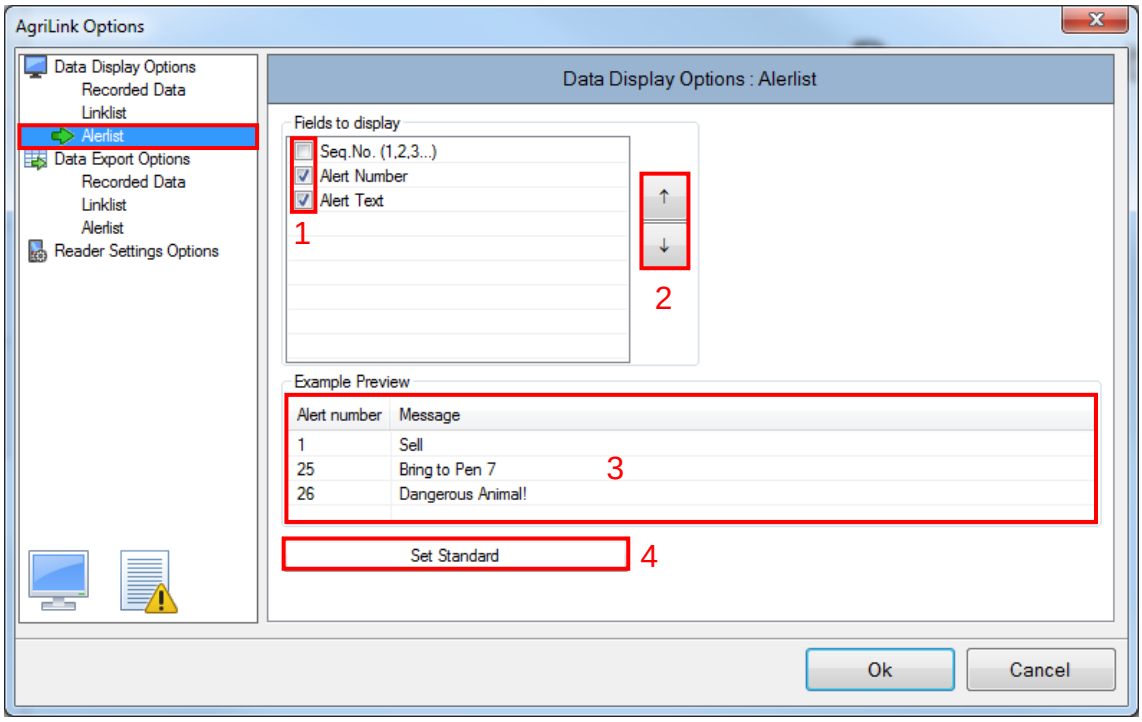
The button '*Set Standard*' (4) restores the *AgriLink* default values.

Setting	Definition
Seq.No. (1,2,3…)	Sequential number (index) of the entry within the list
EID (Electronic ID)	Electronic ID in the format configured under '*Data Display Options*' (see chapter 10.2)
VID (Visual ID)	Visual ID (assigned to the *EID* in the *Link-List*)
Alert Number	Alert number assigned to the *EID* in the *Link-List* *

* The Alert message is assigned in the separate *Alert-List*, the *Link-List* just contains the Alert number.

10.2.3 Data Display Options - Alertlist

Here it is possible to configure the columns to display for the *Alert-List*. You can either select or de-select items (1) and you can also change the order of the columns (2). Per default, the *Alert-List* only contains '*Alert Number*' and '*Alert text*'. An example preview (3) is shown below.

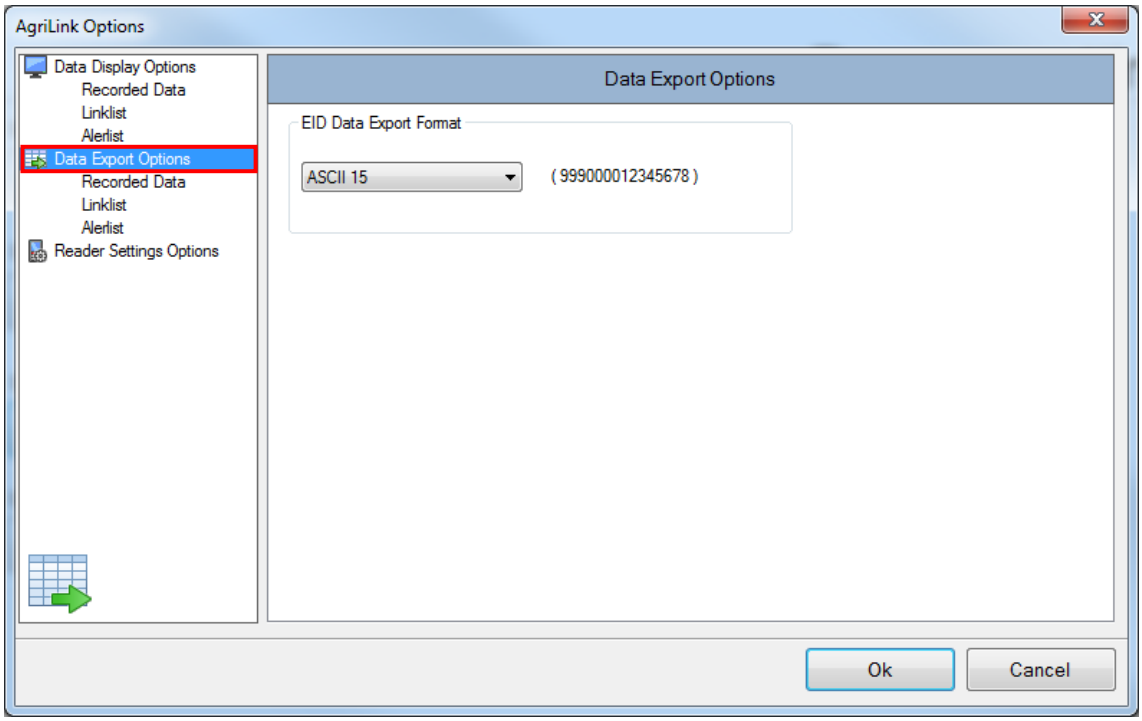


The button '*Set Standard*' (4) restores the *AgriLink* default values.

Setting	Definition
Seq.No. (1,2,3…)	Sequential number (index) of the entry within the list
Alert Number	Alert number assigned to the *EID* in the *Link-List*
Alert Text	Message which is shown on the reader display when an Alert event is fired

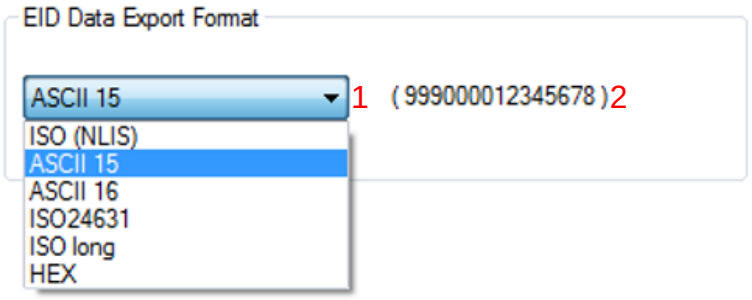
10.3 Data Export Options

In order to meet the requirements of different applications, the export-format for the downloaded data can be configured in *AgriLink* very flexibly.



The menu level shown above deals with general settings that apply to ALL data exports (recorded data, *Link-List* and *Alert-List*). In order to apply any modifications made within this window, click '*Ok*' or click '*Cancel*' for discarding the changes.

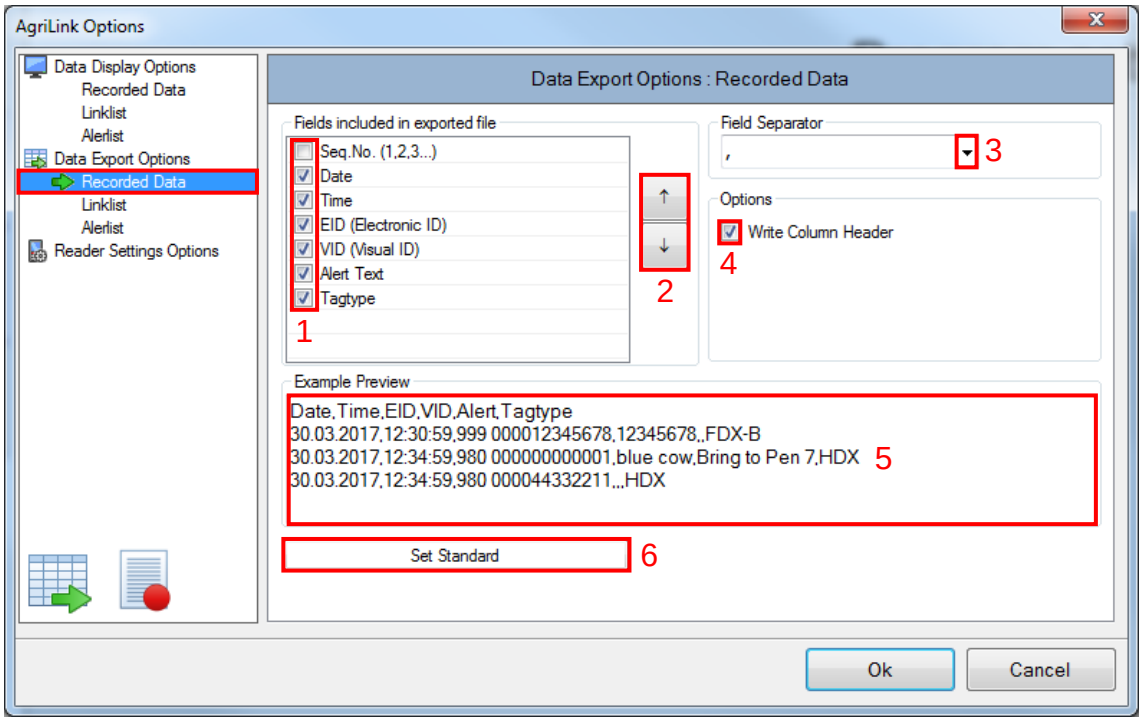
The '*EID Data Export Format*' decides in which format the Electronic ID is written to the exported files.



Select your desired format from the list (1). An example preview of the result (2) is shown on the right side.

10.3.1 Data Export Options - Recorded Data

These settings decide about the export format for the recorded data. They apply to Excel export and to the export to a text file (txt or csv). You can either select or de-select items (1) and you can also change the order of the columns (2). The field separator (3) can be chosen and you can decide whether to write the column headers into the first line of the exported files or not (4). An example preview (5) is shown below.



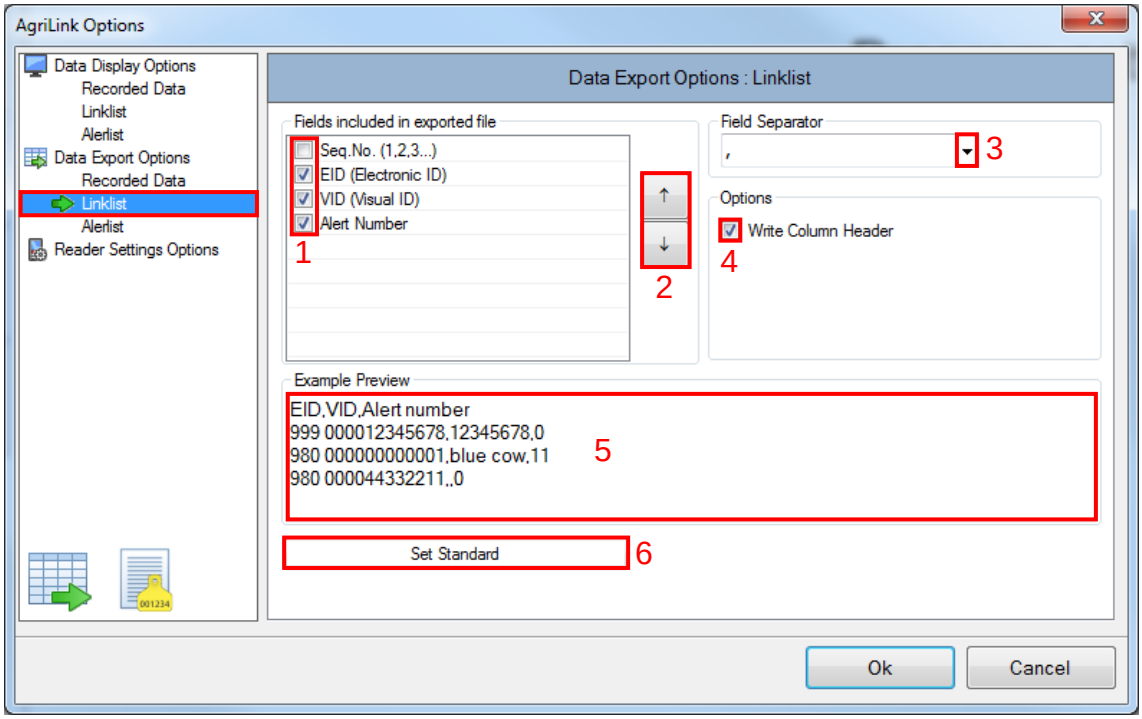
The button '*Set Standard*' (6) restores the *AgriLink* default values.

Setting	Definition
Seq.No. (1,2,3…)	Sequential number (index) of the record within the group
Date	Date of reading in the format DD/MM/YYYY
Time	Time of reading in the format HH:MM:SS
EID (Electronic ID)	Electronic ID in the format configured under '*Data Export Options*' (see chapter 10.3)
VID (Visual ID)	Visual ID (assigned to the *EID* in the *Link-List* or *Database**)
Alert Text	Alert message (assigned to the *EID* in the *Link-List* and *Alert-List* or *Database**)
Tagtype	Transponder type (usually either FDX-B or HDX)

* The *DBF* (***D****ata****B****ase****F****unction*) is only available for the AWR300, not for the AWL200. In case a Database is uploaded to the reader, a possibly uploaded *Link-List* will be ignored.

10.3.2 Data Export Options - Linklist

The settings in this section configure the export format for the *Link-List*. You can either select or de-select items (1) and you can also change the order of the columns (2). The field separator (3) can be selected and you can decide whether the column headers should be written into the first line of the exported files or not (4). An example preview (5) is shown below.



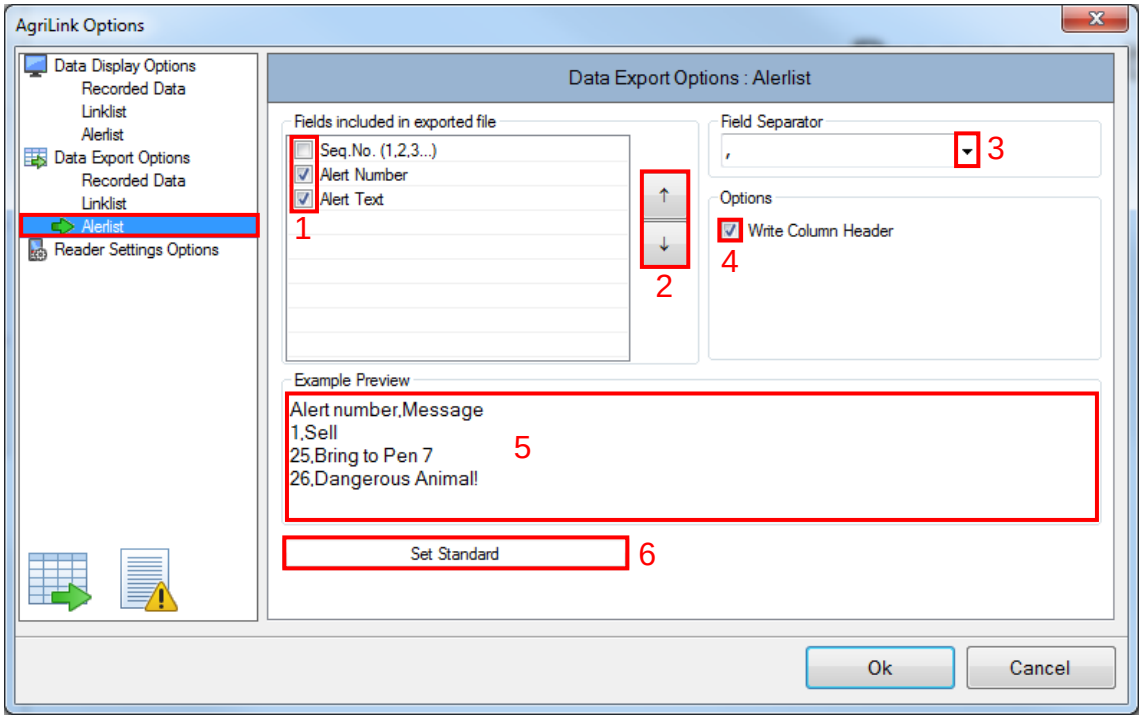
The button '*Set Standard*' (6) restores the *AgriLink* default values.

Setting	Definition
Seq.No. (1,2,3…)	Sequential number (index) of the entry within the list
EID (Electronic ID)	Electronic ID in the format configured under '*Data Export Options*' (see chapter 10.3)
VID (Visual ID)	Visual ID (assigned to the *EID* in the *Link-List*)
Alert Number	Alert number assigned to the *EID* in the *Link-List* *

* The Alert message is assigned in the separate *Alert-List*, the *Link-List* just contains the Alert number.

10.3.3 Data Export Options - Alertlist

These settings decide about the export format for the *Alert-List*. You can either select or de-select items (1) and you can also change the order of the columns (2). The field separator (3) can be selected and you can decide whether to write the column headers into the first line of the exported files or not (4). An example preview (5) is shown below.

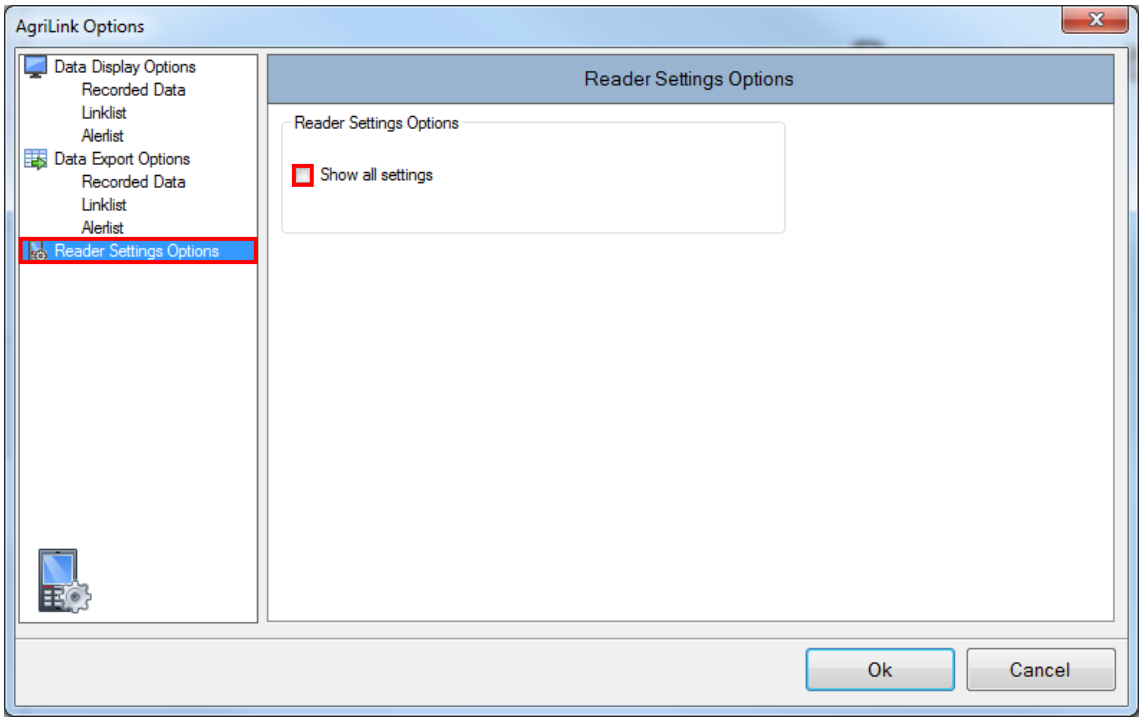


The button '*Set Standard*' (6) restores the *AgriLink* default values.

Setting	Definition
Seq.No. (1,2,3…)	Sequential number (index) of the entry within the list
Alert Number	Alert number assigned to the *EID* in the *Link-List*
Alert Text	Message which is shown on the reader display when an Alert event is fired

10.4 Reader Settings Options

When this checkbox is activated, *AgriLink* will show all available reader settings in the corresponding section. Per default, the 'advanced' settings are not shown because the 'standard user' normally does not need to modify them.



In order to reveal all available reader settings, activate the checkbox and confirm with '*Ok*'.

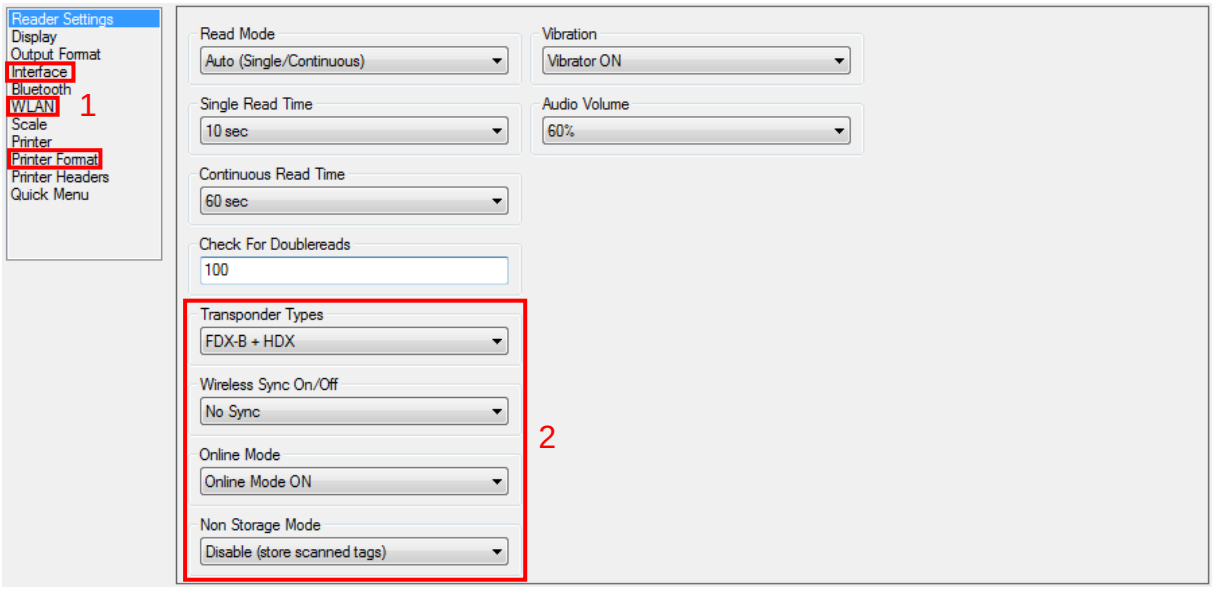
The 'advanced' options are now available under '*Settings*' -> '*Reader settings*'. These additional settings are explained in Annex A (chapter 11).

11 Annex A - Advanced Reader Settings

If *AgriLink* was configured to show all reader settings (see chapter 10.4), there are additional settings for the device configuration available under '*Reader settings*'. These advanced settings will be explained in this chapter.

Please do NOT modify those settings unless you know what you are doing.

As one can see, there are now some additional categories on the left side (1) and some sections also contain settings that are not visible without activating the advanced settings.



There are four additional settings (2) in the section '*Reader Settings*', for example.

11.1 Advanced: Reader Settings

When *AgriLink* is configured to show all reader settings, the following settings are shown in addition:

Setting	Values	Definition
Transponder Types	**FDX-B**, **HDX**, H4002 (various combinations)	Enables or disables supported transponder types. ISO11784/85 only specifies FDX-B and HDX tags, H4002 (EM4002) is only optional.
Wireless Sync On/Off	**no Sync.** Wireless Sync. ON	Enables or disables wireless synchronization to other readers (in close proximity) according to ISO24631-2.
Online Mode	**Online Mode ON** Online Mode OFF	Configures the reader to send the *EID* after reading a tag (ON) or not (OFF).
Non-Storage Mode	Enable **Disable**	The non-storage-mode may only be useful when the data recorded in the readers internal memory should not be downloaded or evaluated but they should directly being processed on another device after reading, like a mobile computer or a smartphone. If enabled, the reader will not store any recorded data in the internal memory.

Default settings are shown in **bold**.

11.2 Advanced: Display

Setting	Values	Definition
Check Animal Flag	**Ignore Animal Flag** Warn if not set	Decides whether to show a warning on the device display or not if the Animal Flag is not set in a read transponder.
Display Codepage	Latin (Win 1252) Greek (Win 1253) Cyrillic (Win 1251) Turkish (Win 1254)	Configures the Codepage used for the device display. This value should not be altered; it is selected automatically when applying a particular language file in the readers language selection menu.

11.3 Advanced: Interface

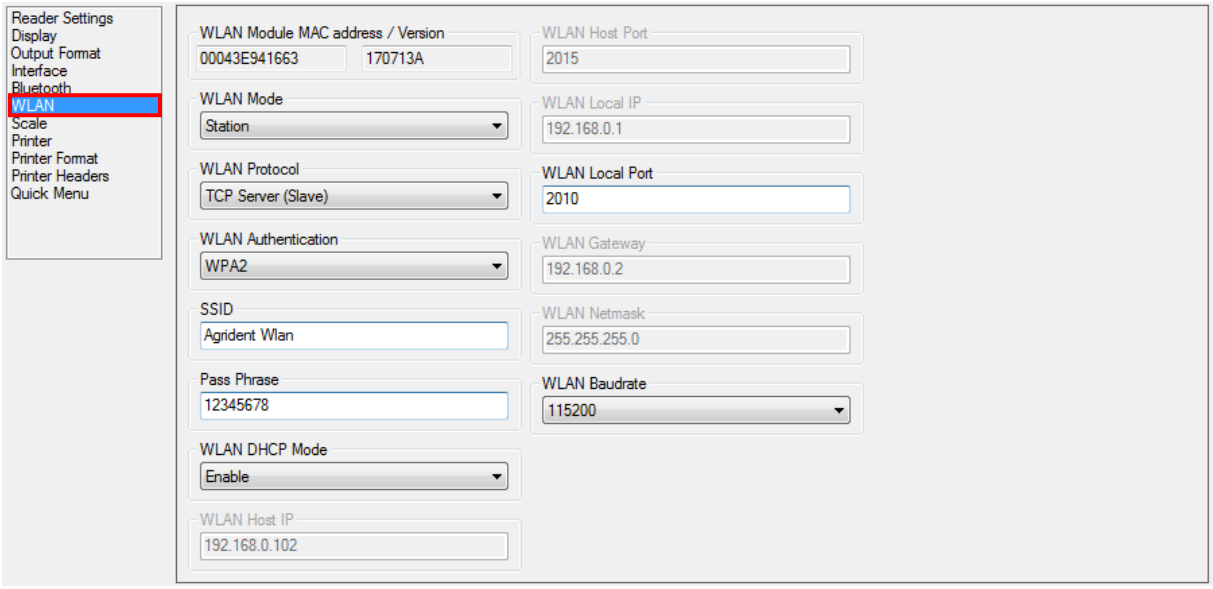
Setting	Values	Definition
RS232 Baudrate*	**9600** … 115200bps	Baud rate for the RS232 interface (not USB, Bluetooth or WLAN)
EID Download Format	ISO long Short ASCII15 Short ASCII16 **NLIS** ISO 24631 HEX	Specifies the default download format. This setting should not be changed, it might be important if a particular software requires a certain format. For downloading records in *AgriLink*, this settings does not matter.

* only for AWR300, the AWL200 does not have an RS232 interface.

11.4 Advanced: WLAN

The AWR300 contains an optional WLAN module (AWR300 with part no. 1244). 'Optional' means, it is not available in the standard AWR300 (part no. 1243). Please check the part numbers in case of any doubt. The AWL200 is not available with WLAN at all. When your device does NOT contain a WLAN module, this item is not shown in *AgriLink*.

The WLAN function of the AWR300 requires basic knowledge about networks and WLAN. It is recommended to let an IT specialist configure the required settings.

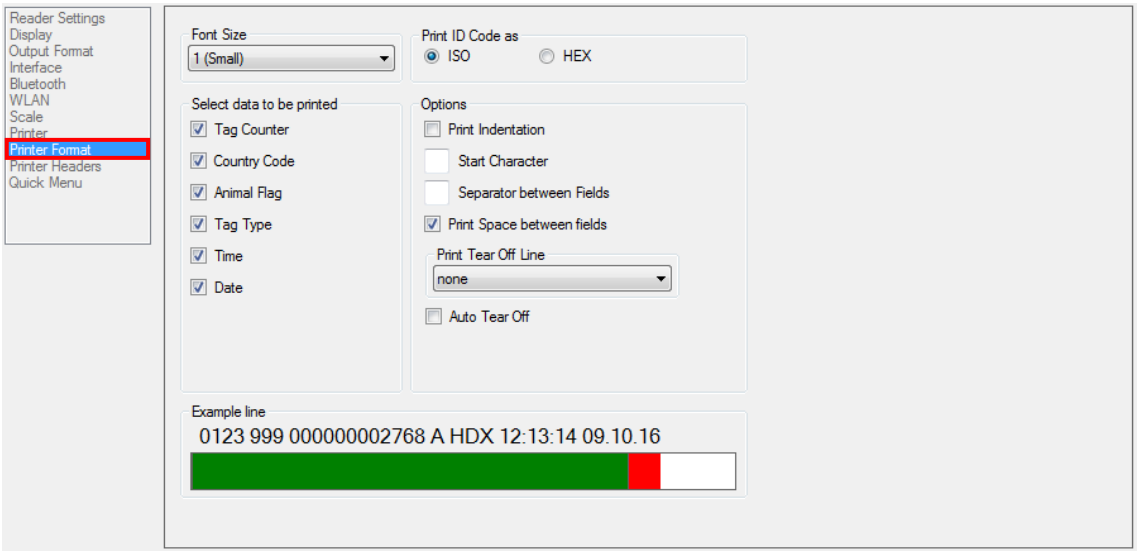


Setting	Values	Definition
MAC address	-	MAC address of the reader, 12 digits hexadecimal.
Version	-	WLAN Firmware version of the reader.
WLAN Mode	Station, Access Point or **OFF**	**Station:** This operating mode for WLAN is probably the most common scenario. There is an existing Wi-Fi infrastructure containing an Access Point and the reader should join it. **Access Point:** When the reader is configured to '*Access Point*' it will not try to join another Access Point but it will create an own. This is comparable with the 'mobile hotspot' function on smartphones even though the reader has no internet access, of course. At the moment the created Access Point is 'open', i.e. there is no authentication available. Per factory default, WLAN is switched off, so if you want to use it, please set it to Station or Access Point – depending on your application.
WLAN Protocol	**UDP**, TCP Server, TCP Client	Selects whether UDP or TCP (client or server) should be used as network protocol. For TCP, the difference between client and server is determined by the side that initiates the connection. The client initiates a connection, and the server listens for and accepts a connection. Once connected, data can flow both ways. It depends on the application and the network infrastructure, which protocol type is suitable.
Authentication	None or **WPA2**	Usually WLAN connections use security mechanisms like '**authentication**'. The readers WLAN module supports 'no authentication' or 'WPA2'. Authentication methods different from WPA2 (like WEP or WPA) turned out to be insecure and hence are not supported.
SSID	**Agrident Wlan**	The Access Point has an **SSID** (**S**ervice **S**et **ID**entifier) which makes it discoverable and connectable – one could also call it 'network name'. The SSID has to be configured correctly, it has to match with the SSID used by the Access Point.
Passphrase	alphanumeric characters (**12345678**)	If **WPA2** is selected as authentication method, the '**passphrase**' configured for the Access Point has to match with the one set for the reader. Please note that the passphrase is also case-sensitive!
DHCP Mode	**Enable** or Disable	The easiest way for allowing the reader to join the Access Point is to let the Access Point work as a DHCP server. This means that IP addresses are assigned automatically.
WLAN Host IP	valid address (e.g. 192.168.0.4)	Remote device's IP address.
WLAN Host Port	1 to 65535 (**2015**)	Remote device's listening port number, only required when WLAN Protocol is '*UDP*'.
WLAN Local IP	valid address (e.g. 192.168.0.2)	Readers IP Address, only required when DHCP is disabled. The reader has to use a static IP address then, which is configured here.
WLAN Local port	1 to 65535 (**2010**)	Local listening port number.
WLAN Gateway	valid address (e.g. 192.168.0.1)	Routers IP Address, only required when DHCP is disabled.
WLAN Netmask	depends on Network (e.g. 255.255.255.0)	Routers netmask, only required when DHCP is disabled.
WLAN Baudrate	9600 to **115200**	Baud rate used for WLAN communication.

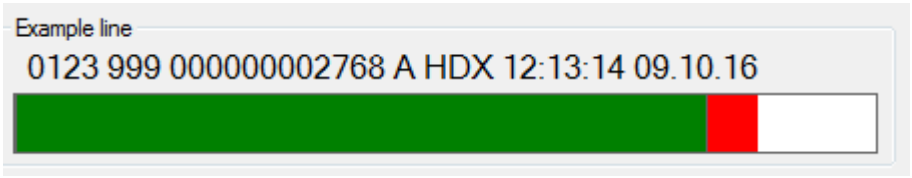
For further details concerning WLAN, please see the AWR300 manual or the separate WLAN document.

11.5 Advanced: Printer Format

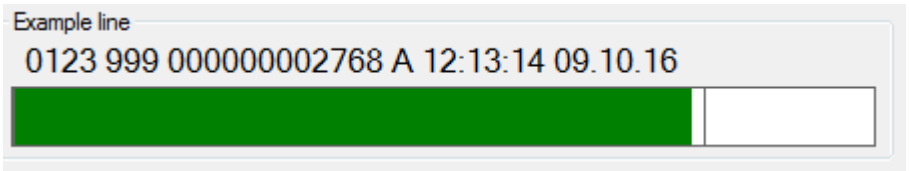
The basic printer settings can be set on the device itself or in *AgriLink* in the '*Printer*' section (See chapter 9.6). The menu '*Printer Format*' contains lots of settings which affect the font size and items to print. The printer stream can be put together like using a construction set. In the section '*Example line*' you can see a preview of the data to be printed depending on the selected settings.



Depending on the selected printer model, font size and items to print, *AgriLink* calculates whether the information will fit onto the paper or not. If the information to print exceed the paper width, please reduce the font size or decrease the items to print.



In the above screenshot, the calculated width for the selected fields is too large. The selected printer type is a two inch model - and the smallest font size is already used. This means that the number of fields to print needs to be reduced.



The 'Tag Type' was deselected and now the printout should fit onto the 2 inch paper.

Setting	Values	Definition
Font Size	**1** to 4	There are four different font sizes available for each printer model. Size '1' is always the smallest one and size '4' the largest. The higher the font size, the less information can be printed on the same printer model. The smaller the font size, the more fields can be printed.
Tag Counter	**Yes** or No	Decides whether to print the tag counter or not.
Country Code	**Yes** or No	Decides whether to print the 3-digit country code or not.
Animal Flag	Yes or **No**	Decides whether to print the animal flag or not.
Tag Type	Yes or **No**	Decides whether to print the tag type (FDX-B or HDX) or not.
Time	Yes or **No**	The time of reading will be printed or not.
Date	**Yes** or No	The date of reading will be printed or not.
Print ID Code as	**ISO** HEX	*'HEX'* prints the ID in 16 byte hexadecimal notation. '*ISO'* means decimal with considering settings for country code and animal flag.
Print Indentation	Yes or **No**	It is also possible to start the printout with additional 3 spaces before the actual data. This can be done by activating 'Indentation'.
Start Character	**none** or any	A start character can be flexibly defined for each line. Such a character might be necessary for some applications. The start character can be any ASCII character. Please note that not all characters might be printable.
Separator	**none** or any	Instead of a space you might want to use another separator between the individual fields. You can also select any ASCII character as the separator, although some of them do not make too much sense. A semicolon or a comma is used as separator very often.
Print Space between fields	**Yes** or No	The space might be selected as the separator directly. It can also be used in addition to another separator described above.
Tear off line	**off** – every 75 tags (in steps of 5 tags)	Inserts a horizontal line after a particular amount of printed tags. This feature is useful if a larger number of tags has to be printed and the paper roll should be cut into several equally sized pieces in order to fit on a standard piece of paper later on. Before a new group, the reader will always insert a tear off line – even if the amount of *EID*s in this group is smaller than the configured number.
Auto Tear Off	**Yes** or No	When activated, the printer will transport the paper into a position, where the paper can be teared off without problems (without leaving the last line of the printout on the paper roll or without requiring a manual line feed).

Since the topic 'Printer' is quite extensive, this document just explains the settings shortly without showing many examples. For further details about the printer options, please see the separate printer manual.

12 Trouble shooting

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