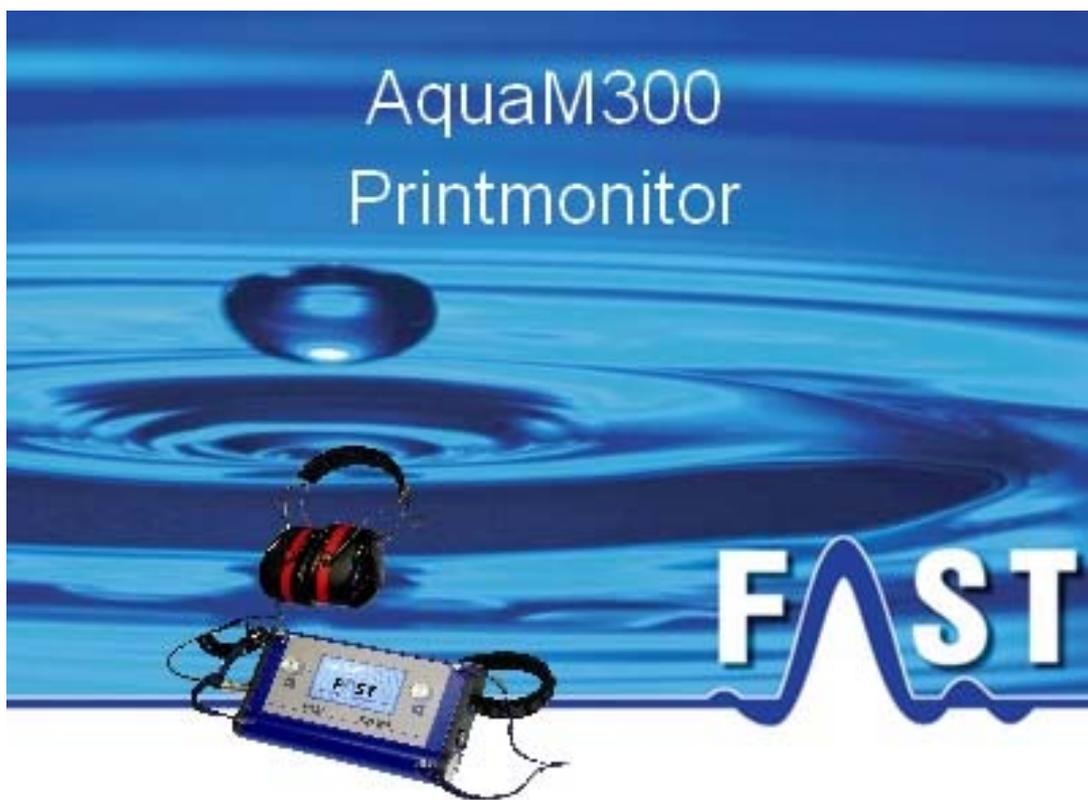


# „Aqua M300“ Operating Instructions

*Version 1.0.0.4*



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# **Introduction**

## **1.1 General Information**

The “Aqua M300 Printmonitor“ programme is to assist the operator on reading out and displaying measurements which have been carried out with the Aqua M300 geophone. The measurement data recorded is read out by the Aqua M300 programme and clearly displayed as a chart. The measurements transmitted can be printed out and saved as a report once they have been received by the programme.

## **1.2 Overview of Chapters**

These Operating Instructions comprises 4 chapters.

After this Introduction, chapter 2 is to give an overview of the various functions and components of the programme.

Chapter 3 is to provide information on the single menu levels with the particular sub-menus and on the settings required to read out the data.

Finally, chapter 4 is to explain the functionalities of the windows of the programme.

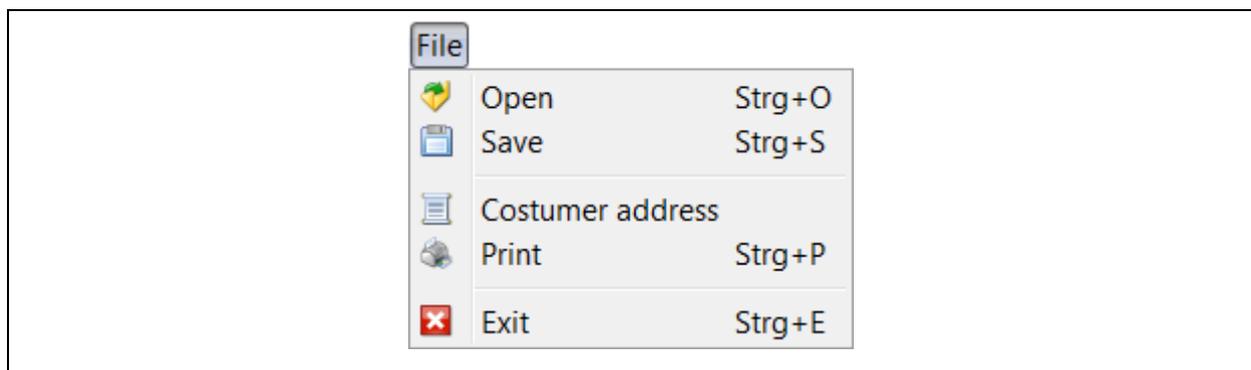
## 2 Programme Design

The following chapter offers an overview of the various functions, the design, and the most important components of the programme. Both the menu levels and the window sections of the programme will be presented and explained in detail.

### 2.1 Menus

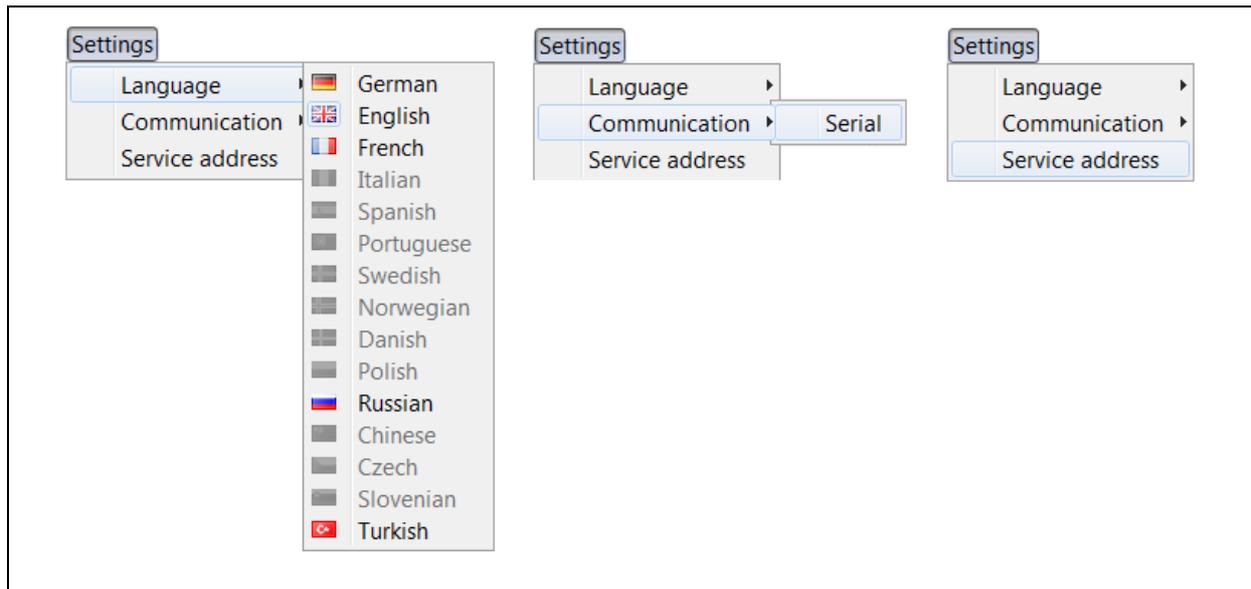
In order to control the individual functions of the programme, you have several menu options available. When the programme has been booted, the menu bar will offer four menu levels "File", "Settings", "Extras" and "Help".

In the "Files" menu level you will find all relevant information required to open an already existing „Aqua M300 Data File“ and to save a read-out measurement as „Aqua M300 Data File“. Furthermore, the programme offers you the option to assign a customer's address, to print out data which has already been read out, or to quit the programme through this menu. Illustration 3-1 below shows the extended "File" menu.



**Illustration 3-1: File menu**

The "Settings" menu level is used to change some of the features of the programme such as the language, which can be adapted to the customer's requirements. Furthermore, the configuration of the serial interface can be changed in this menu level, and the service supplier's address (to appear on every report) can also be entered here. The expanded "Settings" menu is illustrated below (see Illustration 3-2).



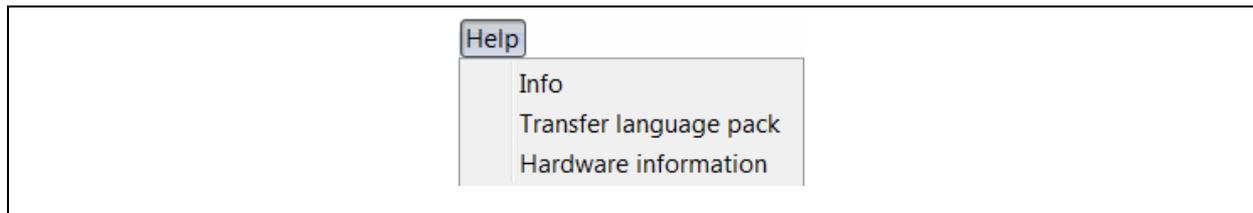
**Illustration 3-2: Settings menu**

With the “Extras” -> “Read out list“ menu level (Illustration 3-3: Menu Extras) you can read out the saved measurements of the Aqua M300 and display the measurements in a list and then select the desired measurements from the list and transfer these measurements into the ”Aqua M300 Printmonitor“ programme. For further details, please refer to Chapter 3.3.1.



**Illustration 3-3: Menu Extras**

The “Help“ menu provides you with information on the programme itself as well as on the channels such as homepage, telephone, and fax number via which you can contact F.A.S.T. GmbH. The “Transfer language“ menu level allows the transfer of a language package file into the device. The language package contains additional languages and thus makes the geophone even more usable. Furthermore, you have the option to read out and to display the current hardware and software versions as well as the serial number of the connected Aqua M300 device through the “Hardware information“ menu level.

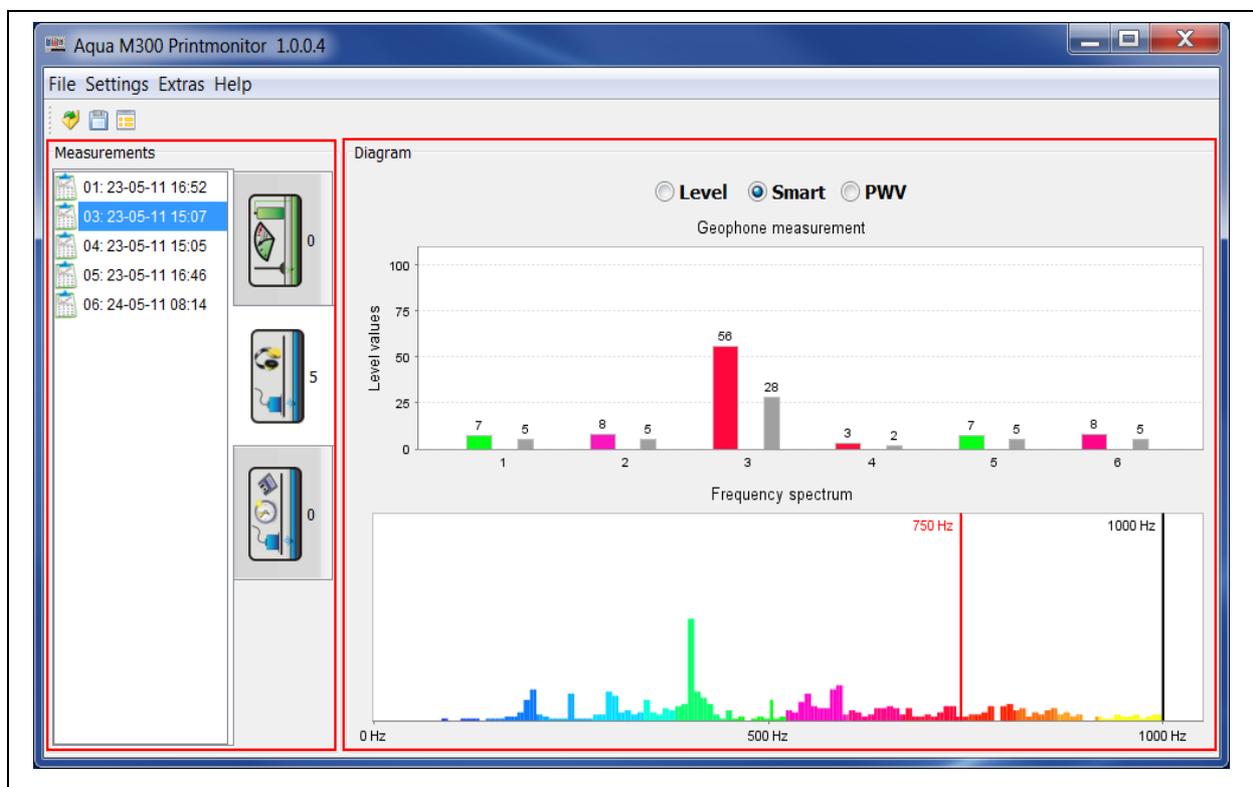


**Illustration 3-4: Help menu**

For detailed information and descriptions concerning the File, Settings, Extras and Help menu levels as well as concerning the corresponding functions, please refer to Chapter 3

## 2.2 Windows

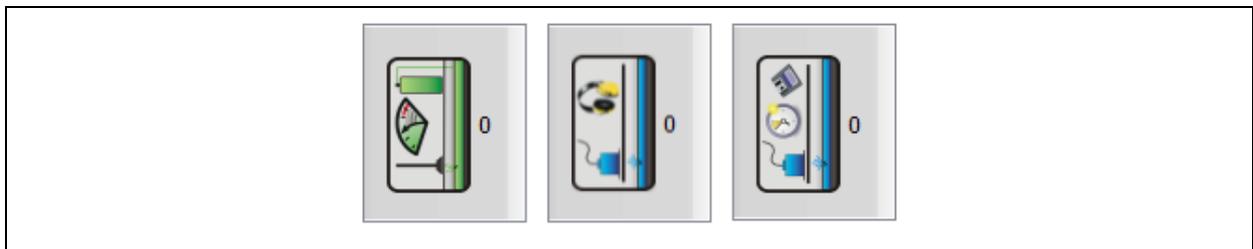
The “Aqua M300 Printmonitor“ programme consists of a main window which can be separated into two sections: one section for the measurements, and one section for the charts to be displayed. In the measurement selection section, which can be seen in Illustration 3-5 on the left-hand side, the measurements are grouped in the particular measurement category and displayed in a list. The chart section on the right-hand side graphically displays the results of the measurements selected in the measurement selection section.



**Illustration 3-5: Main window**

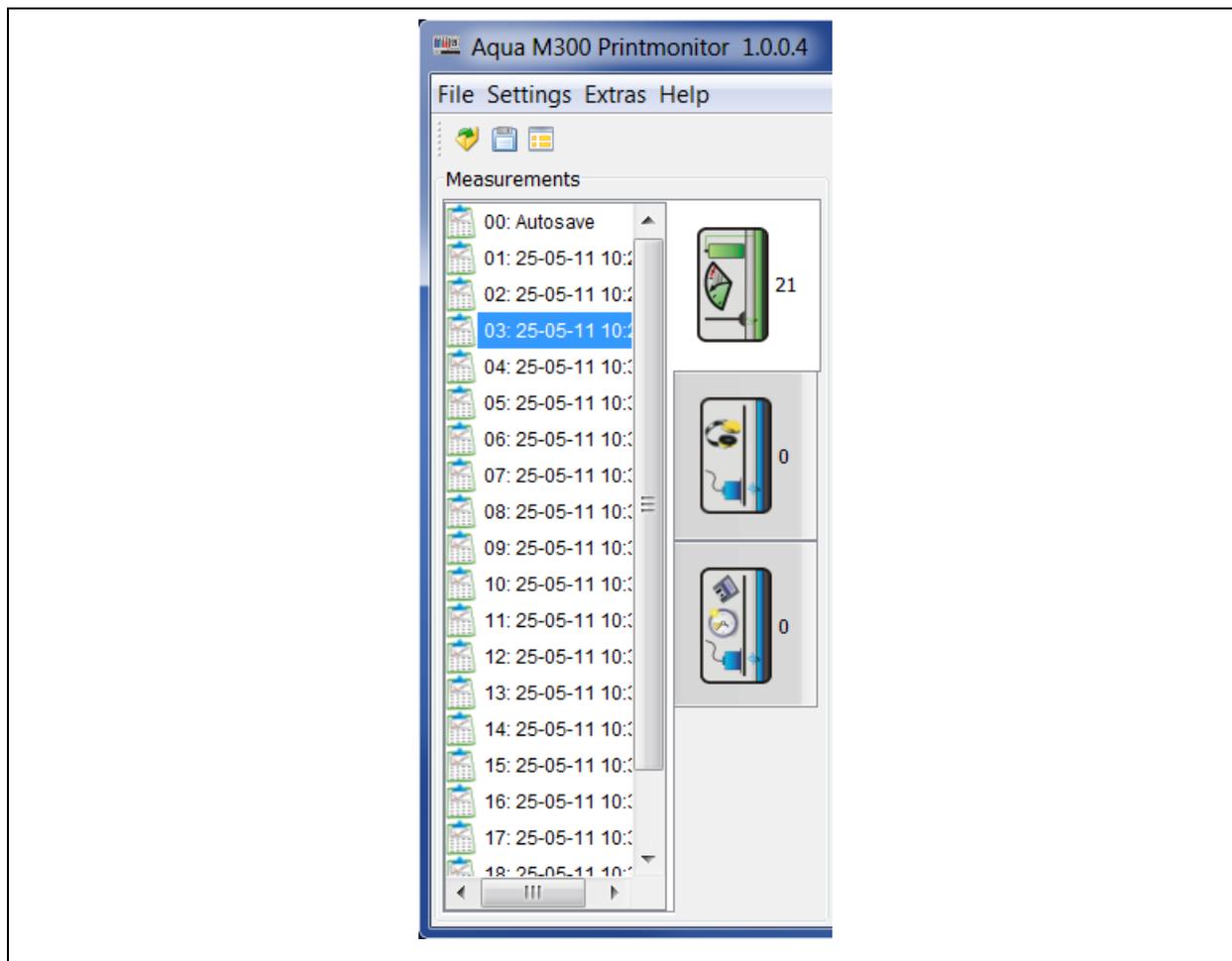
## 2.2.1 Measurement Section

In the measurement section of the “Aqua M300 Printmonitor“ programme, the read-out measurements are divided into the categories “H2 Measurement“, ”Geophone measurement“, and ”Permanent measurement“. You can select a category (H2, geophone and permanent measurement, see Illustration 3-6) by using the tabs. Once you have selected a certain category, the measurements contained in this particular category are displayed according to the number of the memory location in the Aqua M300 device. The number next to the measurement icon informs you about the number of measurements available in the particular category.



**Illustration 3-6: Symbols for gas, geophone, and permanent measurement**

In order to display the measurement values of a certain measurement in the chart section, the desired measurement category has to be selected first through the tabs. The measurements available in this category will then be displayed in a list. The measurement selected from the list is then automatically displayed in the chart section.



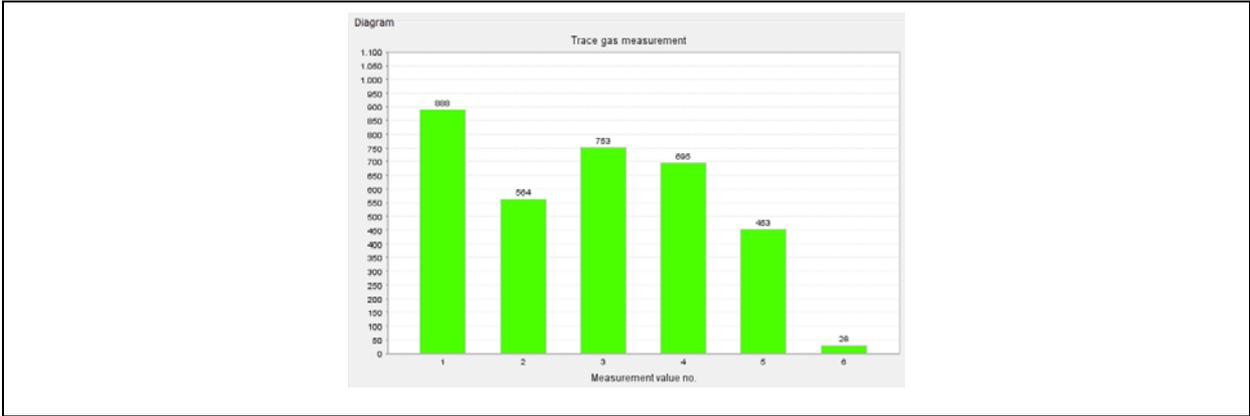
**Illustration 3-7: Measurement range**

### **2.2.2 Diagram Section**

In the chart section, the measurements selected are displayed as charts or diagrams. The measurement data is visualized in different ways, depending on the selected measurement category. The different kinds of display are explained in detail below.

H2 Measurement:

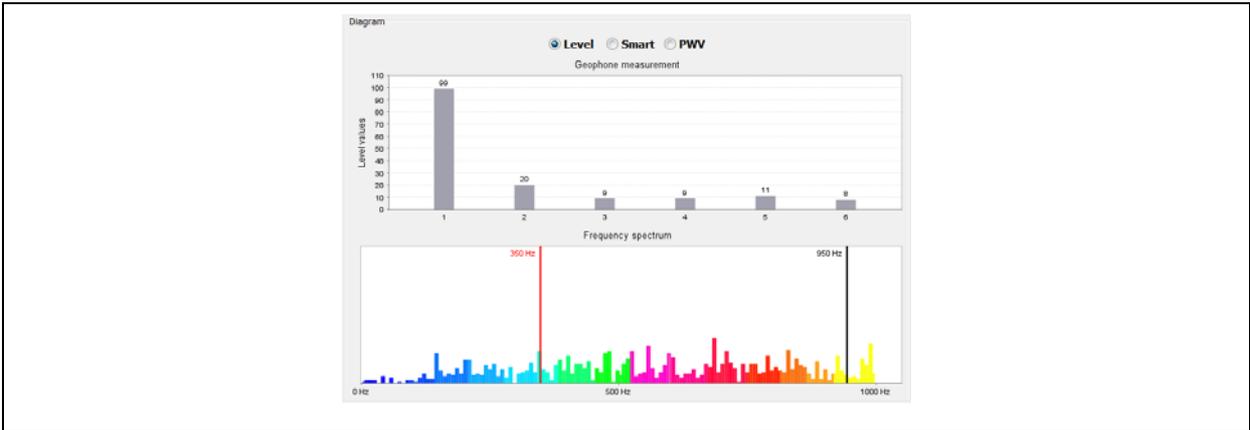
The measurement values based on an H2 measurement process are displayed in a bar diagram which shows the last six measured measurement values in accordance to the Aqua M300 display (see Illustration 3-8).



**Illustration 3-8: H2 Diagram**

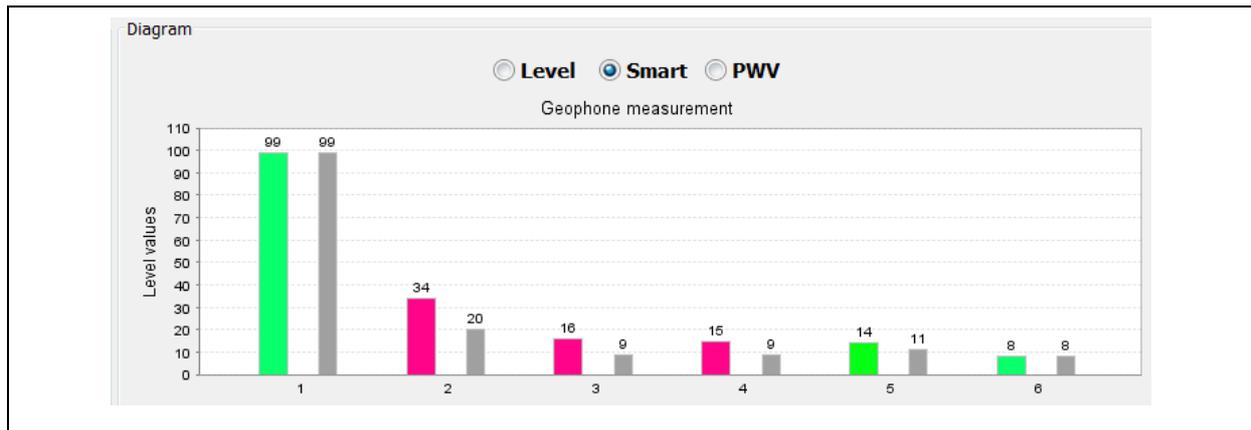
Geophone measurement:

For the “Geophone measurement“ category, there are different kinds of display available, depending on the measurement mode “GEO“, ”PWG“, and “Smart mode“ respectively. The particular kind of display is selected through the option fields. The illustrations below are to show the different displays of the particular measurement modes.



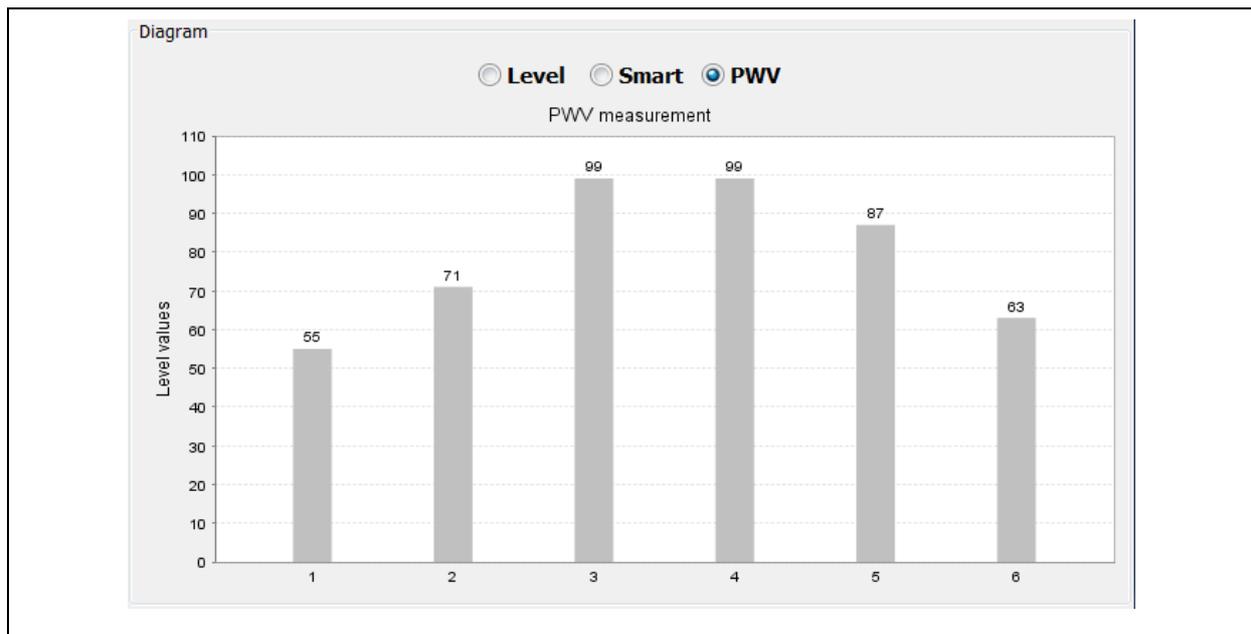
**Illustration 3-9: Geophon Mode**

In Illustration 3-9, the chart is displayed in the geophone mode. In the upper part of the diagram, the level values are displayed on a scale from 0 to 100. In the lower part, the frequency range of the last measured measurement value is displayed. In addition, the high-pass and low-pass filters set for the measurements are displayed, and also the selected frequency range.



**Illustration 3-10: Smart mode**

In the Smart Mode, see Illustration 3-10, as also in the Geophon Mode, the frequency range of the measured levels against the frequency spectrum is displayed in color in addition to the level values. In the PWG Mode, see Illustration 3-11, only the measured levels ranging from 0 to 100 are displayed.



**Illustration 3-11: PWG mode**

Permanent measurement:

In the “Permanent measurement“ measuring mode, the measurement values are indicated for the time period set for the measurement. The unit on the X axis is adapted according to the set measurement period of 5, 15, 30, or 60 minutes. In Illustration 3-12, the diagram shows a permanent measurement for a set measurement period of 5 minutes.

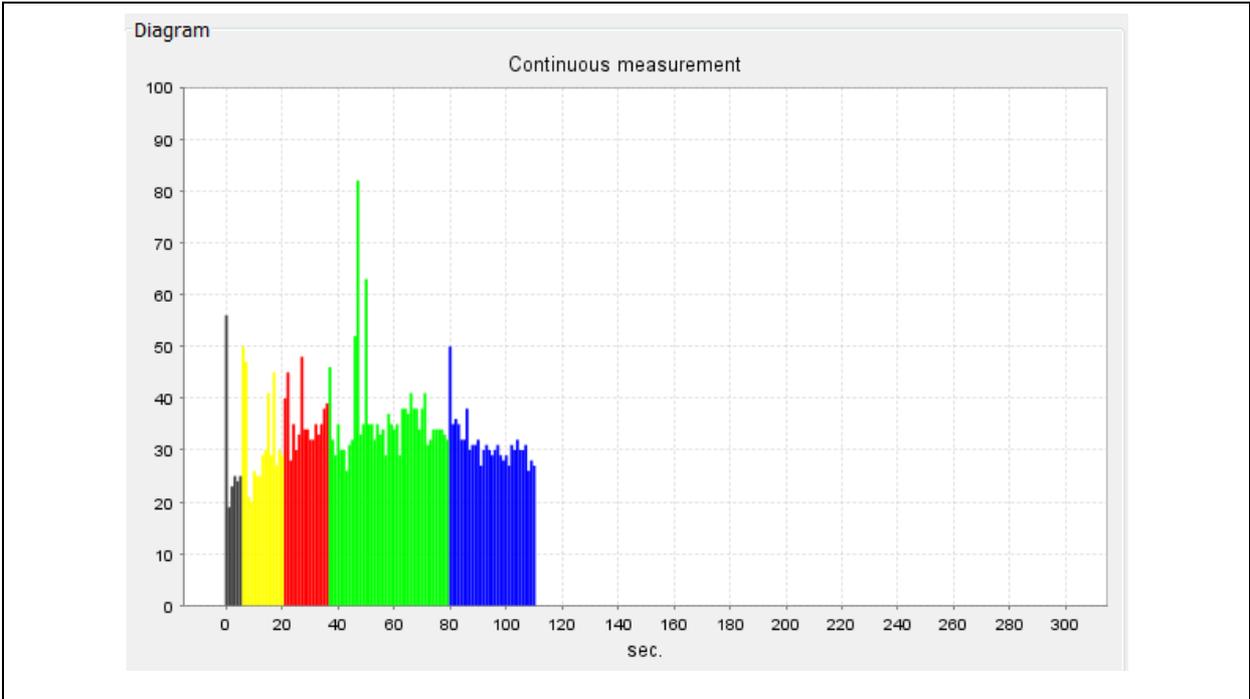


Illustration 3-12: Chart for permanent measurement

# 3 Functionality of the Menu

Chapter 3 is to present in detail the single menu levels and the particular sub-menus. First, the functions related to the “File“ menu are explained in Chapter 3.1. Chapter 3.2 then deals with the “Settings“ menu. In Chapter 3.3 the “Extras“ menu level is described, and finally Chapter 3.4 is to describe the “Help“ menu level.

## 3.1 File

In the “File“ menu, you can “Open“ or “Save“ a ”Aqua M300 Data File“ and also enter the customer’s address to be printed on the report(s). In addition, this menu level offers a number of print functions as well as the function to quit the programme. The menu levels are described in detail in the following sections.

### 3.1.1 Opening an File

If you want to open an already existing file, click on “File“ -> ”Open“ or press the key combination ”STRG“ + “O“.Illustration 3-1 below is to visualize the menu.

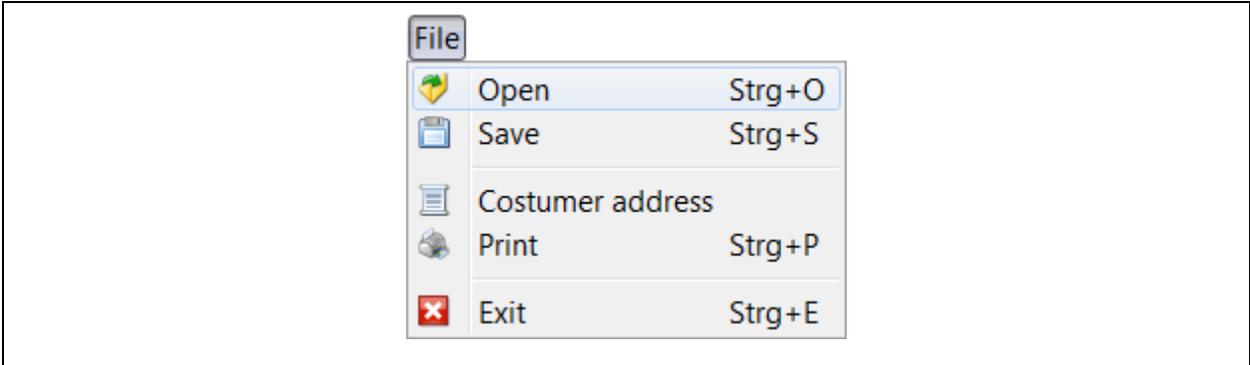
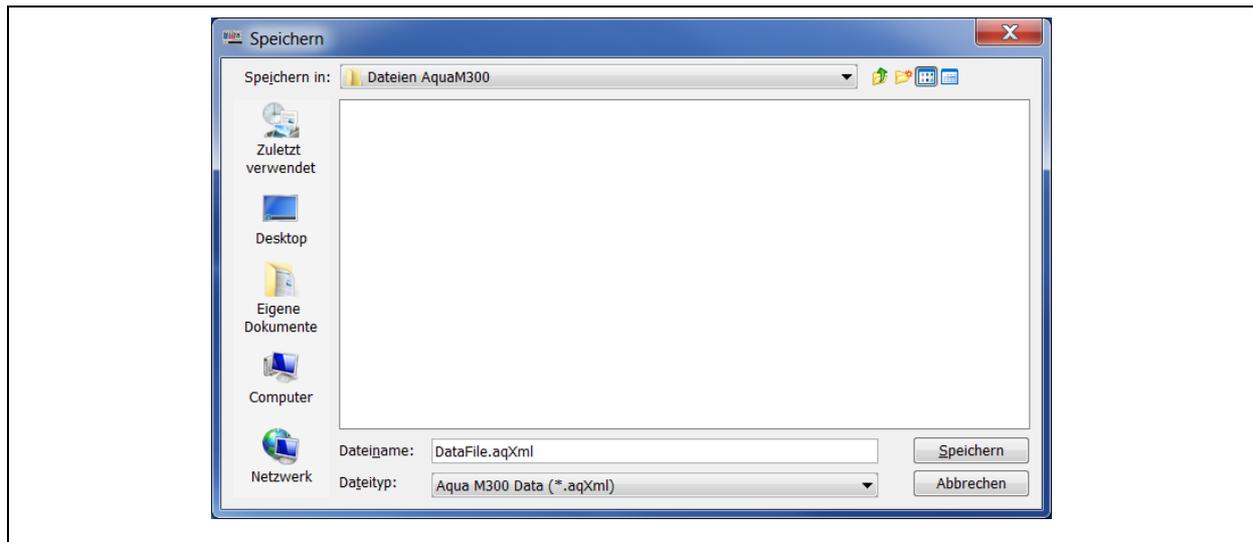


Illustration 3-1: File open

Pressing on ”Open“ makes a file selection dialogue appear on the screen where you can select the desired file (see Illustration 3-2). Open the folder of the project containing the “Aqua M 300 Data File“ and choose the file you intend to open. Then click on “Open“ to open the desired file, which will then be displayed.

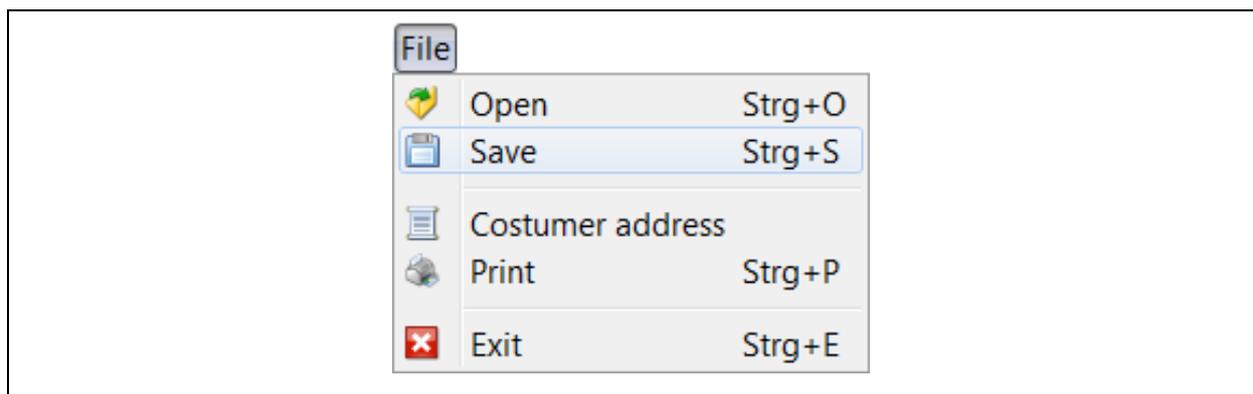


**Illustration 3-2: File Open Dialog**

Once the file has been opened, the data section will be filled with the values related to the particular measurement, and the diagram section shows the results of the correlation in the upper part and the coherence in the lower part.

### 3.1.2 Saving a File

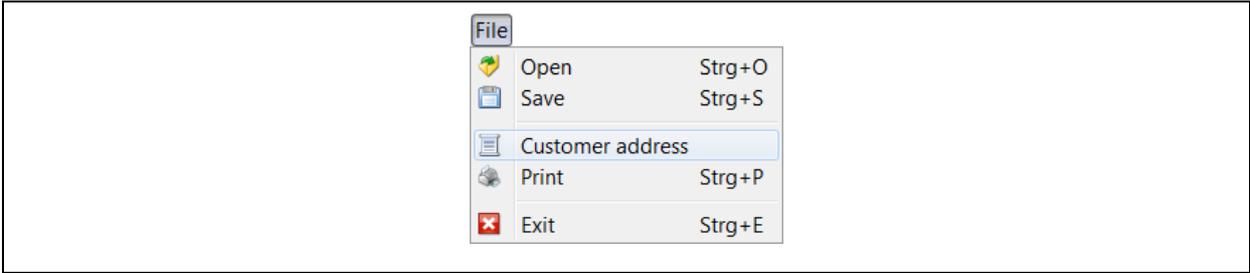
If you intend to save the read-out values in a file, click on "File" -> "Save". A "Save File Dialogue" will appear similar to the one shown in Illustration 3-2 above, where you can select the path for the particular file.. After you have entered a file name, all measurements available in the Aqua M300 Printmonitor programme will be saved in one file.



**Illustration 3-3: File save**

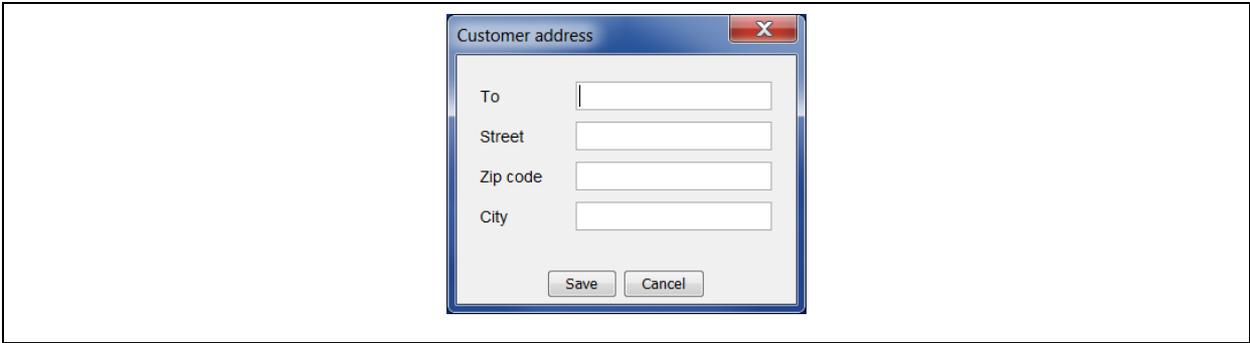
### 3.1.3 Customer's address

If the measurement was carried out on behalf of a customer, you can assign the customer's address on this menu level. The customer's address will then be shown on the print-out. Click on "File" -> "Customer's address" (see Illustration 3-4 below).



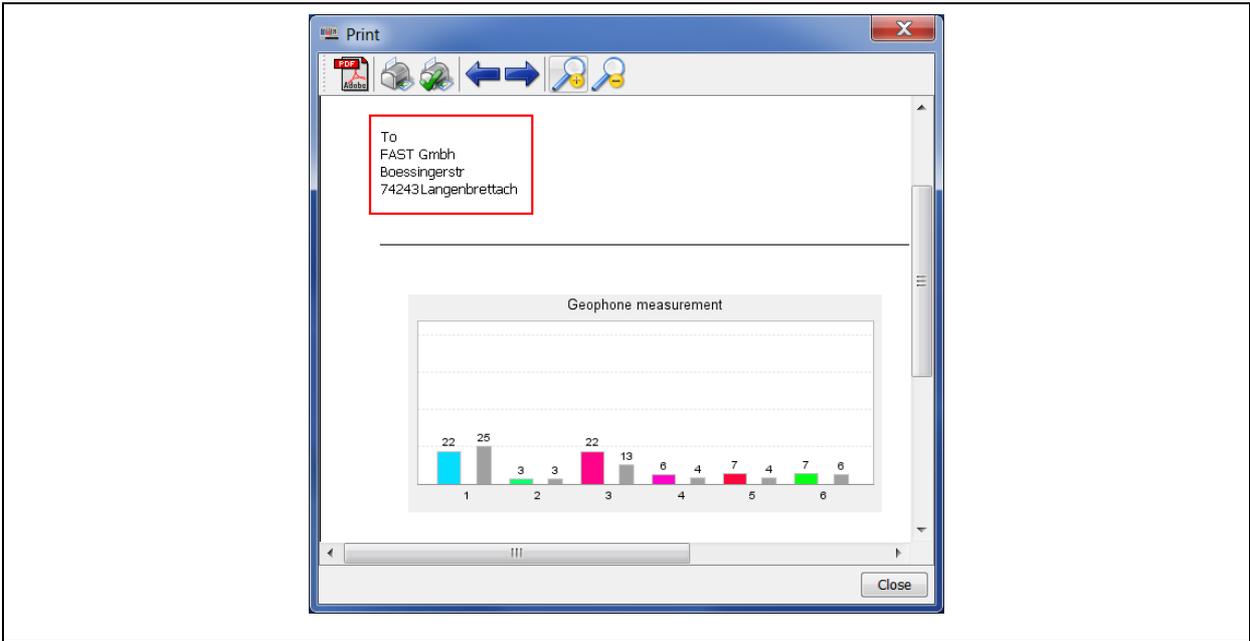
**Illustration 3-4: Customer’s address**

A window will appear where you can enter the particular data. After you have entered the particulars, click on “Save“ and the data entered into the boxes will be accepted (see Illustration 3-5).



**Illustration 3-5: Entering the customer’s address**

If you click on “Cancel“, the window will be closed and the entered data will be deleted, i.e. the entered data will not be accepted by the programme. If the boxes have not been filled with the particulars, the print-out (reports) will not show the customer’s address.



**Illustration 3-6: Print-out showing the customer’s address**

If you have assigned a customer's address (see Illustration 3-4 above), this address will be shown on the print preview and on the print-out in the address box (see example in Illustration 3-6). If you want to delete the customer's address again, just open the entry window for the customer's address (see Illustration 3-5) and delete the particulars from the entry sections. Then click on "Save" to make sure the particulars will not be shown on the print-out.

### 3.1.4 Printing

In order to print out a clearly arranged report containing the data and diagrams related to the particular measurement procedures, click on "File" -> "Print" and the currently displayed measurement will be printed out (see Illustration 3-7 below).

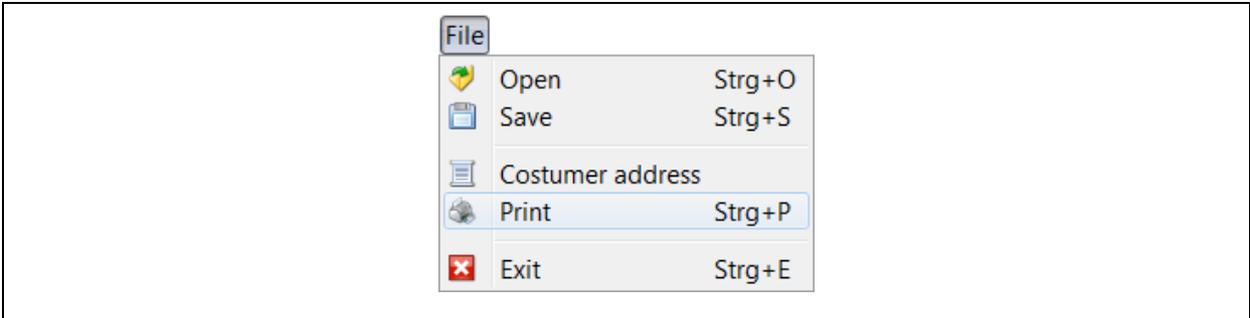


Illustration 3-7: Printing

A print preview will appear giving an overview of the report. Here you will find further menu levels such as Scaling up / down or Paging. These menu levels are described below.

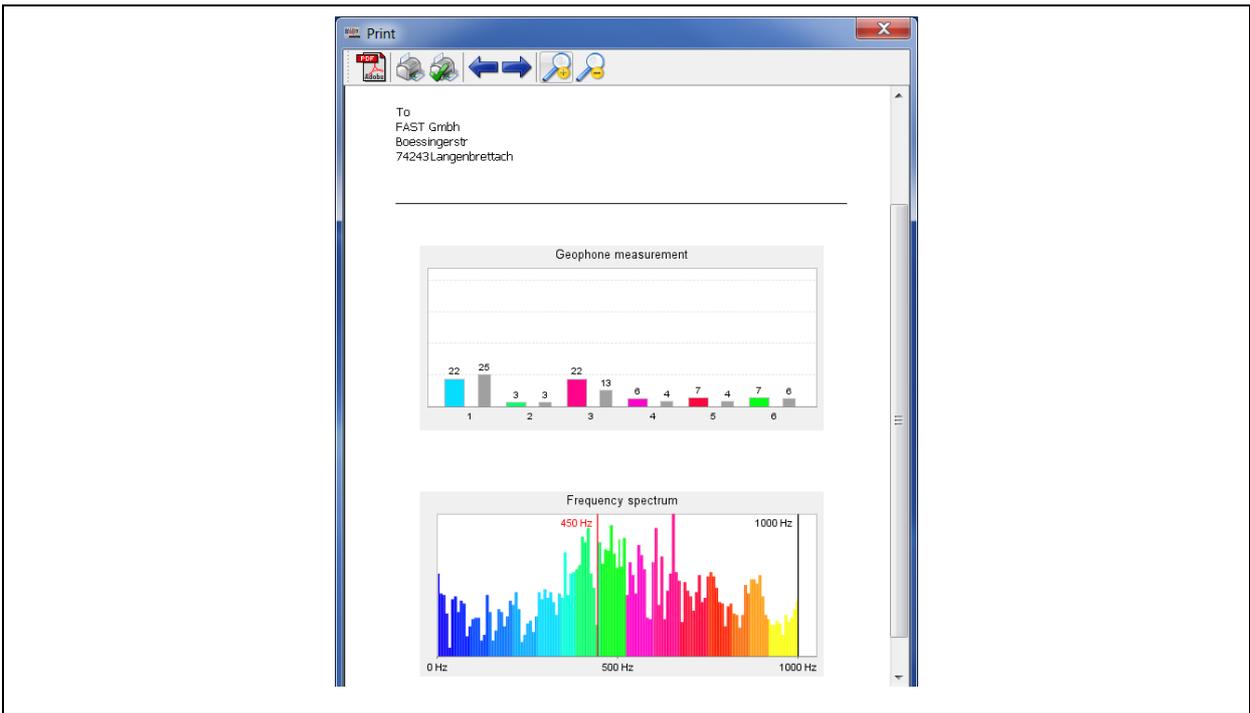


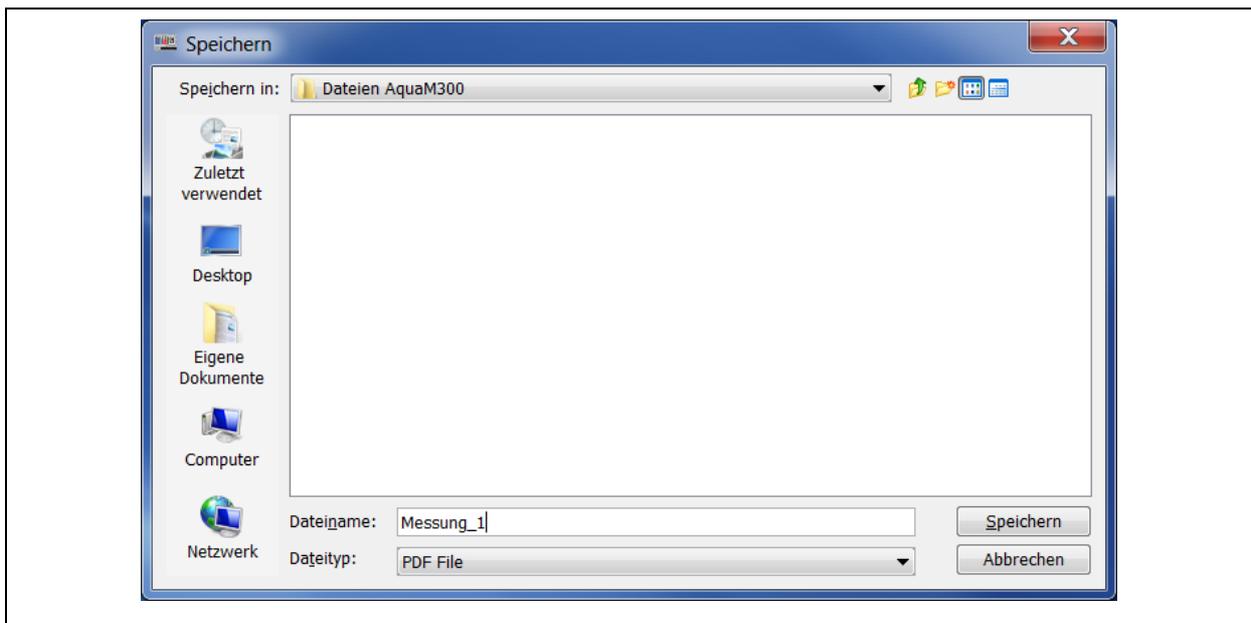
Illustration 3-8: Print Preview

The button bar of the print preview contains the following menu levels: Print, Select and printer respectively, Setting up a page, Paging, and Zoom, which offer a number of different functionalities as described below.



**Illustration 3-9: Print Preview menu**

You can create a pdf document from the print preview menu level with the pdf symbol . This pdf document can be opened with any compatible PDF Viewer programme. After clicking on the icon, just select a memory location in the appearing file selection dialogue (see Illustration 3-10) and enter another name for the particular file, if applicable, in order to save the print-out as a pdf document.



**Illustration 3-10: PDF Export**

The magnifying function   is to scale up or scale down the report in the print preview mode.

The arrow keys   make you go to the next/previous page if the report consists of several pages.

The first printer symbol  takes you to the “Print“ dialog window. A new window appears where you are requested to select any of the installed printers, to adjust the settings for the desired paper format and the print-out quality, to determine the number of copies to be printed out, and to start the printing process by clicking on ”Print out“.

The second printer symbol  leads you to the “Setting up the page“ dialogue window. Here you are requested to select the desired paper format and the page format as well as to set the margins for the print-out.

### 3.1.5 Quitting the Programm

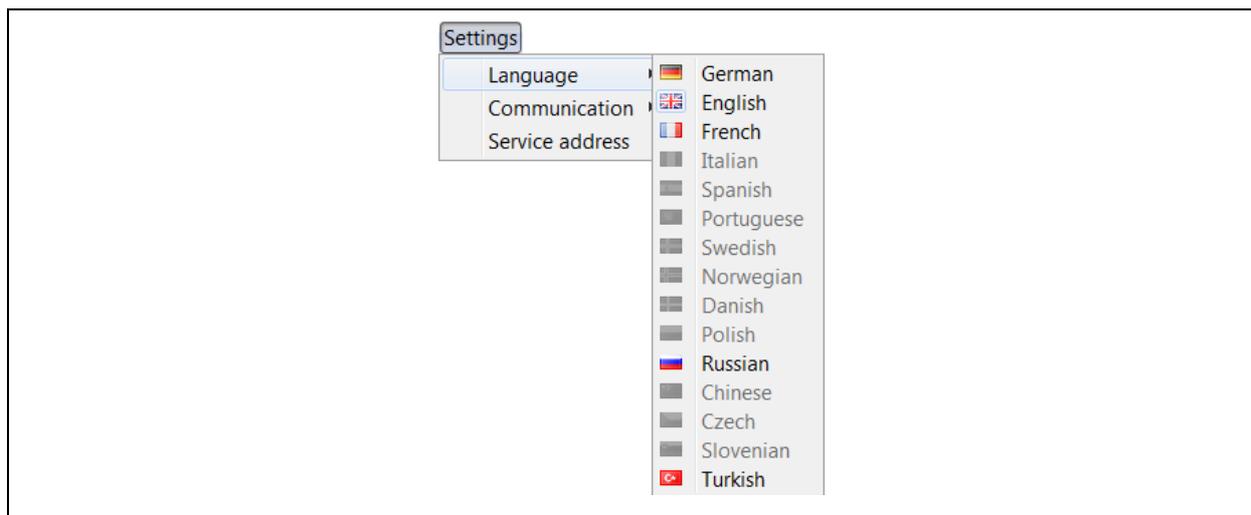
If you want to leave the programme, click on “File“ -> ”Exit“ or use press the key combination ”STRG“ + ”E“. As an alternative, you can also quit the programme by clicking on the red X. .

## 3.2 Settings

The Settings menu level of the “Aqua M300 Printmonitor“ programme is to assist you in adjusting any programme-related settings such as language settings and communication settings. In addition, you can also assign a service supplier’s address to be printed on the report. The individual menu levels are described in detail in the below chapters.

### 3.2.1 Language

In the menu “Settings“ -> “Language“ you can adapt any text-related features in the programme to your national language. The programme supports up to nine languages, as shown in Illustration 3-11 below. As soon as the “Aqua M300 Printmonitor“ programme has been installed, German, English, French, Russian and Turkish will be available as standard languages. These language packages are firmly implemented in the programme and cannot be deleted or modified.



**Illustration 3-11: Language menu**

Consequently, you can select only German, English, French, Russian or Turkish in the “Language“ menu when the programme has been installed. For the other languages, a separate language file has to be created before these other languages can be activated. In order to ease this adaptation, the programme creates a template of the language file during installation, which is located in the ”lang“ folder. You will find this “lang“ folder in the installation directory of the ”Aqua M300 Printmonitor“ programme. If, for example, you have installed the programme at “C:\Programmes“, the installation directory of the programme can be found at ”C:\Programmes\Lokal300“ and the template of the language file is located at ”C:\Programmes\Lokal300\lang“.

Once you have opened the “lang“ folder, you will see the template called ”Sprache.properties“. This file can be opened and processed with the ”Editor“ or ”Wordpad“ programmes. However, before you process the file, you will have to create a copy of the “Sprache.properties“ file in the same folder as the template itself must not be modified in order to avoid an error functions in the programme. **Never change the template, only modify the copied version of the file.**

You can create a copy of the file by clicking once on the file with the left mouse key to highlight the file. Then move the cursor across the highlighted file and press the right mouse key. A so-called pop-up menu will open up where you have to click on the ”Copy“ button with the left mouse key. As a final step, the copy of the file has to be inserted into the same folder. In order to do so, please go to the “Process“ menu of the folder window and click on ”Insert“. You now should have another language file named “Copy of Sprache.properties“ in the “lang“ folder. This copy can now be adapted to the desired language.

When you have completed the adaptation to the desired language, the name of the language file has to be assigned for the programme so that the programme is capable of identifying and loading this new file properly. So please rename the copy of your language file (“Copy of Sprache.properties“) in accordance with the following pattern shown below:

- French -> “Sprache\_fr\_FR.properties“
- Spanish -> “Sprache\_es\_ES.properties“
- Italian -> “Sprache\_it\_IT.properties“
- Danish -> “Sprache\_da\_DK.properties“
- Norwegian -> “Sprache\_no\_NO.properties“
- Swedish -> “Sprache\_sv\_SE.properties“
- Portuguese -> “Sprache\_pt\_PT.properties“
- Polish -> “Sprache\_pl\_PL.properties“
- Russian -> “Sprache\_ru\_RU.properties“
- Chinese -> “Sprache\_zh\_CN.properties“
- Tschechisch -> “Sprache\_cs\_CZ.properties“
- Slovenian -> “Sprache\_sl\_SI.properties“

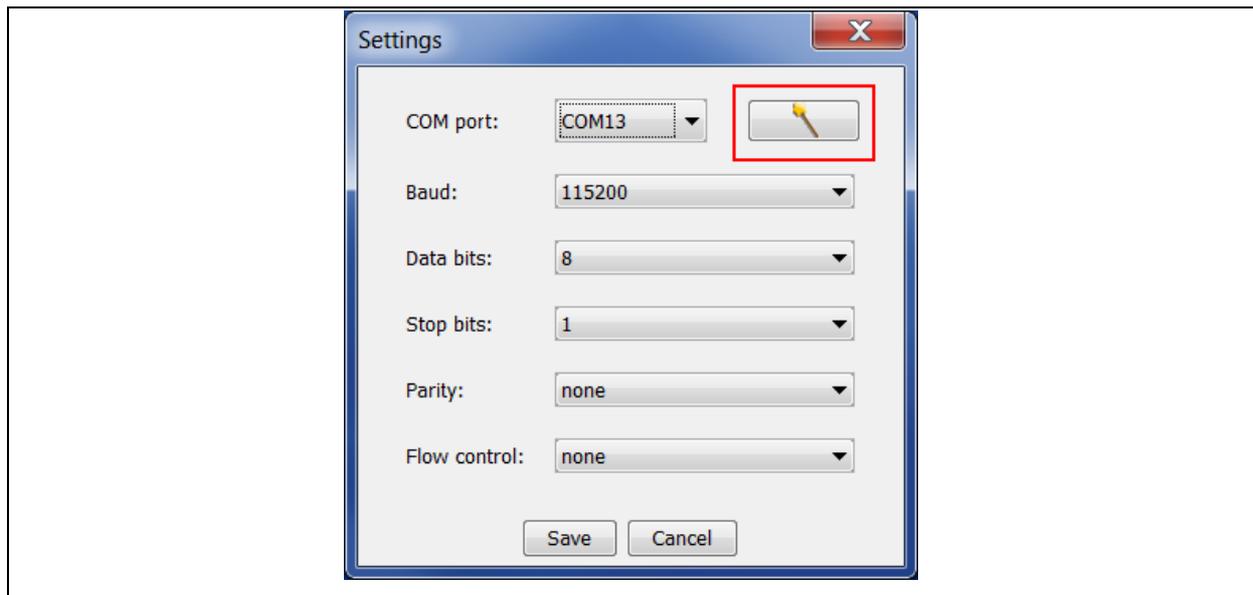
### 3.2.2 Communication

Determine the mode of data transfer at “Settings“ -> “Communication“ via the serial interface.

#### Reading-out via the serial interface

Before the data provided by Aqua M300 can be read out, the configuration for the serial interface must be called. This can be done by clicking on “Settings“ -> ”Communication“ -> ”serial“ in the menu.

As a standard, the “Com1“ port is selected. Choose the appropriate Com-Port to which the Aqua M300 has been connected or use the Assistant for automatic search for a connected device. Start the Assistant by clicking on the red button, see Illustration 3-12. If the Assistant identifies a connected device, you can accept the particular settings.

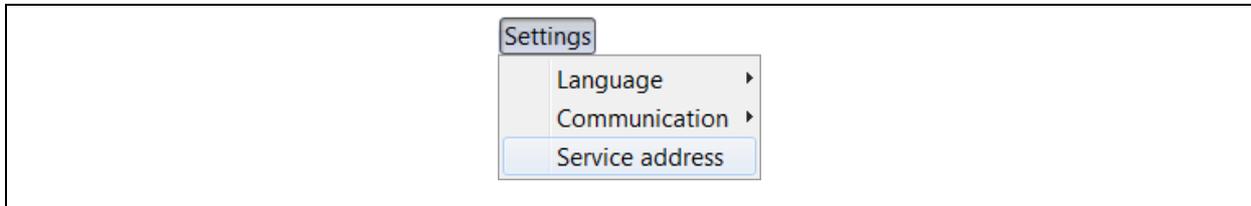


**Illustration 3-12: Com-Port settings**

Usually, all other settings do not need to be changed. When you have finalized all the settings for the Com-Port, accept the settings by clicking on ”Save“. The programme is now ready for operation and the measurements can be carried out through the “Read out list“ button from the Aqua M300. Reading out the measurements is described in more detail in Chapter 3.3.1.

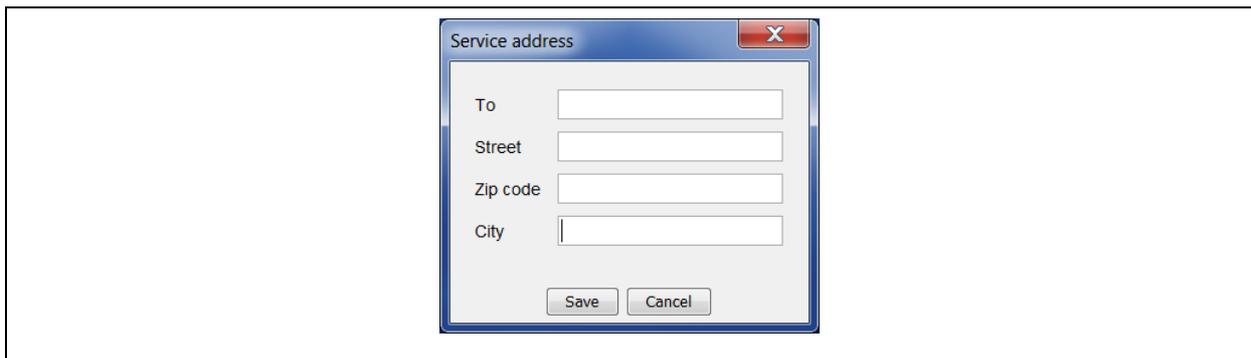
### 3.2.3 Service Supplier's Address

If you act as a service supplier, you have the option to assign a service supplier's address which will then be shown on the printed reports. In order to insert a service supplier's address, click on "Settings" -> "Service address" (see Illustration 3-13 below).



**Illustration 3-13: Service Supplier's Address menu**

A dialogue window where you are requested to enter the particulars of the address will appear. The entered data will be accepted and saved by clicking on the "Save" button. Click on "Cancel" if you want to close the window and to reject the entered data.



**Illustration 3-14: Service Supplier's Address window**

If you want to delete the service supplier's address from the report, open the input window for the service supplier's address and delete the particulars from the entry boxes. Then click on "Save" to finally delete the service supplier's address.

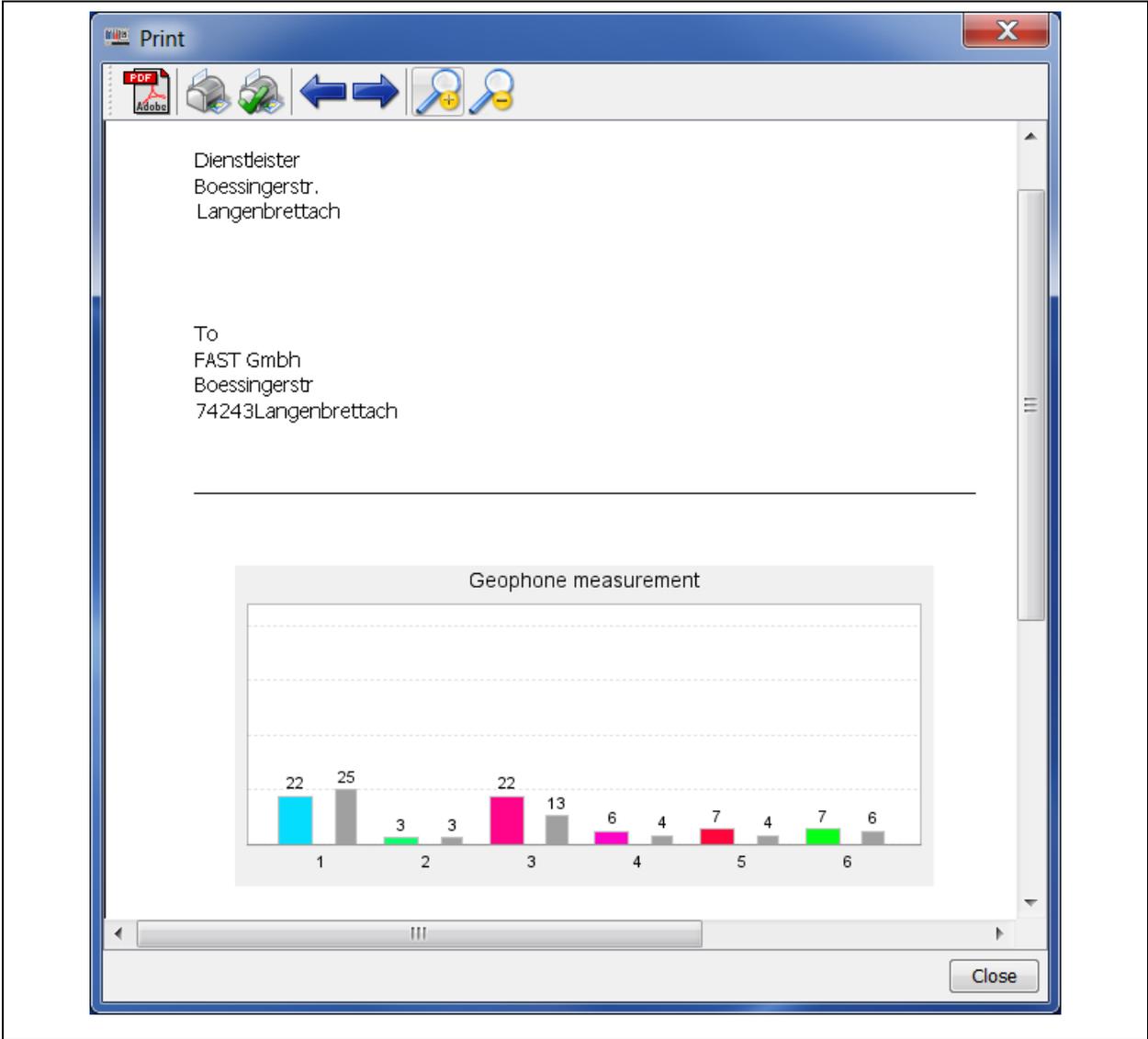


Illustration 3-15: Service Supplier’s Address print out

## 3.3 Extras

### 3.3.1 Read out list

On the “Extras“ menu level, you can read out the saved measurements from an Aqua M300 device through the ”Read out list“ menu level. Just select the command ”Read out list“, see Illustration 3-16.



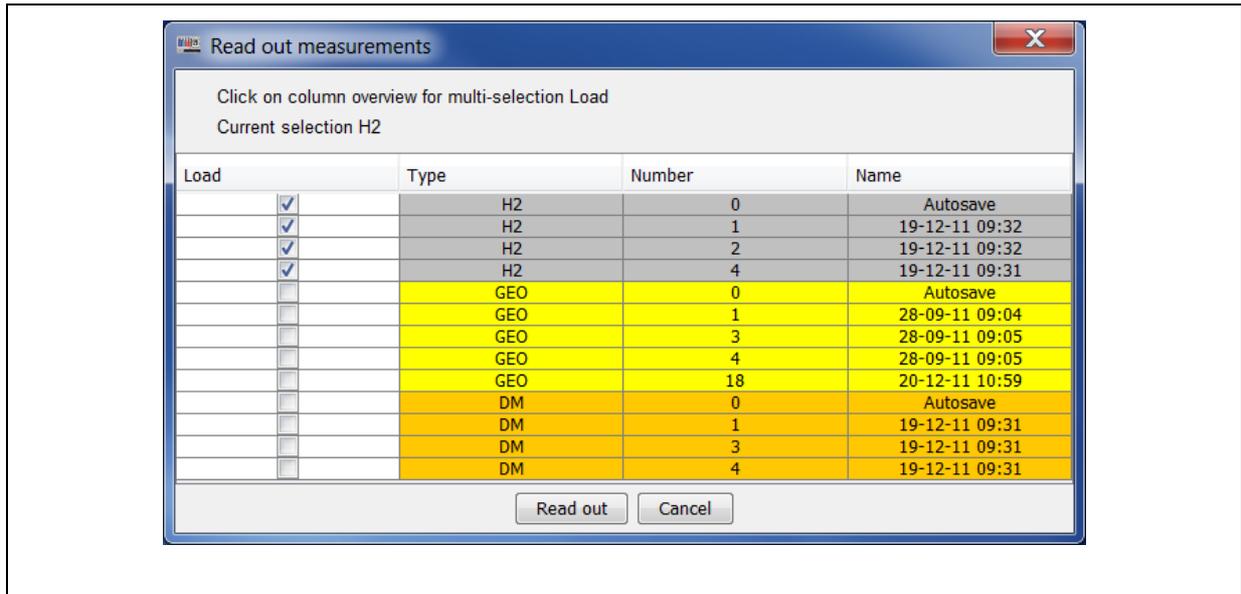
**Illustration 3-16: “Read out list“ menu**

In order to read out the data provided by the Aqua M300, start the ”Aqua M300 Printmonitor “ programme. Please ensure that all settings for the serial interface have been made correctly and that the appropriate Com-Port has been selected (see also Chapter 3.2.2). There is no need to make further adjustments in the programme. Change to PC communication in the Aqua M300 (see Illustration 3-17).



**Illustration 3-17: PC Communication**

If all settings have been finalized correctly, the saved measurement data will be displayed in the Aqua M300 programme as a list as soon as the command ”Read out list“ has been executed (see Illustration 3-18). Now single measurements or even all measurements can be chosen to be displayed in the Aqua M300 Printmonitor programme.

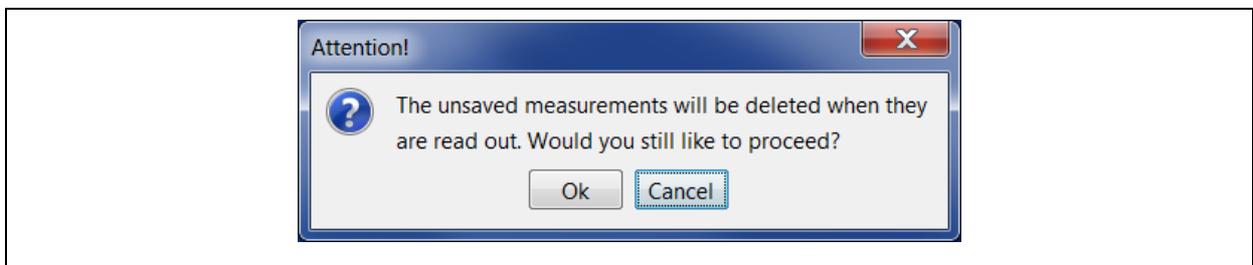


**Illustration 3-18: Read out measurements**

In order to select an individual measurement, choose the particular measurement to tick it in the "Load" field of the desired measurement (see Illustration 3-18). As an alternative, you can also click once or several times on the "Load" field head in order to activate the measurement category/categories stated in the list.

The measurements can be sorted according to type, number or name. If you want to use the sorting function, click on the particular field header to sort the table according to your requirements.

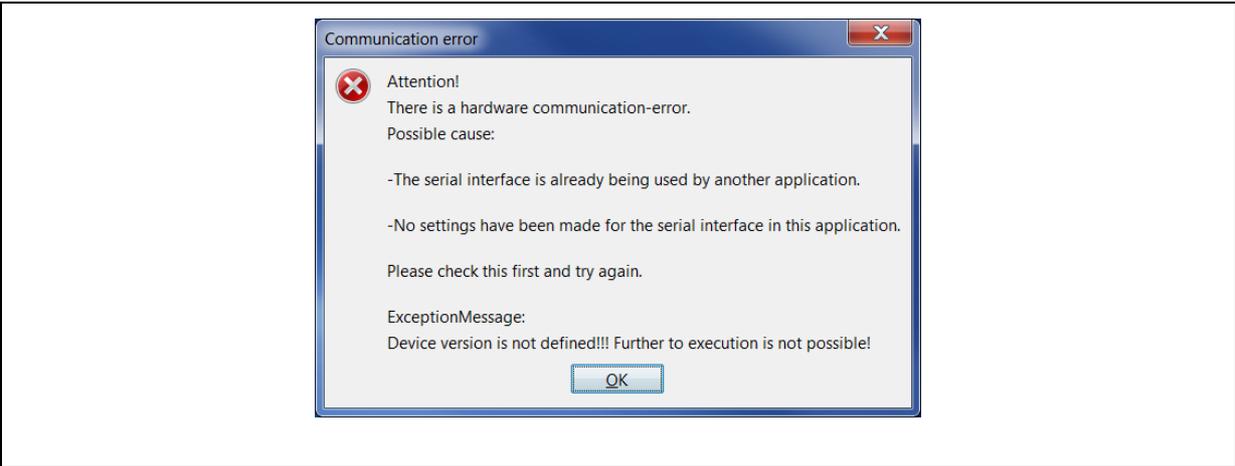
As soon as you have made your choice, you can read out the selected measurements by clicking on the "Read out" button. As reading out any measurement results in overwriting all measurements available in the programme, a security query is generated before the data is finally transferred (see Illustration 3-19).



**Illustration 3-19: Security query**

The data is read out by clicking on "OK". If you do not intend to read out any measurement, you can cancel the procedure by clicking on "Cancel".

If the settings for serial communication have been incorrect or if the Aqua M300 has not been switched to PC communication, you will receive the following error message, and reading out the measurements is not possible.



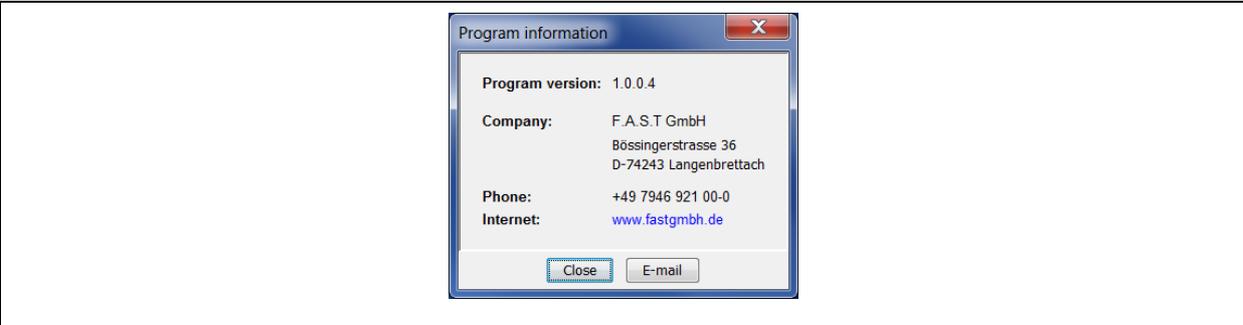
**Illustration 3-20: Error Message Read Out Measurements**

### 3.4 Help

The "Help" menu offers various menu levels: "Info", "Transfer language package", and "Information on hardware". The menu levels are explained in detail below.

#### 3.4.1 Information Window

The "Info" menu level is to assist you in calling an information window, which contains information on the current programme version of the Aqua M300 Printmonitor software as well as on how to contact us (see Illustration 3-21).



**Illustration 3-21: Programm Information Window**

If you intend to visit the F.A.S.T. GmbH homepage, just click on the blue link, which is positioned beneath the "Internet" section. Your standard browser will open up and you will be directed to the F.A.S.T. GmbH homepage directly. If you want to send an e-mail to F.A.S.T. GmbH, click on the "E-Mail" button. If a new e-mail client programme has been installed on your computer, it will open up with a new e-mail message which already contains the receiver's address and the subject matter. In addition, some information about the applied Java running time environment of the computer is embedded in the e-mail (see Illustration 3-22).

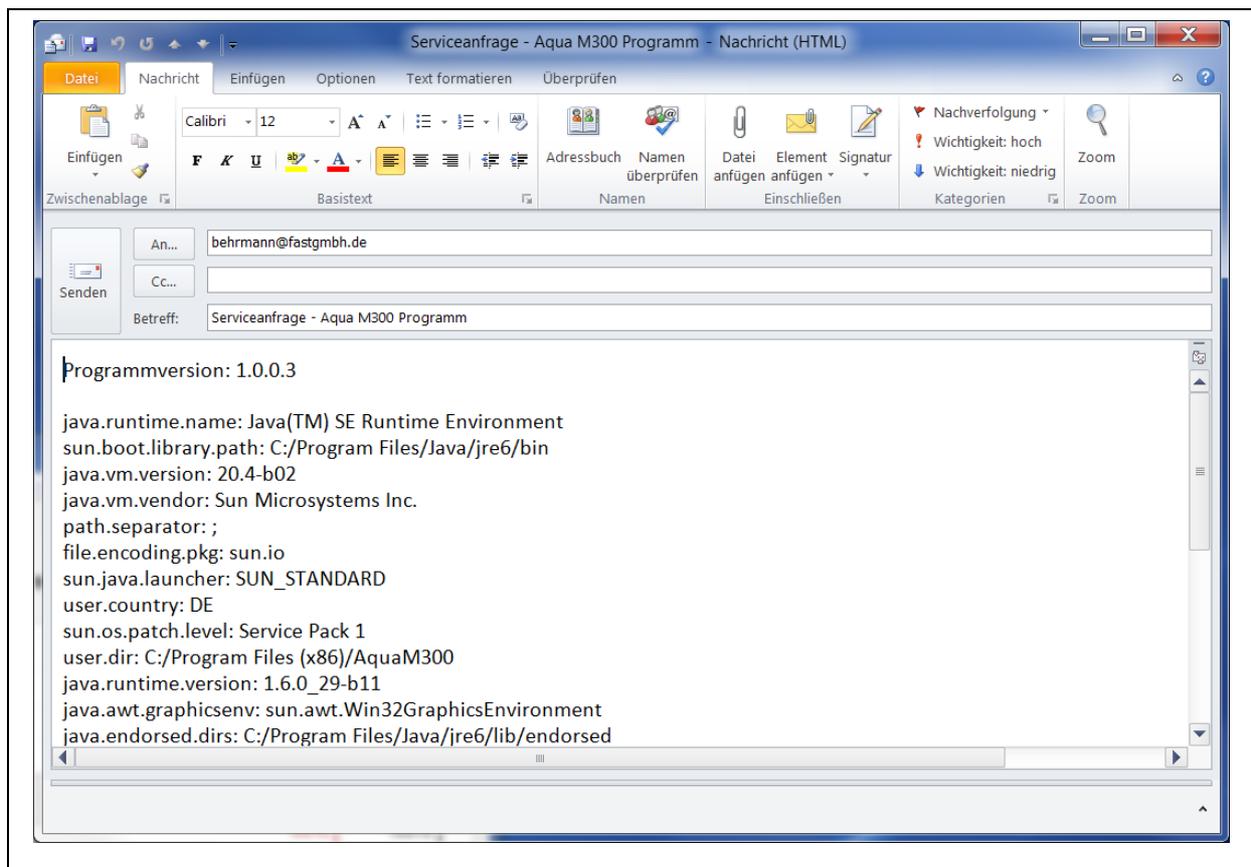
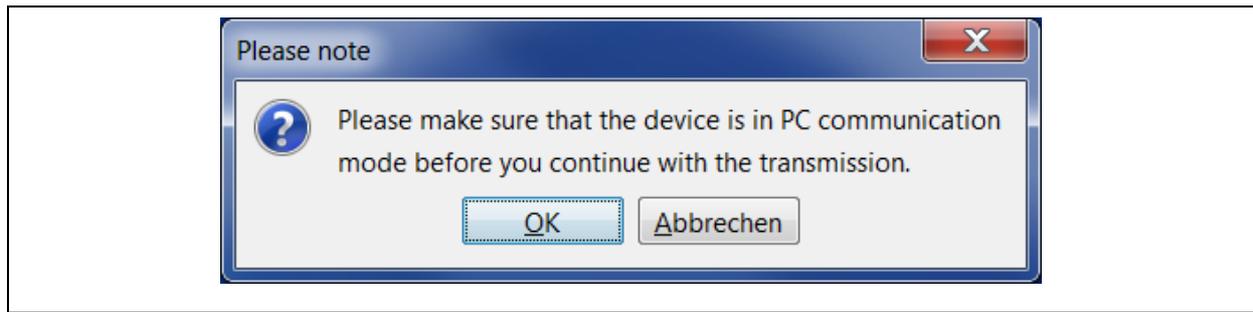


Illustration 3-22: E-Mail

### 3.4.2 Transfer Language Pack

The "Transfer language package" menu level is to assist you in transferring an updated language file for the menus applied on the Aqua M300 device. In order to transfer the file, the Aqua M300 has to be switched to the PC communication mode. Once you have selected the menu level, the following message will appear.

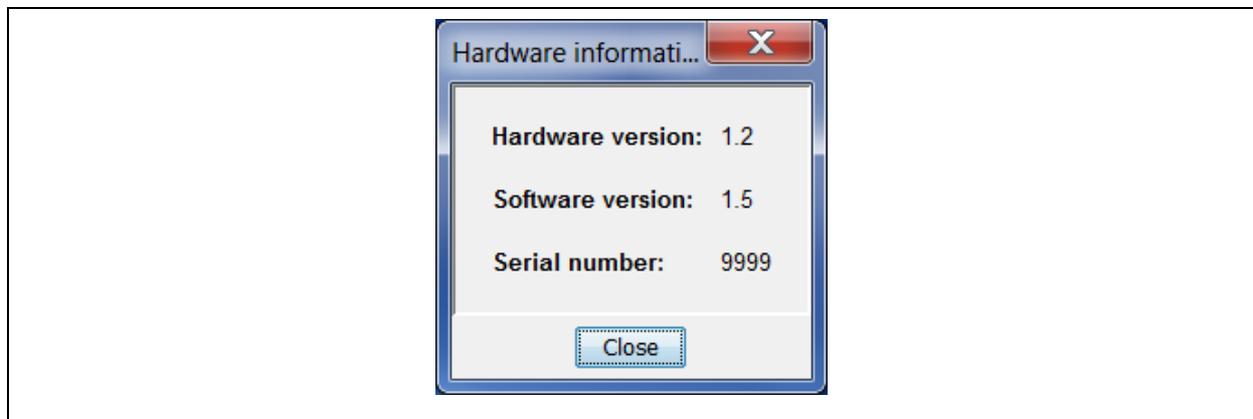


**Illustration 3-23: Hint PC communication**

Click on "OK" in order to continue with the transfer. You will then have to select in the file selection dialogue the language package you wish to transfer. As soon as you have clicked on "Open", the file will be transferred, and the additional languages will be available when the device has been rebooted.

### **3.4.3 Reading out hardware-related information**

The "Information on hardware" menu level offers the option to receive information about the hardware version and software version applied as well as about the serial number of the device, see Illustration 3-24.



**Illustration 3-24: information about the hardware**

## 4 Window Functionality

In Chapter 4.1, the “Measurement range“ function is described, indicating the range where the read-out measurements are displayed according to their categories. Chapter 4.2 contains the „Diagram range“ function, where the selected measurement is displayed as a diagram.

### 4.1 Measurement range

In the left-hand part of the main window, the read-out measurements (see Illustration 4-1) are displayed as a list in the particular measurement category. As soon as a measurement has been selected, the data is evaluated and the corresponding graph is created and displayed in the diagram window.

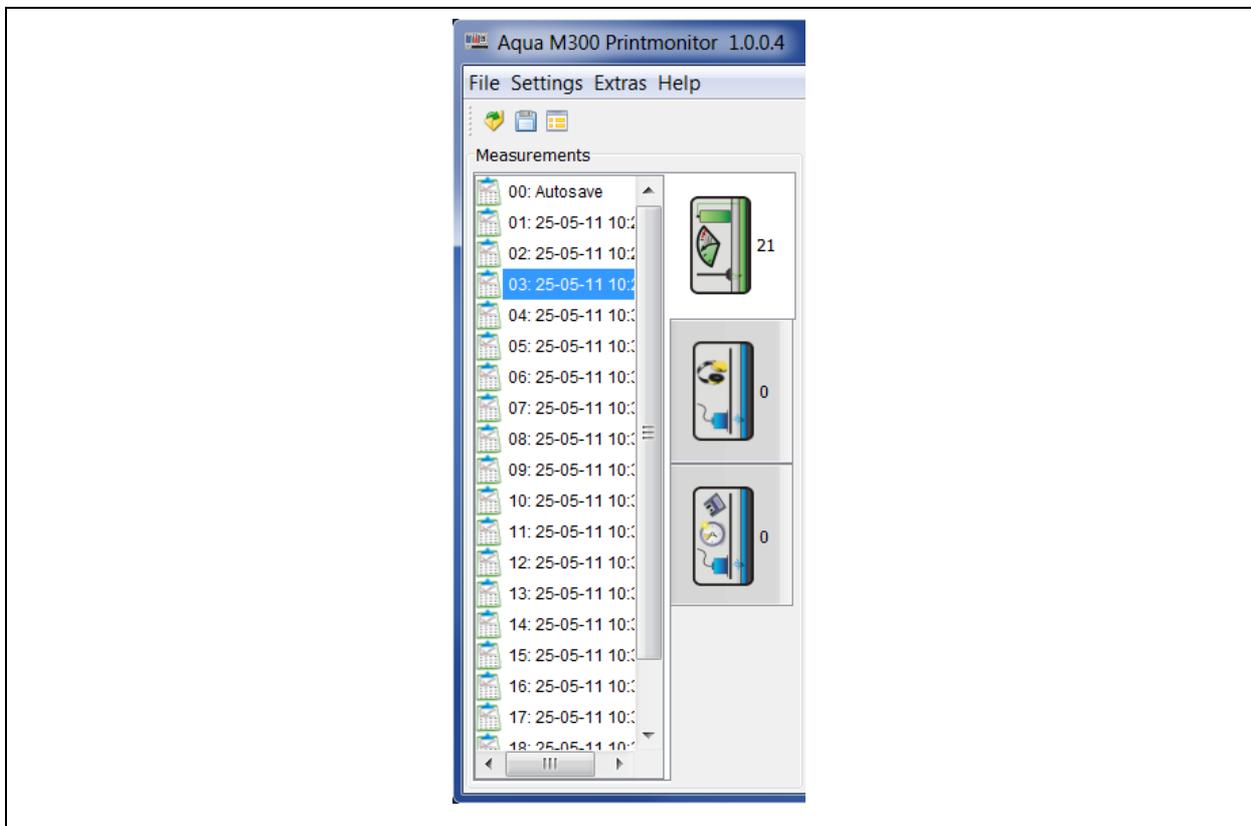
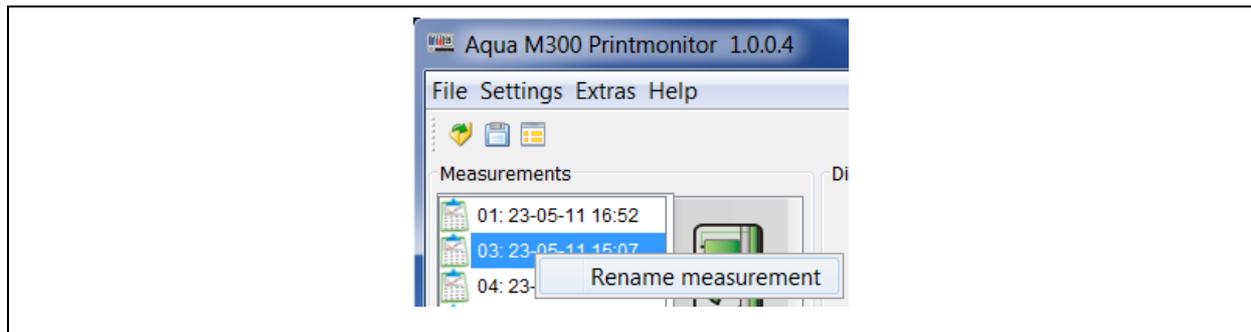


Illustration 4-1: Window for measurement range

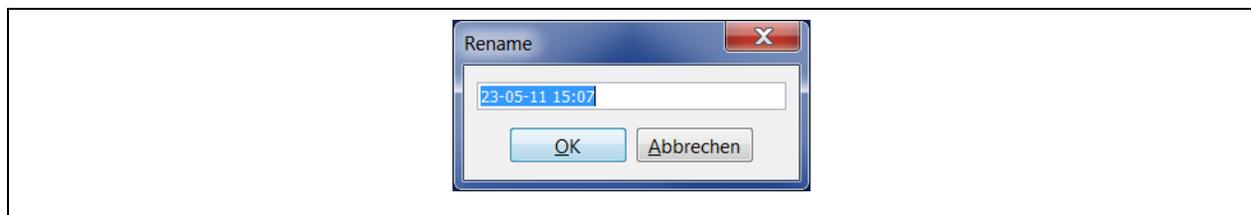
#### 4.1.1 Measurement range function

The measurement range function offers the option to change the name of a measurement once it has been selected. In order to do so, mark the particular measurement and click on the right mouse key. Then click on “Rename measurement“ in the appearing context menu.



**Illustration 4-2: Rename measurement context menu**

A dialogue as shown in Illustration 4-3. will appear where you can rename the measurement. After you have changed the name of the selected measurement, click on “OK“ to make the system accept the new name or click on “Cancel“ if you wish not to accept the new name.



**Illustration 4-3: change Measurement name**

## 4.2 Diagram Section

Depending on the chosen measurement category, different diagrams are displayed in the diagram section. If you have chosen an “H2“ measurement, the measurement values are displayed through a bar diagram. If a “Geophone“ measurement has been selected, the levels as well as the frequency spectrum will be displayed as bar diagrams. In addition, the frequency range of the levels against the frequency spectrum will be displayed in colour in the ”Smart mode“. In the ”Permanent measurement“ category, the measurement values are displayed against the time period selected. For further information on the ”Permanent measurement“ category, please refer to Chapter 2.2.2.

### 4.2.1 Functions of the Diagram Section

All diagram windows offer functions to scale up and to scale down the diagrams and to auto-adjust them. These functions are available through an object menu. Click on the right mouse key when the cursor is on a diagram in order to call this object menu. If you are operating in the “H2 measurement“ or in the “Geophone measurement“ category, the zooming option can only be selected for the vertical axis whereas in the ”Permanent measurement“ category, both axes can be zoomed in and zoomed out respectively.

### 4.2.2 Scaling up the Diagram

If you intend to scale up a diagram, call the object menu and click on the "Zoom In" button. You can now scale up either only the horizontal axis, or only the vertical axis, or both axes at the same time. The complete zooming function for both axes of the diagram is available only in the "Permanent measurement" category. If you are operating in the "H2 measurement" or in the "Geophone measurement" category, the zooming function is available only for the vertical axis.

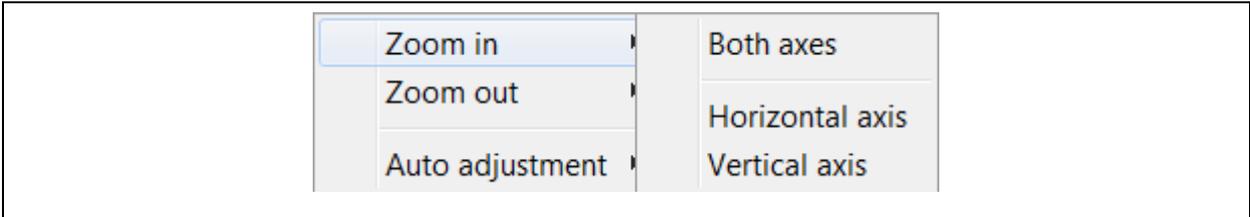


Illustration 4-4: Zooming in object menu

As an alternative, you can also scale up the graphic with the mouse. Press the left mouse key, keep it pressed, and highlight the area you intend to scale up. When you release the left mouse key, the area you selected will be displayed in a scaled-up way.

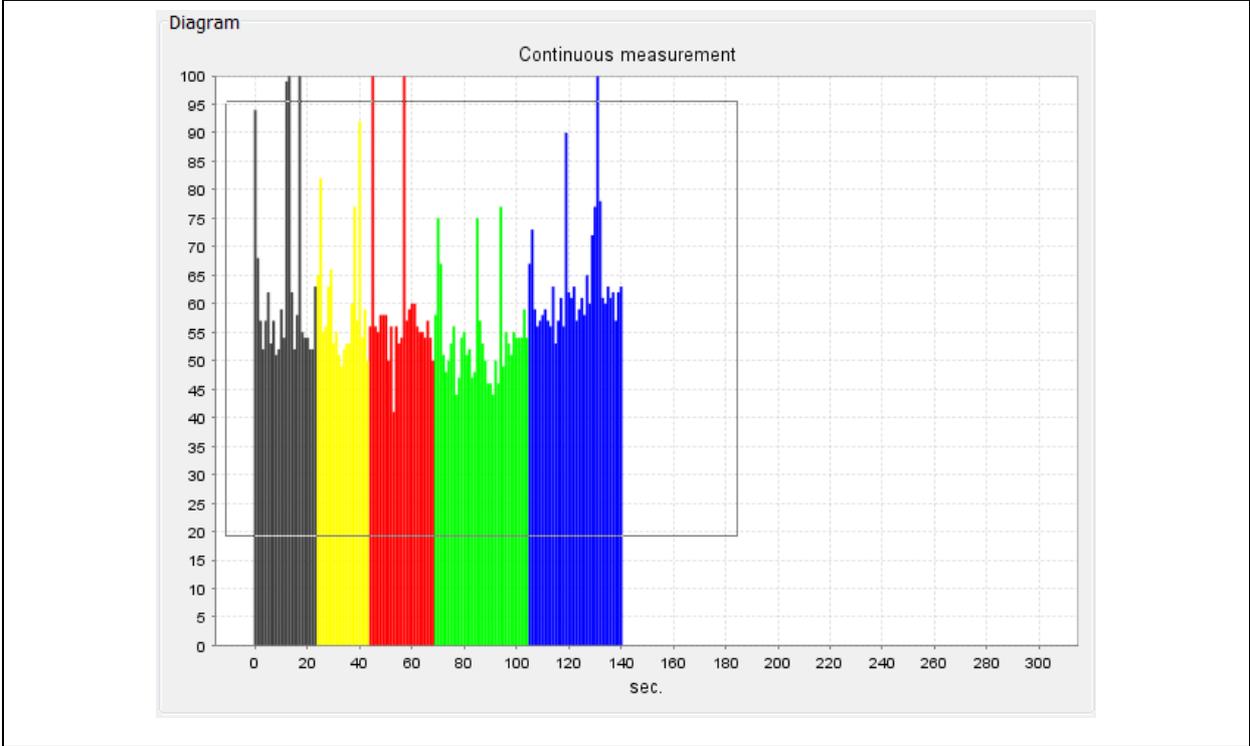


Illustration 4-5: Scaling up with the mouse

### 4.2.3 Scaling down the Diagram

If you intend to scale down a diagram, call the object menu and click on the "Zoom Out" button. When operating in the "Permanent measurement" category, you also have the option either to zoom out both axes or just the horizontal or the vertical axis. When operating in the "H2 measurement" or in the "Geophone measurement" category, the zooming function is available only for the vertical axis.

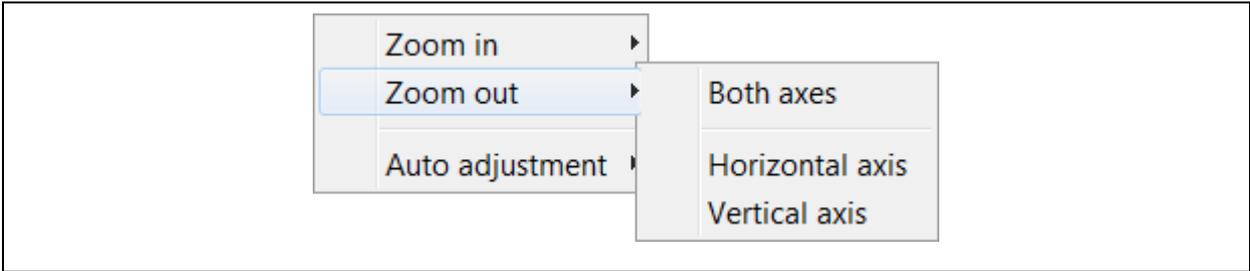


Illustration 4-6: Zooming out object menu

### 4.2.4 Auto-adjustment

Click on "Auto Adjustment" in the object menu to call the auto-adjustment function. This function is to fit the diagram in an optimal way into the window so that the visible area is as large as possible. Here as well, you can choose which axis (horizontal, vertical, or both) you wish to adjust.

As an alternative, you can control the auto-adjust function with the mouse. In order to do so, keep the mouse key pressed and draw the mouse a little bit to the left or to the top. When you release the mouse key, the diagram will be auto-adjusted in both axes so that the visible area is as large as possible. The auto-adjustment function works only if the graphic has been scaled up to a smaller section beforehand.

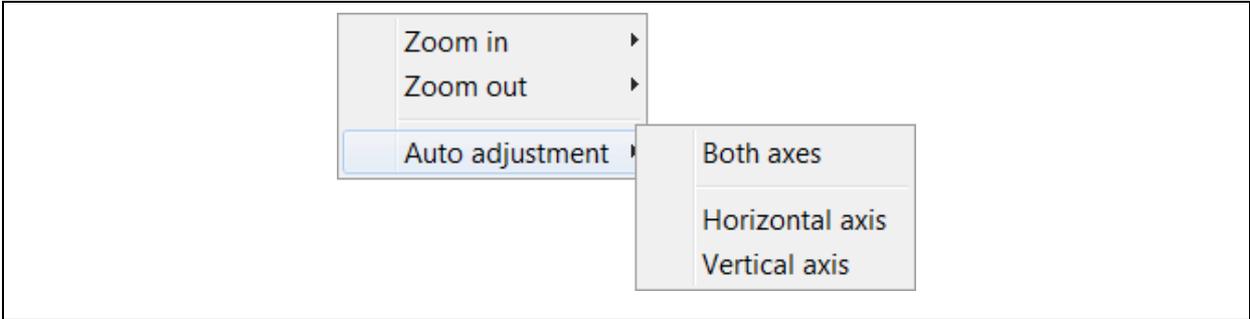


Illustration 4-7: Auto-adjustment object menu