Software Manual

for

PC- Program *'SM8D'*

Data acquisition software for Survey Meter   **SM8D**
Version V1.0.1 en (as of June 2017)

Content:

1. Installation of software

The software was developed to automatically display and analyse readings of the Survey Meter
- SM8D by STEP Sensortechnik und Elektronik Pockau GmbH or
- IsoMan® 3 by biostep GmbH

System requirements:

- Microsoft- operating system (Windows 2000 , XP, Win7, Win8, Win10)
- USB-connection

1.1 Installation USB driver:

The acquisition of the data from the device requires connecting included USB cable between USB port of the PC and SM8D.

Important:

Before you can start PC software '*SM8D.exe*' , the installation of the special USB driver is required. You can find the current USB drivers

CDM v2.10.00 WHQL Certified for Window x32 und x64.exe
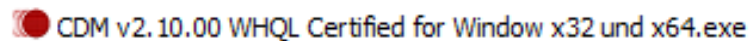
on supplied CD in directory ‚USB driver'. Please run the program by double clicking!.

1.2 Installation software:

Copy the complete contents of the CD, SM8D' to your hard disk in root directory of C.

All necessary adjustments will be set up automatically while starting the program for the first time.
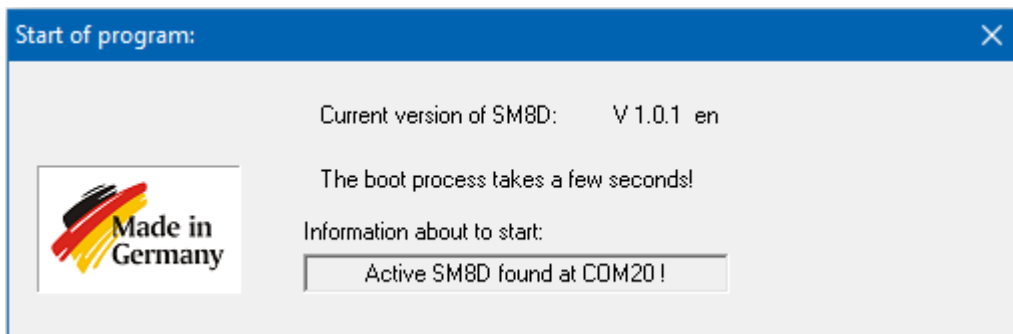.

2. Start-up / Device connection / Program start

1. Connect your Survey Meter with USB port of your PC (using the supplied USB cable)

2. Switch on device

3. Start software 'SM8D.exe' by double click (its also possible directly from the CD):

When starting program you can see the following status window:

The software automatically scans for connected devices, type SM8D / IsoMan3 at all available ports on your computer. The state of search is displayed in information line of the launch window.

The software will start even if no device is connected. This allows you to view saved data and analyze.
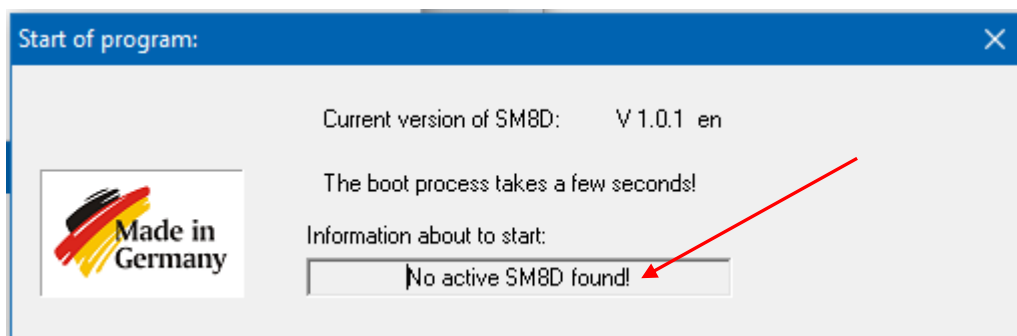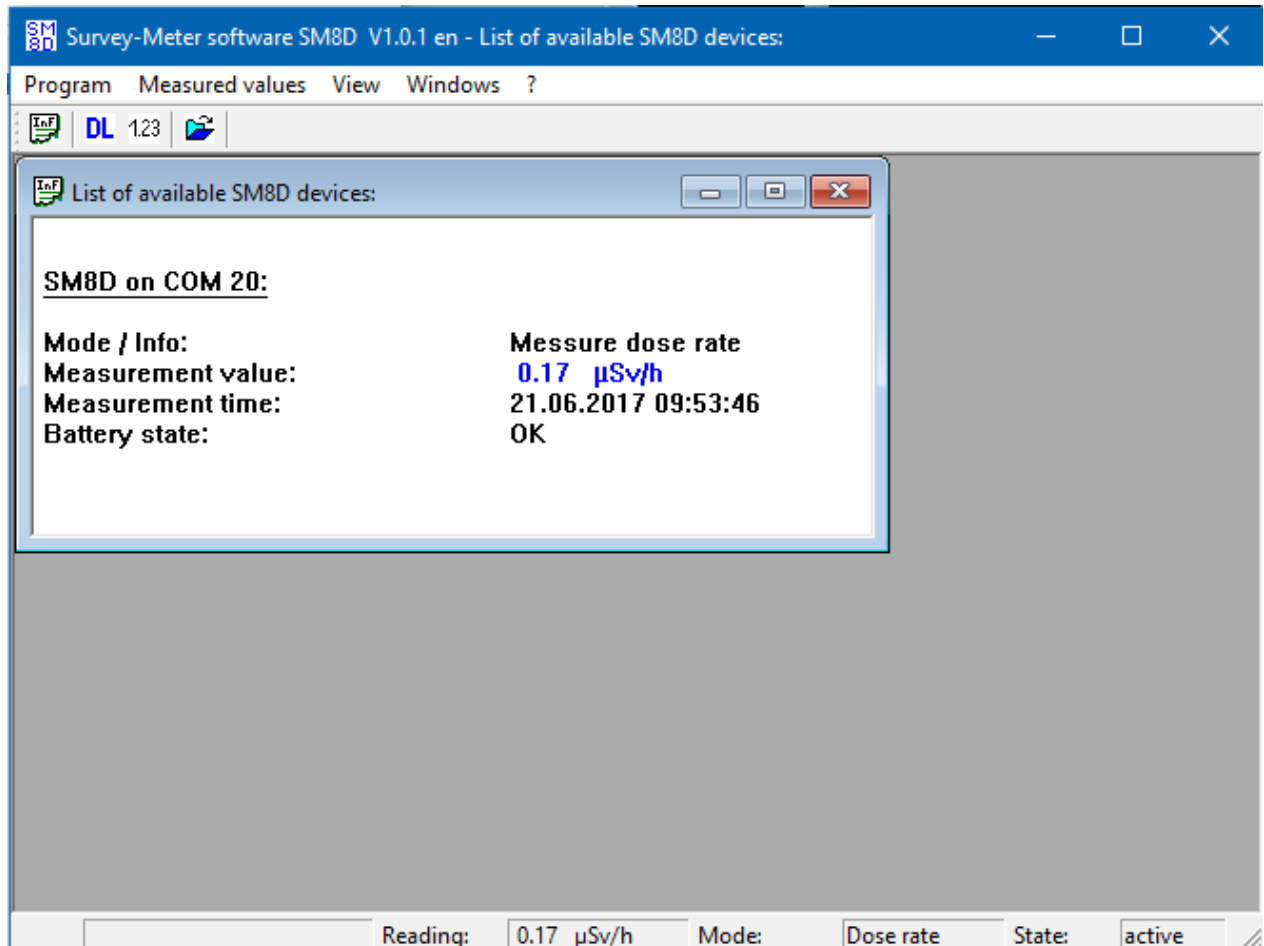
Note:
When possible, always use the same USB port on your PC / laptop in order to save the startup time of software.
In case of using a different USB port, the search requires a few seconds!

When an active device is detected, the corresponding data appear in window: ‚*List of available SM8D devices'* :

Here the following data are continuously recorded and displayed:

- Active Interface
- current operating mode
- Measurement value with unit (Dose rate in µSv/h, impulse rate in cps or area activity in Bq/cm²)
- Date and time of current measurement
- State of internal battery

3. Real time acquisition of measured values

An active device continuously sends measurement values in interval of 1 second over USB interface, which are online read by the PC software. The device by itself can't save measured values.
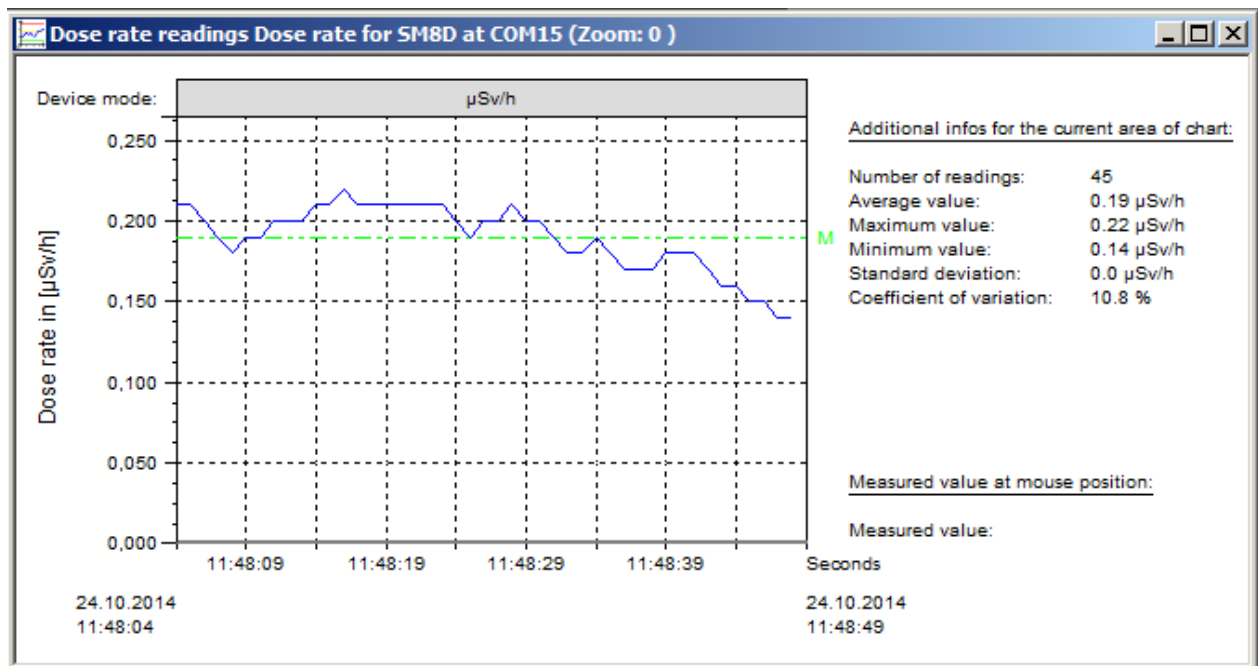
To display / analysis and storage of measurement values you can use the software feature described below.

3.1 Open window with diagram ‚Measurements vs. time'

With the menu ‚*Measured values'* → '*Diagram with measurements vs. time'*
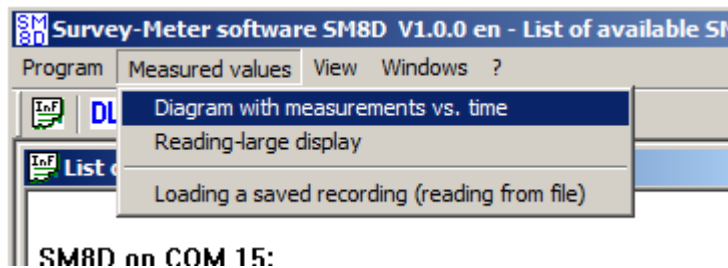
you can open the following window with the diagram:

The timeline of diagram begins with current system time (time when opening the window). The end time is updated automatically according to the system time.

Right of the diagram are shown additional information (Average,..) on the current diagram area.

In head line of the diagram is shown the current measurement mode of the connected device:
-        Dose rate   in [µSv/h]   …   **µSv/h**

-	Impulse rate in [cps]		…	**cps**
-	Area activity in [Bq/cm²]		…	**Bq/cm²**

Important: In a diagram are shown only measured values of this mode, which is active at the moment of opening.

A Diagram can display a maximum of 50.000 measurement values. This corresponds to a period of approximately 13.8 hours (at 1 measurement per second). When a chart is open for more than 13.8 hours, only the last 50.000 measured values are displayed.
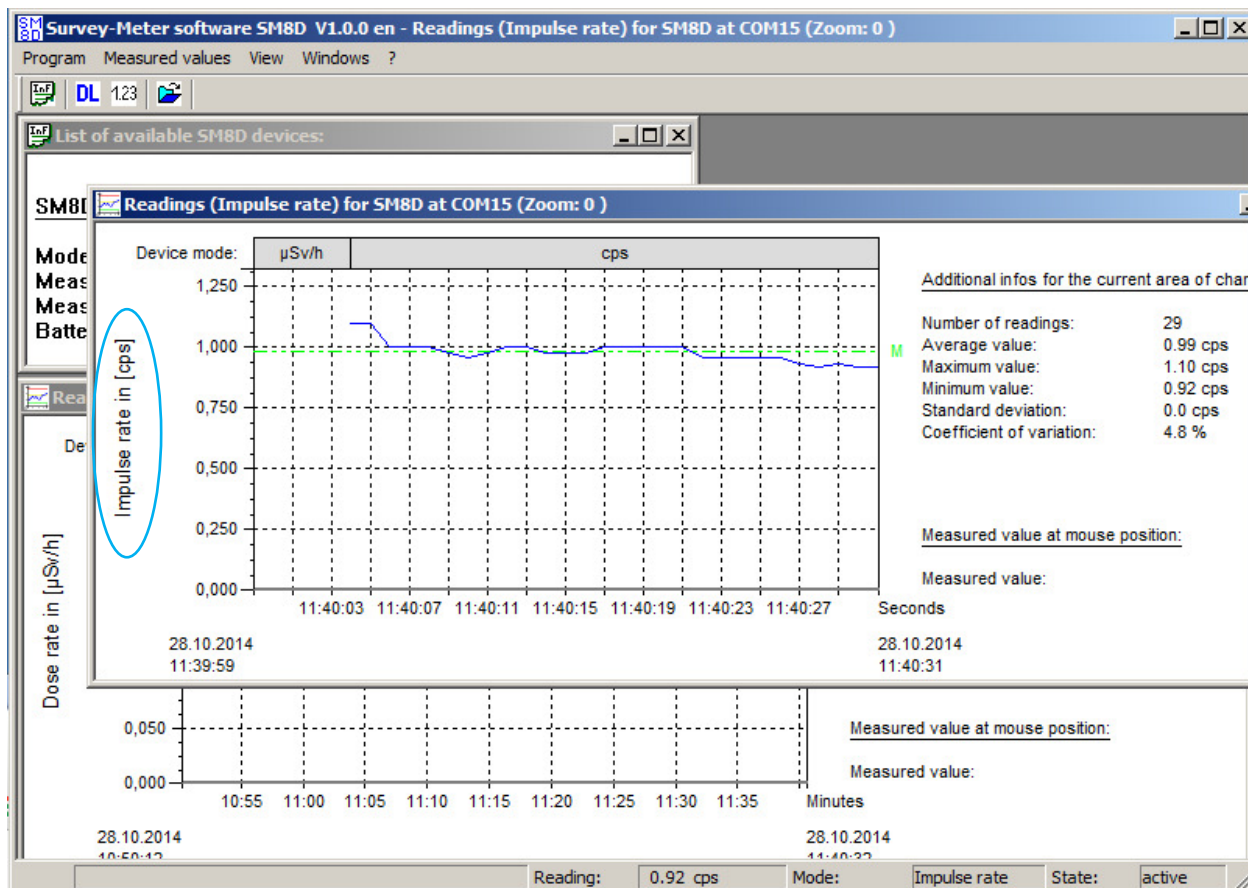
Hint: You can open an <u>unlimited number</u> of windows with diagrams!


Switching device mode:

A switching of the operating mode on device is automatically detected by software and the following dialog box is appears:

After a short delay a new diagram window is automatically displayed with new mode:

In 1. Window is showing the change in the head line. However, the new measured values only appear in new window with corresponding measuremten unit.:
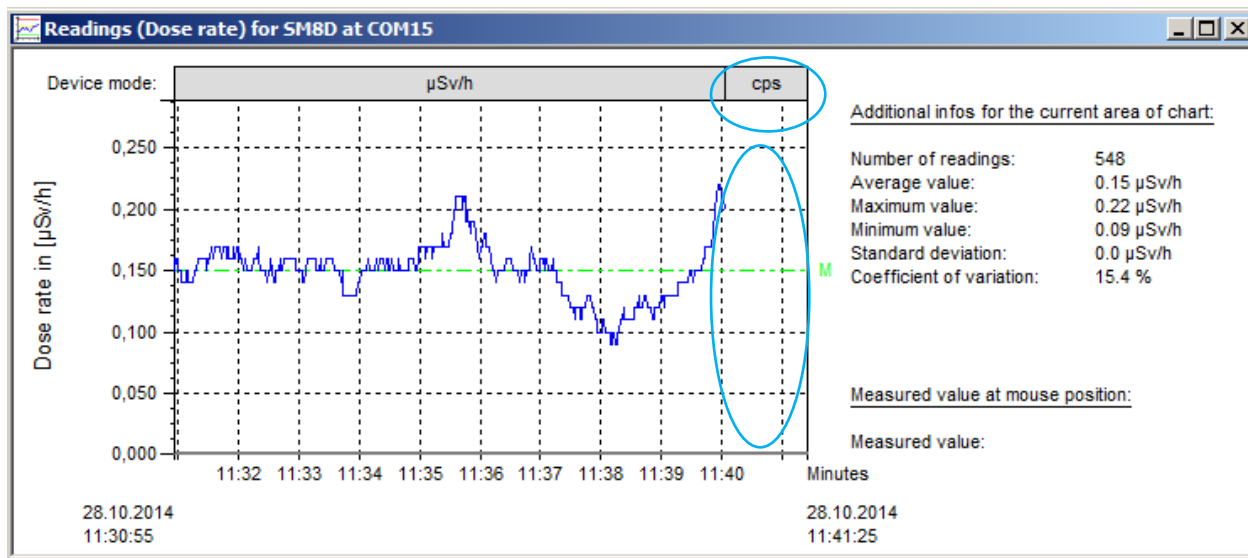
3.2 Open Context menu in the window ‚Measurements vs. time'

In window 'Measurements vs. time' is implemented a context menu. It allows you to select various functions.
Position mouse pointer someplace in diagram window and press right mouse button.
The following menu appears in vicinity of the mouse:
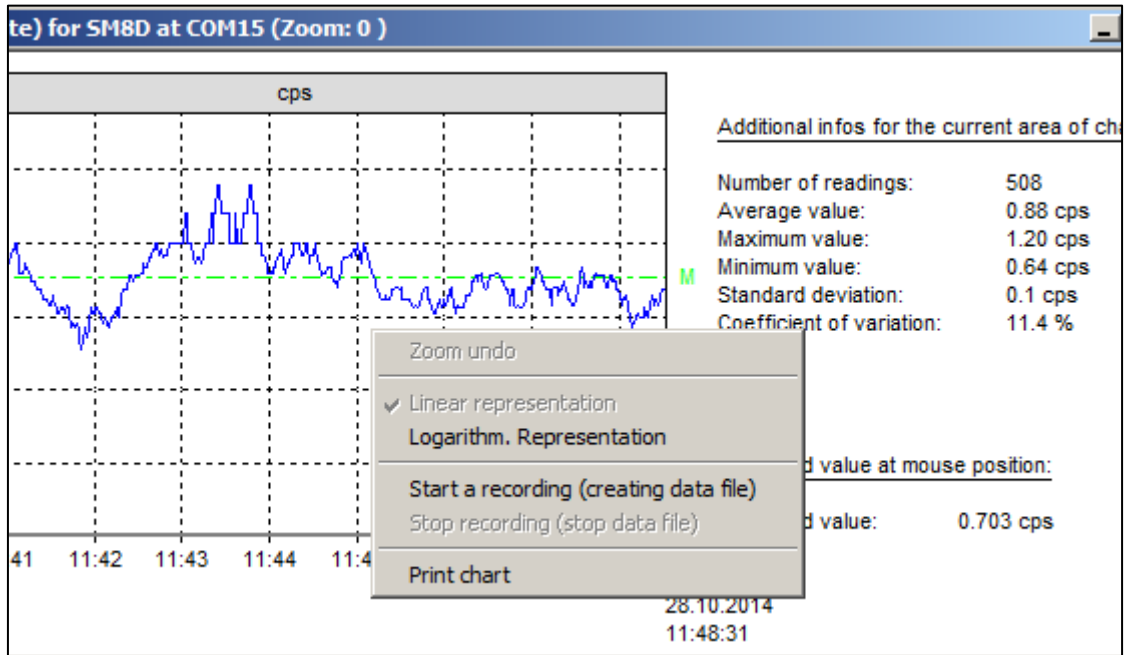
Depending on the program status only specific menu items are enabled. Here are some of the possible functions of context menu described.

3.3 Printing diagrams

With the menu item 'Print chart' you can print the complete window including additional information. The print is an exact copy of the window with diagram.

3.4 Zoom into a diagram

To zoom into a diagram proceed as follows: Use the mouse cursor and navigate to a certain point in diagram. Hold down left mouse bottom and move the mouse cursor to another point downright. The procedure can be repeated up to the desired size of the diagram section.

Use ESC-button or context menu to get back to previous window.
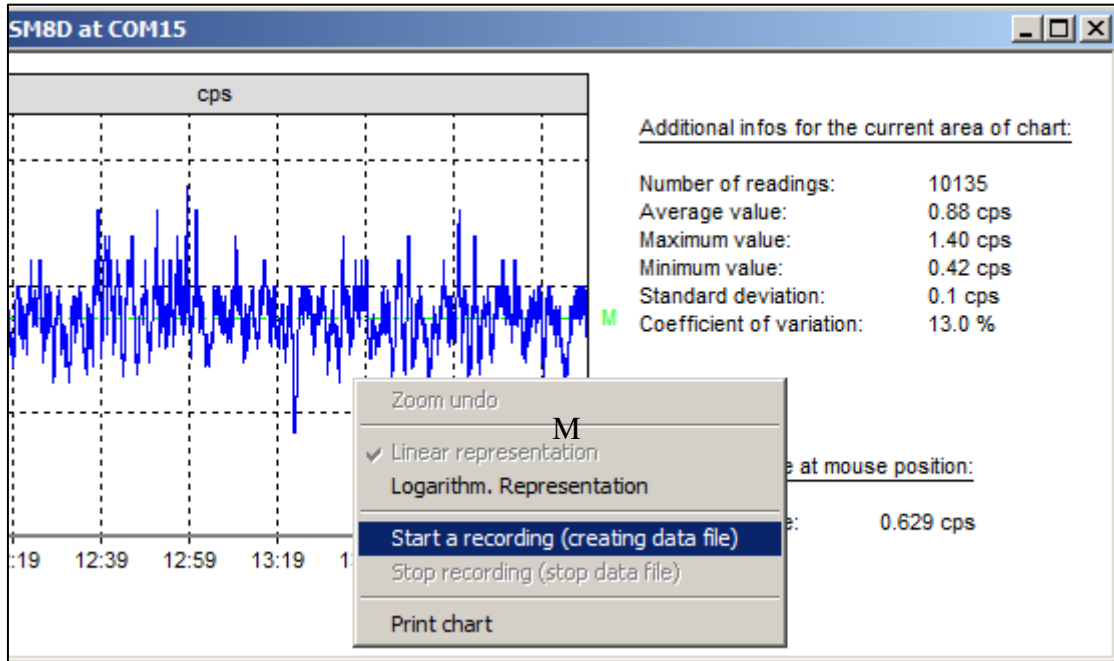
<u>Attention!</u>
The end of timeline is fix in new zoom window (not adjusted automatically to system time.
<u>Unless</u> the new right zoom point is ended <u>right</u> of timeline! In this case the timeline is automatically adjusted to the current system time!

3.5 Start a record

Storage of measured value is started from the context menu, start a recording in chart window:

SM8D at COM15

cps

Additional infos for the current area of chart:

Number of readings:	10135
Average value:	0.88 cps
Maximum value:	1.40 cps
Minimum value:	0.42 cps
Standard deviation:	0.1 cps
Coefficient of variation:	13.0 %

Zoom undo

M

✓ Linear representation   at mouse position:

Logarithm. Representation

Start a recording (creating data file)   0.629 cps

Stop recording (stop data file)

Print chart

:19   12:39   12:59   13:19   1:

A new dialog box opens where user can enter additional data regarding the current measurement

- Name of user
- Place/location of measurement
- Other remarks
- file name (the default setting can be overridden)

The file name is generated automatically by software and includes the current date and time, but can be customized:

Additional data for recording:

Beginning of the recording:	28.10.2014 14:29:45
End of the recording:	

Precision of the data storage: ☑ 1 measurement per second   (max. recording time: about 13 h)

☐ 1 measurement per minute   (max. recording time: about 30 days)

☐ 1 measurement per hour   (max. recording time: unlimited)

Name:	Mr. Miller
Location:	Lab of company
Notes:	Probe A

Saving to file:

Folder:	C:\SM8D\data\
File Name:	SM8D record from the 28.10.2014 142945 .sm8

Confirm   Cancel

By selecting one of the three options under 'Precision of the data storage', you can determine how many values are stored for each time interval.
The following options are available:

- 1 Measurement per second   (that allows a recording up to 13 hours)
- 1 Measurement per minute   (that allows a recording up to 30 days)
- 1 Measurement per hour   (that allows an unlimited recording)

In last two cases, the average value over the corresponding time interval is stored.

With the button [...] you can change the folder / file name of stored record.

The recording file has the extension *. sm8 , but it can be read with any text editor. In addition, the file can be imported also to Microsoft EXCEL.

Click 'Confirm' to start the record of the measurement, which is saved into a separate file. On the right side are flashing the info 'Recording active since: …..' during process of recording.
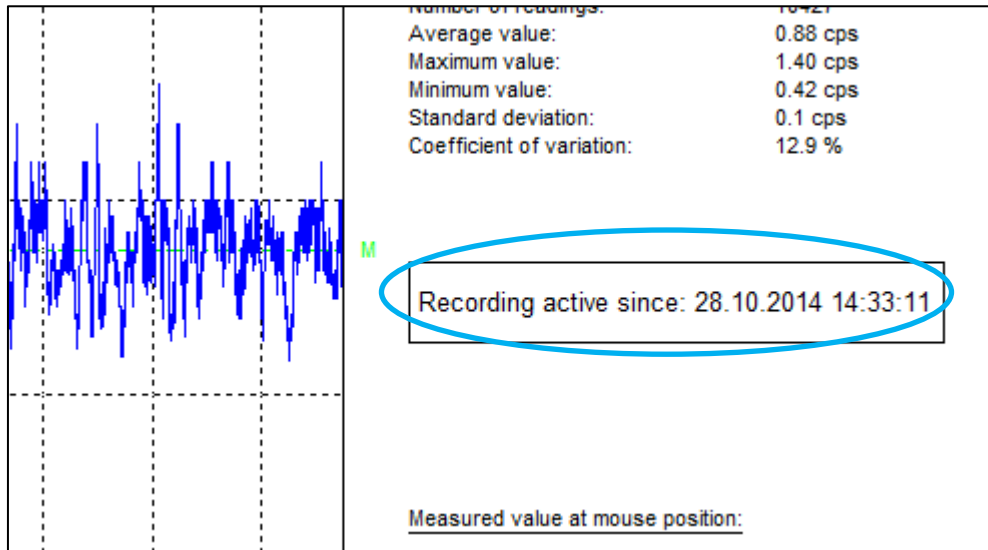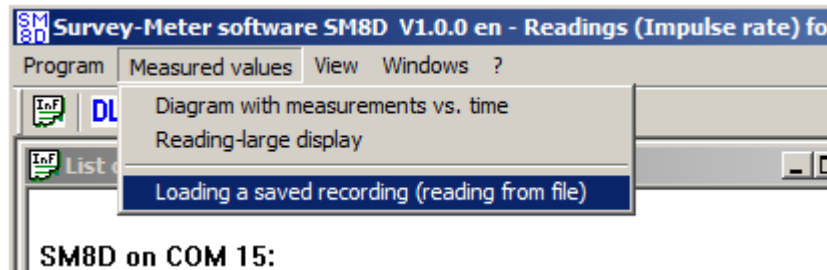
3.6 Stop a record

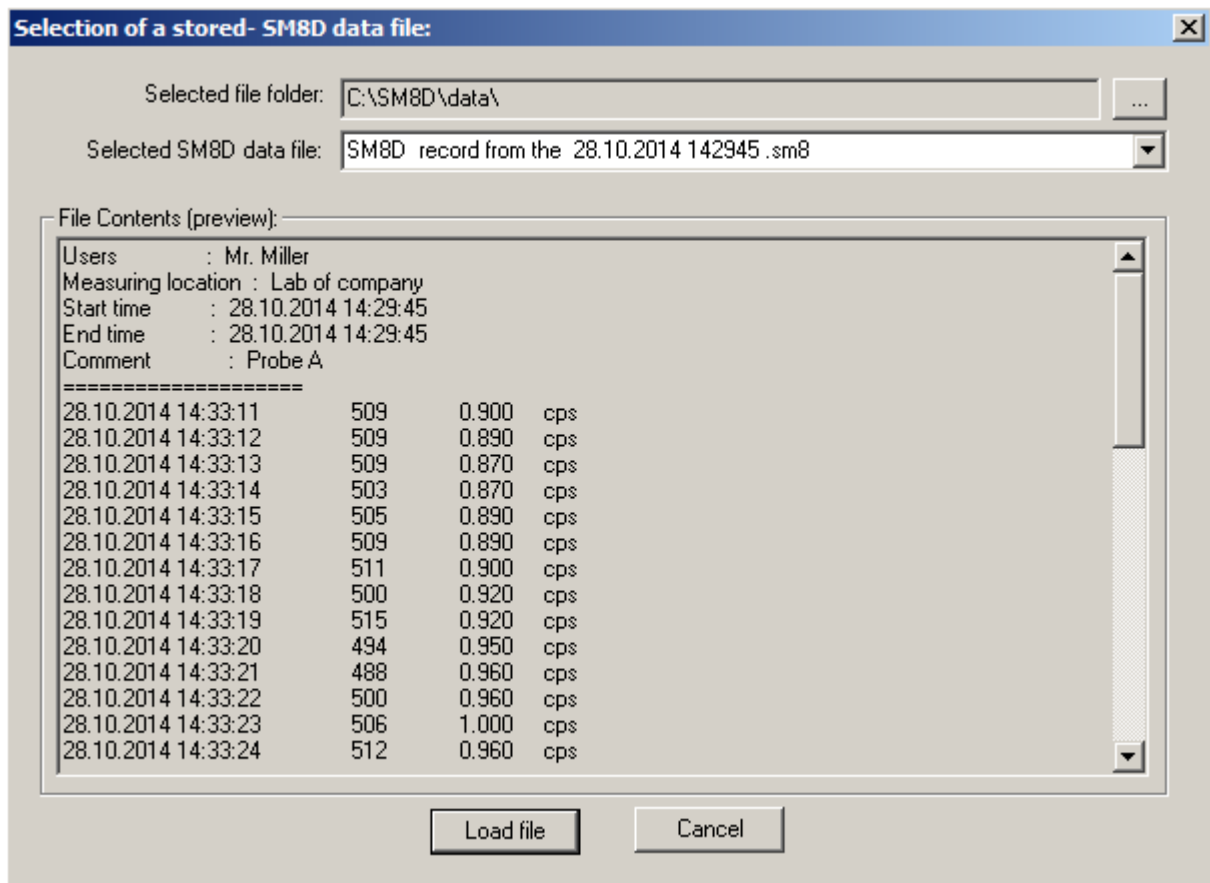Use the context menu item '*Stop recording (stop data file)*' to end the recording:
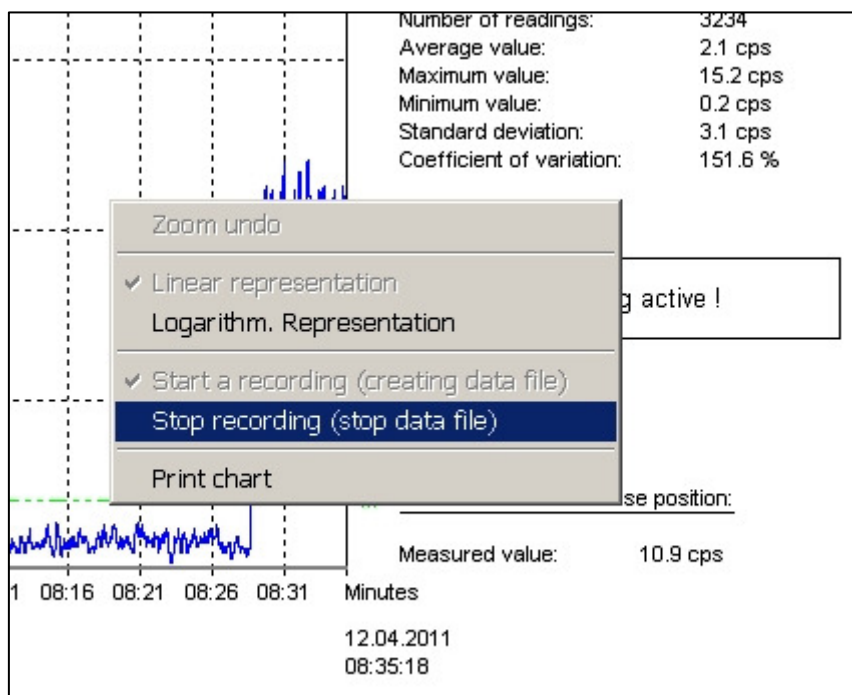
4. Open a saved record / reading file

Using the icon ![icon] or menu '*Loading a saved recording (reading from file'* to load an archive record:
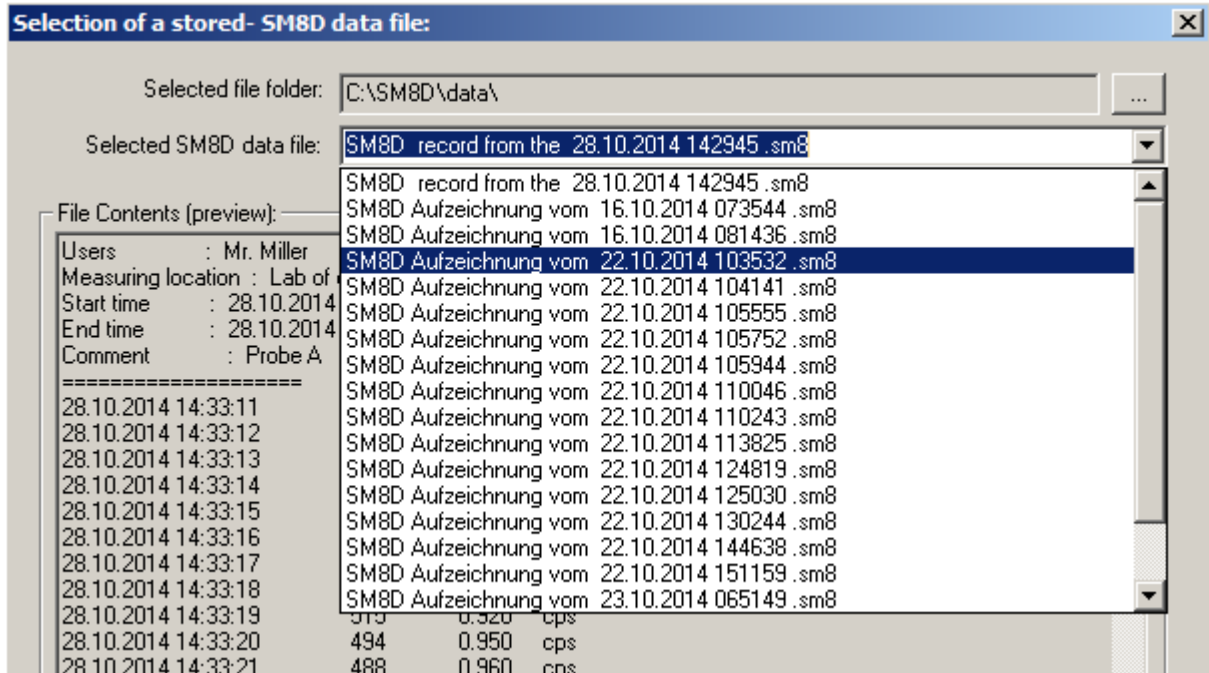

With following dialog box you can select a stored reading file:

In the bottom of the dialog box area an excerpt of the selected record file appears with the additional information (users, measuring location,...)
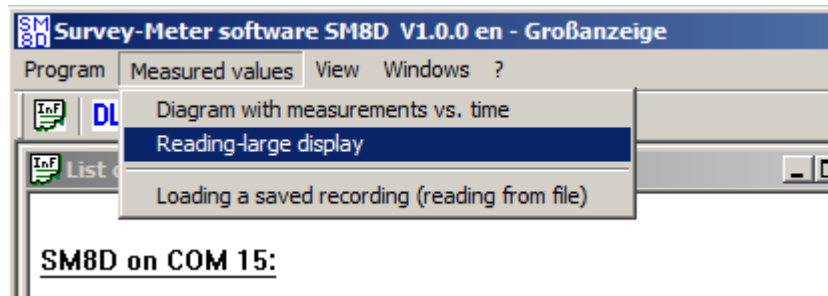
You can change folder with button [...] . The desired record is selectable with list box:

Press button [Load file] to display measured data from file.

5. Window with large measurement display

With the icon [1.23] or via the menu '*Reading – large display*' :

you can open following window with an enlarged view of the current measurement:
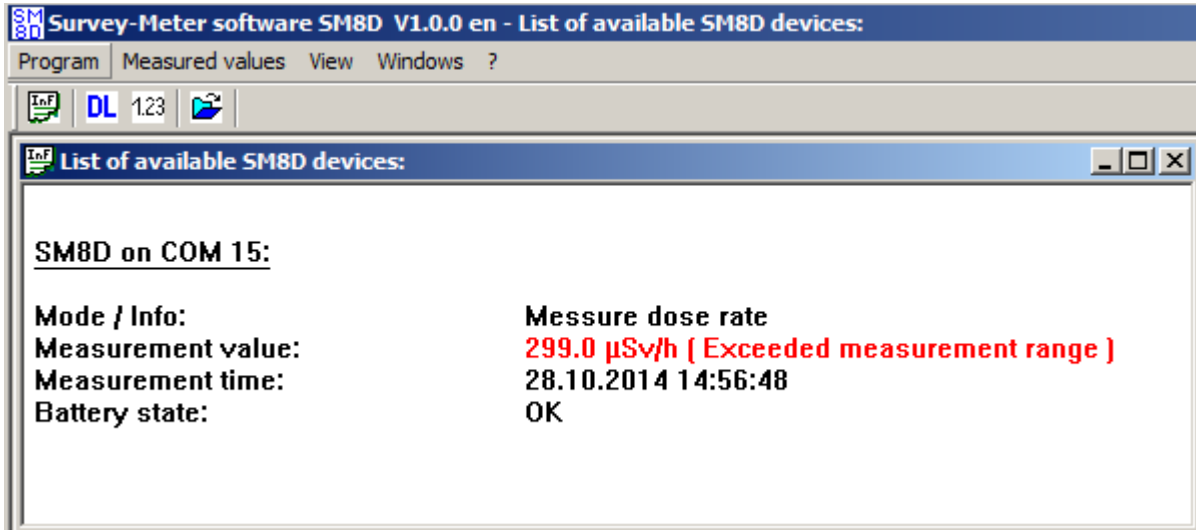

Hint: The size of displayed value is automatically adjusted with the window size,.

6. Note

Exceeding the measurement range

The survey meter has a limited range! If measuring range is exceeded, the following information is displayed in red colour:

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Final Note:

Please help us to improve this software. Send your experiences, questions and suggestions to:

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