

Part No. 52 800 931

QUICK INSTALLATION GUIDE

AND

INSTRUCTION MANUAL

**DATA ACQUISITION SOFTWARE FOR
TURBIDITY SYSTEMS**

The logo graphic consists of a series of parallel, slightly curved lines in shades of green and yellow, forming a stylized, abstract shape that resembles a mountain or a series of steps. The lines are more densely packed in the center and become more sparse towards the edges.

METTLER TOLEDO

Data Acquisition Software for Turbidity Systems Trb 8300 and Trb 8300FS

Dear Customer

Thank you for choosing Mettler Toledo's data acquisition software package for the turbidity systems Trb 8300 and Trb 8300FS. The software provides the basis for the visualization and recording of the measured values of the Trb 8300 and Trb 8300FS turbidity transmitter.

Package contents

- CD including the software installation files and the software and transmitter instruction manuals.
- Cable for the connection of the computer's RS232 port with the TB2 terminal on the turbidity transmitter.
- instruction manuals for your convenience explaining all features and possible settings.

System requirements

A PC running with Windows XP (or NT) operating system can handle two turbidity instruments simultaneously, provided that the necessary COM ports are available (1 COM port for each system). The functions of the individual Trb 8300 instruments are completely separate. A CD drive is necessary for the installation of the software.

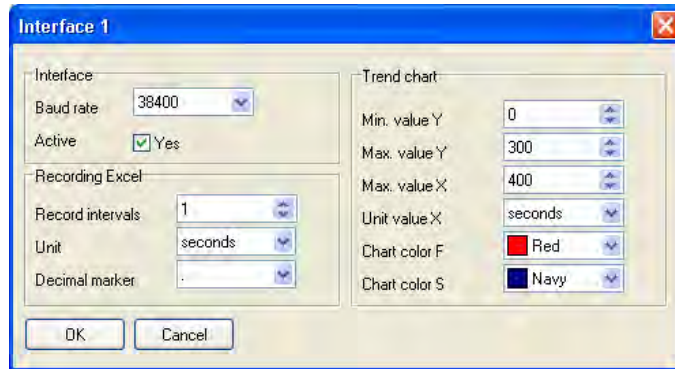
Installation (same procedure for both instruments)

1. Switch off the transmitter.
2. Use the supplied cable for the connection between the sensor (TB2) and the computer using preferably the COM1 port.
3. Switch on the transmitter and activate the RS232 port:
Menu..Other menus..RS232 setup
Baud=38.4K
Par=Even
Data Output = On
4. The installation of the software is easy to perform. Double click on the set-up file called "Setup.exe". Please follow the instructions on the screen. You do not need to restart the computer.

Connection

You can start the software by double-click on the "DA_Trb 8300.exe" or "DA_Trb8300FS.exe" icon depending on the turbidity system you have.

Configuration of the COM-interface is performed in the software under Settings/COM 1:
Baud rate=38400
Active Yes

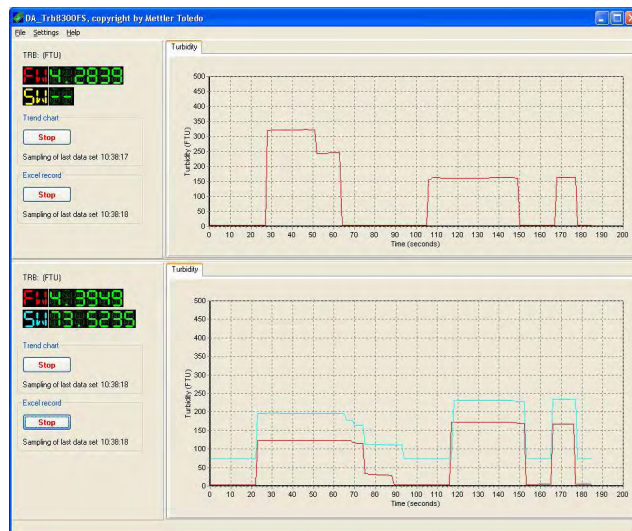


Screen shot of the configuration window

Exit this window with “OK”.

The software automatically displays the received turbidity values from the transmitter.

Clicking on “Start” in the Trend chart box, the turbidity values will be visually displayed in the chart. Configuration of the chart is performed under Settings/COM 1. The data can be simultaneously saved on an Excel-compatible file by clicking on “Start” in the Excel record box. The file needs to be named and stored on the hard disk. The chart settings can not be changed if the Excel-recording is activated.



Screen shot of the data capturing window

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Instruction Manual for DA_Tr8300



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1 GENERAL INFORMATION

The software provides a basis for the visualization and recording of the measured values of the Trb 8300 turbidity transmitter.

A computer with Windows NT or XP operating system can handle two Trb 8300 instruments simultaneously.

The functions of the individual Trb 8300 instruments are completely separate and in no way interrelated.

Overview of the functions:

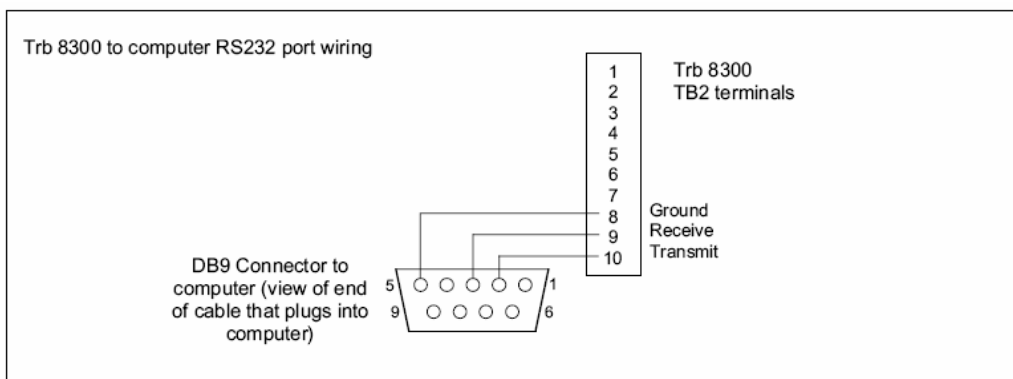
- display of the answerback code
- display of parameter identification
- display of measured value
- graphic representation of measured values for trend chart
- saving of measured values in an Excel-compatible data file

Each Trb 8300 offers three configurable timers relative to measurement data acquisition:

1. Display of measured value
2. Graphic representation of measured values
3. Data logging in an Excel-compatible file

Attention:

A cable is required with connector for the computer's RS232 port. Most computers use a DB9 connector as shown. Tinned leads at the other end connect to the Trb 8300 screw terminals.



Installation:

Choose the installation file (setup.exe) in the DA_Tr8300 folder (..\DA_Tr8300\Set-up) and follow the instruction on the screen.

Activate the RS232 port on the transmitter (Menu..Other Menus..RS232 Setup..Data Output = "On").

1.1 Visualization of measured value

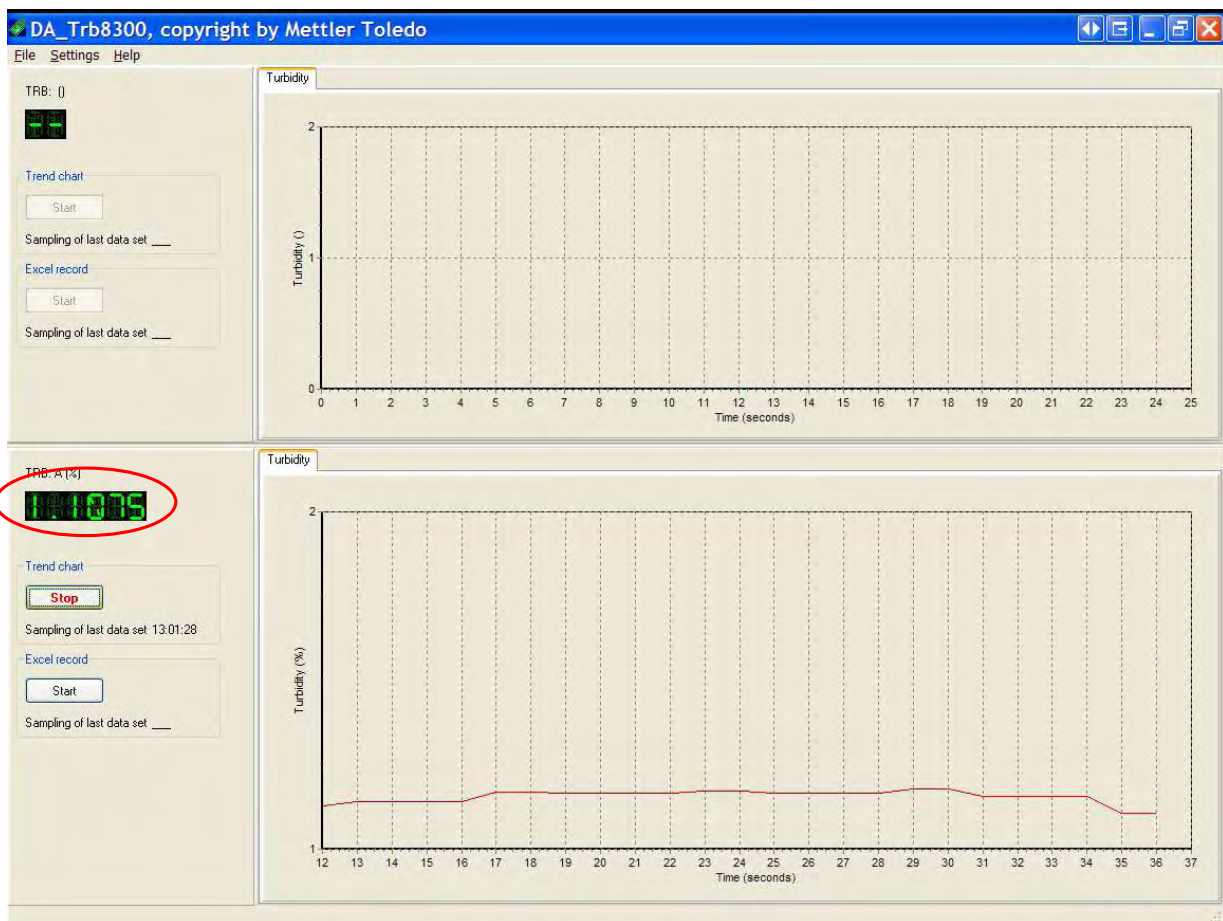
It is not possible to directly influence update of the measured value on the display. This is predetermined by the Transmitter Trb 8300 (1-999 seconds). The time setting at the instrument determines the updating frequency.

Refer to instruction manual for the turbidity transmitter Trb 8300 on page 19 "RS232 set-up".

->Menu -> other menus -> RS232 set-up

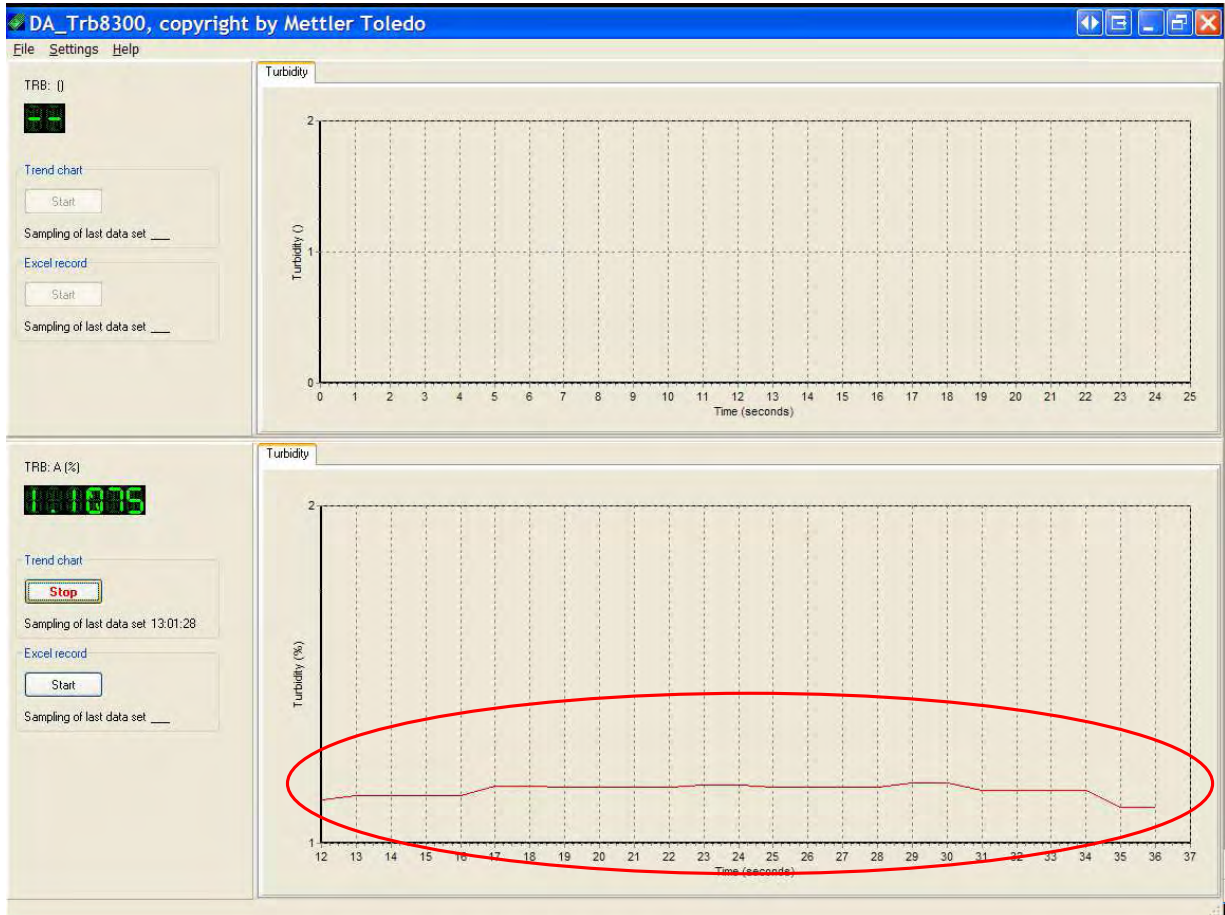
Data output: Selected to on, the current measurement with a time stamp can be recorded via the RS232 using a printer or a communication software package on a PC when this becomes available.

Output time: Selected from 1-999 seconds.



1.2 Graphic representation of measured values

The graphic display of the trend chart can be configured independently from the other timers.



Four different unit settings are possible:

- sec.: selectable range 1 thru 9999 sec.
- min.: selectable range 1 thru 9999 min.
- H: selectable range 1 thru 9999 h.
- D: selectable range 1 thru 9999 d.

1.3 Data logging in an Excel-compatible data file

Acquisition and logging of measured values is to be adjusted apart from the other timers and can be configured in line with the following units:

Seconds: selectable range 1 thru 100 sec.

Minutes: selectable range 1 thru 100 min.

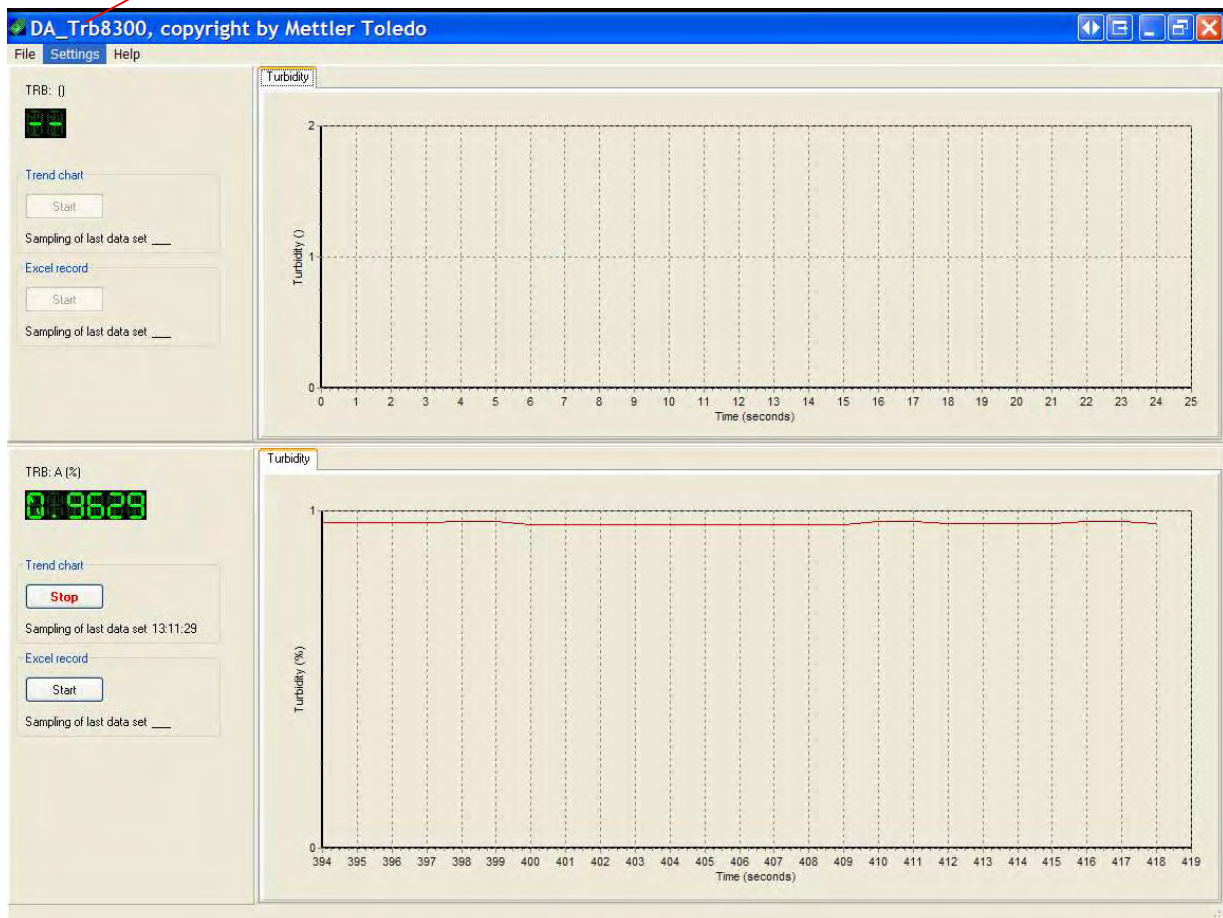
Hours: selectable range 1 thru 100 h.

2 START DISPLAY

The following functions are available:

- File / Exit
- Settings / COM 1
- Settings / COM 2
- Help / Help
- Help / About

See:
Chapter 2.1



2.1 Configuration of the Com-interface

In this menu, display and recording parameters are defined.

2.1.1 Interface

The Baud rate (e.g. 38.4K) has to be selected in line with the configuration of the Trb 8300 (RS232 set-up menu). After placement of the active flags, the interface is activated, enabling communication with the Trb 8300. The main display indicated both the actual value and the measurement unit.

2.1.2 Trend Chart

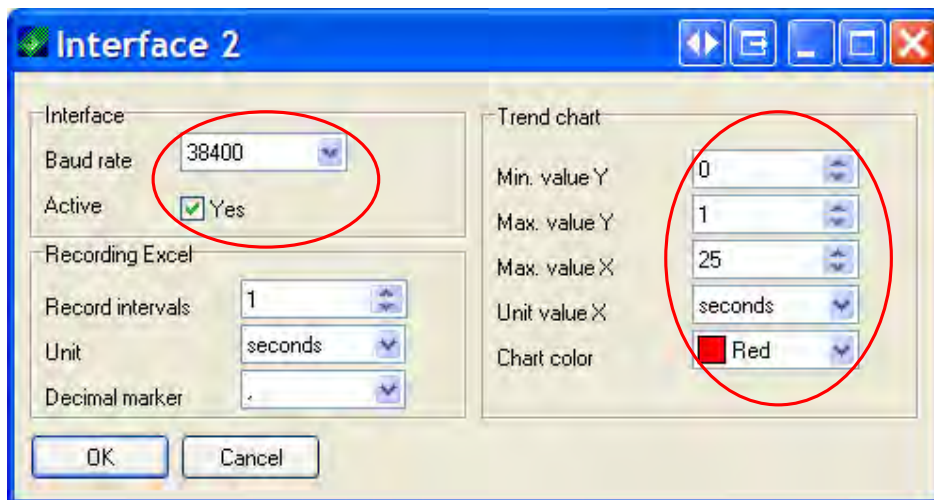
Min. value Y: minimum value of the relative unit in the graphic chart representation.

Max. value Y: maximum value of the relative unit in the graphic chart representation.

Max. value X: maximum display on the x axis.

Unit value X: choice of measurement unit.

Chart color: choice of color for display of trend chart.

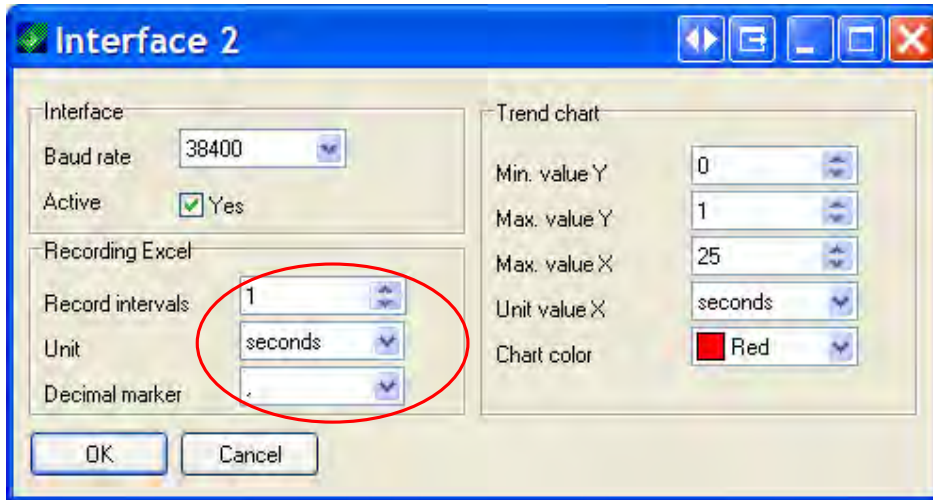


2.1.3 Recording

Recording interval: Time interval at which the measured value is to be written into the data file.

Unit: Time unit used when writing the measured value into the data file.

Decimal marker: The country-specific setting of the computer in which Excel analysis is running and expects either a comma or a point/dot as the decimal marker. -> Compare with computer settings in system command.



2.2 Start of visualization

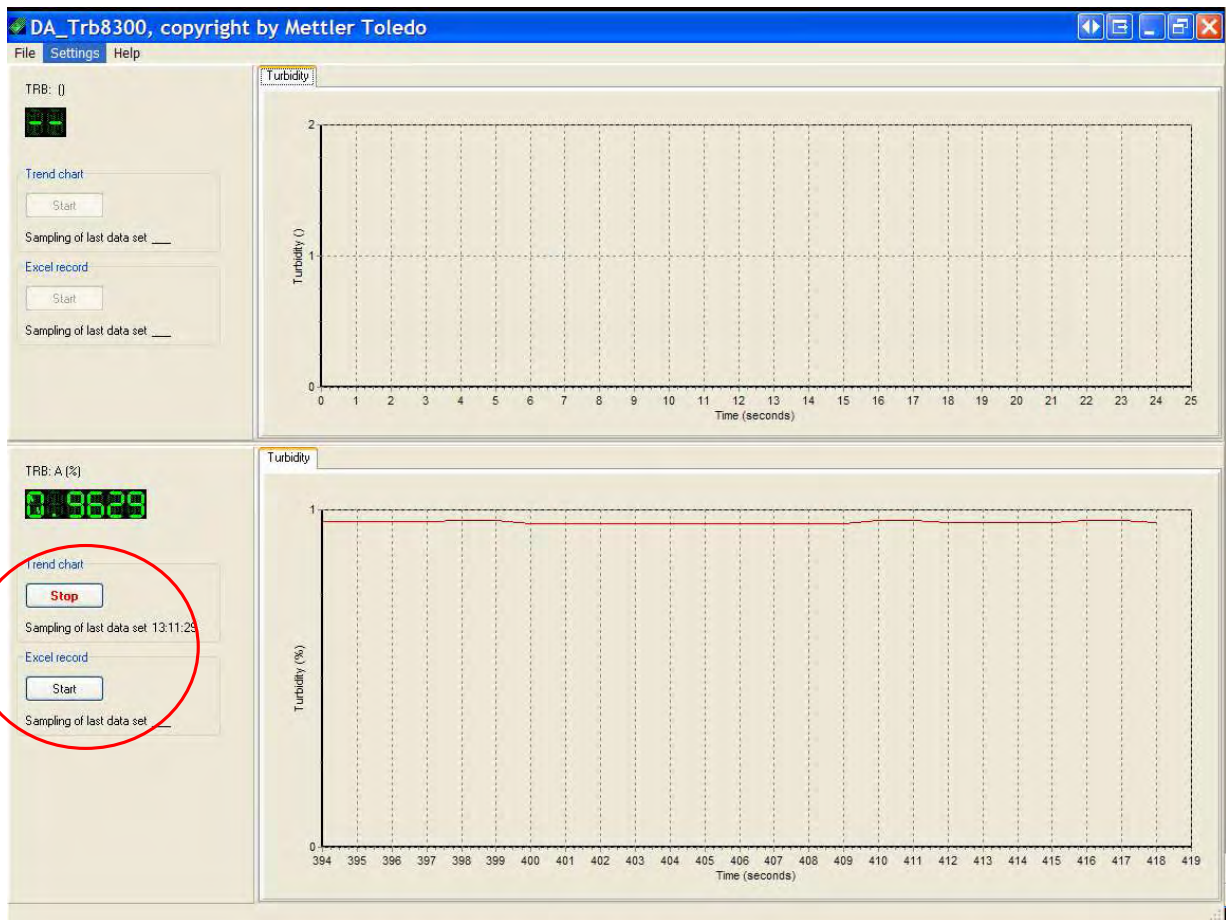
Following initiation of visualization, the graphics begin visual plotting.
As soon as the set value has been reached, the x axis begins to shift to the left so that initially determined values disappear.

Trend chart

Sampling of last data set: the last recorded value shown in the graph

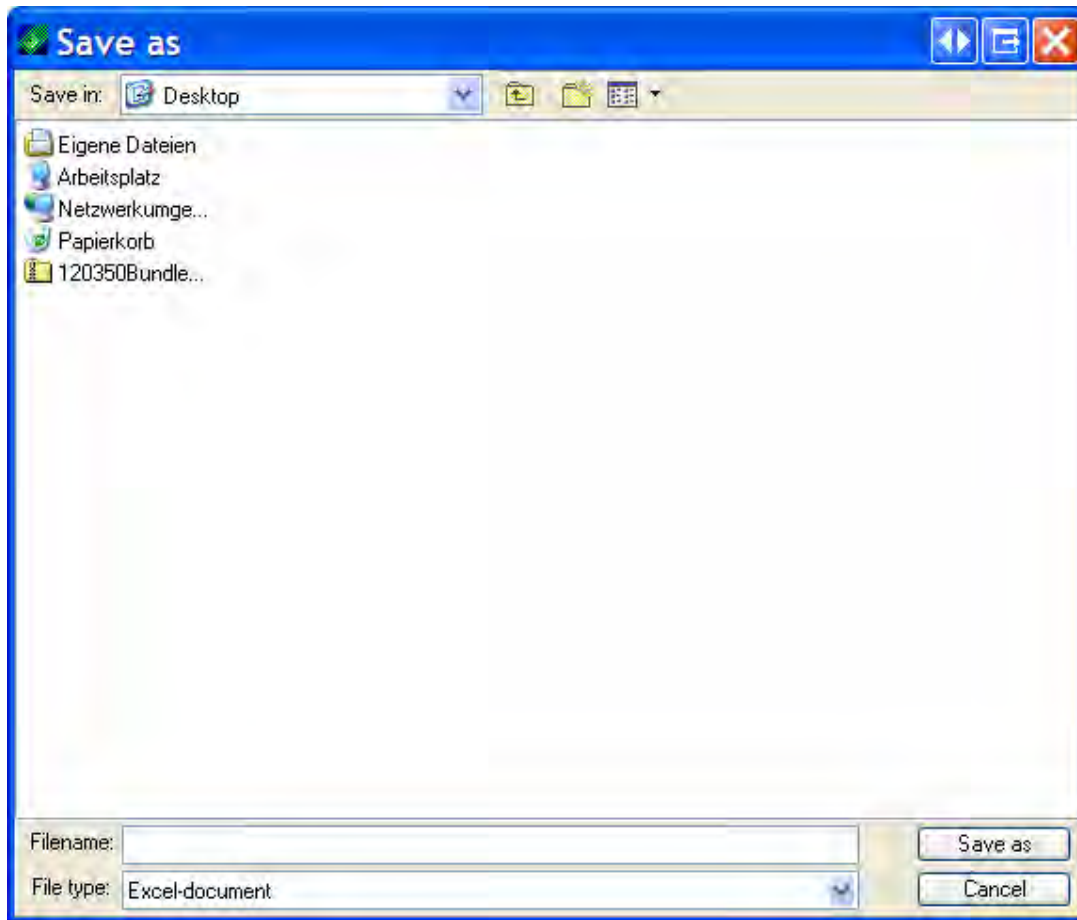
Excel Record

Sampling of last data set: the last recorded value in the selected Excel data file.



2.3 Recording

Before recording commences, name and location of the file are defined. The file is saved with the suffix xls. This is however a text file appropriately formatted, which can be opened at any time via Excel.



The recorded data file opens in Excel in the following format. Use Excel for further processing.

The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Date	Time	Station	Parameter	Value	Unit									
2	12.03.2005	18:28:57	Station 2	A	0.9979	%									
3	12.03.2005	18:28:58	Station 2	A	0.9979	%									
4	12.03.2005	18:28:59	Station 2	A	0.9979	%									
5	12.03.2005	18:29:00	Station 2	A	0.9979	%									
6	12.03.2005	18:29:01	Station 2	A	0.9963	%									
7	12.03.2005	18:29:02	Station 2	A	0.9963	%									
8	12.03.2005	18:29:03	Station 2	A	1.0027	%									
9	12.03.2005	18:29:04	Station 2	A	1.0027	%									
10	12.03.2005	18:29:05	Station 2	A	1.0027	%									
11	12.03.2005	18:29:06	Station 2	A	1.0027	%									
12	12.03.2005	18:29:07	Station 2	A	1.0056	%									
13	12.03.2005	18:29:08	Station 2	A	1.0056	%									
14	12.03.2005	18:29:09	Station 2	A	1.0021	%									
15	12.03.2005	18:29:10	Station 2	A	1.0021	%									
16	12.03.2005	18:29:11	Station 2	A	1.0021	%									
17	12.03.2005	18:29:12	Station 2	A	1.0021	%									
18	12.03.2005	18:29:13	Station 2	A	1.0004	%									
19	12.03.2005	18:29:14	Station 2	A	1.0004	%									
20	12.03.2005	18:29:15	Station 2	A	1.0007	%									
21	12.03.2005	18:29:16	Station 2	A	1.0007	%									
22	12.03.2006	18:29:17	Station 2	A	1.0007	%									
23	12.03.2005	18:29:18	Station 2	A	1.0007	%									
24	12.03.2005	18:29:19	Station 2	A	1.0019	%									
25	12.03.2005	18:29:20	Station 2	A	1.0019	%									
26	12.03.2005	18:29:21	Station 2	A	1.0011	%									
27	12.03.2005	18:29:22	Station 2	A	1.0011	%									
28	12.03.2005	18:29:23	Station 2	A	1.0011	%									
29	12.03.2005	18:29:24	Station 2	A	1.0011	%									
30															
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Instruction Manual for DA_Tr8300 F/S



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1 GENERAL INFORMATION

The software provides a basis for the visualization and recording of the measured values of the Trb 8300 F/S turbidity transmitter.

A computer with Windows NT or XP operating system can handle two Trb 8300 F/S instruments simultaneously.

The functions of the individual Trb 8300 F/S instruments are completely separate and in no way interrelated.

Overview of the functions:

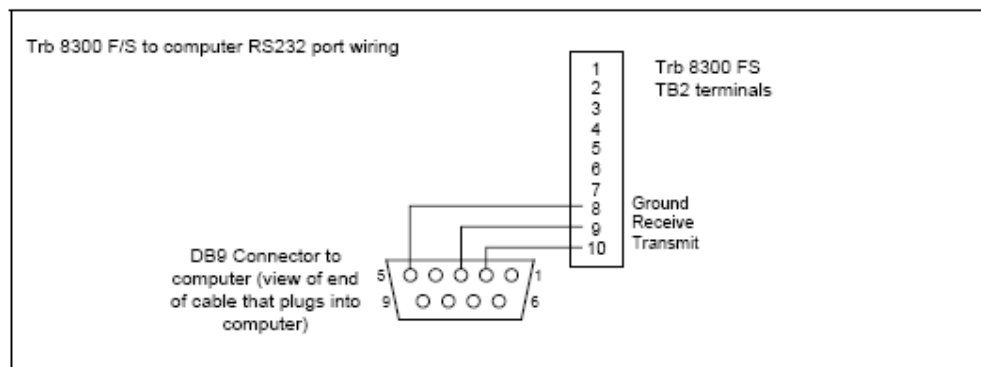
- display of the answerback code
- display of parameter identification
- display of measured value
- graphic representation of measured values for trend chart
- saving of measured values in an Excel-compatible data file

Each Trb 8300 F/S offers three configurable timers relative to measurement data acquisition:

4. Display of measured value
5. Graphic representation of measured values
6. Data logging in an Excel-compatible file

Attention:

A cable is required with connector for the computer's RS232 port. Most computers use a DB9 connector as shown. Tinned leads at the other end connect to the Trb 8300 F/S screw terminals.



Installation:

Choose the installation file (setup.exe) in the DA_Tr8300FS folder (..\DA_Tr8300FS\Set-up) and follow the instruction on the screen.

Activate the RS232 port on the transmitter (Menu..Other Menus..RS232 Setup..Data Output = "On").

1.1 Visualization of measured value

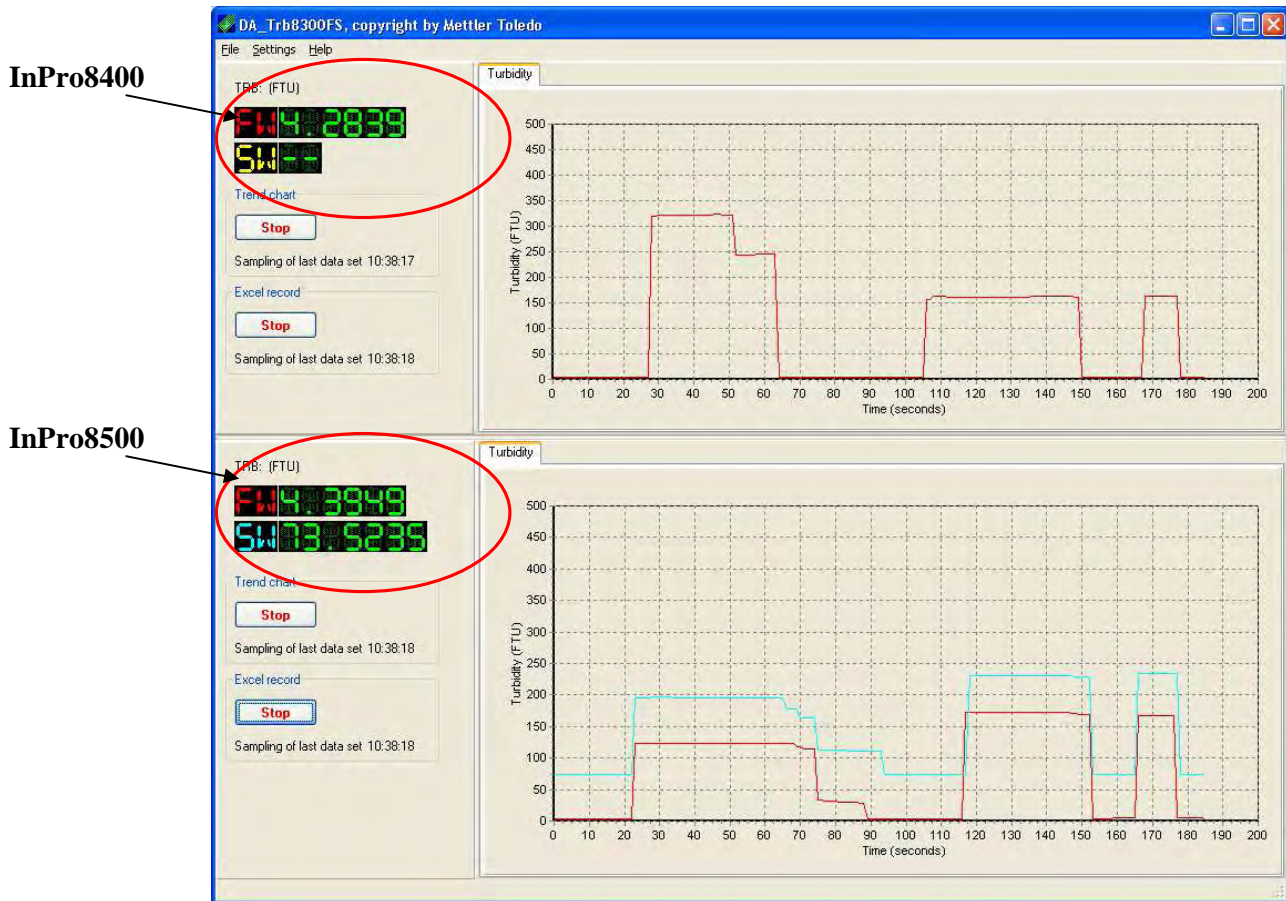
It is not possible to directly influence update of the measured value on the display. This is predetermined by the Transmitter Trb 8300 F/S (1-999 seconds). The time setting at the instrument determines the updating frequency.

Refer to instruction manual for the turbidity transmitter Trb 8300 F/S on page 21 "RS232 set-up".

->Menu -> other menus -> RS232 set-up

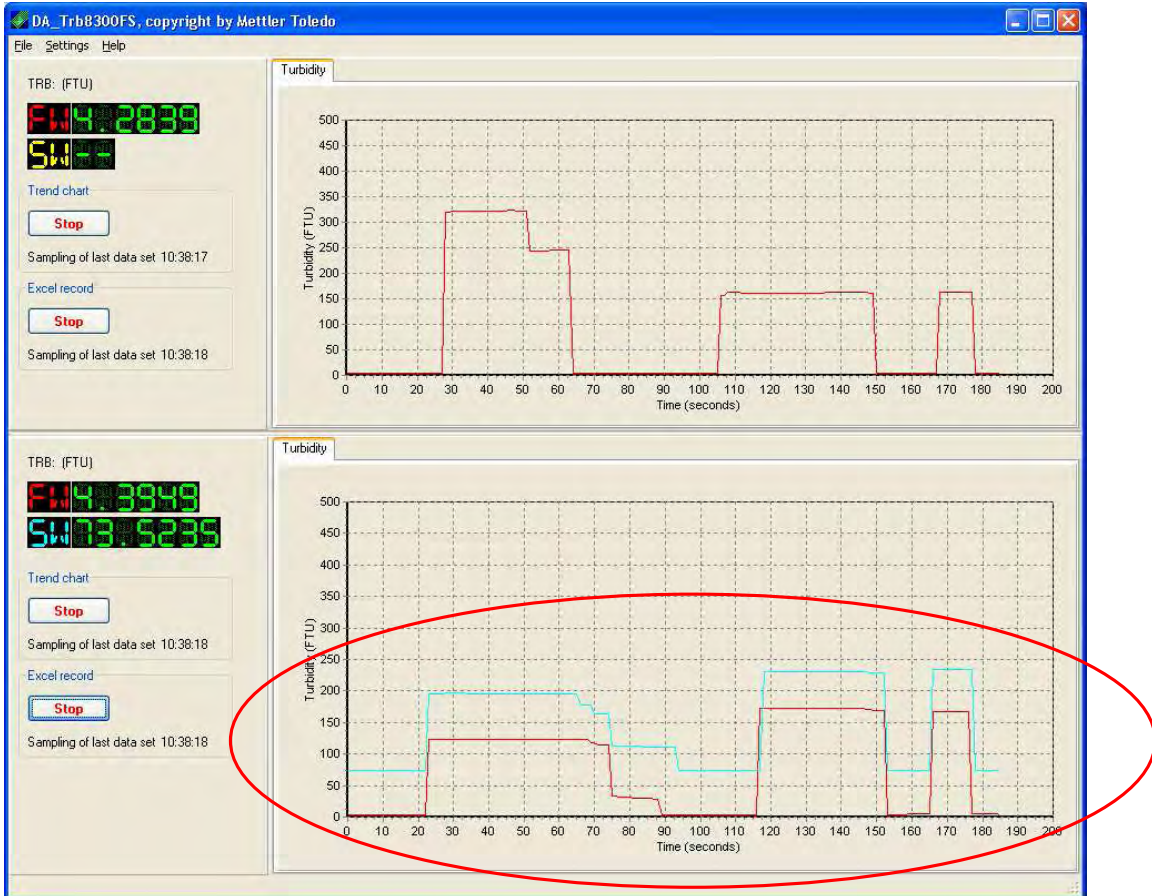
Data output: Selected to on, the current measurement with a time stamp can be recorded via the RS232 using a printer or a communication software package on a PC when this becomes available.

Output time: Selected from 1-999 seconds.



1.2 Graphic representation of measured values

The graphic display of the trend chart can be configured independently from the other timers.



Four different unit settings are possible:

- sec.: selectable range 1 thru 9999 sec.
- min: selectable range 1 thru 9999 min.
- H: selectable range 1 thru 9999 h.
- D: selectable range 1 thru 9999 d.

1.3 Data logging in an Excel-compatible data file

Acquisition and logging of measured values is to be adjusted apart from the other timers and can be configured in line with the following units:

Seconds: selectable range 1 thru 100 sec.

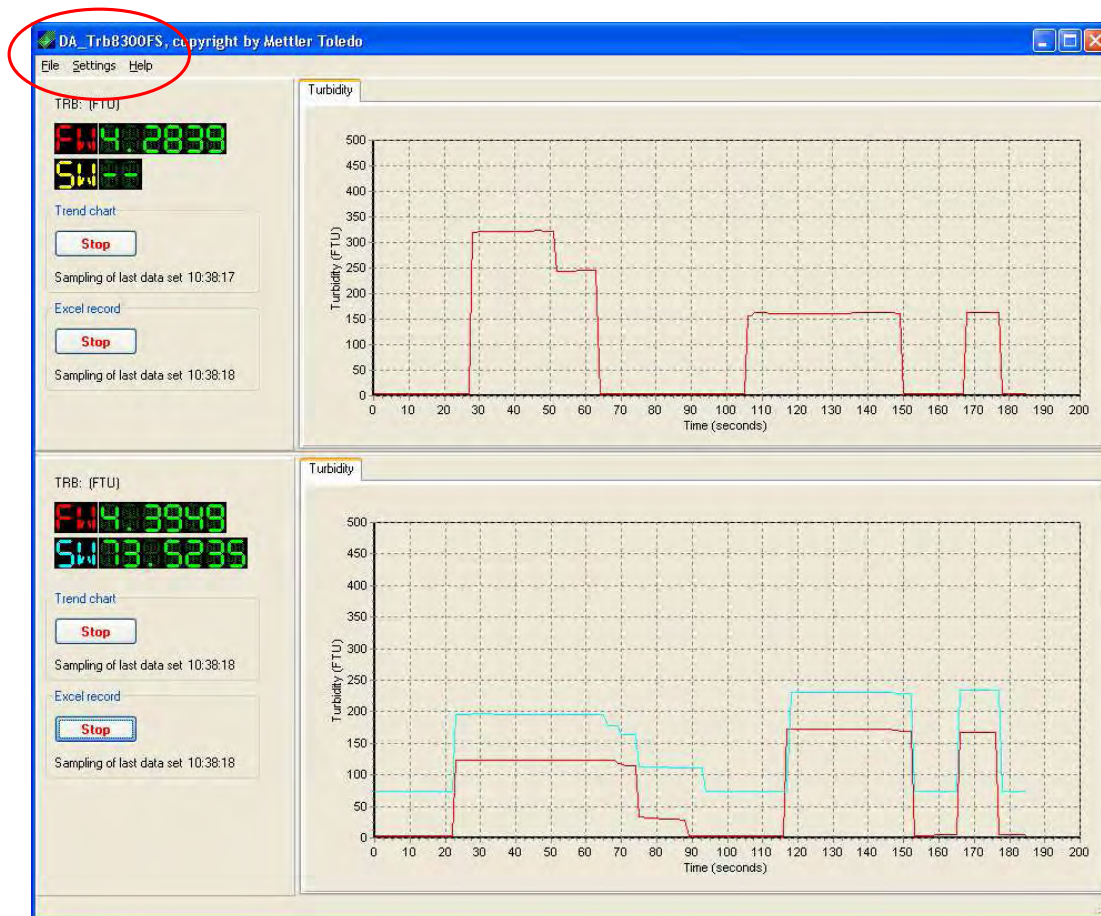
Minutes: selectable range 1 thru 100 min.

Hours: selectable range 1 thru 100 h.

2 START DISPLAY

The following functions are available:

- File / Exit
- Settings / COM 1 (see chapter 2.1)
- Settings / COM 2 (see chapter 2.1)
- Help / Help
- Help / About



2.1 Configuration of the COM-interface

In this menu, display and recording parameters are defined.

2.1.1 Interface

The Baud rate (e.g. 38.4K) has to be selected in line with the configuration of the Trb 8300 F/S (RS232 set-up menu). After placement of the active flags, the interface is activated, enabling communication with the Trb 8300 F/S. The main display indicated both the actual value and the measurement unit.

2.1.2 Trend Chart

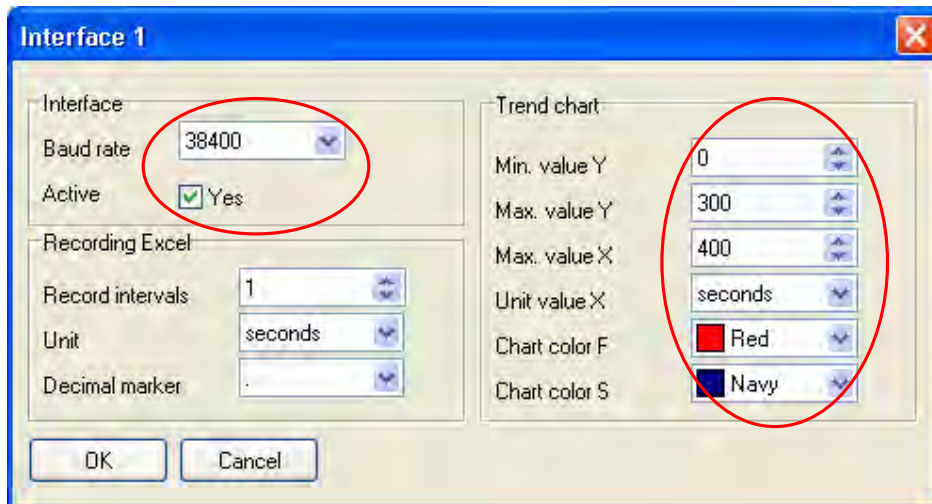
Min. value Y: minimum value of the relative unit in the graphic chart representation.

Max. value Y: maximum value of the relative unit in the graphic chart representation.

Max. value X: maximum display on the x axis.

Unit value X: choice of measurement unit.

Chart color: choice of color for display of trend chart.

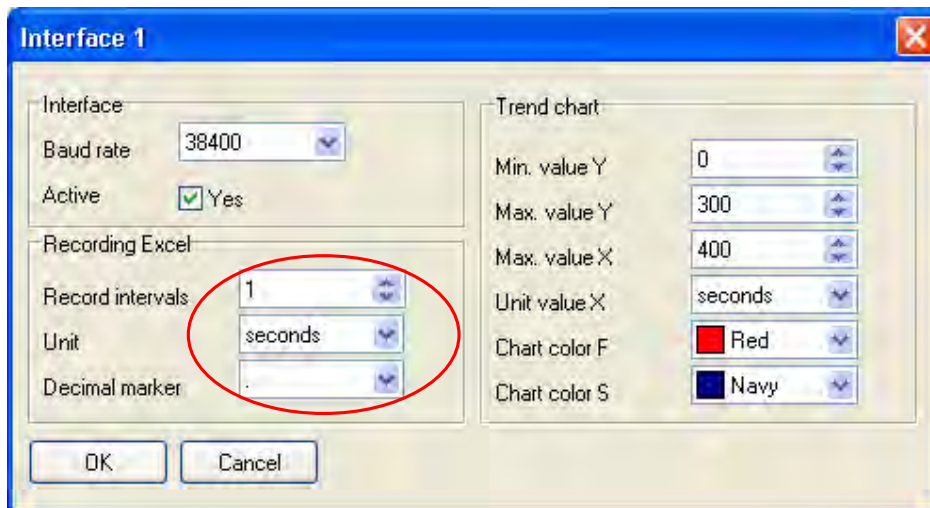


2.1.3 Recording

Recording interval: Time interval at which the measured value is to be written into the data file.

Unit: Time unit used when writing the measured value into the data file.

Decimal marker: The country-specific setting of the computer in which Excel analysis is running and expects either a comma or a point/dot as the decimal marker. -> Compare with computer settings in system command.



2.2 Start of visualization

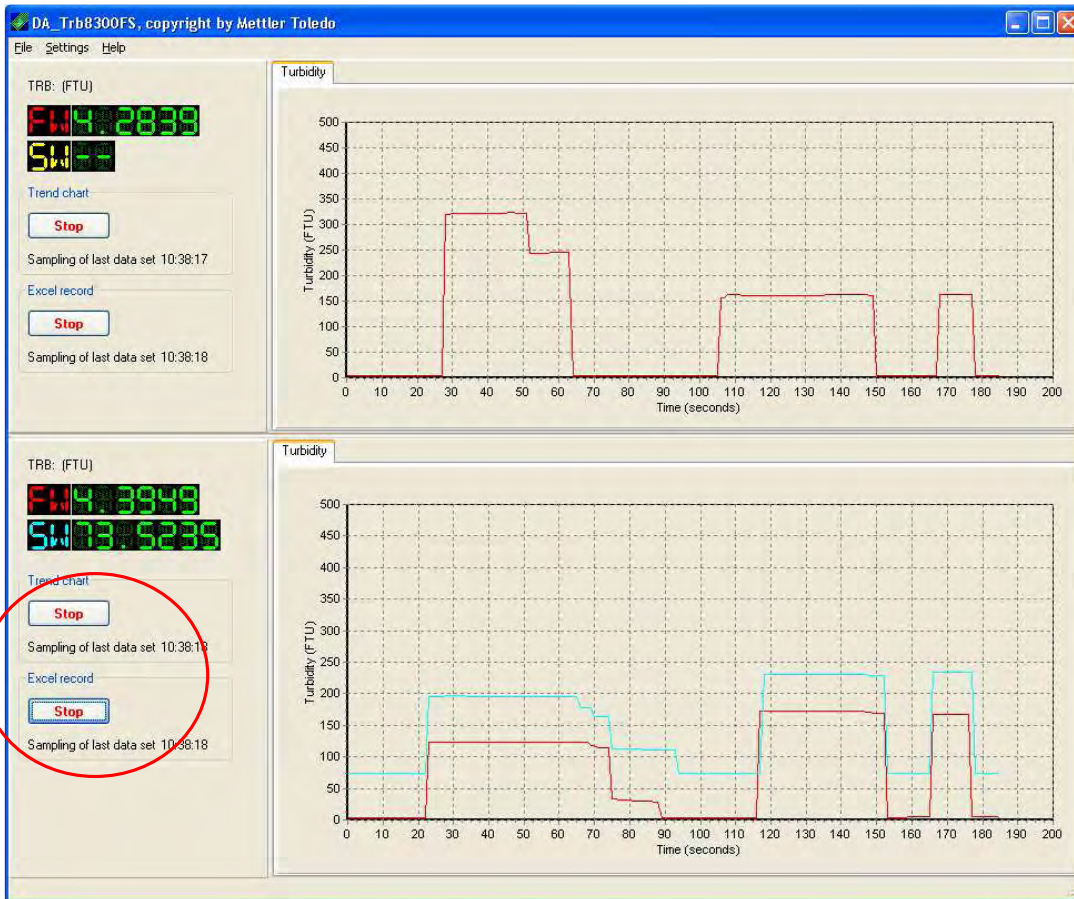
Following initiation of visualization, the graphics begin visual plotting.
As soon as the set value has been reached, the x axis begins to shift to the left so that initially determined values disappear.

Trend chart

Sampling of last data set: the last recorded value shown in the graph

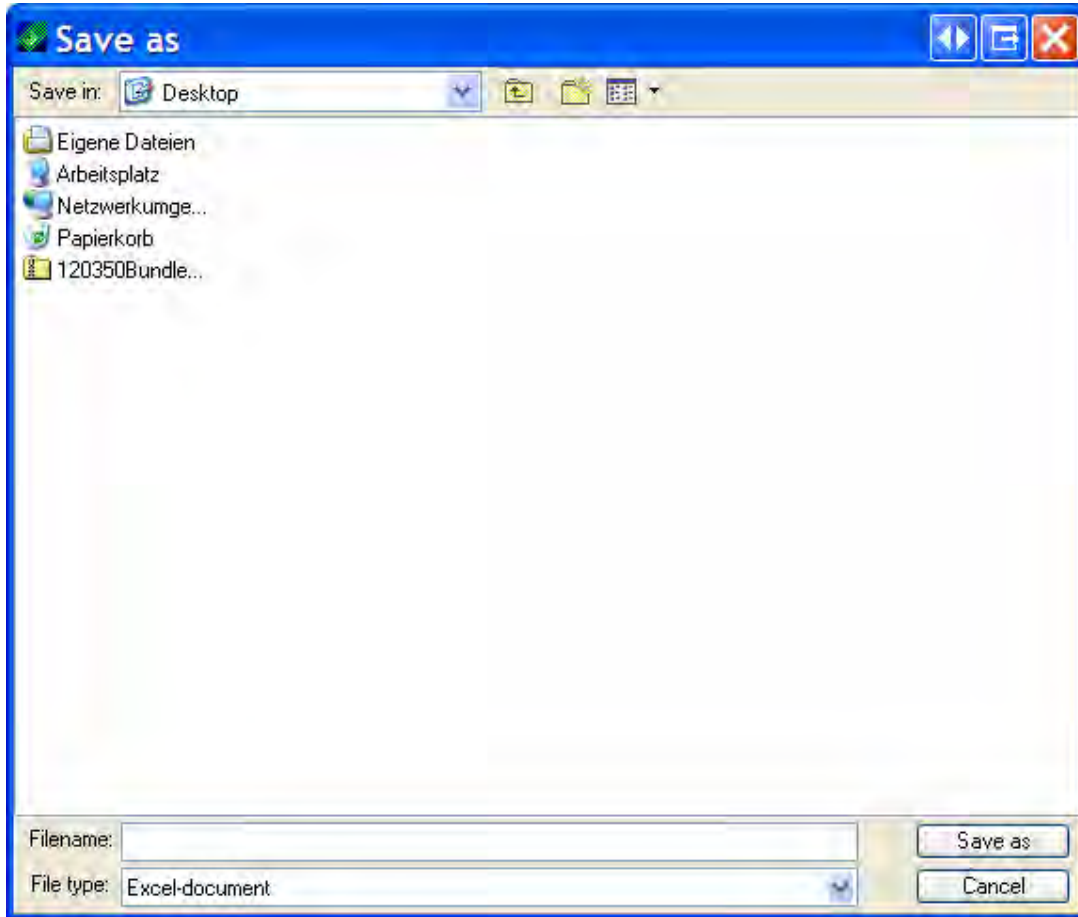
Excel Record

Sampling of last data set: the last recorded value in the selected Excel data file.



2.3 Recording

Before recording begins, the file needs to be named and stored. The file is saved with the suffix xls. This is however a text file appropriately formatted, which can be opened at any time via Excel.



The recorded data file opens in Excel in the following format. Use Excel for further processing.

	A	B	C	D	E	F
	Date	Time	Station	Value F	Value S	Unit
1	22.07.2005	10:35:21	Station 1	4.1793	--	FTU
2	22.07.2005	10:35:22	Station 1	4.1793	--	FTU
3	22.07.2005	10:35:23	Station 1	4.21	--	FTU
4	22.07.2005	10:35:24	Station 1	4.21	--	FTU
5	22.07.2005	10:35:25	Station 1	4.2102	--	FTU
6	22.07.2005	10:35:26	Station 1	4.2102	--	FTU
7	22.07.2005	10:35:27	Station 1	4.2102	--	FTU
8	22.07.2005	10:35:28	Station 1	4.2102	--	FTU
9	22.07.2005	10:35:29	Station 1	4.1978	--	FTU
10	22.07.2005	10:35:30	Station 1	4.1978	--	FTU
11	22.07.2005	10:35:31	Station 1	4.1831	--	FTU
12	22.07.2005	10:35:32	Station 1	4.1831	--	FTU
13	22.07.2005	10:35:33	Station 1	4.1831	--	FTU
14	22.07.2005	10:35:34	Station 1	4.1831	--	FTU
15	22.07.2005	10:35:35	Station 1	4.176	--	FTU
16	22.07.2005	10:35:36	Station 1	4.176	--	FTU
17	22.07.2005	10:35:37	Station 1	4.1794	--	FTU
18	22.07.2005	10:35:38	Station 1	4.1794	--	FTU
19	22.07.2005	10:35:39	Station 1	4.1794	--	FTU
20	22.07.2005	10:35:40	Station 1	4.1794	--	FTU
21	22.07.2005	10:35:41	Station 1	318.9047	--	FTU
22	22.07.2005	10:35:42	Station 1	318.9047	--	FTU
23	22.07.2005	10:35:43	Station 1	320.7008	--	FTU
24	22.07.2005	10:35:44	Station 1	320.7008	--	FTU
25	22.07.2005	10:35:45	Station 1	320.7008	--	FTU
26	22.07.2005	10:35:46	Station 1	320.7008	--	FTU
27	22.07.2005	10:35:47	Station 1	322.6217	--	FTU
28	22.07.2005	10:35:48	Station 1	322.6217	--	FTU
29	22.07.2005	10:35:49	Station 1	322.5858	--	FTU
30	22.07.2005	10:35:50	Station 1	322.5858	--	FTU
31	22.07.2005	10:35:51	Station 1	322.5858	--	FTU
32	22.07.2005	10:35:52	Station 1	322.5858	--	FTU
33	22.07.2005	10:35:25	Station 2	4.034	73.5235	FTU
34	22.07.2005	10:35:26	Station 2	4.034	73.5235	FTU
35	22.07.2005	10:35:27	Station 2	4.034	73.5235	FTU
36	22.07.2005	10:35:28	Station 2	4.034	73.5235	FTU
37	22.07.2005	10:35:29	Station 2	4.0349	73.5235	FTU
38	22.07.2005	10:35:30	Station 2	4.0349	73.5235	FTU
39	22.07.2005	10:35:31	Station 2	4.0353	73.5235	FTU
40	22.07.2005	10:35:32	Station 2	4.0353	73.5235	FTU
41	22.07.2005	10:35:33	Station 2	4.0353	73.5235	FTU
42	22.07.2005	10:35:34	Station 2	4.0353	73.5235	FTU
43	22.07.2005	10:35:35	Station 2	4.0375	73.5235	FTU
44	22.07.2005	10:35:36	Station 2	4.0375	73.5235	FTU
45	22.07.2005	10:35:37	Station 2	123.9346	196.1585	FTU
46	22.07.2005	10:35:38	Station 2	123.9346	196.1585	FTU
47	22.07.2005	10:35:39	Station 2	123.9346	196.1585	FTU
48	22.07.2005	10:35:40	Station 2	123.9346	196.1585	FTU
49	22.07.2005	10:35:41	Station 2	123.7075	196.3244	FTU
50	22.07.2005	10:35:42	Station 2	123.7075	196.3244	FTU
51	22.07.2005	10:35:43	Station 2	123.6523	196.333	FTU
52	22.07.2005	10:35:44	Station 2	123.6523	196.333	FTU
53	22.07.2005	10:35:45	Station 2	123.6523	196.333	FTU
54	22.07.2005	10:35:46	Station 2	123.6523	196.333	FTU
55	22.07.2005	10:35:47	Station 2	123.5796	196.2927	FTU
56	22.07.2005	10:35:48	Station 2	123.5796	196.2927	FTU
57	22.07.2005	10:35:49	Station 2	123.5494	196.2576	FTU
58	22.07.2005	10:35:50	Station 2	123.5494	196.2576	FTU
59	22.07.2005	10:35:51	Station 2	123.5494	196.2576	FTU
60	22.07.2005	10:35:52	Station 2	123.5494	196.2576	FTU
61	22.07.2005	10:35:53	Station 2	123.5705	196.15	FTU
62	22.07.2005	10:35:54	Station 2	123.5705	196.15	FTU
63	22.07.2005	10:35:55	Station 2	123.6721	196.0545	FTU
64	22.07.2005	10:35:56	Station 2	123.6721	196.0545	FTU

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