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Operating instructions

DATA LOGGER

(Version V1.3)



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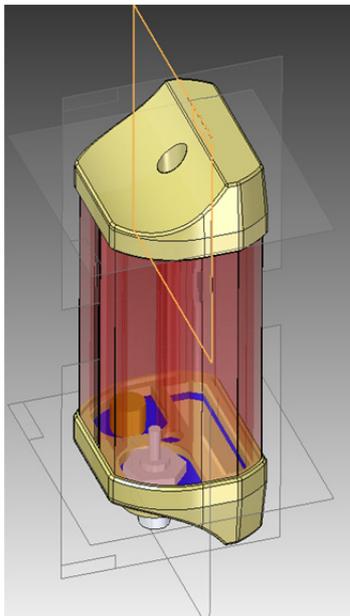
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Overview

1.1 System description

The Data-Safe800 logger was especially designed for harsh environments and long measuring periods and distinguishes itself due to its modular design. Due to its very small dimensions and the integrated battery, the device can quickly and easily be used for various autonomous measuring and monitoring applications. In the GSM design, the data is automatically transferred to the measurement center via Internet. Thanks to its low power consumption, the Data-Safe800 logger can reliably measure, record, and monitor for an extended period.

- **Automatic data export to an FTP server**
- **Automatic data import from the server to the measurement center (PC)**
- **Various sensor modules for up to 4 channels**
- **Low power consumption for long measurement applications**
- **Short-distance radio for the connection from the PC to the on-site logger**
- **Remote maintenance by means of GSM connection**
- **SMS-messages such as exceeding limit values**
- **Simple configuration software**
- **Temperature range -40..85**
- **Small, robust housing (IP66)**
- **Multiple attachment possibilities on the back**
- **Optional solar power supply for maintenance-free operation**
- **External battery pack for long autonomous measuring periods**



Sensor modules for:

- Current/voltage
- Digital inputs
- Level sensors
- Temperature sensors
- Extensometers and inclination sensors
- Meteorological sensors (wind, temp./humidity, pressure)
- Customer-specific sensor modules are possible

Logger module

- Memory for 80,000 measured values
- Up to 3 years of battery life (depending upon the operating mode)
- Replaceable battery pack
- External power supply (e.g. solar, battery pack)
- Sensor power supply up to 25V through the logger

Interface:

- Bluetooth or short-distance radio 860MHz
- GSM/GPRS for remote access and FTP (can be combined with Bluetooth or radio)

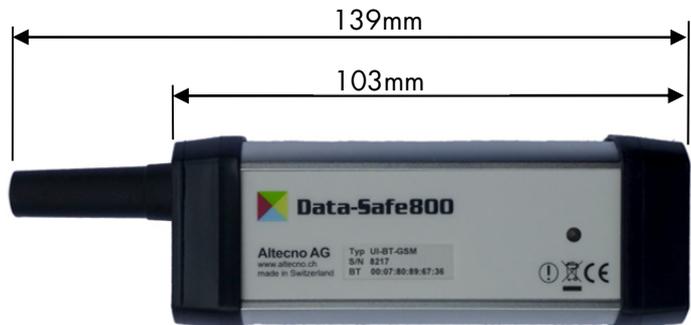
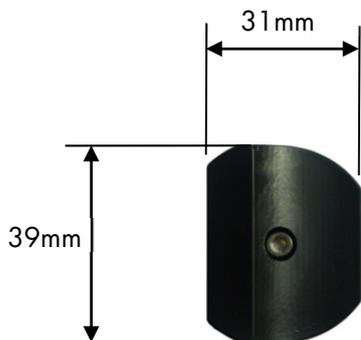
Software

- Every channel can be configured individually
- Measuring intervals and measuring periods are adjustable
- Time window for GSM access is adjustable
- Limit value monitoring for every channel
- Battery warning via SMS
- Automatic data transfer to the FTP-server
- Numerous additional functions

Specifications:

1.1.1 Parameter	Conditions		Unit
Precision		See sensor module specifications	
Resolution	14 Bit ³⁾	See sensor module specifications	
Data storage, total Data storage per channel	Dynamic ¹⁾	80,000 Up to 80,000	Measured values
Measuring interval (adjustable)	Max. Min.	1 1	Per minute Per day
Measuring periods per day with various measuring intervals	Number	2	
FTP transmissions or	Number Interval	3 1...12	Per day Hours
GSM time window for remote access	Number Duration	3 1...180	Per day Minutes
Battery life	²⁾	Max. 5	Years
Sensor power supply (adjustable)	Min. Max.	5 25	V
Max. load of the sensor power supply	Per channel Total	20 60	mA
Logger module mass Ø x L with GSM antenna		Ø 41 x 100 Ø 41 x 139	mm mm
Operating temperature Storage temperature Operating temperature with GSM	Max. Max. Max.	-40...+85 -40...+85 -25...+70	°C
IP degree of protection / conformity		66 (67)	IP

- 1) The total number of measured values is dynamically distributed to the number of active channels
- 1) Depends upon sensor module, sensor type, and measurement interval, as well as GSM switch on time
- 2) Module dependent



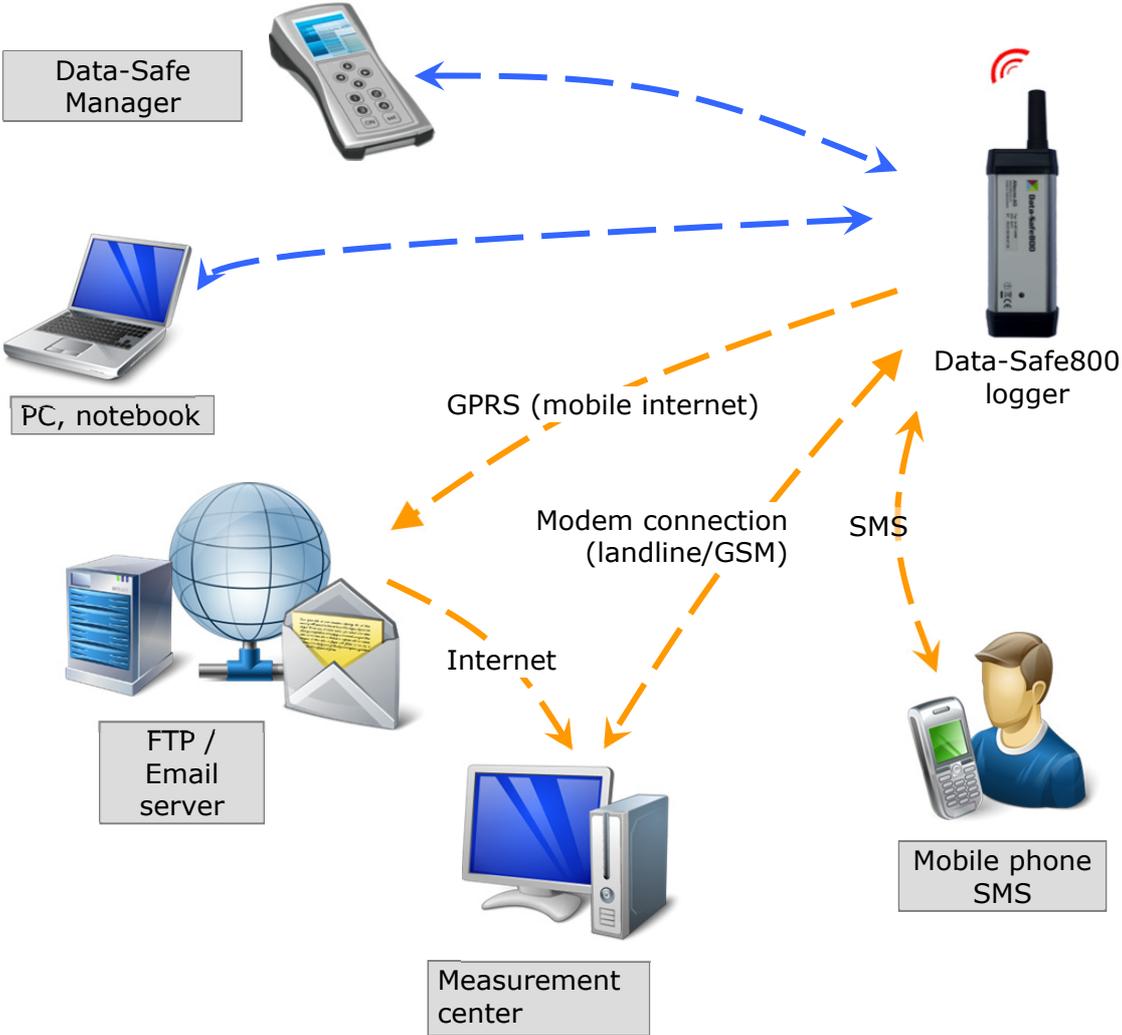
1.2 Data connections

- PC, notebook
- Data-Safe Manager

Bluetooth or 860MHz

- FTP server
- Email server (being prepared)
- SMS mobile phone
- Modem (landline/GSM)

GSM
SMS / GPRS



2 Software installation

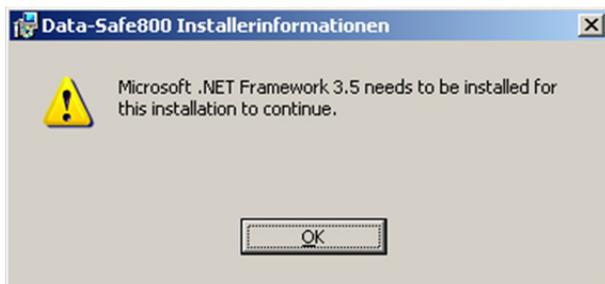
2.1 System prerequisites

The following system prerequisites must be met for the installation of the Data-Safe800 software:

- At least 512MB RAM
- 35MB free memory capacity on the hard drive
- Microsoft .Net 3.5
- Microsoft Windows XP SP2, Vista, Windows 7/32Bit
- Internet connection

2.2 Installation

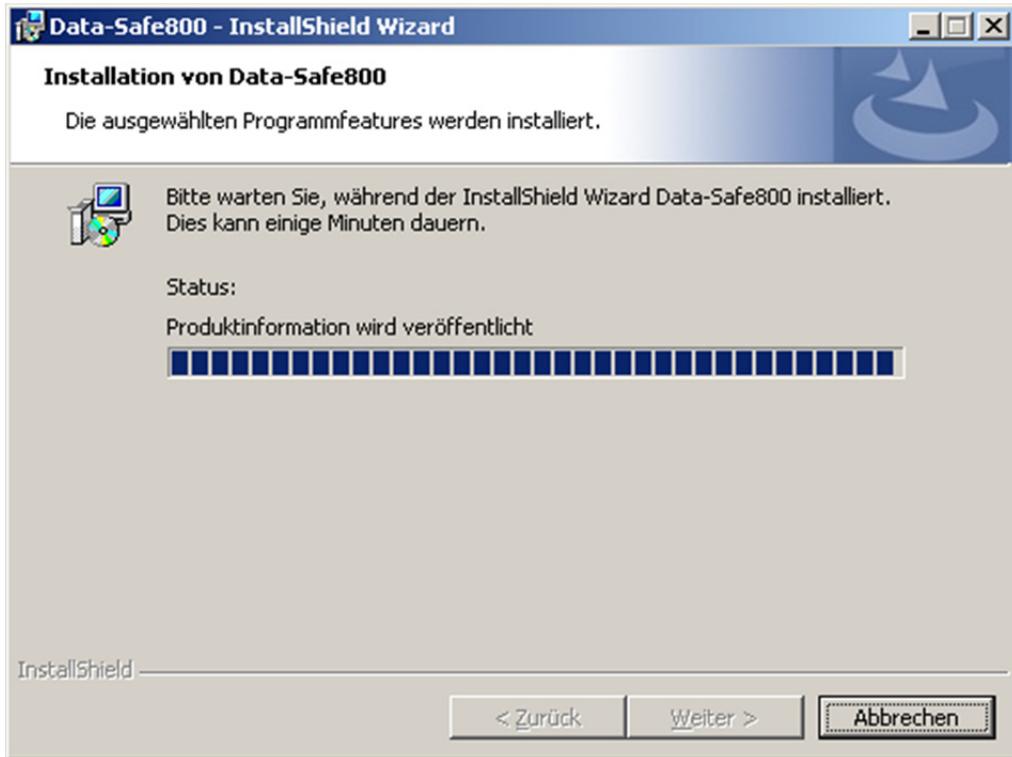
Start the installation by double clicking on the setup file. Your system will be checked. If Microsoft .Net 3.5 is not installed on your system, the following message will appear:



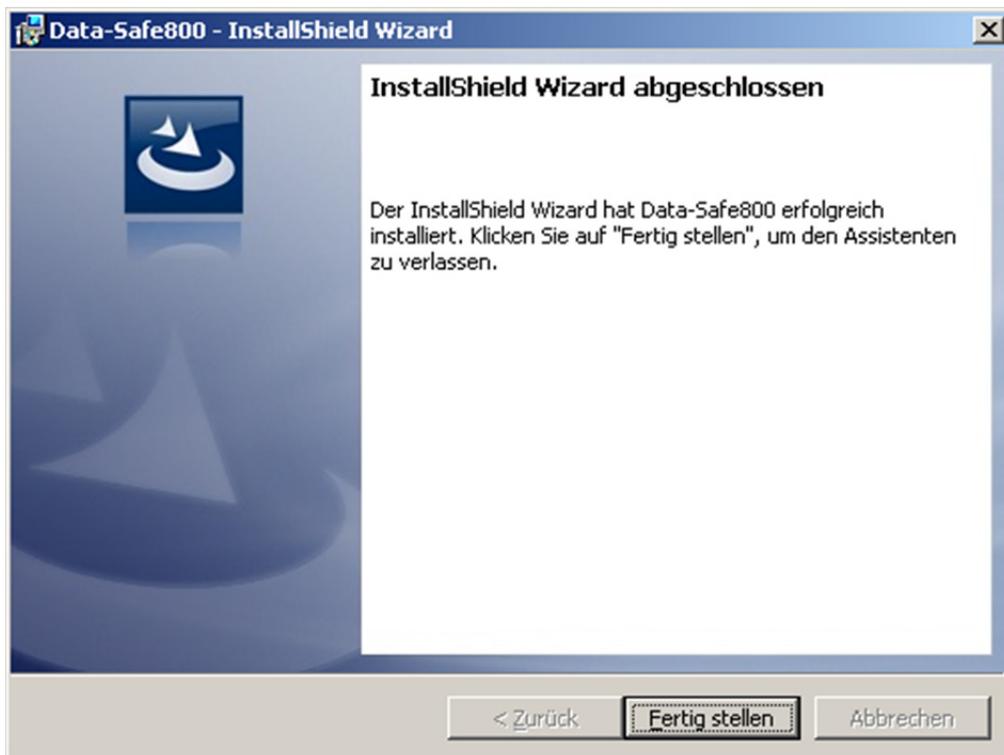
In this case, please install Microsoft .Net 3.5 first and start restart the installation. The Microsoft.Net 3.5 installation (dotnetfx35.exe) is also included on the provided data carrier.



Click on [Continue] to install the program.



When installation is finished, click on [Finish].



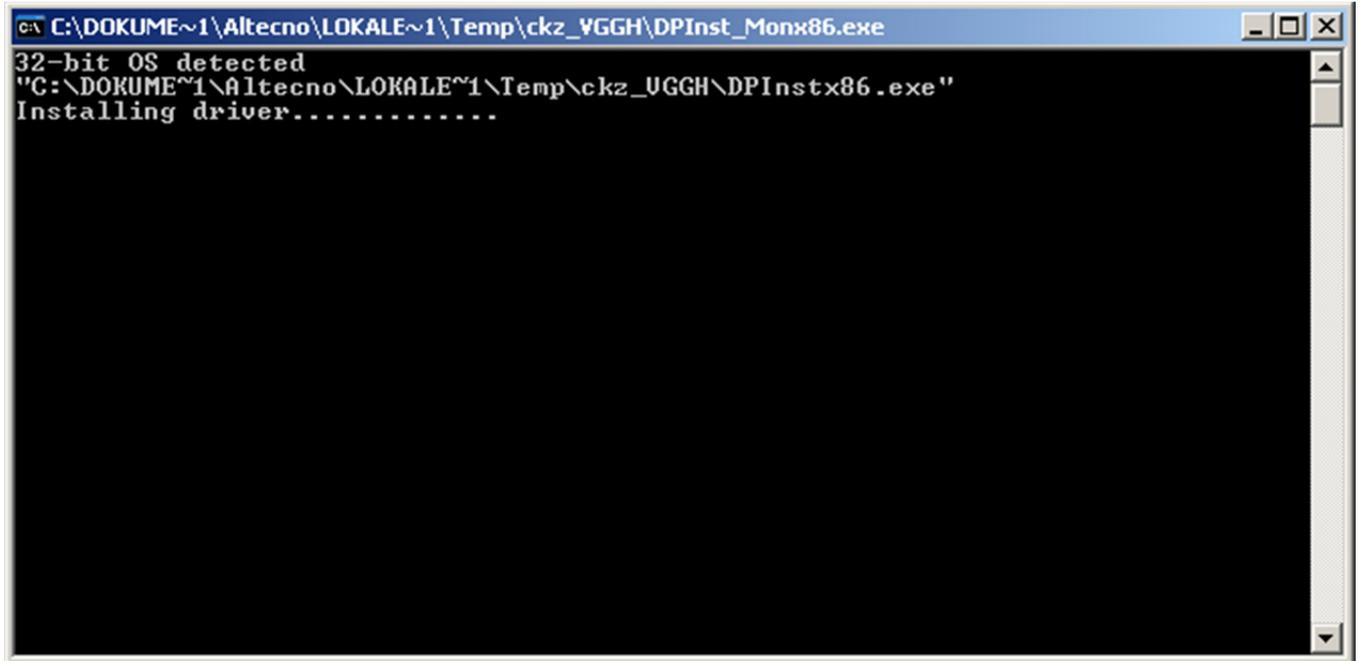
The software has been successfully installed and can now be used.

2.3 Driver installation

To use the Data-Safe800 logger, a radio interface must first be set up.

If you have already connected the radio interface to your computer, disconnect it before beginning with the installation.

Double click on the file "CDM 2.04.06.exe" in order to install the driver.



The driver will now be installed automatically. After the completion of installation, you can connect the radio interface to your computer.

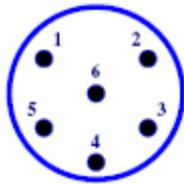
3 Logger hardware

The Data-Safe800 logger is available in various versions. The pin assignment can therefore vary between the different models. For models without GSM equipment, you can skip Chapter 3.2.

3.1 Sensor connection

The sensors are connected to the logger by means of a 6-pole plug. Please use the provided connection cable.

Pin assignment for Zerotronic and Zeromatic:



1	Rs485 (A)	→ brown
2	External logger feed 5..30VDC	→ white
3	External logger feed (GND)	→ blue
4	Rs485 (B)	→ black
5	GND (0V)	→ gray
6	Sensor feed 0.25V	→ pink

3.2 SIM card

The SIM card is located in the battery compartment of the device. The battery compartment must first be opened so that the SIM card can be inserted. To do this, loosen the attachment screw on the front of the device and remove the rubber cap.



The SIM card can now be carefully inserted without applying force. Please ensure that the contact surfaces are in the correct position.





For a correct function of the card in the logger, you must deactivate the PIN-code on the SIM card. We recommend using a mobile phone to do this.

3.3 Changing batteries

Before changing batteries, you must ensure that the radio module and GSM module are switched off (see 3.5.1 and 3.5.2). Now, open the rubber cap of the battery compartment and carefully pull the battery out of the housing. Insert the new battery into the battery compartment until it stops within 2 minutes. Polarity is irrelevant in this case.



Now, replace the battery cover on the device and tighten the attachment screw firmly.



In order to ensure the watertightness of the housing, the seal surfaces must be free of contaminants.

Now, create a connection to the logger and set the battery capacity to 100% (see 4.8.4.1).

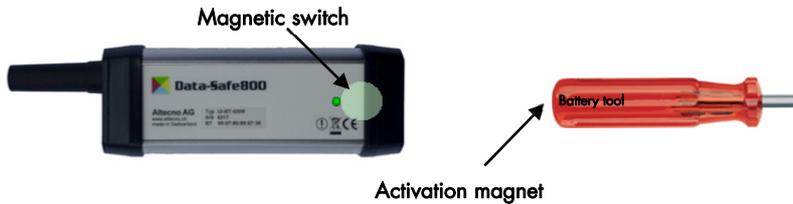
3.4 Status LED

The logger has a status display in the form of a green LED on the logger front. The various operating conditions are displayed as follows:

LED	Operating condition	Power consumption	Connection possibility
off	Logger is inactive	1 minimal	none
flashing	Bluetooth is active	2 low	Bluetooth
blinking 1s	1) Logging onto the GSM network	9 very high	none
	2) SMS sent, FTP data transmission	9 very high	none
on	1) There is a Bluetooth connection	7 high	-
	2) Logger logged onto the GSM network	5 medium	modem

3.5 Activate logger

The Data-Safe800 logger is equipped with an internal switch, which can be activated with a magnet. The magnetic switch is located near the green status LED of the logger. An activation magnet is installed in the handle of the battery tool, with which you can activate the logger at any time.



Either the Bluetooth module or the GSM module, if applicable, can be switched on or off with the magnetic switch.

3.5.1 Activate/deactivate Bluetooth

Activate the switched off Bluetooth module by holding the activation magnet on the logger for approx. 1 sec. The LED illuminates briefly. Deactivate the Bluetooth module in the same manner.



3.5.2 Activate/deactivate GSM

Activate the switched off GSM module by holding the activation magnet on the logger until the LED begins to blink (approx. 5 sec). Deactivate the GSM module in the same manner.

The GSM module can only be deactivated when the LED-display illuminates constantly meaning after the GSM module has logged onto the network.

If the network logon fails, the GSM is automatically switched off. The GSM module can also be activated with the Bluetooth module activated.



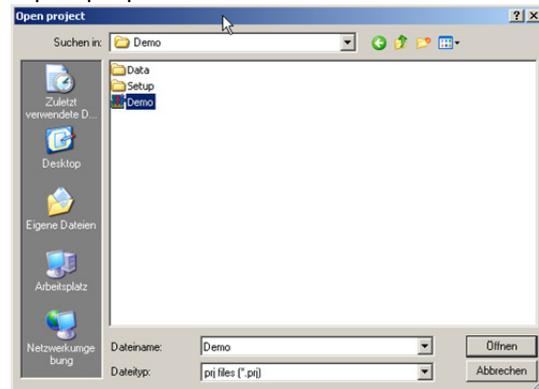
4 Software

4.1 Starting the software

After starting, the software either changes directly to a project presentation or you will be asked to open a project. If no project exists, click on [Cancel] and then create a new project (see 4.2.2)



Open project



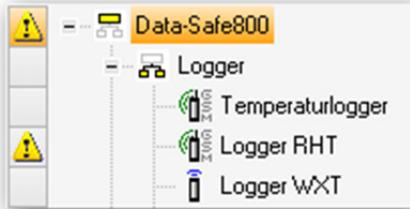
Project presentation



	Data until	Logger	Serial Number	GIS	Info	Credit	Signal	Temperature
▶	30.06.2011 17:30	Temperaturlogger	8'217			-	-59 dBm	23.5 °C
	28.11.2010 16:30	Logger RHT	8'022			SFr. 2.20	-73 dBm	3.2 °C
	15.05.2011 16:50	Logger WXT	8'221			-	-	23.0 °C
	15.05.2011 08:00	Schnee	8'255			SFr. 26.93	-51 dBm	7.1 °C
	17.05.2011 14:10	Logger PA-46X	8'309			-	-61 dBm	27.1 °C
	-	Pos. 24	200'724			-	-	-
	15.04.2011 16:06	Logger 201330	201'330			-	-99 dBm	30.1 °C
	26.04.2011 11:47	Pos001	201'457			-	-	25.4 °C

4.2 Projects

The logger is managed by means of projects. Here, all of the required loggers are entered into a project. The loggers are then visible in a tree structure. You can add, delete, or move loggers. For greater clarity, the loggers can be combined into groups and subgroups.



When you click on a group, a table with the information of all loggers in this group is displayed on the right side of the screen.

Data-Safe800									
	Data until	Logger	Serial Number	GIS	Info	Credit	Signal	Temperature	
▶	30.06.2011 17:30	Temperaturlogger	8'217				-59 dBm	23.5 °C	
●	28.11.2010 16:30	Logger RHT	8'022			SFr. 2.20	-73 dBm	3.2 °C	
⊘	15.05.2011 16:50	Logger WXT	8'221				-	23.0 °C	
●	15.05.2011 08:00	Schnee	8'255			SFr. 26.93	-51 dBm	7.1 °C	
●	17.05.2011 14:10	Logger PA-46X	8'309				-61 dBm	27.1 °C	
⊘	-	Pos. 24	200'724				-	-	-
⊘	15.04.2011 16:06	Logger 201330	201'330				-99 dBm	30.1 °C	
●	26.04.2011 11:47	Pos001	201'457				-	25.4 °C	

- A** Operating condition of the logger
- Green dot for OK
 - Red dot for exceeded limit value
 - Stop for no data recording
- B** Data until
States until what time measured data exists on your PC-drive
- C** Logger
Designation of the logger
- D** Series number
- E** Logger messages
Messages of the logger are entered in this field:
- Balance warning (for GSM with prepaid card)
 - Battery level <30%
 - Error

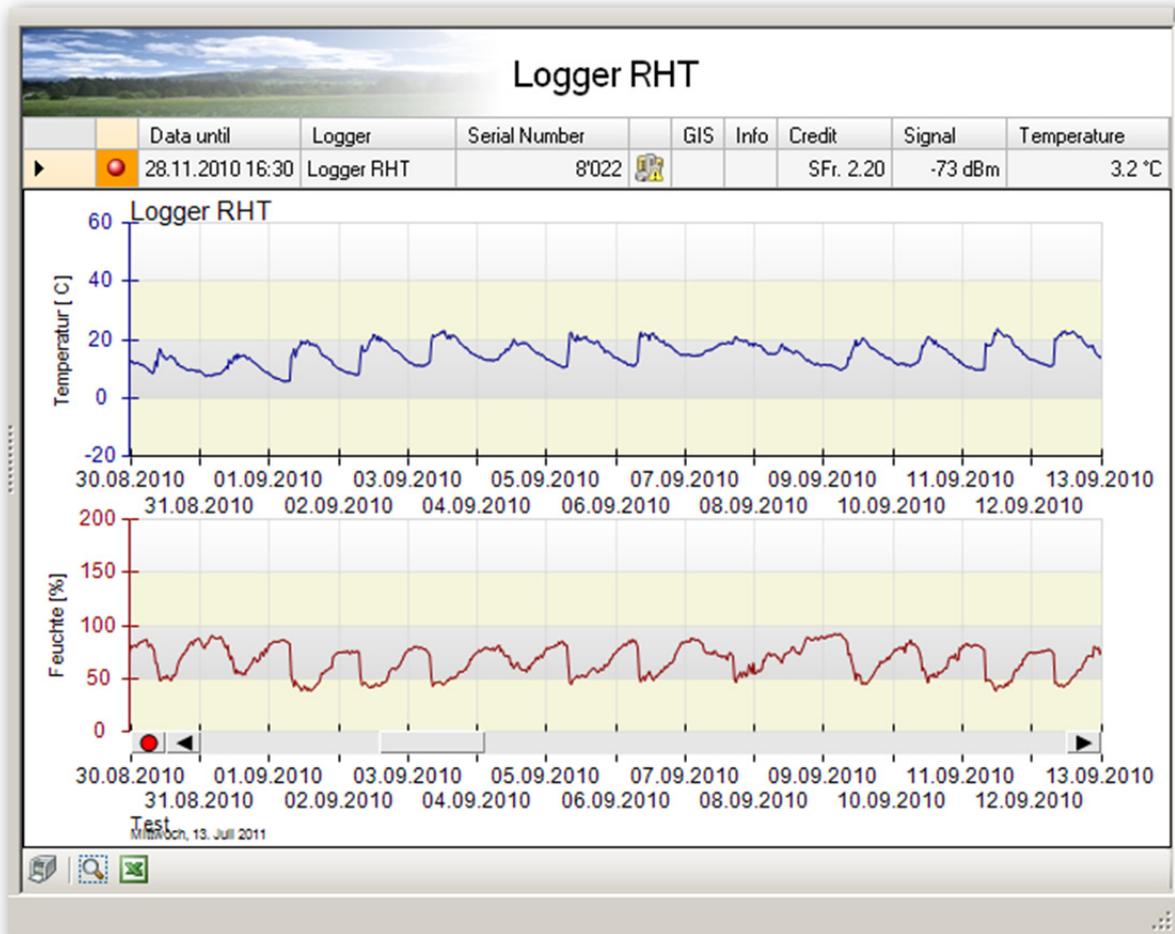
Battery level <10%

- F** GIS
Only valid for card software (option)
- G** Info
Here, information can be stored for each logger. For this, click on the field and then enter an information text.
- H** Balance
Current balance when using a prepaid SIM card (only for GSM logger)
- I** Signal
Reception quality during the last dial-up to the GSM network.
Signal greater than -85dBm → good reception quality
Signal less than -95dBm → poor reception quality
- J** Temperature
Internal logger temperature (accuracy ± 2 °C)



The contents of the columns refer to the time of the last connection with the logger or the last Ftp data import.

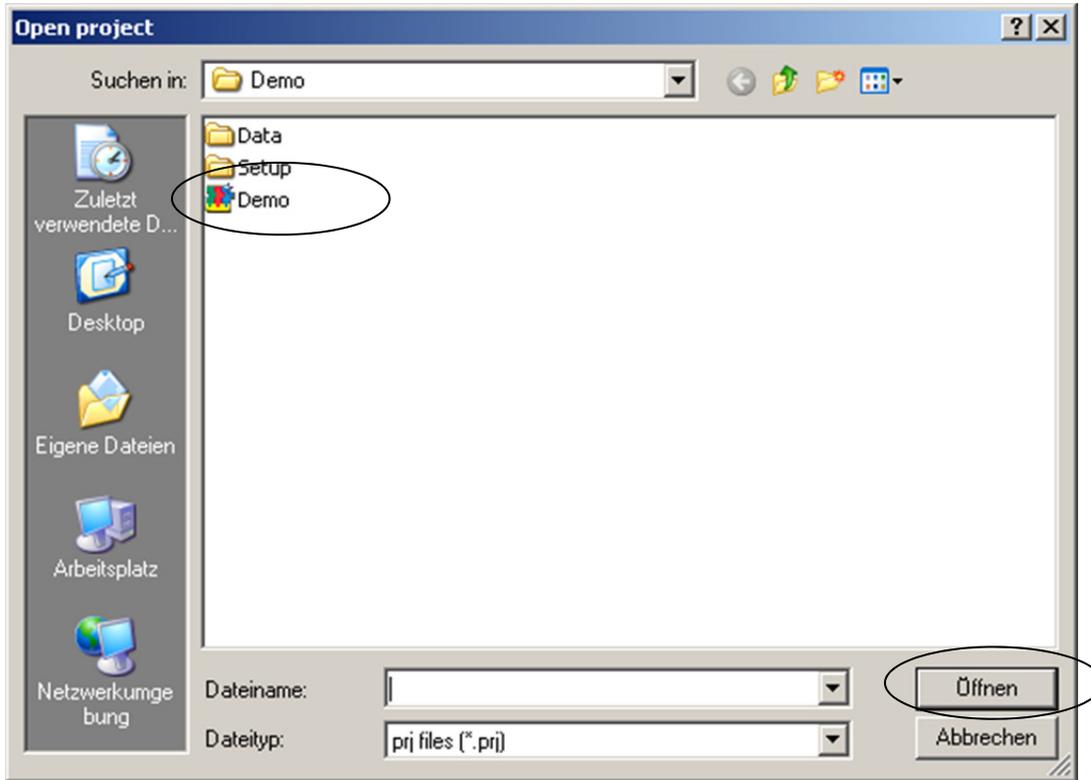
When a logger is clicked on, the measured data is graphically displayed on the right side of the screen (see 4.9).





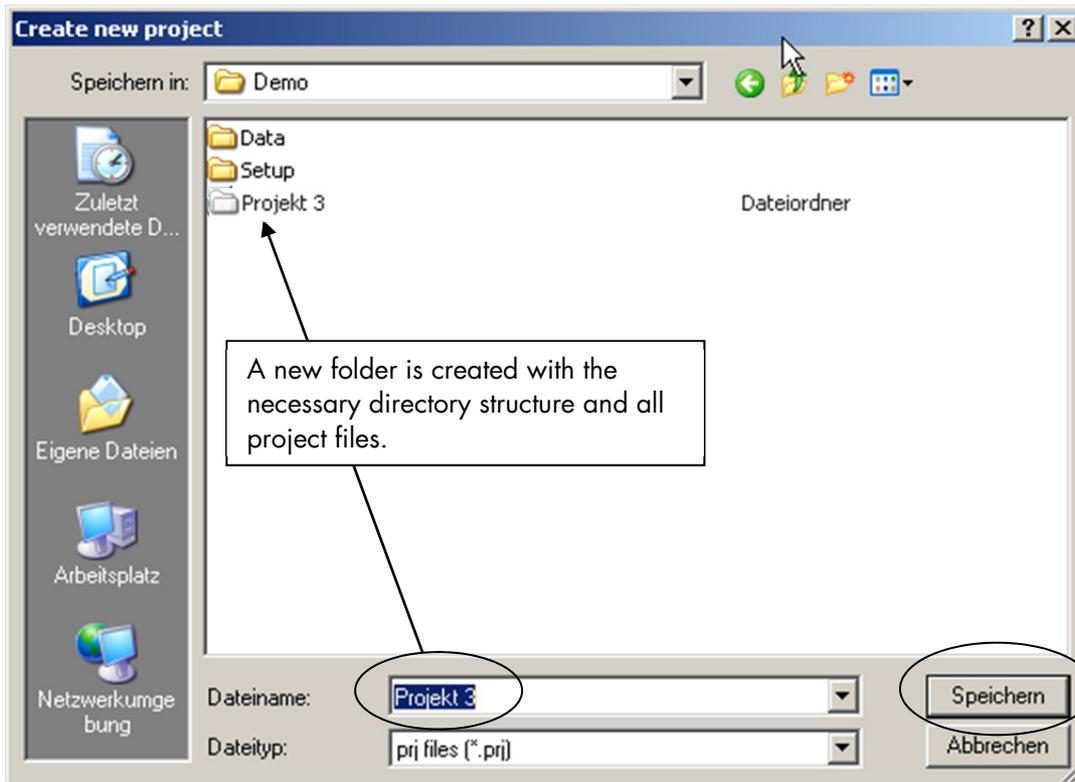
4.2.1 Opening a project

Projects are saved in *.prj files. Click on a project file and then click on [Open] to open an existing project.

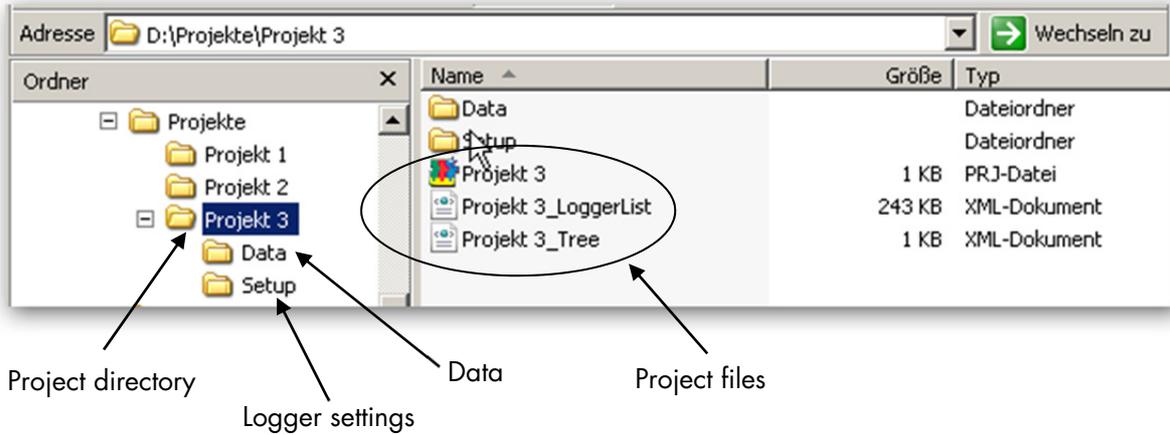


4.2.2 New project

Create new projects to manage your logger.



A project has the following directories and files:

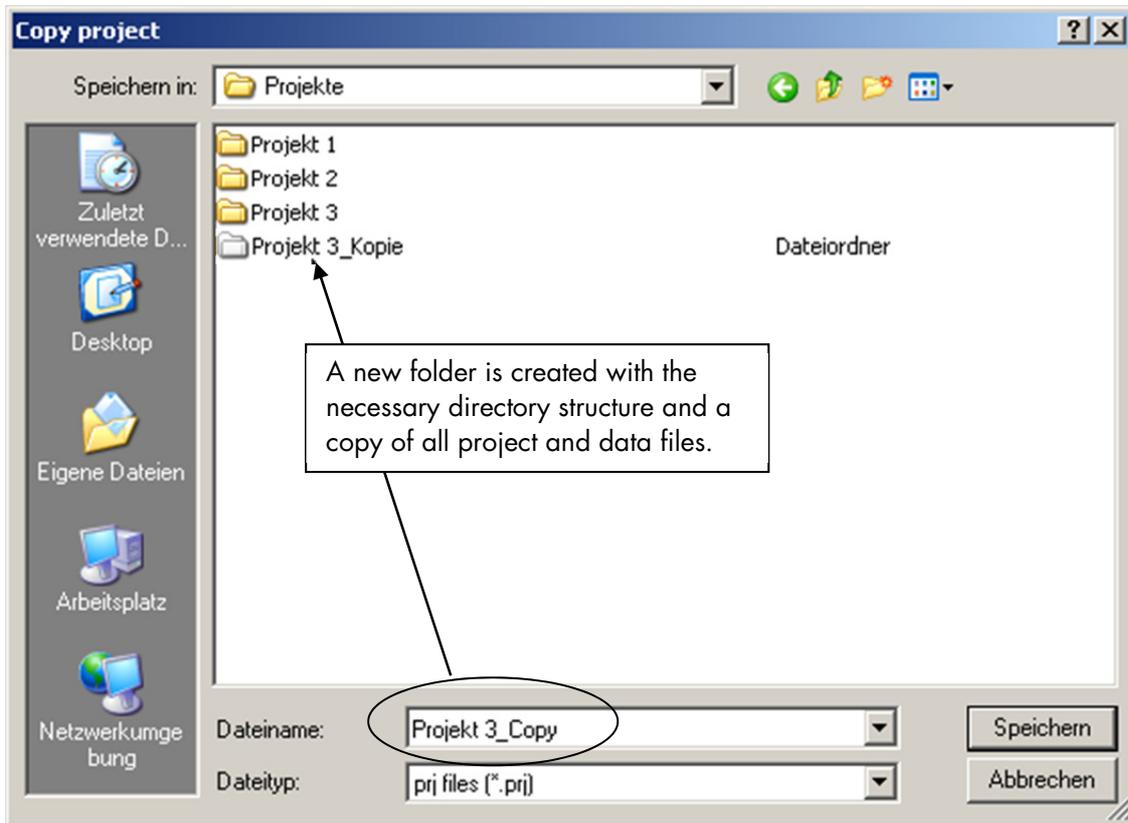


Please do not make any changes to the directory structures or the project files!



4.2.3 Copying a project

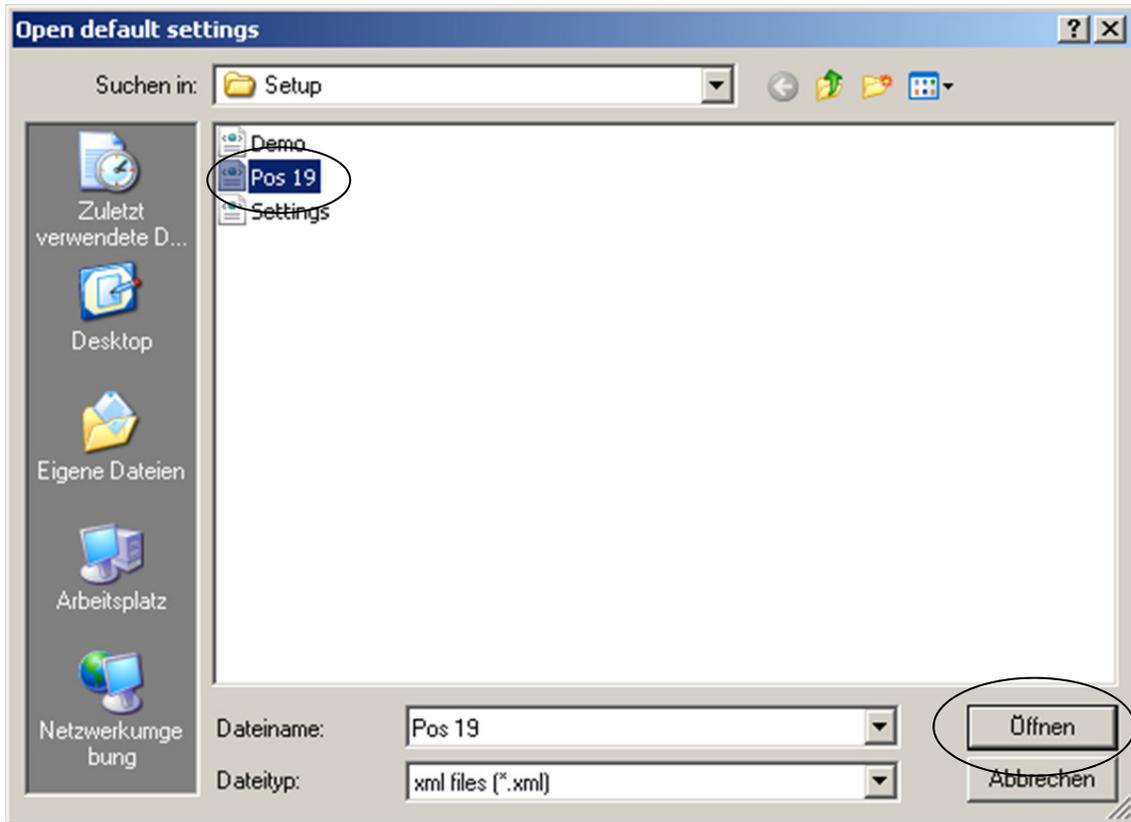
Create a copy of a project in a new directory. You can create the copy of the project with or without the measured data.



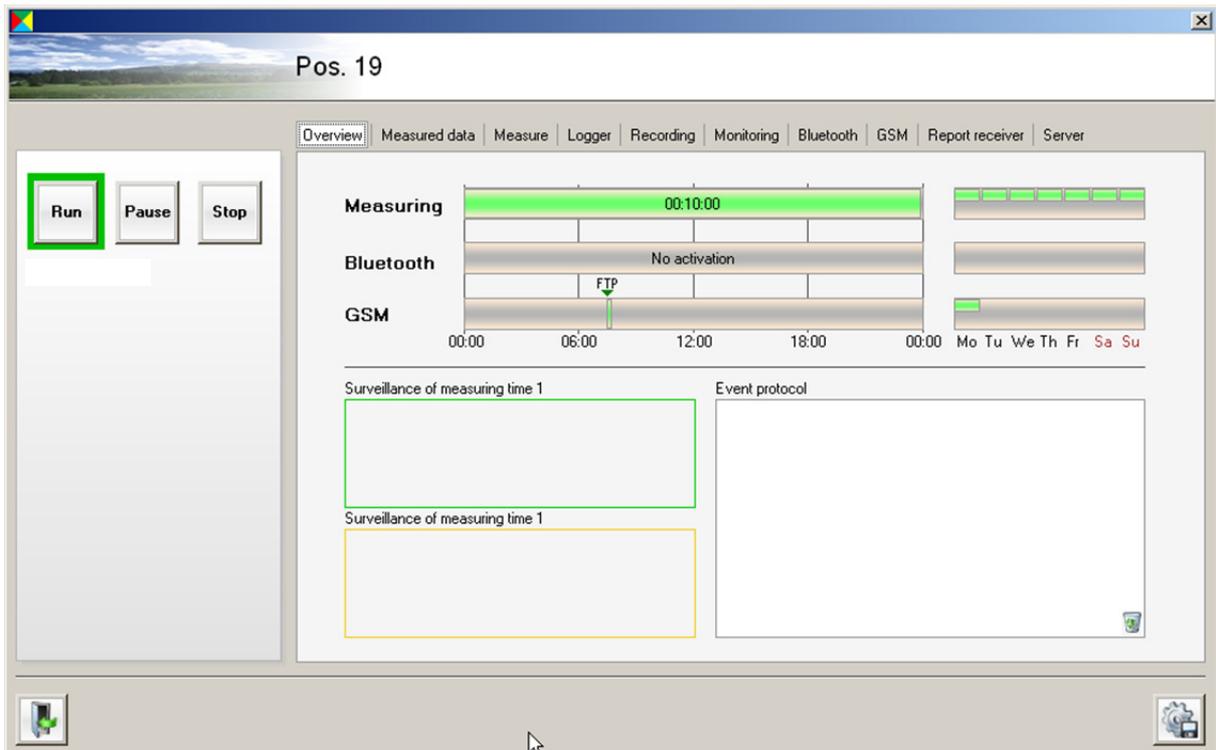


Editing a settings file

You can save all of the settings of a logger in a settings file (see 4.8.11) These settings files can be displayed and processed here without creating a connection with the logger.



For this, select a settings file and click on [Open].

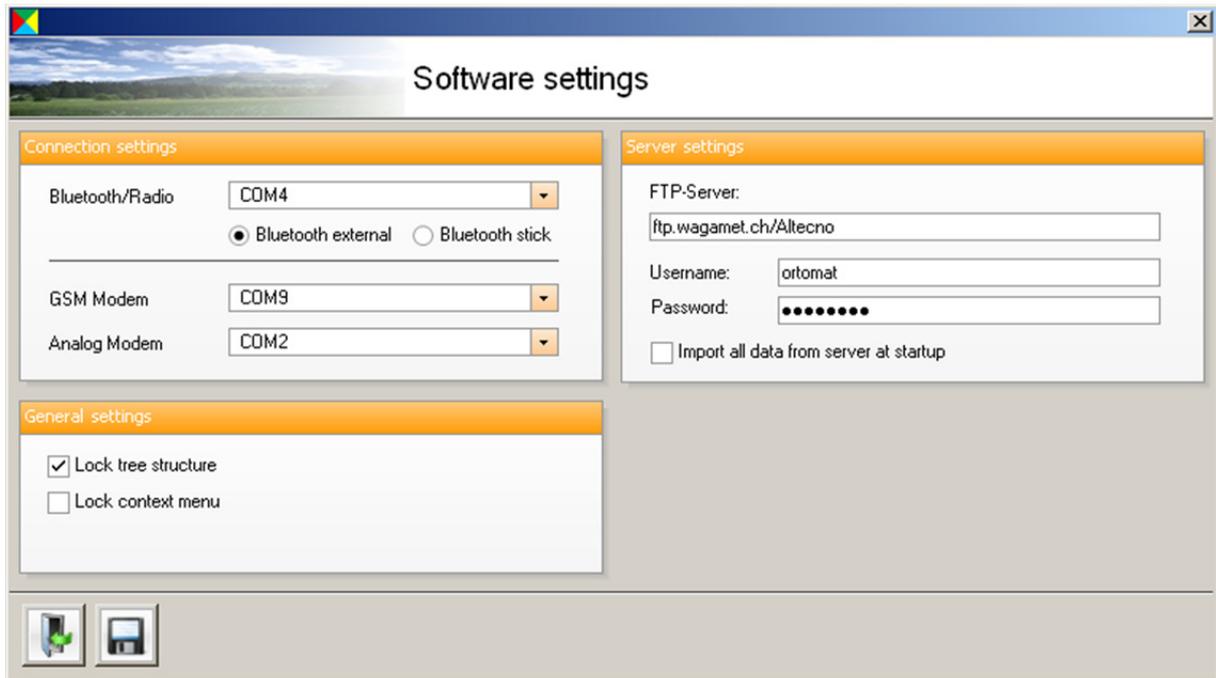


You can now view and change the settings. Click on “Save”  to save all changes. A description of the individual settings possibilities can be found in Chapter 4.8.



4.3 Software settings

You can define basic settings of the software here.



Connection settings:

After you have installed and connected the Bluetooth module, you must set the correct COM-port here.

If a GSM modem or an analog modem is additionally used, you must also set the appropriate COM port here.



Server settings:

Please enter the access data for your FTP server here. You can set the software so that all existing measured data is automatically called up from the server with each program start.

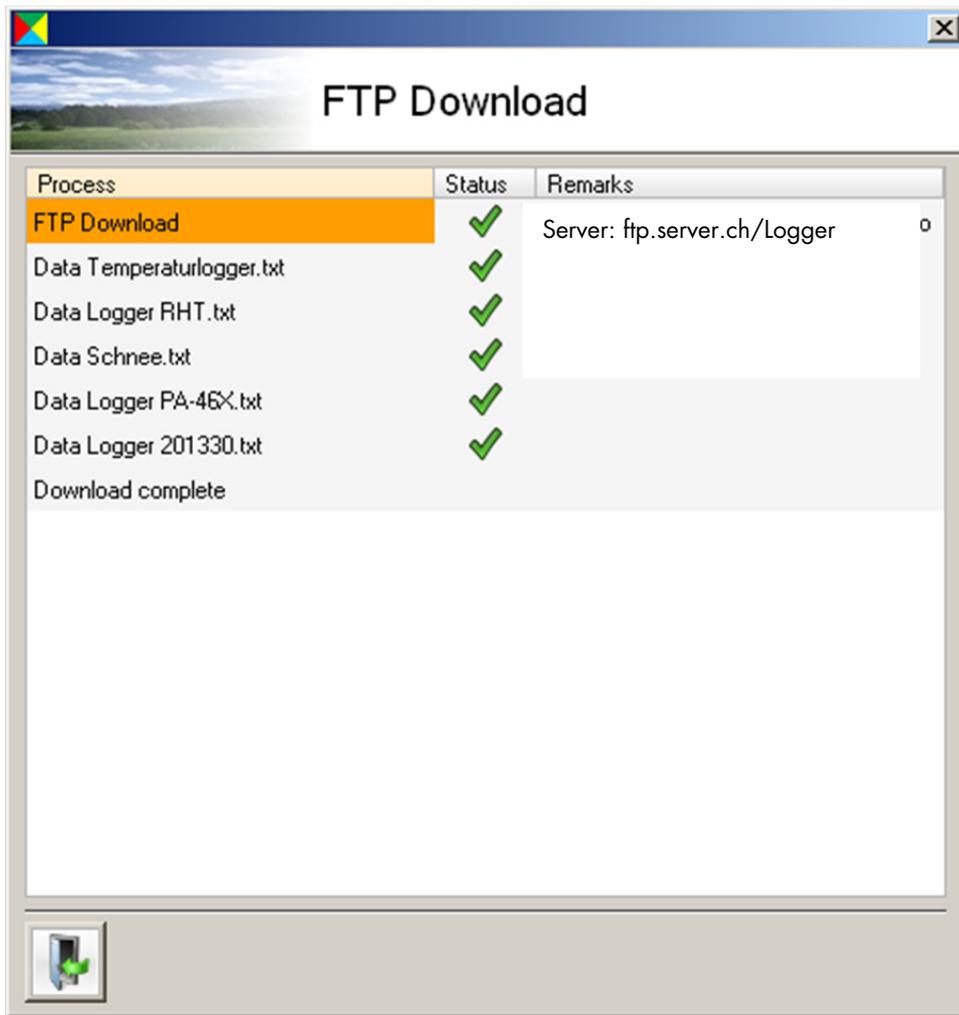
General settings:

Lock the tree structure or the context menu in the main screen.



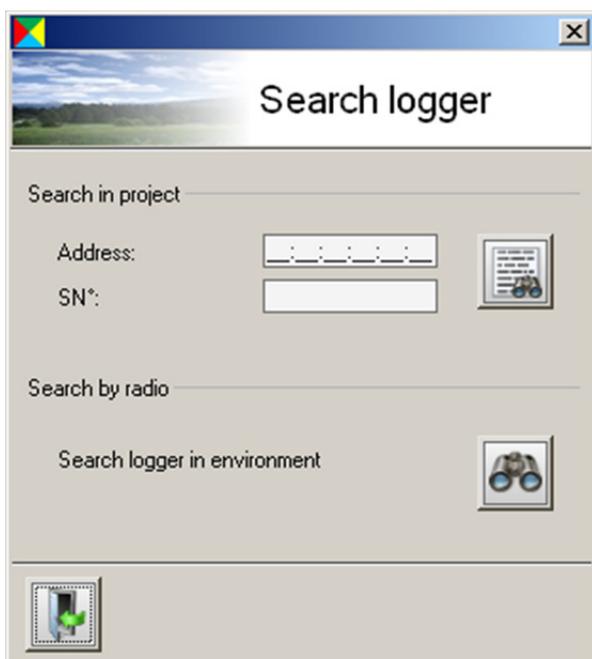
4.4 FTP download

Click here in order to download the measured data of all loggers in the project from the FTP server. Here, it is checked for each logger whether measured data exists on the server. Existing data is downloaded and stored locally in a measured data file. If a file exists, the new data is attached to the existing file.



4.5 Searching for logger

With this function, you can search for a logger in the project or in your environment via Bluetooth.



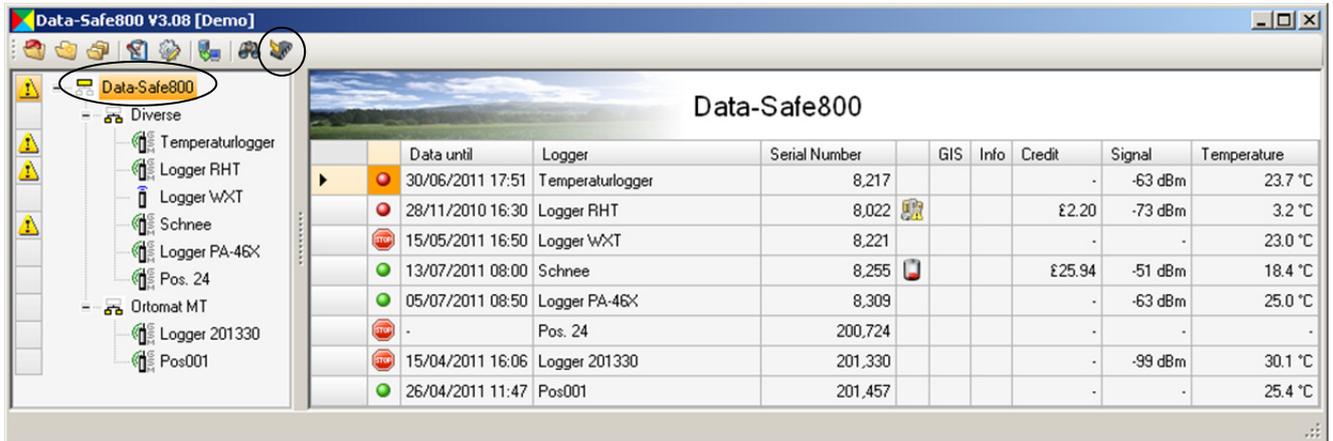
Here, you can search for a certain logger in the project. The search is performed by means of the Bluetooth address or serial number.

Here, you can search for all active loggers in your environment via Bluetooth. Please note that this function is not available with the Bluetooth stick.



4.6 Firmware update

You can update the firmware (internal logger software) by uploading a firmware file (*.bin) to your logger. This function can be applied to individual loggers as well as to groups of loggers. Before using this function, please ensure that all loggers are activated. Now, click on a logger or a group and then on  "Update".



	Data until	Logger	Serial Number	GIS	Info	Credit	Signal	Temperature
	30/06/2011 17:51	Temperaturlogger	8,217				-63 dBm	23.7 °C
	28/11/2010 16:30	Logger RHT	8,022			£2.20	-73 dBm	3.2 °C
	15/05/2011 16:50	Logger WXT	8,221				-	23.0 °C
	13/07/2011 08:00	Schnee	8,255			£25.94	-51 dBm	18.4 °C
	05/07/2011 08:50	Logger PA-46X	8,309				-63 dBm	25.0 °C
	-	Pos. 24	200,724				-	-
	15/04/2011 16:06	Logger 201330	201,330				-99 dBm	30.1 °C
	26/04/2011 11:47	Pos001	201,457				-	25.4 °C

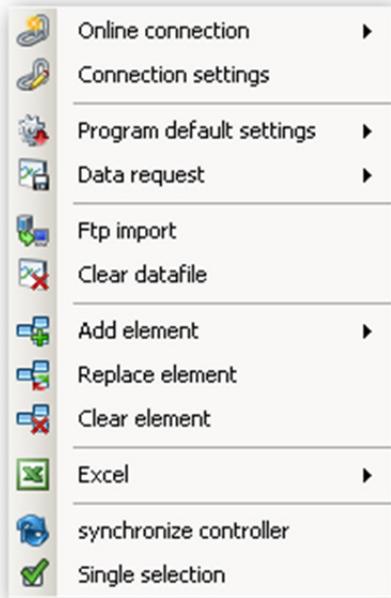
All loggers are called up one after the other and programmed with the new firmware.



Please note that the appropriate firmware version must be loaded for each logger type. Therefore, a firmware update can only be used with groups with the same logger types. If the program file does not match the logger type, no firmware update will be performed.

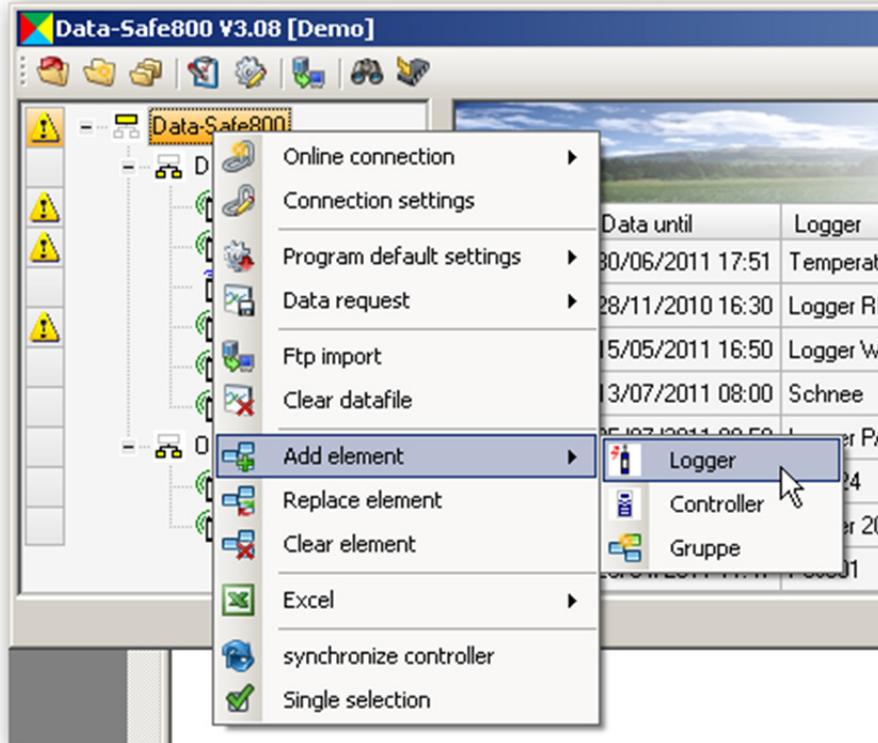
4.7 Context menu

You can reach the context menu by first highlighting a logger or a group in the tree structure with the right mouse button and then opening the context menu by clicking on it with the left mouse button. Elements (logger, groups, etc.) can be added or removed by means of the context menu. It is also used for all connecting, programming, and data query functions.



4.7.1 Adding an element

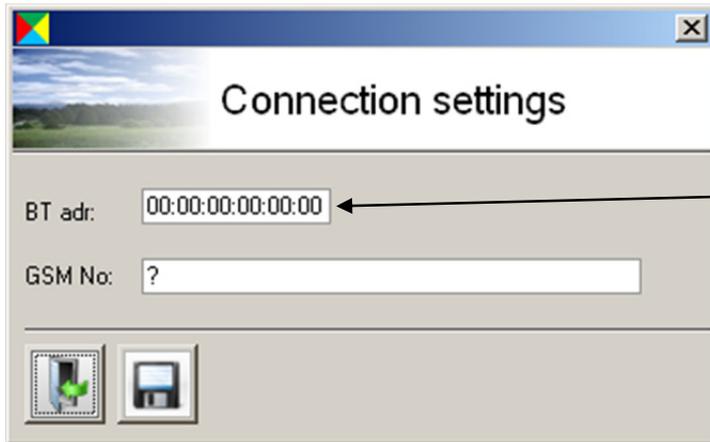
Click on a group (group is marked orange) and open the context menu. Now, select the element that you want to add to this group.



4.7.1.1 Adding a logger

You can add a logger to a group by selecting the element logger in the context menu. Then, make the necessary connection settings. The connection settings can also be changed later (see 4.7.4).

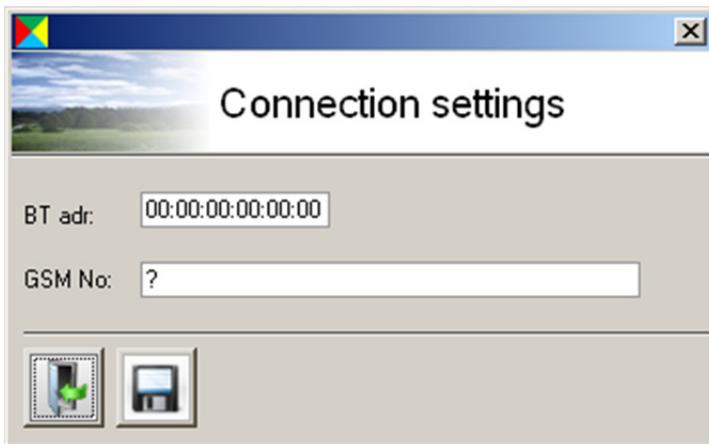




Enter the Bluetooth address of the logger in the field BT Adr. and click on “Save”.

4.7.1.2 Adding a manager

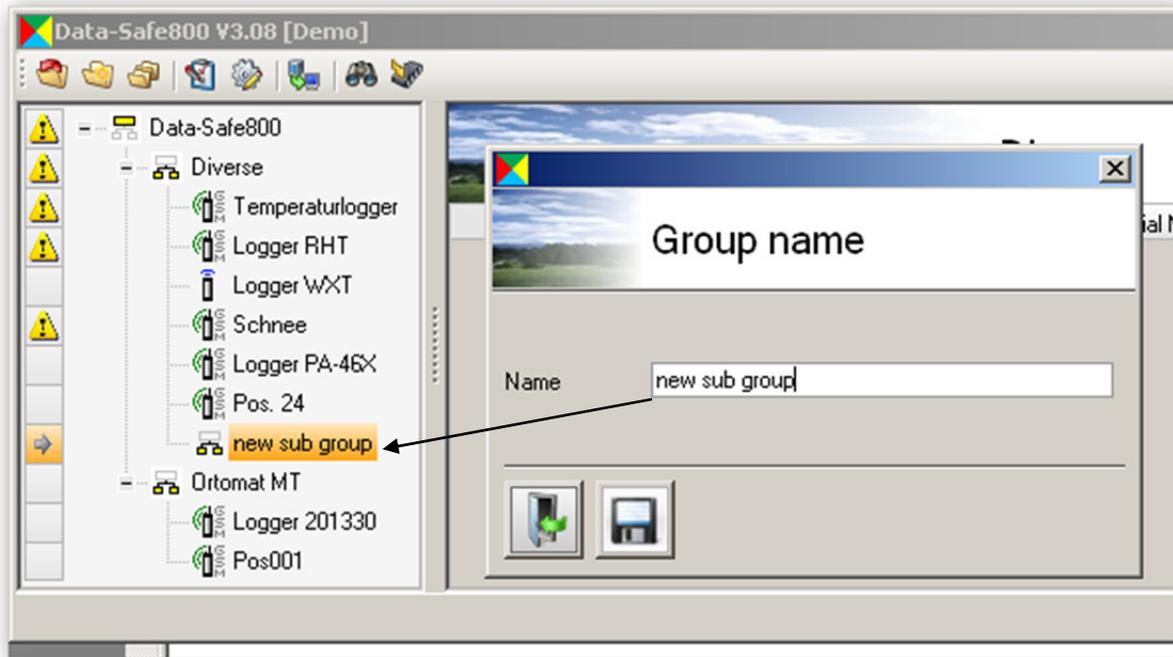
Add a manager to a group by selecting the element manager in the context menu. Then, make the necessary connection settings. The connection settings can also be edited later (see 4.7.1).



Enter the Bluetooth address of the manager in the field BT Adr. and click on “Save”.

4.7.1.3 Adding a group

You can add a subgroup to a group by selecting the element group in the context menu.



Enter the group designation now and click on “Save”.



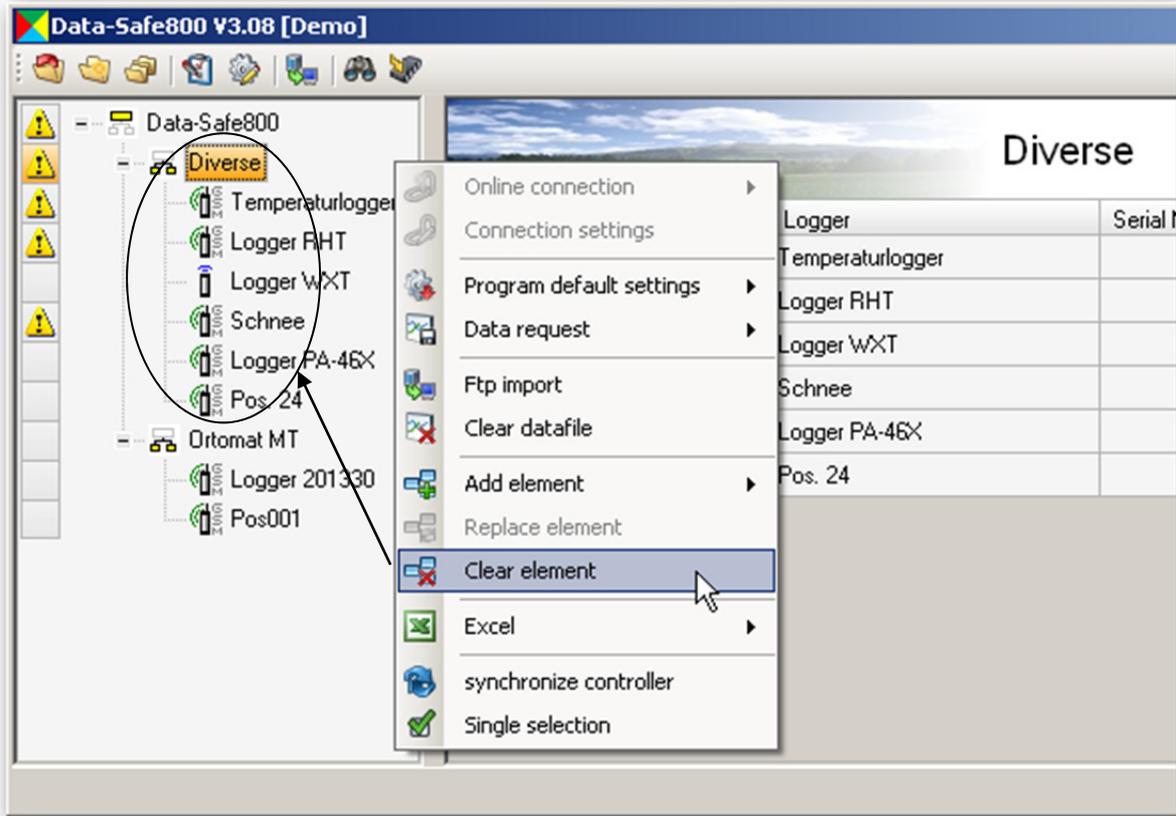
You can edit the group designation at any time by double clicking on the group name.



4.7.2 Deleting an element

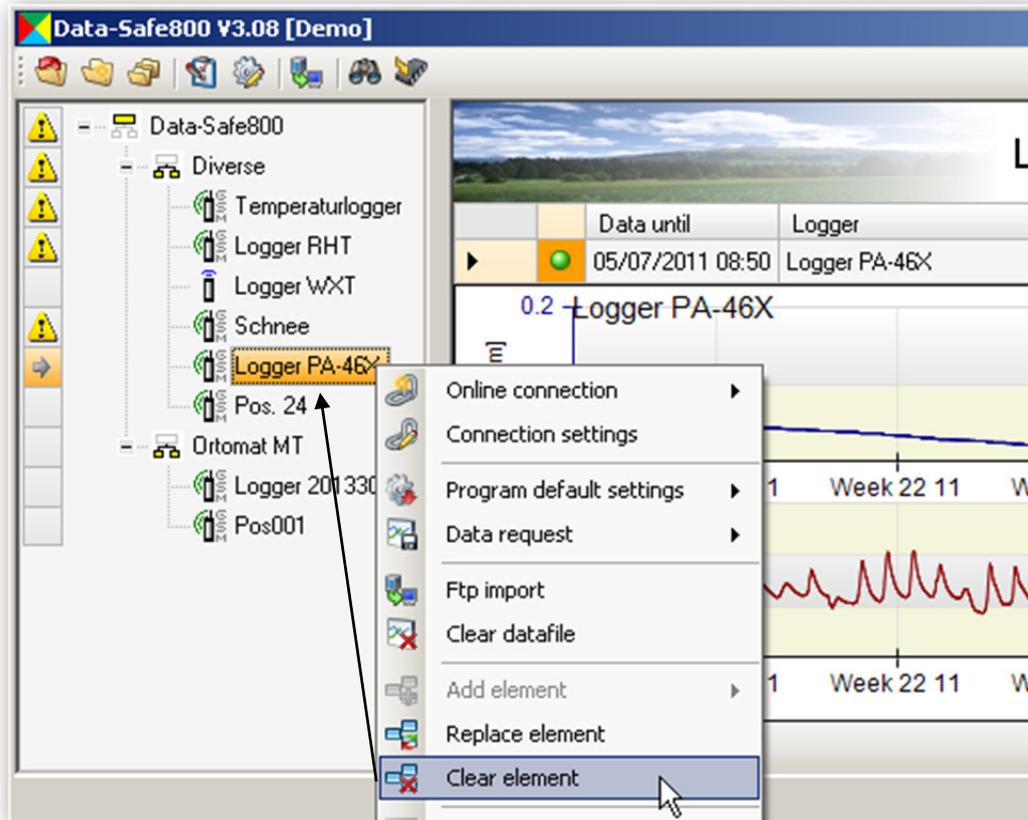
Mark an element (group, subgroup, or logger) and open the context menu with the right mouse button. Then, select “delete element”. This function can be applied to individual devices and groups.

Deleting entire group:



Please note that all subgroups within the selected group will also be deleted.

Deleting individual devices:



4.7.3 Online connection

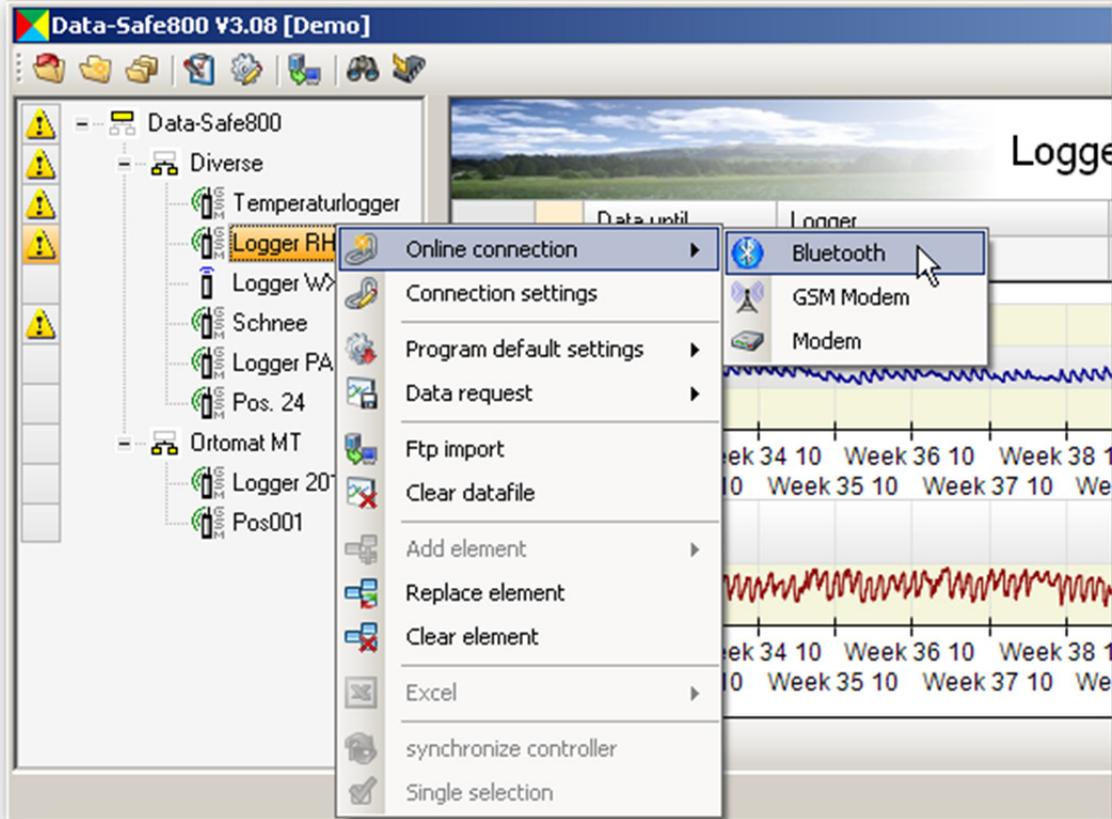
You can set up an online connection with a logger three different ways.

- Connection via Bluetooth
- Remote connection via GSM modem
- Remote connection via analog modem

Ensure that the desired communication device is connected to your PC. Mark a logger and select the respective connection type in the context menu. The connection will be set up automatically.

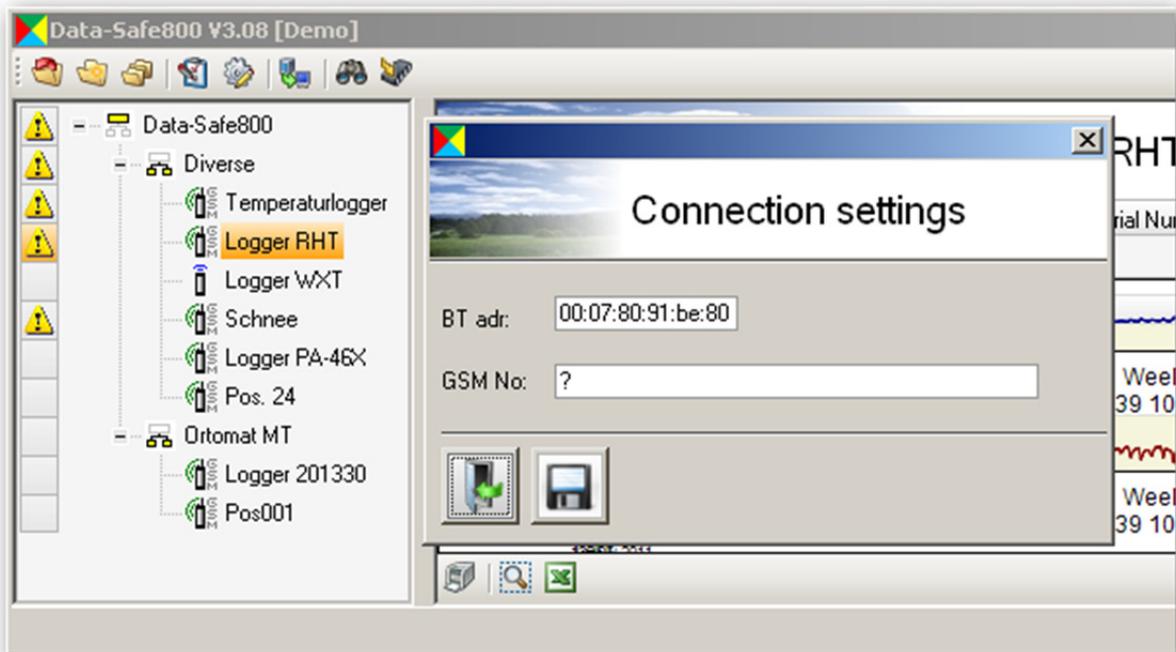


You can also set up the Bluetooth connection with a double click on a logger.



4.7.4 Connection settings

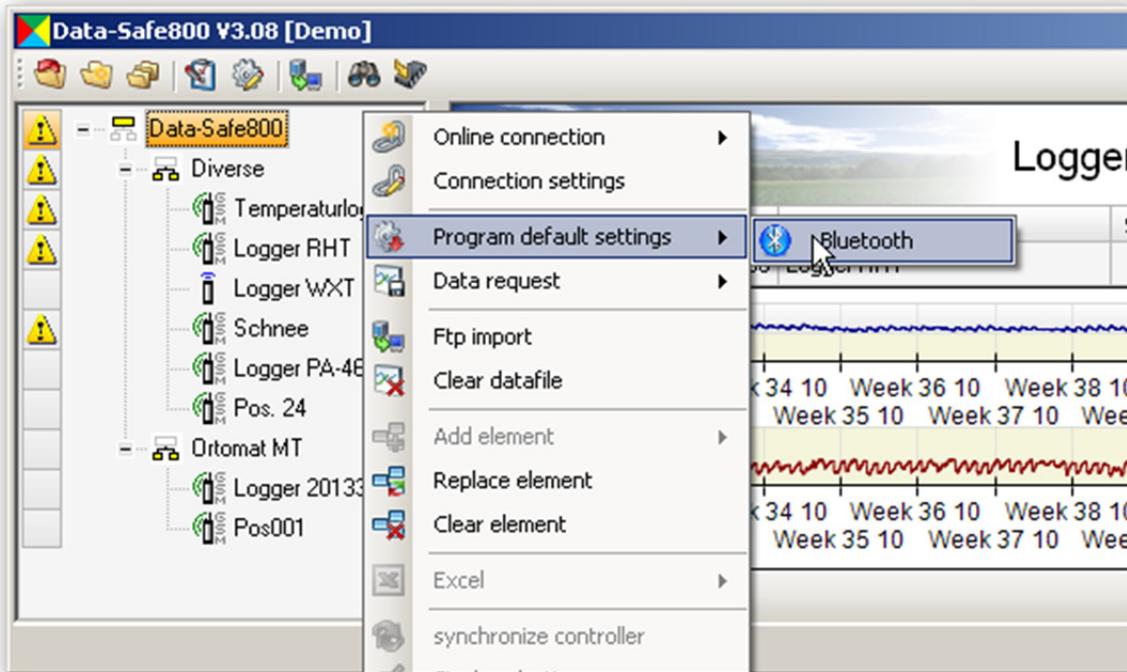
Mark a logger and select “connection settings” in the context menu. You can now enter a Bluetooth address or a GSM number. Click on “save” in order to save the settings.





4.7.5 Programming from settings file

You can program an individual logger or a logger group with the settings from a settings file. Here, the logger is completely reprogrammed except for the logger designation and the location.

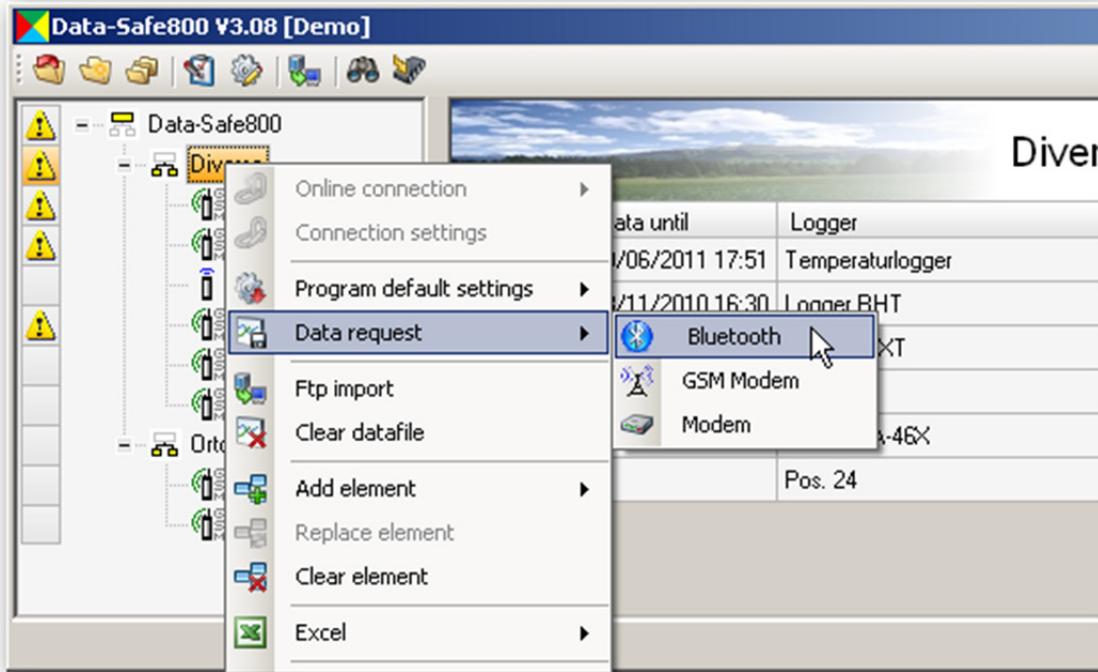


This function may only be used with groups with the same logger type. Programming with the wrong settings files can lead to malfunctions.



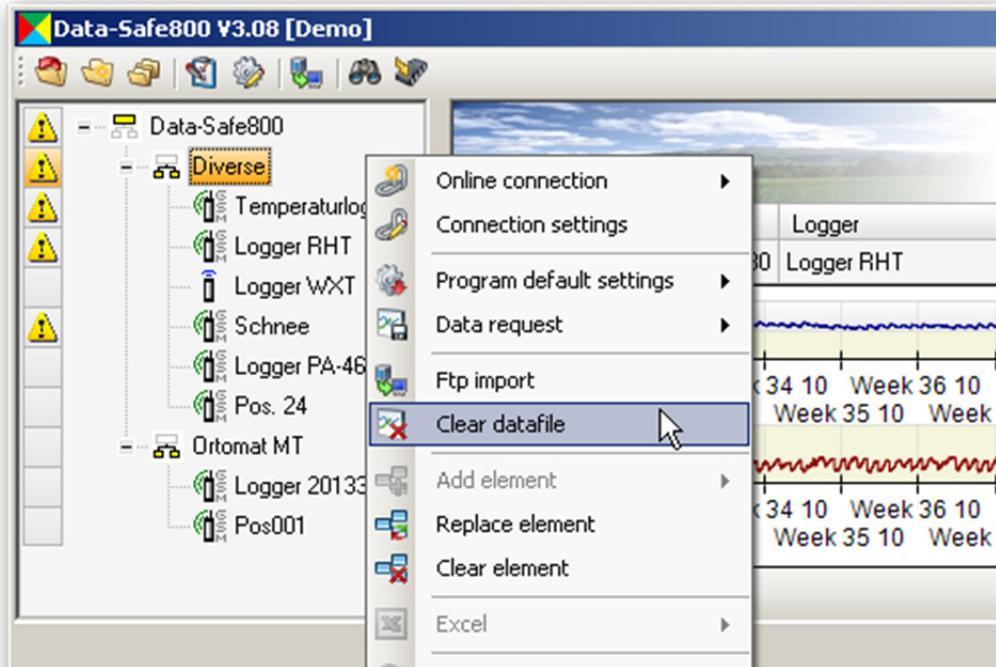
4.7.6 Data query

A data query can include individual loggers or all loggers of a group. For this, mark a logger or a group and select the desired connection type in the context menu under “data query”. A connection to each logger is set up and the measured data transferred to the PC. The data will be attached to the respective measured data files. If no measured data file exists, this will be created in the project subfolder “.../Data”.



4.7.7 Deleting measured data file

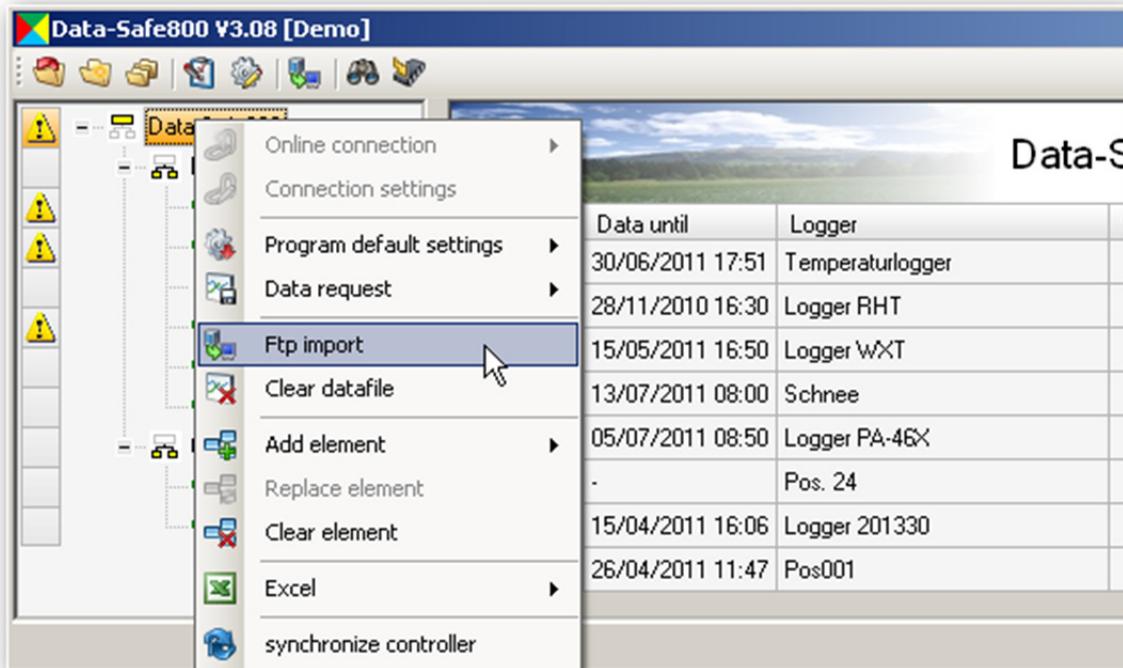
You can delete existing measured data on your PC by marking a logger or a group and then clicking on “delete measured data file” in the context menu. All measured data of the affected logger in the project subfolder “.../Data” will be deleted.



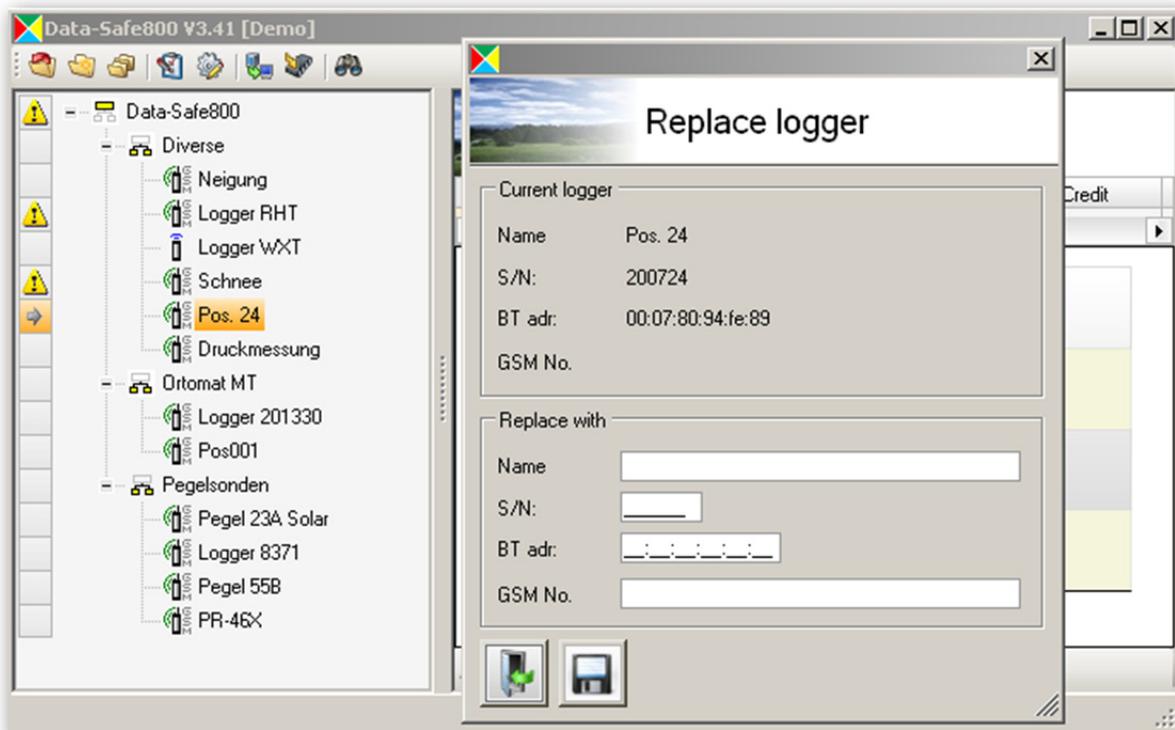


4.7.8 Ftp import

An Ftp import can be performed for individual devices or for groups. Here, all measured data will be imported from the Ftp server. The data will be attached to the respective measured data files. If no measured data file exists, this will be created in the project subfolder ".../Data".

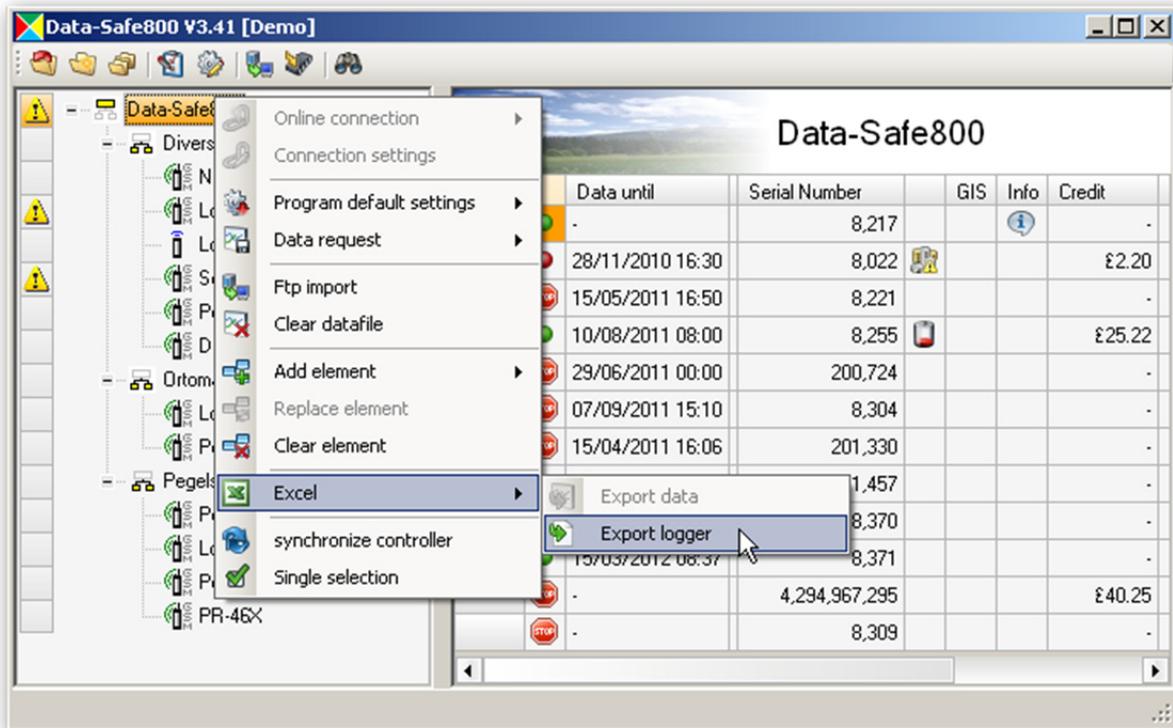


4.7.9 Replace element



You can replace an existing logger by entering the device data and the connection settings for the new logger here. Name, serial number and GSM number are optional entries. When you first connect the data is synchronized.

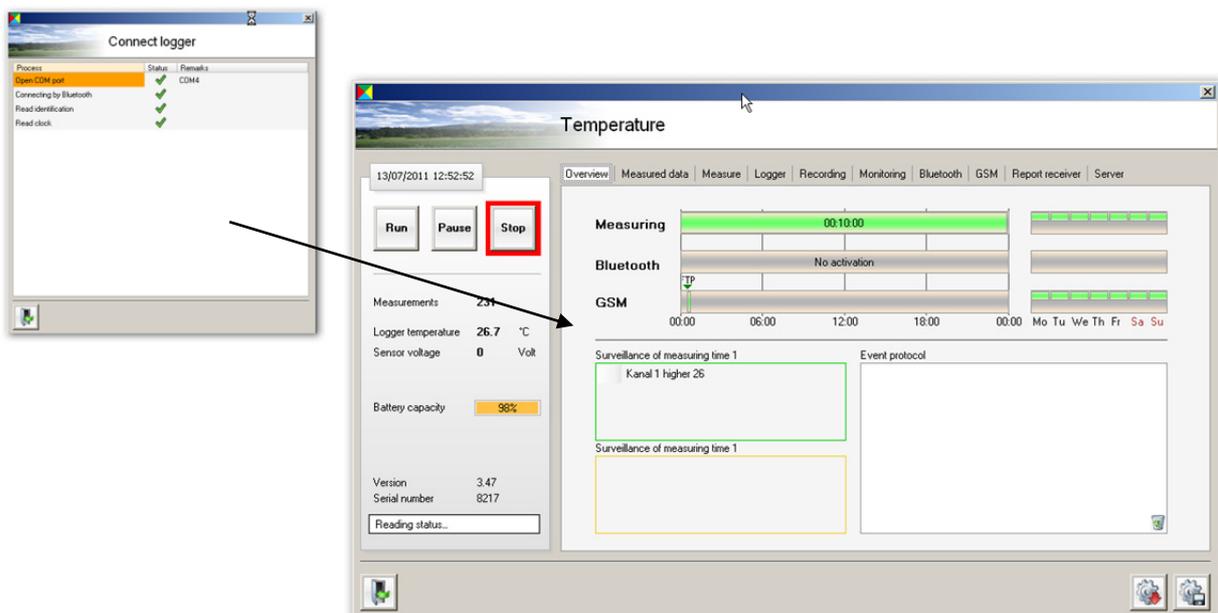
4.7.10 Excel



With this function all loggers of the project can be exported in an Excel spreadsheet.

4.8 Logger settings

After an online connection (see 4.7.3), an entry window is opened, in which all logger settings can be viewed and changed.

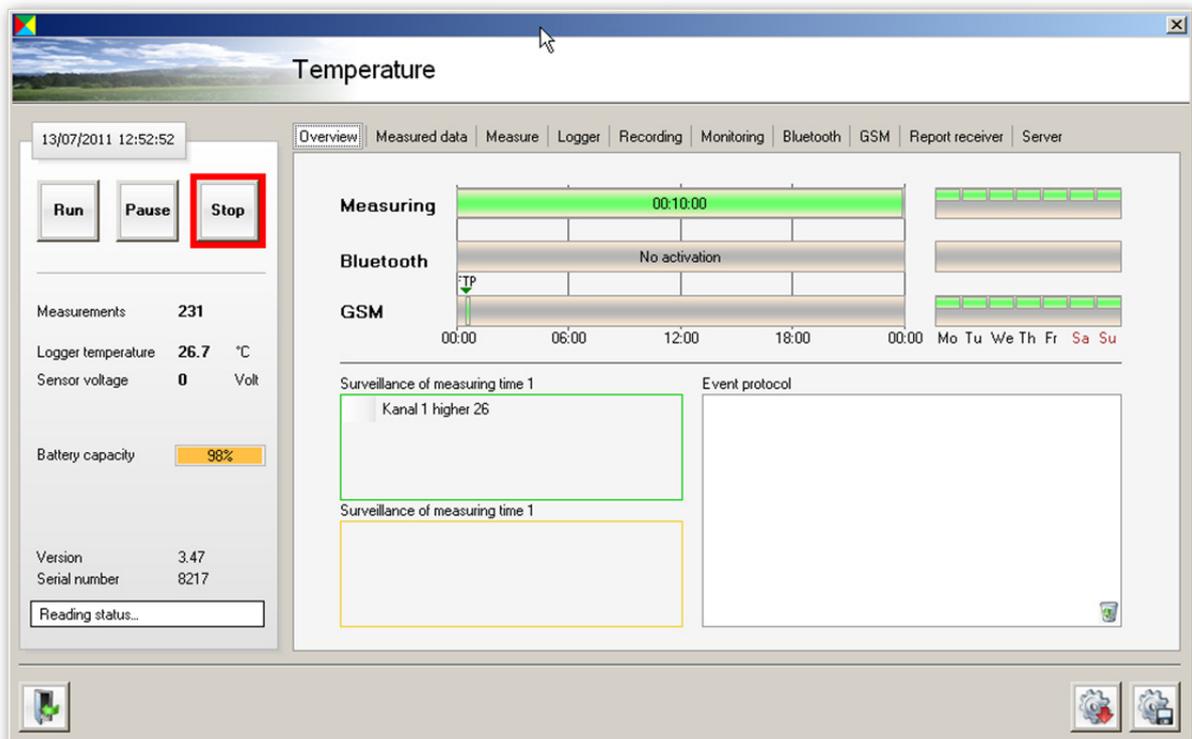


4.8.1 Overview

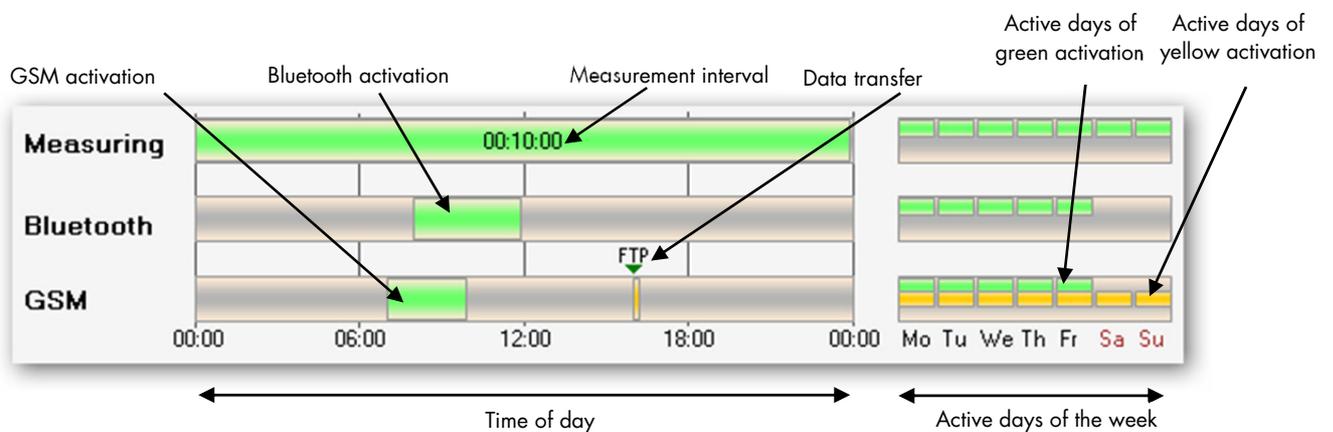
The most important settings of your logger are displayed in the overview. The left side shows the current operating condition of the logger and the right side gives information about the most important settings and the most recent events.

These are:

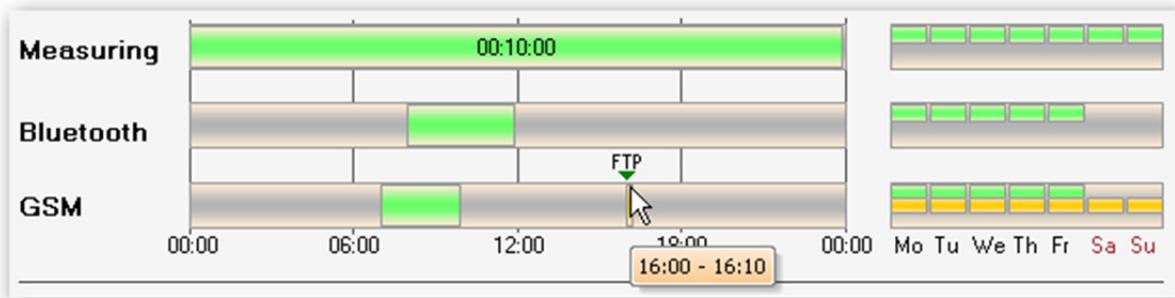
- Measured data recording
- Bluetooth activations
- GSM activations
- Measured value monitoring
- Recent events (exceeded limit values, etc.)



The most important time settings are shown in the following display:



You can make the activation time visible by placing the cursor on a time bar.



The operating condition overview displays the following information:

13/07/2011 12:57:15 ← Internal clock of the logger

Run Pause **Stop** ← Measurement mode:
Run = data recording
Pause = data recording interrupted
Stop = no data recording

⚠ Click on the fields in order to change the configuration

Measurements 231 ← Number of measurements in the memory

Logger temperature 26.9 °C ← Internal logger temperature

Sensor voltage 0 Volt ← Supply voltage of the sensors

Battery capacity 98% ← Battery condition

Version 3.47 ← Firmware version and serial number

Serial number 8217

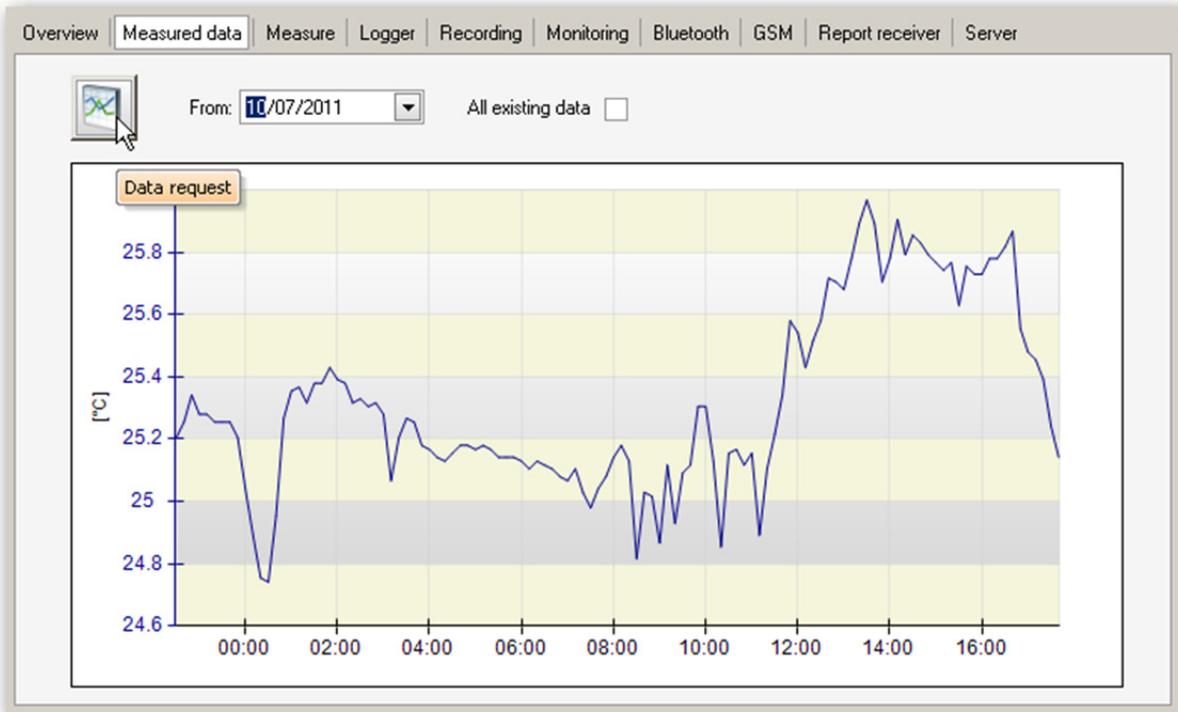
Reading status... ← Last communication activity

- ⚠ When changing from Stop to Run, all measured data in the logger is deleted and recording is started again.
- When changing from Pause to Run, the measured data remains in the memory and recording is continued

4.8.2 Measured data

Click on data query in order to read the measured data from the logger. Normally, you do not need to make additional settings because the date of the last existing measurement in the measured data file

is automatically entered into the field “Since: --.--.--” meaning that only the data that has been added since the last data query is read. The new measurements will be attached to the existing file.



You can read out all existing measured data, if desired, or only the data after a certain date. For this, fill out the following fields and click on data query.



4.8.3 Measuring

You can directly call up and graphically display the current measured values by clicking on [Measure] or on [Online chart].

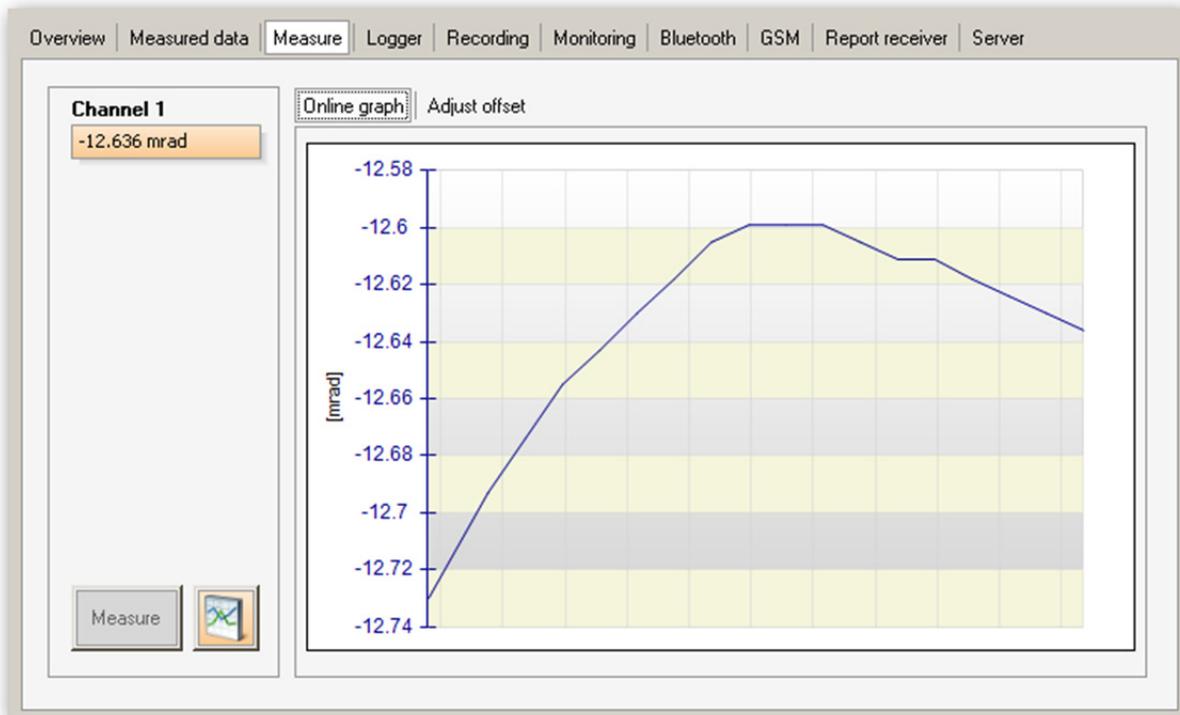


Individual measurement with each click



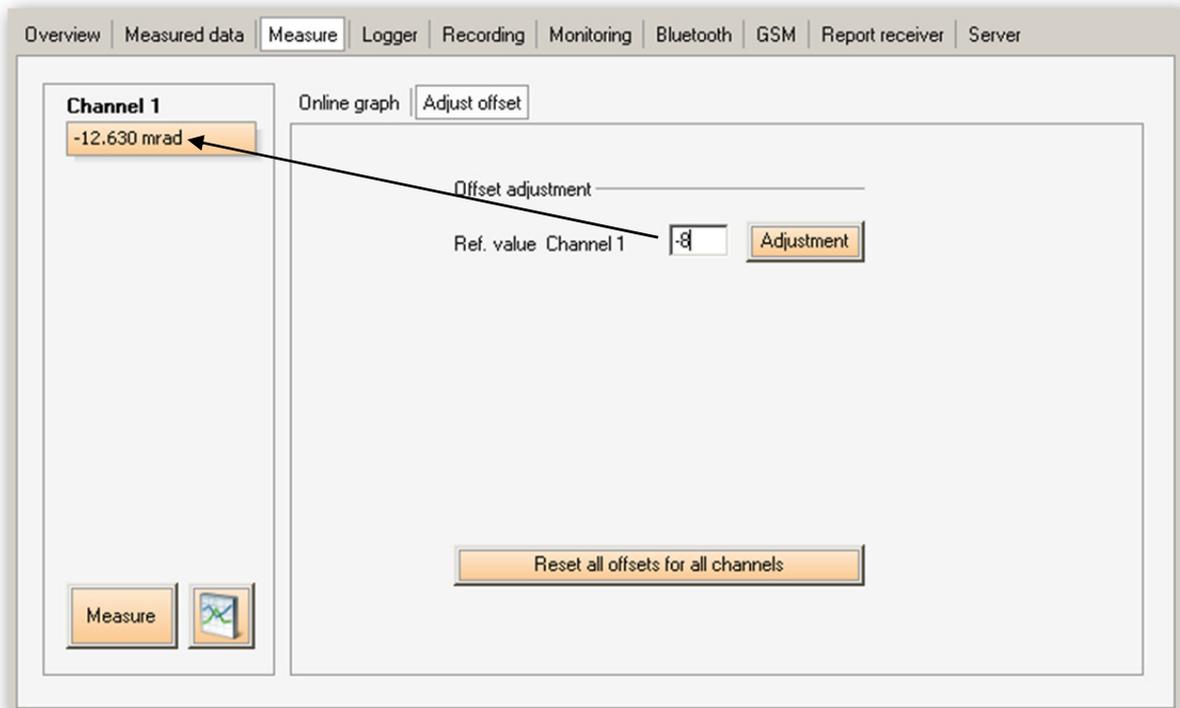
Automatic measurements at the shortest possible interval

Each measured value is entered on the right side of the chart.



4.8.3.1 Offset adjustment

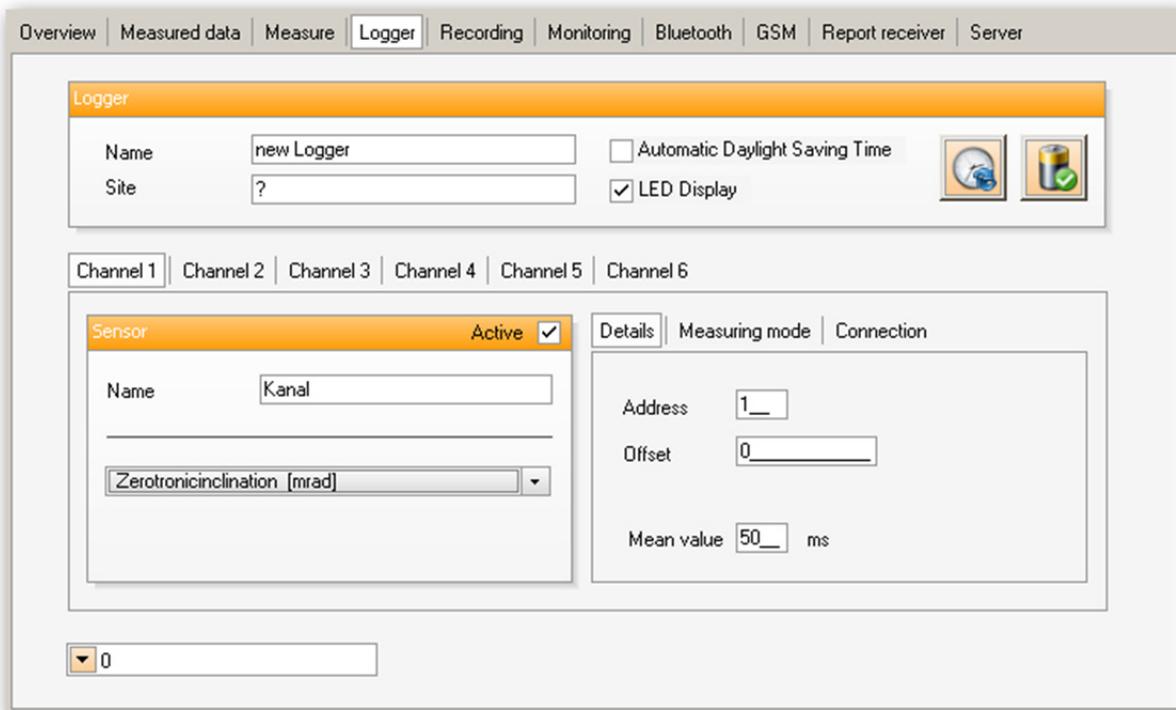
Switch to the tab “offset adjustment” in order to adjust one or several channels to a certain value. For this, enter a desired value and click on [Adjust].



An average value is formed from 3 measurements. An offset value is calculated from the result, which adjusts the current measured value to the desired value. This offset value is saved in the logger. Click on [Reset all channels to the standard offset] in order to reset this setting.

4.8.4 Logger

The loggers are identified by means of a designation and a location. The designation is used in all measured data files (PC-local or Ftp) as well as to tag an SMS. Here, the measurement channels and their settings can also be defined.



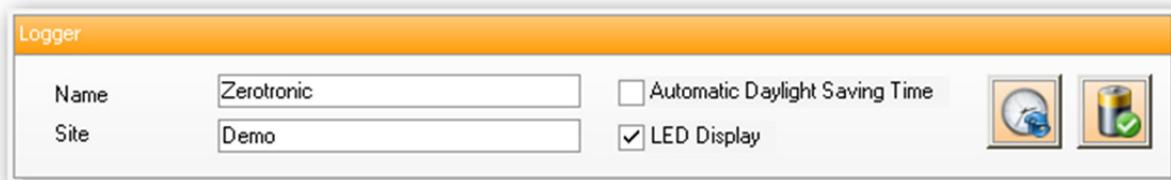
4.8.4.1 General logger settings

Here, you define the designation and the location of the logger with a maximum of 30 characters each.



Please note that the following characters are not permitted in the logger designation!

[\ / : * ? " < > |]



If the internal clock of the logger is to automatically switch to daylight savings time, you must activate the checkbox "Switch to daylight savings time". If you do not want a status display with the LED, deactivate the checkbox "LED display".



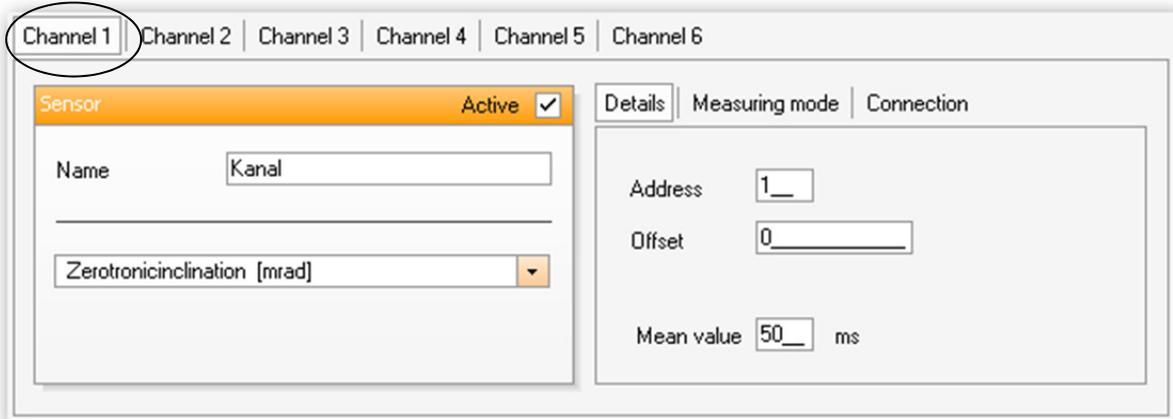
Click here in order to adjust the internal clock of the logger to the clock of your computer.



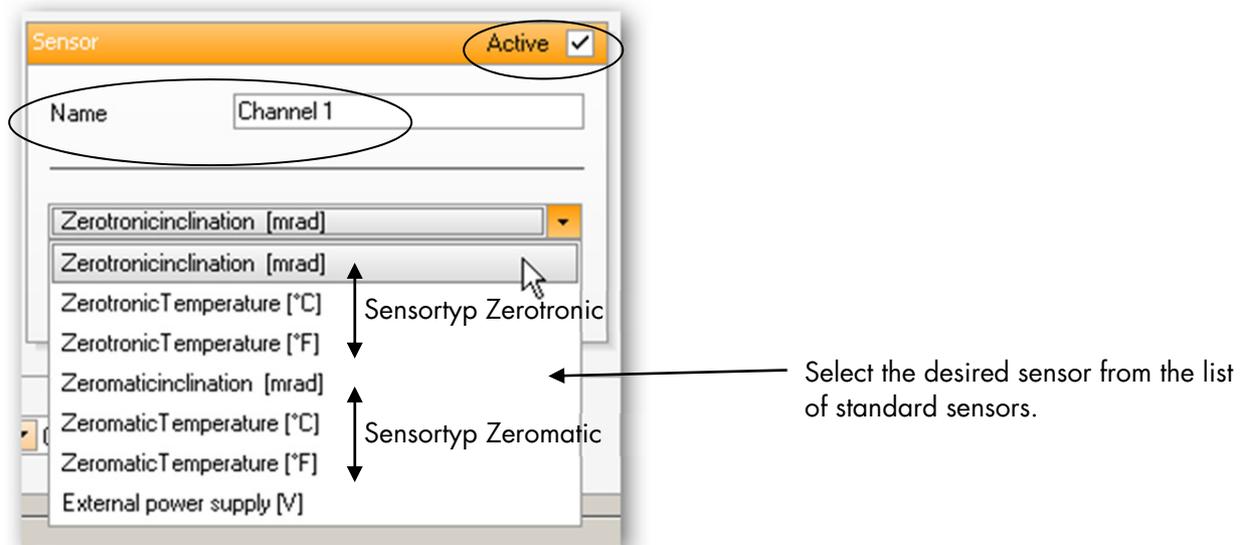
Click here in order to set the battery display to 100%.

4.8.4.2 Channel settings

First, select a channel by activating the respective tab.

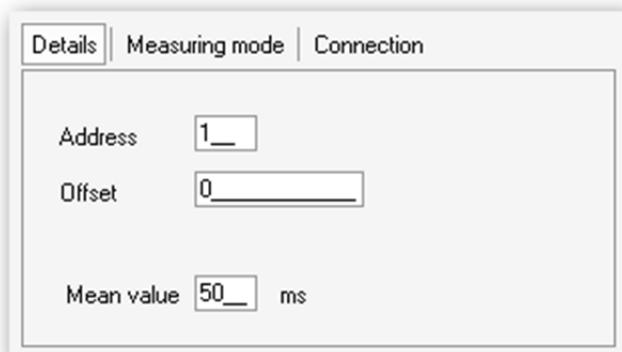


Click on “Active” now in order to enable recording of this channel and enter a channel designation. Then, select the desired sensor type from the list.

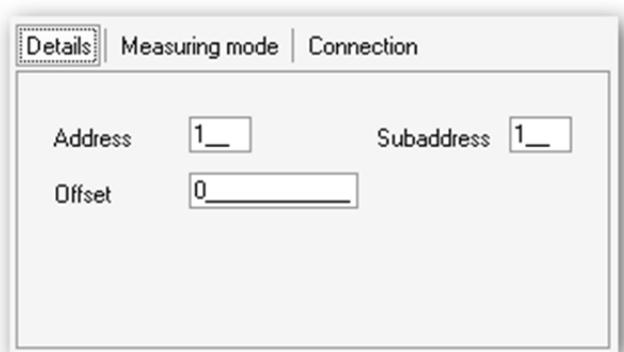


Enter the sensor address so that the sensor can be properly addressed by the logger. You may also define an offset to match the sensor at a specific value.

Zerotronic settings:

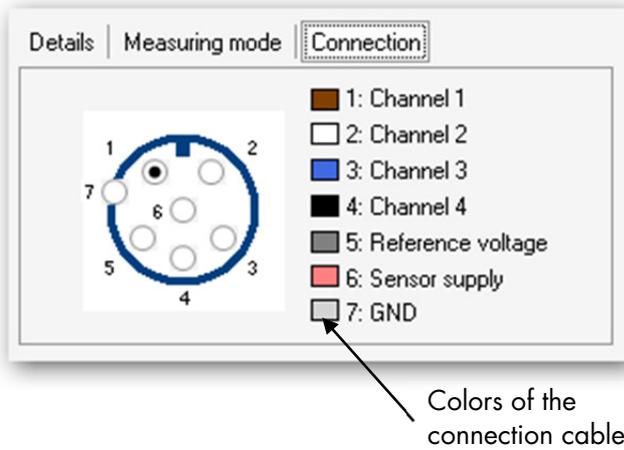


Zeromatic settings:



4.8.4.3 Pin assignment

You can find the pin assignment of the socket of the logger in the “Connection” tab.



4.8.5 Recording

Here, you define when and in what intervals the data is recorded. You can define two different measurement periods with different intervals. For each measurement period, the recording duration can be determined over the duration of the day. It is also possible to record only on certain days of the week. You can delay the start of a measurement by entering a future date in the field “Date of 1st measurement”. If the date is in the past, the measurement begins immediately.

The screenshot shows the "Recording" tab in the software interface. It features two tabs for "Measuring time 1" and "Measuring time 2". The "Settings for time variation curve" section is active, with a checkbox for "Active" checked. The "Recording" field is set to "00:00" to "00:00" with a "24h" interval. The "Interval" field is set to "00:10:00" with a label "hh:mm:ss". The "Date of the 1st measurement" is set to "01/01/2008". The "Stop measurement if memory is full" checkbox is unchecked. The "Date of the 1st measurement" field has a dropdown arrow and a note "(A past date has no effect)". The "Recording" field has a "24h" checkbox. The "Interval" field has a label "hh:mm:ss". The "Date of the 1st measurement" field has a dropdown arrow and a note "(A past date has no effect)". The "Stop measurement if memory is full" checkbox is unchecked. The "Date of the 1st measurement" field has a dropdown arrow and a note "(A past date has no effect)".



Each measurement always begins on a whole hour. Therefore, select a sensible interval such as 6h, 3h, 2h, 1h, 30min, 20min, 15min, 10min, 6min, 5min, 2min, 1min.

For instance, you have selected an interval of 15min. You start the measurement at 14:35; the logger waits 10min until the 1st measurement. This means that measurement 1 will be performed at 14:45, measurement 2 at 15:00, etc.

Sample settings for recording the measured data:

Example 1: Continuous measurements at 1h intervals. (7 days a week and 24h a day)

Definition measurement period 1:

Measuring time 1 | Measuring time 2

Settings for time variation curve Active

Recording: 00:00 to 00:00 24h

Interval: 00:10:00 hh:mm:ss

Mo Tu We Th Fr Sa Su

Definition measurement period 2:

Measuring time 1 | Measuring time 2

Settings for time variation curve Active

Recording: 00:00 to 00:00 24h

Interval: 00:10:00 hh:mm:ss

Mo Tu We Th Fr Sa Su

Example 2: Continuous measurements at 2h intervals and 5min intervals between 11:00 and 14:00 from Monday through Friday

Definition measurement period 1:

Measuring time 1 | Measuring time 2

Settings for time variation curve Active

Recording: 00:00 to 00:00 24h

Interval: 02:00:00 hh:mm:ss

Mo Tu We Th Fr Sa Su

Definition measurement period 2:

Measuring time 1 **Measuring time 2**

Settings for time variation curve **Active**

Recording to 24h

Interval hh:mm:ss

Mo Tu We Th Fr Sa Su

4.8.6 Monitoring

The measurements can be monitored and selected for exceed limit values for each channel. For this purpose, an upper and lower limit value can be defined with hysteresis. The monitoring function can be activated for each channel and for each measurement period individually. In addition, you can determine after how many measurements, where the limit values are constantly exceeded, an alarm (e.g. SMS) will be triggered.

Overview | Measured data | Measure | Logger | Recording | **Monitoring** | Bluetooth | GSM | Report receiver | Server

Measuring time 1 | Measuring time 2

Temperature ... | ... | ...

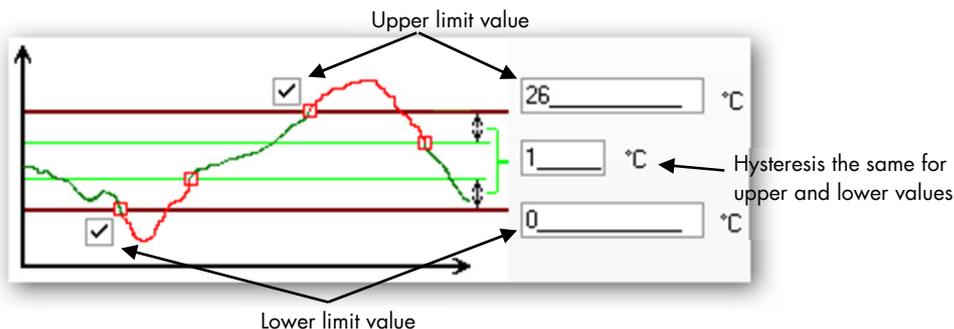
Monitoring settings **Active**

26 ?
 1 ?
 0 ?

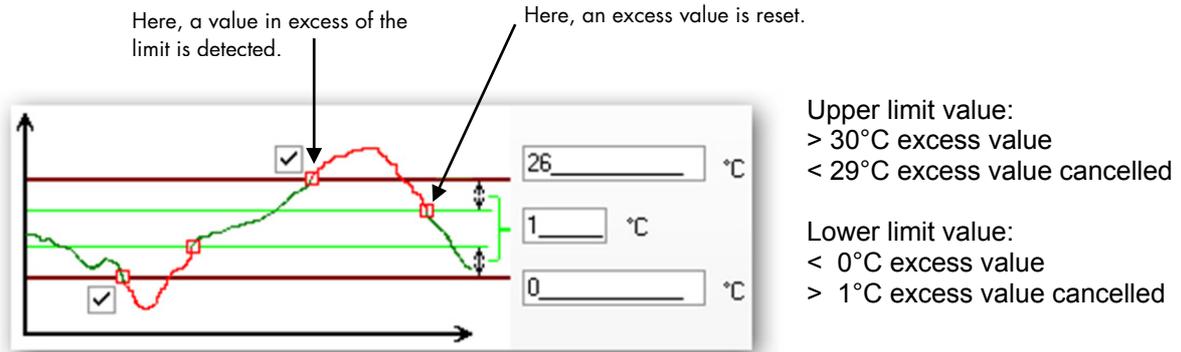
Alarm after at least Measurement(s)

Limit value settings:

The upper and lower limit values can be activated individually. The hysteresis is the same for both limit values.



Monitoring function:



You can limit the time of the measured value monitoring by defining two measurement periods with the same interval and activating limit value monitoring only for one measurement period.

4.8.7 Bluetooth

The Bluetooth interface can be switched on automatically up to two times a day on any day of the week. It is also possible to activate the interface at any time with the magnetic switch.

Overview | Measured data | Measure | Logger | Recording | Monitoring | **Bluetooth** | GSM | Report receiver | Server

Switch-on time Switch-off time

Automatic activations		Mo	Tu	We	Do	Fr	Sa	Su	Active
Activation 1	08:00 to 12:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Activation 2	14:00 to 18:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>						

Active days of the week

Activation by hand using magnet (1s on LED)

Duration: 00:30 hh:mm

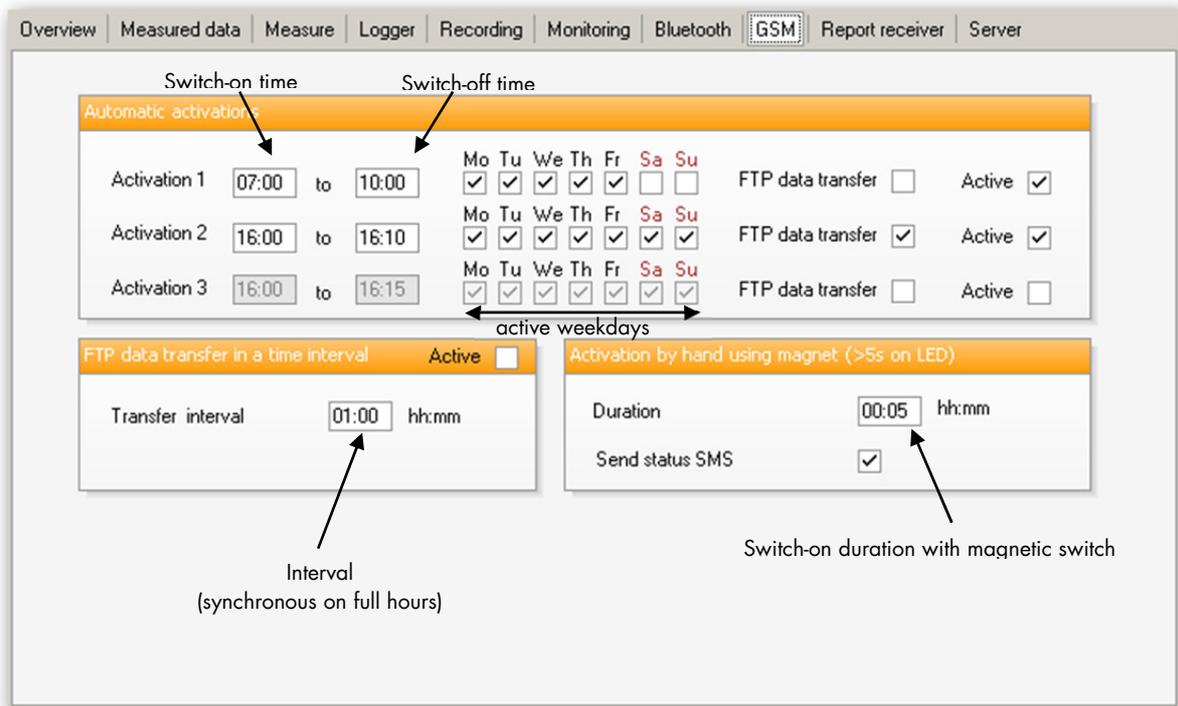
Switch-on duration with magnetic switch



Please note that the switch-on duration of the Bluetooth module has a major influence on battery life. If the logger is easily accessible and can be switched with the magnetic switch, if needed, we recommend that you not automatically activate the Bluetooth module.

4.8.8 GSM

The GSM modem can be switched on automatically up to three times a day on any day of the week. At the beginning of every activation, you can also transfer the data to the FTP server. If a more frequent transfer of data to the server is desired, you can activate a data transfer at a fixed interval. Here, the data is transferred at the set interval with the shortest possible GSM activation. It is also possible to activate the GSM modem at any time with the magnetic switch. With each manual activation, a status-SMS is sent to all message recipients if the checkbox “Send status SMS” is activated.



The screenshot shows the GSM configuration interface with the following sections:

- Automatic activations:** A table with three rows:

Activation	Switch-on time	Switch-off time	Mo	Tu	We	Th	Fr	Sa	Su	FTP data transfer	Active
Activation 1	07:00	10:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Activation 2	16:00	16:10	<input checked="" type="checkbox"/>								
Activation 3	16:00	16:15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
- FTP data transfer in a time interval:**
 - Active:
 - Transfer interval: 01:00 hh:mm
 - Annotation: Interval (synchronous on full hours)
- Activation by hand using magnet (>5s on LED):**
 - Duration: 00:05 hh:mm
 - Send status SMS:
 - Annotation: Switch-on duration with magnetic switch



Please note that the switch-on duration of the GSM module has a major influence on battery life. Select the shortest possible activation durations. If you only want to transfer data, an activation duration of one minute is sufficient. Here, the activation duration is automatically adjusted to the transfer duration.

4.8.9 Message recipients

You can define up to 4 different message recipients. You define for each recipient whether the recipient shall receive only status messages (battery, balance, etc.) or only event messages (exceeding limit values) or both. Here, you can also stipulate message texts for sending SMS's. for each message, the GSM module can be switched to receive for a certain time. During this time, you can directly access the logger by means of a modem connection.



If you have defined an FTP connection, the data is also automatically transferred to the server with each message.

Overview | Measured data | Measure | Logger | Recording | Monitoring | Bluetooth | GSM | Report receiver | Server

Reporting settings

Report receiver	Report type	Receive Status message	Receive Alert message
0041122456789	SMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	SMS	<input type="checkbox"/>	<input type="checkbox"/>
	SMS	<input type="checkbox"/>	<input type="checkbox"/>
	SMS	<input type="checkbox"/>	<input type="checkbox"/>

Maximum of 4 message recipients

File name for FTP data transfer: Data Temperature.txt

File name for the FTP-transfer (is created automatically)

Message

Alert occurred: Grenzwertüberschreitung (SMS)

Alert abrogated: Überschreitung aufgehoben (SMS)

Alarm on mobile

Send directly

Send with delay (07:00)

On-time after event: 00:05 hh:mm

Activate the SMS-messages for cancelled events here

No messages are sent between 00:00 and 07:00

4.8.10 Server

Here, you define your access data for your FTP server and the GPRS access point (APN Access Point Name) of your network provider.

Overview | Measured data | Measure | Logger | Recording | Monitoring | Bluetooth | GSM | Report receiver | Server

Server settings

GPRS access point (APN): internet

Username: [] Password: []

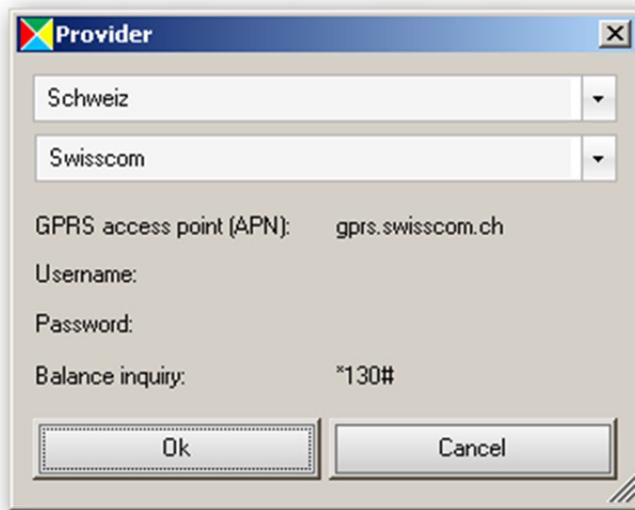
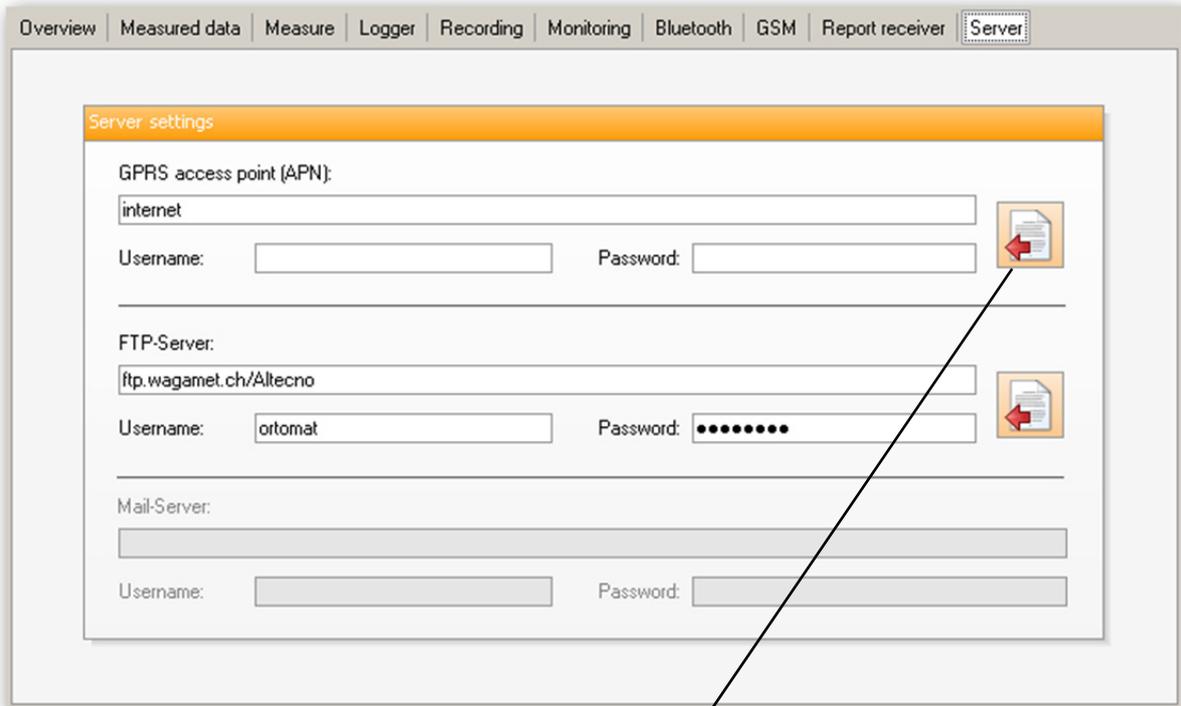
FTP-Server: ftp.server.ch/Logge[]

Username: ortomat Password: []

Mail-Server: []

Username: [] Password: []

Click here in order to accept the FTP access point from the software settings.



The access for the mobile Internet for some countries can be found here. This database will be extended by us continuously!

4.8.11 Settings files

You can save all settings of the logger in one settings file or program the logger with an already existing settings file.



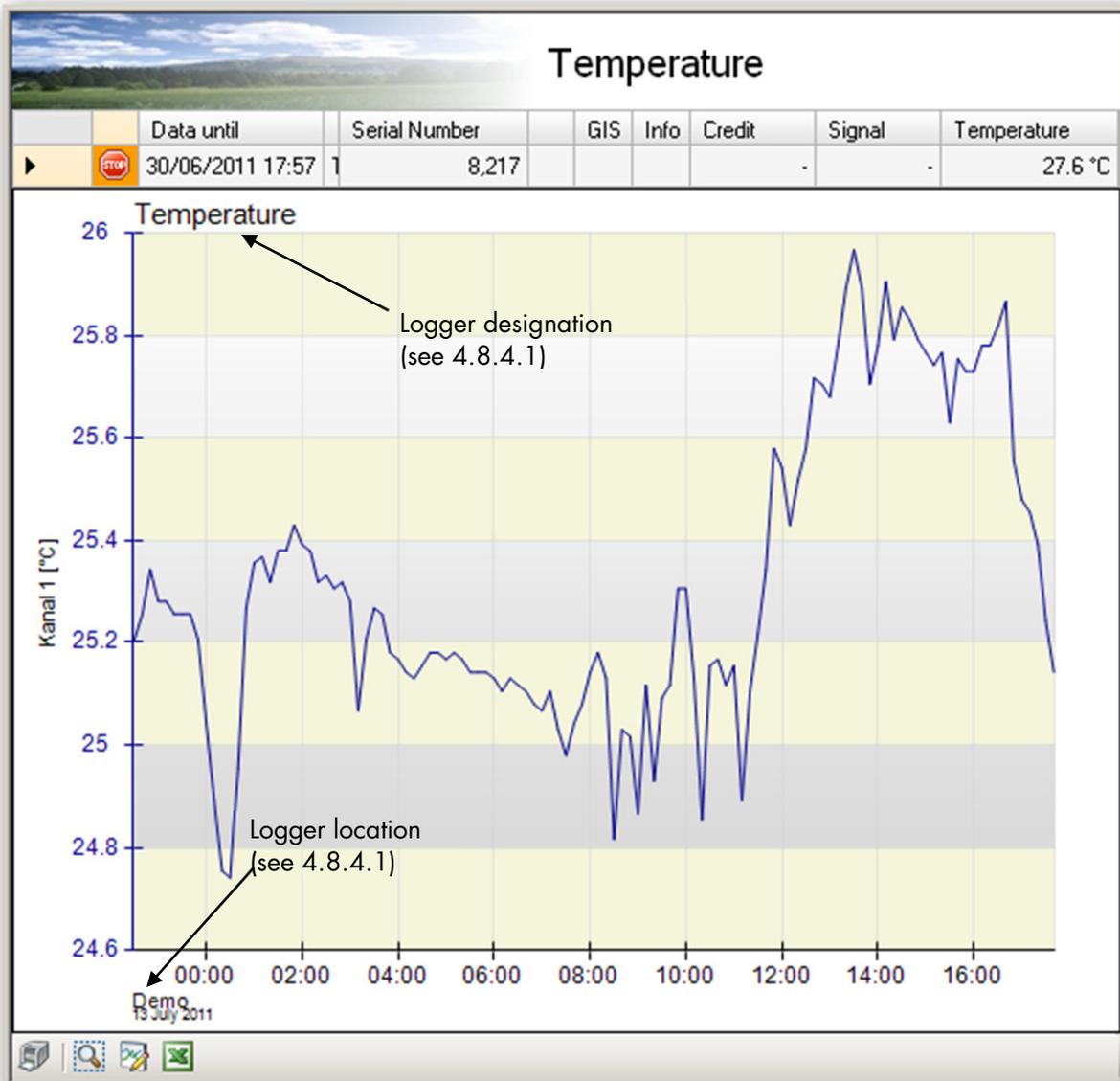
Click here in order to save the logger settings on your PC.



Click here in order to program the logger with an already existing settings file.

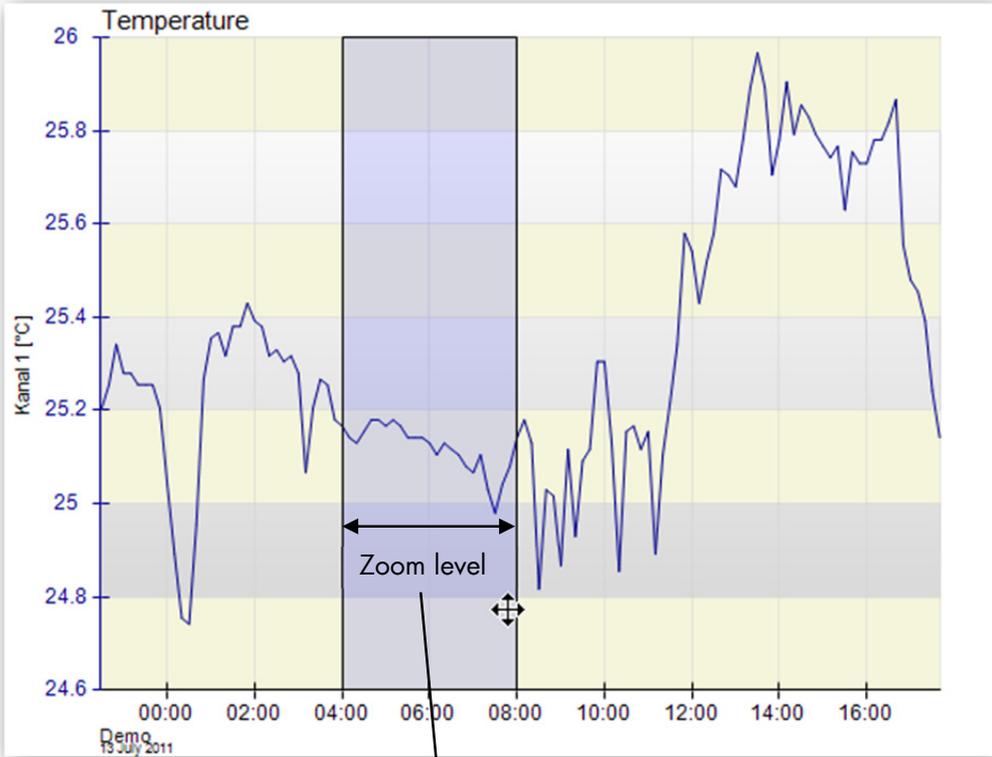
4.9 Chart presentation

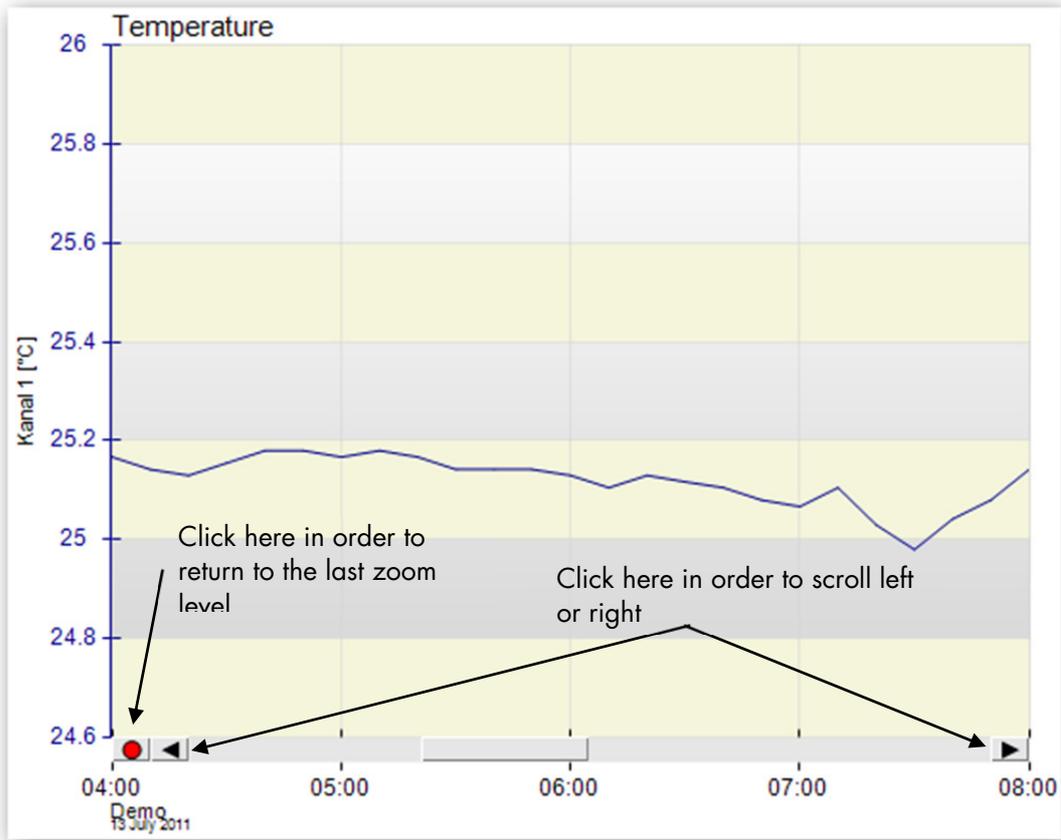
Click on a logger to open the hydrograph portrayal.



4.9.1 Zoom function

Details in the chart can be enlarged with the help of the zoom function. Click on the chart and mark the desired zoom area while pressing the mouse button. The selected section is enlarged.





4.9.2 Change scale

In general, the Y-axis scaling is automatically selected. However, you can select a fixed scale at any time by defining the minimum and maximum scale value. For this, click on "Adjust scale" .

The screenshot shows a window titled "Layout" with a landscape background. Below the title bar, there are four columns: "Show", "Auto scale", "Min", and "Max". Under "Show", there is a checked checkbox for "Kanal 1 [°C]". Under "Auto scale", there is an unchecked checkbox. Under "Min", there is a text input field containing "0". Under "Max", there is a text input field containing "100". The "Min" and "Max" input fields are circled in red. At the bottom of the window, there are two icons: a green checkmark and a floppy disk.

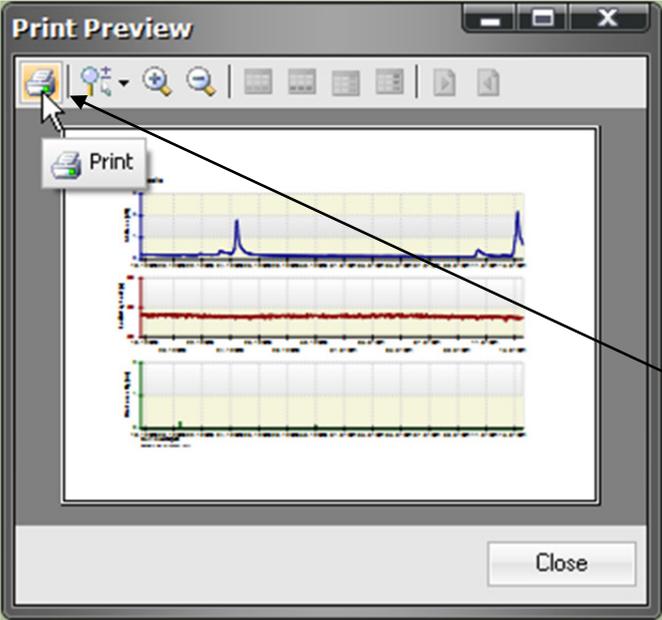
Here, you can remove a channel from the portrayal.

If the automatic scaling is not activated, the values under "Min" and "Max" are in effect.



4.9.3 Printing

For a printout, the paper size, the orientation, and the printer must first be selected. Then, click on "Print" to change to the print preview.



Click on "Print" to start the printing process.



4.9.4 Microsoft Excel Export

A series of data can be exported into an Excel table. Click on "Excel"  for this.

