



UTL-3 Management Tool

Software and Driver
Installation Guide

Support and Service

Copyright GEOTEST AG, 3052 Zollikofen, Switzerland
www.geotest.ch, www.utl.ch

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**UTL-3 Management Tool Software and Driver Installation Guide
Support and Service Information**

June, 2018

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Developed in Switzerland.

Thank you for
choosing UTL-3
Scientific
Dataloggers!

Thank you very much for choosing UTL-3 Scientific Dataloggers. The following pages provide information for a proper use of UTL-3. Please read them through carefully before starting your work with the logger.

Installing Software and Drivers for UTL-3 Scientific Dataloggers

General Information

Systems

The software **UTL Management Tool** works on Windows Vista, Windows 7, 8 and 10.

For UTL software and driver version working on Windows XP please contact us by UTL_Datalogger@geotest.ch.

System Requirements

The following minimum system requirements are necessary:

- .NET framework Version 2.0
- at least one USB 2.0 interface

If you do not have .NET framework 2.0, please download the files from www.windows.com.

Software and Drivers installation

The installation of Software and Datalogger drivers consists of two main steps:

Software Installation

*A) Installing your **Software UTL Management Tool***

1. Copy all folders and files on your hard drive.
2. Double click on **setup.exe** and **UTL Manager** and **UTL Admin** will be automatically installed.

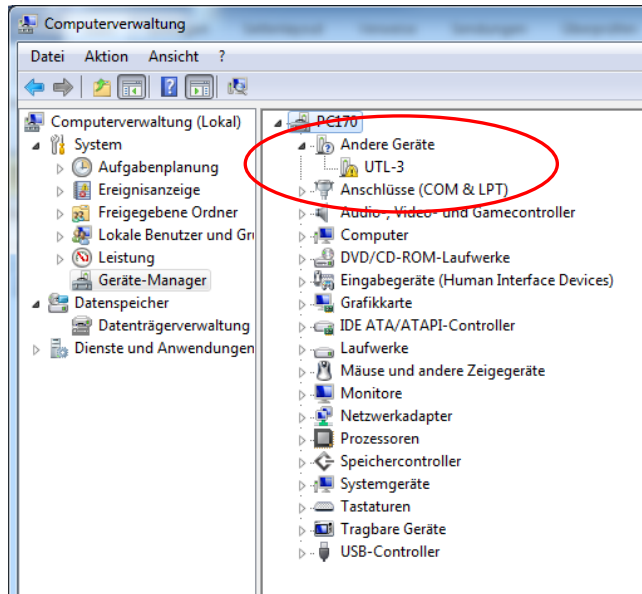
Driver Installation

*B) Installing the **driver** for USB Device UTL-3 Scientific Datalogger on Windows Vista, Windows 7, 8 or 10. Administrator rights are required to install the driver.*

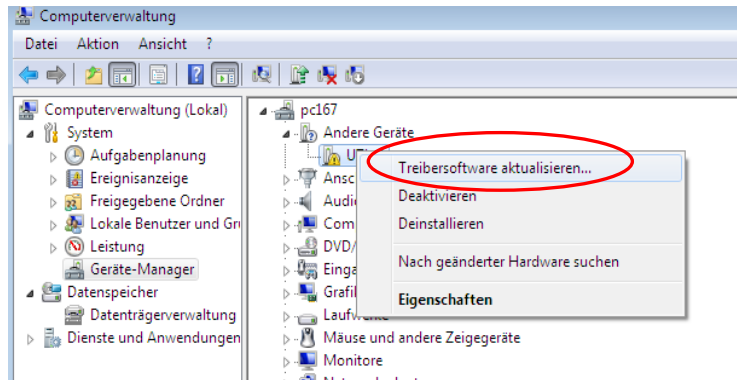
1. Connect one of your UTL-3 Scientific Dataloggers with your USB 2.0 connection flex to a computer or notebook.
2. Open the driver folder (*UTL3_USB_DriverWin7_x86_x64*) and right-click on *UTL3_Driver_Vista.inf* and choose *Install*.
3. If the procedure as described in 2. doesn't work, right-click on your computer icon on the desktop and choose "Manage". Go to the device

manager. If the datalogger is not recognized by the computer (i.e. Unknown Device), unplug the device and restart again.

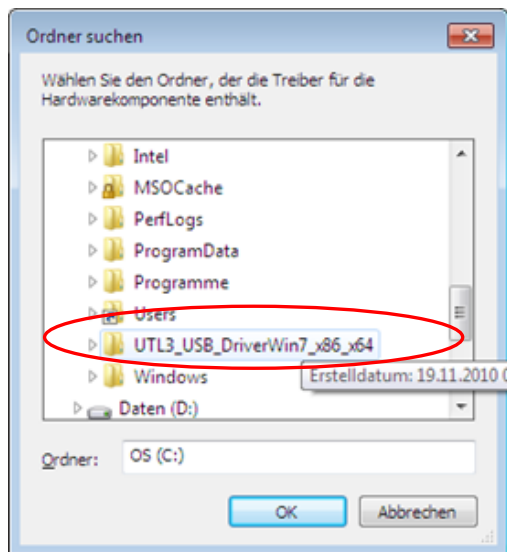
4. UTL-3 Datalogger should appear in the device manager as shown in the picture below.



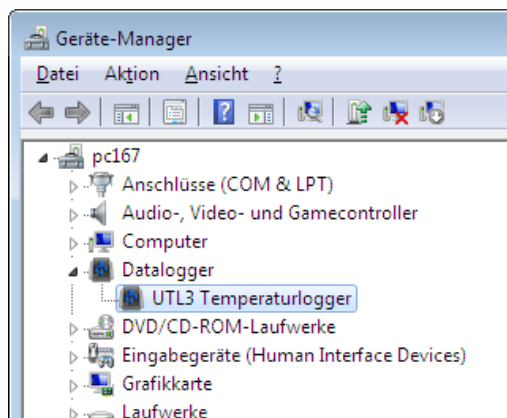
4. Right-click on UTL-3 Datalogger and choose "Update driver software".



5. The assistant asks "How do you want to search for driver software?". Click on "Browse my computer for driver software".
6. Browse for the folder containing the UTL driver software. The folder must be unzipped. Tick the box "include subfolders". After the folder has been chosen click next.



7. Click on “Install this driver software anyway”.
8. Your device manager should look now like on the picture below.



FINISHED!

You can now open your Software **UTL Manager** and connect your UTL-3 Scientific Datalogger.

Using Software UTL-3 Management Tool

Starting your Software UTL Management Tool

Choose Start → Programs → UTL-3 Scientific Datalogger → **UTL-3 Manager**.

Your UTL-3 Management Tool Software is being opened.

Thereafter, open the screw cap of your UTL-3 Scientific Datalogger and connect the USB 2.0 connection flex to your datalogger and computer, respectively (choose a USB port with installed driver).

Stop measurement

1. If UTL-3 Scientific Datalogger is currently measuring and you intend to stop measurement and download data, choose «**Stop measurement**» (1). UTL-3 Management Tool will automatically save your data. See **Extras (2)** to change the default directory and filename.
2. If you do not want to stop you measurement disconnect your UTL- 3 Datalogger from the USB connection. Close your datalogger tightly (screw cap) before using it.
3. If you choose «Stop measurement», your collected data will automatically be downloaded and saved. Furthermore, a graph of the data will be plotted (3).

To change the default directory for automatically data saving consult the subsequent chapter «Options».

Consult the chapter below («Working with the graph and data table») to see how to work with graphs.

Working with your graph

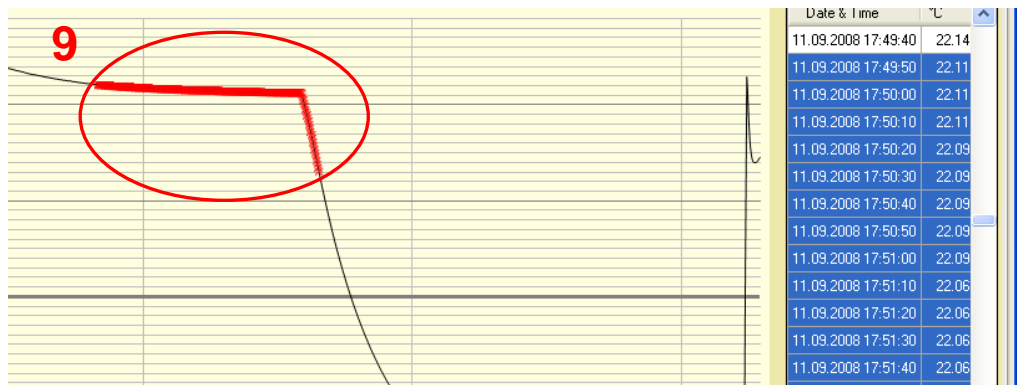
Working with the graph and data table

1. Use button No. **7** to zoom in. To get back to full extent use button No. **4**.
2. Use button No. **5** to select a single data point. To select multiple data points use button No. **6**. The selected data are represented as red points (see No. **9**) and are highlighted in the table next to the graph (see No. **10**).
3. Click on «**X**» (No. **8**) to close the graph.
4. To copy your selected data to a clipboard right click on your mouse and make your choice (see No. **11**). Data is being saved to the clipboard.

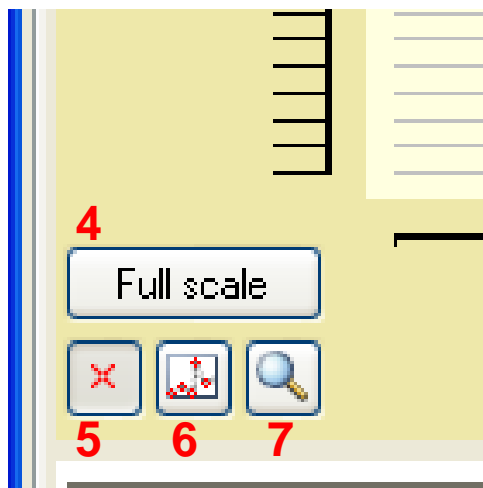
Main window with Datalogger information

Graph window

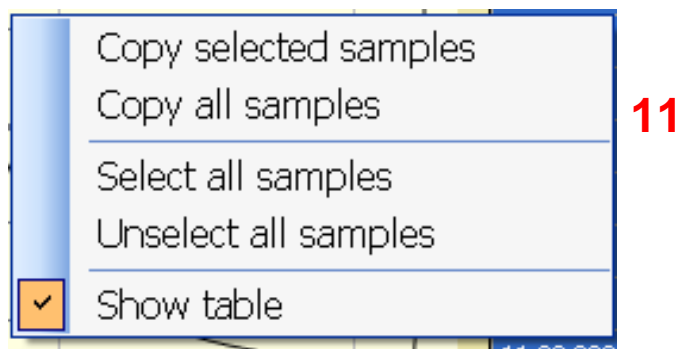
Project settings	Measurement settings	Values	Measurement status	Administrative settings
Project: TEST	First measurement: 11.09.2008 16:20:00	# measurements: 1427	was interrupted: No	Serial number: 6
Location: GEOTEST	Last measurement: 11.09.2008 20:17:40	min. temperature: -24.60°C @ 11.09.2008 20:11:30		Firmware release: 1.0
Name: Logger_6	Measuring interval: 00:00:10	max. temperature: 25.22°C @ 11.09.2008 16:23:50		UTL programmed: 11.09.2008 16:20:00



**Zoom and data
point selection
tools**



**Copy selected
samples (right
click on your
mouse)**



Launching your
Datalogger

Launching UTL-3 Scientific Datalogger to start measurement

1. Make sure your UTL-3 Scientific Datalogger is currently not measuring. If measuring, first stop your measurements (see chapter «Stop measurement»).
2. Choose «UTL» in the menu bar and «Launch measurement» or click on the button «Launch Measurement» in the main window.
3. If you have several UTL-3 Dataloggers connected to your computer, first choose the datalogger you want to launch (No. 12).
4. Determine your project settings (see No. 13, 14 and 15).
5. Enter your time settings (No. 16). If your measurement has to start right away choose «immediately (within 10 seconds)». If you prefer a delayed start, choose «delayed» and choose your preferred start date and time (European style, i.e. dd/mm/yy).
6. Choose your preferred sampling interval (No. 17) (from 10 seconds up to 4 hours).
7. Check your settings and click «Start measurement» (No. 18) to launch your datalogger. **IMPORTANT:** Starting your measurement will erase previously collected data.
8. Message No. 19 appears. Click **OK**. Consequently, a green light is blinking inside the datalogger every 10 seconds. Therefore programming was successful.
9. **IMPORTANT:** If a red light inside the datalogger is on, programming has failed. Repeat the programming again by starting with item 1.

Ready for your
temperature
measurements!

Your UTL-3 Scientific Datalogger is now ready for measuring and logging temperature immediately or in delayed mode. Please make sure to close the screw cap firmly before using the UTL-3 Scientific Datalogger.

Launching your
Datalogger to
start
measurement

UTL3 - Start measurement [X]

Device selected

UTL **12** [6] Status Idle
Project, Location TEST / GEOTEST
of samples 1427
Current temperature 15.00 °C

Project settings

Project [TEST] **13**
Location [GEOTEST] **14**
Name [Logger_6] **15**

Time settings

Start measurement immediately (within 10 seconds)
 delayed: [11.09.2008 21:00:00] **16**

Sampling interval [00:00:10] **17**
corresponds to [7 days, 14 hrs, 2 min, 30 sec (19.09.2008 10:21:30)]

18
[Start measurement] [Cancel]

Message
“programmed
successfully”

[X]

UTL-3 #6 has been programmed successfully. The first measurement will be at 11.09.2008 20:20:00.
You can unplug the UTL-3 now

[OK] **19**

Options (see menu bar → Extras → Options)

Change the default directory path

To change the default directory of your automatically created files, modify the path name on line «Default directory». Examples for valid entries are:

- x:\data\glacier_2\{Project}\{Location}\{Name}\
- c:\user\muller\{Project}\{Location}\

We recommend to use Project, Location and Name to save your data. Use the syntax above. Do not forget to use a backslash (“\”) on the end.

Changing the default filename

We do not recommend to change the default filename. Note that missing or wrong syntax may lead to data loss.

Autoscan UTL-3

The check box «Autoscan UTL-3» specifies whether UTL-3 Scientific Datalogger devices should be opened automatically when connected or not. **We recommend to check this box.**

Autosave Data of a non-measuring UTL-3 Datalogger

The box «Autosave data» specifies whether the data of a non-measuring UTL-3 Scientific Datalogger should be saved automatically on opening or not. When checked, your collected data will be downloaded and saved immediately as soon as a non-measuring UTL-3 Scientific Datalogger gets connected to your computer while UTL Management Tool is active. **We recommend to uncheck this box.**

Options window to change default directory etc.

UTL-3 Manager: Options

Default directory: c:\UTL3\{Project}\{Location}\

Default filename: #{SerialNumber:000000}_{SamplingStartsAt:yyyyMMdd_HH:mm}.utl

Example: [no UTL device available]

Autoscan UTL-3: Specifies wether UTL-3 devices should be opened automatically on connection

Autosave data: Specifies wether the data of a non-measuring UTL-3 should be saved automatically on opening

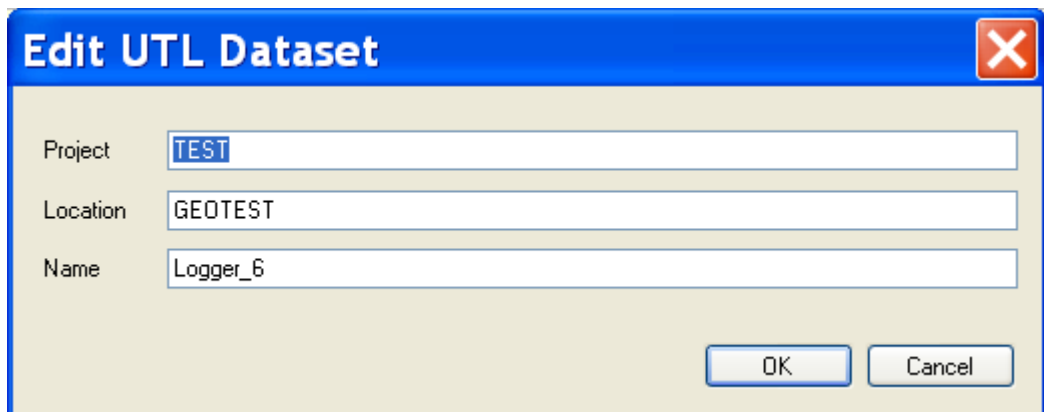
Temperature unit: Celsius

Buttons: Reset, OK, Cancel

Edit (see menu bar → Edit → Properties)

Change project, location and name settings by choosing Edit → Properties on the menu bar.

Properties window to change Project, Location and Name



Clear all data

Clear all data

Clear all data on your UTL-3 Scientific Datalogger using the button in the main window (No. 20). Subsequently, assure that all samples are deleted, including project, location and name settings.

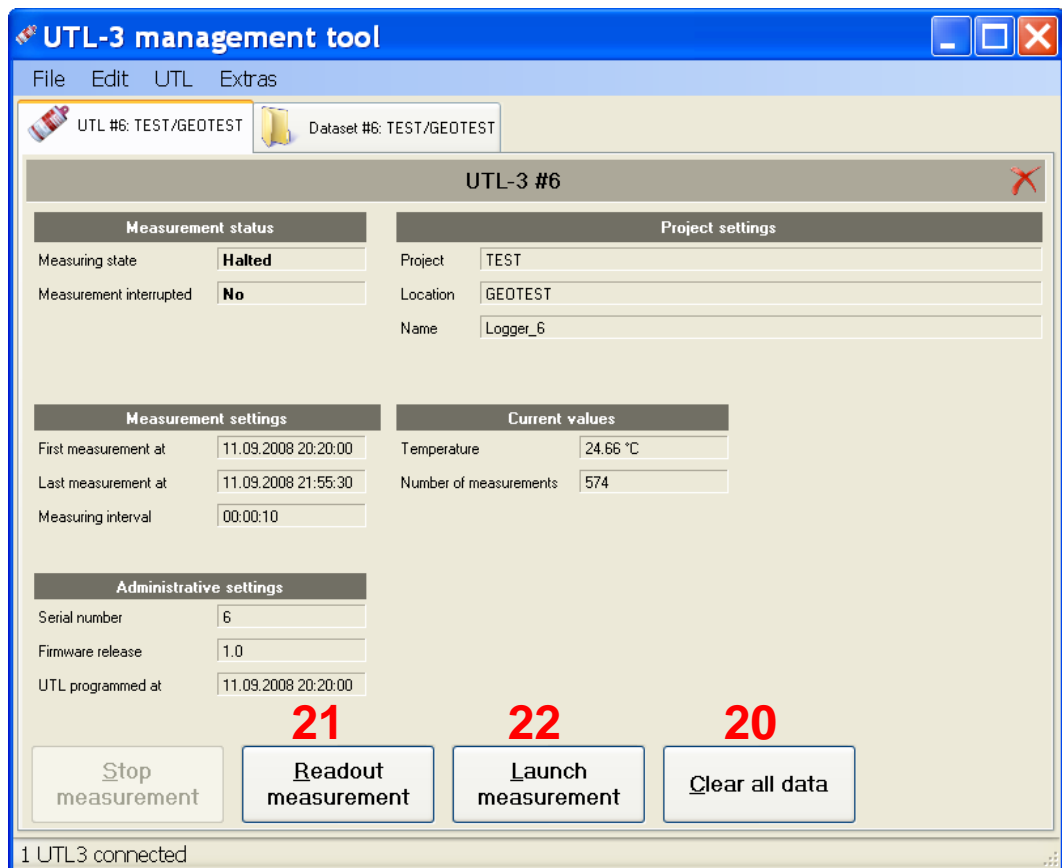
Readout measurements

Readout your measurements

If your datalogger has stopped measuring, you can manually readout the collected data. Use the button «Readout Measurements» in the main window. (No. 21).

No overwriting of measurements

IMPORTANT: Memory capacity of UTL-3 is limited on 65'000 data points. After 65'000 measurements, the dataloggers stops measuring. No data will be overwritten.



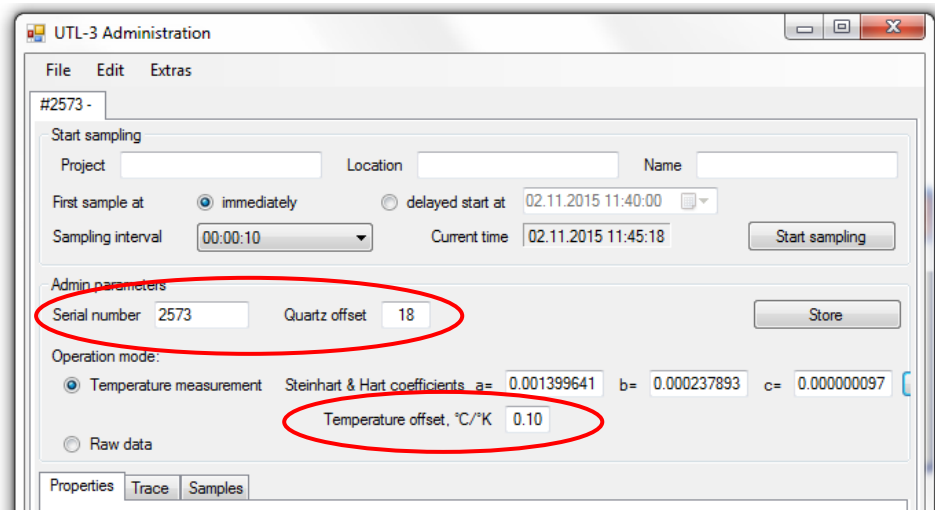
Missing Data table

Missing your data table

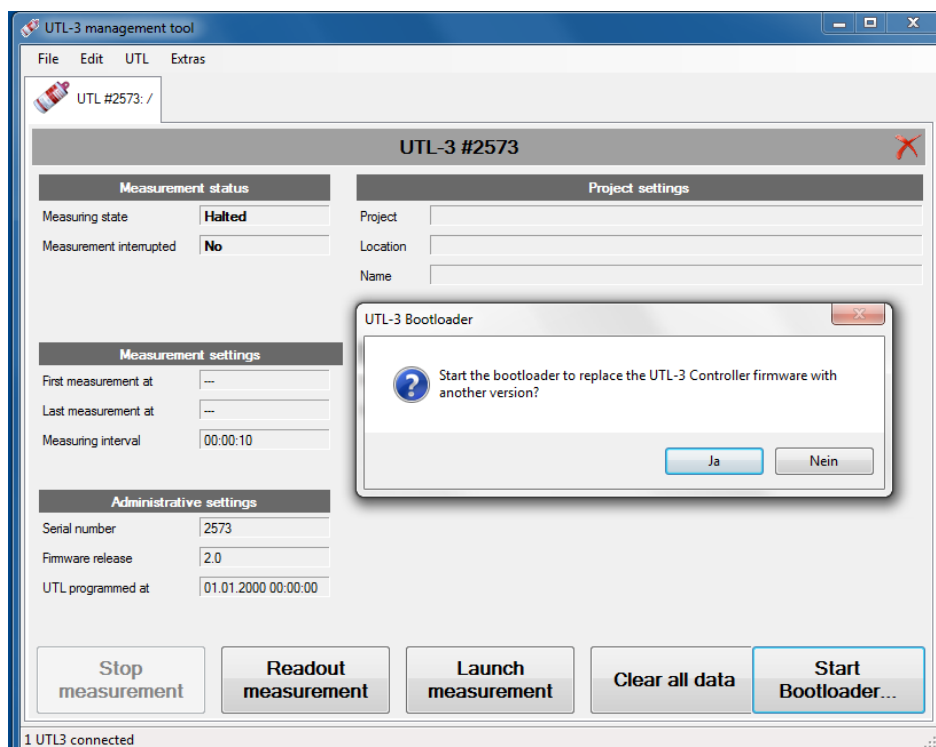
If your data table right next to the graph does not appear, right click with your mouse in the graph view and choose «Show table».

Firmware Update

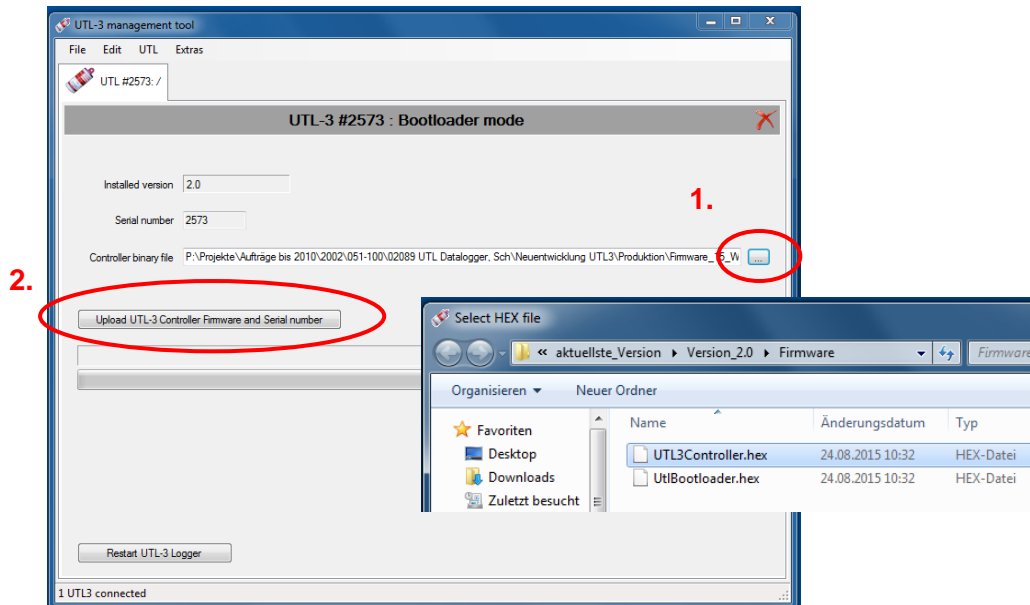
1. Connect the UTL-3 to your PC with the USB connection flex and open UTL-Admin software.
2. **IMPORTANT:** Read out the **Serial Number**, **Quartz offset** and **Temperature offset** and write them down.



3. Open UTL-Manager software and start the bootloader. In the pop-up window, confirm your intention to replace the current firmware with another version. In doing so, all existing data on the UTL will be deleted.

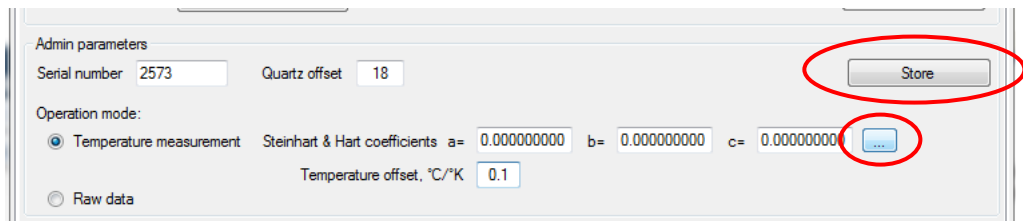


4. In the *Bootloader mode*, browse the new firmware file (controller binary file, format *.hex) and upload it by clicking the corresponding button.

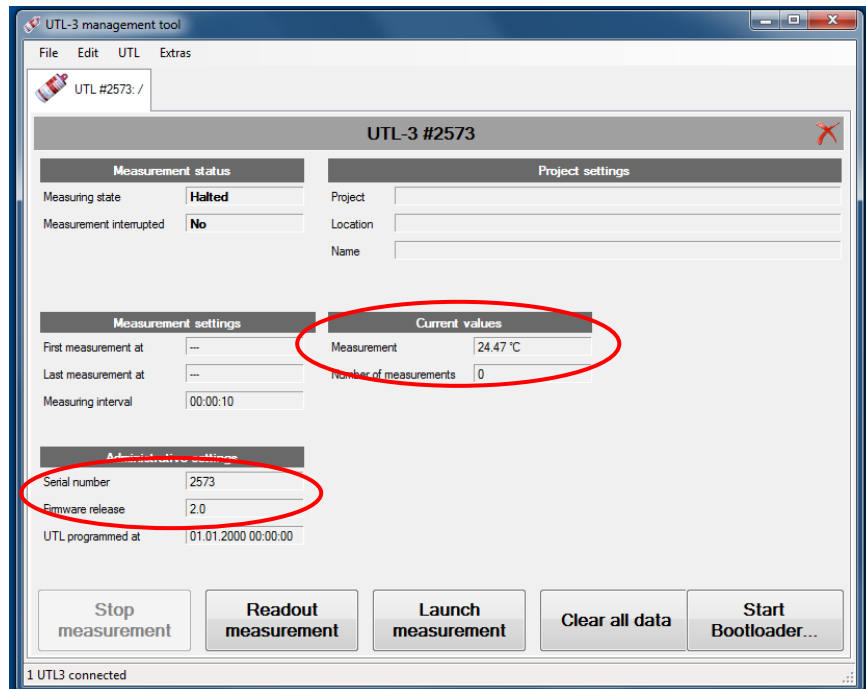


Once the firmware upload is complete, click “Restart UTL-3 Logger” and remove the connection.

5. After a few seconds, reconnect the UTL-3 to your PC with the USB connection flex and open UTL-Administrator software. Re-enter the parameters you noted earlier and calculate the Steinhart & Hart coefficients by clicking on the button to the right. Once the coefficients are calculated, store your modifications.



- When opening the UTL-Manager software, the correct firmware version as well as serial number should now be displayed in the Administrative settings of your logger. Additionally, the currently measured temperature should correspond to the actual room temperature. In the case of unreasonable current temperature values, repeat the procedure starting from step 3.



Support and Service

Battery Change

Under ideal conditions battery durability is approx. 3 – 5 years. Nevertheless, a battery change after every measuring period is recommended to ensure a proper and complete data collection during the next measuring period.

A very rough **estimation of battery condition** can be done by consulting *BatteryVoltageAfter* under *UTL Status* in the software *UTL-3 Administration*. If this value is smaller than 640, we recommend to change the battery. Another possibility is to stress the battery with a resistance of 200 Ohm – if battery voltage is below 3.2 V, a battery change is recommended. **Note:** This is just a rough indication (no guarantee).

Please follow the subsequent guidance for changing battery. Any inappropriate handling leads to a cancellation of warranty.

7. Open the screw cap.
8. Pull out carefully the battery. The electronic device has to stay in the cylinder box. This is assured by a silver retaining ring (Fig. 2). Do not remove the ring in any case.
9. The appending cables (red and black) lead to a black plug which has to be pulled out as well (Fig. 1).
10. Insert the new battery set (consisting of a battery, two appending cables and a plug) by connecting plug to print again. Thereby, the empty port has to be placed next to the USB connection (Fig. 3).
11. Place a silicagel minibag inside the screw cap (Fig. 4) and screw the cap firmly back on the cylinder box.



Figure 1: Pull out the battery carefully and unplug the black socket.



Figure 2: The retaining ring prevents the print from pulling out and being damaged. It has to be in a position as shown by the yellow circle.

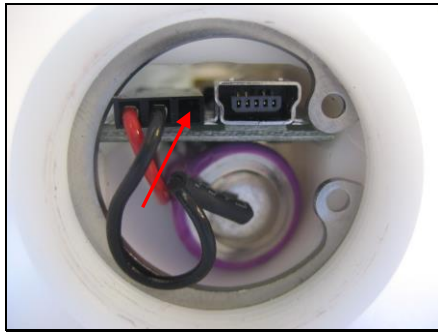


Figure 3: Insert the plug as shown above. The empty socket has to be placed next to the USB connection (see red arrow).



Figure 4: Before closing UTL-3 Scientific Datalogger, put a silicagel minibag back into the cap.

Maintenance of your UTL-3 Scientific Datalogger

Keep the UTL Datalogger always clean. The outside of the case can be cleaned with water or soap water. Please make sure that the cap is screwed down tightly with an appropriate tool (approx. 45° over pressure point attainable by hand) before holding UTL-3 Scientific Dataloggers underwater.

To prevent condensation and water damage on electronical components open the screw cap always under dry environments as well as room temperature.

It is highly important to use seal rings (placed in the screw thread of the cap) in a proper condition. Replacement every two years is recommended. Change them immediately if fissures are detected. Otherwise impermeability can't be guaranteed. Furthermore, the seal ring has to be lubricated with standard silicone grease after long-lasting measuring periods.

Do not expose UTL-3 Scientific Dataloggers to high temperature (> 80°C) neither abrasive liquids (e.g. acids). Remove old and flat batteries due to risk of leakage. For battery change see the corresponding chapter.

Do not pull the print out of the case for any purpose. This has to be done by GEOTEST AG. In doing so anyway, this inevitably results in cancellation of warranty. If you are pulling out the print in spite of the consequences, please bear in mind the subsequent points.

1. After opening the screw cap, rotate the silver retaining ring using an appropriate tool to a position where the print isn't blocked anymore by the ring.
2. Extract the print carefully out of the case without pulling the thermistor cables out of the sensor-tip.
3. Do not touch the surface of the print. Hold it strictly edgewise.
4. Putting the print back into the case, pay attention to place it in a manner so that conductors and USB socket lie on the other side than the battery (see Fig. 3). Accordingly, rotate the retaining ring back to original position so that the print doesn't get pulled out of the case when unplugging the USB connection flex.

Technical specifications

Temperature range	-30° to +40°C
Accuracy	0.1°C at +/-20°C and 0.2°C at +/-40°C
Data resolution	< 0.1°C
Thermistor	YSI 44005 (typical thermometric drift for 0°C < 0.01°C in 100 months)
Number of data points	65'000
Battery life	4-5 years
Interface	USB 2.0
Diameter of case	32 mm
Case material	Aluminium / Delrin, waterproof and highly resistant
Software	UTL Manager (for free, © GEOTEST / SLF)

**More
questions?**

Do not hesitate to contact us if you have any additional questions. We will be glad to answer your questions and provide further information to you at any time.

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**Legal
information**

GEOTEST AG gives a 2 year warranty from the date of purchase on defects in material or electrical components. Warranty will be cancelled in case of incorrect usage, incorrect opening or closing of the device. In particular claims are not admitted in case of incorrect battery change or manipulations with thermistors or similar components. Any service or maintenance like changing the battery or O-rings has to be done by GEOTEST AG, Switzerland. GEOTEST does not bear any responsibility in case of incorrect usage of UTL datalogger. Normal wear out in case of normal usage or damages due to battery defects or damages in case of infiltration water after incorrect closing of the case are not warranty subject matter. GEOTEST is not responsible for indirect costs resulting from an incorrect use or deployment of UTL dataloggers. Any warranty goes out in case of self modification of the case by the buyer. Further legal information are specified in the general sales terms.