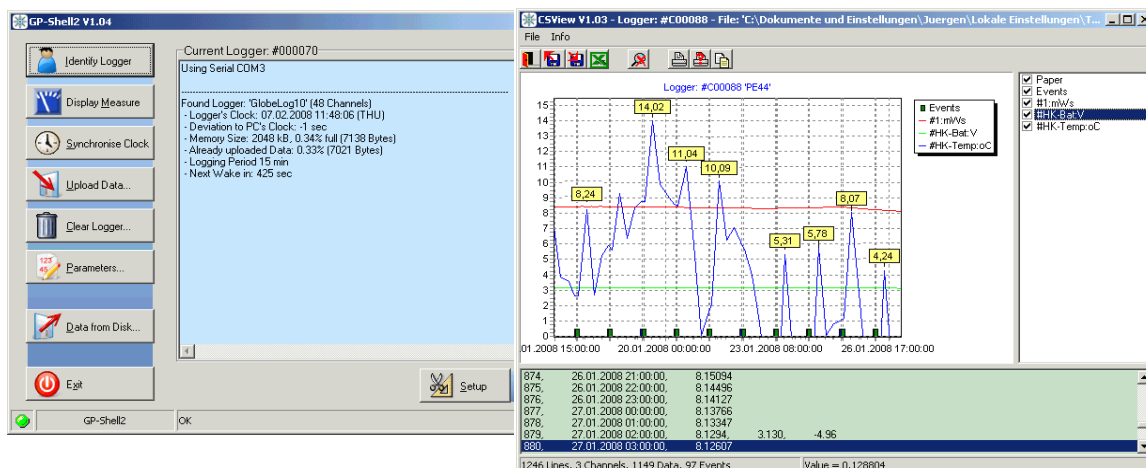


GLORIA Temperature Loggers: GEO-Precision M-Log5W



GP5W-Shell and CSView

Overview

GP5W-SHELL is an easy-to-use software interface for our wireless data loggers. Included in GP-Shell is CSView, a graphical viewer. The software can be used for local access of data loggers as well as remote access (for GPRS based Internet data).

Requirements

The GP5W-Shell package was tested on WIN 98 SE, WIN XP and VISTA. It was designed for low CPU load, so it will even run on very small Sub-Notebooks and Netbooks.

Installation

Please start the Setup program and follow the instructions **before connecting** the wireless USB dongle!

Install the software by running the Setup file (currently: Setup_GP5W_Shell_2V05_07_GP.exe). The latest version can be downloaded for free from the GEO-Precision homepage (<http://www.geoprecision.com> → Downloads → Software and Documentation). This manual describes GP5W-Shell V1.00; V2. and CSView V1.04.

The "old black" USB wireless interfaces (dongle) will not work with the GP5W-Shell V2! If you only have the old black dongle use the software which can be downloaded from the GLORIA homepage (Methods / Temperature data logger / 2. GLORIA Temperature loggers - a technical appendix: Geo-Precision software (GP-Shell) for programming and handling loggers zipped (zip/exe))



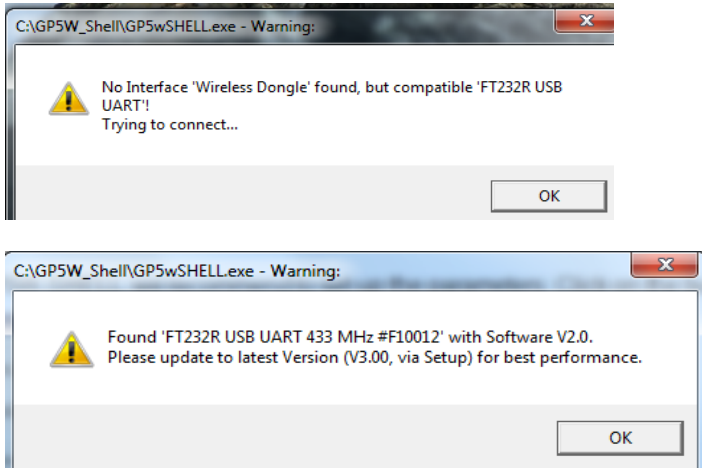
The wireless USB dongle (here version for 433 MHz (Europe/Asia/Africa) with built-in antenna.

VERY IMPORTANT before starting the program: Set the clock of your PC to UTC (Universal Coordinated Time, that is "(GMT) co-ordinated worldtime" without daylight saving time). Do this as exactly as possible (accurate to a second!) by using a reliable reference (e.g.: <http://www.timeanddate.com/worldclock/city.html?n=1440>). Make sure that your computer does not adjust the clock to daylight saving time automatically (Control Panel → Date and Time → Timezone, uncheck the checkbox "Automatically adjust clock for daylight saving changes"). Then set the PCs' clock and check its correct setting. Make sure that your PCs' clock is not re-adjusted automatically after some time (as some network computers do).

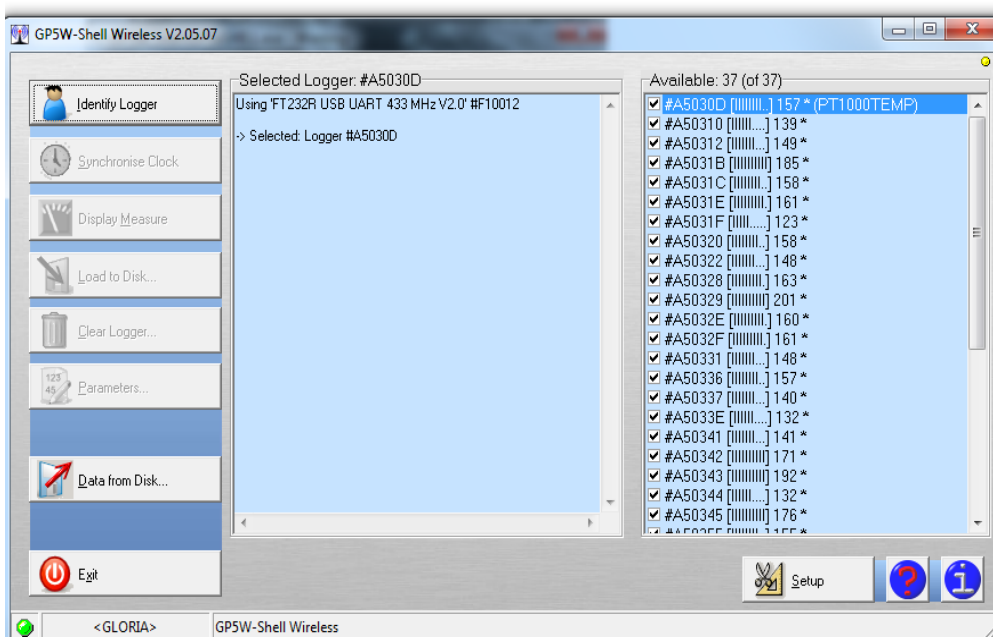
Start the program

After installation connect the wireless USB dongle (plug the dongle in an USB port of your PC). Wait a minute and start the GP5W-Shell program.

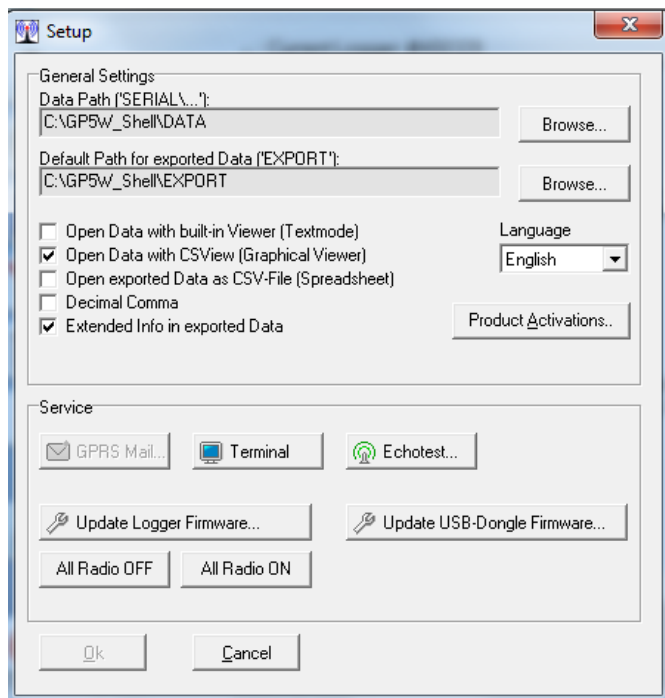
When starting the program one or both of the following windows may open: In this cases click "ok".



The following window opens, showing all available temperature loggers: it might need several seconds until all available loggers are displayed in the list on the right side. If you use the program for the first time no loggers are shown as available and the checkboxes are unchecked. Ignore this and follow the instructions.

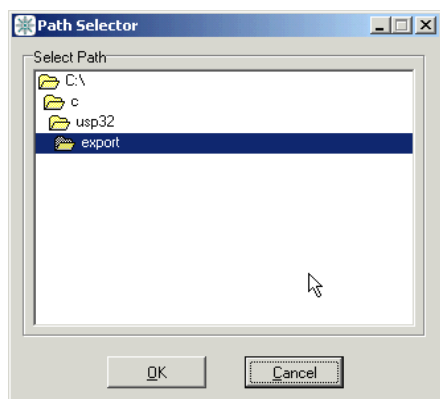


After starting GP5W-SHELL you have to set the parameters: Click on the button „Setup“:



The Setup form

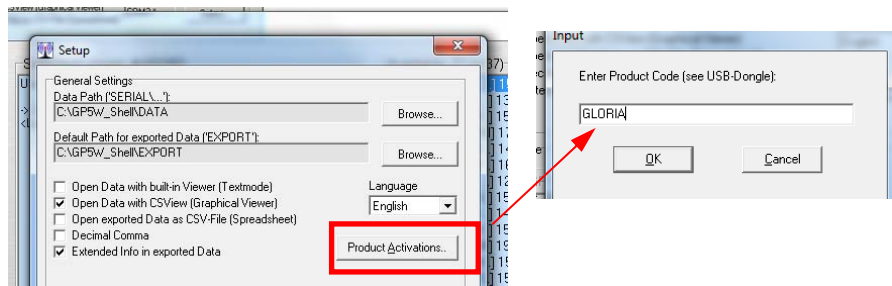
We recommend to set the data paths: In 'Data Path('SERIAL...')' the raw data are stored in a compressed format, the 'Default Path for exported Data ('EXPORT')' defines where the exported data are stored. Exported data are in the commonly used CSV format („Comma separated values“), which can be read by almost all spread sheet calculation software or databases.



The Path Selector for defining the data paths

Format settings: Some European areas use a decimal comma instead of a decimal point. Please only use decimal point (see the Setup form above).

Attention: If you use the program for the first time after installation you have to enter a product code: Click “Product Activations” and enter “GLORIA”



After entering the product code the program closes. Please start the GP5W-Shell program again.

Normal usage for local communication with loggers

It might need several seconds until all available loggers are displayed in the tab on the right side after starting the software. Select one logger and press „**Identify Logger**“.

After successful identification some of the dynamic parameters of the logger (used memory size, clock deviation from PCs clock, etc.) are shown.

Hint: If there are problems with transmission, press the button ‘Setup’ and test the communication with the logger with the button ‘Echotest’.

The time of the logger is compared to the PC time and the deviation of the selected logger is shown on the left side. When a logger is switched on (e.g. after battery replacement) and does not include a battery backup for its real time clock, it will start at 1. January 1998, 00:00:00 and a huge deviation will be shown.

The “- Deviation to PC's Clock” in the status report should be in the range of seconds. If the deviation to your PCs’ clock is remarkably (e.g. some minutes) you should click “**Synchronize Clock**” to correct the time setting. **DON'T FORGET**: your PCs’ clock must run in UTC, set as accurately as possible.

When pressing the button „**Display Measure**“ the program will execute one measurement that is not recorded and only displayed.

With „**Load to Disk**“ the logger is read out and the uploaded data are stored on the PC.

Different upload types are available: „Incremental“ and „Full“. For local uploads the user can decide if all data (= full) should be read out or if only the new data - since the last upload (= incremental) - should be uploaded. You find your temperature data in the chosen path (SETUP; see above) in separate files named after the temperature logger code (g2d-file in DATA; csv-file in EXPORT).

The logger uses non volatile memory („Flash memory“). The contents of this memory are kept even when the power is switched off (only the clock might be reset). The flash memory is organized like traditional data recorders: Only new data can be added. The user can only manually clear the memory (with the button „**Clear Logger**“). Be very careful with that option. Clearing is not necessary when you download your data in the field because the memory size of the logger is large enough for more than 30 years of hourly temperature measurements.

Note for battery changes:

1. Save the temperature data on your PC!
2. Change battery following the instruction in “T-Logger_M-Log5W_Battery_change_20130725.pdf” (available on the GLORIA website)
3. After having completed the battery change check again the logger specifications including the time settings.

Data representation

The data loggers use a compressed data format (also called „raw“ format) for communication. This format has the file extension „*.G2D“. Compared to a textual representation it requires only 10-20% of memory. Also the „*.G2D“ format includes other logger information.

Normally the „*.G2D“-files are automatically expanded as text into a directory the user can select in the GP-Shells’ „Setup“-Menu (as already mentioned). It is also possible to read raw data files later with the GP-Shell2 and the button „**Data from Disk**“.

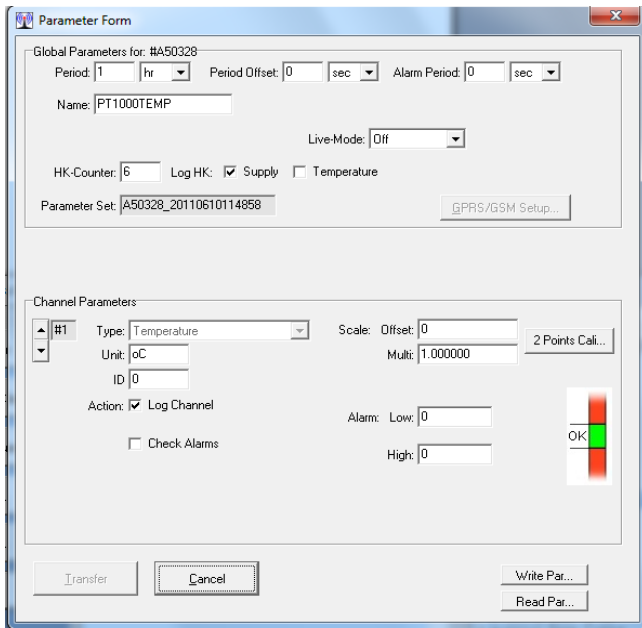
Parameters

There are three kinds of parameters:

1. Parameters concerning settings for logging („Global Parameters“)
2. Parameters for the GPRS/Internet transmission
3. Probe/version specific parameters („Sensor Power“ and „Channel Parameters“)

For GLORIA **only the first kind of parameters** („Global Parameters“) is relevant!

After selecting the „**Parameters**“ button, a form containing type 1.) and 3.) will be displayed:



The Parameter form

The displayed buttons and edit field are depending on the logger's configuration. Here only the „Global Parameters“ are explained.

„Period“ is the logging period. Together with „Offset“ the times for logging can be selected very easily: The „Period“ is the distance between two measurements, „Offset“ may shift the absolute time: In our cases the „**Period**“ is **1 hour**, „**Offset**“ is set to **0**.

With „Name“ the logger can be named.

The logger monitors periodically some housekeeping-data (HK), like battery voltages, internal temperature and others. The „HK-Counter“ is decremented every logged measurement. If it reaches zero, the housekeeping-data (as marked in the checkboxes) are recorded in addition to the regular data. Please have the HK-Data as shown in the parameter form above.