

Preface

First and foremost, we'd like to thank you for choosing the i-Log-series data logger:

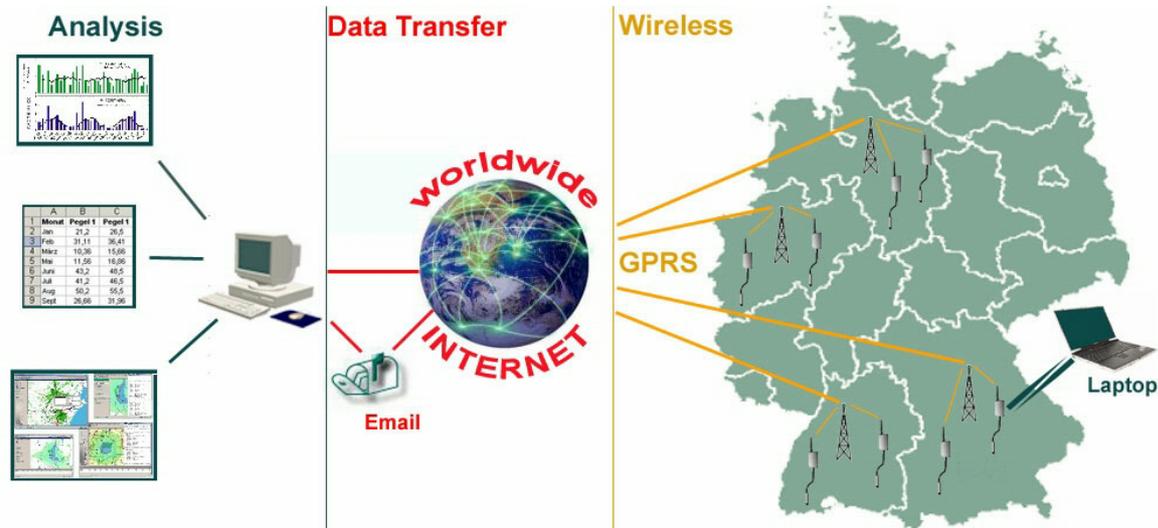
The i-Log is one of the most modern systems available in the market right now. Along side the “classical” telecommunication means (SMS, GSM over analogue modem), it masters the transfer of the measured values per GPRS, in other words directly over the Internet.

This “quick start manual” describes a fast start-up of an i-LogGW 2” with GPRS transfer. Descriptions of other transfer means, set-up directives, and more detailed information is available in the instruction manual in the cd (in the file “doku”).

What is new about GPRS?

GPRS is a data service within the GSM net whereby the data is sent to an Internet server. In contrast to analogue GSM-Modem connections whereby careful timing and time windows and complex hardware are required, an Internet server can serve very many connections parallel (up to many hundreds at the same time).

The loggers can therefore decide when and how often the data should be transferred without caring about the time windows and the distribution centres. Internet is always available for all at the same time!



Picture: Structure of GPRS data transmission

The loggers “sleep” between the transfers and measuring. Hence, with commonly available batteries, measurements can be made for many years.

The “simple GPRS-Transport-Service”

The Internet server can be used in the simplest of situations as a “transport service”:

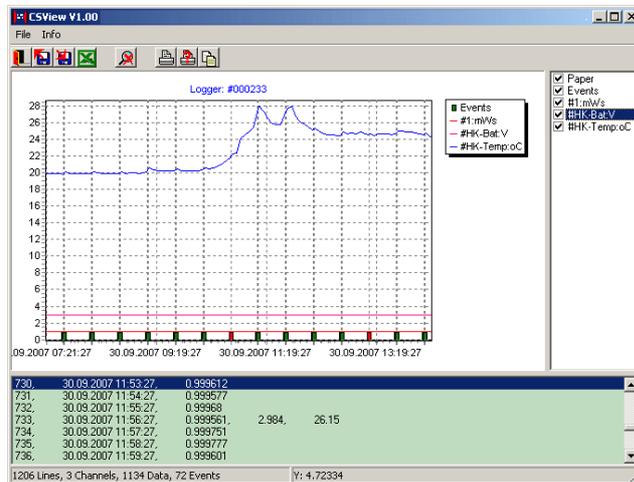
- The loggers can upload their data to the Internet server, which is then either saved there for a given period of time and/or forwarded to an e-mail receiver.
- On the other hand the server can give instructions (say time synchronisation or changed parameters) to the loggers.

Operating such a server is possible with very simple means. Required, are a few scripts (Industrial standard “PHP”) that are complete and free and delivered along with the loggers (on CD).

We offer this transport service free of charge. Instruments delivered with SIM-cards are already completely configured for the purpose. Only the E-mail address of the receiver needs to be set in.

“Quasi-Online “ systems

An accordingly set up server can of course put the data directly into a databank. In this case, the loggers transmit the new data periodically (once or more often per day) .An appropriate user interface then can display the measured values to be (graphically or textually) called at any time. This gives the user a quasi feeling of an “online” system that always instantly delivers the most actual values.



Picture: The „CSView“ as included for free with the GP-Shell

The setting up of a data bank is of course always specific to requirement. We or our partners can offer this service.

Operation Costs

Operation cost with GPRS are very different. With the right SIM-card very low operation costs of about 1€ per month (in Germany) can be achieved (more details to this in our leaflets and in the CD manual for the i-Log and in the following sections).

Start help of up to 12 months

We normally enclose in our customers first instrument a **free SIM-card** with a credit of about 10€ with which depending on the operator from **6 to 12 months** of data can be transmitted (with a frequency of 2-3 transmissions per day).

At this time (05/2007, Germany) the included SIM-cards are for E-Net (see following „Actual SIM card recommendation“). The calculation unit is about **0,2 ct/10kB**. (10€: up to about 10000 transmissions)!

Note: As already mentioned on the CD-guide the E-net coverage is partly less developed than the D1- or D2-nets. The D-net has announced cheaper prepaid cards but these will only be available sometime in 2006. Cheaper contract cards are easier to get but cannot be given out as bonus. For acquaintance with the GPRS technology, the E-net cards are equally suitable and with network availability an ideal alternative.

Note: The enclosed SIM card can of course be used for SMS or SMS-E-mail, but then the credit runs out faster as with GPRS!

The „Actual SIM card recommendation“

In the German Quick Start Manual we have published a short list with recommended providers in Germany, for other countries please feel free to ask, maybe we can help.

Installation software and USB-driver

The software "GP-Shell2" has to be installed (via "Setup2_GP.exe" from the enclosed CD) In order to operate

the instrument. We advise to print out the manual (also on the CD in the directory “doku”).

An infrared adaptor is required for communication with the loggers. This has an RS232 interface. Most modern PC/Notebooks have an RS232-port. This is the reason for which the adapter needs an extra RS232-USB converter. To install, simply insert the USB/RS232 converter in the computer and follow the instructions on the monitor. (Along with the converter is a mini CD with drivers). After successful installation the USB/RS232 converter makes a “virtual” COM-Port (Normally as “COM 3 or higher) available.

The infrared converter can then be connected to the computer and the GP-Shell started.

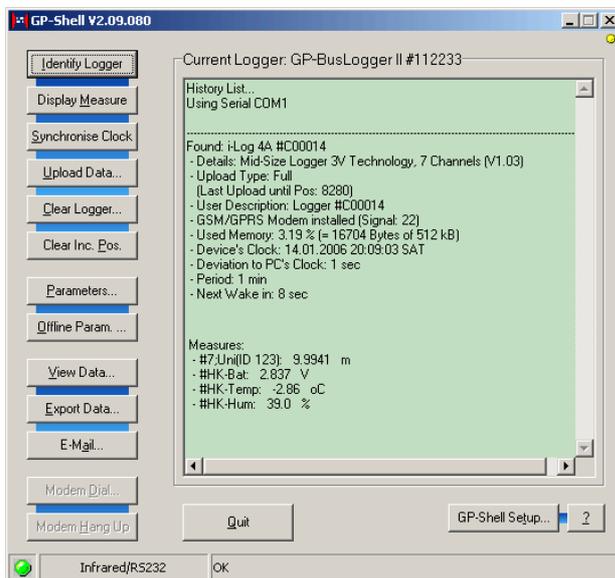
Access to the logger

A distance of about 50 cm (or less by much background-light or Neon-light) can be bridged with infrared. There has got to be optical contact between the infrared converter and the logger. The logger contains two extra LEDs: RED, for the logger’s “heart beat” and flashes every 4 seconds, and GREEN indicates activity.



Picture: IR converter and logger top (without connected antenna)

The Logger is then identified in the next step. Only then access is possible (In case the logger does not react please try again! Sometimes the logger is busy for a while with internal tasks)!



Picture: Successful identification and one measure

Now, a measurement can be displayed with ”Display Measure “ (the button “M”). Other menu functions are explained in the manual (on CD).

Input of GPRS/E-Mail-Parameters

The window for setting up GSM/GPRS-transmission parameters can be displayed over the buttons ”Parameters”->”GSM-Setup”. Loggers shipped with pre-assembled SIM-card are already completely prepared, normally for transmission every 12 hours per GPRS.

Only the E-mail address of the receiver has to be filled out:

The screenshot shows the 'GSM Setup' dialog box with the following fields and values:

- General Settings:**
 - GSM/GPRS Mode: Sync-GPRS-Email
 - GSM PIN: 8426
 - Allow Roaming:
 - GSM Period: 12 hr
 - GSM Offset: 2 hr
 - GSM Airtime: 0 hr
 - GSM Alarm Period: 0 hr
 - GPRS User Notify: 0 hr
- Network Parameters:**
 - CSD/SMS Phone No.: 7676245
 - GPRS APN: Internet.eplus.de
 - PPP User: eplus
 - PPP Password: gprs
- Internet Parameters:**
 - GPRS Server IP: 212.227.4.224
 - Script: g01/upl.php
 - GPRS Offset (sec): 3660
 - Synchronise:
 - Min. Temp. (oC): -10
 - Receiver's MAIL: j.wickenh@wickenhaeuser.de** (highlighted with a red circle)

Picture: Entering the E-mail in the GSM Setup form with settings for German „E-Plus“ network.

The changed parameters must be transferred to the logger with the “OK” and then “Transfer” buttons.

Now the instrument is ready to send E-mails via GPRS.

Manual sending of an E-Mail or GSM-transmission.

The instrument under normal circumstances sends the E-mails independently as set up.

However it is possible to initiate a manual transmission, say for test purposes.

Please check before, if the antenna is connected!

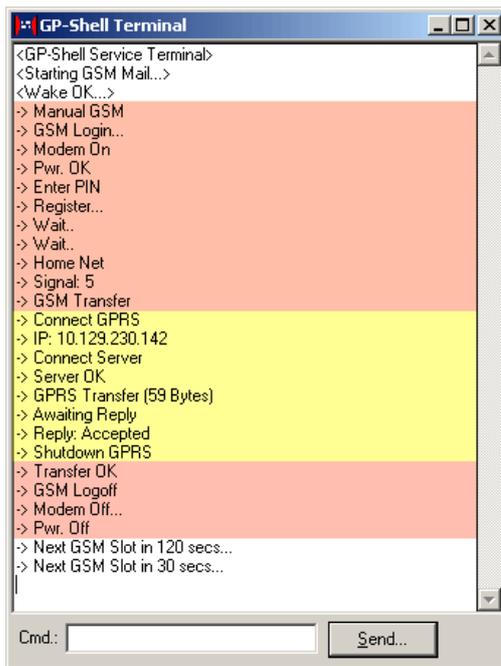
To trigger a manual transmission, click on the buttons “GP-Shell-Setup”->GSM-Mail...”

A small window then pops up in which the transmission process is displayed. (for this, the infrared converter needs optical contact to the logger!).

If the transmission was successful, then the E-mail from the logger should reach the addressee within a few seconds/Minutes.

When necessary the logger synchronises itself with the Internet-server time (GMT, Greenwich time with offset).

Tip: After Power-On or a lengthy battery change, the clock starts at 01.01.1998. The automatic data transmission is enabled per software after 12 h. This means that in use, expert staff (with notebook) is not required for installation or battery change. It is enough just to check if the RED LED flashes every 4 seconds and to measure manually the current ground water level („tapping depth“, normally measured with a standard water level dip meter). The rest (Parameters, time) will/can then automatically follow (per Internet)!



Picture: Comments of the Logger during a GPRS E-Mail transmission

The mail contains the sent data in textual form, the Data itself (readable with “GP -Shell”) as well as the used portal. On our standard portals a password is required to access the logger data. By default for new loggers the password is the same as the logger’s serial no., written in uppercase letters (I.e. logger #ABC123 would have ‘ABC123’ as password). The password can be changed by the user: if different loggers have the same password, all available data for this „group“ will be displayed.

Tip: It is possible to reconstruct the “homepage” of the used portal from the in the logger parameter given internet address (“GPRS Server IP” and the script path. <http://212.227.4.224/g01> for the above picture) .

Tip: On the other hand, it is also possible to enable reading the E-mail automatically from the GP-Shell. Details about this can be found in the CD-manual.

Further Procedures

The mechanical mounting of the loggers, setting up of the tapping depth in the parameters, changing the SIM-card and batteries are described in the CD manual.

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