



V2.xx ⇒ V3.00

Tech Tipp: Firmware-Update OTT netDL

6 options, to update the firmware of your OTT netDL :

Please note:

1. On site with USB-stick
2. On site with laptop via USB cable
3. a) On site with laptop via serial cable
b) **Special case – via BIOS** (recommended for update from ≥ 2.5 to 3.x)
4. Remote with PC and Modem (ISDN, analogue, CSD)
5. Remote with PC via Internet (netDL with fixed IP)
6. **Outlook:** with Webserver (requires Hydras 3 net)

Annex

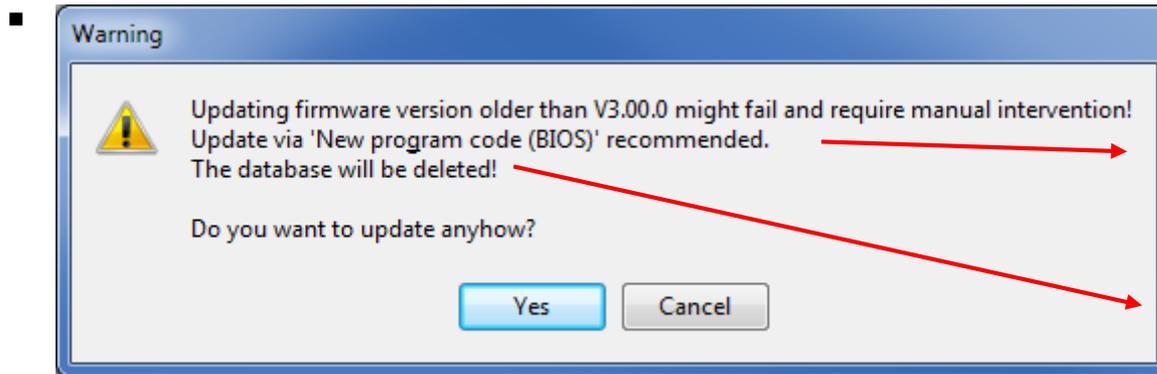
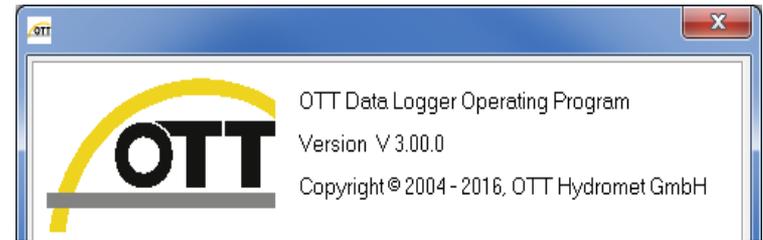
Please note!

- Use most recent operating software(3.00.0)
- Retrieve current firmware of the OTT netDL

- **If Firmware is < 2.50 the update must be carried out in two steps:**
 → Update to 2.63, then update to 3.00

(If you don't have firmware 2.63, please contact the OTT HydroService).

→ If this note is not observed the instrument has to be sent to OTT Service



For updates from ≥ 2.50 to 3.xx: please use option 3b or prepare device for this option.

Save all **data** and **configurations** before the update

- **After updating** the OTT netDL to a version ≥ 3.00 **don't go back to V2.63**, if necessary please contact the HydroService in advance.

If an error occurs the update may be restarted via „New program code (**BIOS**)“.
 This requires a visit on site, a **serial interface** and a **zero modem cable**. → For detailed instructions see **3b: Special case**

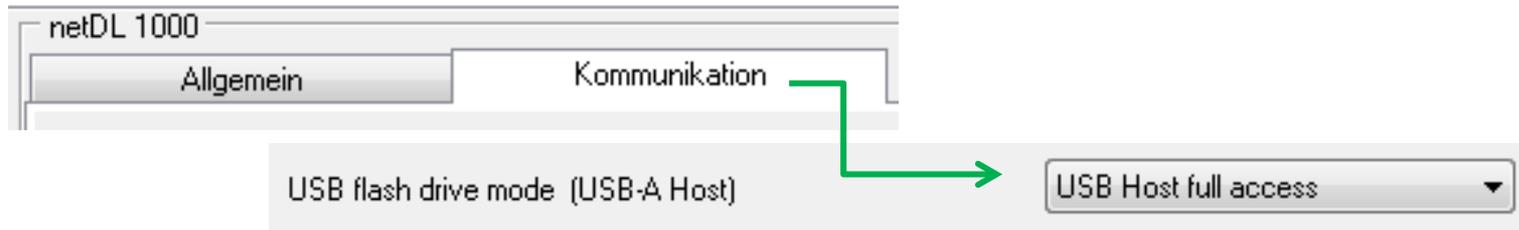
1. On site with USB-stick

- If an on-site visit is planned, e.g. for maintenance or control, this is the simplest way to carry out a firmware update. Please observe the following requirements:

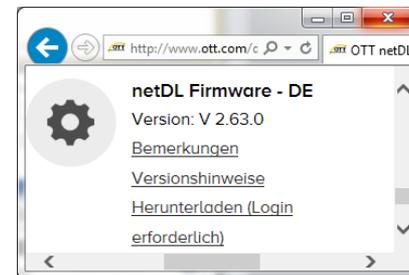
1. Required: previous OTT netDL Firmware \geq 2.50

Update is also possible from 2.06 but this requires a 2 step process. See previous page.

2. Required (default setting): the following options for configuration are set



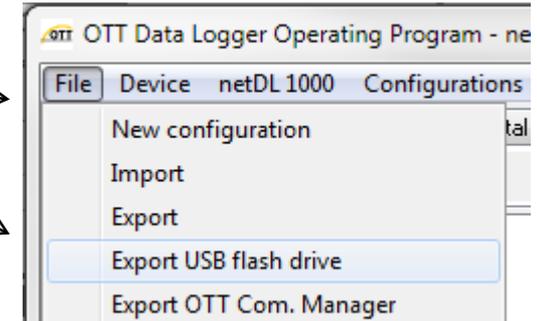
- Make the following preparations:
 - Download firmware from myOTT website (Registrierung erforderlich)
 - Prepare USB-stick (see next sheet)



■ Prepare USB stick (3 possibilities):

1. With operating program and Windows Explorer:

- Install OTT Data Logger Operating Program
(see also Podcast on YouTube)
- Connect USB stick (remember the drive letter)
- Read in a configuration in the operating program or create a new one (File / New configuration)
- Select File / Export USB flash drive
- ... choose the drive letter and click OK – this will install the folder structure on the USB flash drive.
- Use the Windows-Explorer to copy the current firmware file into the subdirectory “firmware-files“ (in the directory OTT) (see 3rd option).



1. On site with USB-stick

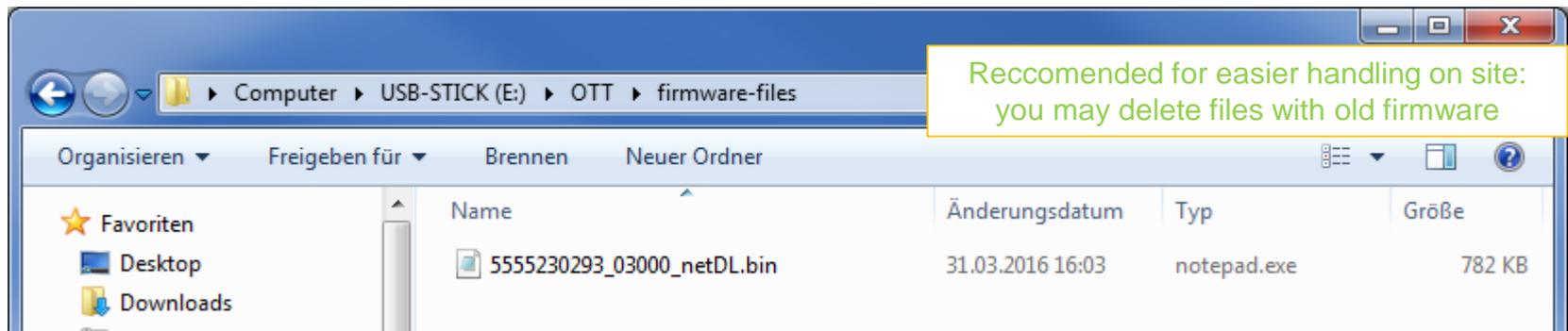
2. With OTT netDL:

- Connect a USB-stick to an OTT netDL via the menu (Settings, then select USB-A (Host) – see next pages) – folder structure is created automatically
- Copy the current firmware file into the directory “OTT/firmware-files”.

3. Manually with Windows-Explorer:

- Create the folder „OTT“ in the main directory of the USB-stick
- Create the subdirectory „**firmware-files**“
- Copy the current firmware file into the subdirectory “firmware-files“
- Important: be careful with correct spelling!

- The result in the Windows-Explorer should look like this (eventually with new firmware file and different drive letter) :



1. On site with USB-stick

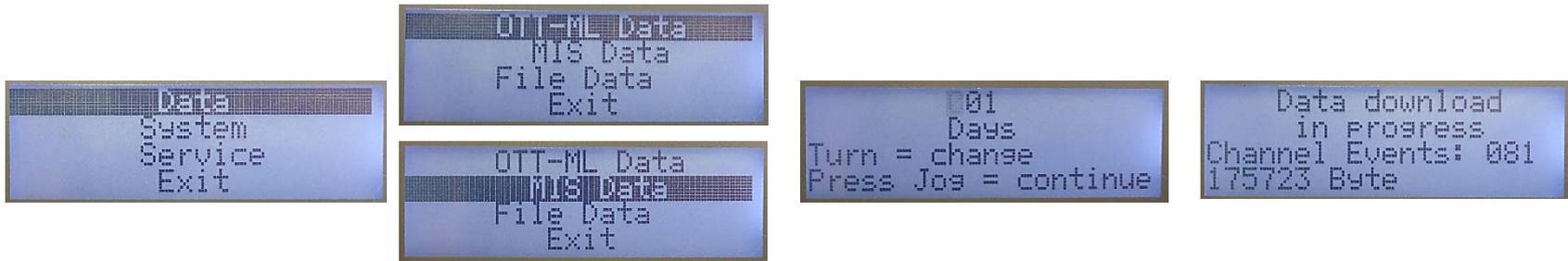
- Carry out the update on site:
Connect the prepared USB-stick to the (left) Host-USB-interface of the OTT netDL and open the menu. Then proceed with the following steps by pressing the jog shuttle
(move the black bar by turning the jog shuttle to make your selection and confirm selection by pressing the jog shuttle).



See point 2 on the previous page:
Now the directory structure will be installed on the USB stick (if it's not installed yet)

1. On site with USB-stick

- The update will delete ALL data. We recommend to save the data and the configuration before:
- Read out data (for more details see blog: [Tech-Tipp: Datadownload from OTT netDL via USB to H3](#))

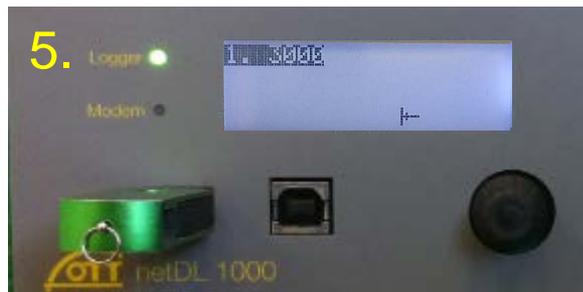


- Save configuration



1. On site with USB-stick

- After selecting „System“ in the menu the following steps are:



Select desired firmware version and confirm



1. On site with USB-stick

- Now the process runs automatically...

After approx. 7 min. the logger will restart operation.



2. On site with laptop via USB cable

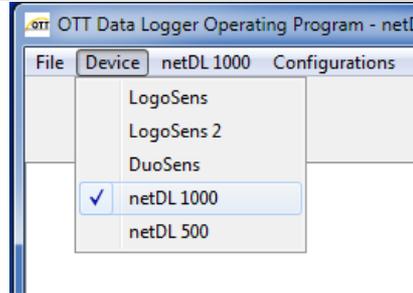
- The following preparations are required:
 - Laptop with new operating software and new firmware
 - **Precondition:** USB-driver for OTT netDL is installed (if it is not yet installed, please prepare with the Podcast you find on YouTube: „OTT netDL driver installation“; you need an OTT netDL for this)
 - Standard USB-cable with plug type A/B
 - Laptop battery charged ;-)



- Connect the OTT netDL with the laptop via USB cable on site: use the USB-device socket (right) of the OTT netDL
(If it is the first time that an OTT netDL is connected to this laptop, you will be asked to install the driver; you need the driver files and admin rights!).
- Now carry out the following steps using the operating program:

2. On site with laptop via USB cable

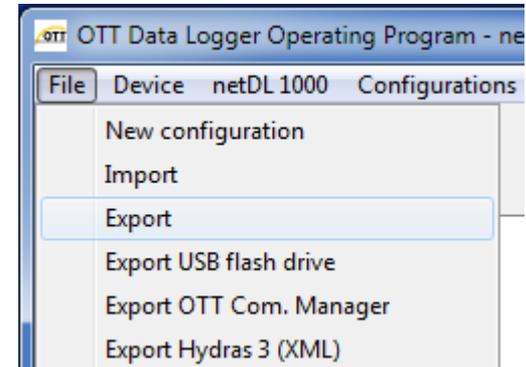
1. Select device:



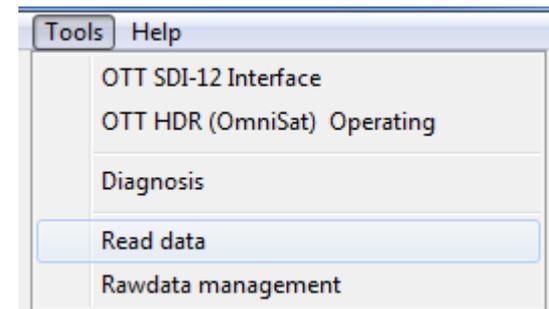
2. Select USB interface and read in configuration:



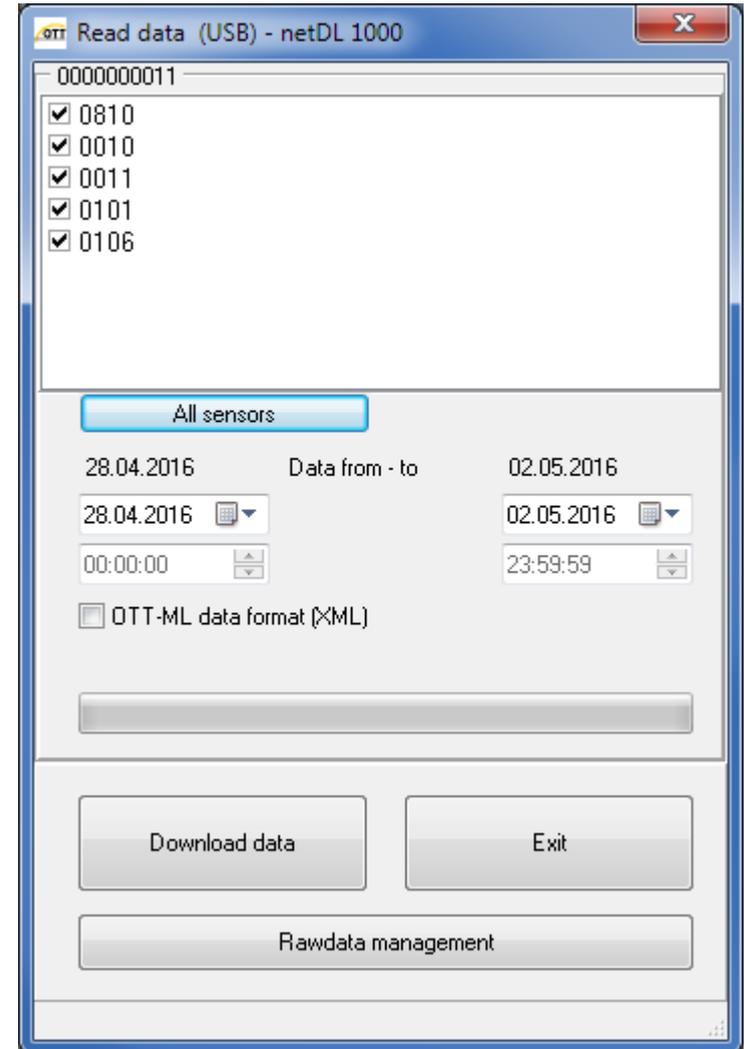
3. Export configuration:



4. Read in data (the update deletes ALL data!)

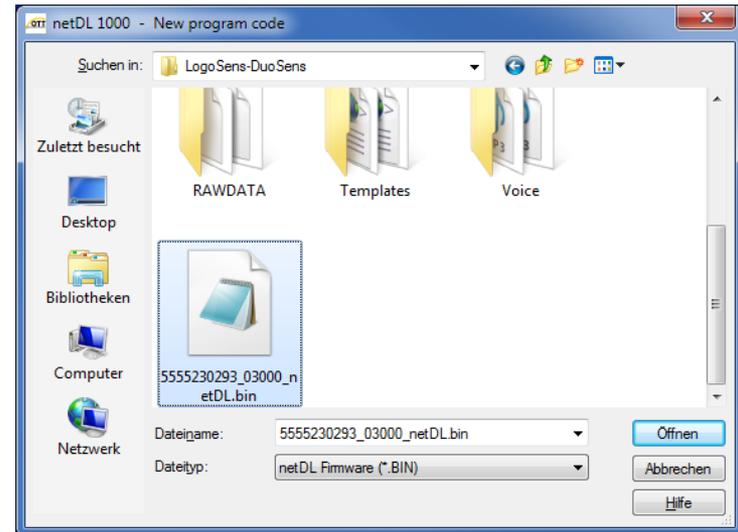
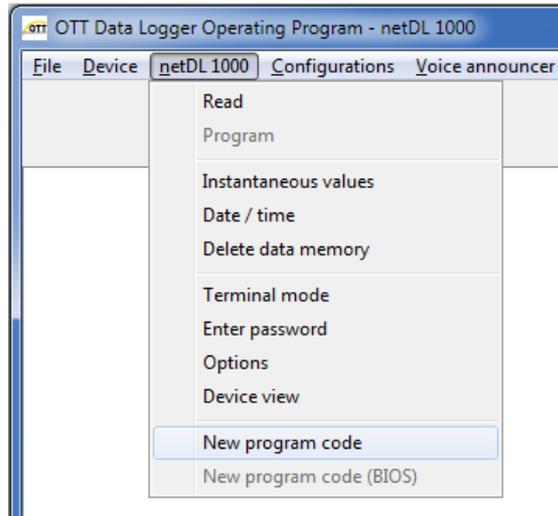


5. Choose channels and time slots:
 - All channels and the complete range
 - Click on „Read out“
 - Data is stored in the raw data memory and can be exported to other formats later (CSV, Excel, OTT MIS, Hydras3).

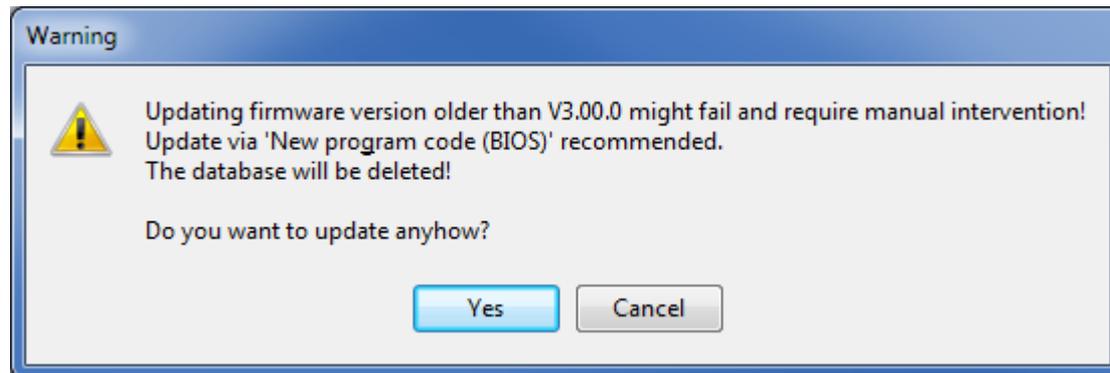


2. On site with laptop via USB cable

6. Choose „New program code“ from the menu and select file with new firmware:

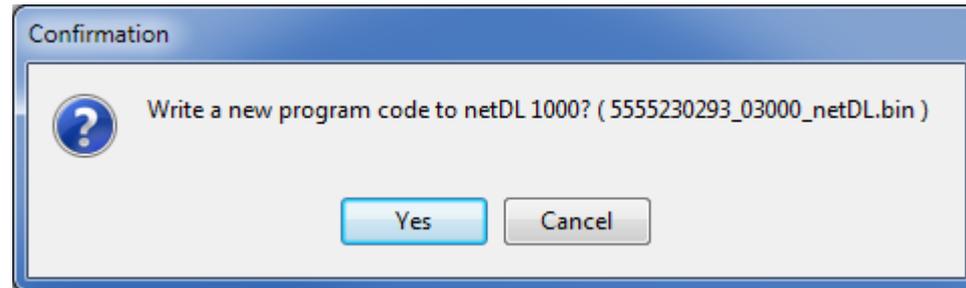


7. Heed warnings (save data if necessary)

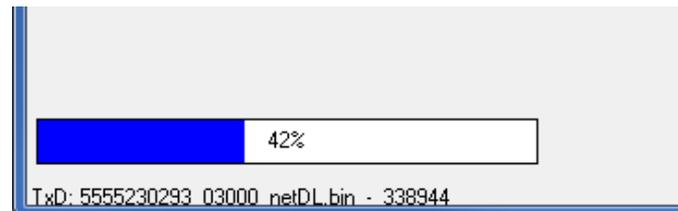


2. On site with laptop via USB cable

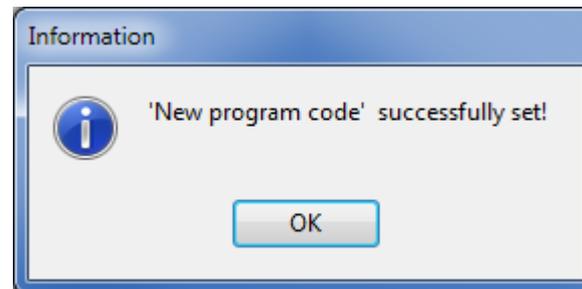
8. Writing of the new program code (Confirm firmware version with „Yes“)



9. Wait for writing process



10. After confirmation of the program the OTT netDL will reboot (see picture under 1.)



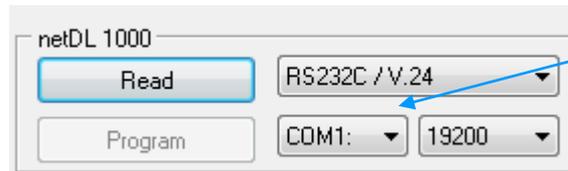
3. On site with laptop via RS232 cable

- For the update via serial interface you need:
 - Serial interface at your laptop (maybe also possible with an USB/RS232 adapter)
 - Zero-modem-cable (crossed Tx/Rx-lines)

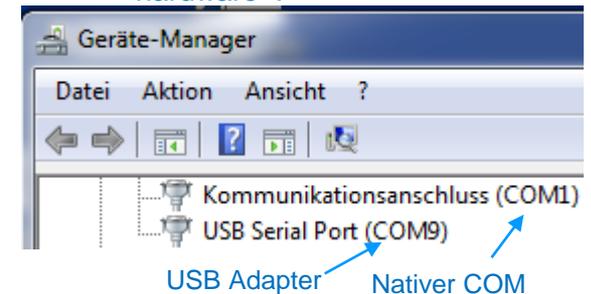


- Connect COM 1 (above the jog-shuttle) of the OTT netDL with COM port of the laptop.

- Make settings:
Default-baudrate: 115200

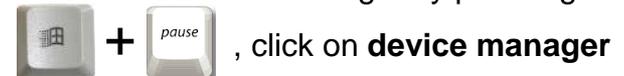


Choose COM Port in accordance with laptop hardware :

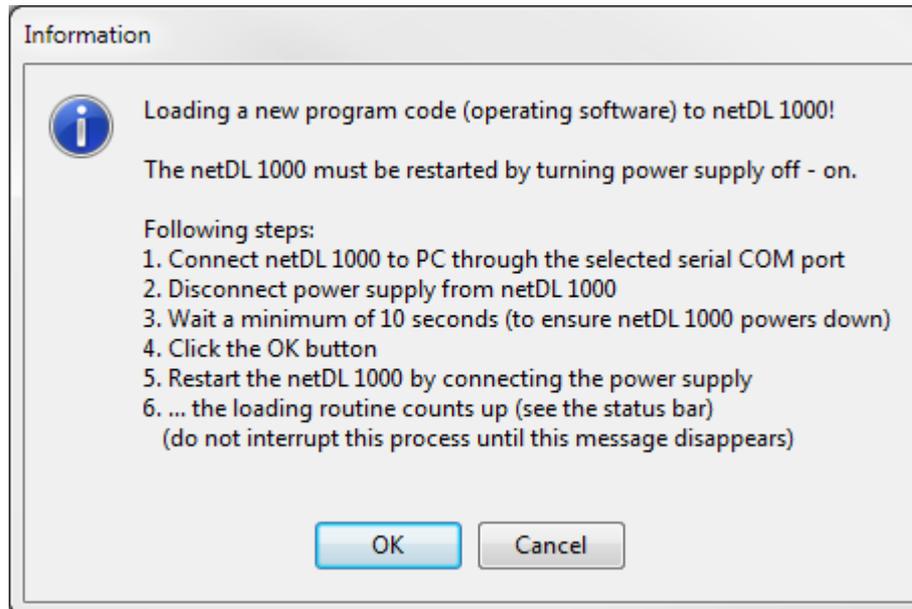
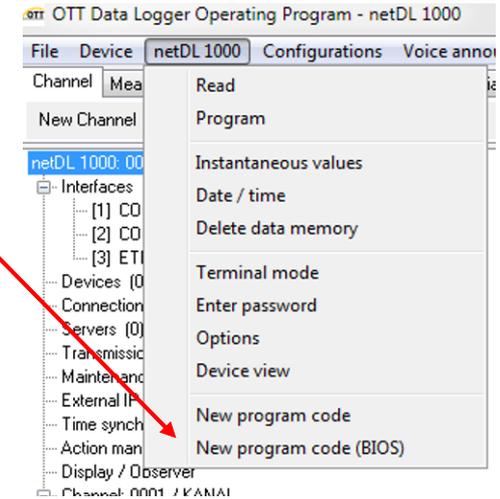


- Continue as under point 2 (with USB-Kabel):
 - Choose „New program code“ from the menu
 - Select firmware-file
 - Confirm with „Yes“
 - Wait for writing process

Call the device manager by pressing



- Connect the OTT netDL as described on the previous page and select connection settings
- Select „New program code (BIOS)“ from the menu and select the firmware file again.
- Follow the description which appears now:

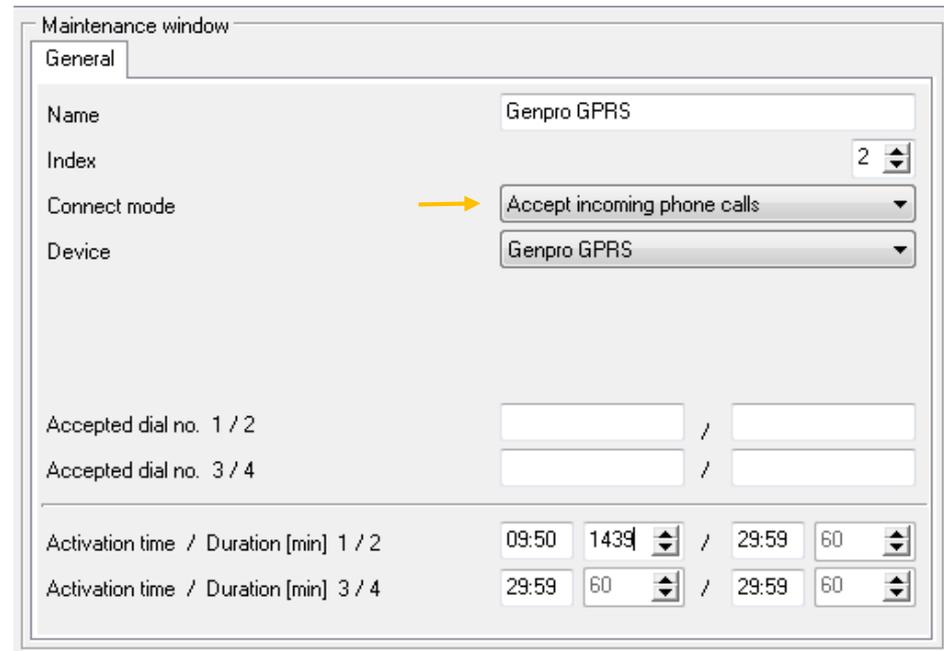


4. Remote with PC and modem (ISDN, analogue, GSM)

- First the OTT netDL will transfer the firmware completely and then write it into the permanent memory after verifying the consistency. This eliminates risks of remote firmware updates. In the worst case, an unstable connection would cause interruption of the transfer and the OTT netDL would reboot with the previous firmware. For this option you have to establish a modem connection with the OTT netDL, i.e. the OTT netDL (or the modem) must be configured accordingly (active maintenance window):

For this, the CSD (Circuit Switched Data)-service is used.

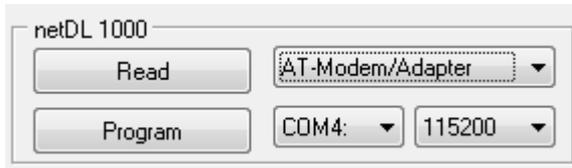
Contrary to data packages sent with GPRS, UMTS or LTE, this service is a dial-up connection and has to be supported by the provider



The screenshot shows a 'Maintenance window' dialog box with a 'General' tab. The configuration is as follows:

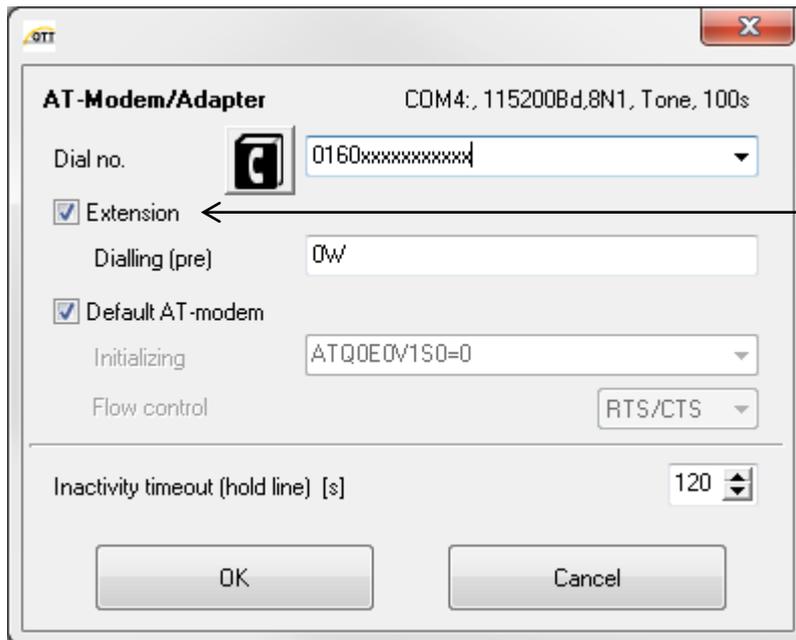
- Name: Genpro GPRS
- Index: 2
- Connect mode: Accept incoming phone calls (indicated by a yellow arrow)
- Device: Genpro GPRS
- Accepted dial no. 1 / 2: [] / []
- Accepted dial no. 3 / 4: [] / []
- Activation time / Duration [min] 1 / 2: 09:59 / 1439
- Activation time / Duration [min] 3 / 4: 29:59 / 60

4. Remote with PC and modem (ISDN, analog, GSM)



Assumption: analogue modem at COM 4 of PC, modem with 115200 bauds (adjust if required)

- Analogue to option 2 you select now „New program code“ from the menu and choose the file with new firmware, then enter call number:

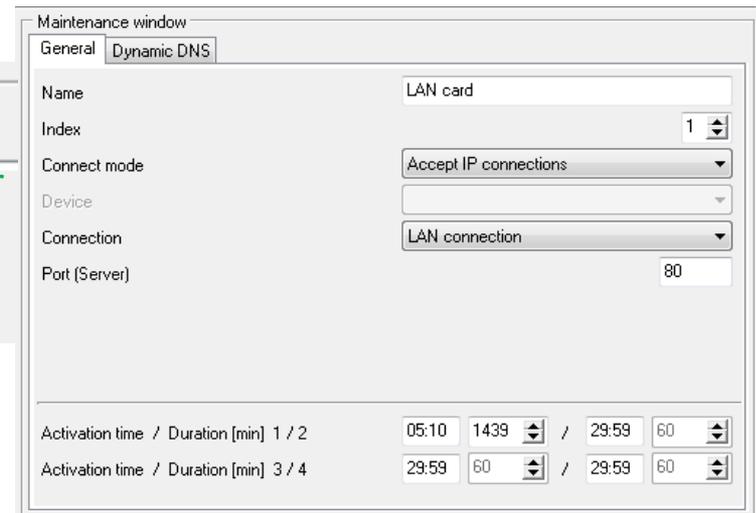
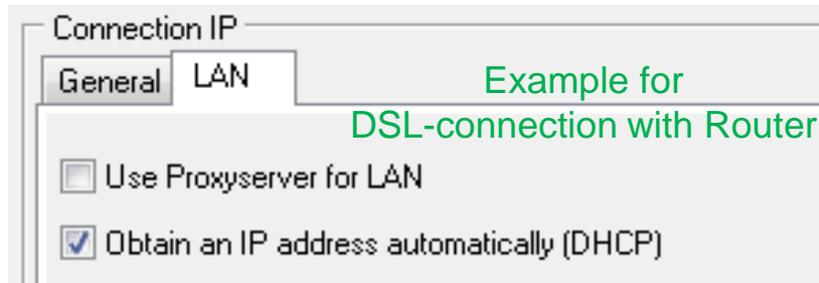


Assumption: modem conneted via telephone system (external call prefix „0“), or set option „Extension“ inactive.

Experience shows that sometimes, several attempts in quick succession are required to establish the connection successfully. It is often helpful to start dialling after a longer break in the communication or directly at the beginning of the maintenance window (in the example on the previous page at 9:50 CET).

- The further process is analogue to option 2.

- Analogue to option 4 the connection can also be established via a fixed (or via Internet/Intranet available) IP-number (or IP-name, also dyndns). Usually this is possible with any DSL connection; with a GPRS connection, this service „fixed IP“ has to be ordered explicitly. It is assumed that the internal webserver of the OTT netDL is active.



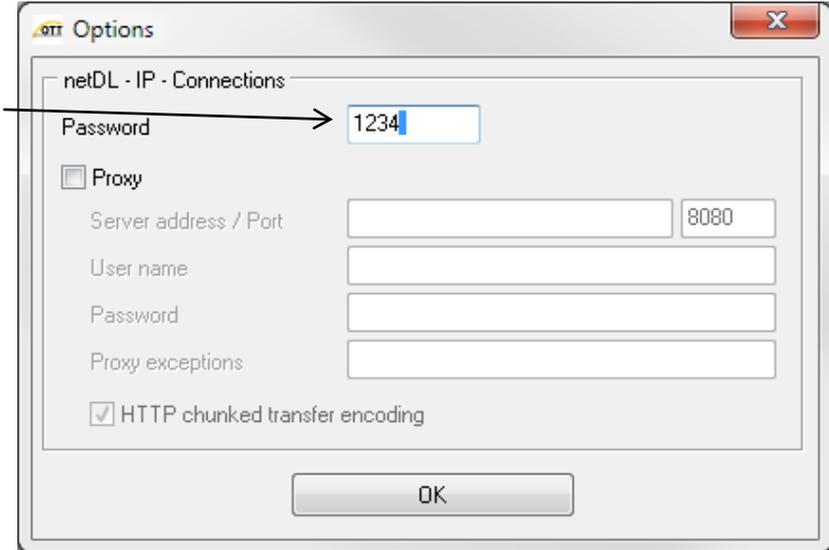
- Now select „IP (HTTP)“ and enter the IP-number of the OTT netDL:



- Analogue to option 2, now select „New program code“ from the menu and choose the file with the new firmware. Compared to modem connection as described before, the transmission is **very fast**.

5. Remote with PC via Internet (netDL mit fester IP)

- If the OTT netDL is password protected, this must be saved under Options (menu file) of the OTT Datalogger Operating Program.
- If your PC is part of a network with a proxy-server, you have to configure it accordingly (ask the admin if required).
- The option „HTTP chunked transfer encoding“ is required for some proxy servers and should be activated if necessary.



Options

netDL - IP - Connections

Password: 1234

Proxy

Server address / Port: [] 8080

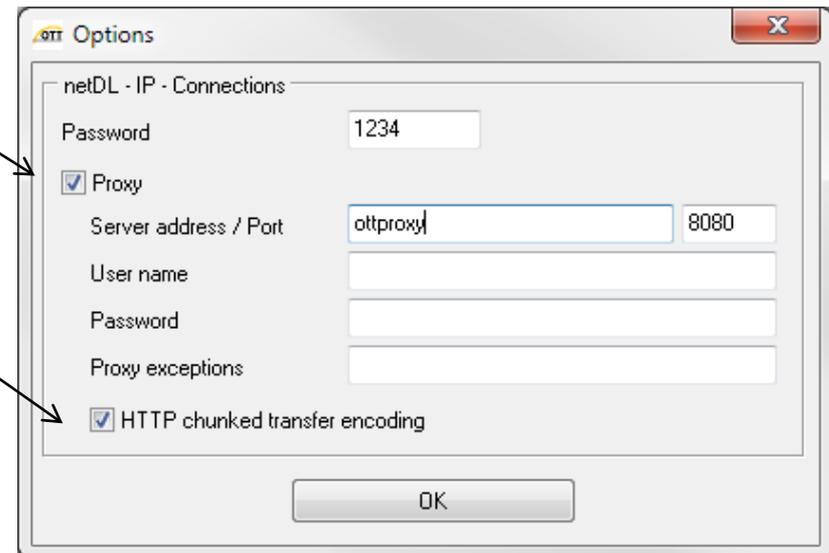
User name: []

Password: []

Proxy exceptions: []

HTTP chunked transfer encoding

OK



Options

netDL - IP - Connections

Password: 1234

Proxy

Server address / Port: ottproxy 8080

User name: []

Password: []

Proxy exceptions: []

HTTP chunked transfer encoding

OK

- This option requires a webserver offering the services that are required for **OTT Hydras 3 net**. This enables you to prepare updates for several OTT netDLs (without direct connection to the OTT netDLs) which will be automatically processed after the data transmission by the OTT netDL (the OTT netDL will ask the server if any tasks were stored and will run those tasks accordingly).
- The following **settings** can **already be made** in the OTT netDL to transmit commands (including firmware-update) later on:
 - **HTTP Server** (define URL + Port with your IT department and integrate it into the OTT netDL configuration).
 - **HTTP Script**: make entries as shown here.



Server

General HTTP HTTP Script

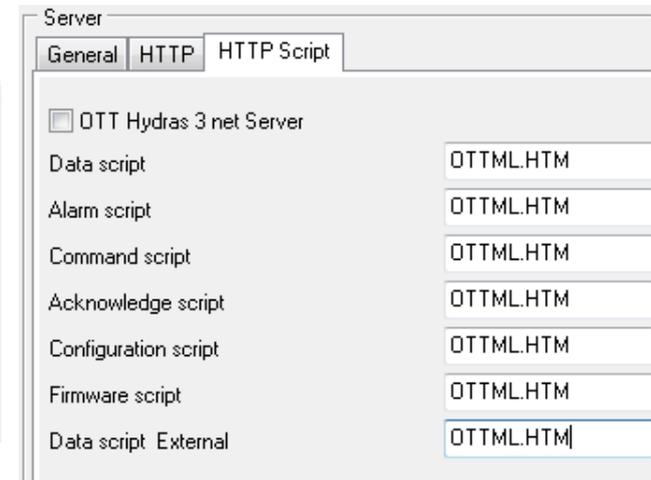
Server address / Port http:// 80

Basic Authentication

User name

Password

Timeout (sec.) 20



Server

General HTTP HTTP Script

OTT Hydras 3 net Server

Data script	<input type="text" value="OTTML.HTM"/>
Alarm script	<input type="text" value="OTTML.HTM"/>
Command script	<input type="text" value="OTTML.HTM"/>
Acknowledge script	<input type="text" value="OTTML.HTM"/>
Configuration script	<input type="text" value="OTTML.HTM"/>
Firmware script	<input type="text" value="OTTML.HTM"/>
Data script External	<input type="text" value="OTTML.HTM"/>

6. Outlook: with webserver (requires Hydras 3 net)

- **IP transmission:**
(Cycle Standard ,---' = inactive;
can be activated later via
OTT Hydras 3 net)
- **Maintenance window**
(to connect the OTT netDL
once with the server by a
phone call/SMS)
- **Save** the **configuration file** of the
OTT netDL for later import into
OTT Hydras 3 net on your PC
(.bin and .XML) – see menu
File/Export

Transmission IP

General | Data transmission | OTT-ML format

Cycle Standard ---

Cycle Limit Level 1 2h 2 2h 3 2h 4 2h 5 2h

Transmission start time offset 00:00:00

Data format OTT-ML format

Compression

Maintenance window

General

Name Contact OTT Server

Index 2

Connect mode Connect to server on RING/SMS

Device internal modem

Transmission OTT command

Accept unknown caller

Accepted dial no. 1 / 2 / /

Accepted dial no. 3 / 4 / /

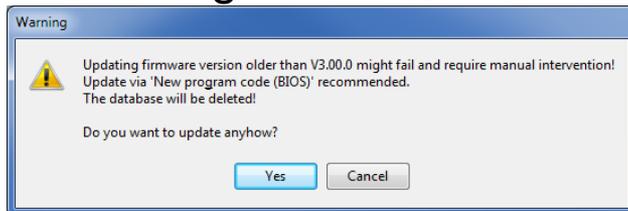
Activation time / Duration [min] 1 / 2 09:00 360 / 29:59 60

Activation time / Duration [min] 3 / 4 29:59 60 / 29:59 60

Annex

- Possible sources of error
- Delete database manually

- Update not successful, OTT netDL starts with the old firmware
 - BIOS-Update on site required (description see option 3b: special case)
- OTT netDL gets stuck in „restore database“and reboots again and again
 - Database has to be deleted manually (see next page)
- Errormessage „New program code BIOS“ does not exist or new functions (more than 30 channels, TLS 1.2, ...) are not available“
 - Update operating program
- You have updated FW < 2.50 to 3.00?(OTT netDL without serial number, ...)
 - Send us your OTT netDL for repair
- You want to downgrade back to V2.63?
 - Please contact the HydroService



If the display still shows „restore database“ after booting, if the logger continues rebooting or any other problem occurs, the database and the configuration can be deleted manually by following these instructions:

1. Disconnect power supply
2. **Keep jog-shuttle pressed + connect power supply**
3. Keep jog-shuttle pressed until **the message „Press 5s to erase configuration“ appears in the display. Follow this instruction by holding on for another 5 s**
4. **Now release the jog-shuttle for 5 s** (see instructions in the display)
5. **Press jog-shuttle again for 5 s** (see instructions in the display)
6. Now the database and the configuration will be deleted and the standard configuration is loaded.
7. Upload and program the configuration you have saved before.



Good Luck!

OTT HydroService

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<http://www.ott.com/de-de/blog/>