MagFlux

Day flow logger function

Setup and use

Using MJK –Field Link

Function Requirements: Hardware / Firmware / Software:

Converter HW Ver.: 807000
Converter FW Ver.: 842009-001
Display HW Ver.: 807055
Display FW Ver.: 841013-012
Texts file Ver.: 841513-010
MJK Field Link Ver.: 840110-035

Function description:

- In the Converter menu of the MagFlux connected to the display, the day Flow data logger must be started and initialised.
- The day Flow is the volume measured by the MagFlux flow meter in 1 day (day difference)
- Minimum 2 (two) days (date shift) must past before any Day Flow values are stored.
- Day Flow logger is using the forward counter, it's not possible to log the reverse or Sum flow.
- The Day Flow value is presented in a csv-file with date and time stamp+ unit.
- If the flow totalizer is zero (no flow present during the day), no Day flow is logged for the day.
- The Day Flow is written to the Display logger at midnight (date shift)
- In case of Mains power loss the present day, Day flow will not be logged in the Display logger.
- If Bluetooth is used for connection the Display (requires Display PCB HW Ver.: 510251-005 incl. FW Ver.: 841014-009) for downloading the log, the log size is recommended to 1680 lines. (Setup->display->Graphs->size) This insures a reasonable transfer time between the Display log and a PC by use of Bluetooth connection.

Uploading new FW to the Display unit

Background:
After uploading the FW to the Display unit, the language file must be uploaded again and the preferred language selected in the “Display Setup” menu.

1. Current MagFlux® log data must be saved in a file before transferring and installing new firmware. See "2. Save Log Data" overleaf.

2. Note down all display and converter settings before upgrading new firmware.

3. The upgrade procedures below must be carried out in the following order A - B - C.

A. Connect a PC to the Flow Meter

1. Insert the MagFlux® MJK-Field Link CD-ROM into the PC's disk drive.
The MJK-Field Link opening menu will appear after a short while (see below). If the auto-run function does not execute, locate the "MJK-Field-Link 840110-0XX.exe" file (or similar) and click "Run".

Unscrew the four screws that hold the Display Unit.

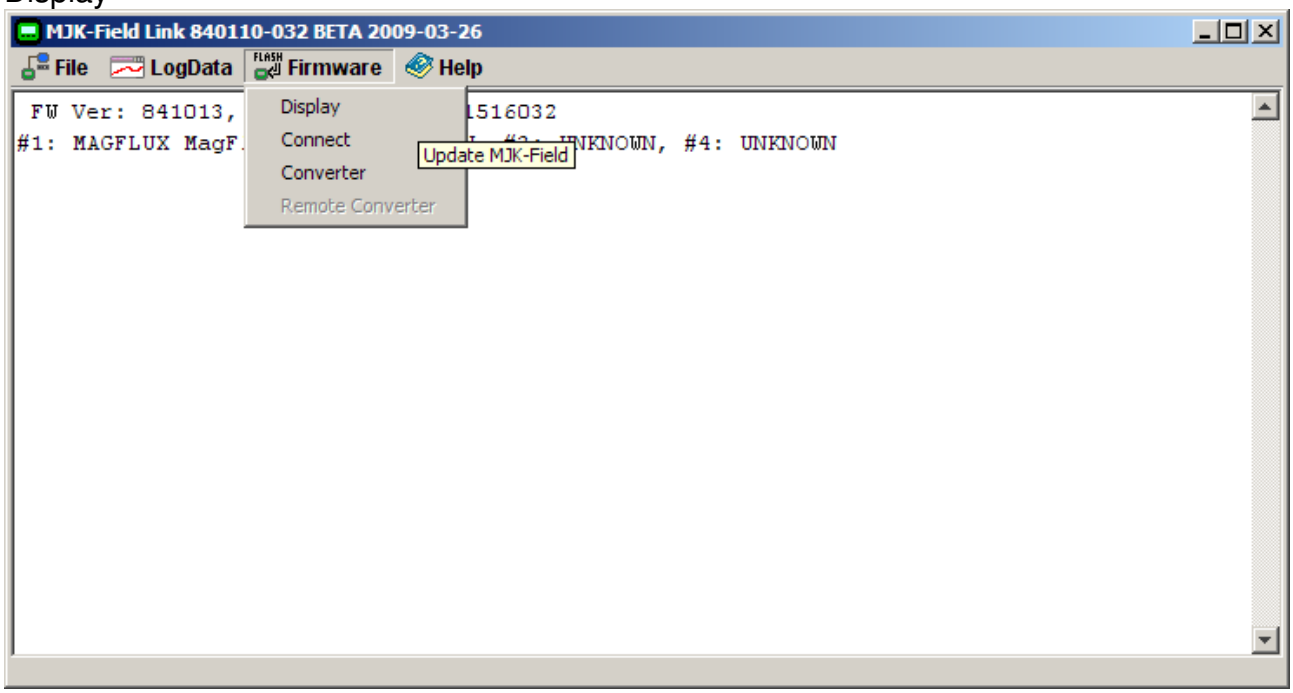
3. Lift out the Display Unit and connect a USB mini A/B cable to the mini USB female B connector on the rear of the front panel.

4. Connect the other end of the USB cable (max. 4.7 metres long) to the PC.

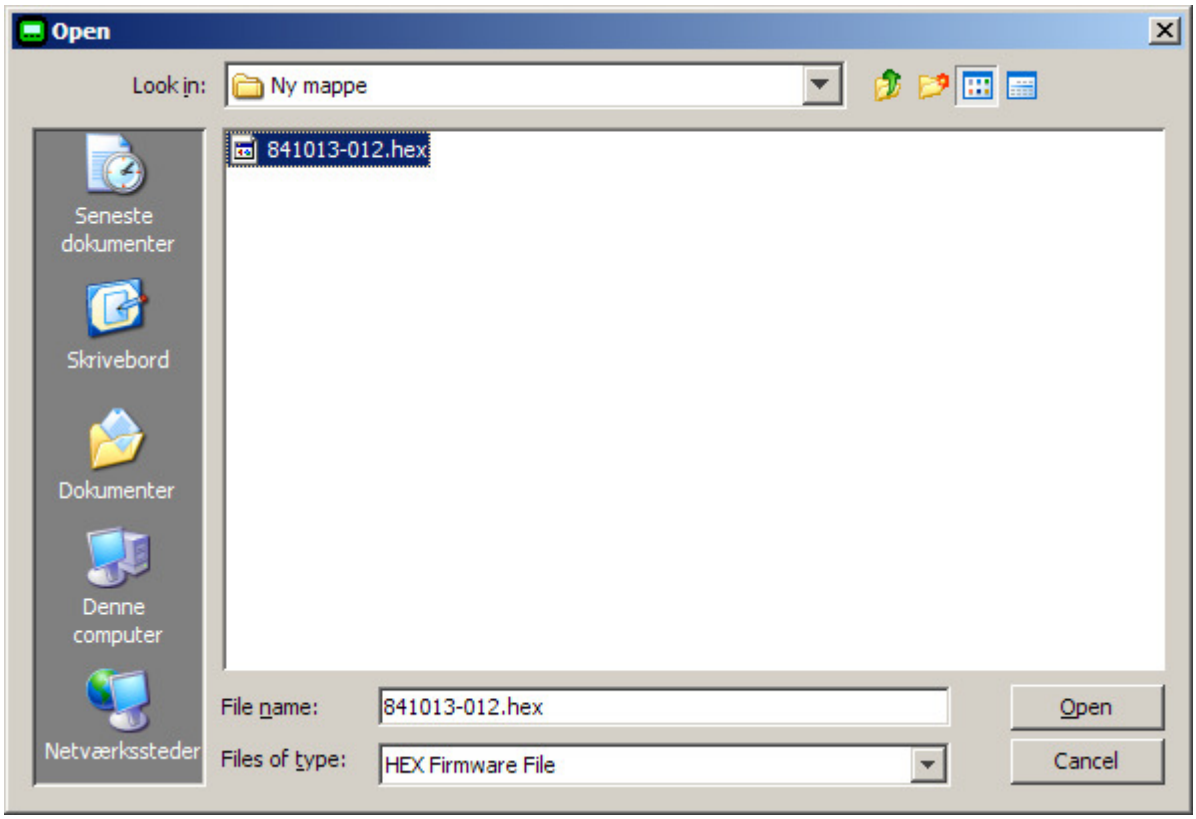
5. Select "Mount USB" in the menu bar.

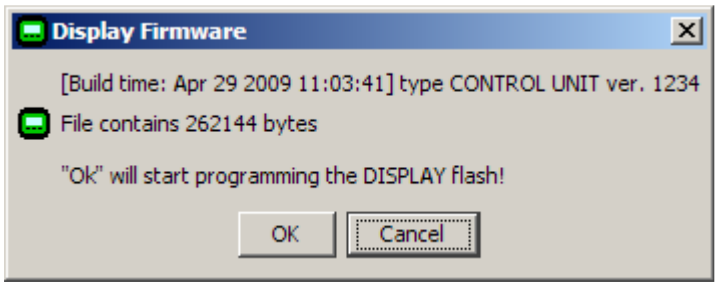
If the connection is successful, a "Device Clock" window for PC and device time synchronisation is displayed (if PC and device clock were out of sync.) along with a link status display (see below).
Click ‘OK’ if you want the Display and PC to synchronize time stamps
If the connection fails, first remove the USB cable and then re-connect it.

B. Select Firmware and Display

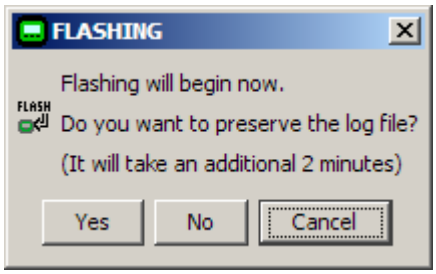


Open File 841013-012.hex

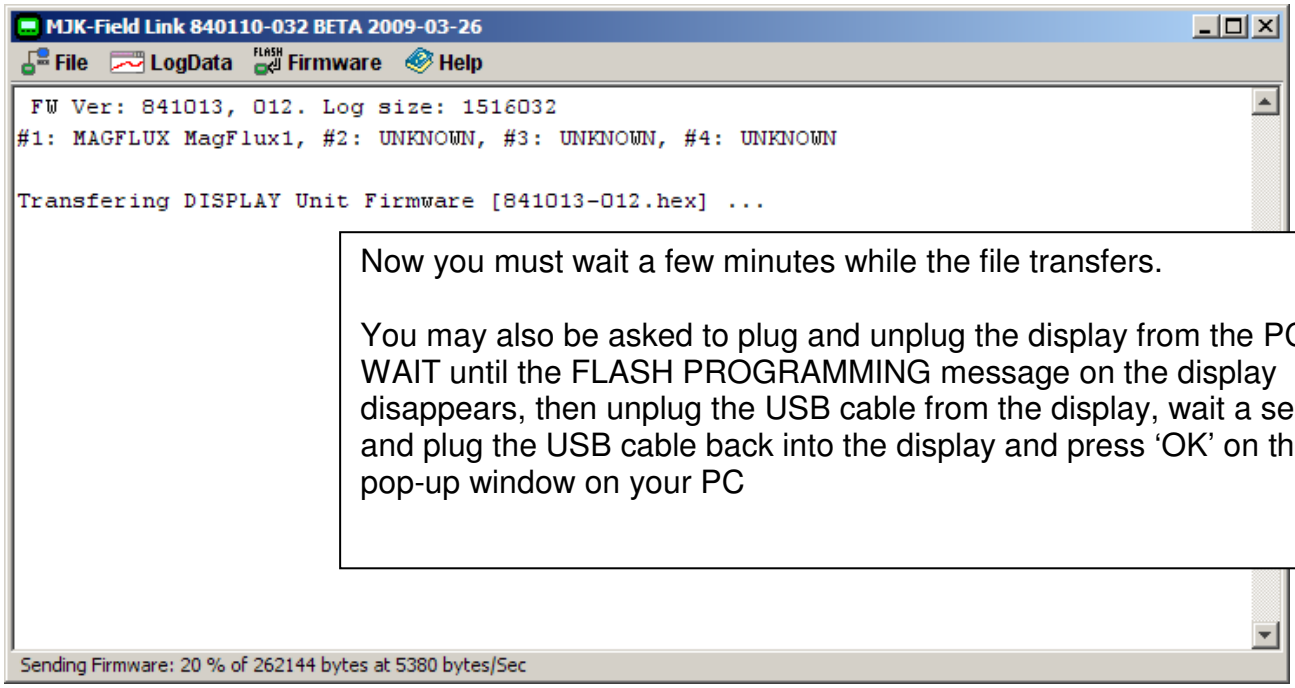




Press OK



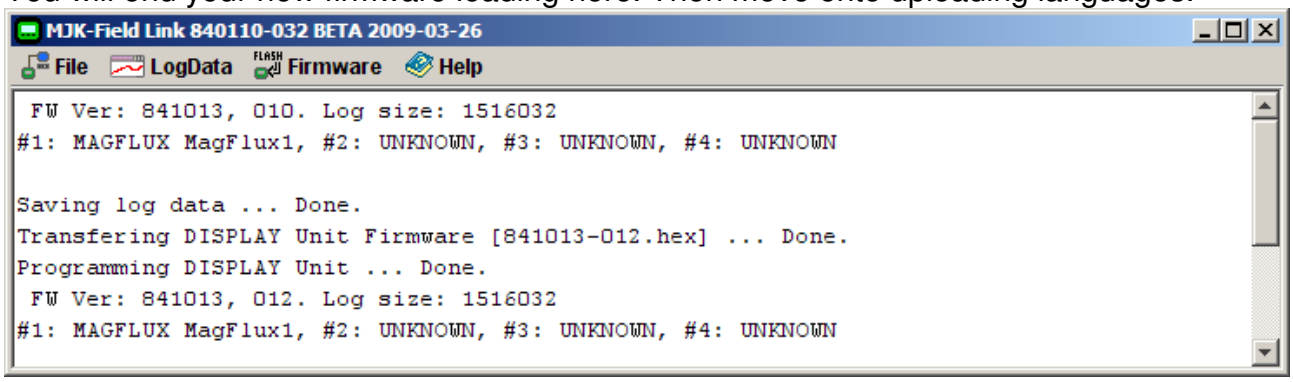
Select 'YES' or 'No'.



Now you must wait a few minutes while the file transfers.

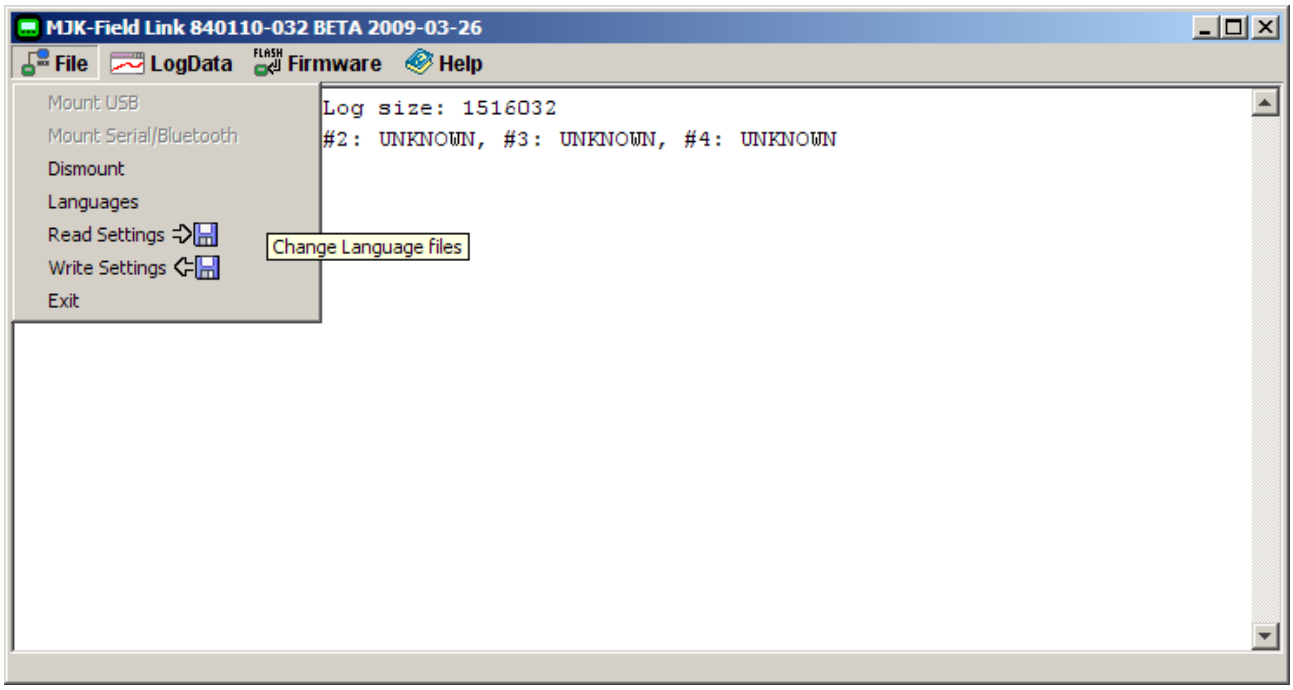
You may also be asked to plug and unplug the display from the PC. WAIT until the FLASH PROGRAMMING message on the display disappears, then unplug the USB cable from the display, wait a second, and plug the USB cable back into the display and press 'OK' on the pop-up window on your PC

You will end your new firmware loading here. Then move onto uploading languages.

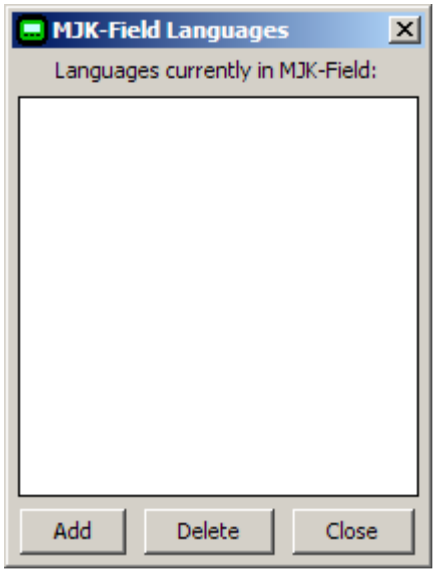


C. Install/Add Languages

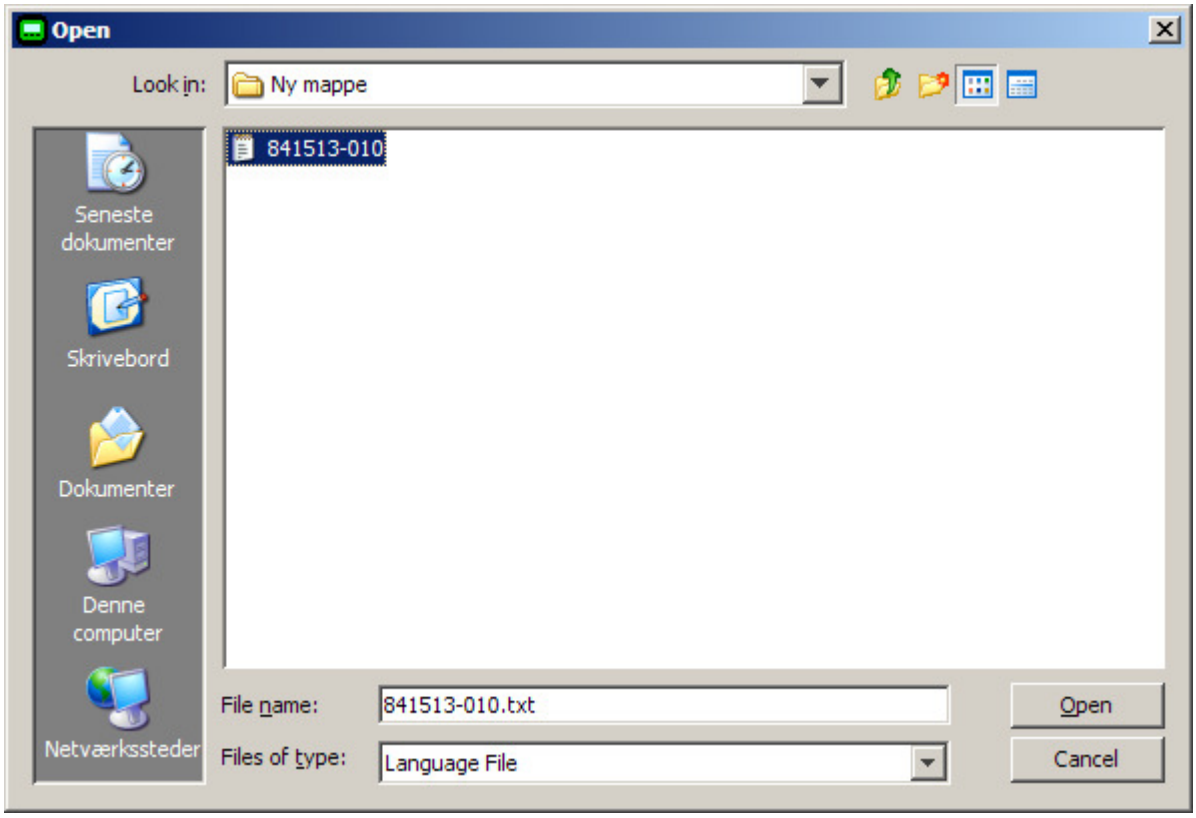
All languages are removed during a display firmware upgrade. Consequently the required languages must be re-installed at this stage.
1. Select "File" in the menu bar and click "Languages".



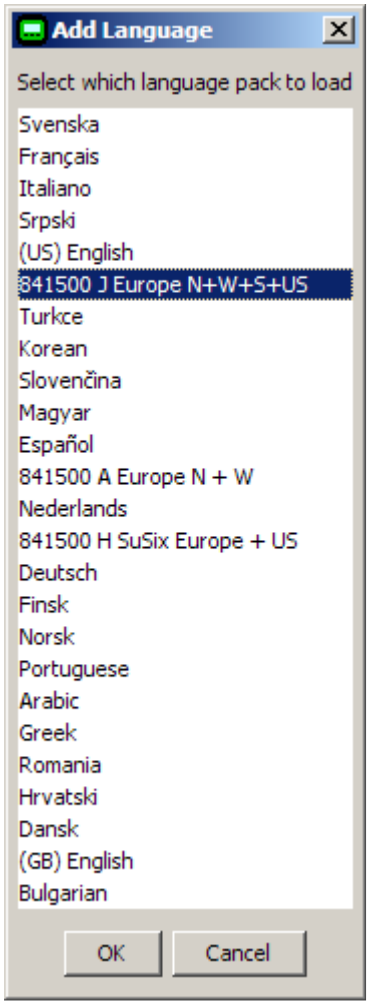
2. A dialogue appears showing the currently installed languages (none will be listed following a firmware upgrade).
You can now either add or delete the required languages.

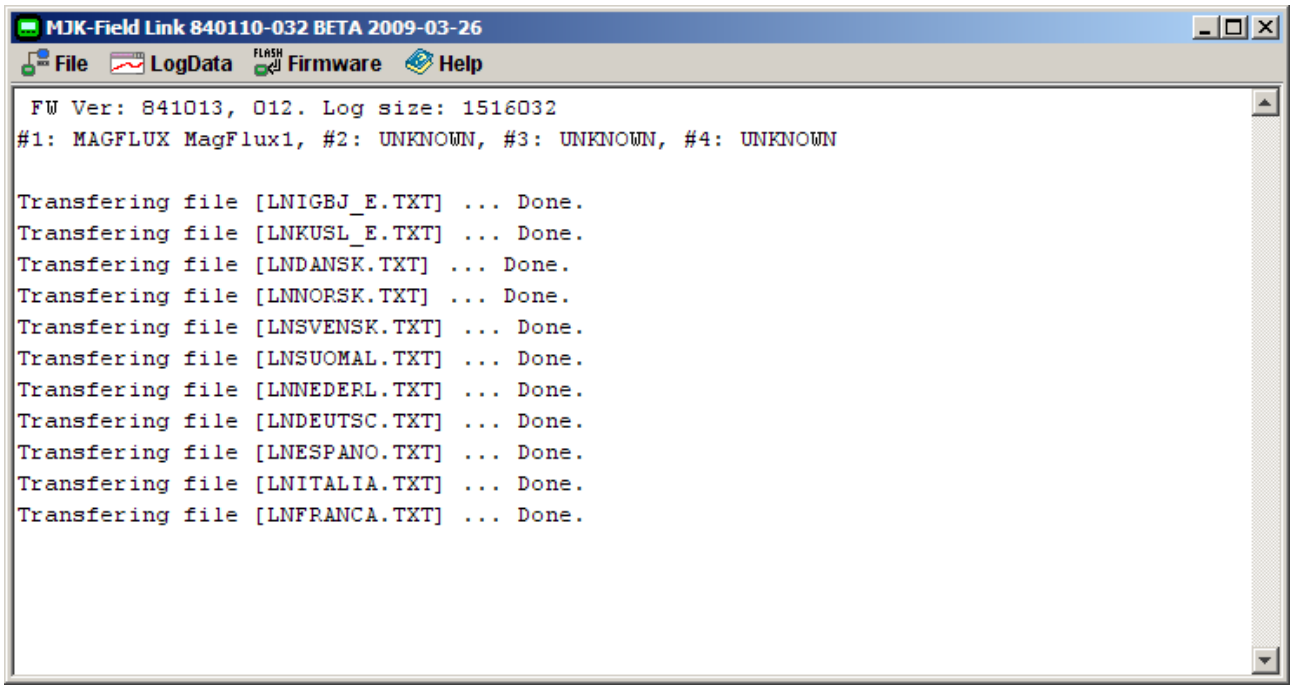


3. Click "Add", select the required language text file (or language pack) in the "MJK Field Display Unit text files" directory on the CD-ROM (for example 841513-010.txt) and click "Open".



4. Select for example "841500 J Europe N+W+S+US" in the "Add Language" dialogue and click OK.





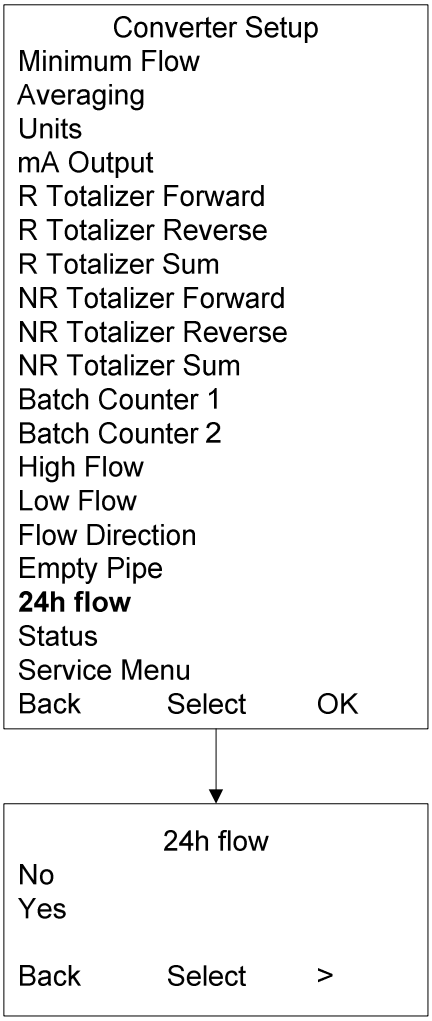
5. The languages are then transferred and loaded.
If required, you can remove one or more languages by selecting them from the list, clicking "Delete".

When all the language up loads are complete you can close the MJK Field Link, unplug the USB cable and put the display back on the converter or wall mount housing and tighten the screws.

Now you can proceed to setting up the Day Flow Logger and later viewing data with daily flow totals.

How to start up the Day Flow logger:

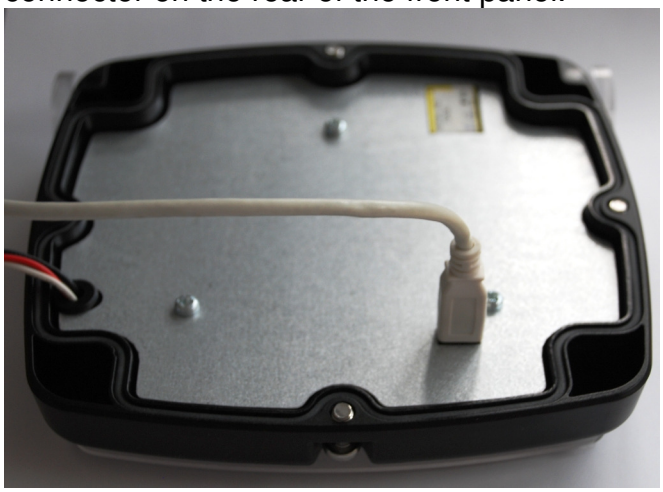
With the display connected to the Converter and power on at the converter activate the ‘SETUP’ button using the up/down arrows on the display and press ‘SETUP’
Scroll to ‘Converter Set’-up and press ‘OK’
In ”Converter setup” select ” 24h flow” (Day Flow) and select ”Yes”.



The Day Flow logger is now started.
The first Day Flow log sample will be available in 2 (two) days (i.e. after two date shifts at midnight of the second day).

Connect a PC using MJK Field Link to the MagFlux Flow Meter

Using the Display USB connection.
1. Unscrew the four screws that hold the Display Unit.
2. Lift out the Display Unit and connect a USB mini A/B cable to the mini USB female B connector on the rear of the front panel.

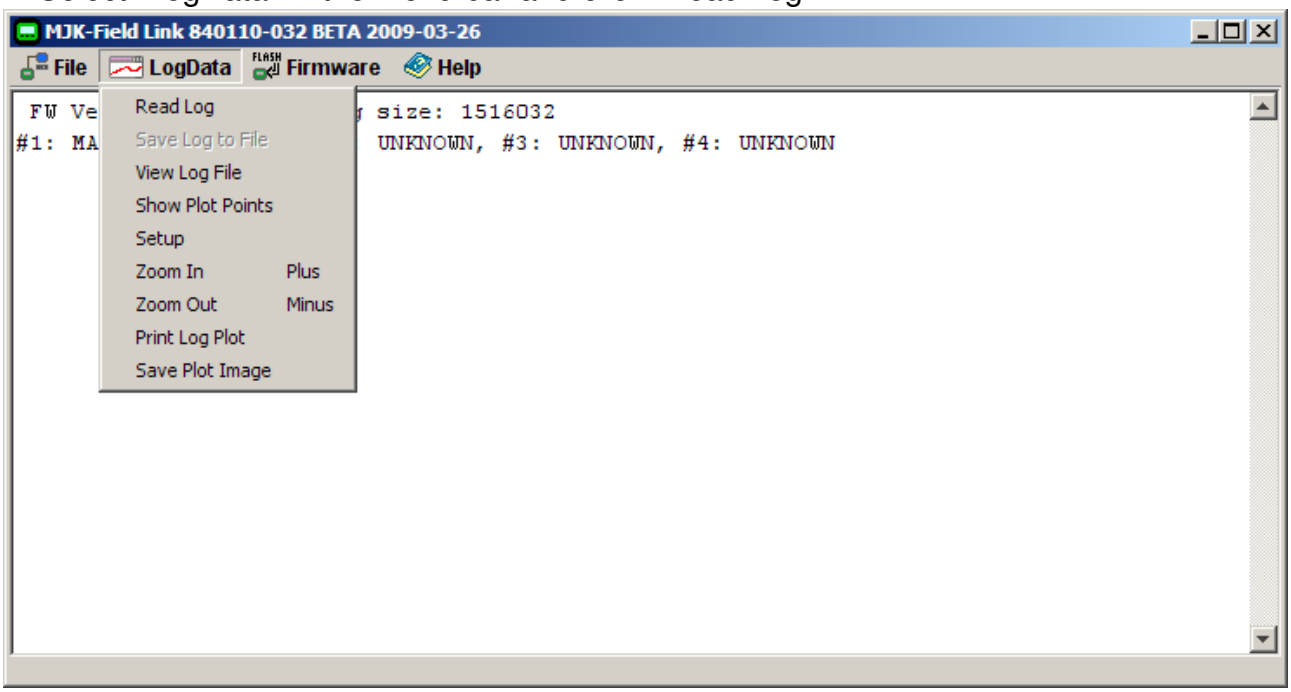


3. Connect the other end of the USB cable (max. 4.7 metres long) to the PC.
4. Launch the MJK Field Link Ver.: 840110-035 supplied with the display
5. Select "File" in the menu bar and click "Mount USB".

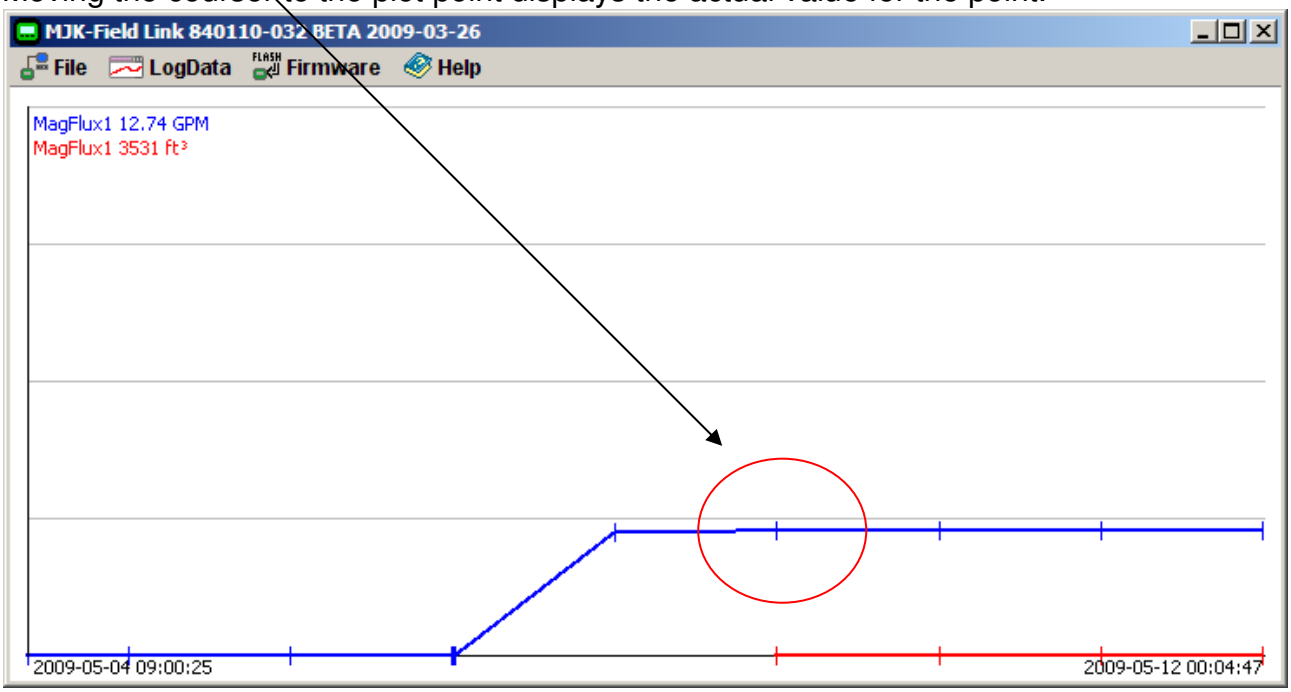
If the connection is successful, a "Device Clock" window for PC and device time synchronisation is displayed (if PC and device clock were out of sync.) along with a Field link status display. Press OK if you wish to synchronize the PC and Display clock.
If the connection fails, first remove the cable and then re-connect it.

How to download the log file containing the Day Flow log:

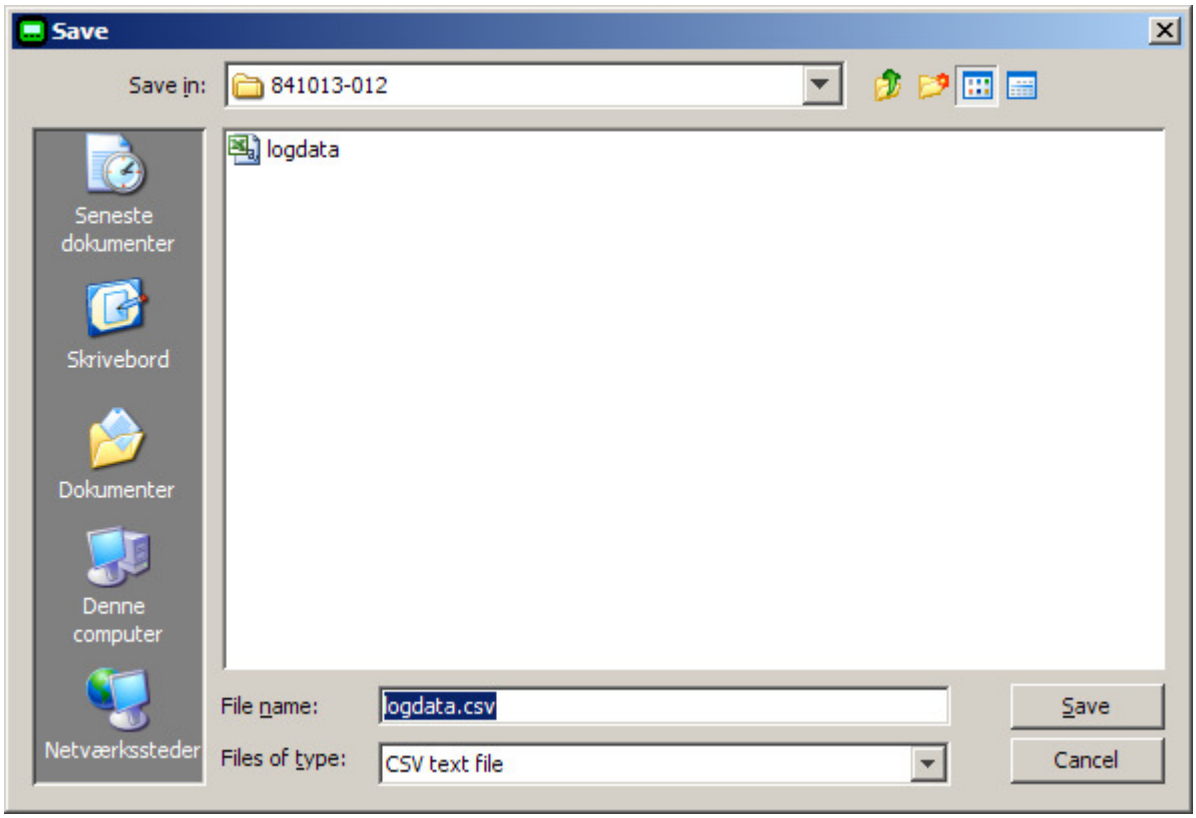
1. Select "LogData" in the menu bar and click "Read Log".



2. The log is instantly shown in the MJK Field Link window.
Select "Show plot point" in the menu bar for showing the plot points.
Moving the courser to the plot point displays the actual value for the point.



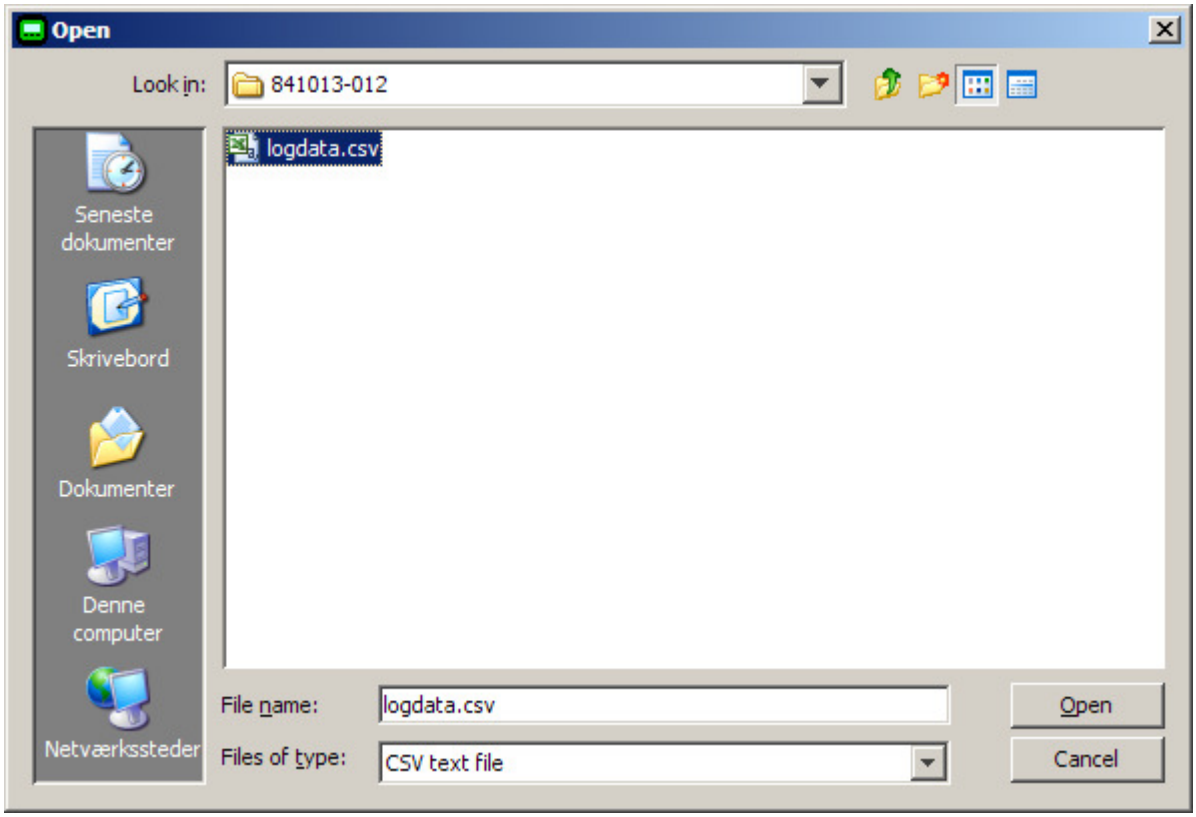
3. Select "LogData" in the menu bar and click "Save Log to File".



4. Assign a file name, find the destination you want to save the file to, and click "Save". Consequently the file is saved.
The content can be displayed as follows in next section.

Log file Viewing Example:

Launch your Excel software and select ‘OPEN’.
Find the log file destination folder in explore and open the Logfile (double click on the file):



The log file is a .CSV file, meaning Excel can be assigned and used for showing and editing the data.
The file can also be saved as a text file or as an Excel file.

Note: for later viewing of the data in the MJK Field Link, the original logfile.csv file should not be opened and edited in e.g. Excel. Make a copy of the original logfile.csv for editing in e.g. Excel.

The file contains a Header and the actual data.

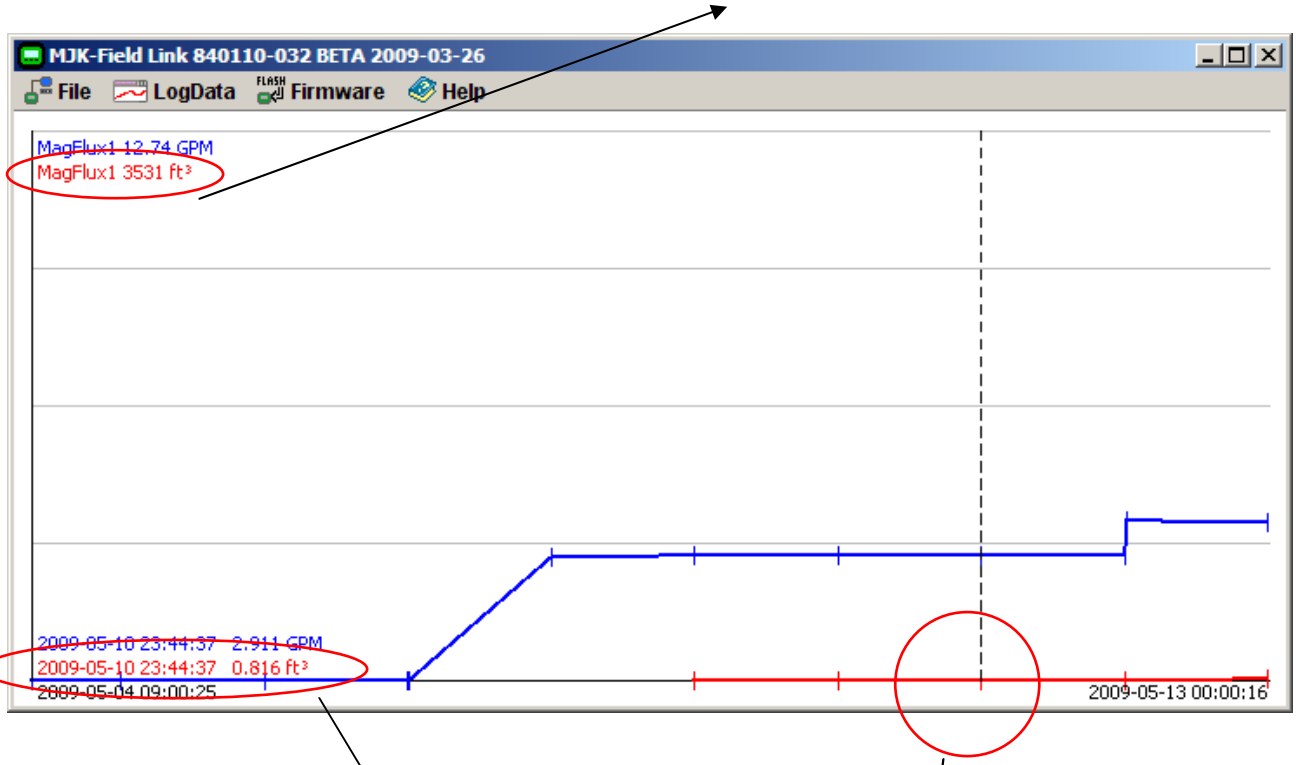
The Header:

A	B	C	D	E	F	G	H	I	J
Serial	MB Address	Unit	Value ID	Device Type	Frequency	Range Max	Range Min	Precision	SensorName
0	1	GPM	600	2	10	12,7480011	0	1.0E-5	MagFlux1
1	1	ft³	1440	2	0	3531,466797	0	1.0	MagFlux1

- Serial: The individual logs (here 0,1) In this example this refers to the Data series: Here:
  - Serial 0.: Flow rate
  - Serial 1.: Daily Flow total
- MB Address: Modbus address (here: 1)
- Value ID: Modbus address for flow (here: 600)
- Device Type: The device type (here: 2 = MagFlux)
- Frequency: Log interval in seconds (here: 10 seconds)
- Range Max: Maximum value for graph
- Range Min: Minimum value for graph
- Precision: The precision of the SI value
- Sensor name: Tag Name as entered by the operator.

Device Type	Frequency	Range Max	Range Min	Precision	SensorName
2	10	12,7480011	0	1.0E-5	MagFlux1
2	0	3531,466797	0	1.0	MagFlux1

Range max for serial 1 is a constant at 100m3 (3531,466797 ft³) (This is a default scale of the Y axis)



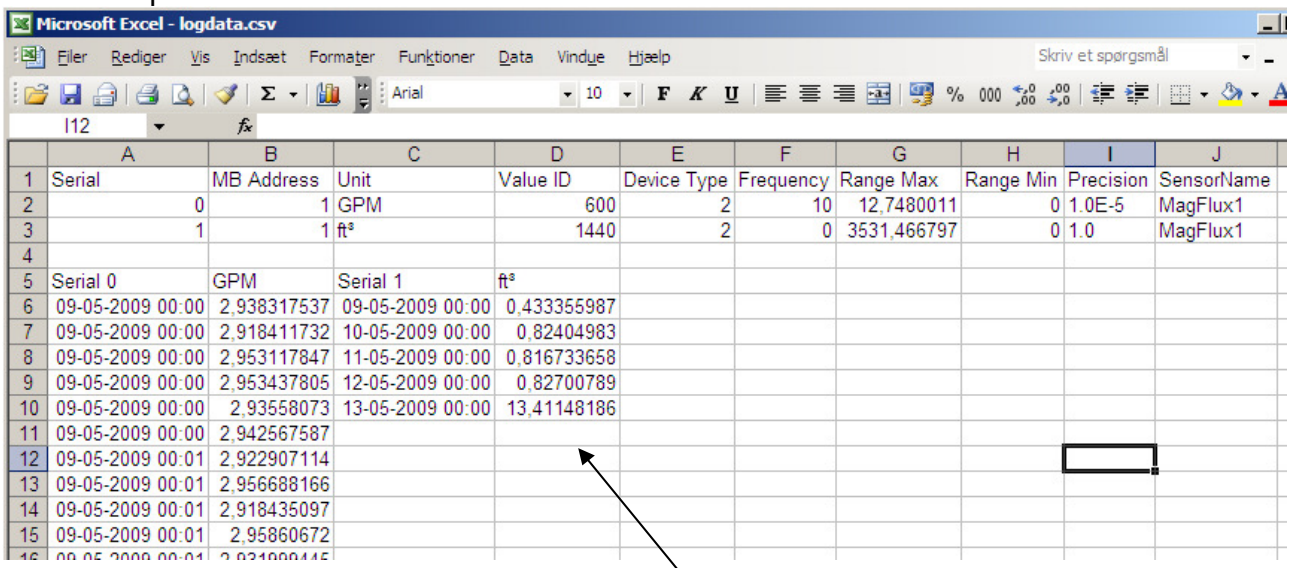
	Unit	Value ID
	GPM	600
	ft³	1440
Serial 1		ft³
09-05-2009 00:00:00		0,433355987
10-05-2009 00:00:00		0,82404983
11-05-2009 00:00:00		0,816733658
12-05-2009 00:00:00		0,82700789

Data can be viewed as a graph by launching the file using the MJK Field Link Ver.: 840110-035 or later.

The totalized Day Flow is shown as the red horizontal graph.
By moving the curser to the log points, the value can be seen on the left side of the screen.

The data:

This example shows the data in EXCEL.



	A	B	C	D	E	F	G	H	I	J
1	Serial	MB Address	Unit	Value ID	Device Type	Frequency	Range Max	Range Min	Precision	SensorName
2	0	1	GPM	600	2	10	12,7480011	0	1.0E-5	MagFlux1
3	1	1	ft³	1440	2	0	3531,466797	0	1.0	MagFlux1
4										
5	Serial 0	GPM	Serial 1	ft³						
6	09-05-2009 00:00	2,938317537	09-05-2009 00:00	0,433355987						
7	09-05-2009 00:00	2,918411732	10-05-2009 00:00	0,82404983						
8	09-05-2009 00:00	2,953117847	11-05-2009 00:00	0,816733658						
9	09-05-2009 00:00	2,953437805	12-05-2009 00:00	0,82700789						
10	09-05-2009 00:00	2,93558073	13-05-2009 00:00	13,41148186						
11	09-05-2009 00:00	2,942567587								
12	09-05-2009 00:01	2,922907114								
13	09-05-2009 00:01	2,956688166								
14	09-05-2009 00:01	2,918435097								
15	09-05-2009 00:01	2,95860672								

Serial	MB Address	Unit	Value ID
0	1	GPM	600
1	1	ft³	1440

Serial 0	GPM	Serial 1	ft³
09-05-2009 00:00:05	2,938317537	09-05-2009 00:00:00	0,433355987
09-05-2009 00:00:15	2,918411732	10-05-2009 00:00:00	0,82404983
09-05-2009 00:00:25	2,953117847	11-05-2009 00:00:00	0,816733658
09-05-2009 00:00:35	2,953437805	12-05-2009 00:00:00	0,82700789
09-05-2009 23:59:59	2,90465498	13-05-2009 00:00:00	13,41148
10-05-2009 00:00:09	2,947461367		
10-05-2009 00:00:19	2,971448421		
10-05-2009 00:00:29	2,936775446		
10-05-2009 23:59:44	2,911088943		
10-05-2009 23:59:54	2,929478407		
11-05-2009 00:00:04	2,912065506		
11-05-2009 00:00:14	2,914983273		
11-05-2009 00:00:24	2,904906988		
11-05-2009 23:59:47	2,90219903		
11-05-2009 23:59:57	2,941400766		
12-05-2009 00:00:07	2,911888123		
12-05-2009 00:00:17	2,924781322		
12-05-2009 00:00:27	2,932638645		

Daily Totals Stored Here