

Computer data logging

For logging onto a computer, the extended data transmitted with baud rate of 9600 are available via the flowmeter's USB serial port.

They include four values for the flow rate (all in dm^3/h) and two for the ambient temperature and pressure:

- (i) the actual flow rate as shown on the instrument display,
- (ii) the flow rate (as in (i)) but normalized to the standard reference conditions (0°C and 1 bar),
- (iii) the flow rate (when the dry gas is measured) with the consideration to water evaporation from the surfactant solution at the ambient temperature and pressure,
- (iv) the value as in (iii) normalized to the standard reference conditions (0°C and 1 bar) as well as
- (v) ambient temperature (in $^\circ\text{C}$) and
- (vi) air pressure (in bar).

At the USB serial port, the data represent the above values (i) – (vi) after “DATA,TIME” separated by “,” as follows:

DATA,TIME,35.70,32.26,34.79,31.44,20.99,0.9931.

This data format is mainly intended for MS Excel (Parallax Data Acquisition tool PLX-DAQ software add-in for Microsoft Excel produced by Parallax Inc), but it can also be used by other tools for reading the USB serial port.

Windows

For logging the data from the device via USB port, FTDI drivers should be installed on the computer.

As a rule, FTDI drivers will be automatically installed by Windows when the flowmeter is first connected to PC. But if this does not happen, they can be loaded from the FTDI webpage: <https://ftdichip.com/drivers/d2xx-drivers>.

If the FTDI drivers are already installed, but there is no connection to the flowmeter because they are outdated or corrupted, the drivers should be reinstalled as follows.

On the above-mentioned webpage, select “VCP Drivers”, choose “setup executable” for “Windows (Desktop)” and follow the commands of Installation Wizard.

Any appropriate software can be used to log data e.g. PLX-DAQ, Excel Streamer, Excel serial data writer plugin (<https://www.aggsoft.com/serial-data-logger/plugins/excel.htm>), etc..

The following describes two ways to record data using MS Excel (PLX-DAQ and Data Streamer Add-in).

PLX-DAQ for MS Excel

The software PLX-DAQ can be downloaded from <https://www.parallax.com/package/plx-daq> and then tuned by a user for data logging. Alternatively, the [PLX-DAQ GD 03](#) software (especially adopted to the GD03 devices) can be directly downloaded from our Webpage.

NOTE

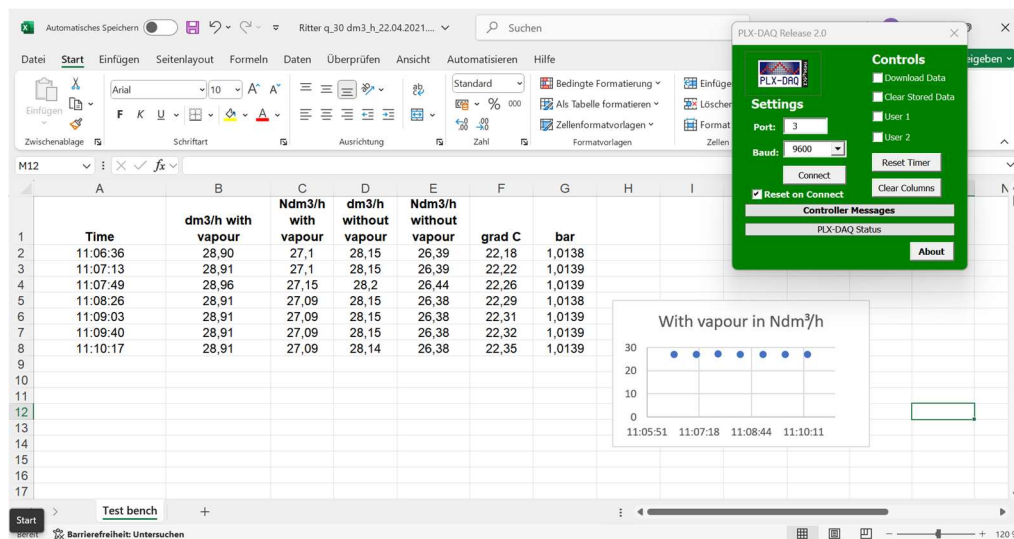
To use this program, macros should be allowed.

In the pop-up window, the corresponding COM Port should be selected and 9600 baud rate should be set. After the button “Connect” on the control panel is on, the flowmeter starts the measurement.

NOTE

- (i) The COM Port number can be found in Windows Device Manager.
- (ii) Clicking the Connect button restarts the flowmeter from the beginning.

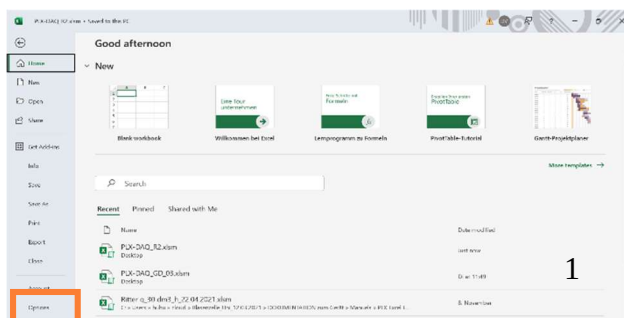
The real-time readings appear in the Table as shown below. The first column represents the time at which the measurement result was obtained, followed by the values (i) – (vi) listed above.



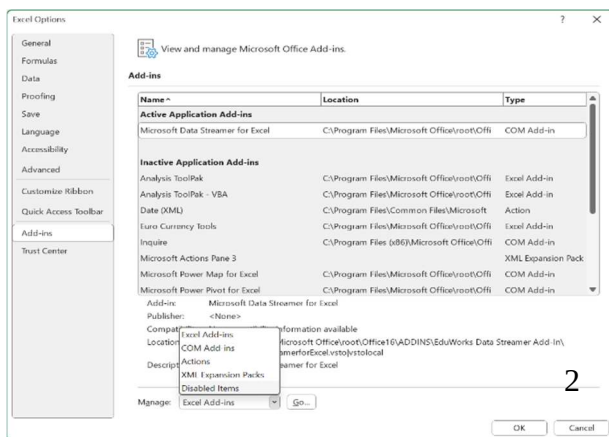
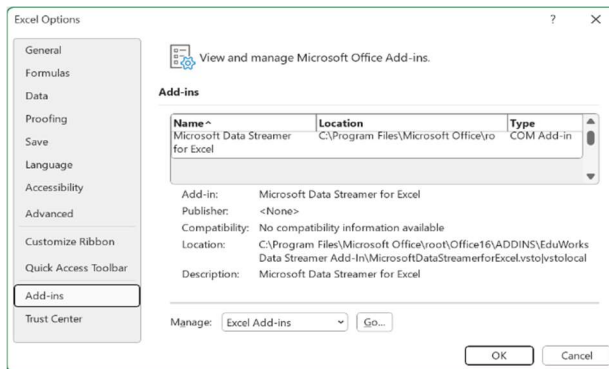
Data Streamer Add-in

To install and use the Excel Data Streamer Add-in, please follow these steps:

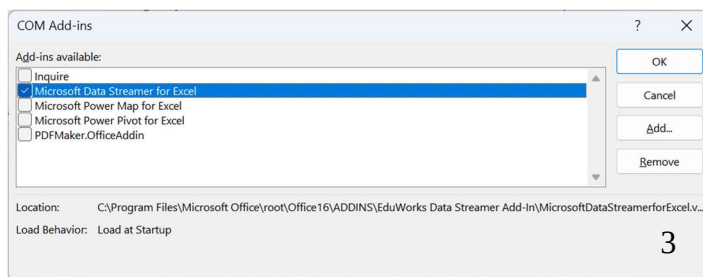
- (1) From the Excel menu bar “File”, choose “Options”



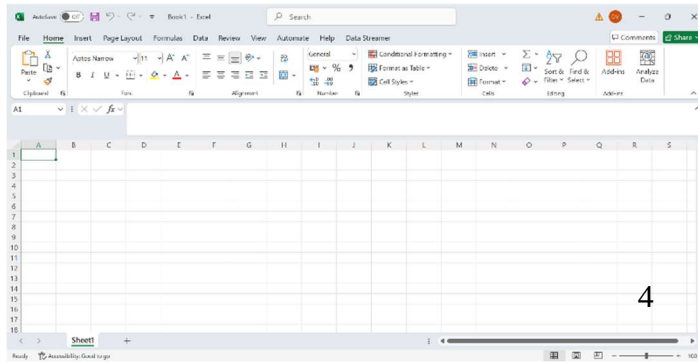
- (2) In the new menu, click on bar “Add-ins” and then in bar “Manage: Excel Add-ins” select “COM Add-ins” and click on “Go...”



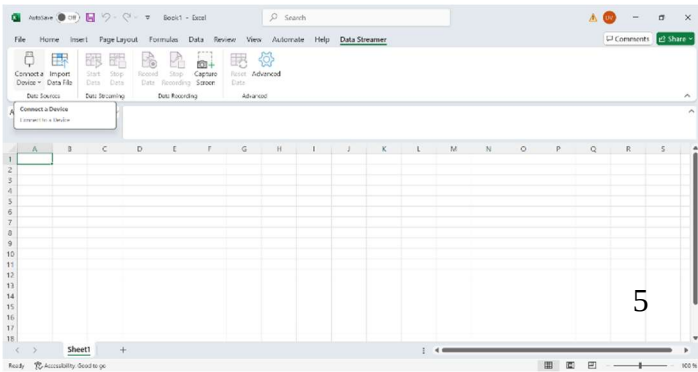
(3) Select "Microsoft Data Streamer for Excel" from the new menu by clicking "OK".



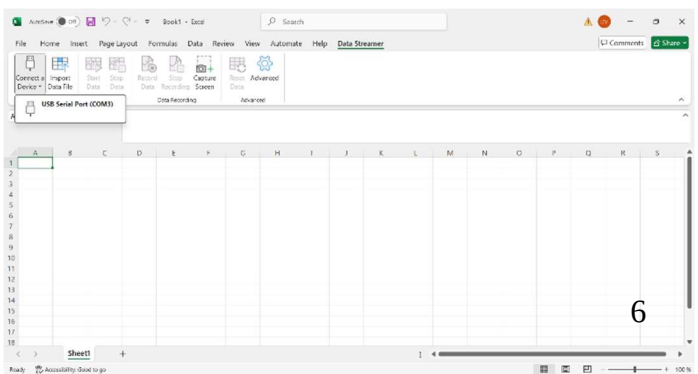
(4) In EXCEL, a new menu bar “Data Streamer” appears. Click on the "Data Streamer" bar.



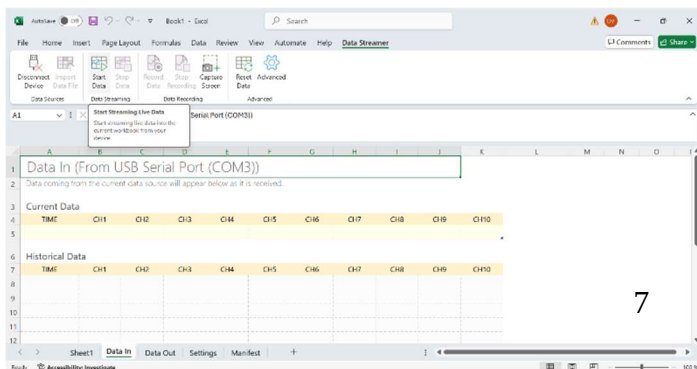
(5) In the opened menu click on "Connect a Device".



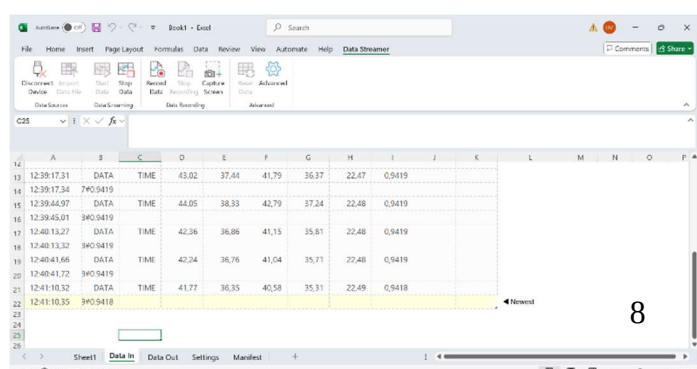
(6) Choose an appropriate COM Port



(7) Start data logging by clicking on "Start Data"



(8) Data are logged in Excel Table.



(9) The values in the row after the "DATA" and "TIME" tags correspond to the sequence of flow rates listed in this section.

The column headings "CH3" - "CH 8" can be renamed, e.g. as follows.

