Unipower Data Acquisition Software UniDAQ

1 Introduction

The UniDAQ software is made for visualisation and processing of data acquired by Unipower Data Acquisition Unit D382-dA. The software is Windows based and has the following system requirements:

1.1 System requirements

Processor: Pentium 130MHz
Harddisc: Min. 3Mb free disk space.
COM-port: 1 available RS232-port. Max. COM8
             The Baud rate is automatically set to
             57600 baud
Monitor: Min. resolution 1024x768.
Operating system:
             Windows 98, Me
             Windows NT 3.5 or newer
             Windows 2000
             Windows XP
             Windows 7
             Windows 8, 8.1
             Windows 10

1.2 Installation

The software may be supplied in various ways; on floppy disc or CDROM together with the D382-dA or from our website: www.unipower.dk. The installation procedure depends on the media.

Download

Save or execute the downloaded file „Setup.exe" and follow the installation procedure, which automatically installs the software and creates the necessary directories and shortcuts. This way all data is stored with the UniDAQ software and is easy to find.

Floppy disc

Run „a:setup" and follow the installation programme.

CDROM

If the installation does not start automatically, run „setup.exe" from the CDROM and follow the installation programme.

2 Data

Input of data to be displayed / processed may be done in two ways: Transfer of measurements from D382-dA or opening a file containing data already transferred.

2.1 Transfer

To be able to transfer data the D382-dA must be connected to a COM-port and the correct COM-port selected as communication channel. Selecting a COM-port is done via the menu under „Communication" - see figure 2.1. If the COM-port is not known, UniDAQ is able to find the D382-dA automatically if it is connected to an available COM-port and set up to communicate with the PC (See next paragraph). To activate this feature, please select „Auto connect" from the Communication menu as shown in figure 2.1.
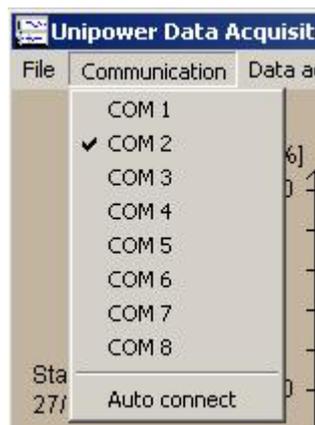
Figure 2.1 Selecting a COM-port

Also the D382-dA must be set up to communicate with the PC, which is done by selecting „PC" under the parameter „Connect to PC" - see data sheet for D382-dA.

When all preparations are completed the user selects „Data acquisition->Transfer" from the menu as shown in figure 2.2.

Figure 2.2 Start transfer of data

This produces a dialog box as shown in figure 2.3, where the user must select the amount of data to be transferred.
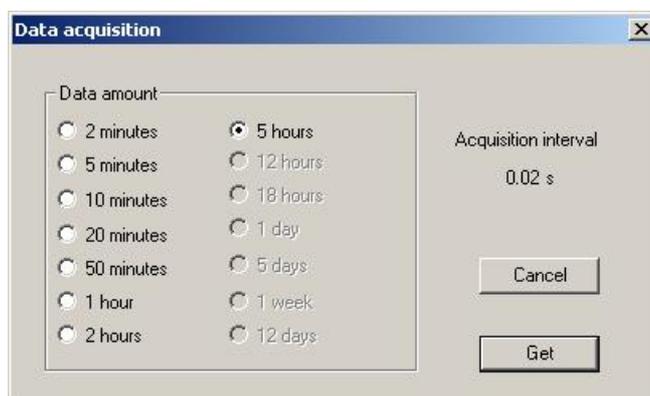
Figure 2.3 Selecting the amount of data.

The acquisition interval is shown as information, since it determines which amount of data is available. To start the transfer the user must press „Get" and a window showing the progress appears. Pressing „Cancel" or „Abort" aborts the transfer.

Figure 2.4 Progress of the transfer

2.2 Opening a file

If the user wishes to open a file containing data previously transferred please select „File->Open" from the menu as shown in figure 2.5

Figure 2.5 Opening a file

3 Layout
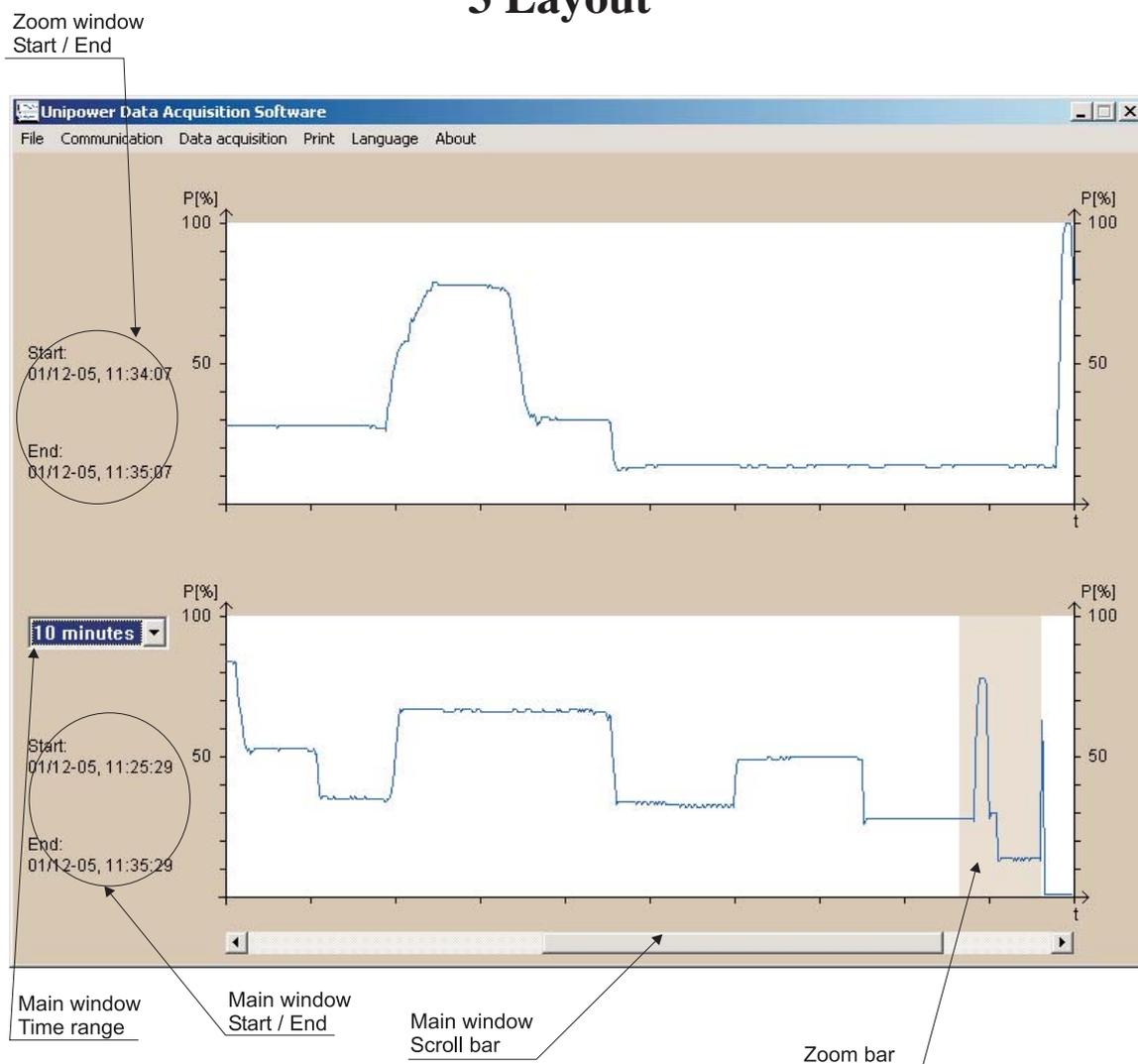
Figure 3.1 Layout

The transferred or opened data are presented as shown on figure 3.1. The presentation is designed as a main window and a zoom window. The main window shows up to all measurements - determined by the **main window time range**, whereas the zoom window always shows 1/10 of the main window. If the number of measurements exceeds the main window time range a **scroll bar** will appear below the main window, making it possible to scroll through all measurements. To help the user the **start- and end time** for the measurements are shown for both windows.

They represent the time stamp of the first (Start) and the last (End) measurement in the window. Which part of the data is shown in the zoom window is selected by the user using the **zoom bar**. It may be dragged using the mouse.

4 Features

Besides the presentation features the software also includes other features for instance to enable use of the data in other programs. These features will be described in the following.

4.1 File output

UniDAQ has built-in possibility of saving the transferred data to disc in two different formats; A UniDAQ-format and spread sheet format. The UniDAQ format files are only to be opened by UniDAQ, whereas the spread sheet format files may be opened with any spread sheet software, f.ex. Microsoft Excel.

Saving in UniDAQ format is done selecting „File->Save" from the menu as shown in figure 2.5.Using spread sheet format is done selecting „File->Export->...". Exporting gives the user the choice of amount of data. It is possible to choose between the measurements shown in the zoom window or in the main window or all measurements. Please note that when exporting either the zoom- or the main-window only the shown measurements are exported. This means that there may be several measurements between each point (measurement) on the exported curve, whereby the distance between each exported point may be larger than the actual sampling rate.

Ex: A sampling rate of 20ms is used and the main window shows a duration of 10 min.
The main window thus represents 30.000 measurements, but shows only 600. Therefore the distance between each point shown equals 30.000/600 = 50. Exporting the main window will now show a sampling rate of 50*20ms = 1s, since the actual distance between each measurement in the exported data is 1s.
The zoom window always shows 1/10 of the range of the main window, which in this example equals 1 minute or 3.000 measurements. Also here only 600 points (measurements) are shown, so the distance between each point on the curve equals 3.000/600 = 5. An export of the zoom window thus gives a sampling rate of 5*20ms = 100ms, since the actual distance between each measurement in the exported data is 100ms.

Saving in UniDAQ format always saves all measurements.

4.2 Time stamps

When data has been transferred to the PC, UniDAQ uses the Windows time to stamp the measurements. If this time does to correspond to the time of the data acquisition it is possible to change this time via the menu „Data acquisition->Set Time" as shown in figure 2.2 after which the following dialog box appears.
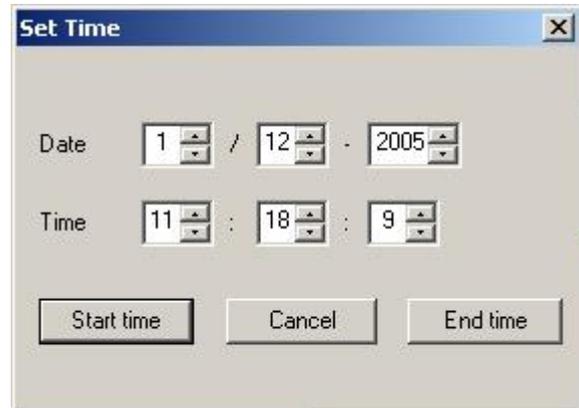
Figure 4.1 Changing time stamps

As shown in the figure above the user now sets the desired time and assigns it to either the start of the measurements or the end. Selecting either of the two results in the software adjusting the remaining time stamps accordingly.

4.3 Print

As external documentation the software also allows the user to make printouts of the curves on the screen both on paper via a printer or as a screen dump. These features are found on the menu as shown in figure 4.2.

Figure 4.2 Print capabilities

The screen dump is saved in Windows BMP-format.

4.4 Language

The software supports three languages; English, German and Danish. Selecting which one to use is done from the menu as shown in figure 4.3
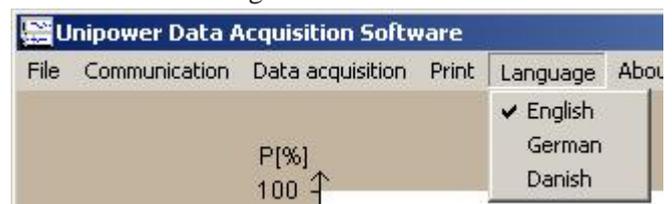
Figure 4.3 Selecting language

The selected language determines all texts, warnings and messages on the display as well as on paper.