

Operating Manual

Windows™ - Operating Software

GSOFT_USB

for USB measuring adapter GDUSB1000

as of version 1.0

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This manual is subject to being changed

1 General Information

1.1 Software Operation

This operating manual postulates basic knowledge of how to handle a personal computer with the operating system Windows™. If this is not existent it is recommended to make oneself familiar with the main features of Windows™ before installing this software (operating manuals, specialised literature, introductory courses etc.).

1.2 Software License Agreement

We kindly ask you to read the software license agreements on the disk package carefully. By opening the package you agree to the stipulations mentioned.

1.3 Software Registration

Get your software registration now! It is profitable!

As a registered customer you will have the following advantages:

- **Technical support:** Only our registered clients will receive support as far as technical questions on the programs which are concerned.
- **Low-priced update offers:** It is only our registered customers who may use our low-priced update offers.
- **Latest Information:** We are enlarging our product range constantly. As a registered customer we will keep you informed about our new and improved products. We want you to be up to date!

Your opinion counts: Let us know your wishes and recommendations.

Your opinion counts and may be used when we modify existing, or develop new products.

A blank registration form is included. Simply fax us the completed form.

1.4 System Requirements

- IBM compatible PC (Pentium™)
- At least 20 MB hard disk capacity available
- CD-ROM drive
- At least 32 MB main memory
- Windows™ 95, 98, 2000, XP, NT 4.0 (with Service Pack 3.0) or higher
- mouse
- One unassigned USB-port

1.5 Software Installation

- Start Windows™
- Insert CD-ROM in CD-ROM drive
- Select "Execute" in Menu "Start"
- Enter "d:\setup" - d stands for the letter of your CD-ROM drive – and acknowledge. In case your CD-ROM drive is not 'd', please use the corresponding letter.
- Follow now the instructions given by the installation program.
- A new program group with the following program icon will be created:
The software will be started by double clicking on this symbol.
- Start program, choose the language you desire and the interface to which you have connected your interface adapter.



2 Operating Software GSOFT_USB

GSOFT_USB permits the handling of an USB measuring adapter of the GDUSB1000 series. This adapter enables a direct connection of a standard pressure sensor of the type GMSD/GMXD to the USB-interface of a personal computer. With this dedicated software it is possible to start, stop, read in and display recordings. For visualisation and for a better overview the recorded data can be shown in diagrams.

2.1 Screen Elements

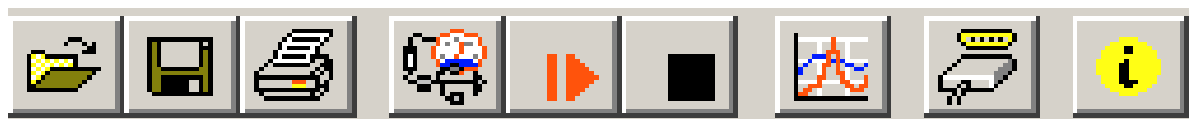
2.1.1 Menu bar

You can easily have access to all software functions by using the menu bar. The content of the menu bar depends on the program status:

File USB measuring adapter Diagram Configuration Window About

2.1.2 Toolbar

To ensure comfortable software operation the most important software functions have been put together at the Toolbar. The content of the toolbar depends on the program status:



1.1

1.2

1.3

2.1

2.2

2.3

3.1

4.1

4.2

File functions:

- 1.1 open file
- 1.2 save file
- 1.3 print file

Sensor functions:

- 2.1 connect USB-measuring adapter
- 2.2 start new recording
- 2.3 stop recording

Data representation:

- 3.1 create new diagram

Further functions:

- 4.1 interface configuration
- 4.2 program information

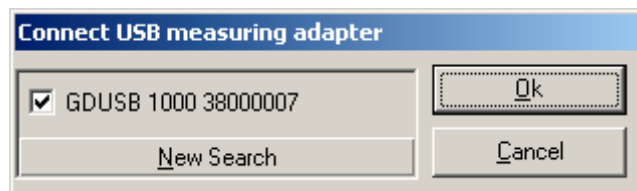
When moving the mouse pointer over a symbol a short description of the function is shown after a short time.

2.2 Data Recording

2.2.1 Connecting the USB-Adapter



- connect the USB measuring adapter to the USB-Port
- click in the menu item „USB measuring adapter“ on „Connect“ or on the associated icon in the toolbar.
- GSOFT_USB is now searching after connected measuring devices.
- The located measuring adapter will be shown like this:



If there was no device found you have to click on „New Search“. The USB-port will be initialised and attached devices will be located. Should still no measuring adapter be found please check the following points again:

- Is the USB measuring adapter connected to the USB-port?
- Was the correct interface chosen? („Configuration / Interface“)

The marked measuring adapter will be opened by „OK“.

2.2.2 Sensor Data Window

The screenshot shows the 'GDUUSB 1000 #38000007 V1.0' window with four tabs: 'Instrument', 'Data', 'Comment', and 'Extras'. The 'Data' tab is active, displaying a 'Measurements' table and 'Recording' settings.

Measurements Table:

Index	Measurement Name	Value
1	Relative Pressure	1233 mbar
2	Average relative pressure	1233 mbar
3	Relative Pressure Min.	1233 mbar
4	Relative Pressure Max.	1233 mbar

Recording Settings:

- Recording status: recording
- Stop condition: stop if measured value \leq 1000 mbar
- Data Sets: 81
- First recording time: 27.03.2007 14:28:58
- Last recording time: 27.03.2007 14:29:06

Annotations in the image point to the following elements:

- register "instrument" (points to the Instrument tab)
- register "data" (points to the Data tab)
- register "comment" (points to the Comment tab)
- register "extras" (points to the Extras tab)
- measurements table (points to the Measurements table)
- current status of the recording; start-/stop-condition (points to the recording status and stop condition)
- number of data sets and period of recording (points to the Data Sets, first, and last fields)

2.2.3 Start Recording



When recordings are restarted, all data which have been recorded until that moment will be deleted!! If necessary read in and save important information or save the data on demand before a measurement-restart!

To start a new recording please select "start new recording" or click at the corresponding toolbar symbol. Now you can choose from an assortment of start and stop conditions and define the output data.

The 'Start New Recording' dialog box is shown with the following settings:

- Device: GDUUSB 1000 38000007
- Output:
 - cycle time: 5 ms
 - measured value
 - min peak
 - max peak
- Start:
 - Start Signal:
 - measured value
 - average
 - min/max peak
 - Start Condition:
 - immediately
 - start if measured value \geq limit 1
 - start if measured value \leq limit 2
 - start if measured value \geq limit 1 or measured value \leq limit 2
 - start if measured value \leq limit 1 and measured value \geq limit 2
 - limit 1: 950
 - preTrigger
- Stop:
 - Stop Signal:
 - measured value
 - average
 - min/max peak
 - Stop Condition:
 - manually
 - stop after 0 seconds
 - stop if measured value \geq limit 3
 - stop if measured value \leq limit 4
 - stop if measured value \geq limit 3 or measured value \leq limit 4
 - stop if measured value \leq limit 3 and measured value \geq limit 4
 - limit 3: 1050
 - Stop Delay: 0 seconds

Buttons: Start, Cancel

Choice of the recording mode:**Output:**

Cycle time: here you can decide in which intervals measuring points should be recorded. At the same time you can select which value will be displayed (measured value, min/max peak).

Keep this in mind: at a cycle time of more or equal than 5ms all measured values will be selected automatically. A direct selection is no longer possible.

Start:

You have to select the desired condition under the different possibilities. If „immediately“ is selected the measuring will start directly after starting it. At the other conditions you have to define one or more thresholds (if these are under- or overrun the condition depending on the selected case is fulfilled or not). The thresholds` entry is carried out in the mask on the right side. You even can select which signal shall cause the measuring start. But this is only available when the cycle time is higher or equal than 5ms. You can make this entry on the left side under „Start Signal“.

The preTrigger makes it possible for you to detect values before the normal values measured (after the start condition).

After the completion measurement the additional measured values will be shown in the register „Data“, too.

At a cycle time of less than 5ms 200 measured values are possible.

At a cycle time more or equal than 5ms 50 data sets are possible, which are made up of four different series of measurements (50 data sets x 4 series of measurements = 200 measuring values).

Example: a cycle time of 10ms is selected. There will be 10ms long 50 data sets (=500ms) recorded before the normal measuring will be started.

Stop: here it is possible for you, in analogy to the start conditions, to set the stop conditions. Besides the manual stop and the measuring stop after a certain time, the stop by specified thresholds is available, too (if these are under- or overrun the condition depending on the selected case is fulfilled or not). The thresholds` entry is carried out in the mask on the right side. You even can select which signal shall cause the measuring stop. But this is only available when the cycle time is higher or equal than 5ms. You can make this entry on the left side under „Stop Signal“.

The Stop Delay effects a continuous measurement until the defined time is up. After this the measuring will be stopped automatically.

2.2.4 Reading in of Measurements

To read the measuring values the cyclic recording has to be stopped first.

After loading the data the values will be shown in the register „Data“ automatically.

The white fields for the table heading can be edited.

In the register „Comment“ you can write arbitrary texts.

Do you want to view the data later again, you have to save them now by choosing „Save“ or „Save as“ in the menu „File“.

2.2.5 Stop Recording

If a recording is stopped, data are preserved which have been saved until that moment.

2.3 File Operation

If you have saved data by selecting menu „file“ function “save“ or “save as“ you can re-load them at any time into the program to see the data or to analyse them.

In that case please select “File / open...” and open the corresponding file.

2.3.1 Export Files

The data files can be saved as ASCII (=text) – file to view them for example in word processing or in a spreadsheet programs. Select the required data window and choose „file / export ...“ at the menu. Pay attention particularly at spreadsheets to make right settings in the following pop-up window „export files“.

2.4 How to Print Data

The respectively selected window (data or diagram) can be printed via ‘File – Print’. Precondition is that a printer has been installed to your computer. Use ‘File – Printer Setup’ to change printer parameters or to choose another printer.

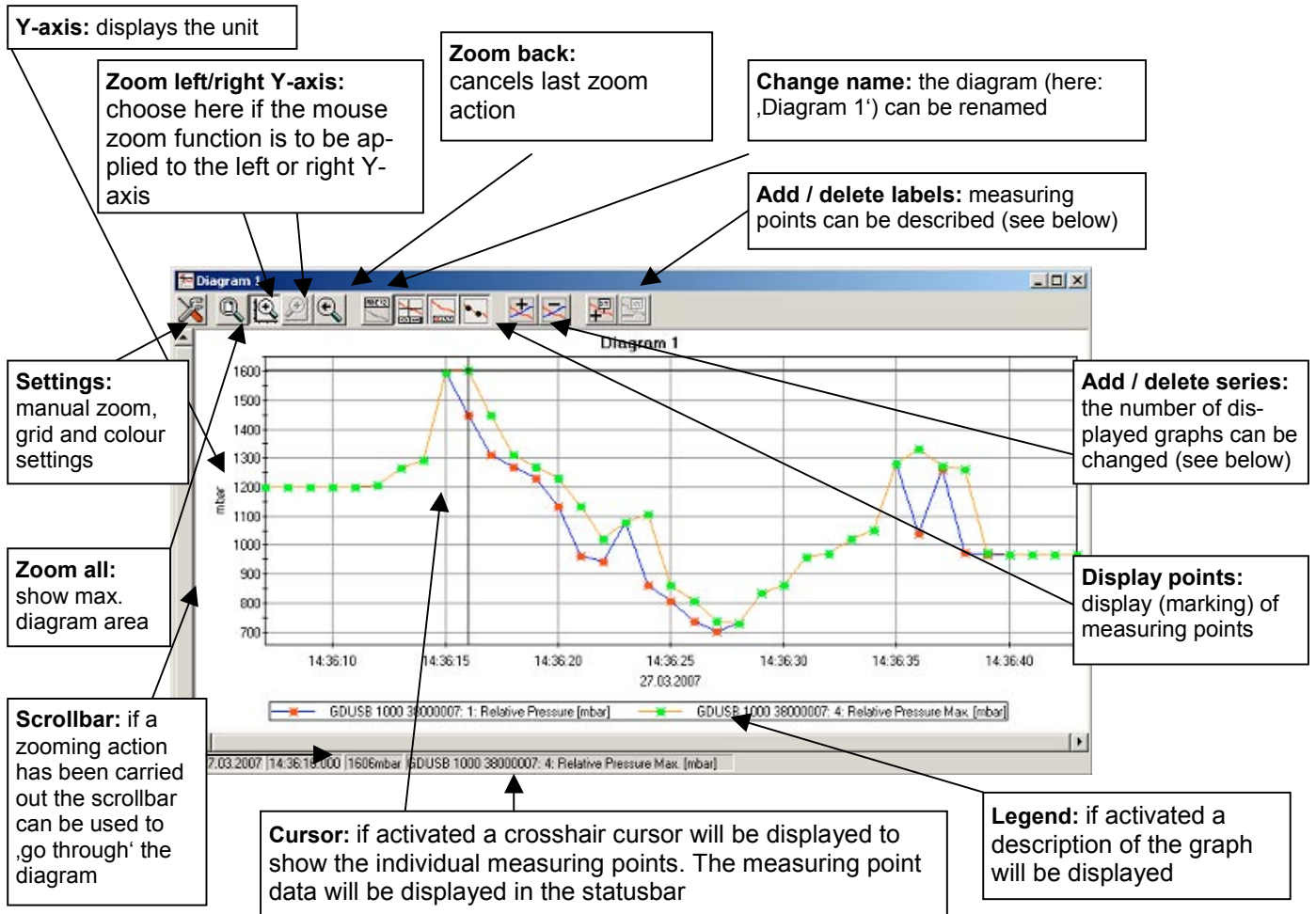
2.5 Measurement Diagrams

The loaded data of the measuring windows can also be displayed in diagrams.


Select for this „Create new diagram“ in the menu point „Diagram“.

Then a selection of all possible graphs will be displayed. Select the desired graphs and acknowledge your selection by pressing 'Ok'. The diagram will be opened.

System limitations: - maximum 2 different units (mbar, bar, etc.) per diagram
- maximum 15 graphs per unit



2.5.1 Adding Data Labels

To add a comment to a specific measuring point select menu item "Diagram/Add Data Label" or click on the corresponding symbol. By moving the mouse over the diagram the  symbol will appear as mousepointer. A text line which can be filled in freely will be placed at the position desired by a mouseclick.

2.5.2 Adding Series

To be able to display additional measuring series in a diagram, select the menu item "Diagram / Add Series" or click on the corresponding symbol of the diagram window. The data source selection will appear again and you can select additional measuring series.

2.5.3 'Zoom': Enlarge a Area of the Display

If 2 units are displayed : use the  and  symbols to select the Y-axis desired.

Place the mouse at the beginning of the desired area, hold the left mouse key, move the mouse to the end of the desired area and release the mouse key: the selected part will be enlarged (zoomed).

With „diagram – zoom back“ the actual area will be set back to the view before.

With „diagram – zoom all“ the whole diagram will be set back to the original view.

The enlarged view can be moved left, right, up and down with the scrollbar. To show accurate display details we recommend the function „diagram – settings“. With it a desired section can be defined by number and time declaration.

2.5.4 Copying Data To Clipboard

Diagrams can be copied to the clipboard, to insert them in other applications again:

Click on the required diagram and press the key combination **Strg + C** -> the diagram will be copied to the clipboard as a bitmap.