

## **AD000011**

Programming adapter and software for pressure monitor DW34 / 35 / 36 and  
temperature monitor YT35

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**1. Program installation**

System requirements: PC 486 or higher, Windows 2000, NT, XP, Vista, 7, USB port. The drivers are also suitable for the 64bit version of Windows 7.

If you have an older version of this program on your PC, you have to uninstall it completely (Start – Programs – DW3510 – DW3510 Monitor Uninstaller)!

To uninstall the driver package please run the file C:\Windows\System32 "FTD2XXUN"!

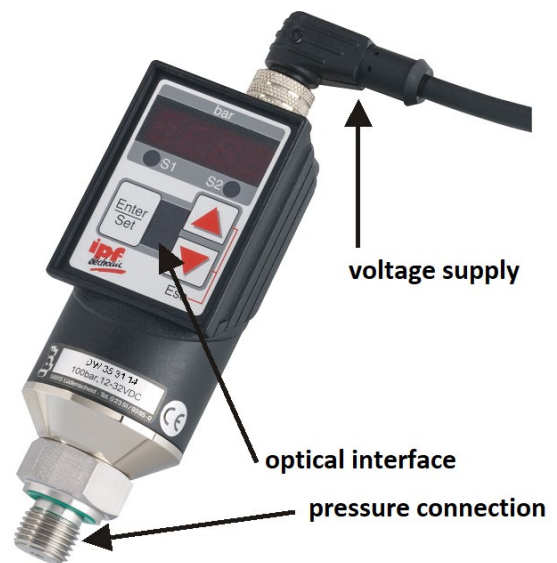
Insert the CD into the designated drive and start the installation by double-clicking on "DW3510\_5-1-3-0\_Setup.exe" (directory "Setup") in Windows Explorer. If you downloaded the software from our homepage, unpack the files in a directory of your choice and proceed as described.

Follow the instructions of the system. An icon will automatically be created on your desktop with the name „DW3510“.

**2. Connection:**

The scope of delivery includes the connection cable for connecting the monitor to the PC and the operating software.

- 1) Plug the USB connector of the connection cable into a free USB interface on the PC (The device is compatible with both USB1 and USB2.)
- 2) Slide the optical interface of the connection cable in the provided guide rail with the cable outlet facing down to the stop over the front of the monitor.
- 3) Connect the monitor to the operating voltage (12 ... 30V DC) and connect the outputs to your PLC. The pin assignment can be found in the operating instructions of you pressure or temperature monitor.



**3. Start up:**

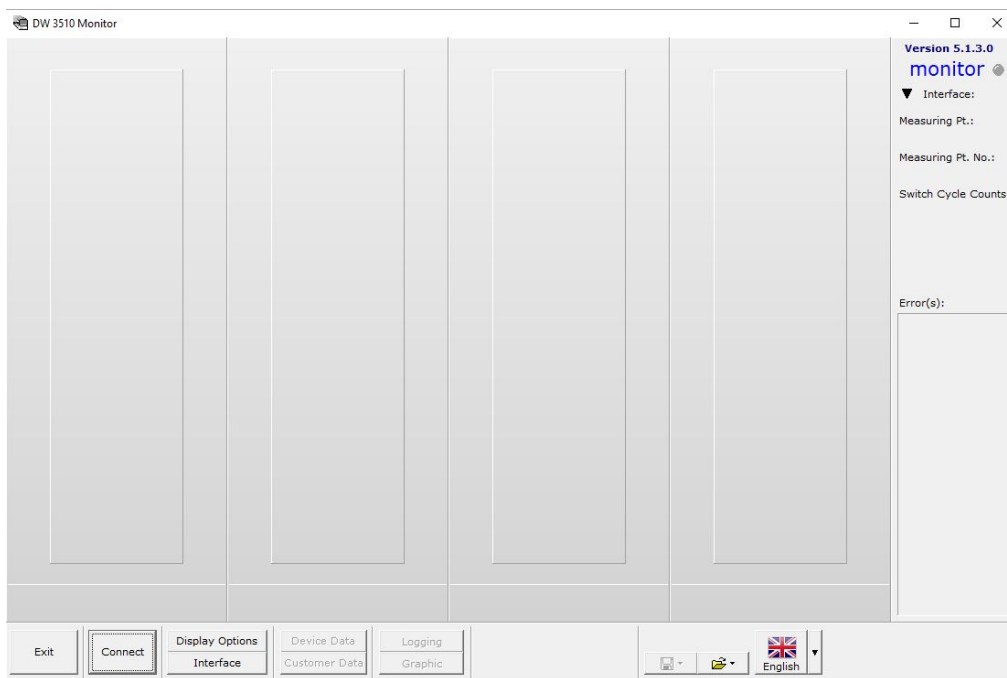
- 1) Start the system in the start menu under „Programs“ and „DW35Monitor“ or by double-clicking on the icon „DW3510“, that appear son your desktop after the installation. The first time the program is started, a pressure or temperature monitor must be connected!
- 2) After the start the window „interface“ appears automatically. Select „USB PSP09“.

**Note:** If the USB interface cannot be selected, either no USB cable is connected or the connection is incorrect.

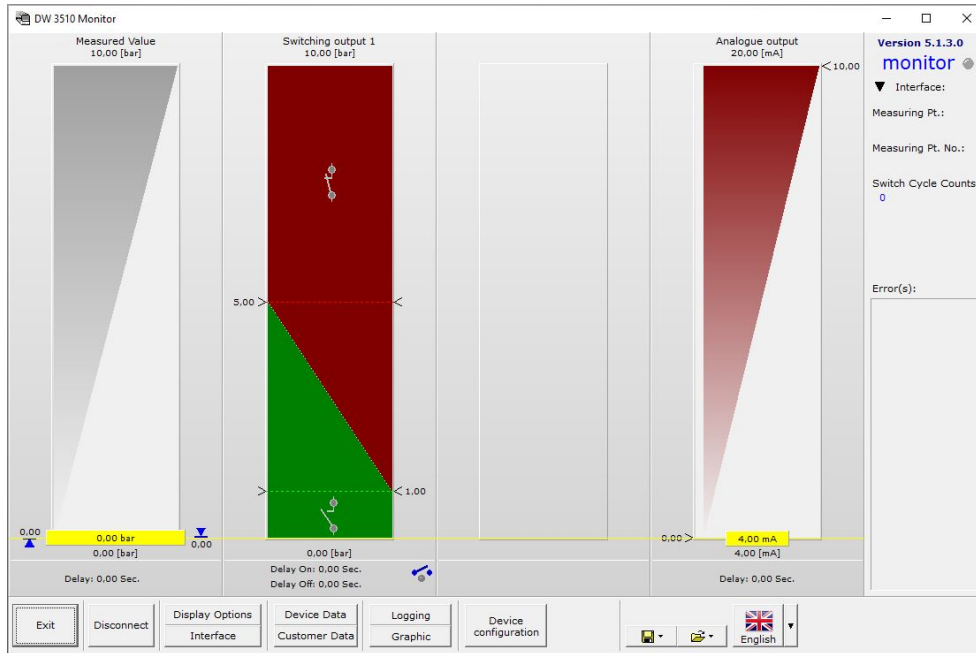
The ability to select COM1 is for users with a serial interface cable, which I no longer available. Please note that not all functions are available when using the serial interface.

It is possible that your computer needs an additional driver file. These are located in the directory “Driver” on the installation CD.

- 3) Click on OK. The following window appears:



- 4) By clicking on the „connect“ button, the constant exchange of data between PC and monitor begins. After about 10 seconds, the following window appears:



If the communication is error-free, the green LED on the top right next to the word “interface” flashes.

If no communication is possible (LED on the upper right next to the lettering lights up red), push the optical interface upwards carefully by about 2mm. The optical interface then receives again the signal from the sensor clearly.

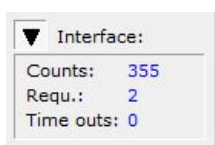
If one or more of the diagrams remain gray, the respected output is not activated.

Interferences are displayed on the right edge of the screen, e.g. „analog output open“.

If it is not possible to establish a connection between the sensor and the PC, or the screen displays many different error messages, please check,

1. if a virus scanner is installed that prevents access to the drivers. In this case, switch off the virus scanner for the time of initial startup!
2. if bluetooth devices are connected to the computer. These occupy the serial ports and thus also USB connections are disturbed. Deactivate the bluetooth devices for the first commissioning period.

**Note:** Click on the arrow next to the word „interface“ to open an additional window that provides information about:



- „Count“: number of data exchanges
- „Request“: number of unanswered requests from the pressure sensor to the PC
- „Time out“: number of data exchange terminations, e.g. when no operating voltage is applied anymore.

**4. Schaltflächen**

- „Exit“ closes the main window and exits the program.
- „Disconnect“ stops the constant exchange of data between computer and monitor.
- „Display options“ Here you can choose the colors for the diagrams.
- „Interface“ Selection of the interface between „COM1“ and „USB“ as well as the option „Connect automatically“ at program start. If you use this option, a pressure or temperature monitor should be connected before each program start in order to avoid error messages.
- „Device data“ displays device specific data, such as serial number, date of manufacture and device software version.
- „Kundendaten“ Here you can enter additional information about your monitor, e.g. the measuring point where your device is installed.
- „Logging“ Here the settings for the data logging can be made.
- „Graphic“ shows a graphic representation of the currently measured pressure or temperature values.
- „Device configuration“ Here you can change the basic configurations of the device (see 4.1).

„Store file“



Storage of the data and settings entered. After clicking this button, select „Device parameters“. You can then read all values again. Click on the „Save“ button to open another window where you can select the drive, path and file name. (The button displays a floppy disk.)

„Open file“



Opening a parameter file, e.g. to upload the data to another pressure or temperature monitor. (The button shows the open icon.)

„Country flag“



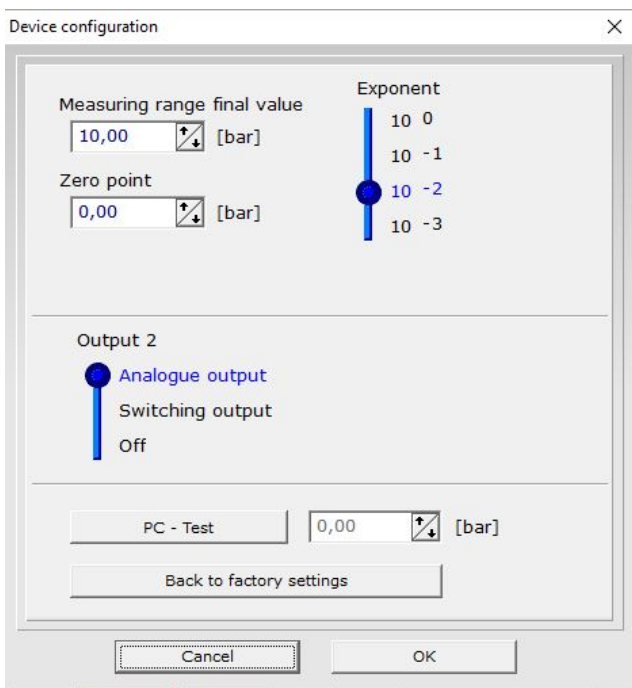
Clicking on the country flag opens a menu in which you can choose between German and English.

**5. Change of settings**

Changes of the settings can be made by clicking on the respective diagram. A window opens with the corresponding options. The changes are forwarded to the monitor with a mouse click on „Ok“. The data is retained after disconnecting the optical interface in the monitor’s memory.

**Note:** Be sure to back up the settings and data of your monitor e.g. on a hard disk! (see „Save file“) This is especially useful if you want multiple devices to have the same settings.

**5.1 Button „Device configuration“**



By clicking on the button „Device configuration“, the adjacent window appears. Here you can configure output 2 as a switching output or switch it off. If you select „Final value 2“ (switching output), the diagram „Analog output“ is switched off after clicking on the „Ok“ button and the „Final value 2“ diagram appears.

Furthermore, you can freely scale the display of the monitor by resetting the zero point and / or the full scale value and additionally adjusting the decimal point with another exponent. At the same time, the selected switching points change. Each absolute metric is assigned to only one other metric.

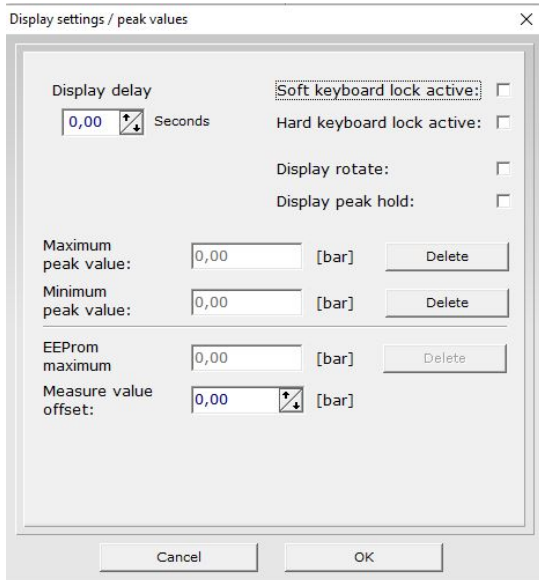
With the button „PC-Test“ you can activate the test mode of the device. In the diagram „Measured value“ and in the monitor’s display

the lettering „Test“ is displayed. Use the arrow keys next to the button „PC Test“ to simulate an increase or decrease of the measured value and thus to test the function of the switching and analog output. The starting value in the test mode is always the currently applied pressure or temperature.

It is possible to restore the factory settings of the connected monitor with the corresponding button (see manuals DW3x or YT35).

**5.2. Diagram „Measured value“**

The left diagram „Measured value“ shows the currently measured pressure or temperature. The arrows show the stored maximum and minimum pressures in the system. When you click on the diagram, the following window opens:



A maximum delay of 20 seconds can be entered for the monitor’s display when e.g. fast fluctuations are not to be recognized.

The keyboard locks refer to the keys of the monitor (with removed optical interface). The hard keyboard lock can only be released with this computer program.

The stored peak values can be reset to „0“ (maximum peak value) or „full scale value“ (minimum peak value) by clicking the “Delete” button.

With „Measured value offset” you can adjust the zero point of the device by ±10% of the full scale value. If you enter e.g. 0.2, the device shows 0.2bar

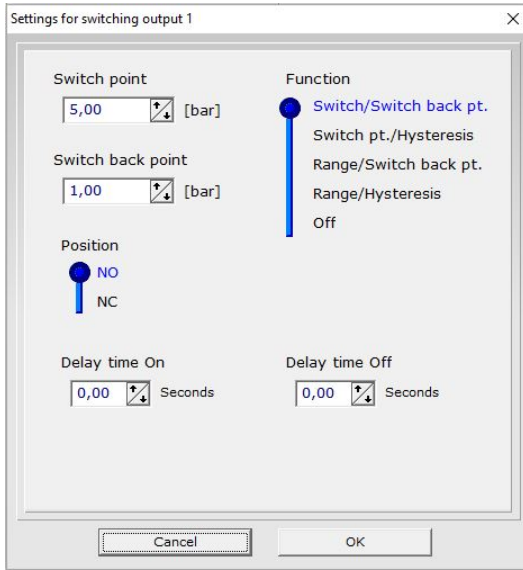
at measured value „0“.

When you click on „Rotate display“, the display of the DW3x or YT35 will rotate by 180°.

„Hold peak value“ activates the Peak-Hold function. The measured peak value remains on the display of the connected monitor for the time set under „display delay“.

### 5.3 Diagram „Switching output 1“

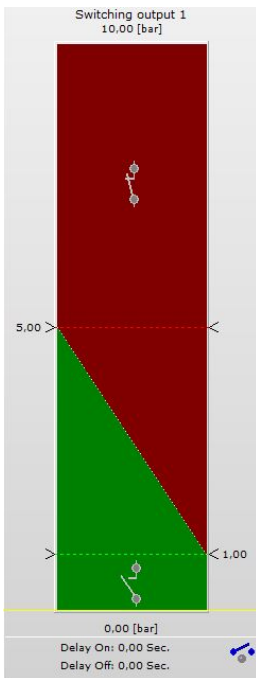
By clicking on the diagram „switching output 1“, the following window opens:



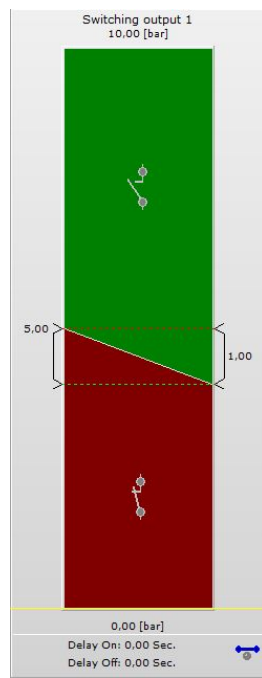
Switching point, release position or hysteresis can be freely selected here. The hysteresis must be at least 1% of the full scale value.

In addition to a time delay for switching on and off (max. 20 seconds) and the option to choose between N/O and N/C function, you can set four different functions for the switching output. The explanations of these functions can be found in the manual of the pressure monitor DW3x or temperature monitor YT35.

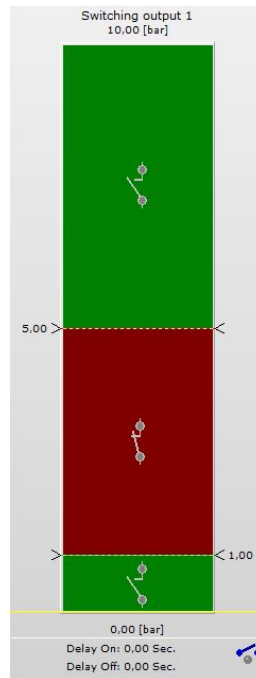
In the diagrams the 4 different functions of the switching output are shown as follows (examples!):



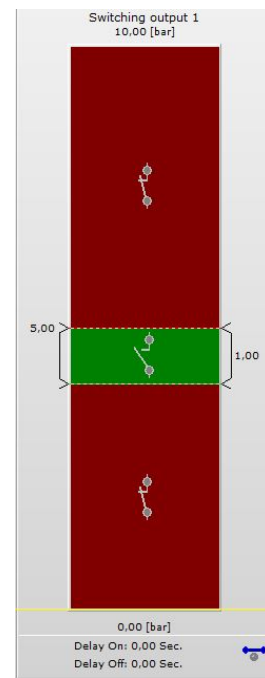
Switching point with release position  
N/O contact (no)



Switching point with hysteresis  
N/C contact (nc)



Window with release position  
N/O contact (no)

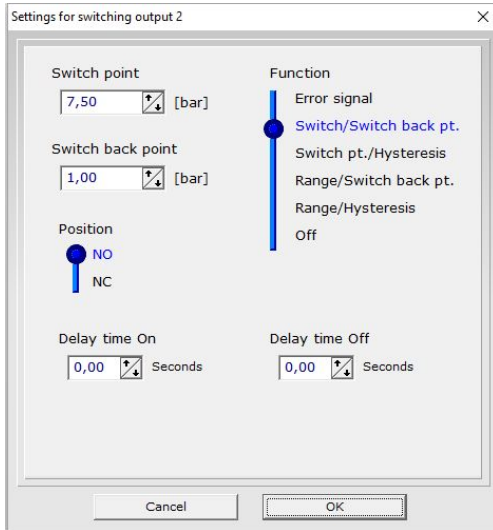


Window with hysteresis  
N/C contact (nc)

**5.4 Diagram „Switching output 2“**

The diagram is only active if „Switching output“ is selected for output 2 under „Device configuration“ (4.1).

By clicking on the diagram „switching output 2“ the following window opens:



In addition to all the functions explained in 4.3, you can select the "Error signal" function here. The output then works as "alarm output".

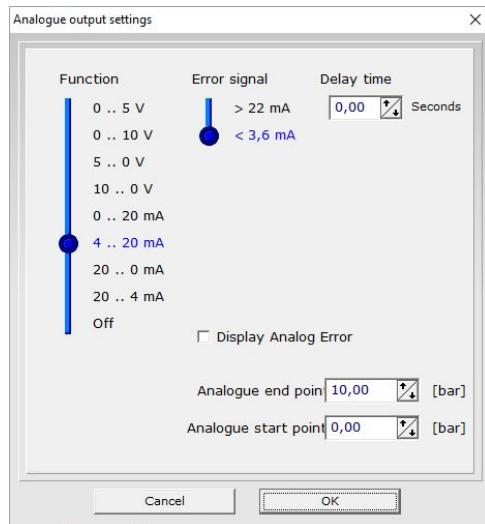
As long as the sensor is working properly, the output is active. The diagram shows "No error".

But as soon as there is an error at the sensor, the output switches off and the diagram shows "Error".

**5.5. Diagram „Analog output“**

The diagram is only active when under „Device configuration“ (4.1) for output 2 „Analog output“ was selected. If you use a pressure sensor that doesn't provide a voltage output, only the adjustment options for the current output will be displayed.

Clicking on the diagram „Analog output“ opens the following window:



Here you can select the characteristic of the analog output as well as the signal can be chosen in case of interferences. You can also adjust a delay time of max. 20 seconds.

By clicking „Display Analog Error“, the sensor signals a fault in the display in the analog output, e.g. line break, via indicator signal. Simultaneously, the section „Interference(s)“ to the right of the diagram will be activated.

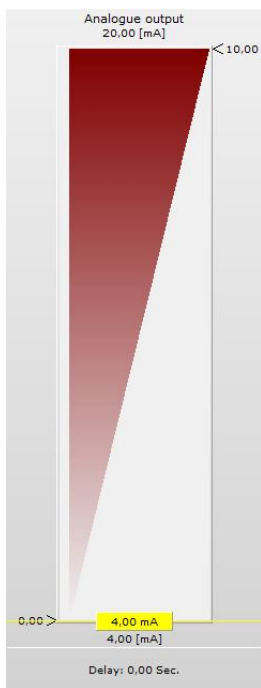
The range of the analog output can be chosen freely with „Analog start point“ and „Analog end point“, taking into account the minimum size of the measuring range:

DW34/35 / YT35: min. 20% of the measuring range

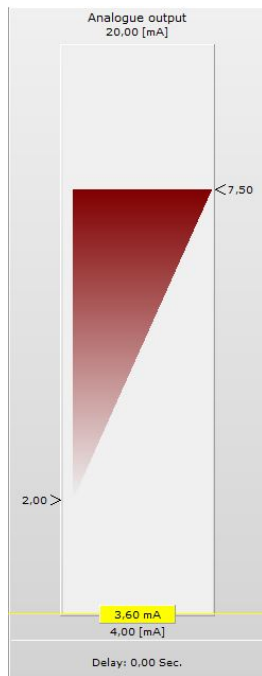
DW36: min. 50% of the measuring range

DW35311A / DW 35311E: min. 25% of the measuring range

In which part of the measuring range the analog output is active, the diagram „Analog output“ will show you (examples):



Analog range from 0 to 10bar



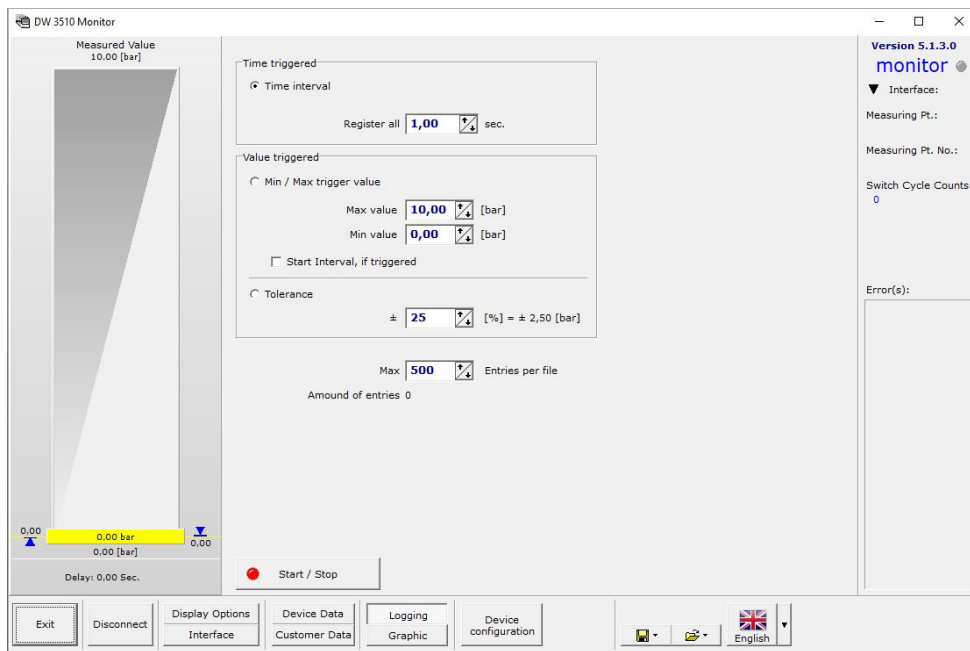
Analog range from 2 to 7.5bar

## 6. Data logger

### 6.1. Logging

The software is equipped with an integrated data logger. This enables to record measurement values. The obtained data will be saved in the folder „c:\programme\dw3510\archiv“ in an Excel-file (xls). The file name corresponds to the date and time, when recording was finished.

By clicking on „Logging“, the following window opens:



The writing process starts with clicking on the button „Start / Stop“. During the writing process a green point will be displayed in this button.

Data logger can be made either time or measured value controlled.

In the case of time-controlled data logging, after each set time interval (in this case, every second), the measured value is written to an Excel file (see above).

For measured value-controlled data logging, you can choose between "Min / Max Threshold" and "Tolerance".

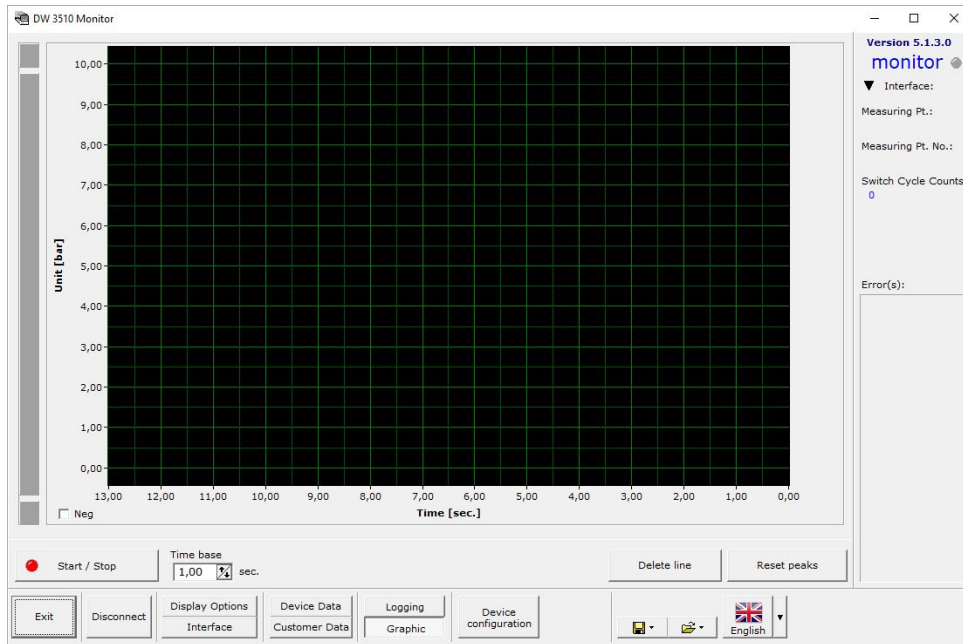
At "Min / Max Threshold" you set a minimum value and a maximum value. As soon as this threshold is exceeded or undershot, the datalogger writes this into an Excel table. In addition, the measured minimum and maximum values are recorded. If you click on "Start time interval out of bounds", timed data logging is activated when the limit is exceeded or not reached until the pressure or temperature is within the limits.

With "Tolerance", the entire measuring range is divided into fields corresponding to the entered percentage. (In the example: 25%, i.e. 4 fields with each 2.5bar.) The percentage can be corrected downwards, so that a maximum of 100 fields of 1% each are available. Any value between 1 and 25% is adjustable. Each time a level is exceeded or undershot, the datalogger writes the measured value to an Excel table.

Exit this window by clicking on the "Logging" button again.

## **6.2 Graphic**

By clicking on the button „graphic“ the following window is opened:



By clicking on the "Start / Stop" button, you can graphically display the course of the measurement. The minimum and maximum measured values are displayed, but not written to a file!

Exit this window by clicking on the "Graphic" button again.

## **7. Offline operation**

If you have saved your guardian's settings in a file, you can also call up and edit this file if no guard is connected. Some settings (for example display scaling, see 4.1) are disabled.

## **8. Notes:**

The illustrations of the Windows program can only serve as example. A pressure monitor type DW35311D with a measuring range of 0 ... 10bar was used. When other types are used, other numerical values are of course given; when a temperature monitor is connected, "° C" is displayed as the unit.

The connected monitor is automatically recognized by the program.

If an older generation pressure switch, e.g. DW353104, the program also detects this automatically. Functions that were not installed in the devices of earlier generations are then blocked!

The switching cycle counter refers to the switching output 1. It is only active for devices as of software version 4.13 (delivery from spring 2010)! The software version of the device is displayed by clicking on the "Device data" button.

**Safety warning:** Never use these articles in applications where the safety of a person depends on their functionality.