ESEK-5C-SPI Evaluation Software Manual

Title	ESEK-5C-SPI Evaluation Software Manual
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DOCUMENT TRACKING TABLE

Version	Date	Reason for change	Author
1	5/8/2022	Initial version	C. Papazachariou
2	20/9/2022	Installer instructions	C. Papazachariou
3	17/3/2023	Timestamp on measurements (new) feature documented	C. Papazachariou

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1. Prerequisites and Installation.

To install the Pressure Sensor Evaluation Software:

- Run ESCP-MIS1_Evaluation_Software_Setup.exe (as administrator if possible) and follow the installation wizard.
- Once the installation is complete run ESCP-MIS1_Evaluation_Software.exe

2. Application Description and operation

A general overview of the application graphical interface can be seen in the following picture.

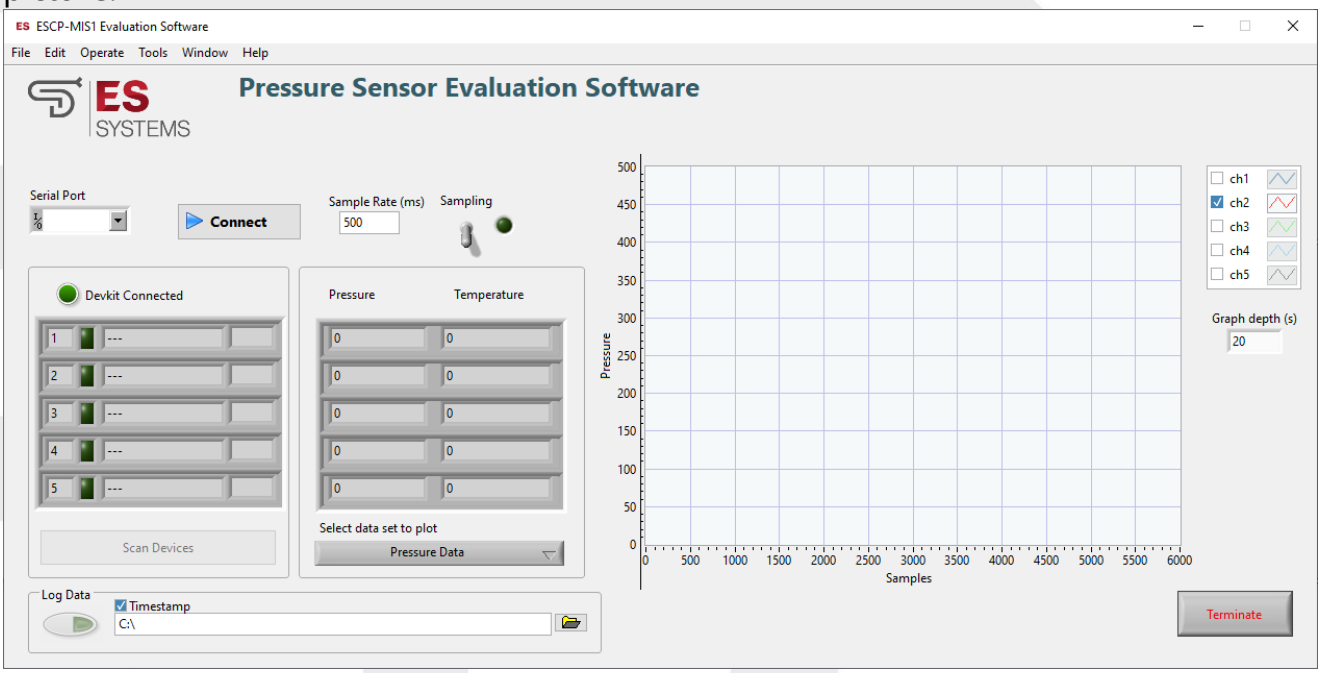

Figure 1: Software GUI

To start using the software, first select the appropriate COM port, then click the "Connect" button which will change to "Disconnect" once the connection is established. Clicking it again will disconnect the device.

Figure 2: Connect - Disconnect button

Below the connection port and button, there is a list of connected sensors and an indicator that the Devkit is connected. To populate this list, press the "Scan Devices" button and all appropriately connected sensors will be displayed in the list. The list describes the port of the Evaluation Kit where each sensor is connected, a status indicator led, the sensor Serial Number, and the current firmware version.

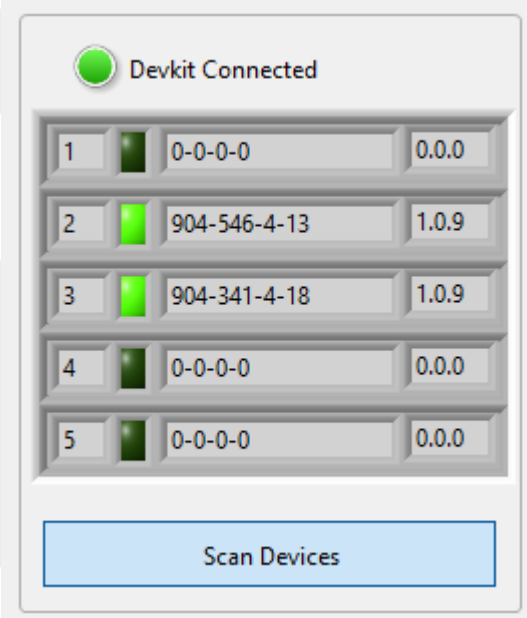

Figure 3: Scan Devices

To begin sampling the sensors, first setup the appropriate sample rate which is 500 ms by default, then click on the "Sampling" toggle switch.

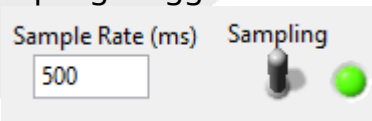

Figure 4: Sample rate and switch

The sampled pressure and temperature data per sensor, are displayed in an array format and the user can select one of the two quantities to plot as a graph

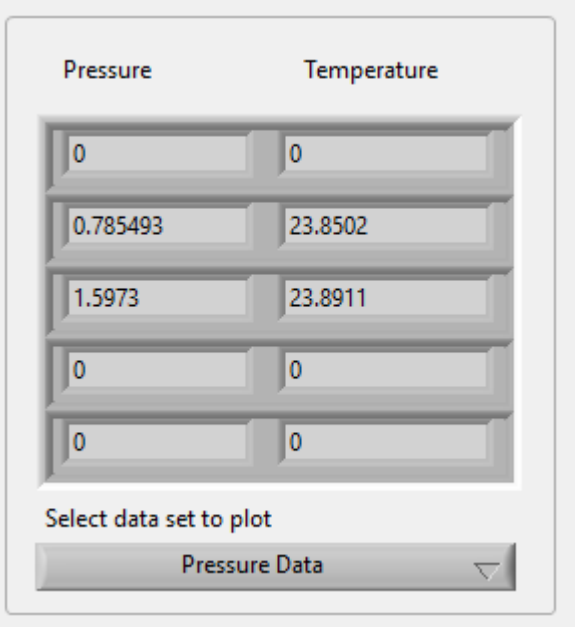

Figure 5: Sampled data values

The quantity selected will be displayed as a plot in the big plot area next to the controls. The plot Legend sub-menu allows for sensor display enabling selection, color selection for each plot line displayed, as well as a Graph depth control for selecting how much time should be displayed in the graph window.

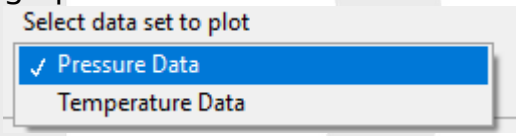

Figure 6: Plot quantity selection

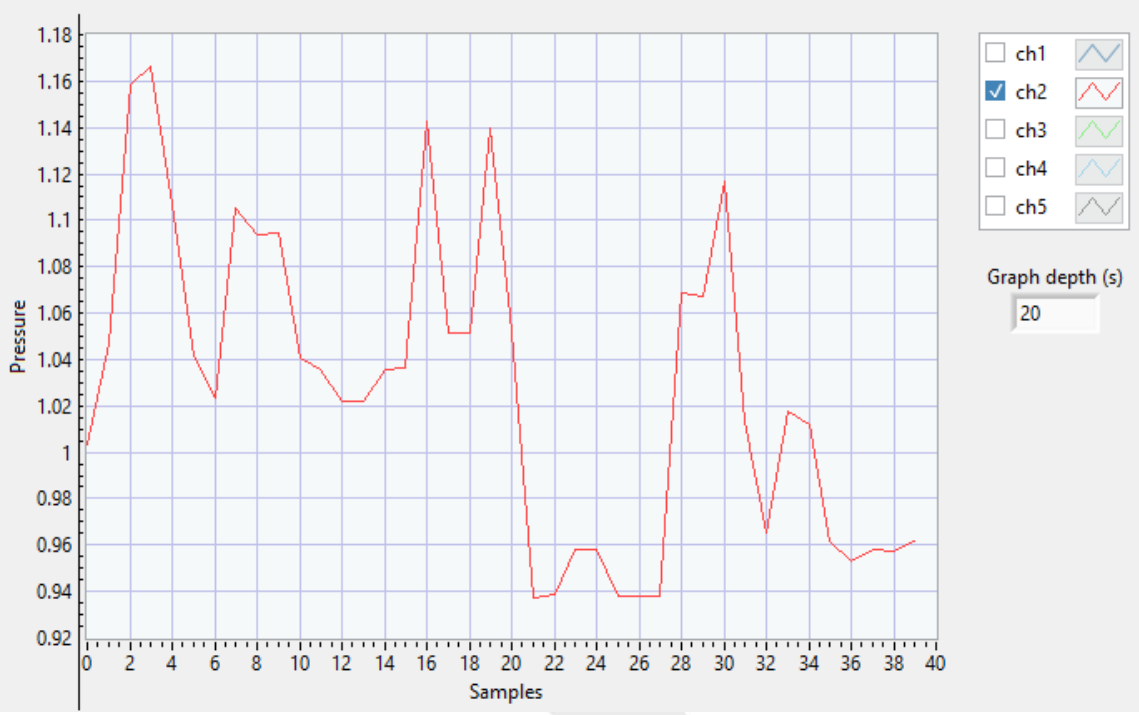

Figure 7: Plots and plot options.

Optionally the user can log the received data to a file. Use the *Browse* button (folder icon) to select a directory for the log files and press the button to start logging. The timestamp checkbox can be selected to optionally append the date-time to the end of the line for each measurement in the file in the following format:

Year-month-date_hour-minute-second.millisecond

Figure 8: Log button and log file path

A log file for each sampling session is created with an auto-numbered file name. Pressing the button again will stop logging. By default, existing files are overwritten unless the *Append* option is checked. Data is logged to the file at the rate specified in the Sample Rate textbox as tab delimited values. The file has 10 columns which represent sequentially the pressure and temperature readings of each sensor in the order they have been connected, as shown in the following example.

Pressure #1	Temperature #1	Pressure #2	Temperature #2	Pressure #3	Temperature #3	Pressure #4	Temperature #4	Pressure #5	Temperature #5
0	0	1.02863	23.883484	1.486506	23.935537	0	0	0	0
0	0	1.02863	23.881256	1.521374	23.931942	0	0	0	0
0	0	1.159739	23.883709	1.504195	23.934933	0	0	0	0
0	0	1.159739	23.883709	1.460245	23.936039	0	0	0	0
0	0	1.117866	23.876823	1.479252	23.935238	0	0	0	0
0	0	1.11659	23.883709	1.491029	23.945698	0	0	0	0
0	0	1.136992	23.884588	1.507447	23.939112	0	0	0	0
0	0	1.136992	23.884588	1.525152	23.938387	0	0	0	0
0	0	1.158864	23.888432	1.524794	23.940836	0	0	0	0
0	0	1.17171	23.884588	1.527845	23.943447	0	0	0	0
0	0	1.163408	23.874819	1.524309	23.944149	0	0	0	0

Figure 9: Logged Data example